

A Study of

COLT CONVERSIONS

and Other Percussion Revolvers



- **First single source for Colt & other conversions**
- **Extensive research from factory archives**
- **More than 800 informative drawings & photographs**

R. Bruce McDowell

Contents

Acknowledgments.....	4
Introduction.....	6
Chapter 1 <i>The First Cartridge Revolvers in America</i>	8
Chapter 2 <i>Circumventing the Rollin White Patent</i>	16
Chapter 3 <i>Remington Conversions</i>	29
Chapter 4 <i>Colt Thuer Conversions</i>	82
Chapter 5 <i>Colt C.B. Richards Conversions</i>	137
Chapter 6 <i>Colt Richards-Mason Conversions</i>	198
Chapter 7 <i>The Colt Model 1871-1872 Open Top Revolver</i>	277
Chapter 8 <i>Small Frame Colt Conversions</i>	307
Chapter 9 <i>Private and Experimental Colt Conversions</i>	372
Chapter 10 <i>Other Conversions</i>	415
Appendix.....	444
Bibliography	457
Index.....	460

Acknowledgments

Obtaining the very exacting information and locating documentation was the most difficult task undertaken in the preparation of this very complex study. Numerous fellow collectors, museums, organizations and government agencies contributed significant amounts of time, documents, photographs and important records to make this publication available in its final form. The author gratefully acknowledges and wishes to express his sincere appreciation to all who have so unselfishly contributed their time and materials to this work.

Although some are singled out for their special contributions, the significance of other assistance and photographs of special firearms and associated subject matter is no less of importance and is equally appreciated.

The Author gratefully acknowledges and expresses his sincere appreciation to:

Francis E. "Bud" Firth for offering his splendid personal collection for photographs, physical measurements and examinations necessary to determine numerous technical and mechanical characteristics of many experimental, prototype and one-of-a-kind Colt revolvers. Bud also supplied many of the conversion photographs containing special backgrounds of related interests, in both color and black and white. His expertise in the subjects of Thuer and Richards conversions and his sincere cooperation have contributed significantly to this extensive study.

John H. Thillmann for making his excellent Colt conversion collection available for photographs, and on several occasions, shipping specimens of these rare and valuable firearms to the author for further study. John's expertise lies with the Richards conversions, and Richards-Mason conversions in both large and small frame Colt revolvers. He has generously shared his extensive knowledge on these subjects, as well as his many years of record keeping on serial numbers and specifications. Many additional important contacts have been made through John and his endless interest and friendly assistance has been truly appreciated.

Sam Pachanian for supplying many photographs of Colt Navy conversions in his collection, and invaluable information pertaining to loading gates, gate springs and frame markings. Sam is an expert on Martial Navy

Colt revolvers, but his vast knowledge on conversions does not end here. He has generously supplied pertinent information on inspector markings, dates of manufacture, Navy contract information and various Colt factory markings. All conversions from Sam Pachanian's collection were photographed by L. Frank Richey.

F. "Jay" Huber, Jr. for his tremendous help with the chapter on Remington conversions. Jay is the "Mr. Remington" of the collecting fraternity, and his supply of photographic materials and historical information on the subject has been a great asset to the Remington chapter.

Still further appreciation is extended to Bud Firth, John Thillmann, Sam Pachanian and Jay Huber for spending many hours proofreading those chapters of their particular specialty.

Dow H. Heard III for supplying both converted revolvers and holsters from the collection of Dow and Russelle Heard for photographs, and for sharing information from many years of personal record keeping on Colt conversions.

Herbert G. Houze for sharing information from the Colt's Patent Firearms Manufacturing Company "Journal B" from his personal collection, information from Major General William B. Franklin's aide-memoir (diary from November 15, 1865, to December 31, 1867), and photographs of early Colt Experimental Model revolvers.

C. D. Terry for sharing information on Colt Model 1871-1872 Open Top revolvers and permitting the use of many photographs of outstanding Colt revolvers from his private collection.

The many others who so kindly supplied converted revolvers for photography, existing photographs and historical, technical or patent information, including Louis Behling, Raymond T. Giles, Robert T. Buttweiler, Paul Sorrell, Michael Leff, Nelson B. Wadsworth, George A. Hoyem, Norm Flayderman, Lewis T. Steadman, C. W. Slagle, Richard Kravarik, Victor Guidetti, Mark Aziz, John F. Dussling, Martin D. Jessen, George R. Innocent, Norman Chase, Dean Nelson, Harry Hunter, Arthur L. Olivas, Bob Harlock and Paul D. Bucher.

Numerous organizations, museums and government agencies were extremely helpful in locating Con-

gressional documents, patent copies, government letters, orders and Ordnance reports, as well as vital communications between the major firearms manufacturers, the U.S. Ordnance Department and the U.S. Navy Bureau of Ordnance. The author wishes to express his sincere appreciation to The Library of Congress, The United States Patent and Trademark Office, all branches of the National Archives and The Connecticut State Library, Museum of Connecticut History.

Institutions and private organizations that so willingly supplied photographs of special interest and one-of-a-kind specimens include The Smithsonian Institution, Division of Armed Forces History, The Virginia Historical Society, The Museum of New Mexico (Palace of the Governors), Archival Photography, N. Flayderman & Co., Inc., High Noon Western Collectibles, But-

terfield & Butterfield of San Francisco, and again, The Connecticut State Library in Hartford.

Among the most helpful of all was my wife, Dorothy, for her endurance, understanding, help and encouragement through the several years of our lives together that were dedicated solely to the preparation of this book.

It is sincerely hoped that all who helped so generously have been included. If any names have been inadvertently omitted, I can only ask their forgiveness and indulgence.

R. Bruce McDowell

Introduction

My memory takes me back a number of years to a time when percussion revolvers that had been converted to accept self-contained metallic cartridges could be purchased for next to nothing. Most of the antique Colt collectors were chasing after percussion revolvers manufactured between 1836 and 1865, and also the Single Action Army revolvers of 1873. There was virtually no interest in Colt conversions, or any other such handguns. Consequently, very little was known and virtually no information was published on this heretofore unwanted series of revolvers.

Back in the late 1960s, I was involved with the purchase of the C.H. (Larry) Weisz collection. I obtained a Colt Model 1860 Army revolver converted by the Richards system for \$185. It had more than 60 percent original factory finish, was in perfect mechanical order and was factory engraved. About 1973, I attempted to sell it for a modest \$50 profit, but was told that it wasn't worth that kind of money and that the engraving didn't add anything to its value.

The climate has changed and finally, after the prices of most antique firearms have increased to such astronomical levels that few will continue to change hands, good condition converted percussion revolvers have become increasingly in demand. In fact, some models are even priced higher than their percussion counterparts. But still, information is lacking. This is what has prompted the publication of this book.

The American Civil War proved the value of self-contained metallic cartridges over loose powder, patch, cap and ball. The use of .44 caliber rimfire Henry cartridges, the 56-56 (.52 caliber) rimfire Spencer cartridges and the .22 and .32 caliber Smith & Wesson revolver cartridges was extensive by both Union and Confederate troops and officers. Also, numerous quantities of pinfire and centerfire cartridges found their way to the Blue and the Gray, along with various imported cartridge revolvers.

On April 3, 1855, Rollin White was granted U.S. Patent No. 12,649, claiming a new type of revolver magazine for automatically transferring percussion loads into a bored-through cylinder. Though the basic feature protected by the patent was virtually worthless, the wording, "extending the chambers of the rotating cylinder right through the rear end of said cylinder so

as to enable the said chambers to be charged from the rear-end either by hand or by means of a sliding charger operated substantially as described" meant that no cartridge revolvers with bored-through cylinders could be produced in the United States until after the patent expired in 1869.

On November 17, 1856, Horace Smith and Daniel B. Wesson entered into an agreement with Rollin White for exclusive manufacturing rights for revolvers having bored-through cylinders, and in August 1858, began production of the tip-up seven-shot .22 caliber rim-fire revolver collectors refer to as the Smith & Wesson Model 1, First Issue.

Then came the 1860s, with 9 years, 4 months and 3 days to go before any other American gunmakers could manufacture metallic cartridge revolvers with bored-through cylinders, including government armories. During this period, demand for cartridge revolvers grew rapidly. The government required heavy caliber revolvers and the Smith & Wesson .22 caliber seven-shooter was not acceptable for military service.

The heavy demands of the Civil War kept the Smith & Wesson factory operating at full capacity, leaving no time for the production of larger caliber revolvers. Rollin White would not allow the company to license other gunmakers to manufacture firearms with bored-through cylinders, so the only other cartridge revolvers to become available were foreign imports, domestic patent infringements and American-made cartridge revolvers not requiring completely bored-through cylinders.

After the war had ended, Smith & Wesson finally found time to further experiment with large-caliber cartridge revolvers. By 1866, it had developed a solid frame revolver to accept a .44 caliber rimfire cartridge, and submitted it to the U.S. Ordnance Department for testing. The Army found too many problems with the new revolver, and rejected it. Smith & Wesson then reworked the design, lessened the weight and reduced the caliber to .41 caliber rimfire. Several samples were produced (fewer than 50) and the new gun was exhibited at the 1867 Paris Exposition, where it again failed to attract interest.

Next to appear were the conversions of percussion revolvers to self-contained metallic cartridges. Some

wish to refer to these as "alterations," but this study will use the term conversion for changing a revolver from "cap and ball" to cartridge, and alteration for a minor change made to the converted revolver.

Other than possibly a few private gunsmith conversions, the first to appear were the Remington New Model Army revolvers converted to five-shot, .46 caliber rim-fire metallic cartridges. Early in 1868, Smith & Wesson, with the consent of Rollin White, entered into an agreement with the Remington Arms Co., allowing these conversions with bored-through cylinders. Nearly 4,600 of these revolvers were converted prior to the expiration of the Rollin White patent. Their cylinders were marked with the White patent date.

Much more will be found in later chapters on these, other Remington conversions, Colt conversions and the conversions of Allen & Wheelock, Starr, Whitney, Cooper and other percussion revolvers. It is hoped that the materials supplied will partially fill the wide gap of unknowns between the percussion revolvers of the American Civil War and the introduction of the famous Colt Single Action Army revolver of 1873. Many of the normal information channels for this period are seriously lacking. There is also much misleading and incorrect information in some of the existing printed matter on the subject. With this in mind, I have spent the better part of five years attempting to collect, qualify and put into print what is offered here, and I sincerely hope that others will continue to add to this material in the future.

Chapter 1

The First Cartridge Revolvers in America

The self-contained metallic cartridge was nothing new by the time of the American Civil War. Jean Samuel Pauly was granted a French patent in 1812 for a self-contained, self-primed centerfire metallic cartridge. Lefauchaux invented the self-contained pinfire metallic cartridge in 1846 and a new type self-contained centerfire metallic cartridge in 1854. Houiller described a type of rimfire cartridge in his "Improvement in Pinfire Cartridges" patent of 1847, but Flobert was given full credit for the 1845 rimfire invention that he displayed at the 1851 London Exhibition.

Smith & Wesson was granted U.S. Patent 11,496 for an improved self-contained centerfire metallic cartridge on August 8, 1854, but at that time, it proved too difficult and costly to manufacture. Between 1856 and 1858 Daniel B.

Wesson developed the first true rimfire cartridge. He had taken the Flobert soft copper case, extended its length, reshaped the rim, placed the priming around the periphery of the rim, and added a few grains of black powder and a conical lead projectile. Smith & Wesson patented their improved rimfire cartridge in 1860.

Samuel Colt's U.S. patent covering revolvers with mechanically rotated cylinders was due to expire in February 1856. By August of that year Daniel B. Wesson had completed a wooden model of a revolver he had designed, to be chambered for a .22 caliber rimfire metallic cartridge, but there was one more patent of concern. U.S. Patent No. 12,648 granted to Rollin White of Hartford, Connecticut, with one claim reading "Extending the chambers (a a) of the rotating cylinder (A) right through the rear of the said cylinder for the purpose of enabling the said chambers to be charged at the rear either by hand or by a self-acting charger, substantially as described". A cartridge revolver loaded at the rear of the cylinder certainly required a bored-through cylinder. So, on October 31, 1856, Mr. Wesson contacted Mr. White and a meeting was set up for November 17. At this meeting, Horace Smith and Daniel B. Wesson signed an agree-

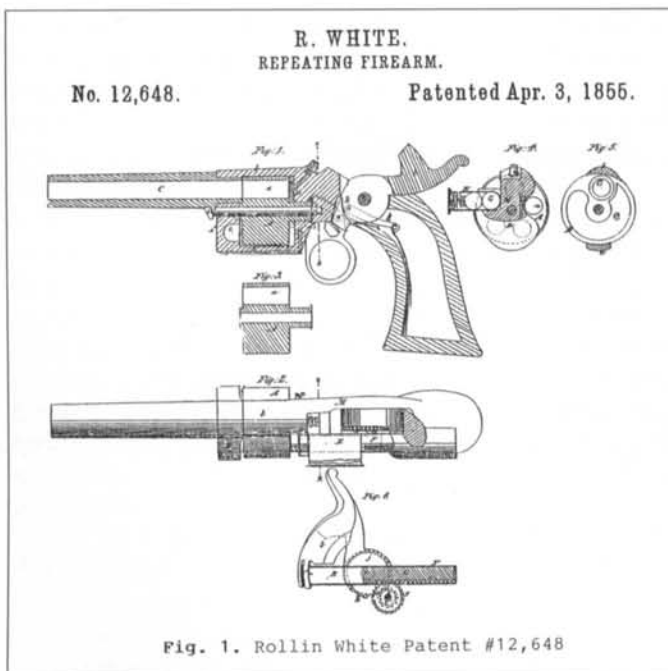


Fig. 1-1 Rollin White Patent Number 12,648

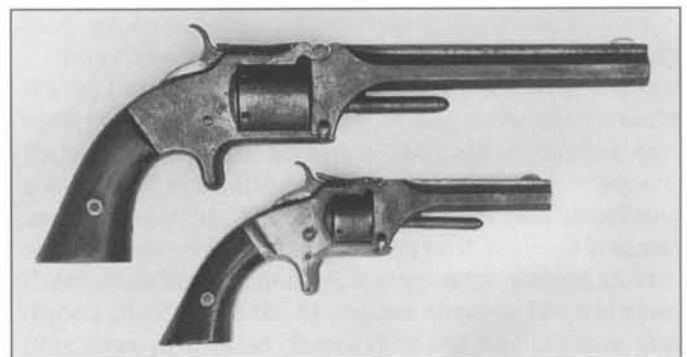


Fig. 1-2 (Top) Smith & Wesson Number 2 revolver, serial number 29159. (Bottom) Smith & Wesson No. 1 revolver, 2nd Issue, serial Number 64106. (Author's Collection)

ment with Rollin White, giving Smith & Wesson an exclusive license to use bored-through cylinders in its products. In return, Mr. White was to receive 25 cents per revolver manufactured during the period of the patent (1855-1869).

On November 18, 1856, the books of the new partnership (the second partnership of Smith & Wesson) were opened and work began on a metal model of the revolver to become known as the Smith & Wesson No. 1 seven shooter. The model was completed in January 1857 and by November, four production pieces had been turned out. After six major design improvements, 11,000 were produced by 1860. During the second quarter of 1860, the Model 1, Second Issue was introduced (Fig. 1-2, lower illustration). This popular little .22 caliber revolver witnessed a production run of just over 115,400 and was in vogue during the entire Civil War. But, the heavy military demand was for a larger-caliber revolver. By June 1861, Smith & Wesson made available its Model 2, designed for the .32 caliber long rimfire cartridge, and possessing a six-shot cylinder (Fig. 1-2, upper illustration). This gun became so popular that by 1862, the partners had to refuse new orders because they were already committed for the next three years' production.

With Rollin White granting Smith & Wesson exclusive patent rights for the bored-through cylinder, no other United States gun manufacturers could legally produce self-contained metallic cartridge revolvers, unless by infringement or evasion. However, this American patent placed no restrictions on the European gunmakers. Pinfire, rimfire and even centerfire metallic cartridge revolvers had been produced in England, France and Belgium during the effective period of the White patent. Many of these fine quality European cartridge revolvers found their way to this country, particularly during the American Civil War. The Lefauchaux pinfire revolver in Fig. 1-3 is a good example. Though not this particular model, the United States Government purchased some 1,900 Lefauchaux pinfire revolvers on the open market, and 10,000 more under direct contract during the conflict, and the Confederacy is estimated to have purchased somewhere between 1,500 and 2,500 Lefauchaux revolvers, all



Fig. 1-3 Lefauchaux pinfire revolver, serial Number 7213. (Author's Collection)



Fig. 1-4 Raphael centerfire revolver, serial Number 634. (Author's Collection)

in 12mm. One of the rarest and most desirable Civil War imports is the centerfire Raphael revolver. It is chambered for an 11mm solid-head, inside-primed rimless metallic cartridge, and is a six-shot double-action open-top frame revolver. Serial No. 634 is shown in Fig. 1-4. The U.S. Government purchased 978 of these revolvers during the Civil War, and an unknown (but lesser) number was purchased by the Confederacy.

The British Tranter Model 1863 chambered a rimfire metallic cartridge, and that same year Tranter manufactured a centerfire revolver with a frame-mounted firing-pin and flat-faced hammer. P. Webley and Son of Birmingham introduced its famous R.I.C. (Royal Irish Constabulary) revolver in 1867. It was so popular that it was produced in several variations and widely copied. Figure 1-5 illustrates an R.I.C. pocket model.

It didn't take long for the metallic cartridge to win favor over the old percussion system in Europe. Improvements in cartridge revolver designs were continuously under way, mostly for new types of extractor systems. With no restrictions on the bored-through cylinder in Europe, conversions from percussion to metallic cartridge and the manufacture of new cartridge revolvers were common. The Belgians were fast to copy the de-



Fig. 1-5 One of a pair of J.I.C. type revolvers by David Bentley of Birmingham, numbered 57. (Author's Collection)



Fig. 1-6 (Top) Belgian unmarked 9mm centerfire revolver, serial number 1220. (Bottom) Belgian unmarked 9mm pinfire revolver, serial number 287. (Author's Collection)

signs of other countries. Figure 1-6 illustrates two such copies, neither of which displays a maker's name, but both contain the Liege proof marks. The top gun is a 9mm centerfire six-shot double-action revolver, and the bottom is a 9mm pinfire six-shot double-action revolver. Both have very fancy engraved designs and they date to 1860-1865.

In the United States, the war demand for handguns was so great that numerous gunmakers produced metallic cartridge revolvers that were direct infringements on the Smith & Wesson-controlled Rollin White patent. When this demand for cartridge revolvers reached a point beyond the partners capability to supply, Smith & Wesson decided to eliminate, or at least reduce these infringements by licensing the infringing gunmakers under their agreement with Rollin White. White, however, would not agree without doubling the royalty amount. Besides, White had filed an infringement suit against Ethan Allen in 1859, and another suit against Herman Boker and his partners in 1861 for selling Manhattan Fire Arms Co. metallic cartridge revolvers.

Ethan Allen was the first to infringe on the 1855 White patent. In 1858 Allen & Wheelock, Worcester, Massachusetts, came out with a side-hammer, iron frame seven-shot .22 caliber rimfire revolver with a spur trigger. By

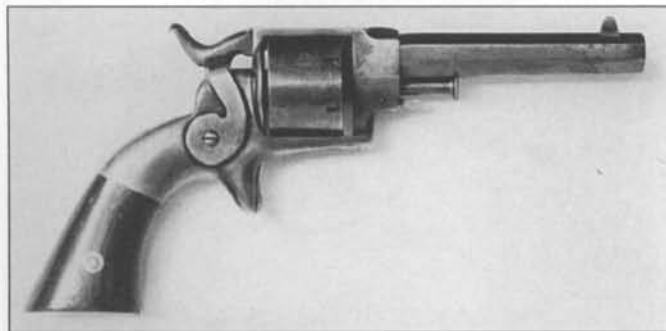


Fig. 1-7 1858 Allen & Wheelock brass frame, side hammer .22 caliber rimfire revolver, batch Number 134. (Author's Collection)

1862, about 1,500 had been produced in eight styles. The first seven had square butts, while the eighth had a round or "bird's head" butt. Styles one through six were marked with the Allen & Wheelock/Allen Patent address, while the last two were marked ETHAN ALLEN & CO. Then, in 1859 Allen & Wheelock (Ethan Allen & Co.) introduced a six-shot .32 caliber rimfire version of the same side hammer/spur trigger design. More than 1,000 of these were manufactured by 1862, in three slightly different models (see Fig. 1-8). It wasn't until 1861 that the Allen & Wheelock lipfire revolvers appeared. Ethan Allen was granted U.S. Patent No. 30,109 on September 25, 1860, for "An Improvement in Metallic Cartridges," the lipfire cartridge. Figure 1-9 shows his patent drawing with three size lipfire cartridges photographed to the left. With this patent, Allen & Wheelock produced lipfire revolvers in four individual caliber sizes. The 1st Model had a side hammer, spur trigger and a six-shot round cylinder

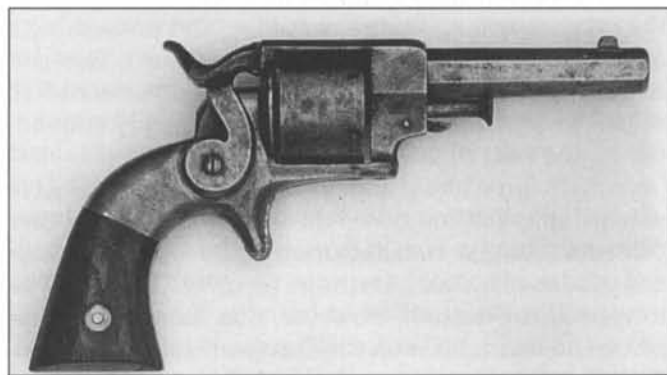


Fig. 1-8 1859 Allen & Wheelock iron frame, side hammer .32 caliber rim-fire revolver, batch number 289. (Author's Collection)

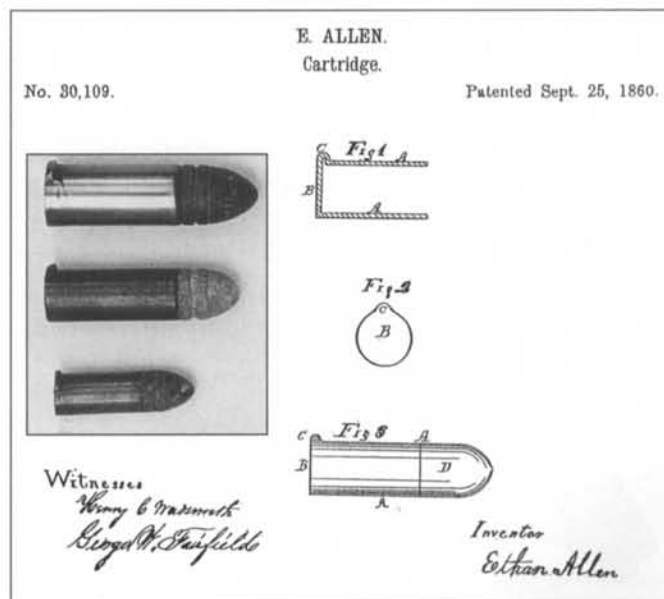


Fig. 1-9 Ethan Allen lipfire cartridge patent and three lipfire cartridges.

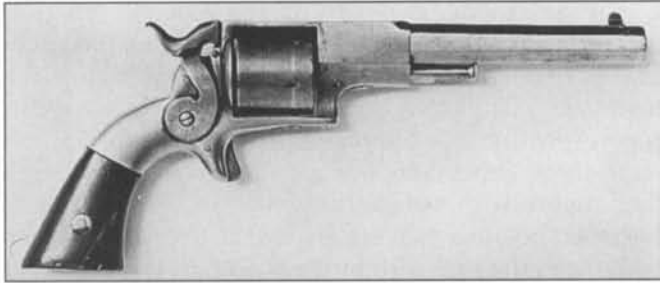


Fig. 1-10 Allen & Wheelock first model side hammer lipfire revolver, batch Number 32. (Author's Collection)



Fig. 1-11 Allen & Wheelock "Army Model" center hammer lipfire revolver, numbered 175. (Author's Collection)

chambered for the .32 caliber lipfire cartridge. Only about 300 were produced (see Fig. 1-10). The Second Model "Army Model" had a center hammer, a six-shot round cylinder chambered for the .44 caliber lipfire cartridge and the triggerguard-controlled rack and pinion-operated cartridge extractor protected by U.S. Patent No. 33,328, granted to Ethan Allen on September 24, 1861. This revolver is seen in Fig. 1-11. All U.S. Patents referred to are available from the Commissioner of Patents.

The Second Model is quite rare in that only about 250 were produced. The Third Model "Navy Model" is again a center hammer six-shot lipfire revolver with the patented triggerguard cartridge extractor, but is chambered for .36 caliber. The quantity produced approached 500 revolvers. The Fourth Model "Pocket Model" was the last of the series of Allen & Wheelock lipfire revolvers. It had a center hammer, spur trigger and



Fig. 1-12 Allen & Wheelock fourth model center hammer lipfire pocket revolver, numbered 47. (Author's Collection)

a seven-shot straight round cylinder chambered for the 25 caliber lipfire cartridge. Total production of this model amounted to fewer than 200 pieces. Generally, this model is found without markings. It was manufactured during the last part of 1862 and early 1863 (Fig. 1-12).

The Bacon Manufacturing Co. of Norwich, Connecticut, was the next in a long line of patent infringers. Early in 1862, Thomas Bacon commenced manufacturing his six-shot, .38 caliber rimfire "Navy Model" revolver. It was single action and had an iron frame, spur trigger, straight round cylinder and a square butt. The cylinder of the first 400 revolvers had to be removed for loading, while the final 300 to 400 revolvers utilized the swing-out cylinder patented by C.W. Hopkins on May 27, 1862. Bacon also produced about 300 of these swing-out cylinder revolvers in .32 caliber rimfire and a few in .22 caliber. About the same time, the Bacon Manufacturing Co. produced another .32 caliber rimfire revolver with a very unique design, illustrated in Fig. 1-13 (assembled) and in Fig. 1-14 (disassembled). This model is referred to as the "Removable Triggerguard Pocket Revolver" because to disassemble, one simply unscrews the triggerguard as shown.



Fig. 1-13 Bacon "Removable Trigger-Guard Model" rimfire pocket revolver, serial Number 78. (Author's Collection)



Fig. 1-14 Bacon [RTG] revolver disassembled.



Fig. 1-15 Bacon spur trigger rimfire pocket revolver, serial number 184. (Author's Collection)

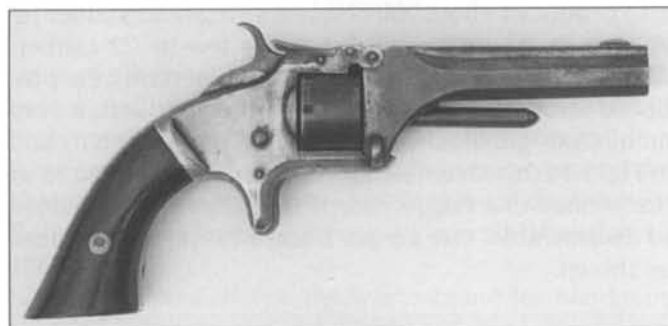


Fig. 1-16 Manhattan copy of Smith & Wesson No. 1 revolver, serial number 4912. (Author's Collection)



Fig. 1-17 Moore's Patent .32 caliber rimfire revolver, serial number 7002. (Author's Collection)



Fig. 1-18 Moore's rimfire revolver with barrel and cylinder rotated to right for loading.

For such a small company, Bacon Manufacturing Co. certainly had a full line of products, including three other rimfire pocket models with spur triggers. The one illustrated in Fig. 1-15 is a .32 caliber six-shot square-butt revolver with a 5-inch barrel marked BACON MF'G CO. NORWICH, CONN. This model was also made in 22 and 25 caliber rimfire with seven-shot cylinders and 2 1/2-inch barrels. The other two are marked BACON ARMS CO. NORWICH CONN, the first with bird's head butt and the other with square butt. This barrel marking dates their manufacture sometime after the third quarter of 1863.

The Manhattan Fire Arms Manufacturing Co. of Newark, New Jersey, was possibly the most serious infringer of all. They produced two models in seven variations of a .22 caliber rimfire seven-shot spur-trigger tip-up revolver, which was almost an exact copy of the Smith & Wesson No. 1, 1st and 2nd Issue (see Fig. 1-16). 17,000 were manufactured between 1860 and 1862 with MANHATTAN FIRE ARMS MF'G CO. barrel markings, 400 or 500 more with no markings and another 40,000 or so with AMERICAN STANDARD TOOL CO barrel markings. In 1862, Rollin White and Smith & Wesson won a settlement in the "Manhattan" suit.

Moore's Patent Firearms Company manufactured a .32 caliber rimfire seven-shot revolver with a brass frame, removable extractor rod, oval triggerguard and square butt. A recoil shield lever would release the barrel and cylinder and allow them to swing to the right for loading. Figure 1-17 is a right side view of the revolver, while Fig. 1-18 shows the barrel and cylinder in position for loading—a novel design, but nonetheless an infringement. Several thousand of these well-made revolvers were produced between 1861 and 1863, and many found their way to Union officers and troops during the Civil War. Those assembled and sold after the infringement settlement were marked MF'D FOR SMITH & WESSON.

Still another direct infringement of the Rollin White Patent was the single-action .32 caliber rimfire six-shot revolver manufactured during 1861 and 1862 by Luicuis W. Pond of Worcester, Massachusetts. This revolver was made in both pocket and belt models and with both brass and iron frames. The right side view of the full gun is seen in Fig. 1-19, while the action is shown broken open

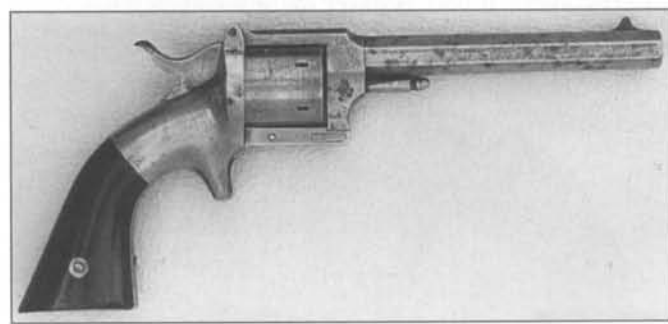


Fig. 1-19 Luicuis W. Pond .32 caliber rimfire revolver, serial number 1565. (Author's Collection)

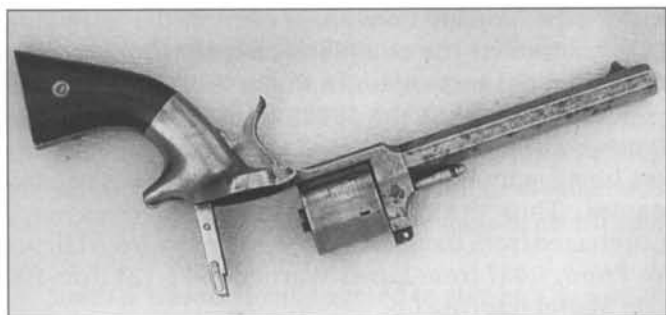


Fig. 1-20 Pond revolver hinged open for loading.

in Fig. 1-20 for cartridge extraction and loading. The barrel is hinged at the rear of the top-strap where it joins the recoil shield. The barrel release is a small push-button located in the left front portion of the frame. These rare revolvers have spur triggers and square butts. Only a few thousand had been manufactured by the time of the patent infringement settlement. Revolvers sold after that time were marked MANUF'D FOR SMITH & WESSON" AND "PAT'D APRIL 5, 1855.

Between 1861 and 1863, E.A. Prescott of Worcester, Massachusetts, manufactured five different types of spur-trigger pocket model rimfire revolvers in seven-shot .22 caliber and six-shot .32 caliber. The quantity was about 1,000. Also, during this period, he manufactured several hundred .38 caliber rimfire six-shot Single Action Navy revolvers with oval triggerguards, square butts and both brass and iron frames. The manufacture of these Prescott revolvers was halted through legal action by Smith & Wesson, but after the expiration of White's patent, both single- and double-action revolvers were again manufactured, but now, under the name of "Prescott Pistol Company" of Hatfield, Massachusetts.

James Reid, better known during 1869-1884 for his so-called "Knuckle-Duster" revolvers, was another infringer of the Rollin White patent, but seems not to have been one named in the legal action instituted by Rollin White and Smith & Wesson. Perhaps this was because the James Reid name seldom was stamped on his revolvers. Names such as HOLEY MFG CO, THE PHENIX, PHOENIX REVOLVER, JAMES P. FITCH or W. IRVING were often encountered on the James Reid barrels.

The feature that distinguishes the James Reid revolvers from all others is the loading gate, which is recessed into the right side of the frame and swings upward for extraction and loading. Figure 1-21 shows the right side of a 2nd Model revolver with the loading gate closed, and Fig. 1-22 is the same view with the gate open. Reid made three models of rimfire revolvers between 1863 and 1865. Model 1 was a .22 caliber seven-shot pocket revolver with iron or brass frame, spur trigger and square butt. About 500 were produced. Model 2 was manufactured during the same period and was a .32 caliber seven-shot belt revolver made both with and without

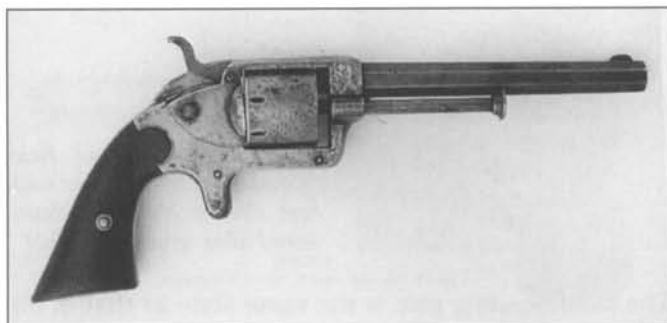


Fig. 1-21 James Reid 2nd Model rimfire revolver, serial number 1256. (Author's Collection)

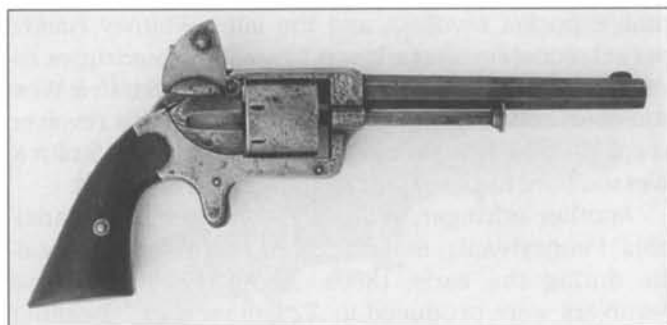


Fig. 1-22 Reid 2nd Model revolver with loading gate open.



Fig. 1-23 James Reid "Combination Percussion/Rimfire" revolver, serial number 2740. (Author's Collection)

ejector rod. Nearly 1,400 of this model were manufactured. The Model 3 was a .32 caliber six-shot pocket or belt revolver with a much smaller loading gate. By 1865, only 50 of this model were made.

Of particular interest is the so-called James Reid Combination Pocket Revolver; about 1,500 were manufactured during 1863 and 1864. This is a .32 caliber rimfire six-shot revolver that can be quickly converted to percussion (cap and ball) simply by screwing nipples into the six cylinder chambers. A right side view of the entire gun is shown in Fig. 1-23. Figure 1-24 shows a rear view of the cylinder with five percussion nipples in place and a .32 caliber rimfire cartridge seated in the remaining chamber. It has a spur trigger, a square butt, and a loading lever and plunger mounted under the barrel.

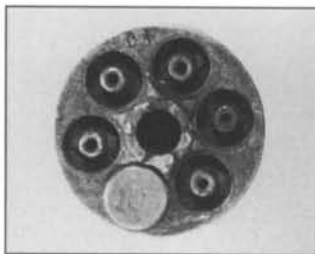


Fig. 1-24 Cylinder of Reid "Combination" revolver with one rimfire cartridge chambered after removing nipple.

The small loading gate is the same style as that of his Model 3 pocket revolver.

The Springfield Arms Co. of Springfield, Massachusetts manufactured a .30 caliber rimfire revolver in 1863, which was quite similar to the Rollin White seven-shot .22 caliber rimfire pocket revolver, and the later Whitney rimfire pocket model revolvers. It was a five-shot spur trigger revolver with a brass frame and a square butt. Smith & Wesson court action stopped the production of this revolver at approximately 6,000, and those turned over to Smith & Wesson bore the markings MF'D FOR SMITH & WESSON.

Another infringer, William P. Uhlinger of Philadelphia, Pennsylvania, manufactured rimfire pocket models during the early 1860s. About 10,000 of these revolvers were produced in .22 caliber and .32 caliber rimfire with spur triggers, square butts, and both brass and iron solid frames. A .32 caliber iron frame model is shown in Fig. 1-25. Because they were direct infringements of the Rollin White patent, Uhlinger left about half the barrels completely unmarked, while the barrels of others were stamped with the names D.D. CONE, J.P. LOWER or W.L. GRANT. Those very few stamped W.P. UHLINGER are extremely rare and seldom encountered.

The last of the infringers was James Warner of Springfield, Massachusetts, who produced about 2,000 rimfire pocket revolvers during 1863-1864. The gun resembled their earlier percussion model, but had a five-shot cylinder chambered for a 30 caliber rimfire cartridge. Most of them were sold through Smith & Wesson after terms were agreed upon and those had the added markings PATENT APRIL 3, 1855.

The success of the action brought against the various retailers of the Smith & Wesson No. 1 revolver copies produced by the Manhattan Fire Arms Manu-

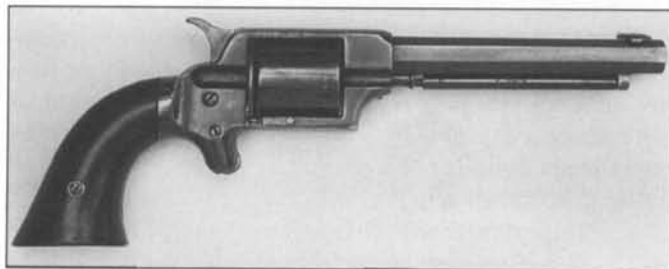


Fig. 1-25 William P. Uhlinger .32 caliber rim-fire revolver, marked D.D. CONE, serial number 994. (Author's Collection)

facturing Company convinced most of the infringing gunmakers that the completely bored-through cylinder could not be used until Rollin White's patent expired in 1869. With the 1862 court decision in their favor, Smith & Wesson agreed to purchase the revolvers being manufactured by four of the infringing companies. Thus, 3,299 breech-loading revolvers were purchased from Daniel Moore, 4,880 more from Lucius W. Pond, 1,437 from James Warner and 1,124 from Bacon Manufacturing Co.

Both Ethan Allen and E.A. Prescott held out, continuing to sell their breech-loading revolvers until halted by an 1863 court injunction.

Even with these additional 10,740 breech-loading revolvers, Smith & Wesson could not keep up with the heavy war demand. In 1861, Rollin White agreed to manufacture revolvers that would contain Smith & Wesson markings and the April 3, 1855, patent date. He formed the Rollin White Arms Company in Lowell, Massachusetts, and produced about 5,000 seven-shot brass frame .22 caliber rimfire pocket revolvers, with spur trigger and square butt. Figure 1-26 shows the right side of a Rollin White revolver, while Fig. 1-27 illustrates the barrel markings MADE FOR SMITH & WESSON. BY ROLLIN WHITE ARMS CO. LOWELL MASS. The cylinder is stamped PATENTED APRIL 3. 1855 DEC. 18. 1860. The firm name was changed to Lowell Arms Company in 1864, and by 1865 an additional 5,000 breech-loading pocket revolvers were manufactured with the new company name in the barrel markings. A few more were produced with a cartridge ejector and swivel loading gate. These arms were further marked on the right side of the frame PAT. APRIL 2. 1867.



Fig. 1-26 Rollin White rimfire revolver, serial number 917. (Author's Collection)



Fig. 1-27 Barrel markings of Rollin White revolver.

The patent laws of this period allowed protection for only 14 years, with the privilege to renew. When the time arrived to apply for a renewal of the bored-through cylinder patent of April 3, 1855, Rollin White was not willing to do so. He felt that he had not received his just compensation from Smith & Wesson, which he claimed was using other inventions and improvements of his without giving due credit or royalties.

Smith & Wesson finally agreed to give him license to manufacture revolvers with bored-through cylinders during the extended term, and to share in the application expenses. Application was filed, but the Commissioner of Patents denied the extension.

It must be remembered, that while this patent was in effect, not only were gunmakers prevented from manufacturing breechloading revolvers that were to be loaded from the rear, but the U.S. Government was also prevented from manufacturing or having these revolvers manufactured in this country. This put the Union at a great disadvantage during the war. Nor could the government convert or cause to be converted any percussion revolvers to accept metallic cartridges at the rear of the cylinders.

Rollin White tried every course of action available to him, including the U.S. Supreme Court and the U.S. Congress. He even went so far as to grant the government full use of his patent during the term of an extension. The bill introduced in Congress was not for extending his patent, but merely to grant another hearing of the application. Congress approved the Bill, but upon the advice of his Chief of Ordnance, President Grant refused to apply his signature. Congress considered an override of the veto, but after hearing, through a letter from the Commissioner of Patents, his reasoning for not granting an extension, the veto was sustained.

Rollin White had relief bills introduced to every session of Congress through 1877 without avail, but when his Congressional contact resigned from Congress to run for Governor of Massachusetts, that put an end to the subject of a patent extension once and for all.

Some of the earliest known advertisements for several of these Rollin White patent infringing revolvers were carried in *Schuyler, Hartley & Graham's Illustrated Catalogue of Arms & Military Goods*, originally published in 1864 and reprinted by N. Flayderman & Co., Inc. in 1961 (2nd Printing - 1967). Figures 1-28 and 1-29 are copied from that reprint through the kind permission of Norm Flayderman.

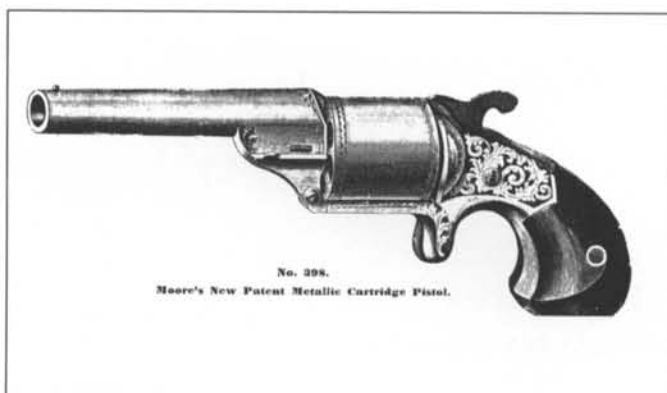


Fig. 1-28 Moore's New Patent Metallic Cartridge pistol.

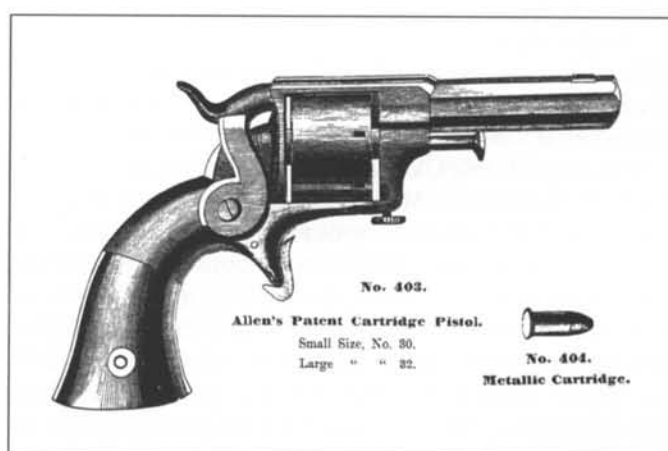


Fig. 1-29 Allen's Patent Cartridge pistol.

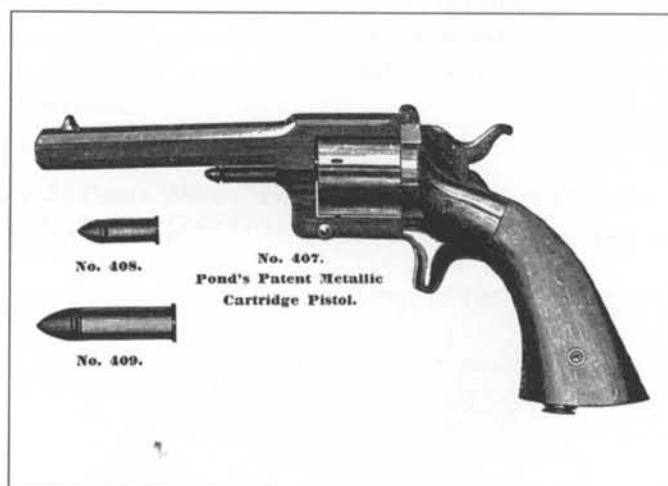


Fig. 1-30 Pond's Patent Metallic Cartridge pistol.

Chapter 2

Circumventing the Rollin White Patent

Several American inventors were hard at work on metallic cartridge revolver designs (and cartridge designs) that would not require a bored-through cylinder, and therefore not infringe on the Rollin White patent.

On July 12, 1859, Willard C. Ellis and John N. White, both of Springfield, Massachusetts, were granted U.S. Patent 24,726 for an "Improvement in Revolving Fire-Arms," in which the cylinder was constructed so that specially designed cartridges were loaded into the front. This was to become known as the cup-primed cartridge; it is shown in Fig. 1 of the patent drawing (see Fig. 2-1).

July 12, 1859, was one of the two dates appearing on the cylinders of Plant's front loading revolvers, but no assignments of this patent were made. Plant's Manufacturing Co. of New Haven, Connecticut, first made a top-hinged frame revolver that looked something like the early Smith & Wesson, but the cylinder had to be removed for cartridge extraction and loading. Only about 500 of these revolvers were made, some with brass frames, but most with iron.

A second U.S. patent (39,318) was granted to Ellis and White on July 21, 1863, and this patent date was added to the cylinders of all revolvers manufactured after that date. This patent, though illustrating a First Model Army revolver (see Fig. 2-2), relates to revolving firearms loaded at the front of the cylinder with metallic cartridges carrying their own priming, and the patent text refers to subject-matter of Letters Patent No. 24,726. There is but one claim, "The construction of the openings (b b) in the chambers of the cylinder and arrangement of the hammer in combination with such openings, substantially as herein set forth, whereby the hammer is enabled to strike upon the interiors of the flanges of cartridges of such character as herein specified". This patent was assigned to Henry Reynolds.

U.S. Patent 42,688 was granted to Henry Reynolds of Springfield, Massachusetts, on May 10, 1864, for an improvement consisting of a cartridge ejection rod within a case that was a part of the frame casting, located on the right side just to the rear of the cylinder (see Fig.2-3).

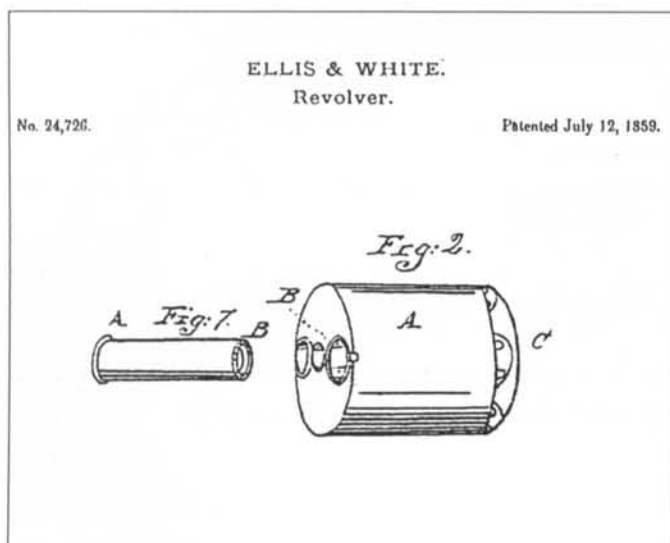
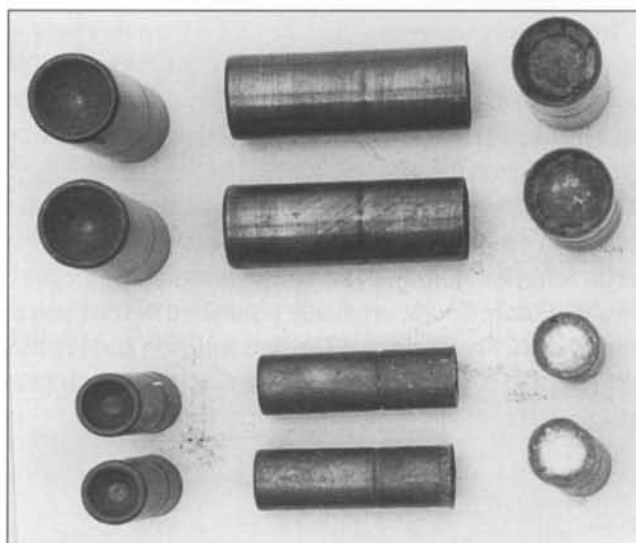


Fig. 2-1 Ellis & White cup-primed cartridge. U.S. Patent 24,726.



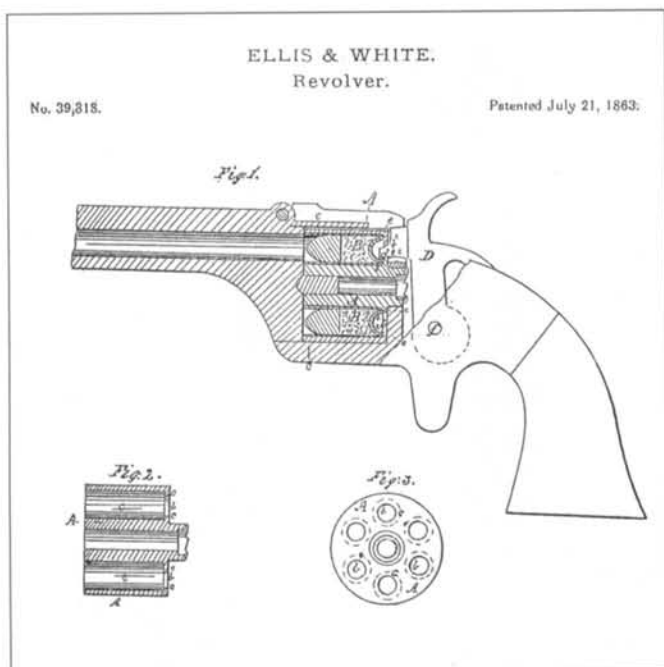


Fig. 2-2 Ellis & White cup-primed front loading revolver. U.S. Patent 39,318.

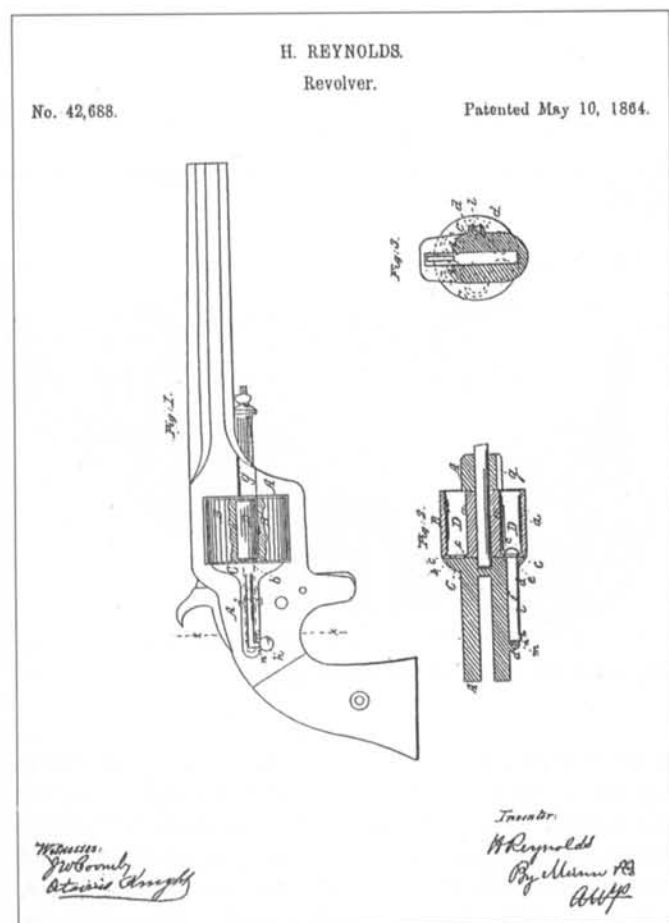


Fig. 2-3 H. Reynolds side frame cartridge ejector. U.S. Patent 42,688.



Fig. 2-4 Plant's Army Revolver, serial number 3655. (Author's Collection)

When the hand-knob was raised and the rod pushed forward through a cylinder chamber, it ejected the cup-primed cartridge case from the front of the cylinder.

Slightly more than 1,000 large-frame Second Model Plant's revolvers were produced, half with iron frames and half with brass. These were for the .42 caliber cup-primed cartridges and were marked PLANT'S MFG. CO. NEW-HAVEN, CT. and MERWIN & BRAY, NEW-YORK. The largest production of these .42 caliber Army revolvers was the Third Model, of which some 10,000 were manufactured (see Fig. 2-4). All but about 50 had brass frames, and markings were the same as found on the Second Model.



Fig. 2-5 Plant's (Merwin & Bray) pocket revolver, serial number 7088. (Author's Collection)

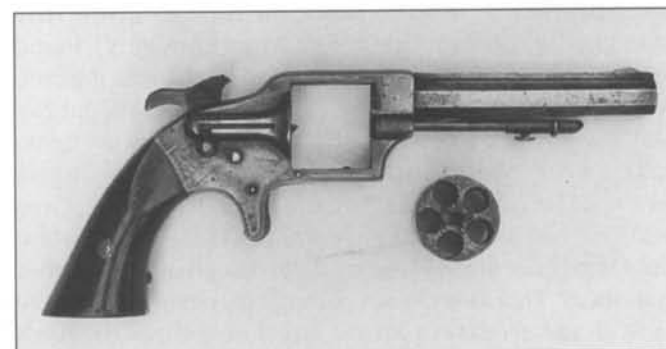


Fig. 2-6 Plant's pocket revolver with cylinder removed.

These revolvers were often supplied with two interchangeable cylinders, one for cup-primed metallic cartridges and the other for standard percussion. This feature made the larger caliber Plant's revolver quite popular during the Civil War and in the postwar West.

Plant's front-loading cup-primed pocket model was offered in both .28 and .30 caliber, and about 20,000 were produced by Eagle Arms Co. of New York. Fig. 2-5 illustrates a pocket revolver assembled, while Fig. 2-6 shows the same gun with the cylinder removed. It appears that the five-shot cylinder is bored completely through, but each chamber has a small counter-bore at its front to accommodate a flange and the cup-primed cartridge can only be loaded from the front.

Technically, however, this could very well constitute a bored-through cylinder, but since the space between the rear of the cylinder and the face of the recoil shield is insufficient for the flange of a rimfire cartridge, this arrangement offered no competition to the Smith & Wesson rimfire revolvers.

On December 31, 1868, British Patent 3987 was granted to one W.E. Newton, agent for E.H. Plant, A.P. Plant and A. Hotchkiss. This patent virtually covered all the features of the three earlier U.S. patents already discussed.

After Smith & Wesson put Daniel Moore out of the rimfire cartridge revolver business in 1862, Moore started work to design a revolver and cartridge that would circumvent the Rollin White patent. When he started, late in 1862, little did Daniel Moore know that his teat-fire front loading revolver would render him the most successful competitor to Smith & Wesson of that time.

His first teat-fire revolver patent (U.S. Patent 38,321), was granted on April 28, 1863 (see Fig. 2-7). Production started almost immediately, but serious problems were found with the design of both the cylinder and the cartridge. Moore's original cartridge design called for a flat base, with rather sharp bends that seriously weakened its case. This, combined with openings at the rear of the cylinder, caused almost half of the rear of each cartridge to be exposed, often resulting in the head of the cartridge case blowing apart upon firing. These weak points are indicated by arrows in Fig. 2-8, enlarged sections of the patent drawings. David Williamson of Brooklyn, New York (Assignor to Moore's Patent Fire Arms Company), found the solution to both of these problems, and was granted two U.S. patents on January 5, 1864. The first, Patent No. 41,183 (see Fig. 2-10), was for the cartridge, having a hemispherical base with the priming teat protruding at its center, thus relieving the stress in the metal that was previously caused by the sharp bends. His second, Patent No. 41,184 (see Fig. 2-9), offered a redesign of the cylinder chambers. This new design completely closed the rear of each chamber, except for the small hole through which the priming teat protruded, thus supporting the entire base of the cartridge. With these improvements, Moore's

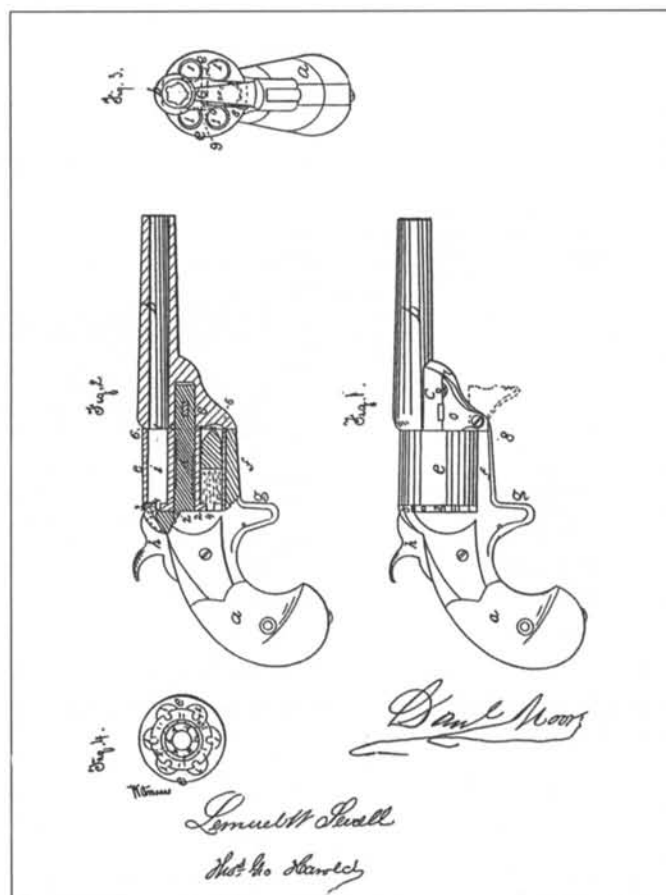


Fig. 2-7 D. Moore's first teat-fire revolver design. U.S. Patent 38,321.

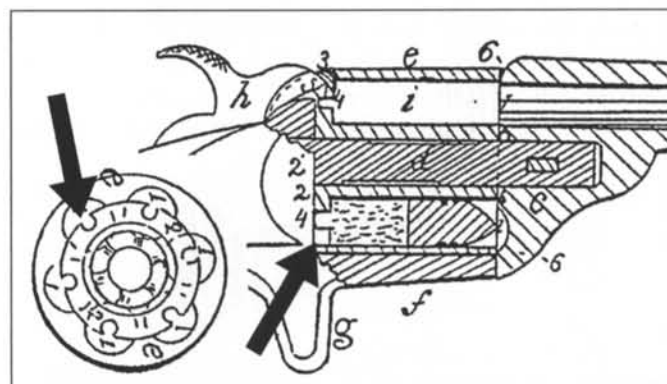


Fig. 2-8 Weak points of first Moore design.

teat-fire revolver reached the market during early 1864 in the form illustrated in Fig. 2-11. The gun was a six-shot, .32 caliber open top single-action revolver with brass frame, spur trigger and bird's head grip. Almost 20,000 were produced with the MOORE'S PAT. FIRE ARMS CO. BROOKLYN, N.Y. barrel address and the cylinder stamped D. WILLIAMSON'S PATENT JANUARY 5, 1864. On March 9, 1865, the name of the company was changed to National Arms Co.,

D. Williamson.
Revolver.
N^o 41184. Patented Jan. 5. 1864.

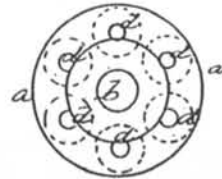
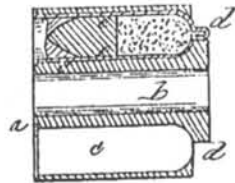


Fig. 2-9 D. Williamson's improved cylinder design for Moore's revolver. U.S. Patent 41,184.

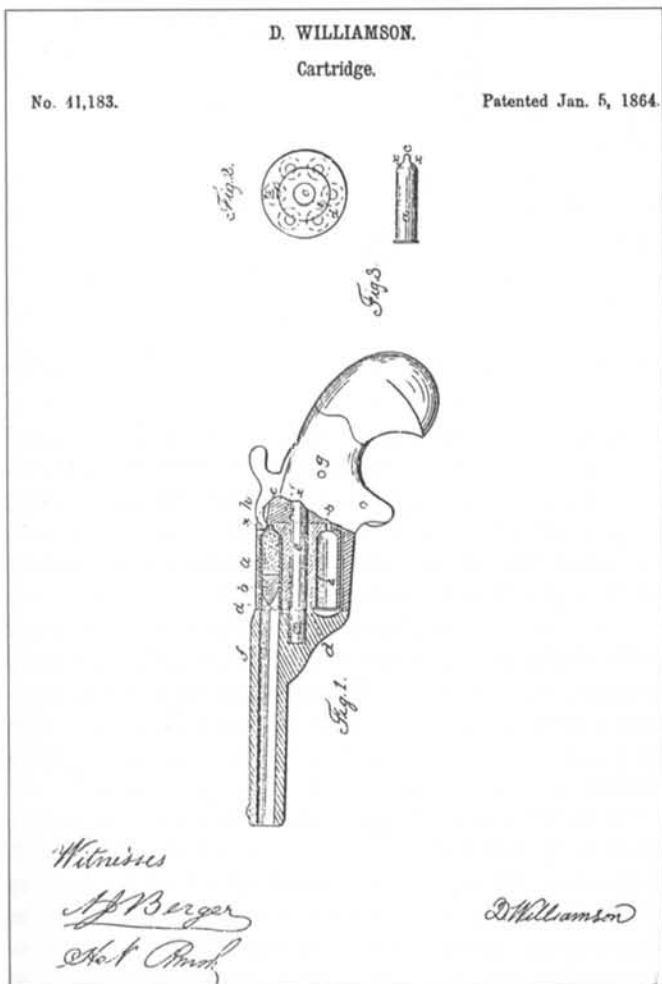


Fig. 2-10 D. Williamson's improved teat-fire cartridge design. U.S. Patent 41,183.

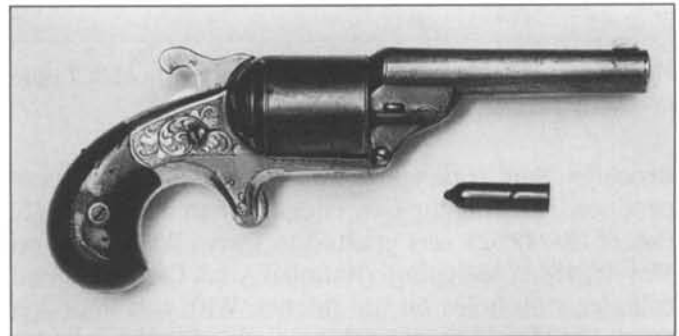


Fig. 2-11 Moore's teat-fire revolver, numbered BP-13. (Author's Collection)



Fig. 2-12 Moore's teat-fire disassembled.



Fig. 2-13 Moore's (National) test-fire revolver numbered IT-97, with gate closed. (Author's Collection)



Fig. 2-14 Moore's (National) revolver with lever in ELECT position.

Brooklyn, New York, and another 12,000 revolvers were produced, bearing the new company name. Finally, U.S. Patent No. 42,823 was granted to David Williamson on May 17, 1864 (Assignor to National Arms Co.), for round cylinder stop holes on the ratchet. With this improvement, the May 17 patent date was added to the cylinder

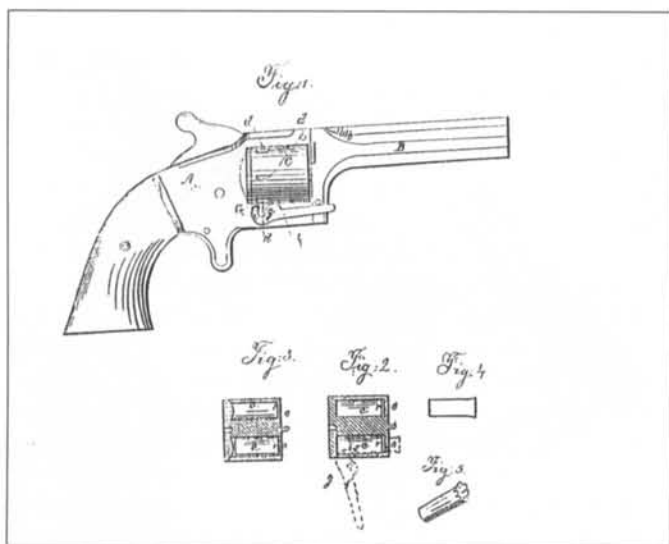


Fig. 2-15 S.W. Wood's side-mounted cartridge ejector. U.S. Patent 52,105.

Circumventing the Rollin White Patent

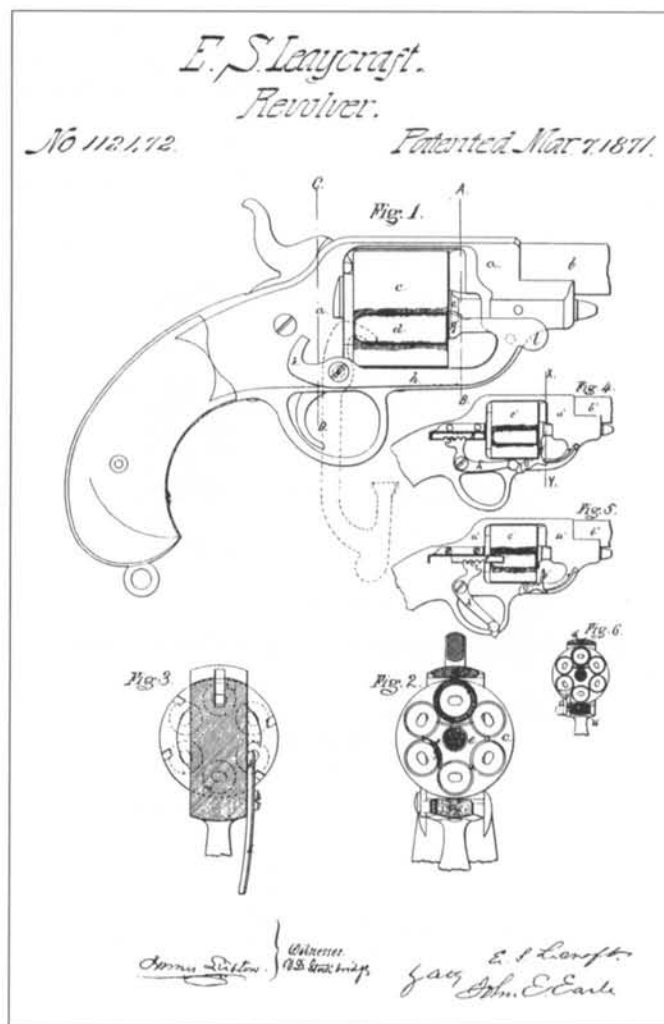


Fig. 2-16 E.S. Leaycraft's gate/ejector lever. U.S. Patent 112,472.

marking and the January 5 date was mistakenly changed to JUNE 5TH. Figure 2-12 has a Moore's revolver disassembled, showing the rear of the cylinder with the new-type stop holes at its rear. The final major improvement was mounting the combination loading gate/rear ejector hook on the right side of the frame.

The pivoting dual purpose lever found on National Arms Company's test-fire revolvers (shown in the Gate Closed position in Fig. 2-13 and the Cartridge Ejection position in Fig. 2-14) replaced the Moore's revolvers' front gate (see Figs. 2-7, 2-11 and 2-12). It was incorporated in the later models sometime after March of 1865.

The first idea for one of these (sideframe-pivoted) cartridge extractor levers appears in U.S. Patent No. 52,105 granted to S.W. Wood of Cornwall, New York, on January 16, 1866 (see Fig. 2-15). Mr. Stephen W. Wood is listed as having seven revolver patents and three others for breech-loading firearms, cannon and extractor. He was associated with the Connecticut Arms Co. of Norfolk, Connecticut. The patent covering the final Moore/National revolvers'

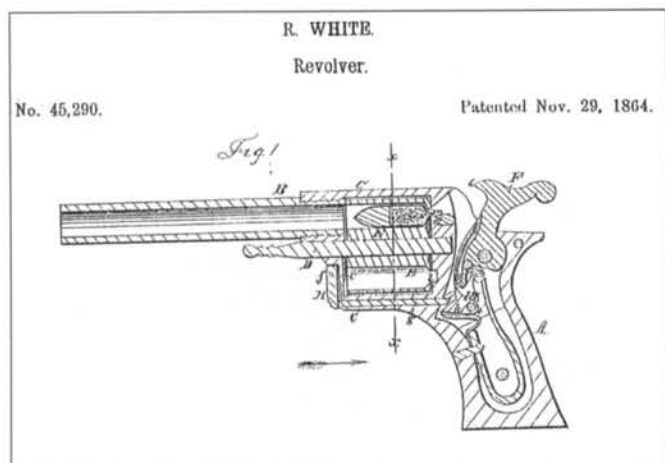


Fig. 2-17 Rollin White's teat-fire revolver improvement with frame trigger and anvil. U.S. Patent 45,290.

combination loading gate/rear ejector hook wasn't issued until March 7, 1871, as U.S. Patent 112,472 granted to Edwin S. Leaycraft of Brooklyn, New York, Assignor, by mesne assignments, to Colt's Patent Fire Arms Manufacturing Co. (see Fig. 2-16). Quotations from the patent text follow: "My invention relates to revolving chambered fire-arms adapted for metallic cased cartridges, and relates especially to that kind in which the cartridges are loaded into the front instead of the rear end of the breech. A cartridge of this kind is shown in a patent to D. Williamson, dated January 5, 1864." Further, a reference is made to a patent granted to Daniel Moore on April 28, 1863. There was but one claim: "The combination of the ejector (k) and gate (g), when located at opposite ends of the revolving breech, so that the act of operating the ejector effects the removal or opening of the gate, substantially as and for the purpose set forth." It is unknown why so much time elapsed between the patent application and the actual time of manufacture. Possibly, this was the last detail to give Colt full and complete manufacturing rights.

The National Arms Co. was bought out by Colt in 1870, giving Colt the right to manufacture front-loading teat-fire revolvers if Smith & Wesson was successful in extending the White patent. Between May 21, 1864, when Moore first advertised his revolver in the *Army and Navy Journal*, and the Colt acquisition, about 32,000 of these .32 caliber teat-fire revolvers were manufactured. It was the most successful of all the White evasion revolvers of that period. During their manufacture, the revolver underwent six major design changes or improvements, as well as a few minor ones. If one were to specialize in collecting only the teat-fire revolvers, the research and acquisition of the many various specimens would be challenging.

In reviewing the nineteen U.S. patents granted to Rollin White between 1855 and 1876, it is interesting to note that two relate to "Improvement in Revolving Fire-Arms" in which the front-loaded teat-fire cartridge was used.

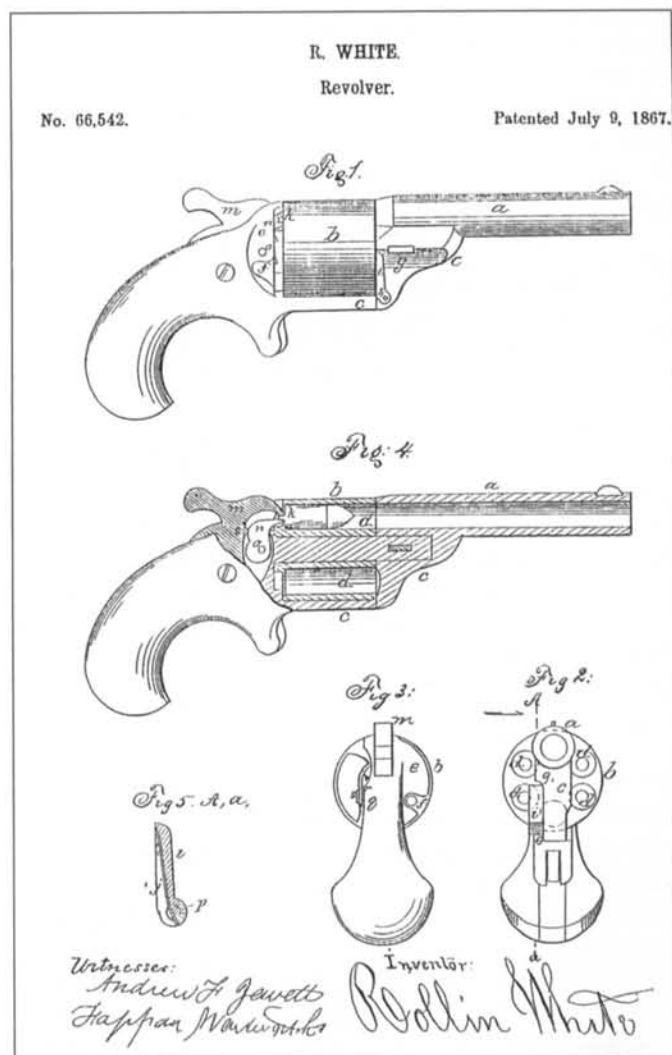


Fig. 2-18 Rollin White's second teat-fire revolver improvement with spring-loaded gate and movable anvil. U.S. Patent 66,542.

Patent 45,290 claims the placement of the trigger in the frame in front of the cylinder for comfort of the hand, and a stationary teat-fire frame mounted anvil.

Patent 66,542 has its illustrations copied from the Moore teat-fire revolver, with two improvements added. The first was the addition of a spring-loaded gate in front of the cylinder at the loading port, to prevent the cartridge from accidentally moving forward. The second was the use of a movable firing anvil that is combined with the hammer.

Neither of these improvements were incorporated into the Williamson/Moore designs. Rollin White's expertise was in ammunition handling, or in charging revolving firearms with an auxiliary magazine. Unfortunately, none of his ideas were very practical.

Another teat-fire related patent was issued to Robitaille & Dahis in 1864. U.S. Patent 43,709, also using a Moore revolver for illustration, claimed a groove inside the front end of each chamber of the cylinder and a spring-edge or

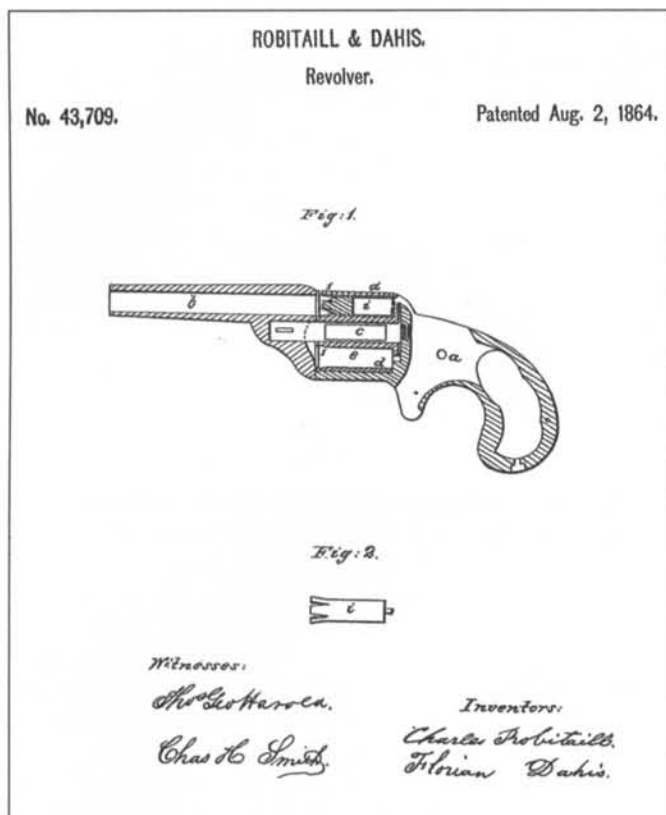


Fig. 2-19 Robitaille & Dahis test-fire revolver and cartridge improvement. U.S. Patent 43,709.

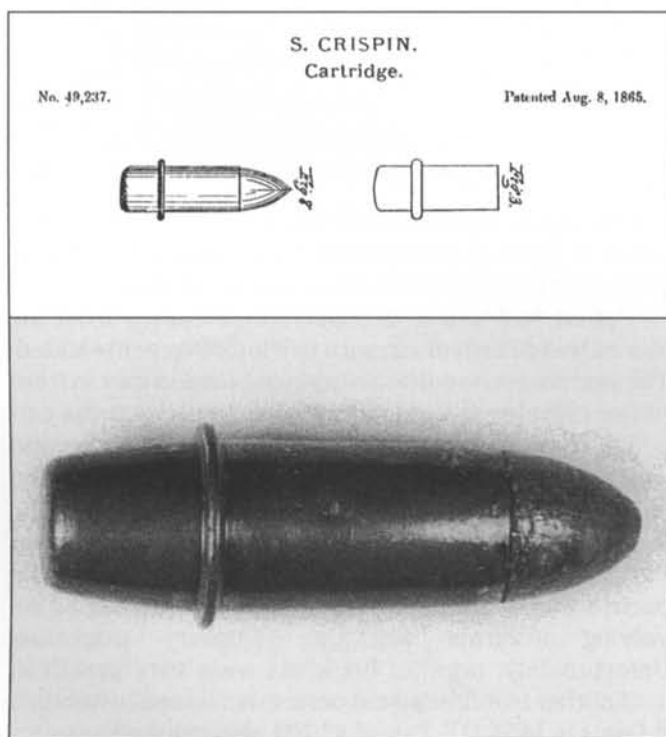


Fig. 2-20 Silas Crispin's improved metallic cartridge with annular priming. U.S. Patent 49,237.

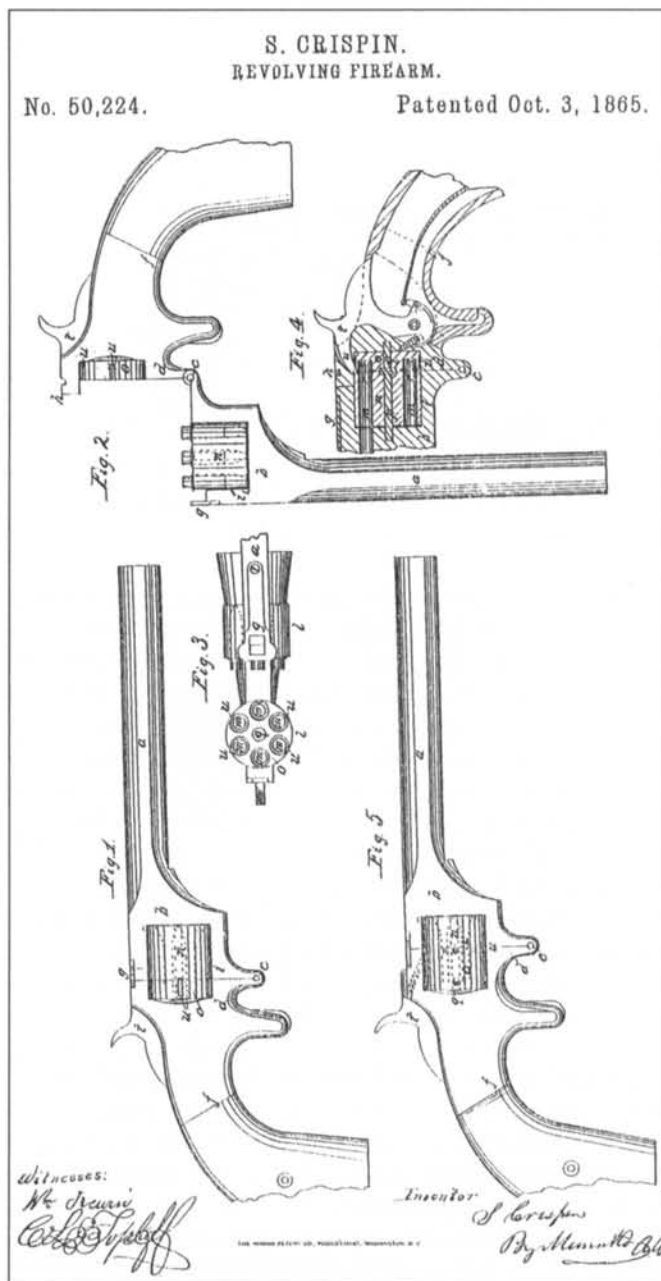


Fig. 2-21 Silas Crispin's improved revolver with two-part cylinder. U.S. Patent 50,224.

flaring out of the cartridge case to prevent the cartridge from falling out of the cylinder, once loaded. Again, this was not practical and not used by Moore. There are still other patents claiming modifications and improvements to these basic front-loader designs, but space limitations prevent further descriptions here.

One of the most unique, and certainly the rarest, of the Rollin White evasion revolvers was that patented by Silas Crispin of New York City. Crispin was granted eight U.S. patents between 1863 and 1868, but this study is mainly concerned with two: his cartridge

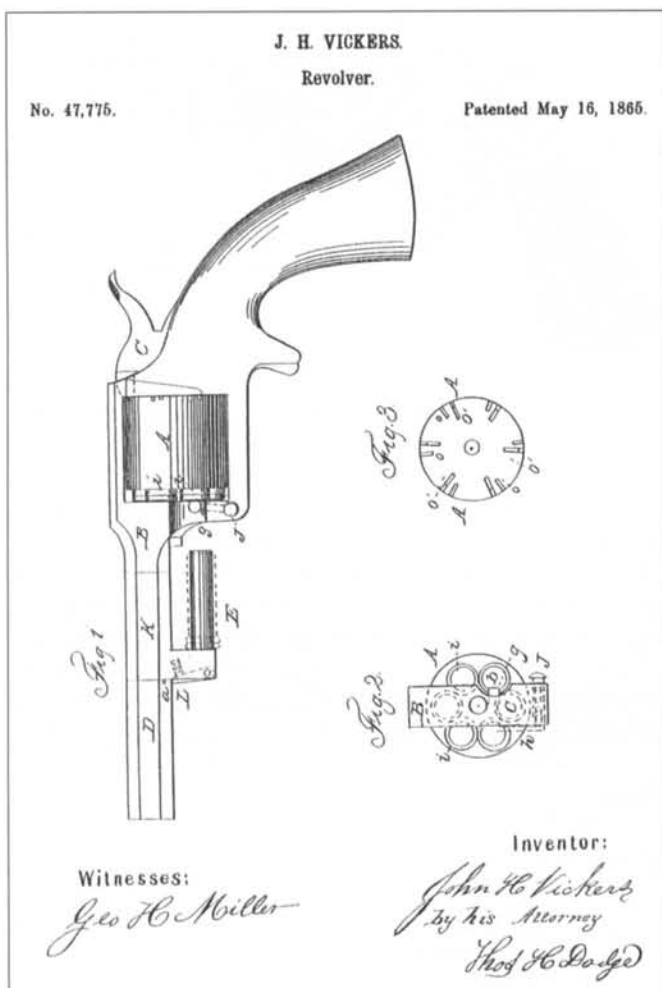


Fig. 2-25 J.H. Vickers' improved cartridge ejection stem. U.S. Patent 47,775.

shot .22 rimfire model with 3-1/2-inch barrel only, and a six-shot .32 rimfire model with 4, 5 or 6-inch barrels.

About the most popular, and certainly the most successful, of the front-loading cartridge-tube revolvers of the period was the Slocum, invented by Frank Slocum. The Brooklyn Fire Arms Co. produced more than 10,000 Slocum revolvers between 1863 and 1867, when the company was purchased by Colt. Samuel W. Slocum was the president of the company and his son, Frank Slocum was the secretary. They were located at the corner of Bridge and John streets in Brooklyn, New York.

A typical Slocum side-loading revolver is shown in Fig. 2-28; all five chambers are loaded with the pictured standard .32 caliber rimfire cartridges. In Fig. 2-29, the same revolver is shown with a cartridge tube slid forward over the cartridge ejection stem and a fresh rimfire cartridge placed in the cylinder chamber through the side.

The Slocum was a unique design, with five individual chambers in the form of cartridge tubes that, when pushed forward from their semi-circular receptacles in



Fig. 2-26 Pond front loading revolver with chamber tubes and final ejection stem. Six shots, .32 caliber, serial number 899. (Author's Collection)

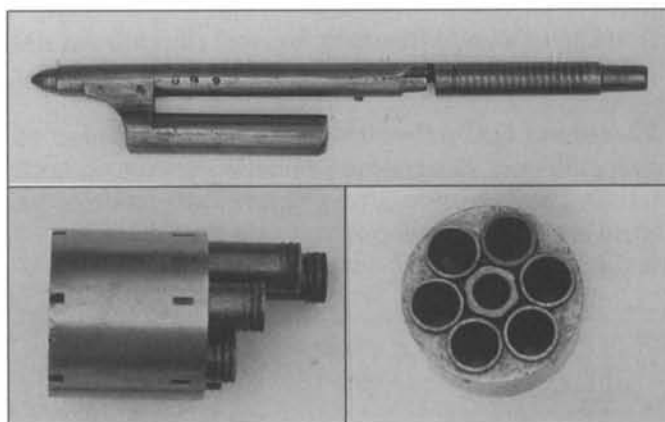


Fig. 2-27 Cylinder, tubes and cartridge ejection stem removed from Pond revolver.

the cylinder onto the cartridge ejection stem, left an opening in the side of the cylinder through which the cartridge was loaded (see Fig. 2-29). Needless to say, cylinders were not bored all the way through and therefore did not infringe on the Rollin White patent.

U.S. Patent 37,551 was granted to Frank P. Slocum, assignor to Samuel W. Slocum. This was the first Slocum revolver patent and it was dated January 27, 1863; the patent drawing is shown in Fig. 2-30. The cylinder was constructed with several chambers (five shown in the patent drawings), none of which were bored through. Each chamber was open at its outer side for loading, and was covered by a hinged lid. To lock the five hinged lids in their closed positions for firing, an outer ring (C) is applied.

To load this revolver, the cylinder ring (C) is pushed by hand to its full forward position on the cylinder (A-B), clearing the hinged lids (a a) of the several chambers (b b). The lids are then opened, the spent cartridge cases removed and fresh cartridges loaded through the side of the cylinder. The lids are again closed and the ring pulled rearward until it seats against the frame-mounted stops (j) and (k), locking all the hinged covers in place. A patent model was produced and submitted in Decem-



Fig. 2-28 Slocum (Brooklyn Firearms Co.) side loading, chamber tube revolver, numbered 84. (Author's Collection)



Fig. 2-29 Slocum revolver with a chamber tube forward over the ejector stem and fresh cartridge in cylinder.

ber 1862, but due to the complexity of the cylinder design, this model revolver was never manufactured as a production item.

A second U.S. patent (No. 38,204) was granted to Frank P. Slocum, Assignor to Samuel W. Slocum on April 14, 1863. This invention, after a slight modification of the cartridge ejector stem—referred to in the patent text as the stationary piston (E)—was the final design as manu-

factured by the Brooklyn Arms Company. The patent drawing is shown in Fig. 2-31. The patent had but two claims: (1) "The construction of a revolving fire-arm with independent longitudinally-movable chambers, in combination with openings in the sides of the cylinder of sufficient size to permit the lateral insertion of metallic cartridges without removing the chambers entirely from the cylinder"; and (2) "The stationary piston applied in

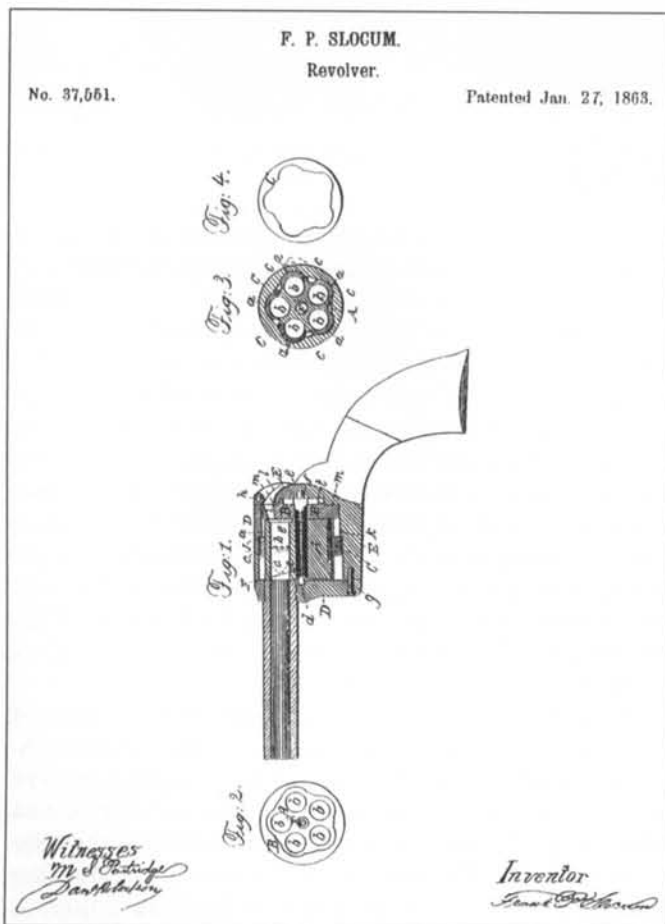


Fig. 2-30 Frank Slocum's first design of side cylinder loading revolver. U.S. Patent 37,551.

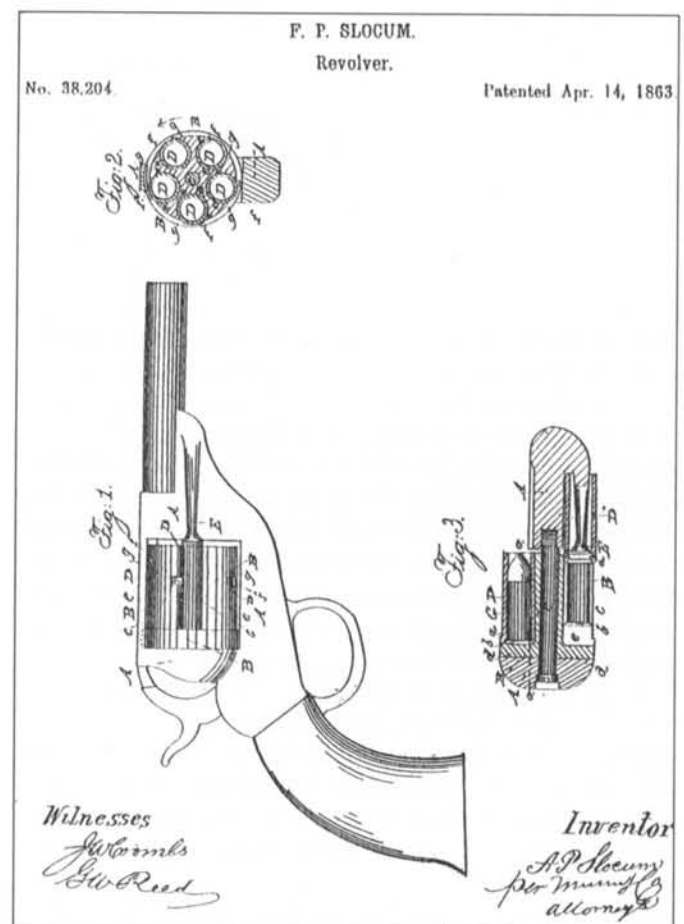


Fig. 2-31 Frank Slocum's second design of side loading cylinder and fixed ejector stem. U.S. Patent 38,204.

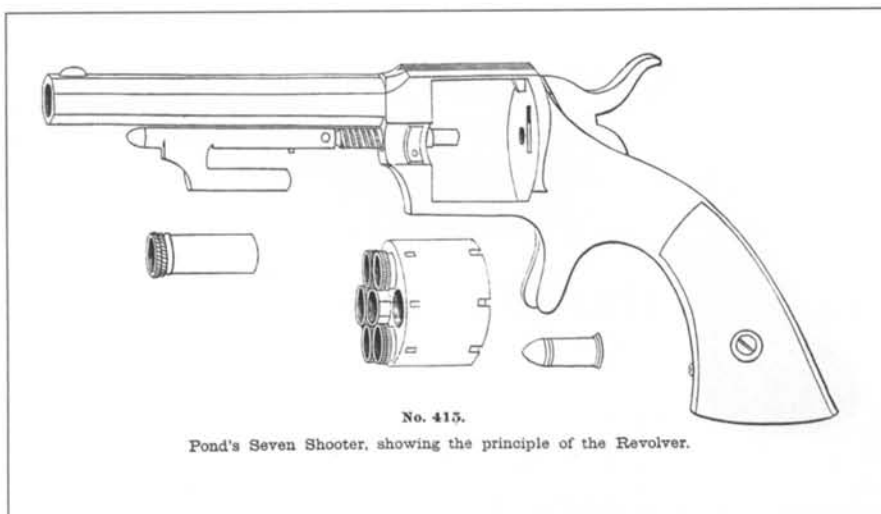


Fig. 2-34 Illustration of Pond's 6-shot chamber tube revolver disassembled to illustrate method of loading, etc. Number 415 from the 1864 catalog of Schuyler, Hartley & Graham, as reprinted by Norm Flayderman.



Fig. 2-33 Illustration of Pond's six-shot chamber tube revolver, number 414 from the 1864 catalog of Schuyler, Hartley & Graham, as reprinted by Norm Flayderman.



Fig. 2-32 Underside of Slocum revolver frame, showing the final cartridge ejector stem.

combination with the revolving cylinder and its independently-movable chambers, substantially as and for the purpose herein described".

The major difference between the design of U.S. Patent 38,204 and the production Slocum revolver is found in the cartridge ejection stem. That of the patent was part of the frame casting, which required costly machining and finishing. It was therefore changed in

the production revolver to become a part of the two-piece base-pin as illustrated in Fig. 2-32. Though not of great importance, the patent drawings show a trigger-guard, while all production models had spur triggers.

The Slocum revolvers had scroll engraved brass frames, 3-inch round barrels, five-shot .32 caliber rim-fire cylinders with sliding chambers that were loaded from the side, hardwood two-piece grips, spur triggers and a fixed stud at the right side for ejecting the spent casings from chambers. Most had silver plated frames and bright blued barrels and cylinders.

There were still other U.S. patents granted for front loading and split-cylinder revolvers designed to circumvent the Rollin White Patent. Between 1862 and 1867, the improvement designs of inventors such as T.J. Mayall, M.F. Geraghty, S.W. Wood, B.F. Joslyn, C.E. Sneider, P. Polain, F.D. Newbury, W. Tibbals and E.J. Frost were all patented, but none reached the production stage. Some, however, will be discussed in later chapters, as they offered features later incorporated in both Remington and Colt conversions.



Fig. 2-35 Illustration of Slocum six-shot, .32 caliber chamber tube revolver. Number 419 from the catalog of Schuyler, Hartley & Graham, as reprinted by Norm Flayderman.

The Schuyler, Hartley & Graham *Illustrated Catalog of Army and Military Goods* carried illustrations of both the Slocum side loader and the Pond front loader. Both revolvers used individual chamber tubes to contain the cartridge body. The Pond revolver illustrated in Figs. 2-33 and 2-34, further details the assemblies shown in Figs. 2-24, 2-26 and 2-27. Figure 2-35 illustrates the same Slocum revolver of Figs. 2-28 and 2-29 while offering a much

clearer demonstration of a cartridge tube positioned full forward on the ejector stem and a fresh cartridge placed through the side of the cylinder.

The metallic cartridge revolver designs discussed and illustrated to this point were offered to circumvent the 1855 patent of Rollin White. Next, we will study the many well known percussion revolvers made obsolete by the metallic cartridge, and their conversions for its use.

Chapter 3

Remington Conversions

The self-contained metallic cartridge had certainly proved its worth during the American Civil War. Greater dependability, quicker loading, more positive ignition and safety from possible overloading were some of the advantages. In addition, they were impervious to moisture and those designed for centerfire could be reloaded. The major disadvantage was the fact that immediately following the war, this relatively new ammunition was not easy to come by on the developing western frontier. For this reason, many owners of cap and ball revolvers elected to keep them in their percussion state. This is one reason for the extended production of percussion revolvers, well into the 1870s.

Because of the Rollin White Patent for bored-through cylinders and its strict control by Smith & Wesson, neither Remington nor Colt ventured into the breech-loading cartridge revolver field until the patent expired and its extension was denied. However, Don Ware, while researching Remington handguns, found a very interesting E. Remington & Sons price list handbill, dated October 1860, which carried the following statement; "We have now in process of manufacture a new and superior Cartridge Loading Revolver which will be ready for market in the course of two or three months."

Possibly the revolver referred to was that described in an article by Jay Huber, which appeared both in the October 1991 issue of *The Gun Report* and the 3rd Quarter Newsletter of the Remington Society of America for the same year. The gun is a spur trigger, smooth-bore, solid iron frame .32 caliber rimfire revolver with handmade gutta-percha grips and a hinged pin for securing the cylinder and extracting spent cartridges. The gun has no markings, but contains many of the Fordyce Beals' basic design features as found in the Beals #1, #2 and #3 Pocket models, as well as in the later Beals large-frame Army and Navy models. The construction details and fine workmanship leave little doubt that

this revolver came from the Remington model shop (see Fig. 3-1).

Because of the legal actions between White/Smith & Wesson and the various infringing gunmakers identified in preceding chapters, it is apparent that Remington directed its attention to non-infringing conversions and shelved its cartridge revolver until the early and mid-1870s. From 1861 to 1888, the company manufactured both single-shot rimfire pistols and multi-barrel derringers, but these had no cylinders and offered no competition to Smith & Wesson.

The small caliber percussion revolvers manufactured by Remington were easily converted to rimfire metallic cartridge revolvers simply by cutting off the rear section of the cylinder that contained the percussion nipples, counter-boring the rear of each chamber to accommodate the cartridge rim, supplying a rear plate or cylinder cover with slots cut to allow passage of the hammer tip and containing the revolving ratchet at its center, and supplying pins or other suitable means for attaching the plate to the cylinder so both would revolve together. This type conversion was best suited for rimfire ammunition and allowed the revolver



Fig. 3-1 Experimental metallic cartridge revolver designed by Fordyce Beals. (Courtesy F. "Jay" Huber Jr.)

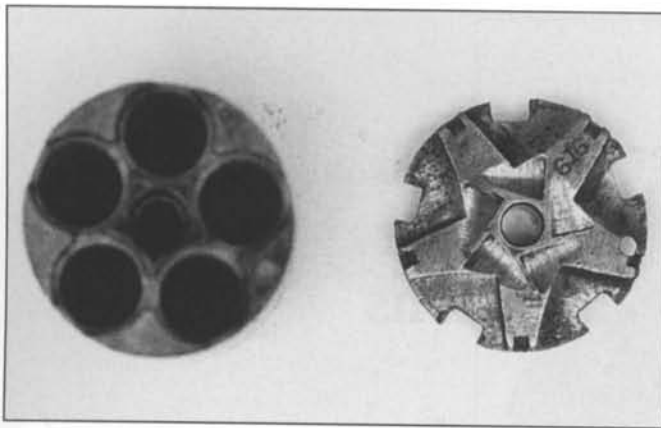


Fig. 3-2 Conversion cylinder and back-plate of Remington-Rider Pocket Model revolver, serial number 2951. (Author's collection)

to be used as either a percussion weapon with a standard percussion cylinder, or a cartridge arm by substituting the remachined cylinder and back-plate. Such a conversion is shown in Fig. 3-2 and is common with the Remington Rider Pocket Model (1860-1873), the Remington Double Action New Model Belt Revolver (1863-1873), the Remington Single-Action New Model Belt Revolver (1863-1873), the Remington New Model Police Revolver (1863-1873), and the Remington New Model Pocket Revolver (1863-1873).

It is interesting, in searching available patent files, to find just where this idea for a split cylinder originated. Several such designs were covered in Chapter 2, but the earliest appears to have been patented in England by one C.C. Tevis on May 17, 1856 (British Patent 1177/1856). The Tevis patent drawing is shown in Fig. 3-3, with the two-piece cylinder mounted (Fig. 1) and the rear cylinder-plate illustrated separately (Fig. 3). A portion of the text reads as follows; "The revolver cylinder

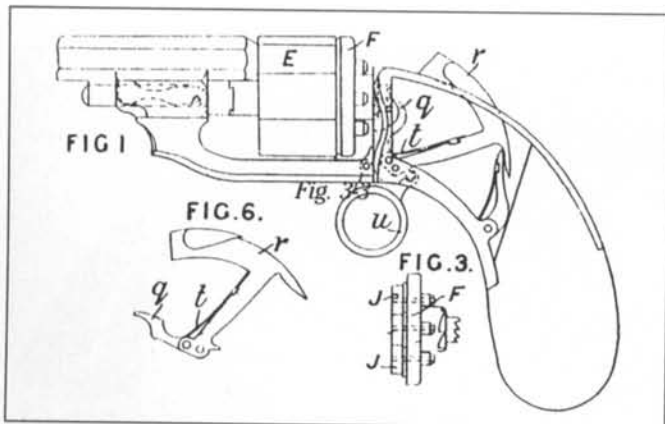


Fig. 3-3 Patent drawings of British Patent No. 1177/1856. (Courtesy Armory Publications)

'E' has its chambers made conical, so that the bullet is compressed during discharge. The cartridges are loaded into the cylinder from the rear, and the chambers are closed by a plate 'F,' having plugs 'J,' which fit into the chambers." Obviously, the cartridges referred to are of the paper or linen type.

Then, J. Adams was granted British Patent 1758/1861 for his split-cylinder revolver on July 12, 1861, illustrated in Fig. 3-4. In the text he stated; "The chambers may be made open at each end, as shown in Fig. 8, so that they can be loaded from the muzzle or breech ends. When breech-loading cartridges are employed, the spindle 'f' is pulled back sufficiently to allow the plate 'd' to be drawn aside and expose the end of the chamber. Figure 9 shows chambers adapted to be loaded from the muzzle and provided with nipples." Thus, a revolver accommodating both self-contained metallic cartridges or powder, cap and ball, can be realized simply by changing cylinders. This invention resulted in the Adams Model 1861 revolver for the Adams rimless centerfire cartridge.

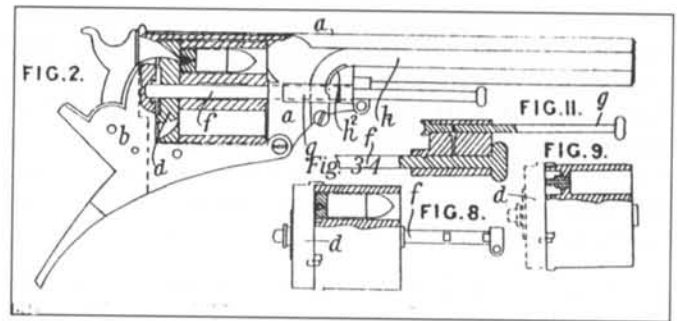


Fig. 3-4 Patent drawings of British Patent No. 1758/1861. (Courtesy Armory Publications)

On November 27, 1860, Christian Sharps was granted U.S. Patent 30,765 for a cylinder with a screw-on rear cap, having perforations at each chamber for the hammer tip to pass through. The Sharps two-piece cylinder is illustrated in Fig. 3-5. Through his agent, G. Davis, Christian Sharps was granted British Patent 1844/1863 on July 23, 1863, for an improvement on the cylinder plate of his U.S. patent. The British patent drawings are illustrated in Fig. 3-6. Here, Fig. 2 represents the original cylinder and cylinder-plate design, Fig. 4 the new design with central attaching screw threads and Fig. 5 the addition of a loading gate to the rear cylinder-plate.

W. Tranter was granted British Patent 1889/1865 on July 20, 1865, illustrated in Fig. 3-7. From the text is taken: "A breech-piece 'd'. Fig. 9, provided with firing pins and formed with a socket 'e' mounted on the cylinder axis, is connected to the cylinder 'c' by a pin 'f' engaging a hole in the cylinder, and is formed with ordinary cylinder-feeding teeth and locking notches."

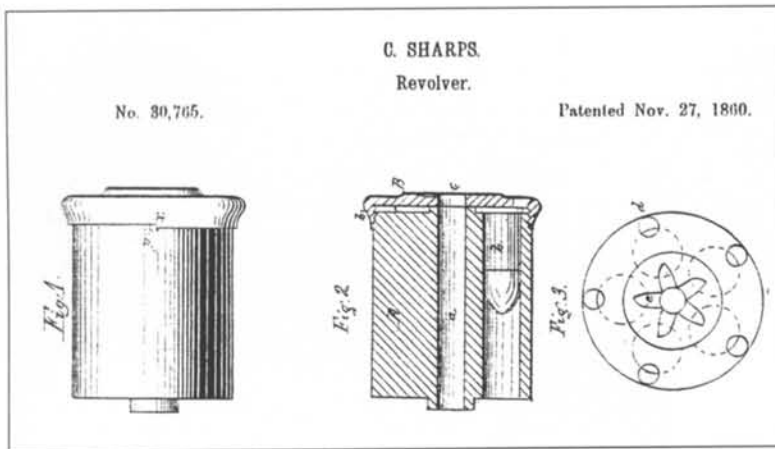


Fig. 3-5 Patent drawings of U.S. Patent No. 30,765. (U.S. Patent & Trademark Office)

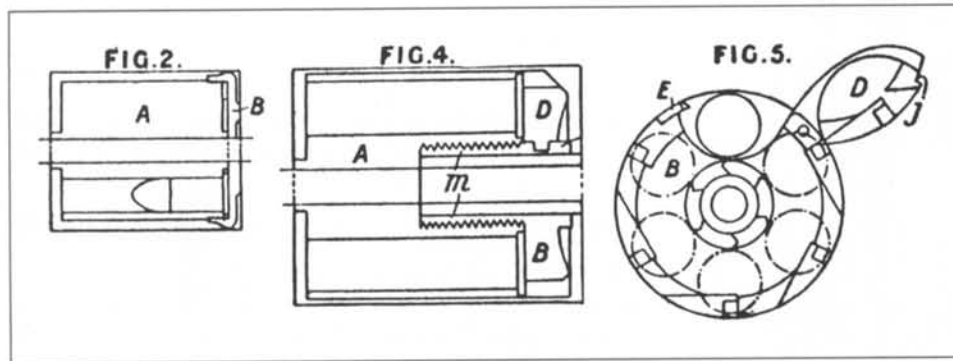


Fig. 3-6 Patent drawing of British Patent No. 1844/1863 (Courtesy Armory Publications)

Still another British patent covering this method of converting revolvers from percussion to metallic cartridges was granted to John Adams on October 22, 1867. British Patent 2961/1867 is known as "the John Adams Conversion Patent", with numerous Beaumont-Adams, Adams-Harding and Deane-Harding revolvers converted by this method.

Among the American gun designers to put the two-piece cylinder to practical use was Frank D. Bliss of New Haven, Connecticut (c. 1863-64). One of his several variations is shown in Fig. 3-9, where the bored-through cylinder has a cap pinned to its rear so both would turn together. To the left of Fig. 3-10 is seen the rear of an assembled Bliss cylinder. Here the hammer tip strikes the edge of the rimfire cartridge above the cylinder-plate, thus requiring no hammer slots. Immediately to the right, the same cylinder has its rear plate removed and turned so the underside of the plate can be seen.

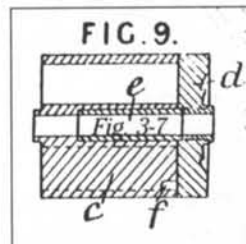


Fig. 3-7 Patent drawing of British Patent No. 1889/1865. (Courtesy Armory Publications)

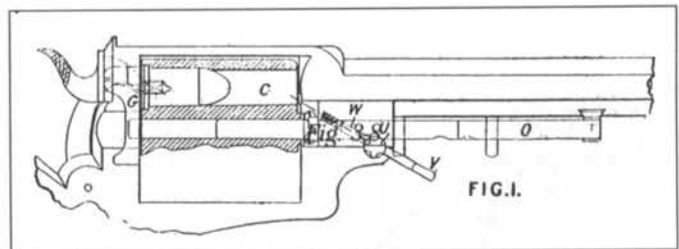


Fig. 3-8 Patent drawing of British Patent No. 2961/1867. (Courtesy Armory Publications)



Fig. 3-9 Frank D. Bliss rimfire metallic cartridge revolver. (Author's Collection)

Possibly the most advanced two-piece cylinder design of the time was demonstrated by U.S. Patent 51,985, granted to Eli Whitney Jr. on January 9, 1866. Here, the rear cylinder-plate can be pulled back from

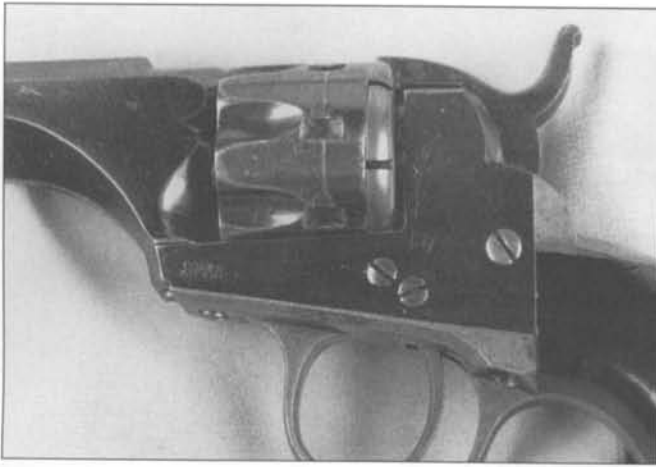


Fig. 3-13 Colt experimental Pocket Model metallic cartridge revolver. (Courtesy Francis E. "Bud" Firth)

frame is well marked. This particular revolver will be discussed in detail in later chapters.

Remington-Rider Pocket Model Revolvers

Figure 3-14 shows a Remington-Rider Pocket Model revolver with a five-shot cylinder and rear cylinder-plate that can accept a .32 caliber rimfire cartridge. This gun is from later production and was manufactured as a metallic cartridge revolver, rather than a conversion from percussion. This is evidenced by the fact that there is no capping cut-out in the recoil shield. In its factory converted form, the Rider Pocket Model was the first double-action cartridge revolver produced in America.

Generally, these conversions had new cylinders with removable rear plates and slightly modified hammer tips so that by retaining the original percussion



Fig. 3-14 Remington-Rider Double Action Pocket Model conversion, serial number 2952. (Author's Collection)

cylinders, they could be quickly and easily transformed from cartridge to percussion and vice versa. This was a welcome feature for areas where the new self-contained ammunition was not readily available or very costly.

Those factory-made cartridge revolvers (without capping cut-outs) were also available with shorter barrels, having simply REMINGTON'S ILION, N.Y. barrel markings rather than the earlier 3-inch barrel markings containing the August 17, 1858, and May 3, 1859, patent dates. In all Remington-Rider conversions and factory-made cartridge pocket models the cylinders had to be removed and separated from the rear cylinder-plates for loading and cartridge extraction.

Figure 3-15 illustrates the full patent drawings for Joseph Rider's percussion pocket model revolver. U.S. Patent 21,215, granted August 17, 1858, stated: "This invention consists in a certain mode of combining the

REMINGTON'S DOUBLE ACTION POCKET PISTOL, (SELF COCKING).

Five Shots. Full length, 6½ in.

3 in. Barrel.
Weight, 10 oz.

PRICE.—\$1.20 per 100,
\$12.00 per 1,000.

PRICE.

Blued . . .	\$8.00
Nickel plated frame . . .	8.50
Full nickel plated . . .	9.00
EXTRA FOR	
Ivory stocks . . .	5.00
Pearl " . . .	6.00
Engraving . . .	4.00
SAME PISTOL TO USE LOOSE AMMUNITION	
	\$1.00 less.

Uses this Cartridge.

32-100 Calibre.

Remington Advertisement
(Circa 1873).

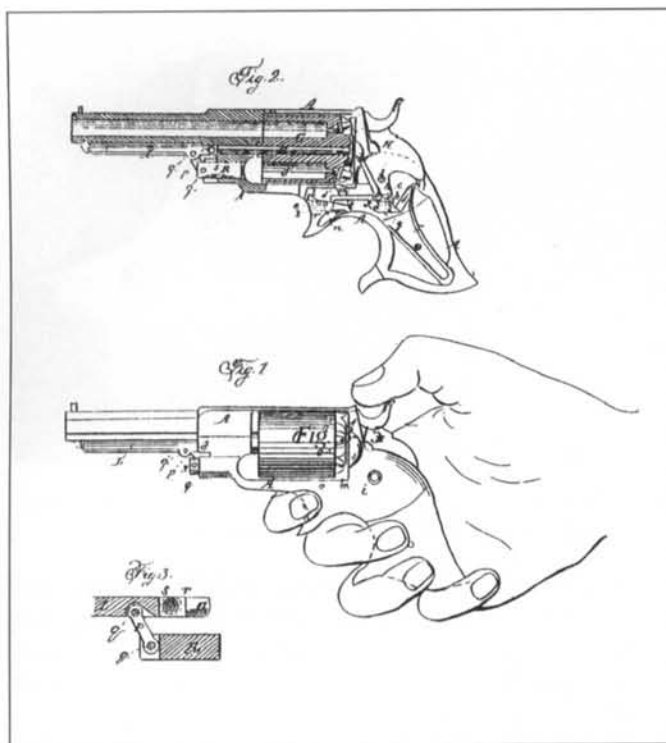


Fig. 3-15 Patent drawings of U.S. Patent 21,215 granted to J. Rider on August 17, 1858. (U.S. Patent & Trademark Office)

several parts of the lock, where-by a single spring is made to serve in a very effective manner the purpose of mainspring and trigger-spring, and for keeping in its operative position the dog through which the rotation of the cylinder is effected by the cocking of the hammer, and also for operating the stop which locks the cylinder while the hammer is cocked."

Figure 3-16 details those of U.S. Patent 23,861, granted on May 3, 1859. Here the text states; "My invention consists in a certain novel simple construction and mode of applying and combining the several parts of the lock of a revolver, where-by they are made capable of operation in a very effective and certain manner, either by the trigger alone for very rapidly-repeating firing, or by the cocking of the hammer and firing only by the trigger for firing more deliberately and with more accurate aim." Thus, with four claims, a double-action revolver evolved.

Usually, the Remington-Rider Double-Action Pocket Models made as conversions were marked with serial numbers under the barrel, under the frame (just to the front of the trigger opening) and inside of the grips. Those made as percussion had numbers on the bottom of their trigger-guards. Conversion cylinders were stamped with separate numbers matching those stamped on the cylinder-plate, but there were no conversion/assembly numbers. The Riders were made as either percussion or cartridge.

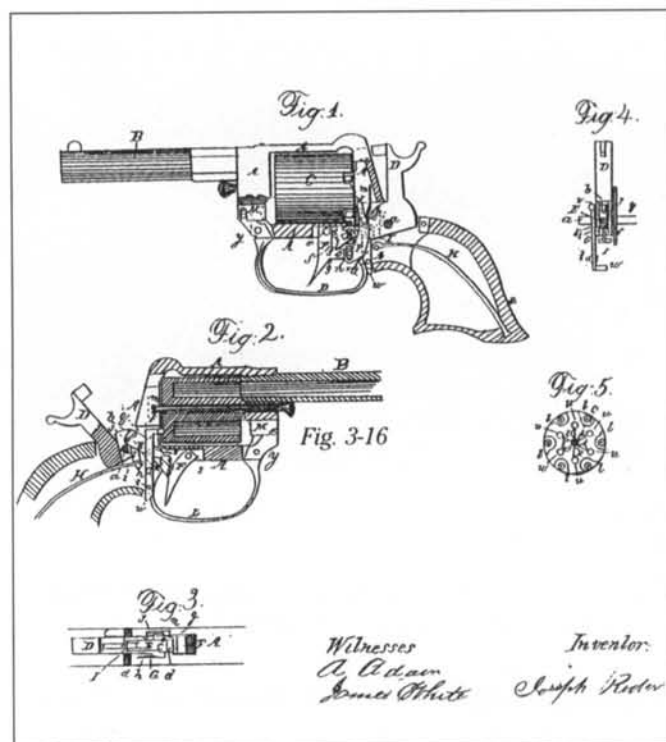


Fig. 3-16 Patent drawings of U.S. Patent 23,861 granted to J. Rider on May 3, 1859. (U.S. Patent & Trademark Office)

Remington New Model Pocket Revolvers

The Remington New Model Pocket Model revolver was manufactured in its percussion form between 1863 and 1873 and is shown converted to metallic cartridge (.32 rimfire) in Fig. 3-17. Also included is a .31 caliber percussion cylinder (believed to be Remington) so the arm can be used for either type of ignition.

These revolvers carry the Fordyce Beals patent date of September 14, 1858 (U.S. Patent 21,478), and that of Samuel Remington, March 17, 1863 (U.S. Patent 37,921). Little remained patentable on revolvers by these dates, so both patents addressed the construction and arrangements of base-pins and levers and their relation to each other. Figure 3-18 illustrates the Beals patent drawings, and Fig. 3-19, the Remington. Neither patent illustrated or mentioned anything pertaining to the forms or mechanisms of the revolvers or their actions.

The New Model percussion pocket revolvers had 3-inch or 3-1/2-inch octagonal barrels, with a limited number measuring 4 inches or 4-1/2 inches long. There were three basic types, all having straight round five-shot cylinders, loading levers and spur triggers. The first type had a brass frame and steel or brass trigger sheath; the second had an iron frame and brass trigger sheath; and the third was all iron. Two-piece walnut grips and blue finish with case hardened hammers



Fig. 3-17 Remington New Model Pocket revolver with the original percussion cylinder and conversion cylinder with back-plate. Serial number 21943, conversion assembly number 3683. (Author's Collection)

were standard, but part or full plating was available, as were special grips such as ivory, pearl, Tiffany, etc.

The conversions of all small-frame Remington New Model revolvers were of the same type as the Rider Double-Action Pocket Model conversion of Figs. 3-2 and 3-14. Figure 3-20 shows a 3-1/2-inch New Model Pocket revolver with the base-pin full forward, the cylinder and cylinder-plate removed and separated, and the hammer drawn back to show the tip modification necessary for this type of rear cylinder-plate.

The same revolver is shown fully assembled in Fig. 3-21. Again, serial numbers are normally found under the barrel and on the frame under the left grip. They are also often found in full or in part on the key of the trigger-guard. Conversion or assembly numbers can usually be found under the barrel, and on the frame under the left grip. Both conversion cylinders and cylinder-plates have matching numbers that have no relationship to the serial or conversion numbers,

These cylinder numbers were used for stocking purposes so one could order a cartridge cylinder with matching plate for a percussion gun.

Figure 3-22 pictures a very rare Remington New Model Pocket revolver that has been converted to .22 caliber rimfire-obviously not a factory conversion, but one of major interest. It is a third type, fully nickel plated with a 3-1/2-inch octagonal barrel and standard Remington markings. The barrel has a .22 caliber rifled sleeve for its full length. The serial number is 21283, and the complete absence of conversion numbers tags this conversion as non-factory. Excellent workmanship is witnessed throughout. Though difficult to see in the illustration, a 1/10-inch-thick plate has been attached to the face of the recoil shield, in much the same way as found on the first type New Model Army revolver conversions detailed later in this chapter. The rear of the percussion cylinder was cut away, leaving a straight round-bored-through cylinder. Fitted to its rear is a cyl-

REMINGTON'S NEW POCKET REVOLVER.

Five shots. Full length, 7½ in.

*Same style Pistol
using loose ammunition,
\$1.00 less.*

Weights, 14 oz. 3½ in. Barrel.
16 " 4½ in. "

Uses this Cartridge.

32-100 Calibre.

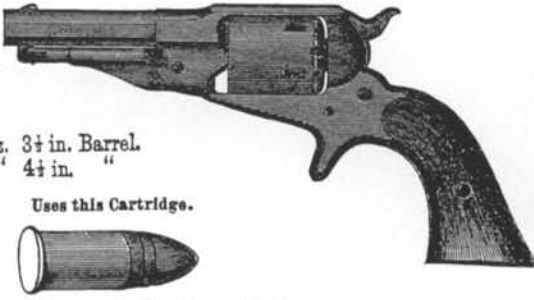
PRICE—\$1.20 per 100, \$12.00 per 1,000.

PRICE.

Blued, 3½ in. . .	\$9.25
" 4½ in. . .	9.50
Nickel plated frame, 3½ in. . .	9.75
Nickel plated frame, 4½ in. . .	10.00
Full nickel plated 3½ in. . .	10.50
Full nickel plated 4½ in. . .	10.75

EXTRA FOR

Ivory stocks . . .	5.00
Pearl " . . .	7.50
Engraving . . .	4.00
Extra cylinder . . .	2.25



Remington Advertisement
(Circa 1873)

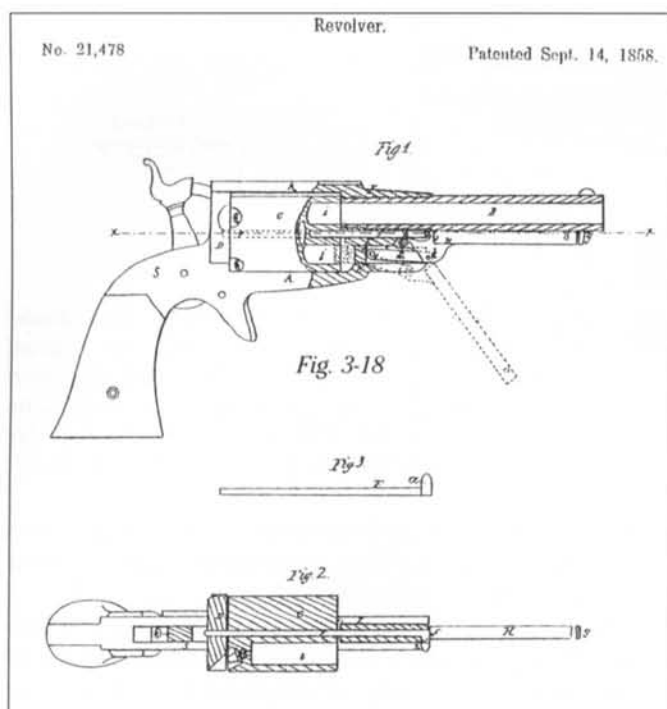


Fig. 3-18 Patent drawings of U.S. Patent 21,478, granted to F. Beals on September 14, 1858. (U.S. Patent & Trademark Office)

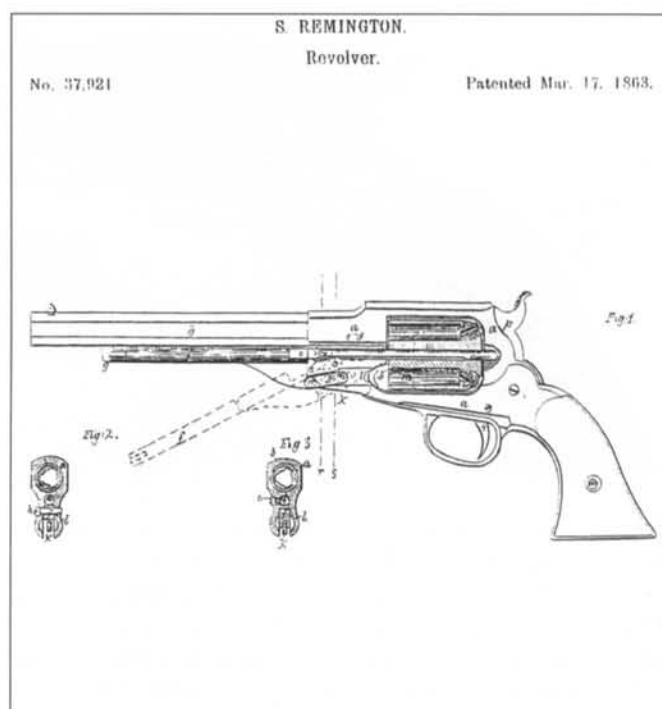


Fig. 3-19 Patent drawings of U.S. Patent No. 37,921 granted to Samuel Remington on March 17, 1863. (U.S. Patent & Trademark Office)

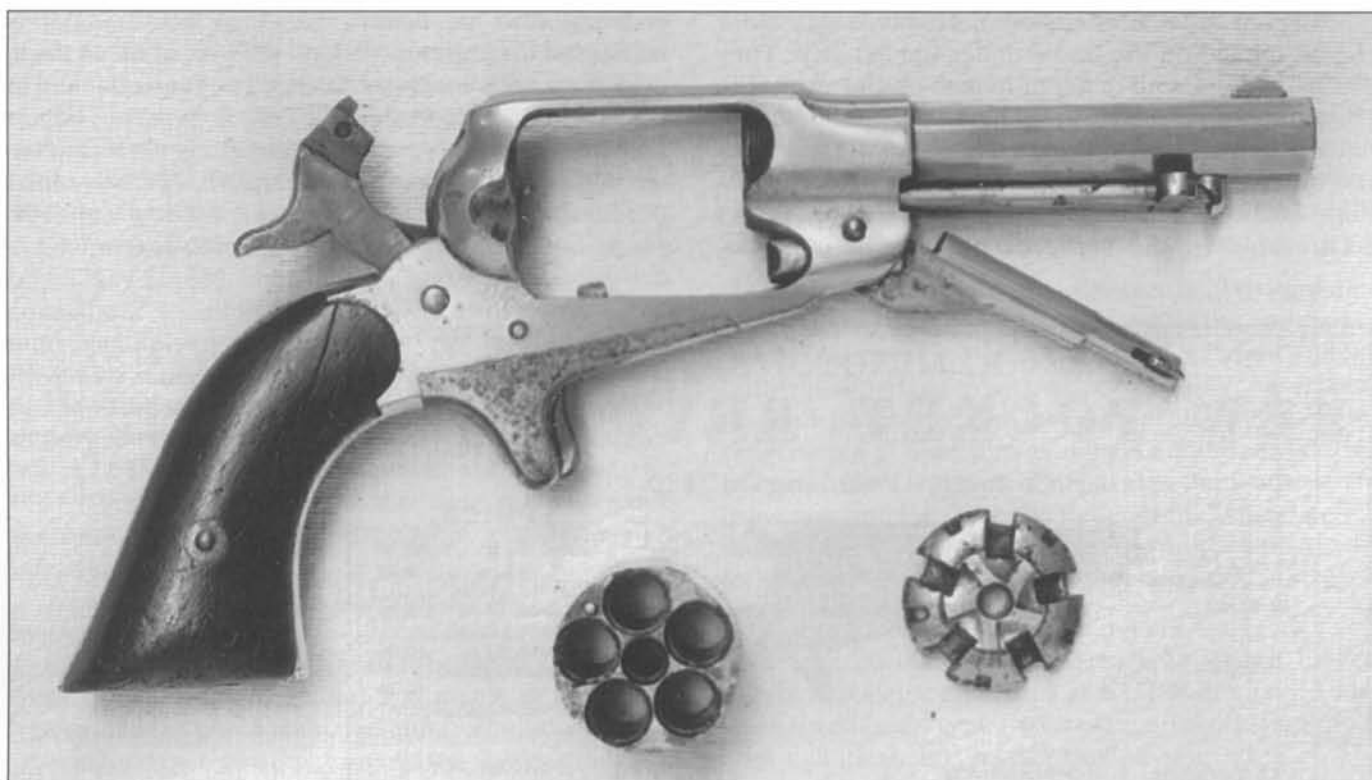


Fig. 3-20 Remington New Model Pocket revolver conversion with disassembled cylinder. Serial number 21784, conversion number 4. (Author's Collection)

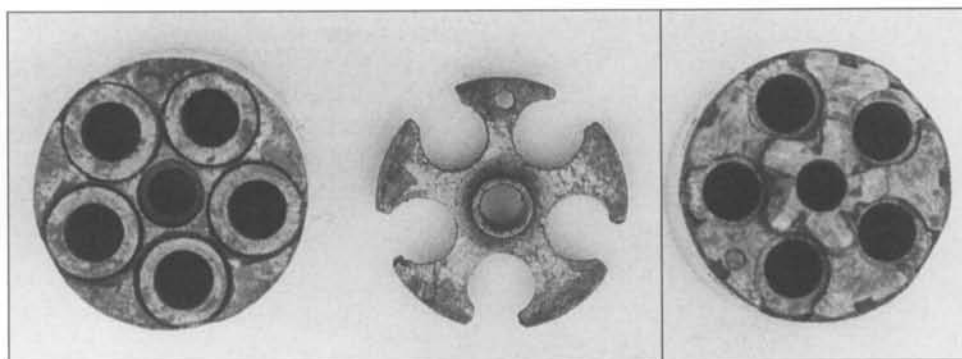


Fig. 3-21 Remington New Model Pocket revolver conversion, serial number 21784 conversion number 4. (Author's Collection)



Fig. 3-22 Remington New Model Pocket revolver (non-factory) converted to .22 caliber rimfire. Serial number 21283. (Author's Collection)

Fig. 3-23 (Left) Conversion cylinder details of the .22 caliber Pocket Model revolver, number 21283. (Right) Conversion cylinder details of the .22 caliber Pocket Model revolver, number 21283.



inder-plate, shaped somewhat like a sprocket and indexed by a single pin. As in other small frame conversions, the cylinder-plate had the ratchet fabricated at its center.

At the far left of Fig. 3-23 the front face of the conversion cylinder is pictured, showing all five chambers sleeved for .22 caliber ammunition. At the center is the inside of the cylinder-plate and at the far right is a rear view of the assembled cylinder. It is interesting to note that the cartridge flanges are not sandwiched between counter-bored chambers and the rear cylinder-plate; rather they seat on a flat cylinder surface within the openings of the cylinder-plate.

Most of the early New Model Pocket revolvers left the factory as percussion guns rather than conversions. To accept conversion cylinders and plates, the

frame openings had to be relieved at the rear rounded corners.

New Model Police Revolvers

Next in our study of small-frame Remington conversions is the New Model Police revolver, as pictured in Fig. 3-24. The barrel markings carry the same Beals and Remington patent dates as did the Pocket Model (Sept. 14, 1858, and March 17, 1863).

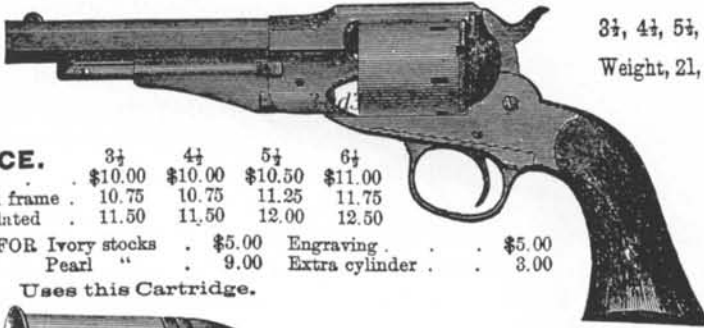
Percussions were manufactured until 1873, and conversions from 1874 to 1888. They had octagonal barrels, straight-round five-shot .36 caliber percussion cylinders, iron frames, two-piece walnut grips and oval brass trigger-guards. All New Models had safety notches at the rear of their cylinders between chambers, as



Fig. 3-24 Remington New Model Police revolver conversion, Serial number 925, Conversion number 2. (Author's Collection)

**REMINGTON'S
POLICE REVOLVER.**

Five shots. Full length, 8½ to 11½ in.



3½, 4½, 5½, 6½ in. Barrel.
Weight, 21, 22, 23, 24 oz.

PRICE.	3½	4½	5½	6½
Blued	\$10.00	\$10.00	\$10.50	\$11.00
Nickel plated frame	10.75	10.75	11.25	11.75
Full nickel plated	11.50	11.50	12.00	12.50

EXTRA FOR Ivory stocks . \$5.00 Engraving . . \$5.00
Pearl " . 9.00 Extra cylinder . . 3.00

Uses this Cartridge.



38-100
Calibre.

Same style
using loose am-
munition,
\$1.00 less.

PRICE.—\$1.70 per 100, \$17.00 per 1,000.

*Remington Advertisement
(Circa 1873)*

did the cylinder-plates of New Model conversions and those manufactured as cartridge revolvers. The two latter had two-piece cylinders, bored and counter-bored for the .38 caliber rimfire metallic cartridge. All small-frame New Model cartridge revolvers, whether conversions or thus manufactured, retained their original loading levers for holding the base-pins in place and for ejecting spent cartridge casings after removing

the cylinder from the frame. The hammer tips were slightly reshaped to function properly for either type of ignition.

For all small-frame Remington New Models with conversion cylinders, the factory sold percussion cylinders separately. The New Model Police conversion of Fig. 3-25 has only the serial number stamped under the barrel and on the frame, under the left grip. There is



*Fig. 3-25 Remington New Model Police revolver conversion,
Serial number 5267. (Author's Collection)*



Fig. 3-26 Remington New Model Police revolver (non-factory) conversion to .38 centerfire. Serial number 15669. (Author's Collection)

no conversion number. Therefore, this gun was manufactured as a conversion, not converted from percussion. The revolver is numbered 5267, while the rear face of the cylinder is stamped 4463 and the rear of the cylinder-plate has two numbers, 19 and 62. A close inspection of the rework of the frame cut-out leads one to believe that the gun has an original factory conversion frame. Therefore, the mismatched cylinder parts could be because of repairs or replacement of lost parts.

The revolver pictured in Fig. 3-26 is a non-factory conversion of a Remington New Model Police revolver from percussion to .38 caliber centerfire. This gun originally had a longer barrel, probably containing an original factory rimfire conversion number on that portion cut away, but only the serial number (15669) remains. The frame contains both the serial number and the conversion number (75). The rimfire conversion cylinder-plate was discarded, and a new plate made with five



Fig. 3-27 Simple engraved New Model Police revolver conversion. (Author's Collection)

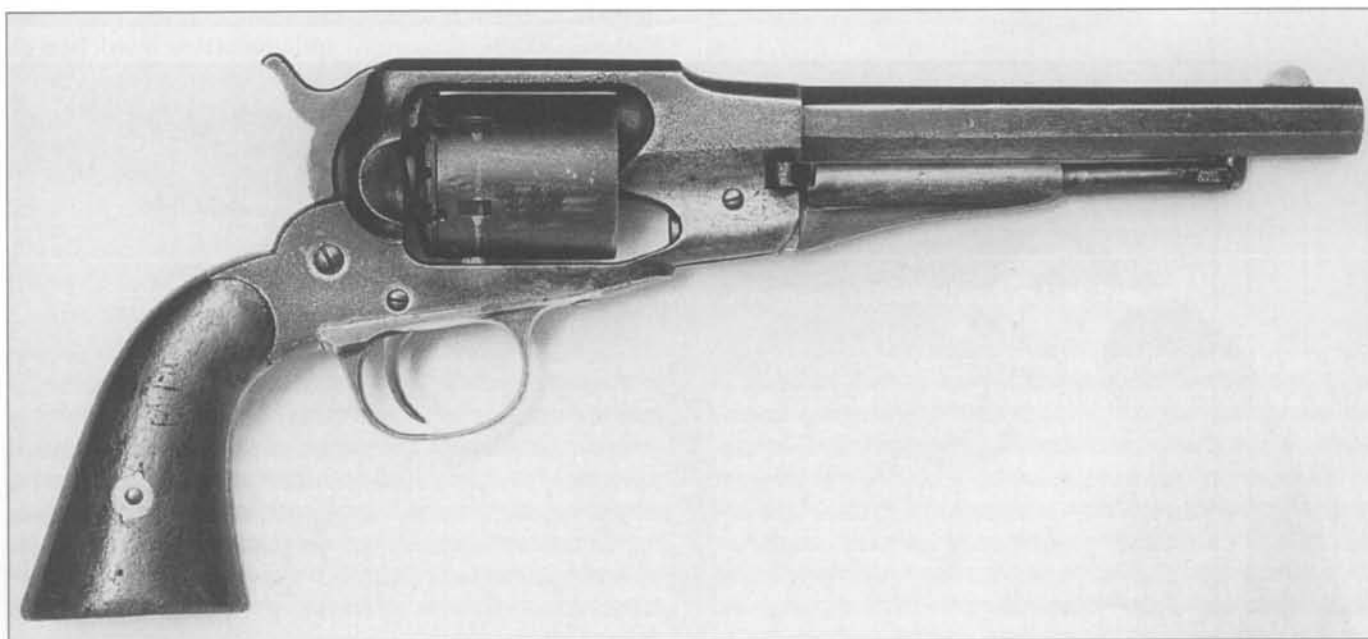
hammer slots cut closer to the center to allow the reformed hammer-tip to strike the center of the cartridges. It is not known why the rimfire cylinder-plate was not simply modified for this same purpose. This was obviously a very late conversion.

Remington offered very elaborately engraved, inlaid, cased and plated revolvers with a variety of exotic grips, but the prices were much higher than its standard line. To better compete with Colt's Pocket Navy and 1862 Police Model, Remington offered a very inexpensive type of engraving. One of these simple engraved-frame designs is pictured in Fig. 3-27, and is commonly found on the New Model Police conversions. All else remains the same; only the frame is lightly engraved to enhance its appearance and salability.

Factory finishes for Remington New Model Police revolvers were the same as those offered for the full line; blue with case hardened hammer, partial or full nickel plated, etc. Special plating and special grips could be ordered at additional cost.

Belt Model Revolvers

One of the rarest of the New Model Remington revolvers is the single-action Belt Model illustrated in Fig. 3-28. Only about 3,000 were produced in percussion, and far less were converted to metallic cartridge revolvers. The 6-1/2-inch octagonal barrel carries only the Beals patent date (September 14, 1858). Small-



REMINGTON'S BELT REVOLVER (Double & Single Action),

Six shots. Full length, 11½ in.

Self Cocking.



Weight, 2½ lbs.
6 in. Barrel.

PRICE. Blued . . . \$11.50 Nickel plated frame . . . 12.50 Full nickel plated . . . 13.00		EXTRA FOR Ivory stocks . . . \$5.00 Pearl " . . . 10.00 Engraving . . . 5.00 Extra cylinder . . . 3.50
--	--	--

Uses this Cartridge.



38-100 Calibre.

PRICE.—Per 100, \$1.80
" 1,000, \$18.00

Same Pistol for loose ammunition, 50 cts. less.

Above: Fig. 3-28 Remington New Model single-action Belt Model revolver conversion. Serial number 3610. (Author's Collection)

Left: Remington Advertisement (Circa 1873)

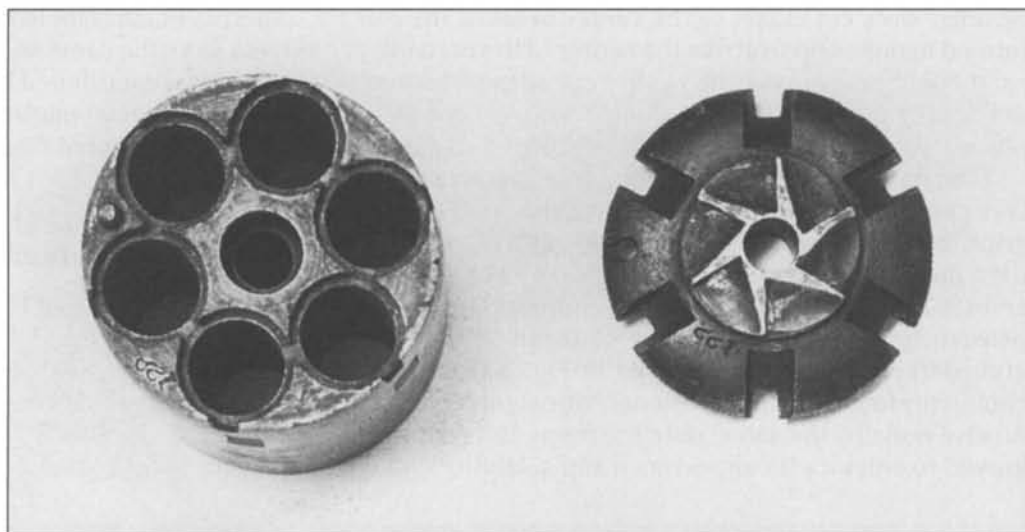


Fig. 3-29 Belt Model conversion cylinder.



Fig. 3-30 Remington New Model single-action Belt Model revolver conversion, Serial number C247, conversion number 2. Author's collection

frame factory conversions incorporated the two-piece cylinder as shown separately in Fig. 3-29 and detailed further in Figs. 3-32 and 3-33

In percussion form, the six-shot cylinder was chambered for .36 caliber, and when converted, it was bored and counter-bored to accept the .38 caliber rimfire cartridge. The gun has an iron frame that is quite a bit smaller than that of the New Model Army revolver, slightly smaller than that of the Navy, but larger than the frame of the New Model Pocket or Police revolvers. Unlike the Pocket Model, but like the Police, the frame screws of all New Model Belt revolvers enter from the right side. Factory finishes were the same as previously mentioned.

The Belt Model revolver of Fig. 3-30 has a very uncommon serial number, consisting of a backwards 'C' followed by 247. It was first thought that the backwards 'C' might be a '6' stamped with a broken die, but after removing the left grip it is apparent that this is not the case. The conversion number stamped under the barrel and on the frame strap is '2'. This revolver's cylinder is completely unmarked. As shown in Fig. 3-31, the original pin for indexing the cylinder to the cylinder-plate was broken off and a new one was installed between the second and third chambers to the right. It is obvious that the original factory conversion cylinder and cylinder-plate were lost and the ones on the revolver were made up by a gunsmith of the period.

With reference to Fig. 3-32, the conversion cylinder-plate supplied by the factory is shown at the left and the non-factory cylinder-plate at the right. First, note the distinct difference in the ratchet. Secondly, the difference in the widths of the safety notches and the absence of a safety notch where the indexing pin extends through the new plate. Finally, the hammer cut-outs are rounded at one end and cut through for their full width at the other end of the new plate.

Figure 3-33 pictures the same two cylinder assemblies in side view. At the left is the factory conversion, with the entire circumference of the cylinder-plate knurled or checkered. This is found with all Remington two-piece conversion cylinders. The non-factory conversion cylinder at the right has a cylinder-plate with a plain outer edge. Nonetheless, this factory/non-factory Belt Model revolver conversion is of the best quality and finest workmanship.

As a final note on Serial No. C247, the frame is that of a Remington-Rider Double-Action New Model Belt revolver. This is only evidenced by the different placement of the mainspring. It is not uncommon to find this situation on early specimens (see Fig. 3-35).

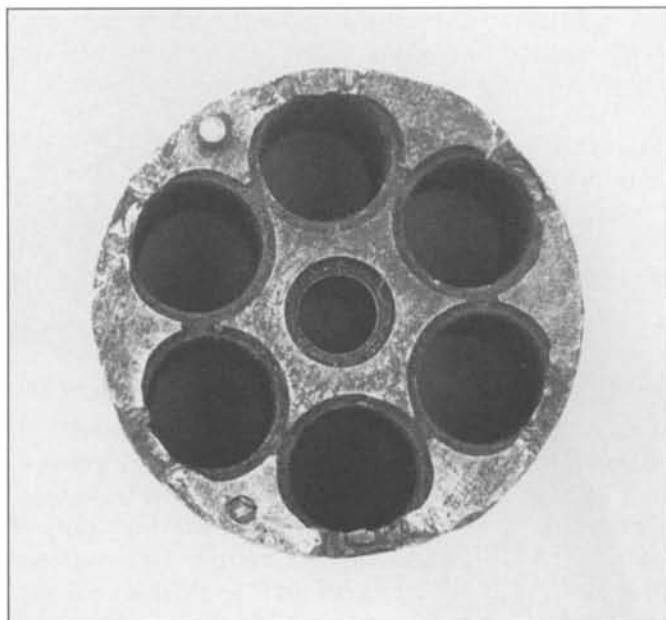


Fig. 3-31 Cylinder face of Belt Model conversion, serial number C247.

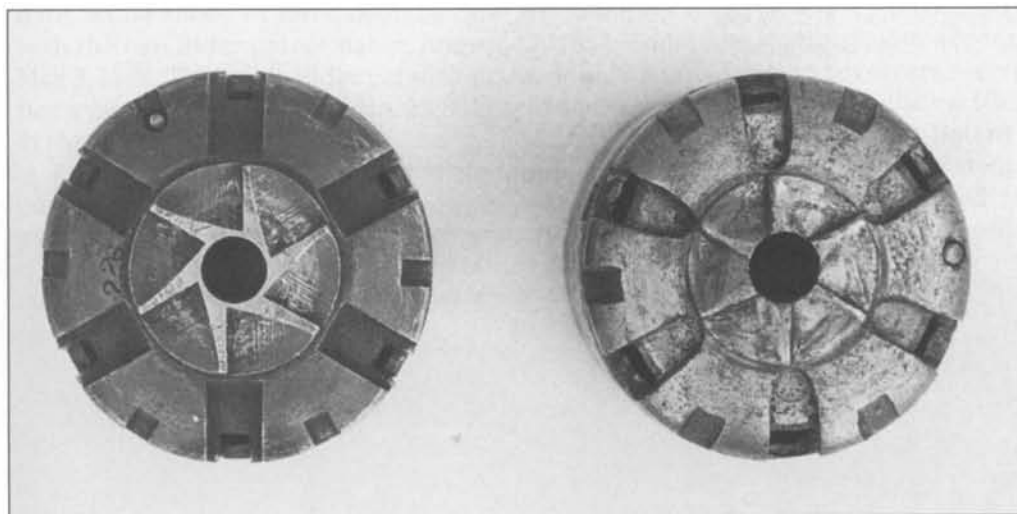


Fig. 3-32 Comparison of conversion cylinder back plates.

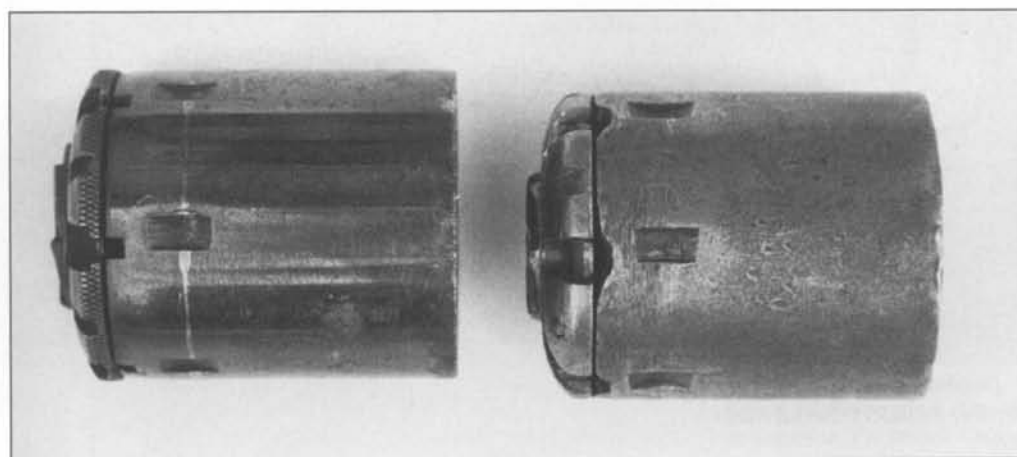


Fig. 3-33 Comparison of conversion cylinder side views.

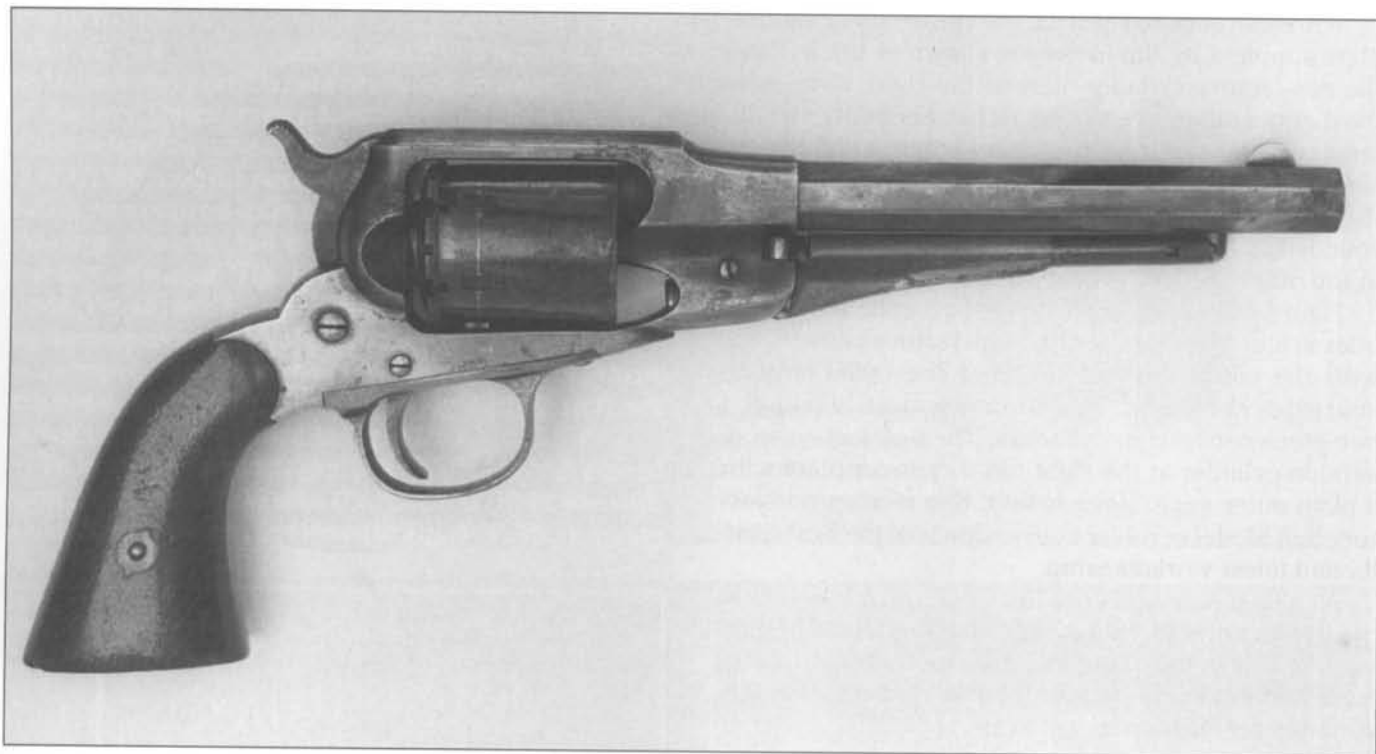


Fig. 3-34 Remington New Model single-action Belt Model revolver conversion. Serial number 3311, conversion number 226. (Author's Collection)



Fig. 3-35 Remington New Model Double-Action Belt Model revolver with percussion and conversion cylinders. Serial number 3440. (Author's Collection)

An excellent example of the New Model Single-Action Belt revolver is found with serial number 3311, matching throughout including the 33/11 of the brass trigger-guard key. Pictured in Fig. 3-34, this gun shows little use, no abuse, a goodly amount of original bright blue, 99 percent original grip varnish and carries the conversion number 226, matching throughout. Details of the cylinder and conversion cylinder-plate can be found in Figs. 3-29, 3-32 and 3-33.

The percussion Belt Model is the only revolver in the Remington New Model series that was manufactured in both single and double-action configuration. Identification between the two can best be made by observing the position of the trigger within the trigger-guard with the hammer down. The double-action revolver trigger is much further forward within the trigger-guard oval. Compare Fig. 3-35 (double-action) with Fig. 3-34 (single-action).

The Remington-Rider Double-Action New Model percussion Belt revolver was also manufactured between 1863 and 1873, and is even rarer than its single-action counterpart. The 6-1/2-inch octagonal barrels carry two different patent date stampings. Early production has only the September 14, 1858 (Beals), patent date, while those of later manufacture are stamped with the two Rider patent dates, August 17, 1858, and May 3, 1859. These two Rider patents on the double-action system (No. 21,215 and No. 23,861) are illustrated in Figs 3-15 and 3-16.

From Fig. 3-35, it is evident that the double-action model has the same outside appearance as the single-action, save the shape and position of the trigger. It has a .36 caliber straight-round six-shot percussion cylinder that, when converted to the usual two-piece configuration, has its chambers bored and counter-bored

to accommodate the .38 rimfire metallic cartridge. With the exception of the double-action mechanism, its description will mostly parallel that of the single-action model.

During production of the first few hundred double-action models, some were equipped with full fluted cylinders. Because of matching problems (cylinder to plate), conversions inevitably will be found with straight round cylinders, regardless of the type cylinder used in its percussion state.

New Model Army Revolvers

The demand for large-caliber metallic cartridge revolvers was strong with both the military and western pioneers. Before the end of the Civil War, many Remington, Colt, Starr, Whitney and other make percussion revolvers were privately converted to accept the new rimfire cartridges. The Remington New Model Army conversion of Fig. 3-36 was the work of a non-factory gunsmith and is an excellent example of a non-factory conversion.

Keep in mind that while the Rollin White Patent remained in effect, conversions or metallic cartridge revolvers that utilized bored-through cylinders could not be legally produced for resale; however, owners of percussion revolvers faced no restrictions in converting them to metallic cartridges.

After White's patent extension was refused by the Commissioner of Patents, a Bill (S-273) was introduced in Congress, entitled "An act for the relief of Rollin White." Beginning on March 4, 1869, "Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the Commissioner of Patents be and is hereby authorized to re-



Fig. 3-36 Remington New Model Army revolver (non-factory) conversion. (Author's Collection)

Remington Advertisement (Circa 1873). No .44 or .46 Caliber Remington Army Model conversions of this style have ever been encountered. This is strictly a Remington .38 Caliber Navy conversion design with heavy back-plate, loading gate and ejector assembly. Most .44 and .46 Caliber Remington Army factory conversions were of the Remington/S&W type and a very limited number had ejector assemblies.

REMINGTON'S IMPROVED ARMY REVOLVER.

Loaded and
Shells thrown
out without re-
moving Cy-
linder.



3-ad5

8 in. Barrel. Weight, 2½ lbs. Full length, 13½ in.

46-100 Calibre.

Uses this Cartridge.



PRICE. Long. Short.
\$3.00 \$2.40 per 100
\$30.00 \$24.00 " 1,000

PRICES.—Blued . \$15.50
Nickel plated frame . 16.50
Full nickel plated . 17.00
Ivory stocks . 6.00
Pearl stocks . 20.00
Engraving . 5.00
Extra cylinder . 4.00
Old Model, \$3.50 less.

EXTRA FOR

Five Shots.

hear and determine the application of Rollin White, for the extension of his letters patent for improvements in pistols, issued April 3, 1855, numbered 12,638, 12,648 and 12,649 . . .” After passing both Houses of Congress it was sent to the President of the United States. Dated January 11, 1870, the following was returned from the Executive Mansion: “To the Senate of the United States: I return herewith, without my approval, Senate Bill No. 273, entitled ‘An act for the relief of Rollin White’, for the reasons set forth in the accompanying communication, dated December 11, 1869, from the Chief of Ordnance. U.S. Grant.”

The somewhat lengthy letter from Brevet Major General A.B. Dyer, Chief of Ordnance, dated December 11, 1869, had two major statements: “The Commissioner rejected the application for an extension, without assigning any reason, and the patent expired by limitation on the 3d of April, 1869, and the invention became public property. . . . It is believed that the government suffered inconvenience and embarrassment enough during the war in consequence of the inability of manufacturers to use this patent, and that its further extension will operate prejudicially to its interest by compelling it to pay, to parties already well paid, a large royalty for altering its revolvers to use metallic cartridges.”

These various dates are significant in attempting to establish the timing of factory conversions and of government experimentation, production, field testing and purchasing activities relating to metallic cartridge revolvers.

In spring 1864, the firm of Cooper & Pond (New York importers and dealers) contacted Smith & Wesson and requested 3,000 large frame revolvers be made to accept .44 caliber metallic cartridges. With their total pro-

duction capabilities directed to small-frame, small-caliber revolvers, Smith & Wesson wanted to accept the order and subcontract the production to the Whitneyville Armory. Rollin White would not agree to this arrangement without additional compensation, and the contract was never consummated.

Though it prevented the production of metallic cartridge revolvers, the Rollin White Patent had little or no control over experimentation and development. Dated patent drawings and existing experimental models document factory efforts to develop large-caliber revolvers or conversion designs.

The first invention for Remington is found in U.S. Patent 51,269, granted to Joseph Rider (Assignor to E. Remington & Sons) on November 28, 1865 (Improvement in Revolving Fire-Arms). The drawings illustrate a Colt Model 1860 Army revolver, converted from six-shot percussion to five-shot rimfire metallic cartridge and the text offers a step-by-step procedure for accomplishing this. That there be no doubt as to the exact intent of this invention, we extract this from the text: “One of the objects of my proposed invention is that revolving cylinder fire-arms which are loaded at the front, such as those known as the Colt and Starr arm, and others of that class of arm, may be converted into breech-loaders, so that metallic cartridges may be used instead of paper ones, or loose powder and ball or flanged cartridges, instead of cylindrical or conical ones; but the invention is equally applicable to the construction of new arms designed for metallic cartridges that are to be inserted in the chamber from the rear.” The patent has only two claims. One covers the spring-loaded cartridge extractor lever at the rear of the cylinder with the necessary modifications to the rear of the cylinder for its proper operation. The other claims

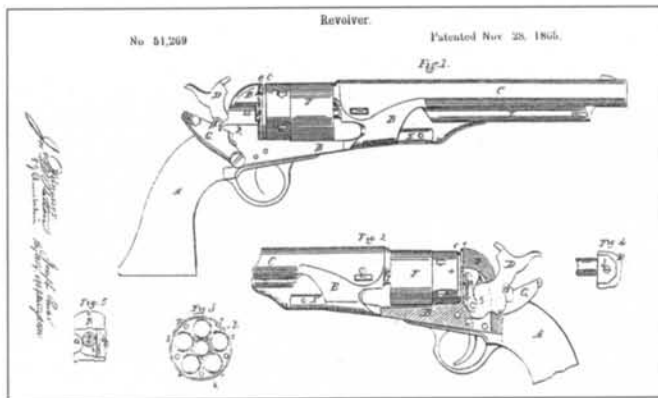


Fig. 3-37 Patent drawings of U.S. Patent 51,269 granted to J. Rider on November 28, 1865. (U.S. Patent & Trademark Office)

a modified pawl (rotating-arm) and the pawl guide necessary for its proper operation.

The next patent of interest was granted to William Mason (Assignor to E. Remington & Sons) on March 27, 1866. U.S. Patent 53,539 covers an improvement to the Rider cartridge extractor of Patent 51,269. The text states: "My invention consists, first, in the use or application of a cartridge-case extractor applied to the exterior of the frame of a revolving fire-arm, so that by operating it by the thumb or finger the empty cases may be withdrawn from the chambers as the cylinder is revolving to bring them within the reach of the extractor. My invention further consists in combining with the extractor a hook that acts in conjunction with the beveled end of the cylinder to insure the passage of the flange of the cartridge-case within the influence of the hook, so as to be caught and drawn out by it. My invention further consists in forming a recess in the extractor for the head of the cartridge-case to enter, so as to admit of its being drawn out, turned and ejected with ease and certainty. My invention is applicable to the alteration of revolving fire-arms already constructed, so as to con-

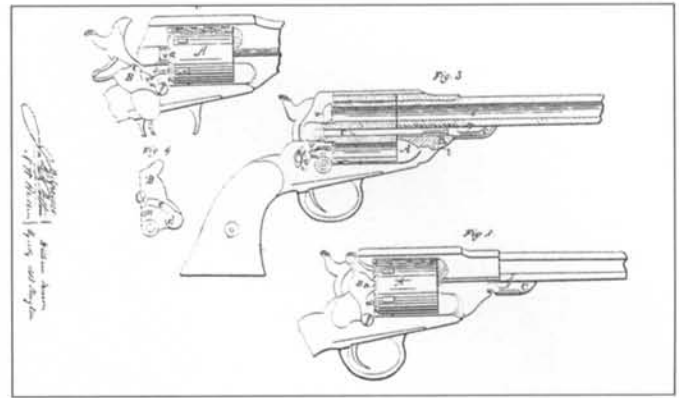


Fig. 3-38 Patent drawings of U.S. Patent 53,539 granted to W. Mason on March 27, 1866. (U.S. Patent & Trademark office)

vert them into rear-loaders and enable me to use metallic cartridge-cases in them, but can be applied to new arms also, if desired."

This invention claims the thumb-operated extractor lever, its hook, a beveled rear end of the cylinder and a recess in the face of the extractor to allow the cartridge-case to turn while it is drawn out in a curved line from a straight chamber. The patent drawings of the Rider and Mason inventions are illustrated in Figs. 3-37 and 3-38 respectively.

A prototype or model gun, based on the Mason design was sold at auction in October 1980, from the Karl F. Moldenhauer collection, serial number 91870.

Another Remington conversion with the W. Mason extractor system came to light in 1951, having serial number 129283 under the barrel and 142999 on the left side of the grip frame. The Moldenhauer conversion had no barrel markings, while this gun has the full three-line "New Model" address.

A very interesting article, entitled, "A Remington-Mason Conversion" by John W. Evans appeared in the August 1961 issue of the *Gun Report*. The text and illus-



Fig. 3-39 Remington New Model Army Revolver conversion with W. Mason Cartridge extractor. Serial number 152999 (frame) and 129283 (barrel). (Author's Collection)



Fig. 3-40 Remington New Model Army Mason conversion, extractor closed.



Fig. 3-41 Remington New Model Army Mason conversion, extractor open.

trations were of this same mixed number conversion, but missing the extractor lever. Interestingly, when this revolver was purchased by the author, a well-made ejector lever had been fabricated. The full right side is pictured in Fig. 3-39, while Figs. 3-40 through 3-42 show close-up details of the Mason cartridge-case extractor. Shown fully closed in Fig. 3-40, the extractor lever is maintained in that position by a spring-bolt.

In Fig. 3-41, the hammer is at half-cock and the extractor-lever has been pulled full rearward manually. A unique feature of the Mason invention is the method by which the extractor lever is prevented from moving unless the hammer is at the half-cock position. This is covered in the text of both U.S. Patent 53,539 (dated March 27, 1866) and British Patent 229/1866 (dated January 31, 1866). A close examination of Fig. 3-42 makes



the design and operation easier to understand. On the Remington conversion (serial no. 129,283/142,999), the original hammer screw was replaced by a force-fitted pin with milled sides at its right-hand tip. This flat (rectangular) projection would rotate with the hammer. With the extractor-lever closed as in Fig. 3-40, this rotation takes place within a round depression on the lower rear inside surface of the extractor-lever. From here, extending in an arc upward and forward is a narrow channel in which the hammer-pin tip can travel only when the hammer is at its half-cock position.

Other conversion details are shown in the illustrations. Both recoil shields have been cut away from the frame and a channel cut in the right side for loading. The cylinder has a radius cut at its rear to allow the hook of the extractor to extend under the cartridge rims, as again illustrated in Fig. 3-42. Further, the rear inside face of the frame was milled away and a new insert was fixed between the frame and rear face of the cylinder. The 1-3/4-inch long five-shot cylinder is chambered for the Remington .46 caliber rimfire copper-cased cartridge. As shown in Fig. 3-43, each chamber is counter-bored to allow the cartridge heads to be flush with the cylinder face, thus, allowing the rear of the loaded cylinder to ride against the front face of the new cylinder-spacing insert.

Fig. 3-42 Remington New Model Army Mason conversion, extractor detail.

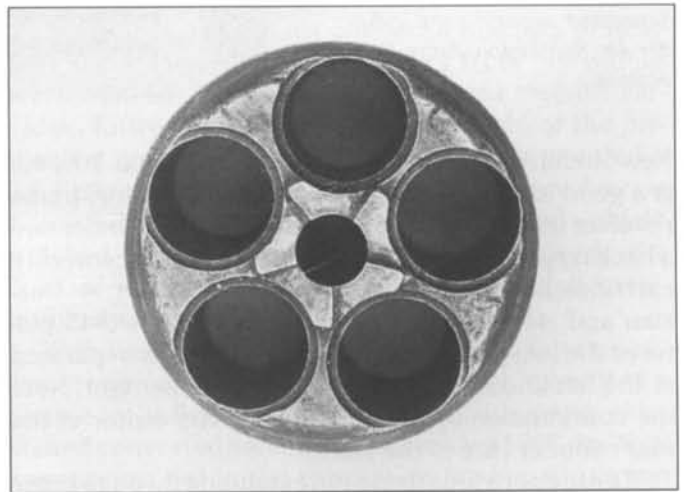


Fig. 3-43 Mason conversion rear cylinder face.

As is evidenced by the many different experimental Remington conversion revolvers found in museums and private collections, E. Remington & Sons was actively investigating all types of metallic cartridge weapons from front-loaders to centerfire split-cylinder models. The



Fig. 3-44 Experimental Remington New Model Army converted for .44 caliber Martin centerfire cartridge. Serial number 109946. (Courtesy F. "Jay" Huber Jr.)

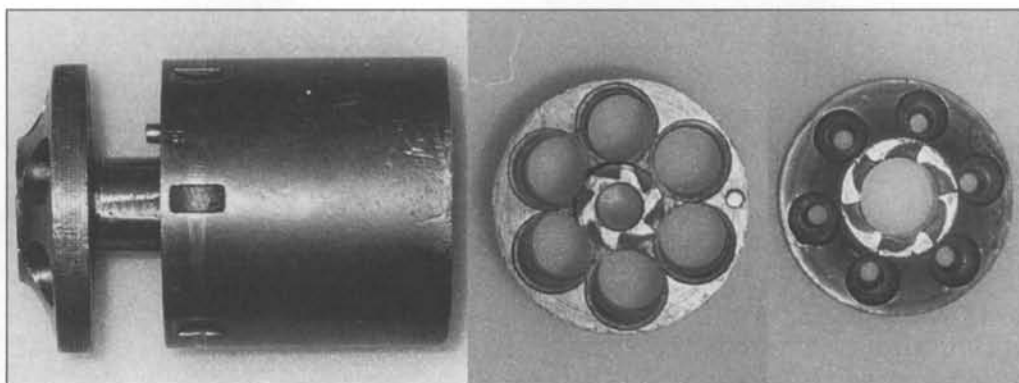


Fig. 3-45 (Left) Experimental two-piece cylinder for Remington Army Conversion. (Right) Separated experimental cylinder for Remington Army Conversion.

New Model Army revolver of Fig. 3-44 (serial no. 109946) is a good example of an armory converted large-frame revolver using a reworked original six-shot cylinder and a backing-plate. It will chamber the .44 Martin centerfire cartridge, and will also accept the .44 Long Colt, .44 Russian and .44 S&W Russian cartridges. Figure 3-45 pictures the two-piece cylinder, shown partially separated at the left and completely separated at the right. Note the continuation of the ratchet from the center of the rear cylinder face to the plate.

The idea of a long firing-pin extending through holes of a cylinder backing-plate, and striking the centers of cartridges in the pin-indexed chambers is nothing new. Note the similarity between the Remington conversion of Fig. 3-46 and the Civil War-vintage Raphael revolver of Fig. 3-47.

This New Model Remington was manufactured in percussion during 1864 and converted to metallic cartridge sometime between 1868 and 1870.

The Karl F. Moldenhauer collection contained a similar conversion of a Remington Model 1861 Army revolver, serial number 2336. It differed only in that the cylinder backing-plate had twelve hammer holes, rather than six. Those indexed behind the chambers were for ignition, while those between chambers were simply safety notches.

With several basic rear loading conversion designs and a few working models, E. Remington & Sons was fully prepared to mass produce large caliber conversion revolvers. To do so, it required licensing by Smith & Wesson, which held control of the Rollin White Patent.

The following letter appeared in the *Army and Navy Journal*, dated March 16, 1867:

To the Editor of the Army and Navy Journal.

Sir: It is passing strange that while so much is being done in the way of perfecting the rifle and carbine, we hear nothing of an improved Army pistol. There are as



Fig. 3-46 Frame, cylinder, backplate and hammer of experimental Remington New Model Army conversion.

many different pocket pistols, revolvers and repeaters as there are breech-loading rifles; but most of them are poor affairs for troops, and Colt's and Remington's Army pistols are still the best we have for the service; but we greatly need a better weapon of this kind. We want a pistol of the size and weight of the present Army pistol to use the metallic cartridge, of the caliber to be adopted for the new carbines (.45 or .50); or the Colt and Remington pistols might be altered [Converted] to use metallic explosive cartridges, by cutting off the rear of the cylinder, so as to make it similar to Smith and Wesson pistol cylinders; shortening the space in which the cylinder plays, and altering the hammer slightly.

Everyone in the Army knows the great inconvenience of loading and capping an Army pistol while in motion on horseback, and also the great number of pistol cartridges that are destroyed in the cartridge box, and in loading. With the metallic cartridge this waste does not occur. The price per thousand for paper cartridges, .44 caliber, is \$18.50; for metallic cartridges, .44 caliber, is \$24; the difference in favor of paper cartridges is \$5.50, which is more than counterbalanced by the convenience and economy of the use and durability of the metallic cartridge.

The Army want a good serviceable pistol to use the Army metallic cartridge; and the inventor who produces the proper weapon will do the best thing yet done in the pistol line, and will, no doubt, reap a rich reward. Who speaks first? Let us hear.

[Signed]
R. A.
(Possibly Regular Army)



Fig. 3-47 Frame, cylinder, backplate and hammer of 1861 Raphael cartridge revolver. (Author's Collection)

Letters such as this may have convinced Smith & Wesson of the wisdom of entering into conversion agreements with Remington, or letting others, such as Colt or Whitney, take the lead in supplying large-caliber metallic cartridge revolvers to both the government and the civilian markets.

Benjamin Kittredge, a wholesale and retail firearms dealer from Cincinnati, Ohio, approached Smith & Wesson with a request that it convert a quantity of Remington New Model Army revolvers from .44 caliber percussion to .44 caliber rimfire flanged metallic cartridge. Kittredge was fully knowledgeable of the mechanical operation of revolvers, as he was granted a U.S. Patent on improving a Colt percussion revolver on March 8, 1864. His patent, No. 41,848, claimed a shield attached between the cylinder and fixed breech of a Colt open-top-type percussion revolver, to deflect laterally any flash from the cap.

With both Smith & Wesson and Rollin White receptive to some sort of agreement, Kittredge submitted a sample of the Remington Army percussion revolver he wished converted sometime in February 1867. Smith & Wesson was not in the conversion business, nor was it involved with heavy-caliber revolvers. Therefore, E. Remington & Sons was contacted with a proposal to convert the Kittredge inventory of Remington Army-size percussion revolvers at a royalty charge of \$1.25 per revolver. The offer further stipulated that this proposed agreement would not be exclusive, and would not include any revolvers belonging to the government.

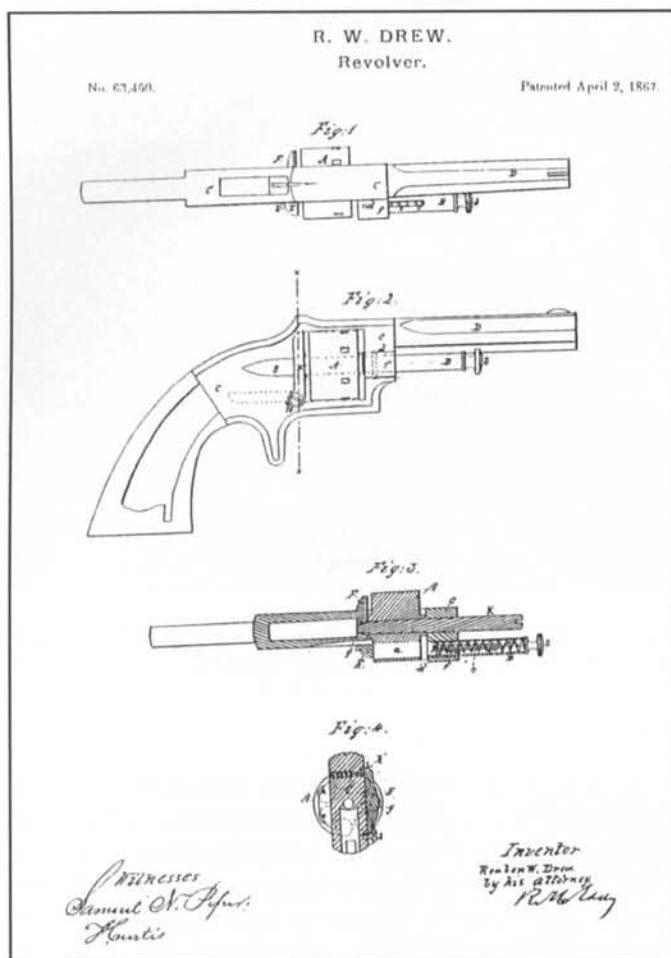


Fig. 3-48 Patent drawing of U.S. Patent 63,450 granted to R.W. Drew on April 2, 1867. (U.S. Patent & Trademark Office)

This was because Smith & Wesson and the Lowell Arms Company of Lowell, Massachusetts, were attempting to obtain a government contract to convert 25,000 Remington Army revolvers utilizing the Rubin W. Drew cartridge extractor and loading gate of U.S. Patent 63,450, granted on April 2, 1867. (Fig. 3-48)

The Lowell Arms Company went out of business early in 1868 and nothing came of the proposed Army contract.

After examining the revolver sent by Kittredge, both Remington and Smith & Wesson felt that the cylinder's six chambers were too close to each other to accommodate the flanges of existing cartridges (early 1867). Benjamin Kittredge next sent Smith & Wesson one of the Remington-Mason type conversions with only five cylinder chambers and a cartridge extractor-lever at the rear of the cylinder. The conversion received no criticism, however, the cartridge extractor-lever would have to be replaced with an ejector rod mounted in front of the cylinder. The ejector was omitted in all contracted production.

The final Remington/Smith & Wesson agreement was made late in February 1868, whereby the conversions would be performed by Remington at its Ilion, New York, factory and sent to Smith & Wesson for inspection and distribution. The six-shot percussion New Model .44 caliber Army revolvers were to be converted to five-shot .46 caliber rimfire metallic cartridge and the new cylinders were to be marked PATENTED APRIL 3^d 1855.

A total of 4,574 revolvers were thus converted at \$336.25 per hundred. Of this, Smith & Wesson kept \$1.00 per gun and the balance went to Remington. Just



Fig. 3-49 Remington New Model Army revolver, with Remington/Smith & Wesson conversion. Serial number 85644, conversion number 624. (Author's Collection)



Fig. 3-50 Frame enlargement of Remington/Smith & Wesson conversion number 85644/624.

what Rollin White received from this arrangement is unclear.

Kittredge, the major dealer received 4,141 conversions. Four hundred went to J.W. Storrs of New York City, 31 to Marcus W. Robinson of New York City and 1 to Wexell & DeGress, the Smith & Wesson agent in Mexico City. Delivery was completed by April 1869. Smith & Wesson kept one conversion as an inspection sample.

Between September 1868 and April 1869 4,574 Remington New Model percussion Army model revolvers were converted to the specifications of the agreement. Figure 3-49 shows the right-side view of the revolver collectors would call "The Remington/S&W Conversion." The percussion cylinder of each revolver was replaced by a newly manufactured five-shot, .46 caliber cartridge cylinder, with the chambers counter-bored so the flange of each cartridge would seat flush with the rear cylinder face. Wide hammer notches were machined at the rear of each chamber, and narrow ones between chambers for safety positions. As can be seen in Fig. 3-50, the side of each cylinder was stamped PATENTED APRIL 30 1855. The cartridge used was the .46 caliber rimfire short, and the hammer noses were slightly reshaped for more positive ignition. The inside-rear of the frame was

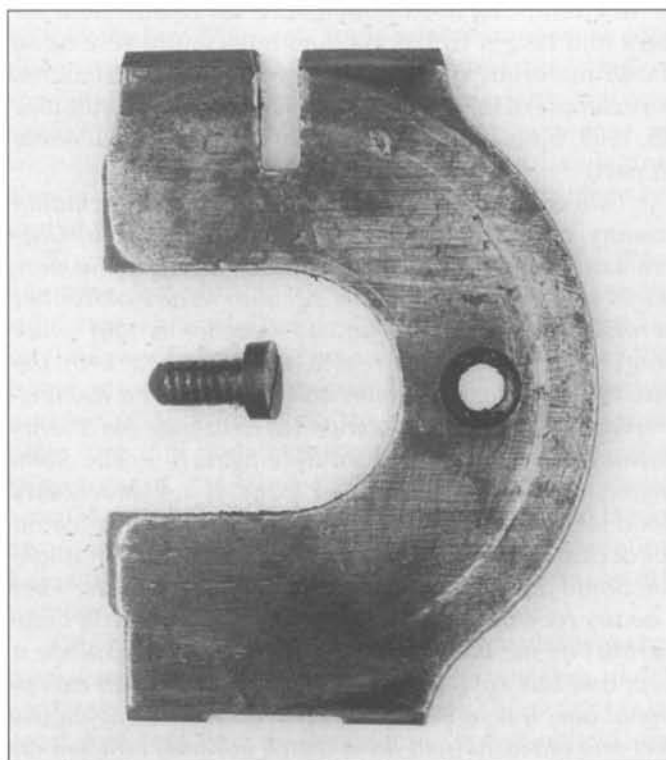


Fig. 3-51 Remington Army Model backplate and mounting screw.

milled to receive a 3/32-inch thick back-plate, which was dovetailed into position from the side and held in position by a single screw (see Fig. 3-51). A loading channel was ball-milled through the right recoil shield, but no cartridge ejector was incorporated. The original percussion rammer was left intact, mainly for locking the cylinder pin in place. The bore of the barrel required no modification as it was slightly oversized to start with. All other parts remained unchanged.

On January 22, 1869, Smith & Wesson advised its sales agent in Mexico City that these Remington conversions were now available in .46 caliber breech-loading. This had little meaning since the Rollin White Patent was to expire in 71 days (April 3, 1869), and any possibility for an extension was remote.

It is evident that the government was involved with some experimentation on the conversion of percussion revolvers at the Armory at Springfield. In the 1869-1870 Ordnance Report (Report from the Secretary of War to the 41st Congress, 3rd Session, Executive Document 45, House of Representatives) under the heading "Work Done" is listed "2 Remington pistols altered to metallic cartridge" and "2 Colt's pistols altered to metallic cartridge." Unfortunately, nothing is reported as to the type of conversion or mechanical details. There is nothing to date that can establish the design or the exact date of these conversions; only that the work was done sometime between July 1, 1869, and June 30, 1870.

In attempting to establish dates of government orders and issues to troops, one must often rely upon dated materials other than government documents. An example of this is found on page 85 of the September 25, 1869, issue of the *Army & Navy Journal*, which reads in part:

"Officers of cavalry regiments stationed in the Indian country, complain that many of the arms issued by Government to their commands do not come up to the standards of efficiency which the peculiar nature of frontier service demands. . . . The consequence is that while some companies of a regiment are armed with the Spencer and Henry carbine and the improved Remington revolver, others are compelled to use the old Sharps carbine and the unimproved Remington. . . . The Remington revolver of the recent issue is an undeniably good weapon. Its range is great and it can be relied on for accuracy. It is the old issue to which exception is taken. Some twenty months since, a company of the First Cavalry received in answer to a requisition a case numbering one hundred, not one of which would explode a cap, and this case was, and is, by no means an exceptional one. It is to be hoped, then, that the many imperfect and old-fashioned arms which are now inflicted on portions of the cavalry service, will be speedily with-

drawn, and effective, reliable weapons substituted in their place. The lives of our soldiers are not to be sacrificed to ill-judged economy."

From the foregoing, we find that well before September 25, 1869, the "Improved Remington Revolvers" (or what we assume to be Remington conversions) had been issued to cavalry troops-whether for field trials or as standard cavalry issue is unknown.

From the Headquarters of the Army, Adjutant-General's office, General Order No. 60 was issued on August 6, 1869, appointing a Board of Officers to examine small arms and accoutrements and offer recommendations as to those best suited for the Army. This was to become known as "The St. Louis Board", with duties assigned by General Order No. 72 of October 23, 1869. The Board met at St. Louis Arsenal on March 2, 1870, and after testing and evaluation, submitted their report to General E.D. Townsend, Adjutant-General on June 10, 1870.

Under "Small Arms" the following pistols were submitted:

- 1 Remington revolver, caliber 44 (Springfield Armory).*
- 1 National Arms Co. revolver (caliber not listed).*
- 1 Remington single pistol (modified), caliber 50.*
- 1 Remington single barrelled pistol, caliber 50.*
- 4 Remington Revolvers, caliber 44, Nos. 2,3,4, and 5 respectively.*
- 1 Smith & Wesson revolver, caliber 44.*
- 1 Whitney Arms Co. revolver, stationary breech, caliber 44.*
- 1 Whitney Arms Co. revolver, revolving breech, caliber 44.*

Results from the June 10, 1870 report was as follows:

"Of the breech-loading pistols submitted, the Board have selected the following six in the order of relative merit:

- First: The Remington single-barrelled pistol, with guard, centerfire.*
- Second: The Smith & Wesson revolver.*
- Third: The Remington revolver, No. 2.*
- Fourth: The Remington revolver, No. 5.*
- Fifth: The Remington revolver, No. 3.*
- Sixth: The Remington revolver, No. 4.*

"The Remington is the only single-barrelled pistol submitted. It is an excellent weapon, but should be so modified as to load at the half-cock.

"The Smith & Wesson is decidedly superior to any other revolver submitted. It should be modified as follows, viz.: made centre fire; the cylinder lengthened so as to close the space in front of the breech-block, and countersunk to cover the rim of the cartridge; caliber increased to the standard.

"The mainspring of the Remington arm should be strengthened, so as to increase the certainty of fire; also the plunger should be made to strike more accurately the centre of the base of the cartridge.

"The Board respectfully recommend that all small arms be made of the same caliber. Large caliber is regarded as even more important for pistols and revolvers than for arms of longer range.

"Pistols and revolvers should have "saw-handles" so shaped that in bringing the weapon from the holster to an aim, it will not be necessary to change the first grasp or bend the wrist.

"The charge of powder for the pistol cartridge should be increased as much as the strength of the weapon will justify, the limit to be determined by suitable experiments.

"All small arms should be made more uniform on the trigger than those now in use. The traction for pistols should be from four to five pounds.

"All of which is respectfully submitted,

J.M. Schofield, major-general

J.H. Potter, lieutenant-colonel

W. Merritt, brevet major-general

Jas. Van Voast, major

J. Hamilton, brevet colonel"

Next, was a reply from the Ordnance Office of the War Department, dated July 8, 1870, reading as follows:-

"... I recommend that authority be given to this bureau to purchase one thousand Remington single-barrel pistols, calibre 50, and one thousand Smith & Wesson revolvers of the same calibre as our Army revolvers (as recommended by the Board) and to have one thousand Remington revolvers altered after the plan of revolver No. 2; these pistols to be issued for comparative trial in service, as in the case of muskets and carbines.

A.B. Dyer, brevet major-general, Chief of Ordnance."

(Approved by the General of the Army, W.T. Sherman on July 12, 1870. Approved by the Secretary of War, Edward Schriver, Inspector-General on July 16, 1870. Published in the *Army & Navy Journal* July 23 and July 30, 1870.)

The 1870-1871 Report of the Chief of Ordnance published the following statement under "Springfield Armory," page 252:

"A small number of revolvers (pistols) which use the primed metallic cartridge, have been made and issued to troops, and the few reports upon them which have been received at this Bureau show that they are greatly superior to the revolvers which use the paper cartridges, and must supersede them in the service. As soon as a proper model can be selected it should be adopted, and steps should be taken to make at the National Armory all of them which the Government may require. It will be more

economical for the Government to pay a fair royalty and manufacture the revolvers, than to purchase them from the manufacturer, who will charge both royalty and manufacturer's profit."

From the report of the Secretary of War, dated November 30, 1870, the following is quoted from page 12:

"At Springfield Armory a few thousand arms are being manufactured for competitive trial in the field, under the recommendation of the Chief of Ordnance, in connection with the report of the board lately convened at St. Louis."

Like all government documents, a great amount of information is lacking. The Ordnance Report states "revolvers have been made and issued" and the Secretary's Report states "a few thousand arms are being manufactured." What about conversions?

After the Rollin White Patent expired in 1869, it was no longer necessary for Remington to conduct its large-frame revolver conversion business through Smith & Wesson, nor was it required to stamp the patent date on the cylinders. Those cylinders in inventory that had already been stamped with the date were used until the supply was exhausted. Thereafter, conversion cylinders contained no markings at all.

During the second half of 1869, several variations began to appear in large-frame factory conversions. The New Model Army revolvers became available with six-shot cylinders to accept the new .44 caliber center-fire Martin cartridge, as well as with the five-shot .46 caliber rimfire cylinders. Some conversions were supplied with ejector rods of the same type later found on the Remington New Model Navy conversions. Still others are found to have strange numbering sequences, as well as uncommon frame markings. The Remington New Model Army conversion of Fig. 3-52 contains several of these variations.

This conversion is of the Remington/Smith & Wesson type, but with an ejector system attached to its right side. The serial number, 100703, is stamped in full on the lower barrel flat, but only 703 is stamped on the frame strap and trigger-guard key. The conversion number, 293, is found on the rear side of the recoil plate, the underside of the ejector housing, under the trigger-guard, the lower barrel flat, and on the frame strap. A second number, 135, is found on the rear frame strap, as well as on the lower barrel flat. This latter number is believed to be a field or factory repair or rework number that was added at a later date.

The revolver also contains military sub-inspector marks, indicating it was delivered as percussion, under a military contract about 1865. It possibly was never issued, and sent back to Remington (or Springfield) for conversion. The 293 is typical of the Remington conversion assembly numbering system and style, which



Fig. 3-52 Remington New Model Army revolver, Remington/Smith & Wesson conversion with variations, marked C.A. 91. Serial number 100703, conversion number 293/135. (Courtesy F. "Jay" Huber Jr.)



Fig. 3-53 Frame enlargement of Remington conversion marked C.A. 91. (Courtesy F. "Jay" Huber Jr.)

would indicate the conversion was certainly done by Remington. It is believed that Remington had all of the tooling to produce the cylinder, plate and ejector system which was its design. The C.A 91 frame stamping is not believed to have been applied by Remington. Many C.A. marked guns are known, numbered as high as just less than 400. There have been many guesses as to the meaning of this marking, but to date, this curious mark has not been identified with documentation.

Still another slight variation is shown in Fig. 3-54. Here, a Remington New Model Army revolver has been factory converted with the patent dated cylinder and a cartridge ejector assembly. The gun is serial numbered 141531, and bears the conversion number 2633 in all the usual places. It is a Remington/Smith & Wesson type conversion, having a five-shot .46 caliber cylinder and a modified hammer nose for rimfire ignition. This is possibly a Remington/S&W Contract conversion.

Figure 3-55 clearly shows the patent date stamped on the cylinder, and the back-plate dovetailed to the frame at the recoil shield.



Fig. 3-55 Rollin White Patent date stamp on cylinder of gun number 141531.

A very unusual variation or modification of a factory converted New Model Army revolver is seen in Fig. 3-56. This conversion is believed to be factory original in that the cartridge ejector is 100 percent Remington and the dovetailed cut-out just ahead of the recoil shield is ex-



Fig. 3-54 Remington/Smith & Wesson New Model Army conversion with cartridge ejector. Serial number 141531, conversion number 2633. (Author's Collection)



Fig. 3-56 Remington New Model Army converted to .45 caliber centerfire, with thin loading gate. Serial number 90764, conversion number vv1. (Author's Collection)



Fig. 3-57 Short barreled Remington New Model Army conversion, serial number 109244. (Author's Collection)

actly the same as that of all other New Model Army factory conversions. But, judging from the reduced material size and the workmanship, this modification does not appear to be factory. It is classed as an unusual variation because the conversion cylinder is a six-shot replacement chambered for the .45 Colt centerfire cartridge. The serial number is 90764 and, rather than the usual conversion number, the frame strap is stamped vv1. A deep-stamped "1" is also found on the other side

of the frame strap. Could these markings indicate an experimental conversion?

The standard 3/32-inch back-plate is modified on this revolver, replaced by a 0.070-inch back-plate with a hinged gate of equal thickness. No latch was incorporated to hold the gate closed-the tightness of the hinge-pin served this purpose. It is possible that this conversion was designed with no gate, and one was added at a later date.



Fig. 3-58 Frame enlargement of Remington conversion number 109244.



Fig. 3-59 Remington New Model Army revolver converted to six-shot, .44 caliber centerfire. serial number 119547. (Author's Collection)

Rare indeed, are those New Model Army revolvers returned to the factory for both conversion and modification. That of Fig. 3-57 was factory converted to five-shot, .46 caliber rimfire and further, the barrel was shortened to 6-3/4-inches. This modification required the front sight to be reseated.

Figure 3-58 is a close-up of the frame of the short barrel factory conversion, serial number 109244, showing some of the details of the Remington/Smith & Wesson type conversion still used after the expiration of the patent and the agreement. Note the dovetailed backplate, the long conversion cylinder and the loading cut-out milled through the recoil shield.

During 1870-1871, the .44 caliber Remington and .44 caliber Colt centerfire cartridges were developed. Frankford Arsenal .44 caliber centerfire cartridge boxes are known to be marked -FOR- COLT'S & REMINGTON'S ARMY REVOLVERS CALIBRE .44 and are dated APRIL 1871. It is only logical that the conversions existed before this date to allow for design, tooling and set-up of printing equipment and cartridge making machinery (see Fig. 5-89, Chapter 5).

The Remington New Model Army conversion of Fig. 3-59 is one of these later factory conversions with a six-shot cylinder chambered for this new .44 caliber centerfire ammunition. It is the same Remington/Smith & Wesson type conversion as previously described, with

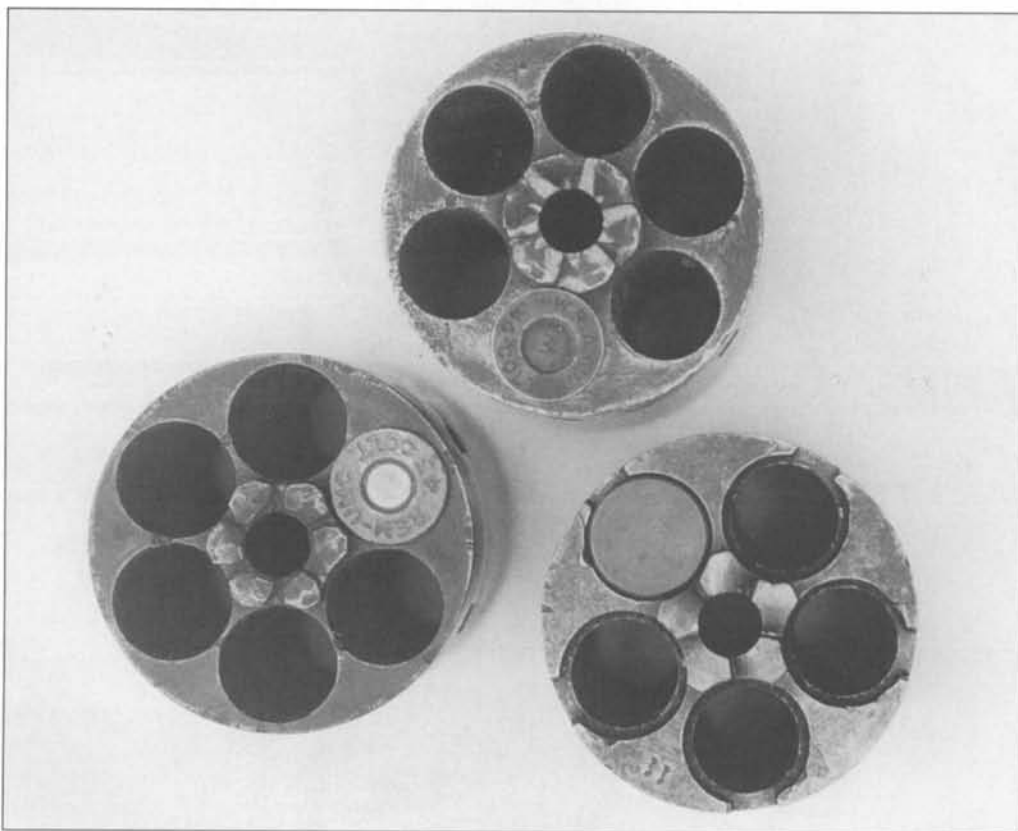


Fig. 3-60 Three types of Remington New Model Army conversion cylinders.

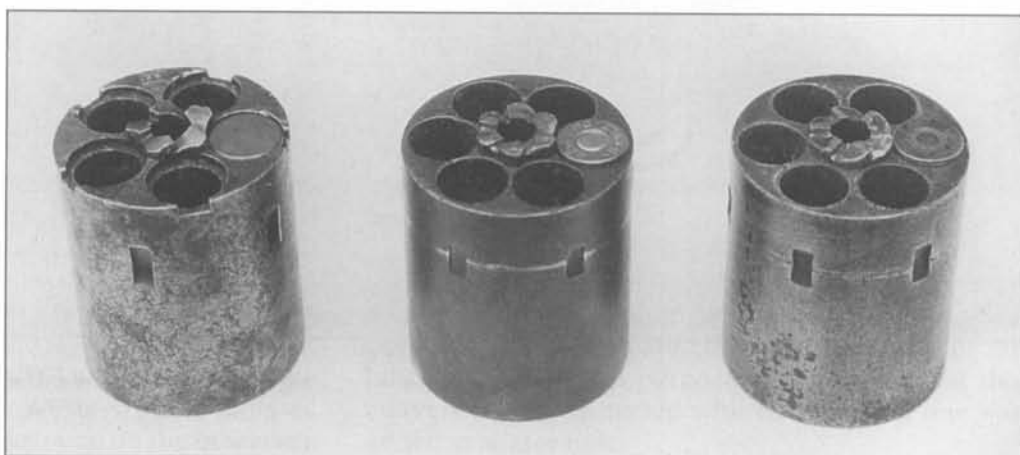


Fig. 3-61 Further detail of New Model Army conversion cylinders.



Fig. 3-62 New Model Army conversion number 94393, with Model 1861 barrel number 13260. Conversion number 8. (Author's Collection)



Fig. 3-63 Armory converted Remington New Model Army revolver, serial number 115482, conversion number 16. Cylinder stamped PAT. APP'D FOR. (Courtesy F. "Jay" Huber Jr.)

the hammer nose re-shaped for striking the center of the cartridge and with an ejector assembly added. It is serial numbered 119547 and probably converted to metallic cartridge during the latter part of 1870.

There are three basic cylinders found in Remington New Model Army cartridge conversions. The rear faces

of these cylinders are shown, with one chamber loaded in Fig. 3-60. At the top is a six-shot .44 caliber centerfire cylinder, at the lower left, a .45 caliber centerfire six-shot cylinder, and at the lower right, a five-shot .46 caliber rimfire cylinder. To illustrate the various cartridges used with these conversions, a .45 Colt cartridge was

used in the cylinder chambered for .45 caliber ammunition. It is important to remember that .44 caliber cylinders will accept .44 Martin, .44 S&W Russian and .44 Remington cartridges. The .46 caliber cylinders will also accept .44 rimfire cartridges.

Of still further interest is the fact that the longer Remington .46 caliber rimfire carbine cartridges were often used in both factory and non-factory .46 caliber revolver conversions.

Figure 3-61 illustrates the same three Remington factory New Model Army revolver conversion cylinders, with the .46 caliber rimfire to the left, the .45 caliber centerfire at the center, and the .44 caliber centerfire to the right. Note that the flange of the rimfire cartridge is recessed, while the flanges of the other two calibers rest on top of the rear cylinder face. More on this subject will be discussed in the section on the Remington New Model Navy conversions.

Many Remington factory conversions are found that have been modified by gunsmiths or blacksmiths after leaving the factory. That of Fig. 3-62 is a factory-converted New Model Army revolver, having a five-shot .46

caliber rimfire cylinder containing the White patent date. The unusual feature is that it has a barrel from a Model 1861 Army revolver. This replacement barrel is serial numbered 13,260, while the serial number on the frame strap is 94,393 and the conversion number is 8.

Numerous armory conversions have come to light that were at one time believed to be Remington factory conversions because of the fine workmanship. However, in recent years, slight differences have been noticed to indicate these revolvers were converted by some other Armory, possibly Whitneyville. A good example is shown in Fig. 3-63, which shows a New Model Army revolver converted to .44 caliber centerfire, with a six-shot cylinder marked PAT. APP'D FOR. Many conversions of this same description are known in today's collector world. Interestingly, .44 Long Colt centerfire and .44 Remington centerfire cartridges will chamber nicely, but Frankford Arsenal .44 caliber cartridges will not fit. The serial number is 115482, but there are no small (Remington style) conversion numbers. Instead, there are found rather large stampings of the number "16" on the rear of the back-plate, right hammer face, right side

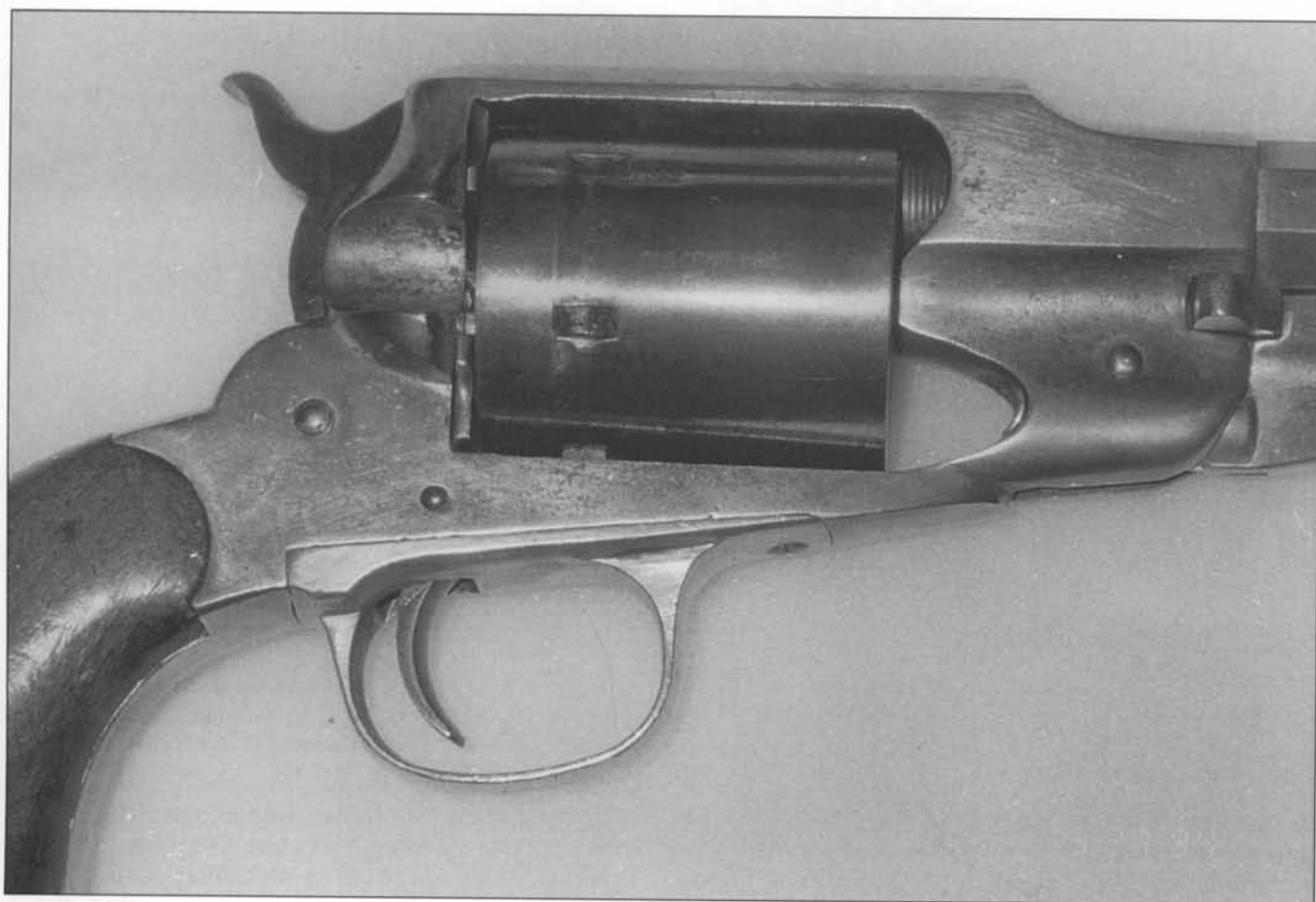


Fig. 3-64 Frame enlargement of armory converted Remington number 115482. (Courtesy F. "Jay" Huber Jr.)

of frame grip, under the trigger-guard and on the underside of the barrel. The gun dates back to the 1864-1865 period in its percussion state, and was converted sometime in the late 1800s.

In the enlarged view of the frame and cylinder, one can see from Fig. 3-64 that the cylinder is made up from two pieces brazed together, and the back-plate is somewhat thinner than that found on Remington factory conversions. The significance of the PAT. APP'D FOR is not known. A search of the patent files showed nothing on

conversions or cylinders for this period. Perhaps an application was filed, but a patent not granted.

Another very common non-factory conversion, also believed to be an Armory conversion is the Remington New Model Army revolver shown in Fig. 3-65. This conversion has matching serial numbers (90,261) and a six-shot .44 caliber centerfire cylinder. Again, the rear of the original percussion cylinder was cut away and replaced with a new rear section with the chambers bored through. The two pieces were brazed to-



Fig. 3-65 Remington New Model Army revolver, armory conversion in .44 caliber cylinder made of two pieces. Serial number 90,261. (Author's Collection)



Fig. 3-66 Remington New Model Army revolver conversion with welded back-plate. Serial number 93609, conversion number 1151. (Author's Collection)

gether, forming a single cylinder. The notable difference in this series of conversions is that a loading channel has not been milled through the right recoil shield. To load, the cylinder must be removed from the revolver.

A final group of conversions exists in which the back-plate is welded to the inside surface of the recoil shield. These rather crude conversions are believed to be the work of some large retailer who purchased a quantity of Remington percussion revolvers and had them converted to six-shot .44 caliber Long Colt centerfire, as cheaply as possible for quick resale. One of these revolvers is pictured in Fig. 3-67 with no loading channel milled through the recoil shield, and another in Fig. 3-66 with a loading channel.

According to the "Ordnance and Ordnance Stores On Hand" report submitted to the 2nd Session of the 40th Congress on June 23, 1868, there were 6,187 Remington .44 caliber Army revolvers in the hands of troops and 31,645 more at government arsenals and armories.

During fiscal year 1870-1871, the Ordnance Department sold off a tremendous quantity of ordnance and ordnance stores ranging from cannon to belly bands. From the report of A.B. Dyer, Chief of Ordnance, dated January 23, 1872, we extract the following pertinent sales:

August 6, 1870—8 Revolvers were sold to Prof. F.V. Hayden of the U.S. Geological Survey at \$15.15 each and 2,000 metallic cartridges at \$35.00 per thousand (no further identification).

December 13, 1870—10,000 Remington revolvers were sold to Austin Baldwin & Co. at \$11.00 each.

May 13, 1871—397 Revolving pistols (no further identification), unserviceable were sold to Charles Folsom for a lot price of \$771.00.

January 23, 1872 (Date of Report)—5,000 Remington revolvers, .44 caliber (paper cartridge) were sold to W.C. Squire, agent, but the exchange had not yet been consummated.

It is most likely that the welded back-plate conversions came from these 15,000 Remington revolvers. Enlarged views of the frame and cylinder are shown in Figs. 3-68 and 3-69. A very close examination shows that the two pieces of the cylinder have also been welded together and the surface remachined to remove any excess weld.

For some unknown reason, the cylinders of these welded conversions measure 1.830 to 1.835-inches in length, rather than the usual 1.898 to 1.902-inch lengths of factory conversion cylinders. Original factory serial numbers are found in the usual locations, but these conversions have no conversion or assembly numbers. The frame welds are ground and filed rather crudely, and the left recoil shield is somewhat flattened.

The enlarged frame views also show open spaces where the welds did not penetrate, particularly at the frame, just below the recoil shield. Another fault often found with these conversions is that of mixed parts. The revolver in Fig. 3-67 has a New Model Army frame and a barrel from a Remington-Beals Army revolver. The serial number on the lower barrel flat is 1151, while that of the frame is 93609.

Gunsmith conversions are non-standard and cylinder lengths will be found to vary from 1.83 inches (welded models) to 1.96 inches (brazed cylinders from 2 pieces). Those New Model Army revolvers converted without cylinder backing-plates require longer cylinders. That of Fig. 3-70 has no loading channel cut into the recoil shield and the two original curved corners at the rear of the cylinder opening in the frame remain unaltered. An expert gunsmith could fabricate a complete cylinder from bar-stock, but generally, their con-



Fig. 3-67 Remington New Model Army revolver conversion with welded back-plate. Serial number 26931.



Fig. 3-68 Enlarged view of frame (left side) of conversion serial number 26931.



Fig. 3-69 Enlarged frame (right side) of conversion, serial number 26931.

version cylinders were made by cutting away the percussion part of a Remington cylinder, leaving a shaft with the ratchet, and brazing on a chamber ring.

A very unusual variation in a gunsmith or Armory conversion with the cylinder fabricated as described, was found in the revolver shown in Fig. 3-71. Not only is the cylinder stamped PAT.APP'D FOR, but the spur of the hammer has been modified for a very sharp upward sweep.

The enlarged view in Fig. 3-72 shows both of these variations in detail. A new hammer spur appears to have been fabricated and brazed in place of the original. At first, this was believed to be simply a repair, but recently two other conversions have been found to have this same very uncomfortably high hammer spur, so it was considered important to include. The gun is serial numbered 94544, and has a six-shot .44 caliber bored-through cylinder with an 11/16" extension

Fig. 3-70 Private conversion of a Remington New Model Army revolver. (Author's Collection)



Right: Fig. 3-71 Remington New Model Army revolver Armory conversion with a PAT.APP'D FOR stamped cylinder and modified hammer spur. Serial number 94544. (Author's Collection)



Below: Fig. 3-72 Frame enlargement of conversion, serial number 94544.



brazed to its rear. A 1/16-inch back-plate was dovetailed into the frame in front of the recoil shield.

Before leaving the subject of Remington New Model Army revolver conversions, a final note on the use of these weapons by the United States Government. It does not matter who did the fabrication or conversion—they were in the hands of troops well before June 1868. This fact is documented by the "Statement of Ordnance and Ordnance Stores" submitted to the 2nd Session of Congress by Congressman Butler of Massachusetts, based on a report of ordnance and ordnance stores on hand compiled by the Chief of Ordnance, stating that a total of 16,958,799 Army-size pistol cartridges of .46 caliber were on hand, consisting of 1,955,783 in the hands of troops and another 15,003,016 stored at Arsenals and Armories. This is the same report that lists 37,832 Remington's Army revolvers on hand, but only in .44 caliber. (Nothing is stated about .46 caliber metallic cartridge conversions.) Many collectors and historians are of the opinion that the government was secretly engaged in the use, fabrication and/or purchase of both Remington and Colt conversions well before the expiration of the White Patent.

Early Navy Model Revolvers

Most Remington Navy percussion revolvers that were converted to metallic cartridge are of a later date than the Army Model conversions. The exceptions to this statement are those .38 caliber rimfire conversions of the Remington-Beals Navy and the Remington Model 1861 Navy revolvers.

The Remington-Beals Navy revolver of Fig. 3-73 is believed to be an Armory conversion. It is full nickel plated and bears the serial number 11974. The 1.922-inch-long cylinder is made up of two pieces brazed together, and is chambered for six .38 caliber centerfire metallic cartridges. This could possibly be a conversion done at the Whitneyville Armory. The similarity is obvious when comparing private Armory conversions of Remington revolvers with the two type Whitney Navy conversions illustrated and described in Chapter 10.

A very unusual Remington-Beals Navy conversion is shown in Fig. 3-74. Serial numbered 14668, six-shot, .38 caliber centerfire, nickel plated, has plunger removed, modified frame and shortened cylinder. The hammer of the private Armory conversion of Fig. 3-73 has been faced flat, with a long cone firing-pin force-fitted into a bored-through hole, and has no loading channel cut through the recoil shield. As shown in the enlarged frame photograph of Fig. 3-75, this short-cylinder conversion has a loading channel and a reshaped hammer face for its firing-pin. The two-piece cylinder measures 1.5-inches long and the two pieces are held together by a single screw, the head of which has been counter-sunk and filled over. Obviously, this is the original percussion cylinder, faced off at the rear, leaving only the ratchet at the end of a shaft, and faced off at the front leaving an 0.35-inch spacer. To accommodate the short cylinder, a 0.46-inch section was cut from the front of the frame, just above the cylinder-pin opening so the barrel could be screwed in further to meet the front face of the cylinder. A very small "v" rear sight was mounted within the top of the frame and five small holes were drilled for mounting some sort of shoulder



Fig. 3-73 Armory converted Remington-Beals Navy revolver. Serial number 11974. (Author's Collection)



Fig. 3-74 Unusual non-factory converted Remington-Beals Navy revolver. Serial number 14668. (Author's Collection)



Fig. 3-75 Frame enlargement of converted Remington-Beals Navy revolver, serial number 14668.



Fig. 3-76 Armory converted Remington Model 1861 Navy revolver. Serial number 16244. Cylinder is stamped PAT.APP'D FOR. (Author's Collection)

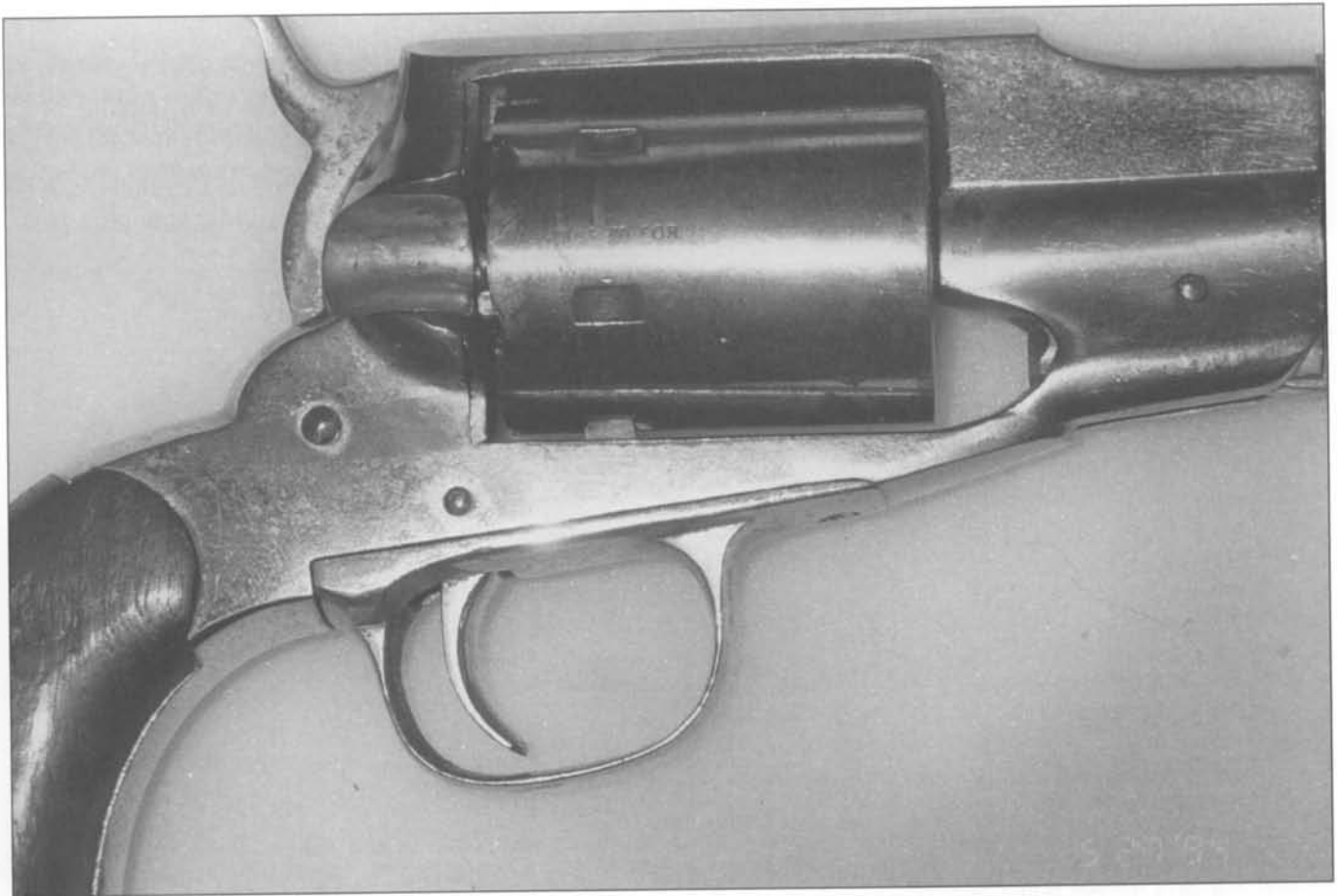


Fig. 3-77 Frame enlargement of Model 1861 Navy conversion serial number 16244, showing cylinder stamping.

stock; one in each side of the recoil shield; one in the back-strap; and two (threaded) in the strap at the butt.

This conversion was not done by an amateur, it was the work of a very experienced gunsmith with the proper machinery and tooling. Unless it is some sort of special order or experimental project, it is not believed to be an Armory conversion.

Most of the 8,000 or 9,000 Model 1861 Navy revolvers were produced during 1862 and were sold to the U.S. Government. The Remington New Model Army and Navy revolvers were introduced in 1863, so government orders from that time on until the end of the Civil War were filled with New Models or transition models. Of the 22,000 New Model Navy revolvers manufactured, the U.S. Navy purchased 4,344, and the Army purchased in excess of 1,500. Many that were in the Navy inventory in 1874 were sent back to Remington for conversion to metallic cartridge. Quite a few Model 1861 Navy, and some Beals Navy revolvers were also converted, but most were New Models.

Figure 3-76 illustrates an Armory-converted Remington Model 1861 revolver, serial number 16244 with a conversion assembly number 6 on the frame strap, cylinder face and hammer. The conversion is of the Remington/Smith & Wesson type in that a back-plate is attached to the inside face of the recoil shield, but the original percussion cylinder was turned down at the rear and a 5/16-inch plate added. There are six .38 caliber chambers and each is counter-bored at its rear for the heads of the rimfire cartridges. The cylinder rear has firing notches only, no safety notches are



Fig. 3-78 Frame of Model 1861 Navy conversion, serial number 16244 showing the cartridge flange recesses.

present. Of still further interest, the cylinder is stamped PAT.APP'D FOR, and to the author's knowledge, this is the only .36 caliber large-frame Remington conversion with this marking.

An enlargement of the frame and cylinder can be seen in Fig. 3-77, showing the cylinder stamping, back-

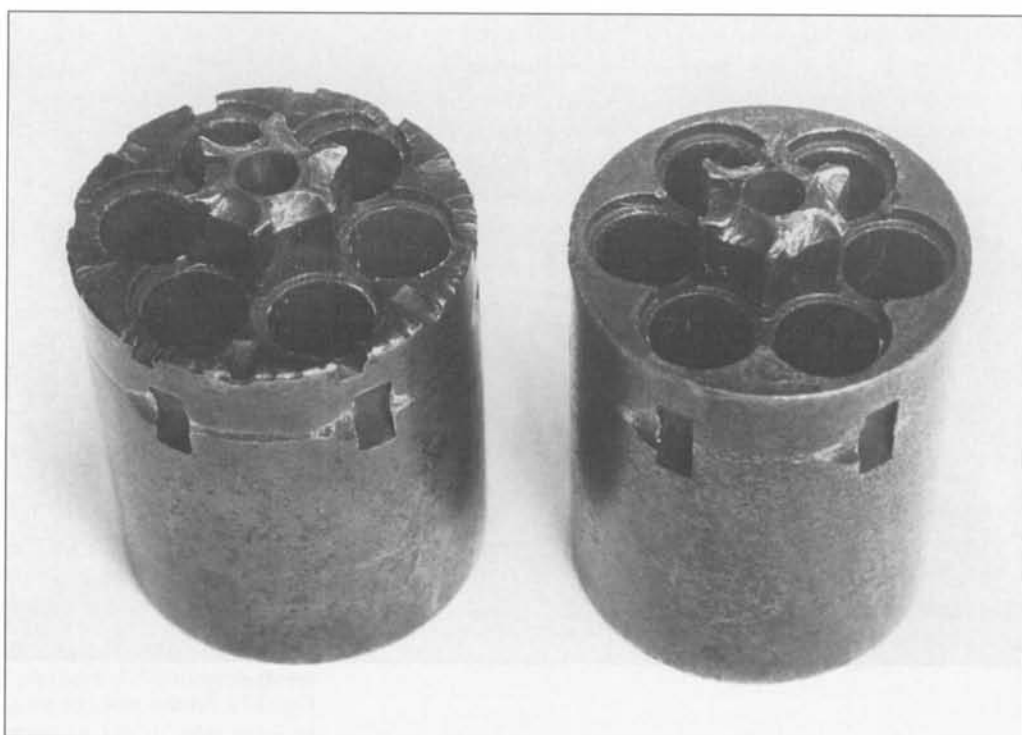


Fig. 3-79 Remington Navy conversion cylinders, rimfire and centerfire with counter-bores for cartridge flanges.

REMINGTON'S IMPROVED NAVY REVOLVER.

Six Shots. Full length, 13½ in.

7½ in Barrel.
Weight, 2½ lbs.



PRICE.

Blued	\$15.00
Nickel plated frame	16.00
Full nickel plated	16.50

EXTRA FOR

Ivory stocks	6.00
Pearl " "	17.50
Engraving	5.00

Loaded and shells
thrown out
without removing
Cylinder.

Uses this Cartridge.



38-100 Calibre.

PRICE.

\$1.80 per 100
\$18.00 " 1,000

Fig. 3-80 1889 Remington Improved Navy Revolver

plate and loading channel cut through the right recoil shield. With the hammer at full-cock, Fig. 3-78 shows examples of the counter-bores of the chambers for receiving the flanges of the rimfire cartridges. This conversion is extremely rare.

New Model Navy Revolvers

Remington New Model Navy revolvers were converted for both rimfire and centerfire metallic cartridges for the civilian trade and strictly centerfire for the

U.S. Navy. Two Navy Model conversion cylinders are pictured in Fig 3-79, one for rimfire at the left and the other for centerfire. Note that for both type cartridges, the chambers are counter-bored for the flanges.

It would seem that Remington preferred rimfire over centerfire ammunition as advertisements as late as 1889 illustrated Remington Improved Navy revolvers with rimfire cartridges. The ad in Fig. 3-80 is taken from a 1889 price list. The company's 1887 catalog offered a Remington Navy revolver in .38 caliber rimfire only for \$9.00 blued and \$10.00 plated. By this late date, these revolvers



Fig. 3-81 Standard Remington New Model Navy revolver factory converted to .38 caliber rimfire. Serial number 44955. (Author's Collection)

were being assembled and manufactured as cartridge revolvers, rather than converted from percussion.

The standard New Model Navy conversions (Improved Navy) chambered for the .38 caliber rimfire cartridges had heavy back-plates with hinged loading gates, a loading channel in the side of the frame, no recoil shield (other than the back-plate) and an ejector assembly was attached to the right side of the frame in front of the cylinder. Figure 3-81 offers a side view of this model.

Figure 3-82 is an enlargement of the frame and cylinder of serial number 44955 showing both firing and

safety notches in the cylinder, the open gate with hinge and latch of the heavy back plate, the loading channel cut through the frame and the housing for the ejector rod just to the front of the cylinder. Though definitely a Remington factory conversion, this revolver has no conversion assembly number.

A very simple, interesting, but difficult-to-duplicate design is found in the Remington ejector assembly. The "L" shaped rod measures 4-3/16-inches in length, and is not a rod that simply was bent 90 degrees at one end-it was either machined or forged into that shape-as there is no radius at the outer corner of the "L." The



Fig. 3-82 Frame enlargement of Navy conversion, serial number 44955.

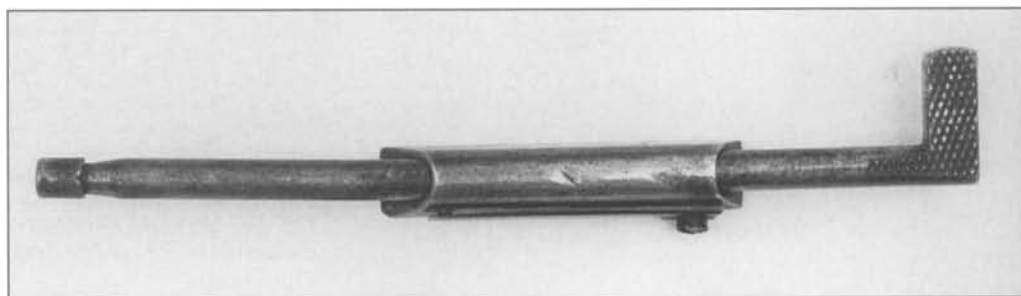


Fig. 3-83 Remington ejector assembly.



Fig. 3-84 Frame-mount, loading lever cut-out and Remington ejector assembly.



Fig. 3-85 Remington New Model Navy factory conversion with non-factory alterations. Serial number 42689, conversion number 70. (Author's Collection)



Fig. 3-86 Frame enlargement of Remington New Model Navy conversion serial number 42699, conversion number 70.

rod illustrated in Figs. 3-83 and 3-84 has a diameter of 0.180-inches throughout, which is reduced to 0.162-inches at the area where the hot-stamped checkered pattern exists. This checkering is of equal detail on both sides. On the underside of the rod housing is a screw-mounted flat-spring with a pin entering through the housing at its rear. This, combined with the indentation (flat at the tip and tapered at its rear) prevents the ejector rod from being accidentally removed and lost.

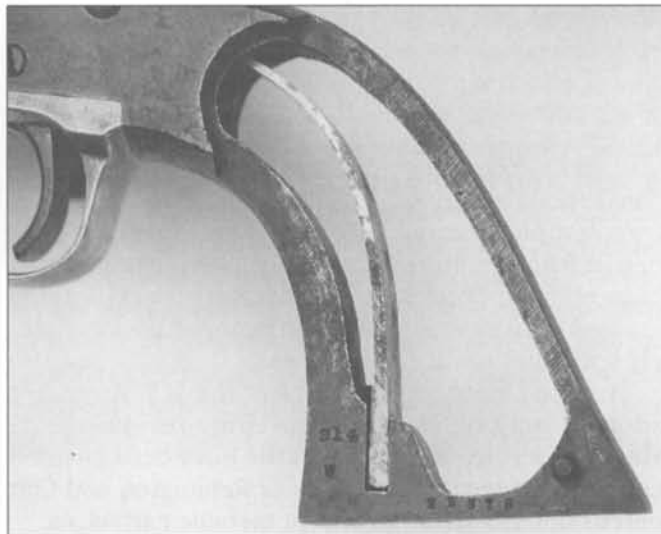
The rod retaining-spring is shown slightly lifted in Fig. 3-84, with the pin facing inward. The sides of the housing are cut on a slight angle so the housing will slide into the dovetailed channel cut into the frame. Once mounted and seated, the mounting hole for the loading lever was rethreaded so one side of the lever screw would lock the rod-housing in place. Finally, a small section of the loading lever was cut away to seat the "L" tip of the ejector rod, when placed at rest.

As was the case with many factory conversions, the New Model Navy rimfire conversion of Fig. 3-85 shows

non-factory alterations or repairs. Obviously, the original back-plate with its loading gate became damaged or lost. It was then replaced with a new plate with only an open loading channel.

The revolver is serial numbered 42689 and has the factory conversion assembly number 70 in all the usual locations, except on the newer back-plate. The enlarged view of the frame and cylinder pictured in Fig. 3-86 shows the crude machining and mounting of this replacement back-plate. The work was most likely done by a gunsmith of the period, not having the proper equipment. All else about this revolver is 100 percent factory.

Because centerfire cartridges were not readily available in .38 caliber until 1873-1874, all New Model Navy conversions before that time were for rimfire metallic cartridges. The .38 Short rimfire became available in 1861 and the .38 Long rimfire, the year before, for the Bacon and the Prescott Navy revolvers of 1861. These were the first cartridges to be used in the Remington Belt Model and New Model Navy conversions.



Top: Fig. 3-87 Remington New Model Navy revolver, factory converted to .38 caliber centerfire. Serial number 22378, conversion number 914. (Author's Collection)

Middle: Fig. 3-88 Remington Navy conversion serial number 22378, (left side) showing hammer-face detail.

Bottom: Fig. 3-89 Remington Navy Model frame-strap numbering.

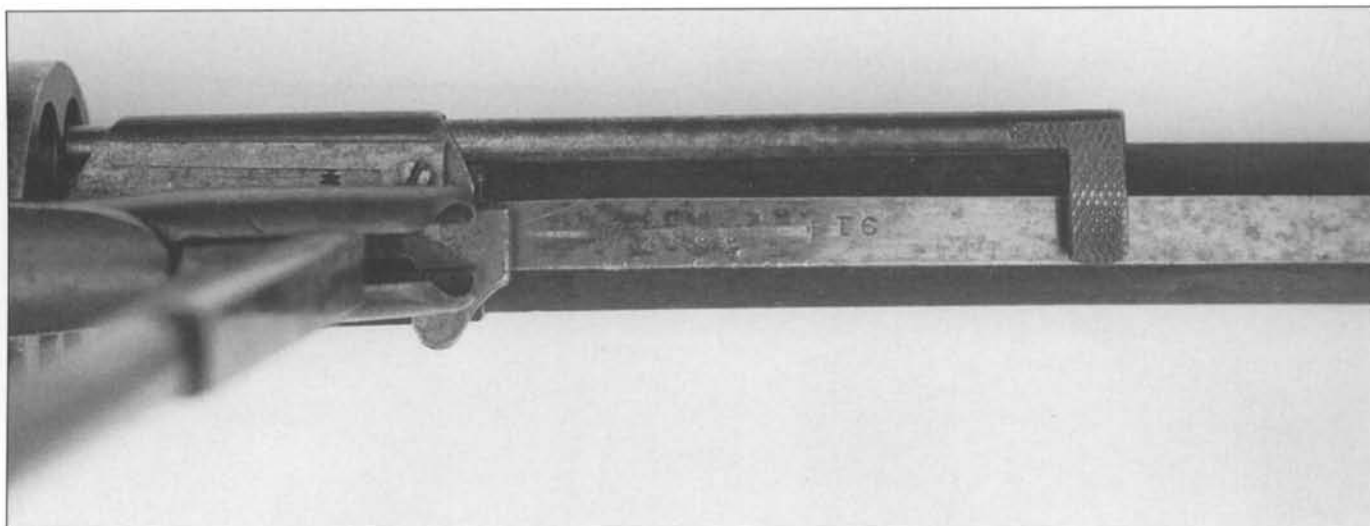


Fig. 3-90 Remington Navy Model under barrel numbering.

Then, in 1870 the U.S. Cartridge Co. came out with the .38 Webley, which was almost identical to the centerfire .38 Short Colt, but the .38 Short Colt and .38 Long Colt centerfire cartridges were not available until about 1874, so it was sometime during this period (1874) that Remington started offering .38 caliber centerfire conversions.

The outside appearance of the New Model Navy conversions were identical, except the rimfire cylinders had visible hammer and safety notches and the faces of the centerfire hammers were reshaped into a cone or point. That illustrated in Figs. 3-87 through 3-90 is a typical Remington New Model Navy revolver, converted to .38 caliber centerfire. The recoil shields have been milled away from the frame, a loading channel cut in the right side and a back-plate with hinged loading gate added. This revolver is serial numbered 22378, has a conversion assembly number 914 in the usual locations and the right grip is stamped s59.

The left side of the same converted revolver is shown in Fig. 3-88, with the hammer at full-cock. Here is seen the shape of the hammer-face which has been formed into a centerfire firing-pin. Of still further interest is the cone-shaped front sight that has been dovetailed into the barrel, as found on the Remington-Beals and 1861 Navy revolvers. The barrel has the standard three-line "New Model" markings, however, and many are known to exist with this type front sight. Some collectors often call this a transition model because of this earlier type sight. Also, note the slight casting defect where the left recoil shield has been removed. The author knows of eight other Navy conversions with this identical pattern defect in the same location.

The numbers are found on the left side of the frame-straps, the serial number at the butt and the conversion assembly number ahead of the base of the mainspring.

This is illustrated in Fig. 3-89. Also, an inverted R is stamped just below the conversion assembly number, which was probably a factory inspector's mark at the time the gun was manufactured.

In viewing the underside of the barrel in Fig. 3-90, both the conversion assembly number 914 and the serial number 22378 can be seen. Also the cartridge ejector assembly is shown, with the checkered head of the rod and the leaf-spring mounted under the housing. Note how one side of the cylinder-pin head has been cut away to clear the ejector.

The New Model Navy conversion of Fig. 3-91 is again a six-shot .38 caliber centerfire revolver, having New Model barrel markings but a cone-shaped dovetailed front sight, which is missing. This is a factory conversion in every respect, serial numbered 25467 and having the conversion assembly number 630.

The cylinder measures 1.761 inches in length and the back-plate, often called a conversion ring is 0.266-inch thick. As is standard, all chambers are counter-bored for cartridge heads.

The enlargement of the conversion frame and cylinder is shown in Fig. 3-92. In all Remington factory Navy conversions, the back-plate with its hinged loading gate is considerably thicker than the simple plate of the Army conversions which had no loading gate. Therefore, the complete plate did not mount within the rear frame cut-out. Its front portion extended to within the original cylinder opening. Both top and bottom of the back-plate are tapered for a dovetail fit into the frame and the taper simply continues for its full thickness.

It wasn't until 1875, well after the U.S. Army had adopted the Colt Single Action Army revolver as its standard service side-arm that the Navy became interested in converting its supply of Remington and Colt percussion revolvers to accept metallic cartridges.



Fig. 3-91 Remington New Model Navy revolver, factory converted to .38 caliber centerfire. Serial number 25467, conversion number 630. (Author's Collection)



Fig. 3-92 Frame enlargement of New Model Navy conversion, numbered 25467/630.

The Navy was offered the new Colt SAA revolvers, Remington converted Army revolvers and Remington converted Navy revolvers, but due to lack of funds, elected to convert its existing percussion revolvers. It had roughly 1,000 Remington New Model Navy percussion revolvers on hand, which had been in service since the Civil War. A sample of these was sent to Remington, requesting a quotation on converting these revolvers to .38 caliber centerfire with barrels and cylinders machined to accept those cartridges manufactured by the U.S. Cartridge Company of Lowell, Massachusetts.

A sample of the latest style Remington New Model converted revolver was sent to the Navy with a box of fifty cartridges and a quotation. Had the Navy desired its revolvers converted on the same plan as the sample submitted, the cost would have been \$3.50 per revolver. However, if the revolvers were to be restocked, polished and reblued as well as converted, the cost was quoted at \$4.25 per revolver. Any repairs or part replacement was extra.

The proposal was accepted at \$ 4.25 in August 1875, and various Navy bases were ordered to send their Remington percussion revolvers to the factory for con-



Top: Fig. 3-93 Remington New Model Navy conversion with turned-down rear cylinder face. (Author's Collection)

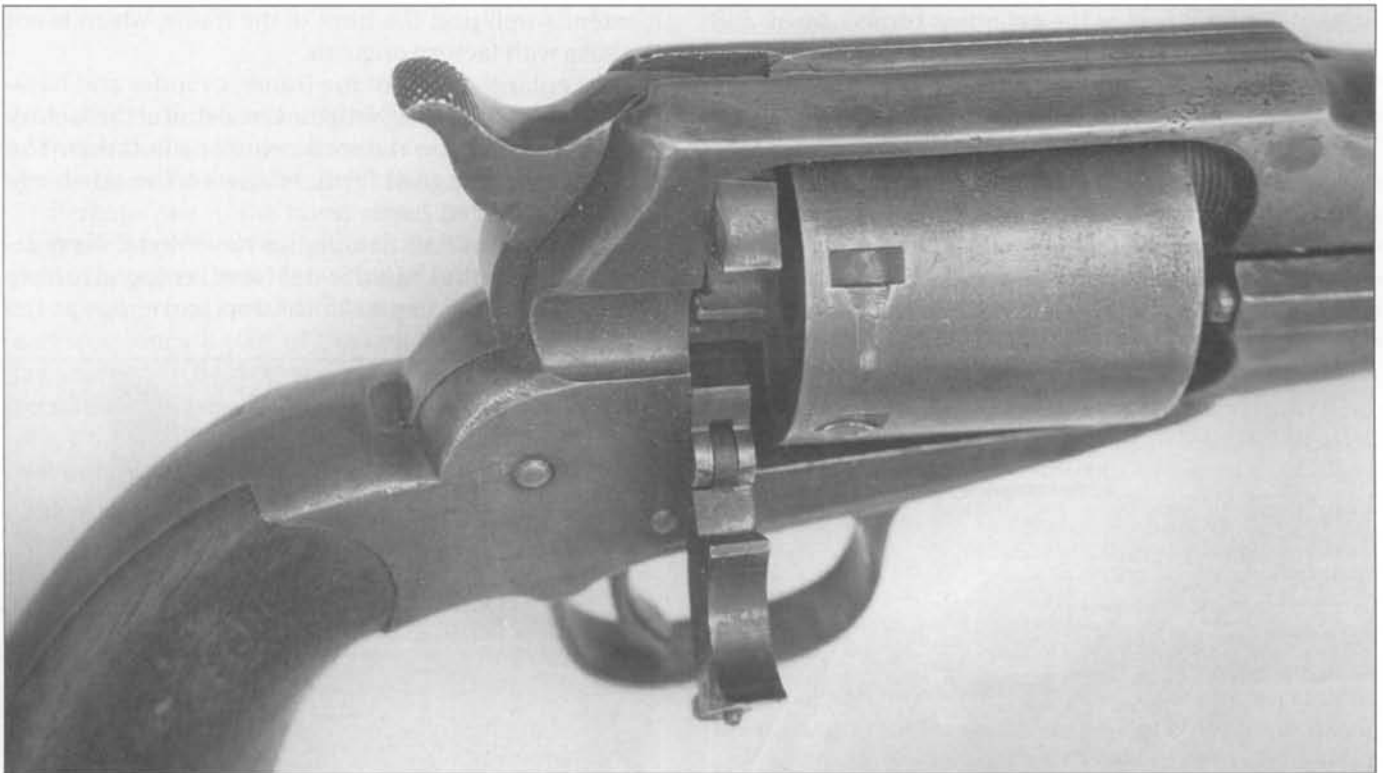
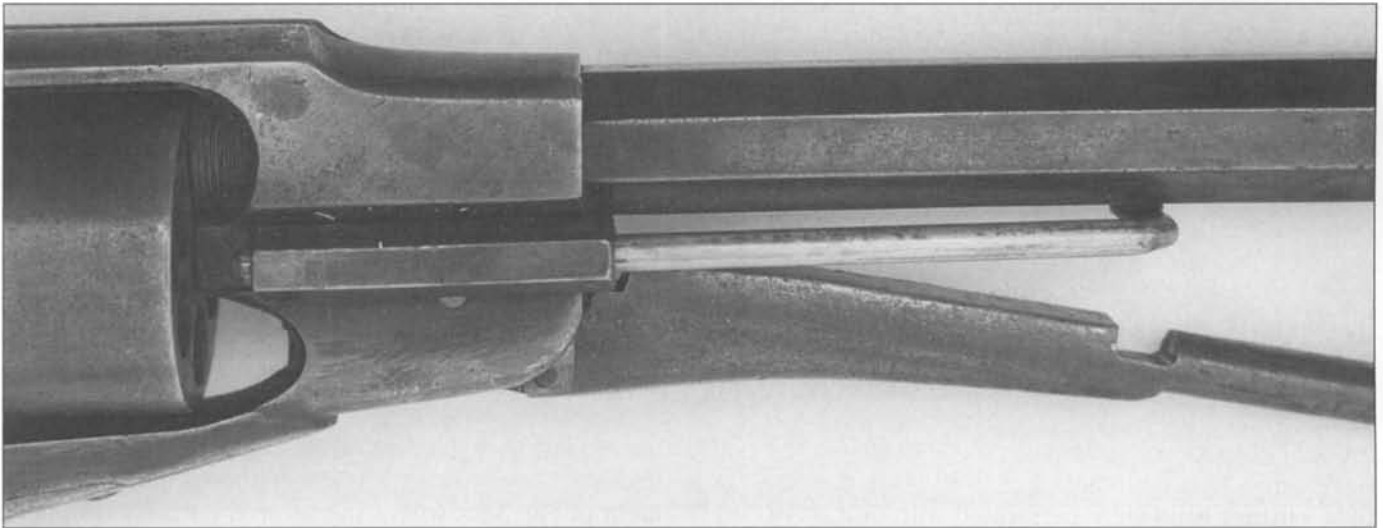
Bottom: Fig. 3-94 Remington New Model Navy conversion with turned-down rear cylinder face and altered front sight and ejector assembly. Serial number 22727, conversion number 212. (Author's Collection)

version. Many of these revolvers had to be taken from ships when they were in port. The exact quantity of these Navy conversions (somewhat less than the 1,000 ordered) and the time it took Remington to complete the work is unknown.

Ten years later, in March 1885, problems were reported with these Remington conversions. It seems that after only a few shots, the cylinders would jam and not revolve

in the normal manner without exerting external force. Upon firing, the cartridge heads swelled so much that they exerted a tremendous amount of pressure between the rear of the cylinder and the back-plate, thus preventing cylinder rotation. This problem did not seem to exist with Colt conversions, only Remingtons.

Two separate solutions to this problem were tried. First the cartridge-head counter-bores were bored deep-



Top: Fig. 3-95 Details of replaced ejector assembly on conversion numbered 22727/212.

Bottom: Fig. 3-96 Frame enlargement of Remington New Model Navy conversion numbered 22727/212.

er into the cylinder. This did not solve the problem, and caused still another. The cartridges ended up too far forward in the cylinder and the force of the hammer striking its priming was somewhat reduced, resulting in numerous misfires.

The second solution was to eliminate the cartridge-head counter-bores entirely, thus preventing excessive build-up of lubricant, dirt and corrosion. This was accomplished by turning down the rear face of the cylinder, just to the base of counter-bore so there would be no confinement for the expansion of the cartridge rim. Tests of this alteration generated satisfactory reports in some instances, while in others, the cylinder jamming continued.

Reports of this jamming problem sparked still further complaints about the Remington conversions. Poor workmanship, weak loading gate latch-springs, noninterchangeable parts (particularly cylinders), easily detached front sights and flimsy ejector rod mounts were among the many ills cited.

Finally, on September 18, 1888, a report was issued by a ship's commander outlining the real problem. It was not the Remington revolver, it was the soft copper-cased ammunition supplied by the U.S. Cartridge Company. It was found that this ammunition also tended to jam the Colt Navy conversions, but not as extensively as the Remingtons. Further tests were performed with Colt Navy conversions, Remington Navy conversions that had been altered with the rear of the cylinders turned down, and unaltered Remington conversions using ammunition manufactured by the Union Metallic Cartridge Company of Bridgeport, Connecticut. No problems were found with cartridge-case swelling or cylinder jamming.

Further tests were ordered, using both makes of ammunition, resulting in the condemnation of the cartridges manufactured by the U.S. Cartridge Company.

One of the Remington New Model Navy factory conversions done for the United States Navy and later altered

by turning down the rear face of the cylinder is pictured in Fig. 3-93. It is a standard factory conversion, but again has a brass cone front sight dovetailed into the barrel. It has a slightly shortened six-shot .38 caliber cylinder (due to the refacing) and the standard Remington Navy type back-plate and cartridge ejector.

Figure 3-94 pictures another of the Remington conversions for the U.S. Navy. It is serial numbered 22727 and the conversion assembly number is 212. The six-shot .38 caliber centerfire cylinder has been turned down at the rear to expose the cartridge heads. The revolver has the usual reshaped centerfire hammer and thick Navy type back-plate with hinged loading gate. There are two unusual features on this gun. The first is the front sight, which was most likely added by a private gunsmith after the revolver was sold as surplus by the government. Second, the cartridge ejector rod and housing are also later replacements. Both the front sight and ejector assembly received some criticism from the Navy, indicating they were easily detached and lost. This was very likely the case here, as both are non-factory. The ejector rod is made of a steel rod that has been bent into its "L" shape, as indicated by the radius at the bend. The housing is flat on top, rather than round and has no leaf-spring at its underside. These details are better shown in the enlargement of Fig. 3-95, where the lever is partially dropped. Also, note the length of the replacement ejector housing. It extends well past the front of the frame, which is not the case with factory originals.

The enlarged view of the frame, cylinder and back-plate of Fig. 3-96 shows both the fine detail of the factory conversion and the re-faced cylinder alteration. The open loading gate gives further details of the gate-hinge and spring-loaded catch.

Many, but not all Remington New Model Navy revolvers sold to the United States Navy are found to have a small anchor stamped in the top barrel flat at the

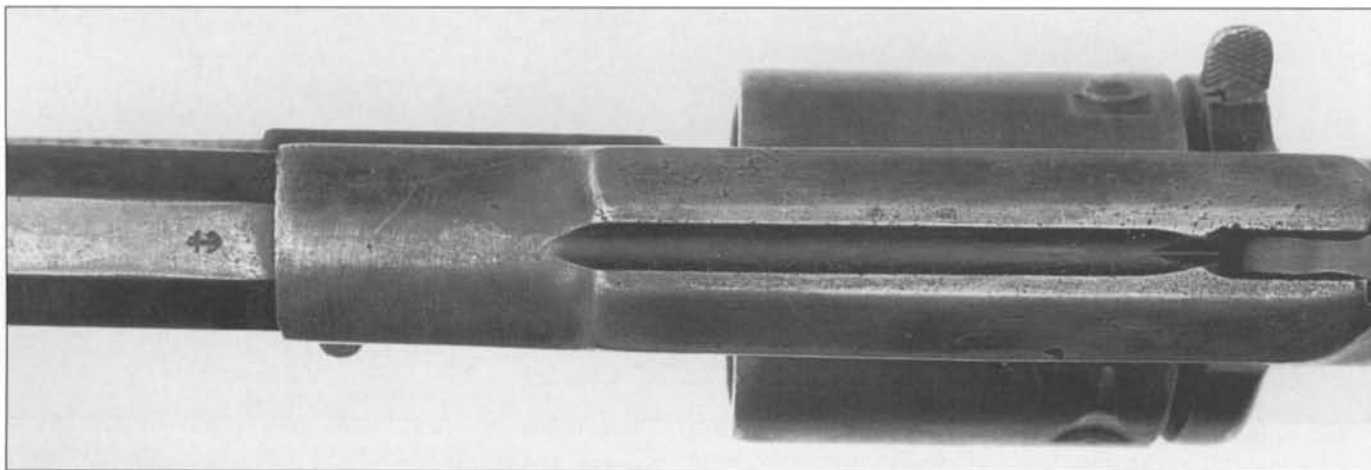


Fig. 3-97 Navy anchor stamped at breech of New Model Navy conversion barrel numbered 22727/212.



Fig. 3-98 Cased pair of Nimschke-engraved Remington New Model Army percussion/cartridge revolvers, serial numbered 115,896 and 127,329. (Courtesy Butterfield & Butterfield)

breech, as illustrated in Fig. 3-97. This indicates Navy re-inspection and is often found on other Navy revolvers, such as Whitney, Starr, Colt, etc.

Perhaps one of the finest cased pairs of Remington converted revolvers is that pictured in Fig. 3-98. These deluxe engraved New Model Army percussion/cartridge conversions are serial numbered 115,896 and 127,329 and were once a part of the collections of William M. Locke, Johnny Bassett and John Solley III. The frames, recoil shields, percussion and cartridge cylinders, barrels, loading levers, trigger-guards and back-straps were elaborately engraved in scroll with border motifs by L.D. Nimschke. The revolvers are silver plated with their cylinders, base-pins and loading levers gold washed. The ivory grips are relief carved with an American eagle standing on a shield above a semi-circular wreath. Originally, both back-straps contained inscriptions, which have since been removed. Both conversion cylinders contain the Rollin White patent date, and are five-shot .46 caliber, while the percussion cylinders have no such marking and are six-shot .44 caliber.

The revolvers are shown within their original blue felt-lined French-style walnut case with accessories including a Dixon "Gun-Stock" powder flask, a plated

"Colt's Patent" bullet mold and a combination screwdriver/nipple wrench.

Like all conversions outlined in this book, there are numerous variations and modifications to be found. Most of them can be classified under experimental, private or armory conversions. Those that are experimental were usually factory models of which only a very limited number were produced. Sales models and government test models might also fall into this category.

Private conversions are those performed by a talented owner, a blacksmith, a mechanic or a gunsmith of the period. Generally, these are one-of-a-kind specimens and not as desirable to the collector as factory conversions. Also, the workmanship tends to be of an inferior quality. Armory conversions are those that are produced by private or government armories with machinery capable of mass producing such pieces. Conversions of Remingtons, Starrs, and others at Whitneyville, if that be the case, are good examples of Armory conversions. If one or a group of revolvers was converted at Springfield Armory, these would also be Armory conversions.

When we refer to factory conversions, with respect to Remington revolvers, these are Remington factory conversions with the work performed at Ilion, New York.

Chapter 4

Colt Thuer Conversions

Because of the limited number produced, the Colt Thuer conversion is the rarest and most sought after by advanced Colt collectors. "Thuers" have historically brought high prices compared to their percussion counterparts. Consequently, many exist that are not Colt products, but rather were converted by unscrupulous individuals who applied original Colt Thuer cylinders and conversion rings to percussion Colt Army or Navy models, or even turned these conversion parts out themselves. The parts and assemblies descriptions outlined here should help distinguish the real Colt Thuer conversions from others.

Basically, the conversion or "Alteration" (the term used in Colt Journals and correspondence) consisted of turning down the breech end of the percussion cylinder to a stem or shaft having the original ratchet for rotating the cylinder. A separate conversion ring, containing a re-

bounding firing pin, a two-piece cascade ejector mechanism and a spring-loaded position detent is then placed over this stem and allowed to rotate. Each chamber of the cylinder is precision reamed to a slight taper.

The plunger of the percussion rammer is drilled and threaded at its inner center (see Fig. 4-2) to accept the Thuer priming punch (Fig. 4-23) and the loading channel at the right side of the barrel lug is milled deeper to allow easy loading and cartridge ejection (see Figs. 4-3 through 4-5 and Fig. 4-72).

The normal depth of the 1860 Army percussion revolver barrel lug channel is illustrated in Fig. 4-3. The 1860 Hartford Thuers have very shallow cartridge channels as compared to those of the 1860 London Thuers. Then, on the 1861 Hartford Navy the channels are cut deeper than on the London 1861 models. On both the Hartford and the London 1851 Navy Thuers, these chan-



Fig. 4-1 Hartford Colt Model 1860 Army Thuer Conversion, blued and color case hardened with wood grip. Serial number 178577. (Author's Collection)



Fig. 4-2 1860 Colt Army Thuer plunger, drilled and threaded to accept the Thuer priming punch (see Figs. 4-23 through 4-25).



Fig. 4-3 Barrel lug loading channel of Colt 1860 Army percussion revolver.

nels are cut rather deeply, but found to vary considerably, due to hand finishing. (See Figs. 4-4 and 4-5.) Finally, the face of the hammer is bored and fitted with a hardened disc to allow repeated striking upon the firing pin and ejector without surface flaring (see Fig. 4-6). The gun is then assembled.

The Thuer design allowed the conversion cylinder and ring to be replaced by a standard percussion cylinder and the gun would then revert to a cap and ball revolver, thus serving a dual role.

One disadvantage of the "Colt's New Patent Metallic Central Fire Cartridge Revolver," as it was advertised, was that a special cartridge was required. It was a tapered cartridge with a brass case having rounded ridges

at the mouth to grasp the bullet, and a removable center copper primer in its base.

Several basic cartridge sizes are known, starting with the experimental .44 caliber Frankford Arsenal version dating back to November 1868. Those manufactured between 1868 and 1871 by Colt and Eley Bros. of London were .44 caliber for the Colt Army Thuer, .36 caliber for the Navy Thuers, a shorter and more tapered .36 caliber for the 1862 Police and Pocket Navy conversions and the .31 caliber for the '49 Pocket Thuer revolvers. Figure 4-7 shows samples of each of these cartridges.

The box for the Navy Thuer cartridges indicates they were made for the London market, as the address is 14 Pall Mall, London, SW. They were packaged 50 to the box,



Fig. 4-4 Scooped out barrel lug loading channel of Hartford Colt Model 1860 Army Thuer conversion.



Fig. 4-5 Scooped out barrel lug loading channel of Hartford Colt Model 1851 Navy Thuer conversion.

as can be seen by the orange label of Fig. 4-8, and "The Empty Cartridge Shells Can Be Reloaded." Cans of primers (caps) were also available from Colt in the U.S. and Eley Bros. in London.

The empty cartridge cases, primers, black powder and lead projectiles molded from any standard bullet mold of the proper caliber were all that was needed for reloading the Thuer cartridges with the special factory supplied tools. (See Fig. 4-9 and Figs. 4-23 through 4-27.)

A second Frankford Arsenal .44 caliber Thuer cartridge was produced with a slightly more pronounced

taper than those produced for the civilian market, and with notable differences in dimensions as compared to any others, including the Frankford Arsenal experimental cartridge for Colt's conversion.

As this book was being written, the most common Thuer cartridges and cartridge boxes were the .36 caliber contained in a tin plated metal box with the orange London Address label with black lettering.

Originally, a 3/8-inch thick gray felt pad was found in this type box for protecting the cartridges, and the box was wrapped in a heavy brown paper and sealed at both

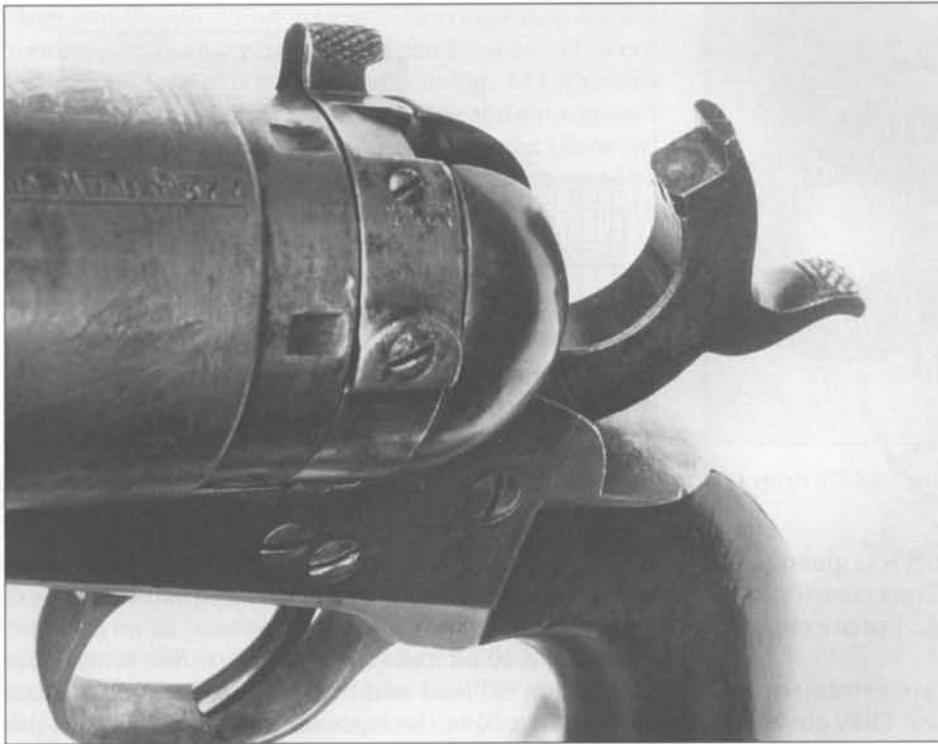


Fig. 4-6 Hardened disc inserted into face of Hartford Colt Model 1860 Army Thuer conversion hammer.



Fig. 4-7 Four basic sizes of Thuer metallic centerfire cartridges. Left to right: .44 Army, .36 Navy, .36 Pocket Navy and .31 Pocket. (Courtesy Francis E. "Bud" Firth)



Fig. 4-8 Cover of "Navy Size" Thuer cartridge box. (Courtesy Mark Aziz)



Fig. 4-9 Display of "Navy Size" Thuer cartridges, original box and Thuer primers. (Courtesy Mark Aziz)



Fig. 4-10 Thuer conversion cylinder and ring for 1860 Army Colt Thuer conversion, serial number 178577.

ends with a gray wax. The orange label was glued to the paper wrapping. Thirty-one caliber Thuer cartridges are also found in this same type container, but are more difficult to find.

The .44 caliber Thuer cartridges are extremely rare, and are found only in cardboard boxes. They are known to have both Hartford labels (yellow with black lettering) and London labels (orange with black lettering). Fewer than 10 complete Hartford .44 caliber Thuer boxes and only one Frankford Arsenal box have been reported to this author. All boxes, except Frankford Arsenal have been wrapped in a dark green cover paper and without felt padding as previously outlined.

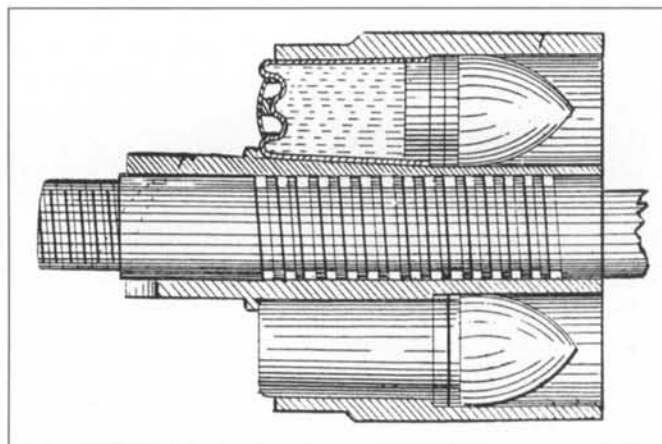


Fig. 4-11 Cut-section of Thuer conversion 1860 Army cylinder showing cartridge position. (Modified from patent drawing)

Colt factory Day Journals indicate Colt ordered all labels from outside Hartford sources and subsequently diversity could exist.

Figure 4-10 pictures the side of an 1860 Army Thuer conversion cylinder and the inside of its matching conversion ring. Note the tapered ring that remains as part of the cylinder shaft, and the slight space between the front face of the ring and the rear face of the cylinder. This ring serves two separate purposes. First, the taper matches that cut at the center opening of the conversion ring, and acts as a bearing surface between the two parts. This reduces the wear on the protruding lip around the circumference of the conversion ring. Secondly, the front

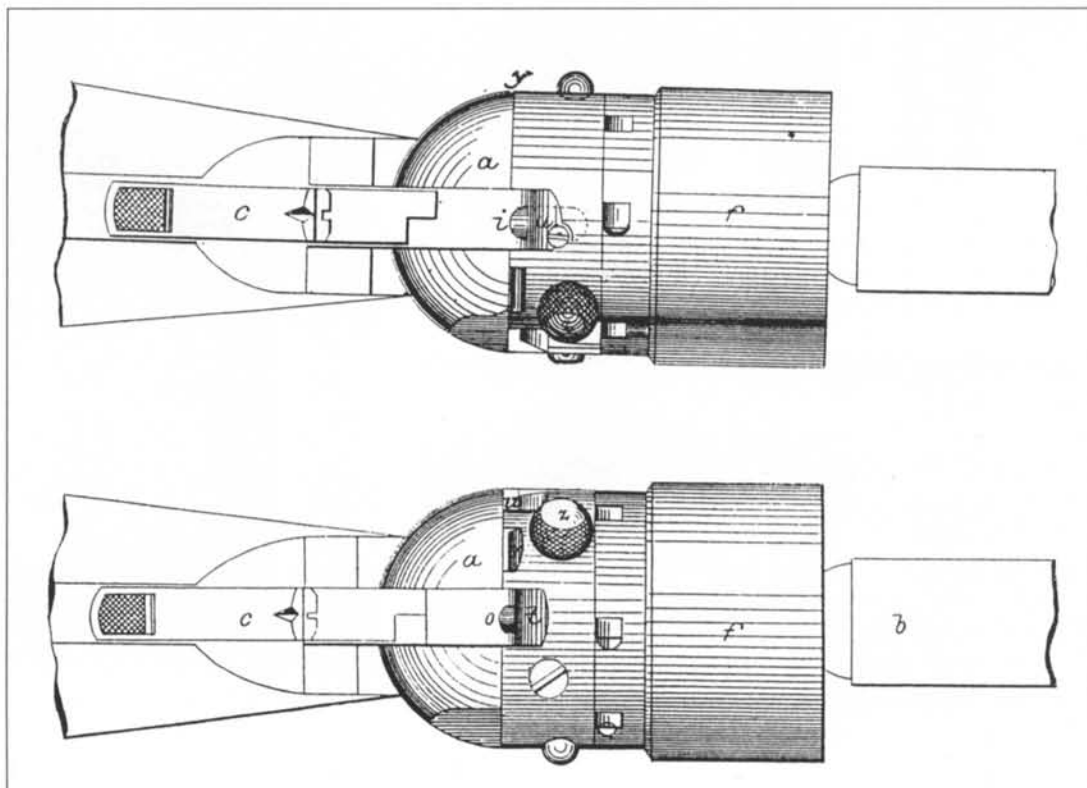


Fig. 4-12 Top view of frame, cylinder and conversion ring showing two positions of conversion ring. (Modified from patent drawing)

surface of the stem ring acts as a cartridge stop for the front loaded Thuer cartridges. As can be seen in the cut section of a loaded Thuer cylinder in Fig. 4-11, the cartridges extend past the rear cylinder face and abut against the face of the ring. The cartridges are forced rearward by the original percussion loading lever and plunger and are held in position by being forced into the taper. Both the cylinder chambers and cartridge cases must be held to the strictest tolerances or the cartridges will not seat properly and will not hold their position for firing.

Once assembled, the conversion ring can be rotated 30 degrees to the right, or 30 degrees to the left, of the hammer by means of a boss or thumbpiece (z) in Fig. 4-12. When in the right hand position (top illustration), the rebounding firing pin is placed in line with the hammer and the Thuer conversion is ready for firing. In the left hand position (bottom illustration), the ejector system is aligned with the hammer.

The front of the Thuer conversion ring is shown mounted on its base pin in Fig. 4-13, with the barrel and cylinder removed. The boss (z) has been adjusted to place the firing pin in line with the hammer. In this position, the spring-detent (x) has extended outward, locking against the side of the frame. As the ring is rotated to the other position, the spring-detent is pushed back into the ring and extends outward again on the other side

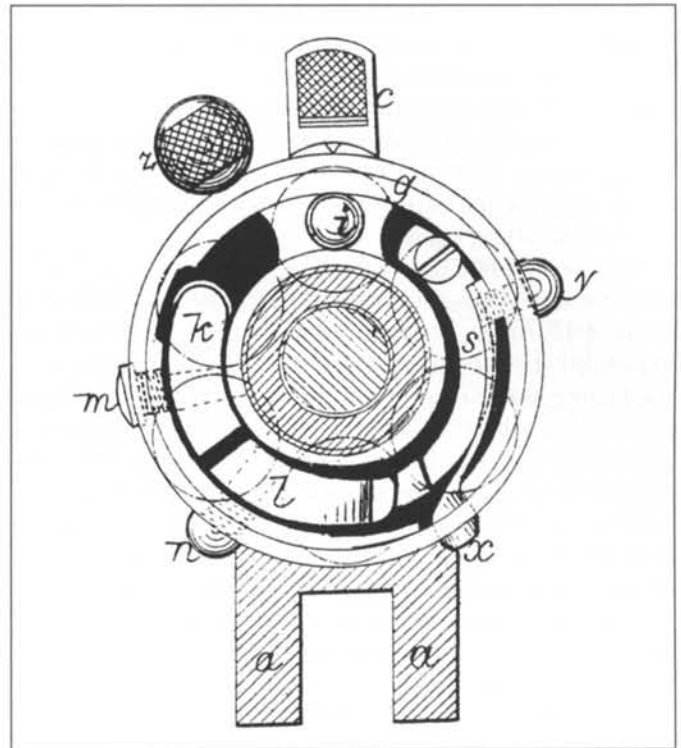


Fig. 4-13 Front view of Thuer conversion ring, showing spring-detent and rotation stops. (Modified from patent drawing)

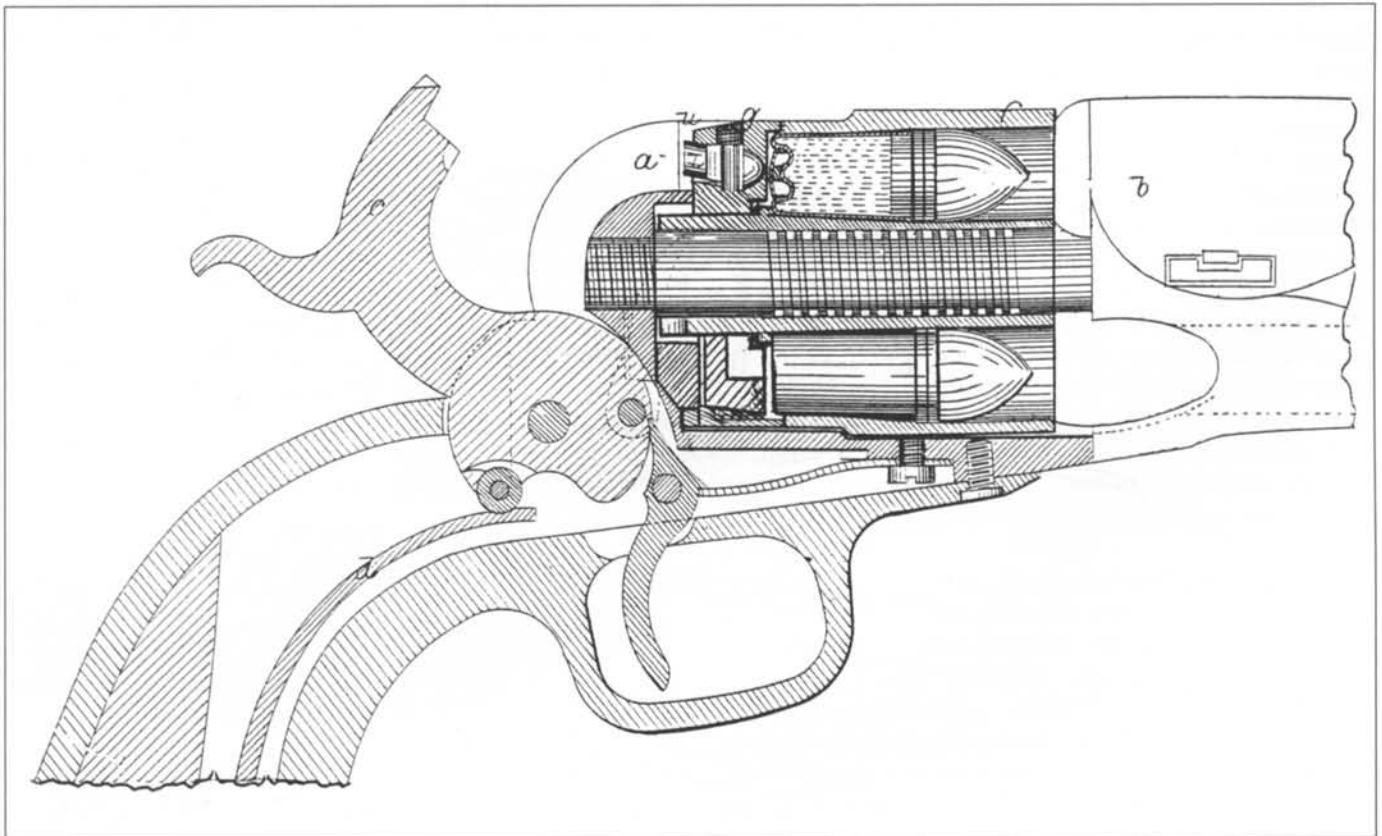


Fig. 4-14 Cut section of Thuer 1860 Army conversion cylinder and ring in the discharge position. (Modified from patent drawing)

of the frame to lock the ring in its second position. The two projections (n) and (y) serve as rotation stops, preventing the conversion ring from rotating too far. The internal ring parts produced by Colt were machined, polished and blued to almost "Gem quality" perfection. Bogus copies lack the Colt quality and even slightly rough interior parts provide the collector with "Buyer Beware" warning signs.

Figure 4-14 is a cut section of the Thuer conversion cylinder and conversion ring in that position illustrated in Fig. 4-13. Again, the tapered cartridge is seen extending slightly beyond the rear face of the cylinder, and both the firing pin and ejector assembly are at rest. The firing pin is in line with the hammer, the hammer is at full cock and a pull on the trigger will fire the revolver. With the ring in this position, the plain flat will be in line with the hammer and the flat engraved with a script 'E' will be positioned at the right, almost in line with the percussion capping channel at the right side of the recoil shield.

The conversion ring has been rotated to the left in Fig. 4-15, aligning the ejector system with the hammer. When the hammer strikes the top lever (k) at (o), that lever rotates clockwise, pressing the top of lever (l) to the rear, causing lever (l) to rotate counter-clockwise. The ejector tip then pops the cartridge case forward. This operation is more easily understood by comparing Fig. 4-15 with Fig. 4-16.

When the ring is in this "Cartridge Eject" position, the flat with the engraved script 'E' will be in line with the

hammer and the firing pin has been rotated to the left where it is protected by the recoil shield. Between the firing and ejection positions is a safety position on the large frame Thuers. This will be outlined later in the book.

In Fig. 4-16, the blow of the hammer has caused the cascade levers to operate as explained above and the cartridge case is shown ejected. It must be kept in mind that these illustrations are not intended to portray exact shapes or size relationships, they are to simply demonstrate functions of the various parts. Therefore, springs, screw locations and the like are often omitted or slightly misplaced. Figure 4-17 shows the conversion ring rotated to a position where the hammer rests on a flat immediately to the rear of the thumb boss. This is a safety position in all large frame Thuer conversions.

The British patent (No. 3981, issued December 31, 1868) was issued to Frederic August Kunow Waldemar von Oppen and was entitled, "Improvements in Breech-Loading Fire-Arms, and in Cartridges for the Same, and in Devices Attached to the Said Fire-Arms for Charging the Cartridges." It was issued as a communication from abroad by the Colt's Patent Fire-Arms Manufacturing Company (Incorporated), of Hartford, Connecticut, United States of America. This British patent contained the specifications, drawings and claims of the Thuer conversion system protected by the F. Alexander Thuer U.S. Patent granted on September 15, 1868 (No. 82,258), his later patent of January 4, 1870 (No. 98,529), for car-

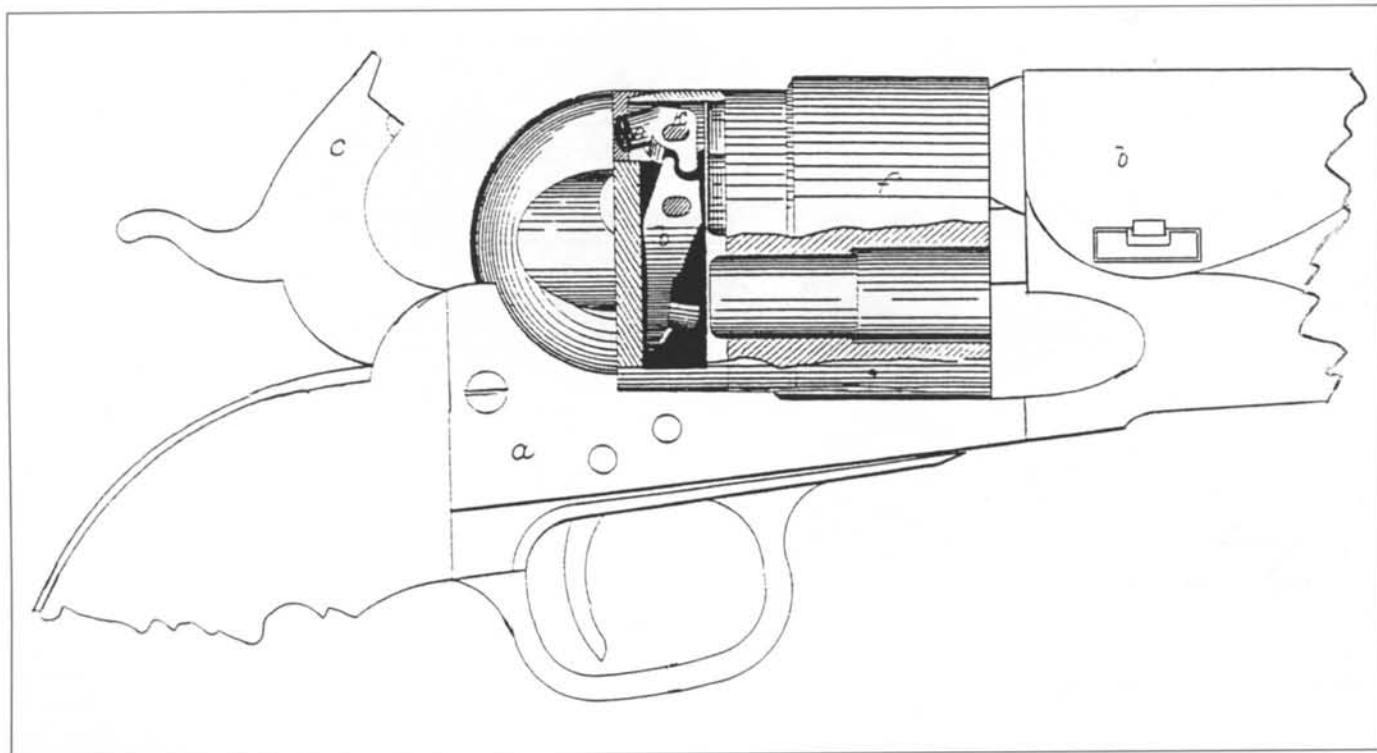


Fig. 4-15 Section drawing showing cartridge ejector system and ejection chamber. (Modified from patent drawing)

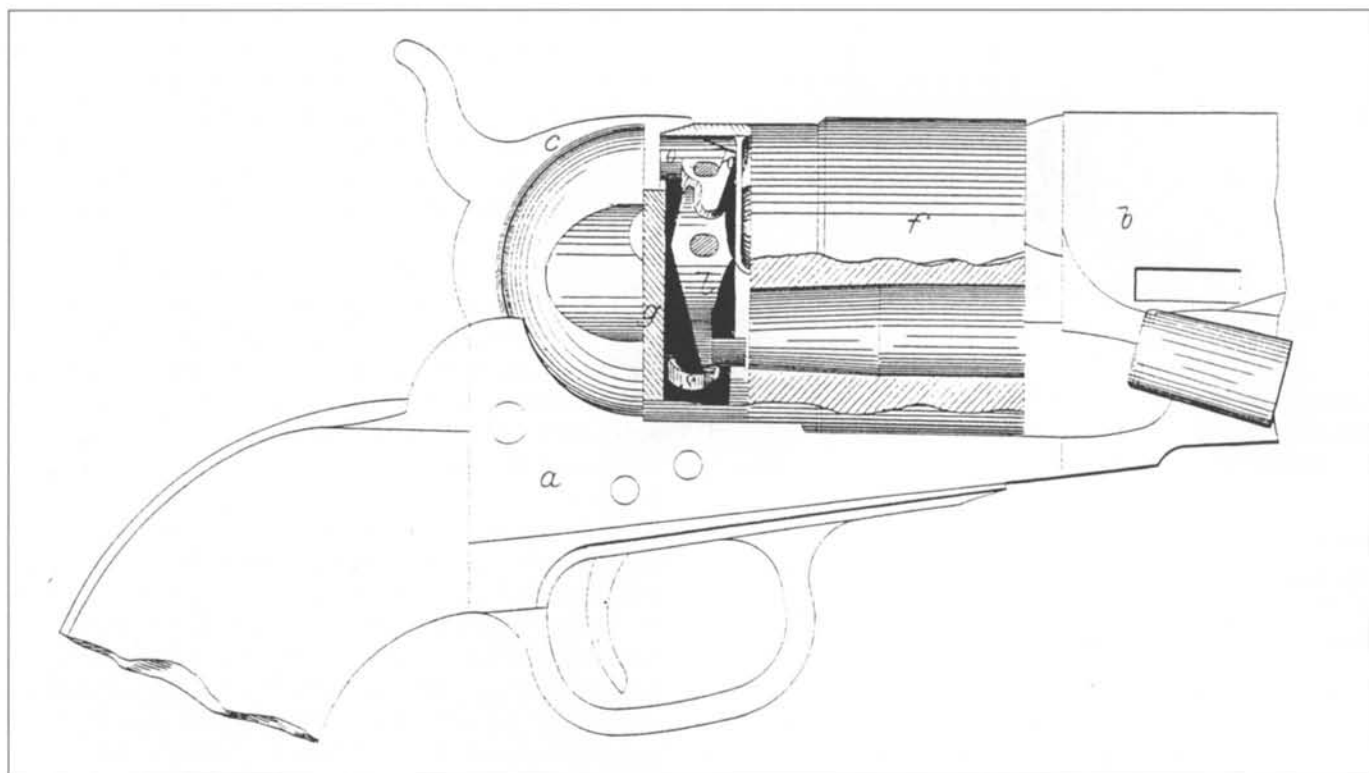


Fig. 4-16 Section drawing showing cartridge casing ejected by stroke of hammer. (Modified from patent drawing)

tridge-loading apparatus, and still further drawings and specifications for the conversion of other Colt models.

By including these other drawings and specifications, it was evident that the inventor and the company intended patent protection for Thuer conversions of all models of percussion Colt revolvers. A solid-frame Root side hammer revolver converted by the Thuer system was fully illustrated. Because the Root revolvers were five-shot rather than six, and the .28 caliber and .31 caliber cylinders were much smaller in diameter than the Army or Navy six-shot percussion Colts, the resulting conversion ring would be much smaller and have little room for the cartridge ejection system already described.

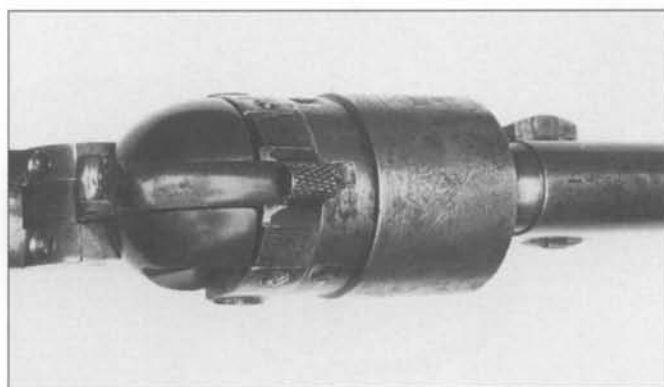


Fig. 4-17 1860 Thuer conversion breech ring, set at "safety" or center position to rest hammer in down position.

Therefore, a separate design was detailed in the British patent for the small frame Root model revolver. A stationary conversion ring was to be used with a spring-loaded ejector (h) that was released by a thumb-catch (f). The cylinder was then turned by hand and the ejector tip would snap into the rear of each chamber as the cylinder was revolved. Sections of the patent drawings are shown in Fig. 4-18, which offer further details of this design. As of this writing, only one Thuer Root model conversion is known to exist.

Though extremely rare, Colt's .31 caliber 1849 Pocket revolvers, .36 caliber 1862 Police revolvers and Pocket Navy revolvers converted by the Thuer system do exist, and with these models are found the cartridge ejector design illustrated in Figs. 4-13 through 4-16. These models are found with both five-shot and six-shot cylinders and with two separate types of conversion ring spring-detents.

The first type is that illustrated in Fig. 4-13, a rounded wedge-shaped, spring-loaded pin extending outward from the conversion ring and coming to rest on either side of the frame. The other, and most common type is a spring-loaded lever, pivoted within the conversion ring and extending outward just below the thumbpiece. A good portion of the tip of this lever is always exposed and resting upon the left side of the frame (see Figs. 4-19, 4-20 and 4-21). This lever maintains the conversion ring in its clockwise, or firing position. To operate the

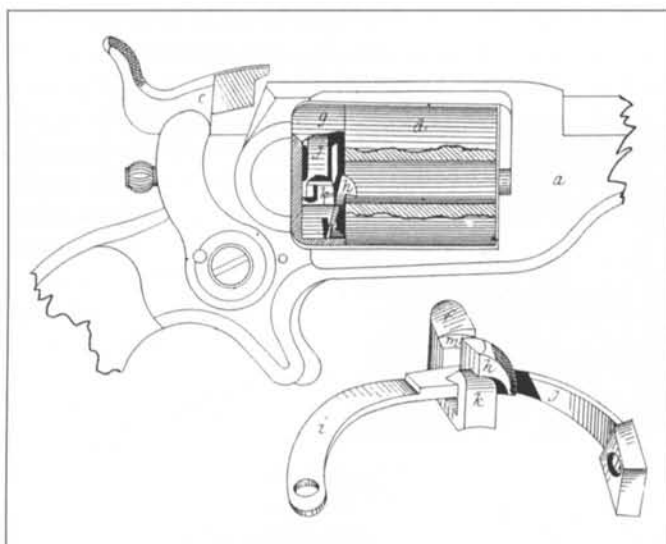


Fig. 4-18 Drawing of alternate type extractor system to be used in Thuer conversion of Root Model revolvers. (From British patent drawing)

cartridge ejector system, the conversion ring must be rotated counter-clockwise until the thumbpiece rests on the frame. The conversion ring must be held in that position by hand, while ejecting, as the spring-loaded lever will return the ring to the firing position once the ring is released. When in that position, the lever is forced up into a slot provided on the underside of the thumbpiece (see Figs. 4-19 through 4-21).

With all Thuer conversions, there are two factory alterations that are generally not duplicated in those revolvers converted by gunsmiths or private individuals

who ordered only factory cylinders and conversion rings: the hardened-steel disc that was inserted into the face of the hammer; and the deeply scooped original percussion loading channel on the right side of the barrel lug. The latter feature is more pronounced in small frame models and those having octagonal barrels than in large frame round barrel models such as the 1860 Army and 1861 Navy conversions.

These features and details in markings are also very important in separating the authentic factory Thuer conversions from those that are questionable. As this chapter advances, markings and serial number information will be inserted with the various models to which they apply. Usually, factory Thuer conversion rings and cylinders will be numbered on their rear faces with a low number. (See '20' stamped in the ring of Fig. 4-22). This number has no relationship with the serial number of the gun, and will be larger on London Thuers than on Hartford Thuers. Genuine factory Thuer conversion revolvers will have matching serial numbers. London Thuer conversions that were converted by London gunsmiths with factory-supplied cylinders and rings often have unnumbered cylinders; however the low face numbers are still found and both barrels and cylinders will be British proofed (sometimes with two different size proof marks).

Every factory conversion ring will have a two-line patent date PAT.SEP./15,1868, usually somewhere to the left of the hammer-flat. Also, the ejector-flat will be engraved with a script 'E.' The size and shape of the 'E' may vary somewhat, as each is hand engraved. Large frame conversions will have a hammer safety-flat just to the



Fig. 4-19 Colt Pocket Navy Thuer conversion, serial number 19853. (Author's Collection)

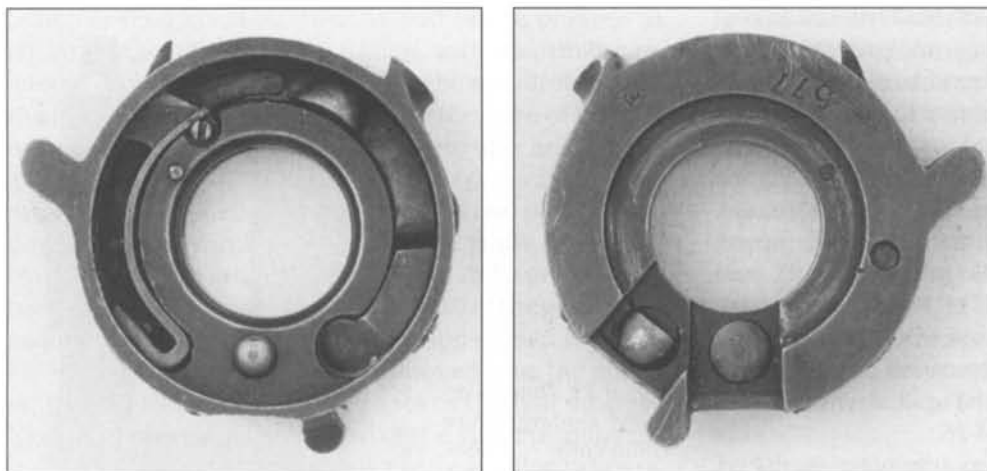


Fig. 4-20 Front and rear of small frame Thuer conversion ring most commonly encountered.

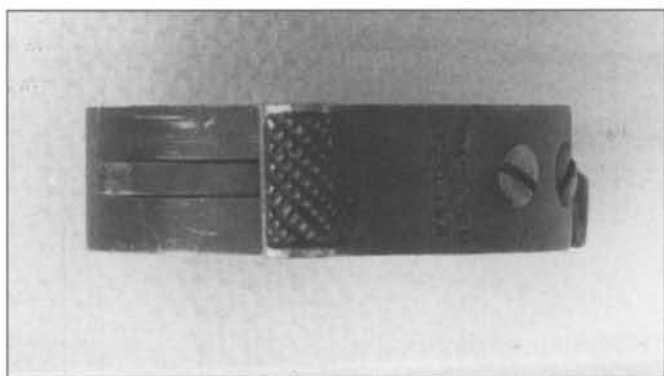


Fig. 4-21 Spring-detent of small frame conversion ring.



Fig. 4-22 Rear face of large frame conversion ring showing discharge and ejection pins, and conversion number 20.

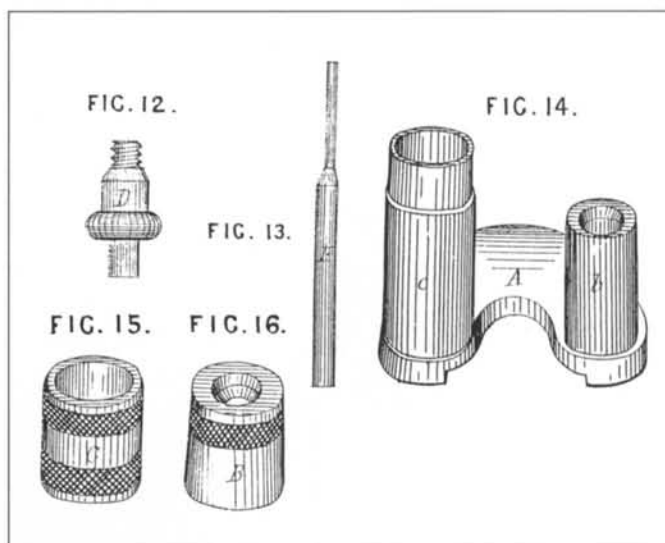


Fig. 4-23 Thuer cartridge loading fixtures (Figs. 12 through 16 of British patent drawing).

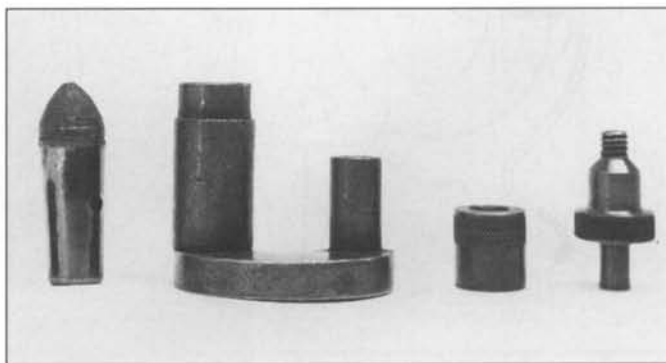


Fig. 4-24 Side view of Thuer cartridge loading fixture parts and loaded Thuer cartridge. (Author's Collection)

rear of the thumbpiece, while most small frame conversions do not. These specifications are general. Some variations and peculiarities are found to exist.

Factory Thuer conversions were supplied with cartridge reloading tools as illustrated in the British Patent (3,981/1868) and the second U.S. Patent (98,529). Figure 4-23 is reproduced from a section of the British patent drawings showing the priming punch (Fig. 12), spent priming extractor (Fig. 13), saddle piece (Fig. 14), ball guide (Fig. 15) and priming guide (Fig. 16). Sets of reloading fixtures were generally supplied with Thuer revolvers, whether those revolvers were cased or not. These fixtures are pictured individually in Fig. 4-24 with a Thuer cartridge, and assembled in Fig. 4-25.

To load Thuer cartridges, the saddle piece is placed upon the recoil shield with the mandrel (b) in line with the rammer-plunger, as shown in Fig. 4-26. The priming



Fig. 4-25 Thuer Cartridge loading fixture completely assembled. (Author's Collection)

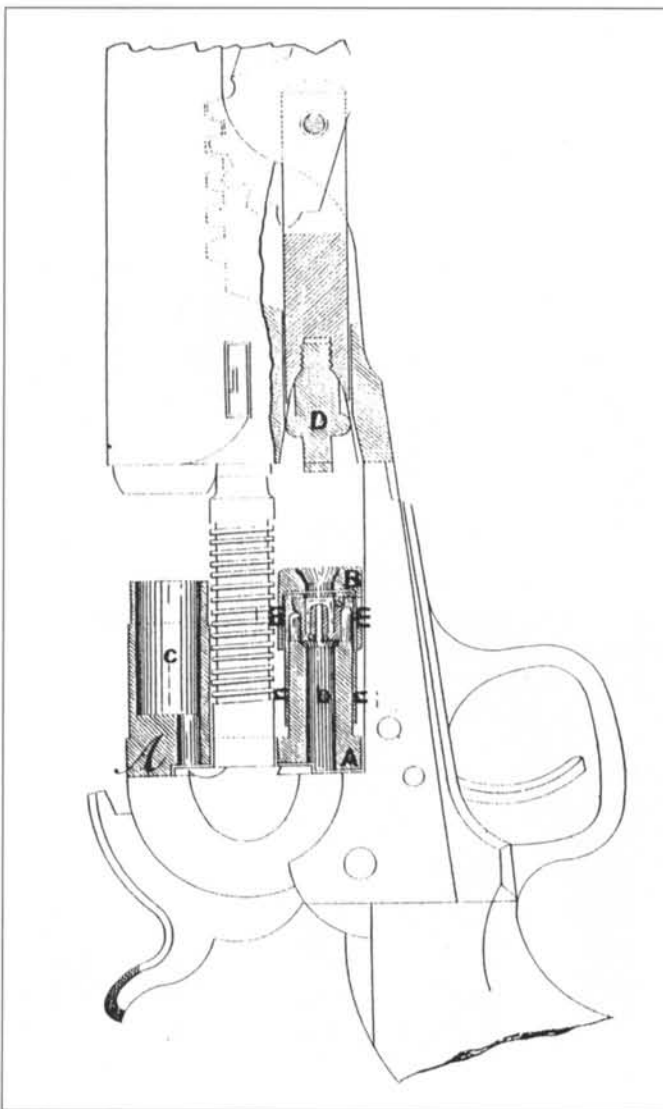


Fig. 4-26 Drawing showing proper position for priming Thuer cartridges. (British patent drawing)

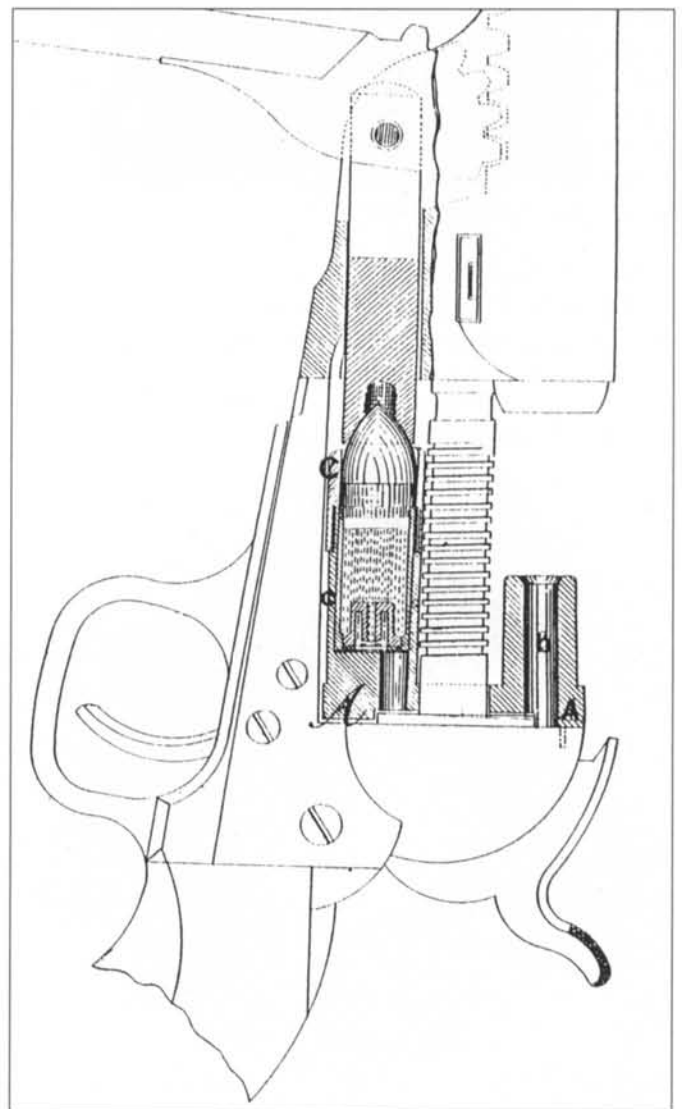


Fig. 4-27 Drawing showing proper position for loading Thuer cartridges with powder and projectile. (British patent drawing)

punch is then screwed into the end of the plunger as shown. An empty cartridge casing, with its priming removed is placed mouth down over the mandrel (b) and the priming guide (B) is placed over the base of the cartridge. A new primer is dropped into the hole of the guide, and the loading lever is used to press the primer in place. The primed casing is removed and placed base down into the cylinder (c) and the ball guide (C) placed over it. The shell is filled with powder and a properly lubricated ball is placed within the mouth of the guide. The saddle piece is rotated to the position shown in Fig. 4-27, and with the priming punch removed from the plunger, the rammer is again used to force the ball down to its proper place. The small end of the spent priming extractor is used for removing the used cartridge primers, while its large end is for extracting the cartridge casings

from either the mandrel (b) or the cylinder (c) of the saddle piece, should they become lodged there.

All indications are that F. Alexander Thuer started working on his front-loading revolver conversion system sometime during 1866. In his book, *The Peacemaker and its Rivals*, John Parsons quotes two entries in the diary maintained by Gen. W.B. Franklin (V.P. and general manager of Colt's at the time), as stating he had examined Thuer's alteration (conversion). The first entry was dated January 26, 1867, and the second, February 11, 1867. There was no mention of the ammunition, but if prototypes of the revolver had been fabricated, certainly experimental cartridges had also been made available.

Tapered metallic cartridges were nothing new in the United States. The Burnside cartridge dates back to

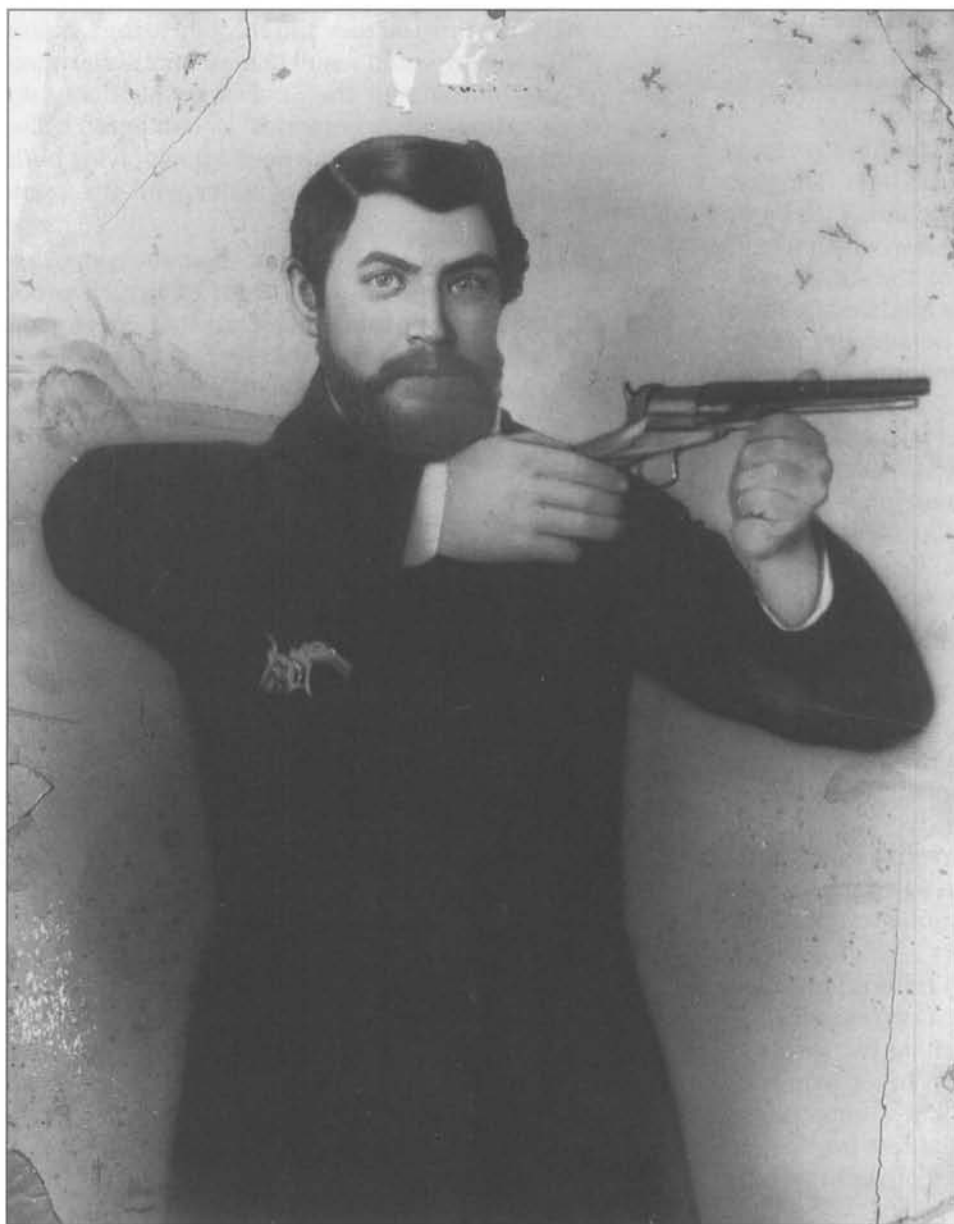


Fig. 4-28 Photograph of Alexander Thuer. (Courtesy Mark Aziz)

April 10, 1860 (Patent 27,791, George P. Foster). That of O.D. Lull dated December 1, 1863 (Patent 40,761), and the tapered front-loading metallic cartridge containing its own fulminate as described in the U.S. Patent granted to S.W. Wood on March 1, 1864 (Patent 41,803), must have been known by Thuer and the Colt Company.

The first U.S. Thuer patent illustrated these cartridges in Fig. 1 of the patent drawings, the British patent in Figs. 1 and 18, and the second U.S. patent in Figs 6 and 8, but none included the cartridge in the claims.

F. Alexander Thuer was born in 1826 and learned the gunsmithing trade in Prussia. From there, he came to Hartford, and joined the Colt company in 1849. After only a short time with the company, he became an expert marksman and spent much time traveling to demonstrate Colt percussion revolvers. He was a valued employee of the company until he retired in 1895; he died just two years later. He is credited with three patents that he assigned to Colt, the first two were the conversion patents already outlined and the third was that for the Colt 3rd Model single shot derringer.

Samuel Colt died in January 1862 and his successor, Elisha K. Root, passed away three years later. The presidency of the company next went to Richard W.H. Jarvis, a lawyer and Samuel Colt's brother-in-law, who had been associated with the management of the Colt factory since 1860. Though Mr. Jarvis was a qualified business manager, a much more aggressive personality was required for directing Colt's sales, engineering and the gun manufacturing. General William B. Franklin possessed the necessary qualifications for this position, and was appointed vice-president and general manager in November 1865. He served in that capacity until April 1888. As it was with Sam Colt, the General's first priority was that of selling arms to governments. Government contracts always meant quantity orders, but the Thuer system gained little interest from the U.S. Ordnance Department. Consequently, General Franklin found it necessary to turn to foreign markets.

Frederic August Kunow Waldemar von Oppen was in charge of the Colt London Agency at the time the Thuer conversions became available, with offices located at 14 Pall Mall, County of Middlesex, London, England. For some reason, more efforts were exerted in selling these conversions to foreign markets than to domestic ones. Many Thuers are reported to have gone to the Middle East and China.

It wasn't until February 1869 that Frederic von Oppen communicated with the Hartford office regarding the Thuer conversions. He reported selling two Army revolver conversions and that work on other Army conversions was under way by a local gunmaker. He indicated he was awaiting loading fixtures for Navy revolvers and was ready to begin their conversions when the fixtures arrived.

It would appear from this that Thuer Army and Navy conversions having British proof marks were converted by English gunsmiths and that the Hartford factory supplied only the loading fixtures. If this line of thought is correct, it would mean that cylinders were cut down and conversion rings were manufactured in England, and that this might account for the two different sizes of characters used for assembly numbers. This would result in matching serial numbers.

A second line of thought is that the Hartford factory supplied unnumbered cylinders and conversion rings with matching assembly numbers, and the English gunsmiths would modify the hammer faces and barrel lugs and perform the final assembly. This would account for unnumbered cylinders, with the rest of the numbers matching.

Still others believe that the conversions were completed in the Hartford factory and shipped to the London agency. This again would result in matching serial numbers, leaving nothing for the English gunsmiths to do other than casing with accessories. Unnumbered cylinders could be explained by the need for supplying both a percussion and conversion cylinder with the same gun.

Next come the questions about the two sizes of assembly numbers, and the two sizes of British proof marks. The simplest explanations are that conversion cylinders and rings came from different parts of the Hartford factory and were stamped with different punches. Then, there is the possibility that one set of punches became lost or broken and was replaced. As to the British proof marks, that on the barrel was probably placed there during the percussion days and the smaller one on the cylinder, after the conversion.

This being the case, it would strongly support the theory that the conversions were entirely performed by English gunsmiths. It is highly unlikely that Colt's London agent would ship a percussion revolver back to Hartford, the Colt factory would convert it and then ship it back again. It is quite possible, however that all of the conversion rings were made in Hartford and shipped to London, where the cylinders were turned down and assembly numbers applied to both parts.

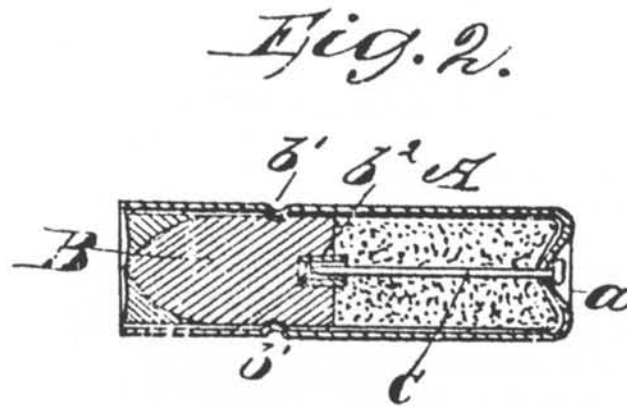
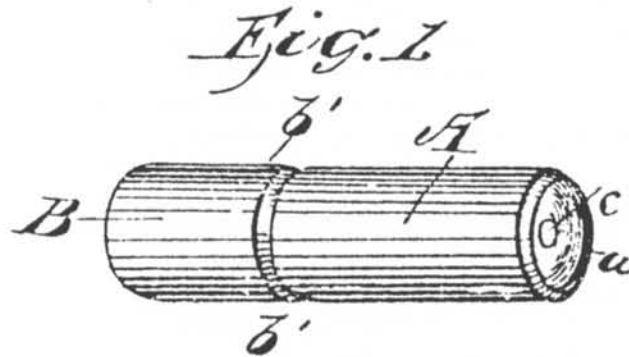
Unfortunately, this must all be left to conjecture. No records or correspondence has been uncovered to date to substantiate the validity of these probabilities.

The British Government tested both Army and Navy Thuer conversions in May 1869. They were found to be superior as compared to the percussion models in ease of loading, positive ignition and clean effortless extraction. The War Office found the extreme accuracy required in chamber bores and cartridge dimensions objectionable, but was pleased with the fact that cartridge casings could be reloaded.

C. E. SNEIDER.
Cartridge.

No. 44,692.

Patented Oct. 11, 1864.



Witnesses.

C. D. Smith
Edward M. Knight

Inventor.

C. E. Snider
By M. H. C.
A. Thomas

Fig. 4-29 Patent drawing, No. 44,692, C.E. Snider centerfire metallic cartridge.

The War Office did not consider it to their advantage to rechannel appropriations for converting badly worn percussion revolvers to the Thuer system. They elected to keep the British Adams double action revolver for the Boxer cartridge as their standard service side arm.

In the meantime, the United States Ordnance Department was investigating various methods of converting percussion revolvers to shoot metallic cartridges. Inventors and gunmakers were invited to submit samples of both front and rear loaders for trials at the Springfield Armory.

On October 9, 1868, the Colt Company submitted a Thuer converted 1860 Army revolver with Thuer center-fire .44 caliber tapered cartridges. Not too much is available as to the results of these trials, however, the C.B. Richards method of conversion (see Chapter 5) was soon forthcoming, the Rollin White patent was to expire on April 3, 1869, and the Thuer system suffered a great lack of popularity, both abroad and in the United States. All added up, the Thuer system would become obsolete and was very short lived.

Another cartridge system evaluated at the 1869 Springfield Armory trials was the Captain Farley conversion of a Colt Navy model revolver. It was a rear-loading six-shot .38 caliber, conversion with a new cylinder and without a loading gate. The main feature of this system was the ejector, featuring an adjustable cam, operated by an external lever.

Colt had been experimenting with metallic cartridge conversions well before the Thuer patents were granted. Also, Colt percussion revolvers were used by others in developing new systems of conversions. Colt revolvers have been illustrated repeatedly in patent drawings, with claimed features or improvements added. When developing a new design, or applying for a patent on an improvement, all of this information must be carefully studied to determine that the new development does not include something already protected by another patent.

The Colt Company must have thoroughly investigated the claims of such inventors as C.E. Snider, Stephen W. Wood, G.G. Crowell, T. Poultney, J. Adams and E.J. Frost prior to its development of cartridge conversions and the filing of applications for patents by inventor/assignor employees.

Several patents on rimless metallic cartridges had also been granted prior to 1865. That of George Conover (U.S. Patent 41,684), having a central internal priming (cap) was dated February 23, 1864. Even E.K. Root invented a rimless metallic cartridge that, with only slight modification would serve the purpose for the Thuer conversion revolver. The Root patent was No. 44,660, dated October 11, 1864.

A cartridge of prime interest to this study is that granted to Charles Edward Snider of Baltimore, Maryland, assignor to himself and Thomas Poultney, dated

October 11, 1864. U.S. Patent 44,692 (see Fig. 4-29) claims a metallic cartridge case extending forward as far as the point of the ball, so as to abut against the end of the barrel, to be exploded by an end blow upon a pin reaching the fulminate on the base of the ball, and a concave end which forms a gas seal around the ignition pin under the force of the discharge. The construction of the cartridge is self-explanatory from the patent drawings.

Next was Charles Snider's revolver patent, a design to accept his new cartridge. U.S. Patent 46,612 was granted on February 28, 1865 (see Fig. 4-30), and it claims the use of pins at the rear of cylinder chambers of revolving firearms for both ignition of cartridges and ejection. The patent text explains the function of the tool carried within the grip of the revolver as that of a pry-bar between the cylinder pins (D) and the recoil shield (G) for pushing spent cartridge casings partially out of their chambers so they can be readily taken hold of with the fingers and withdrawn.

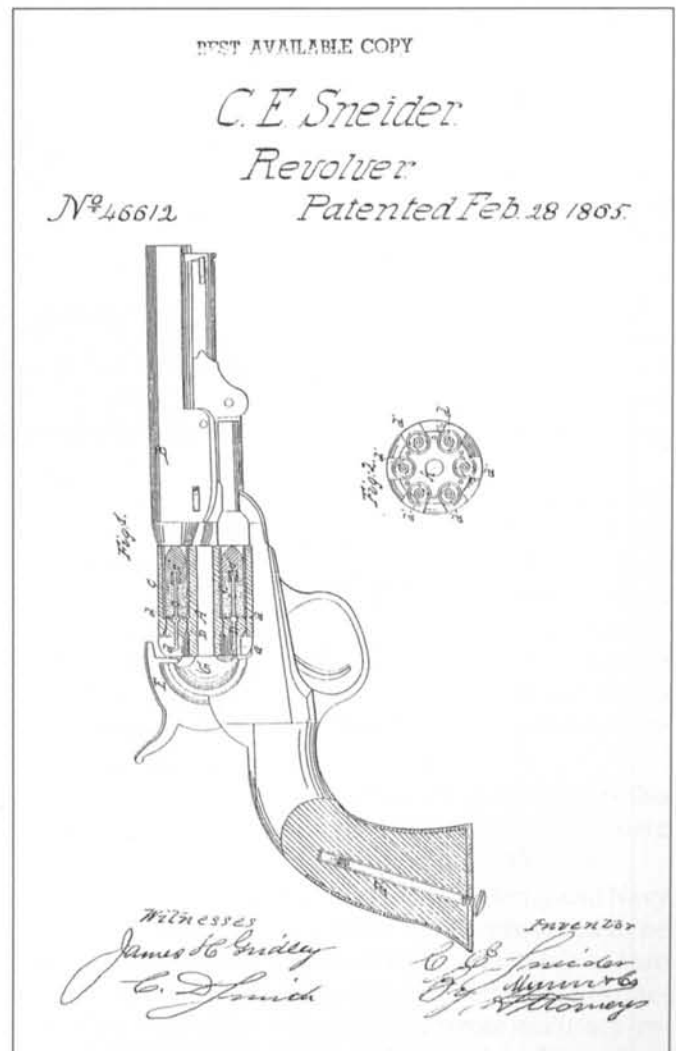


Fig. 4-30 Patent drawing, No. 46,612, C.E. Snider metallic cartridge front-loading revolver.



Fig. 4-31 Left side of Colt Model 1849 Experimental (Sneider type) front-loading metallic cartridge revolver, serial number 252173. (Courtesy Francis E. "Bud" Firth)

Well before the Colt Thuer conversion was developed, a Colt Model 1849 pocket revolver was converted to metallic cartridge by replacing the percussion nipples with plugs, each containing a rebounding mushroom-type firing pin. The revolver has a 5-inch barrel, six-shot straight round engraved cylinder, is .31 caliber and contains all standard Colt markings, including matching serial numbers 252173. It was originally in the former Colt factory museum collection and for many years believed to be an experimental Colt conversion dating to about

1867. Figure 4-31 has it pictured (left side) with the ejector tool in place within the grip. In Fig. 4-32, the right side view shows the loading channel milled in the barrel lug, so the gun could be loaded and cartridges ejected without having to remove the cylinder. In comparing all this with the Sneider patent of early 1865, the author believes this Colt revolver to be that used as a model by Sneider and that the conversion from percussion to front-loading cartridge was either done by Sneider or was a copy of Sneider's idea. In either event, the .31 caliber cham-



Fig. 4-32 Right side of Colt Model 1849 experimental (Sneider type) front-loading metallic cartridge revolver, with cartridge ejector lever removed from the buttstrap. (Courtesy Francis E. "Bud" Firth)



Fig. 4-33 An experimental Colt 1860 Army revolver was also converted on the Sneider principal. Serial number 164809. (Courtesy Museum of Connecticut History)

bers are tapered and will accept Thuer cartridges if forced in.

Another point of interest is that the text of Sneider's cartridge patent stated that the front of the cartridge case abutted against the rear of the barrel. Thus, when fired, only the ball could pass through the bore of the barrel. This would mean that the outside diameter of the cartridges and the bore of the cylinder chambers were larger than the bore of the barrel.

To maintain the cartridges within the cylinder once loaded, a ring was placed over the base pin, between the cylinder and barrel lug. The outer diameter was large enough to cover a small portion of the chambers, while not extending outward beyond the barrel lug, but rendered the loading lever and plunger inoperative. Two channels were milled through the sides of this ring, one for the loading position and the other for the barrel.

Another Colt revolver was converted on this same basic design. It is a Model 1860 Army, serial number 164809, and it remains in the Colt collection housed in the Museum of Connecticut History at Hartford. The nipple portion of the cylinder has been machined away, leaving only a shaft containing the revolving ratchet. Plugs containing rebounding firing pins were installed into the rear of each chamber. Finally, a ring was placed

between the recoil shield and the rear of the cylinder, covering the firing pins and filling the space which resulted from cutting away the rear portion of the cylinder.

This revolver is pictured in Fig. 4-33, and was obviously used as a model for a patent application or demonstration purposes, as a portion of both the cover ring and recoil shield are cut away on the right side. Also, the loading channel of the barrel lug has been milled deeper, as on the Thuers.

It is difficult to establish exactly who was the first to conceive this idea of separate firing pins in each cylinder chamber. Figure 4-34 pictures the cylinder of a Dean-Harding conversion covered by William Tranter's British Patent No. 1889/1865 granted on July 20, 1865. Here, a two-piece cylinder is separated for loading, and the rear section contains separate rebounding firing pins for each chamber. This conversion will be fully covered in Chapter 10.

Still another American version exists in the Cooper double action conversion pictured in Figs. 4-35 and 4-36. In this design, a three-piece cylinder is used. It is completely disassembled and described in Chapter 10. Figure 4-36 shows two separate views of the cylinder and the individual firing pins. These pins are sandwiched between the two sections of the end cap, and the entire as-



Fig. 4-34 Deane-Harding conversion with firing-pins in each chamber. Serial number 6818. (Author's Collection)



Fig. 4-35 Cooper Double Action Pocket conversion, serial number 501, with firing pin for each chamber of three-piece cylinder. (Author's Collection)

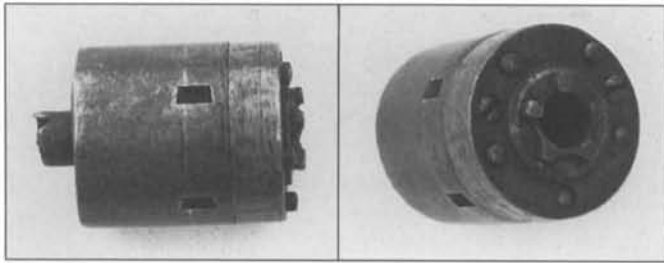


Fig. 4-36 Cooper serial number 501 three-piece cylinder.

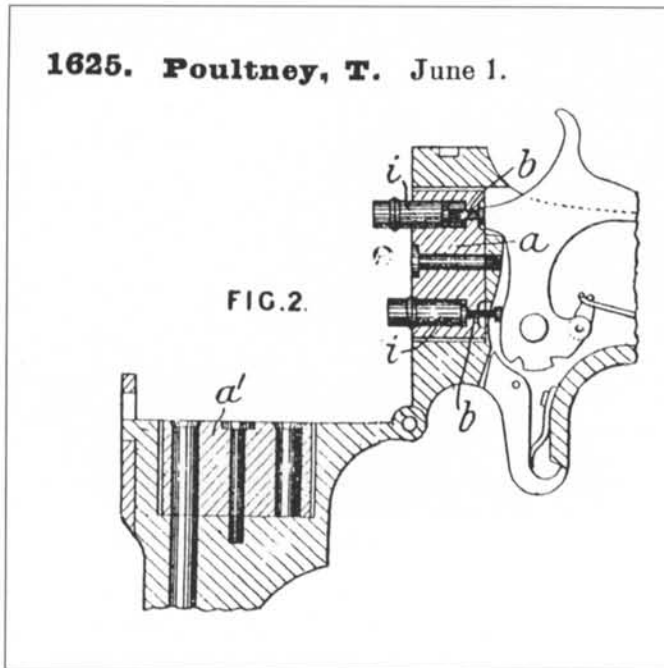


Fig. 4-37 Patent drawing, British patent #1625/1867, T. Poultney two-piece revolving cylinder with individual firing-pins for each chamber.

sembly is removed from the front cylinder portion for loading.

Thomas Poultney improved upon the design of his associate, Silas Crispin, by relocating the cartridge priming from the annular ring to the center of the base. Then, on June 1, 1867, he was granted British Patent 1625/1867 for a revolver having a two-piece cylinder with the rear section containing individual rebounding firing pins at each chamber. This is illustrated in Fig. 4-37 with a top break-open type revolver. (See Chapter 9). It is not known whether Charles Snider had an association with the Colt Company, but the diary maintained by General Franklin contained numerous entries regarding meetings with Silas Crispin and Thomas Poultney to discuss purchasing their split-breech revolver patents, prior to the Thuer patent dates.

Next to be investigated by Alexander Thuer and the Colt management group were the existing patents on the automatic cartridge ejector, or in particular, ejection by

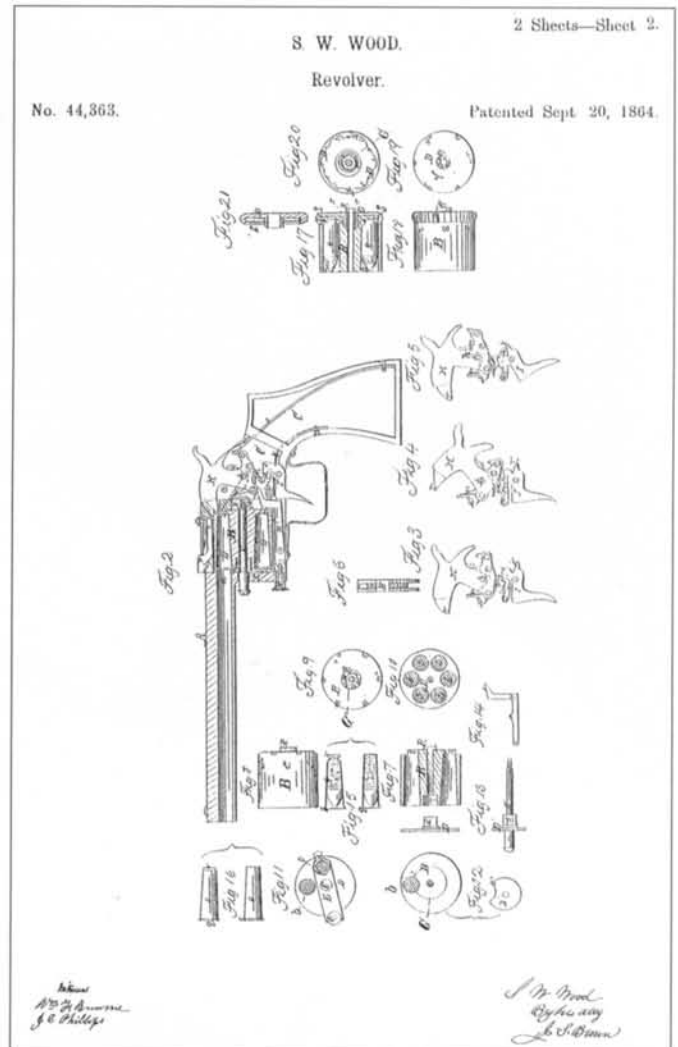


Fig. 4-38 Patent drawing, No. 44,363, S.W. Wood hammer ejection of front loaded metallic cartridges.

a blow of the hammer. There were three U.S. patents of concern here. The first was that of Stephen W. Wood, U.S. Patent 44,363, granted on September 20, 1864. Page 2 of the patent drawings is shown in Fig. 4-38, where Fig. 11 is a front view of the barrel and cylinder cap with the barrel turned aside for loading or ejecting front-loaded cartridges. Figures 15 and 16 are side and cut views of two types of tapered cartridges to be used with the cylinder of Figs. 7, 8, 9 and 10.

The front-loaded cartridges are metallic, and tapered to correspond with the tapers of the chambers. The patent text described two other alternatives for maintaining the cartridges within the cylinder, but neither was claimed. That part of the text pertinent to this study reads as follows: Once the barrel is released and turned away, "I then operate the hammer (H) just as when firing the pistol, and the blows thereof against the empty cases force them out of the chambers successively as the cylinder (B) is by the same action brought round to the hammer."

There were but three claims, all of which had to do with loading cartridges and expelling empty casings: (1) Loading the cartridges into the chambers of the cylinder and expelling the empty cartridge cases therefrom when the said chambers are in line with the hammer or in the same position as when discharge takes place. (2) Expelling the empty cartridge cases by the blows of the hammer, substantially as herein specified. (3) Turning the barrel aside from its discharge position, in combination with a front-loading cylinder, for the purpose of enabling the cartridges to be inserted into and the empty cartridge cases to be expelled from the chambers when in line with the hammer, substantially as herein set forth.

Figures 4-39A and 4-39B illustrate the two pages of patent drawings of U.S. Patent 53,955 issued to George G. Crowell on April 17, 1866. The inventor states, "I apply it [the invention] solely to the removal of cartridges

which are introduced from the front . . . My invention is based on removing the cartridges by the motion of the hammer. It can be so constructed as to remove the cartridge which is directly opposite to that which is being fired, or either of the other cartridges except that which is directly in line with the barrel and in position to be discharged."

This invention consists mainly of a sliding plate (P) located to the right of the hammer and a manually adjusted slide (M) fitted in a groove in the right side of the hammer. A hardened-steel ejector rod (R) is fitted to the lower portion of the plate (P) that slides on the hammer screw (E) and is guided by the pin (G). Thus, the ejector plate and ejector pin will move forward and backward with the hammer when the slide (M) is forced down (Figs. 1 and 2), and will remain at rest when the slide is forced up (Figs. 3 and 4). The patent claimed the ejector mechanism and its operation with the hammer.

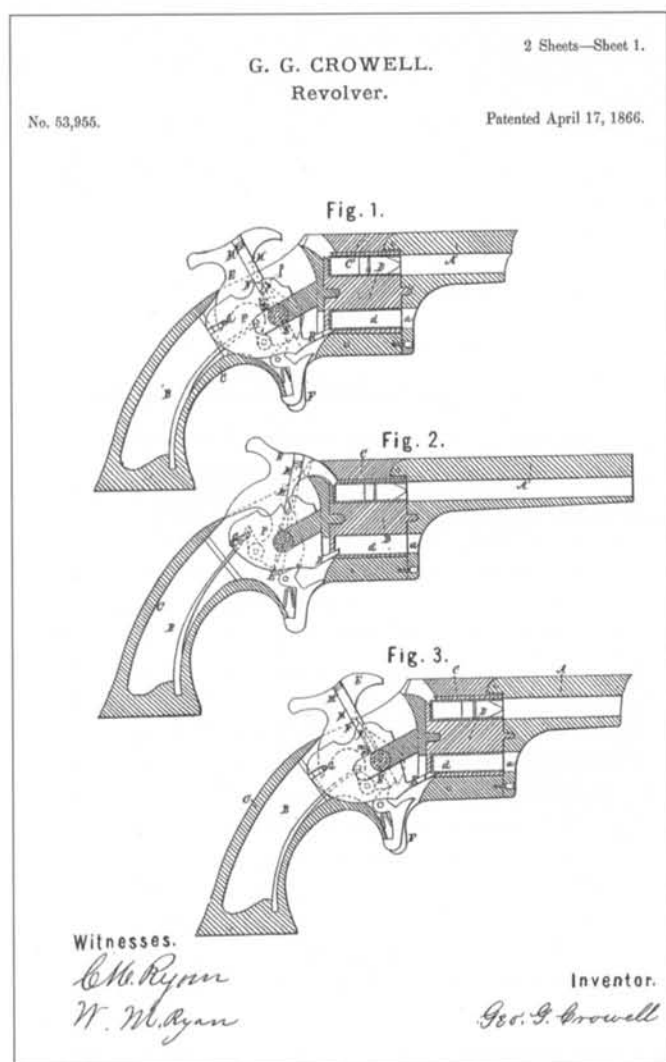


Fig. 4-39A Patent drawing, Sheet 1, No. 53,955, G.G. Crowell ejection of front-loaded metallic cartridges by blow of the hammer.

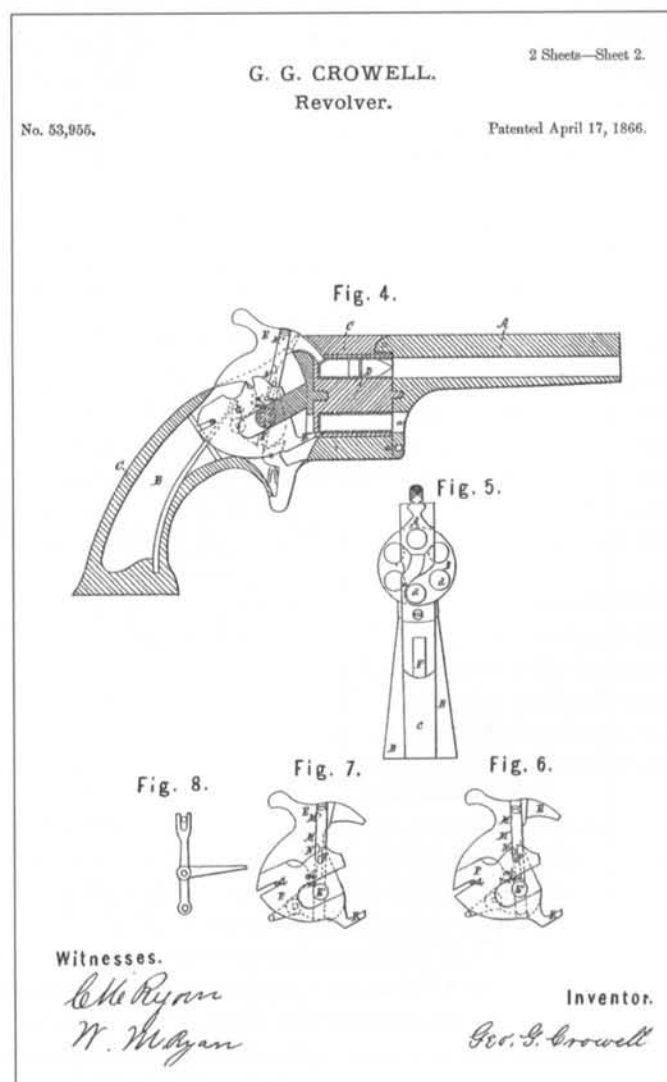


Fig. 4-39B Patent drawing, Sheet 2, No. 53,955, G.G. Crowell ejection of front-loaded metallic cartridges by blow of the hammer.

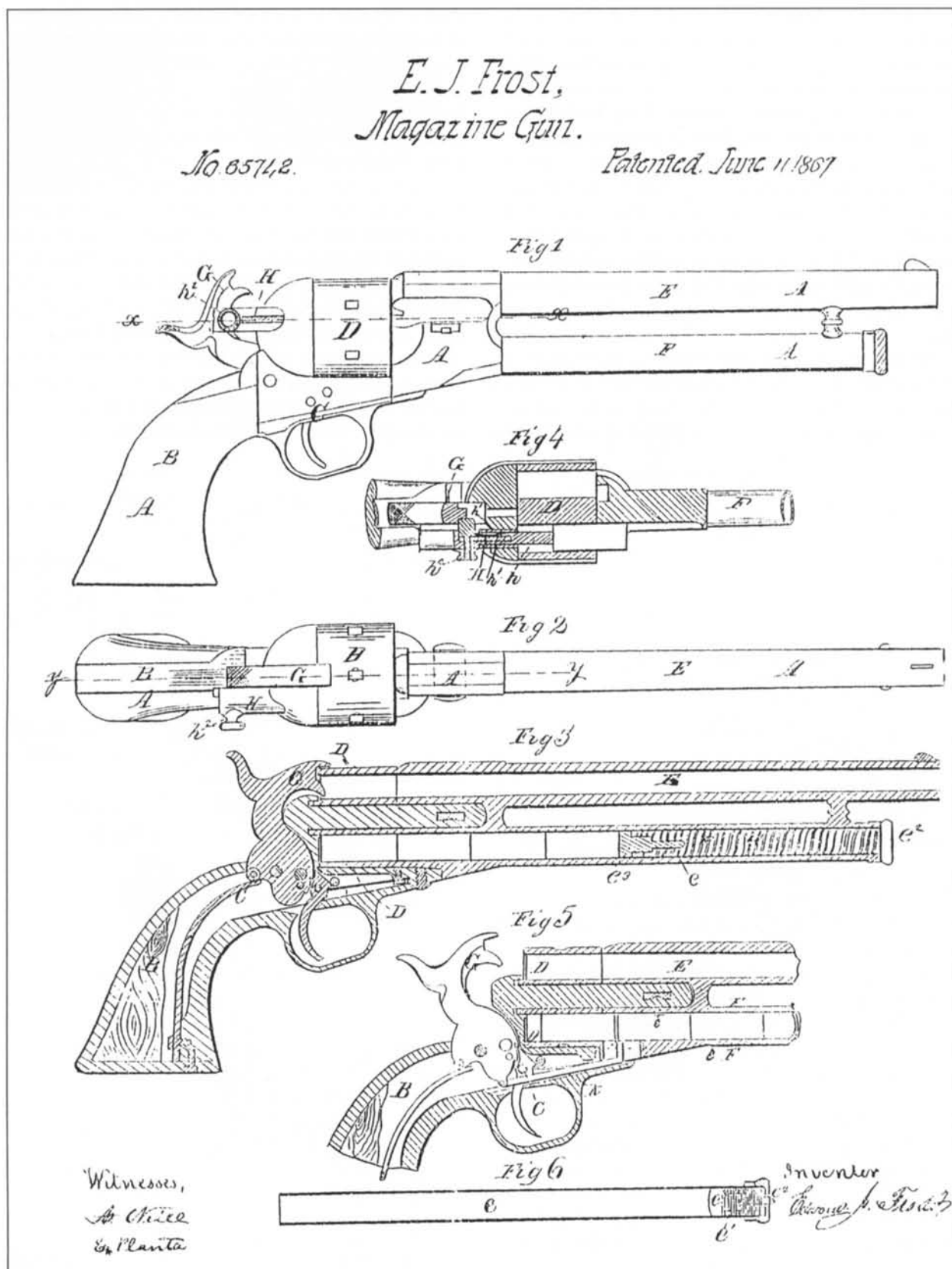


Fig. 440 Patent drawing, No. 65,742, E.J. Frost tubular cartridge magazine and hammer-operated cartridge ejector plunger.



Fig. 4-41 Colt experimental 1860 Army revolver with hammer-operated cartridge ejector plunger. (Courtesy Museum of Connecticut History)

Finally, there is the U.S. patent granted to Edward J. Frost on June 11, 1867, for a front-loading tubular magazine revolver with a positive magazine feed and a piston cartridge ejector that was operated by the hammer. Patent No. 65,742 claimed: (1) The pawl (K), in combination with the magazine spring (e), as and for the purpose set forth, and (2) The plunger (h), spiral spring (h¹), and thumb-catch (h²), arranged for engaging with the hammer, substantially as explained. (See Fig. 4-40 for Frost patent drawings).

The part of interest to Colt's patent attorneys was the second patent claim and the cartridge ejector plunger that operated through the recoil shield into the first chamber to the right of that in line with the barrel. This plunger could be coupled to the hammer by the thumb-catch, or left inoperative. When connected to the hammer, each time the hammer was released to discharge the cartridge in line with the barrel, the plunger would knock out the cartridge immediately to its right.

Of still further interest is this statement made at the end of the patent text: "I would here remark that, as compared with Colt's revolver, my pistol, from its construction is as durable, the cost of manufacture about the same, its weight four ounces less for the same size, has a barrel three-fourths of an inch longer, and carries a ball four-hundredths longer, thereby increasing its range

and penetration..." Certainly, the inventor wasn't comparing a metallic cartridge revolver with a percussion. Did the Colt Company indeed have a cartridge gun or conversion as early as June 1867 (or even earlier, when the Frost application was filed)? The Frost patent was granted fifteen months earlier than that for the Thuer front-loading conversion. Were Thuer revolvers available at that earlier date?

A Colt 1860 Army experimental conversion revolver incorporating a plunger-type cartridge ejector much like that of the Frost design is in the collection at the Museum of Connecticut History. As pictured in Fig. 4-41, this ejector works in conjunction with the second chamber to the right of that in line with the hammer, rather than the first as seen in Frost's drawings.

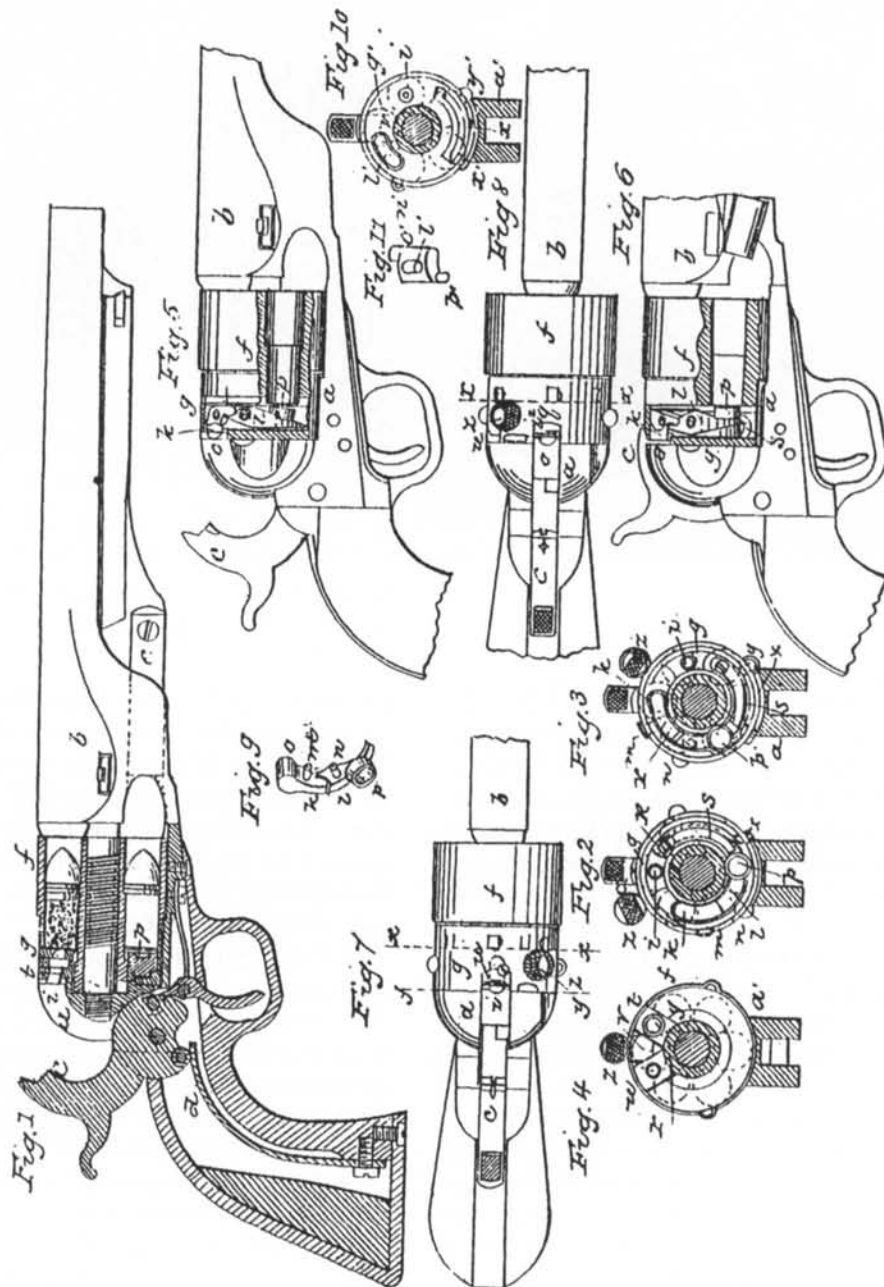
A study of the many Colt experimental models found in museums, existing publications and private collections would certainly indicate that the revolver manufacturer investigated every possible method of loading a revolving cylinder and removing spent cartridge casings without infringing upon any existing patents. Where other patents claimed features the Colt company wished to incorporate, though even modified, the company would purchase the patent. For this reason, the Wood Patent (No. 44,363) was purchased by Colt. The assignment was registered on December 26, 1867,

F. A. THUER.

Revolver.

No. 82,258.

Patented Sept. 15, 1868.



WITNESSES

Chas. Richard
Horace Love

INVENTOR

F. Alexander Thuer

Fig. 442 Patent drawing, 82,258, F. Alexander Thuer conversion of percussion revolver to front-loading metallic cartridges.

F. A. THUER.
Cartridge Loader.

No. 98,529.

Patented Jan'y 4, 1870.

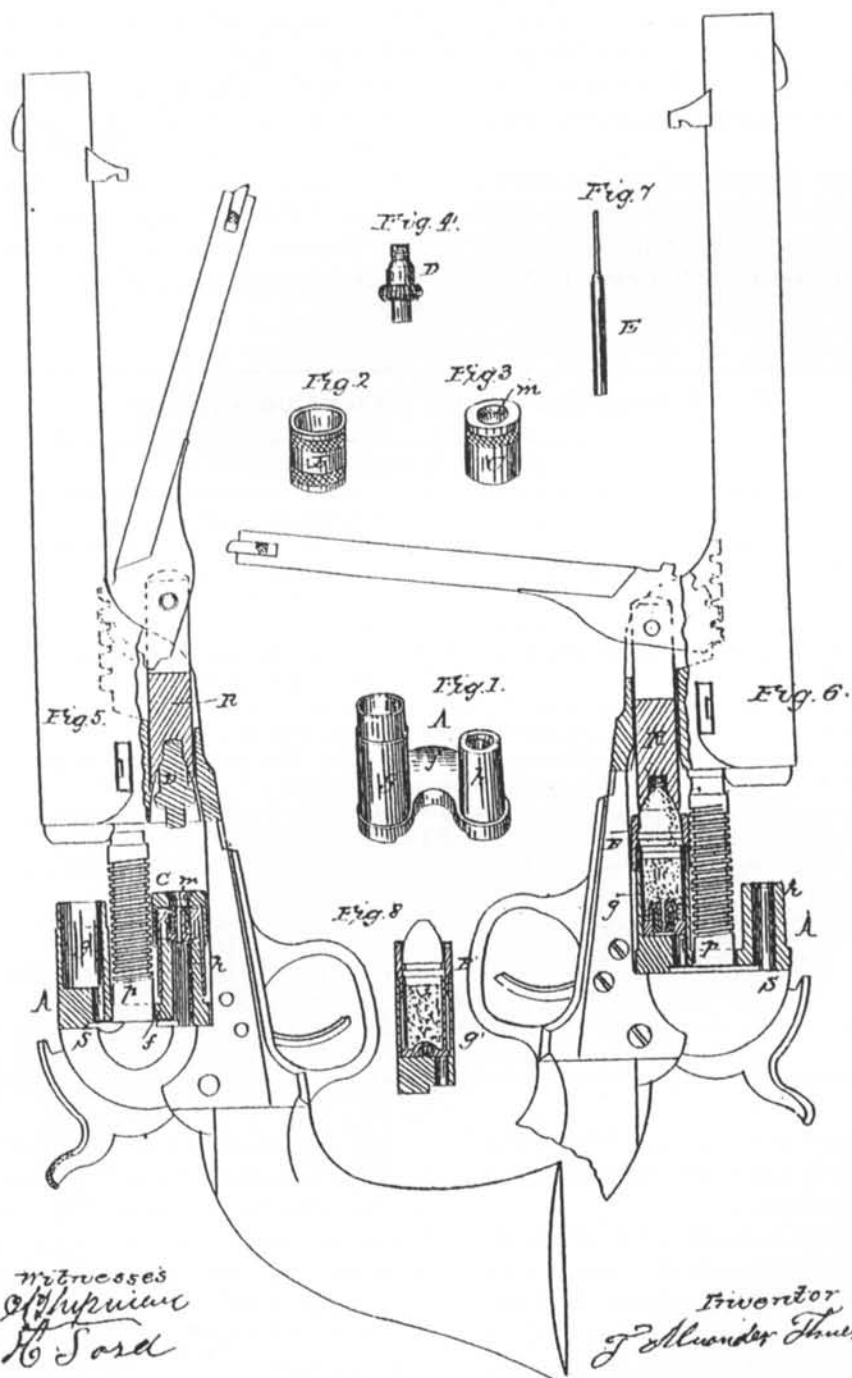


Fig. 4-43 Patent drawing, No. 98,529, F. Alexander Thuer apparatus for loading metallic cartridges.

further indicating that the Thuer system had already been decided upon, if not completely ready for production.

F. Alexander Thuer was granted two separate U.S. patents relating to his conversion system from percussion to centerfire front-loading metallic cartridges. The first was U.S. Patent 82,258, issued on September 15, 1868, with the patent drawings reproduced in Fig. 4-42. This covered the revolver conversion.

Second, was U.S. Patent 98,529, issued on January 4, 1870, with the patent drawings reproduced in Fig. 4-43. This later patent covered the cartridge loading fixtures and their use.

Figure 4-44 pictures the patent model submitted by Alexander Thuer to the U.S. Patent Office with his application for the conversion revolver patent. This Thuer model is now in the Smithsonian Institution collection in Washington, D.C.

Navy Thuers being much rarer than the Hartford 1861 Navy Thuer revolvers. Totally, the quantities of 1860 Army Thuers and 1851 Navy Thuers run about equal, but the Hartford 1860 Army Thuers are much rarer than the British proofed 1860 Army Thuer revolvers. All this is outlined quite simply in the following summary table.

The revolver shown Figs. 4-45 and 4-46 is a five-shot, .31 caliber 1849 Colt Thuer converted pocket revolver with a 4-inch barrel. Bearing serial number 310394-matching throughout-this fine specimen is cased in a lined English-style oak case with Thuer cartridge loading fixtures, a Colt bullet mold, combination screw-driver/nipple wrench, box of Thuer cartridges and a tin of caps (Thuer cartridge primers) by Eley Bros. of London. This revolver incorporates the spring-loaded type Thuer conversion ring illustrated in Figs. 4-19 through 4-22.

Rarity Sequence of Colt Thuer Conversions	
Non Factory	.44 caliber 1847 Colt Walker revolver
Non Factory	.44 caliber 1st, 2nd and 3rd Dragoon revolvers
Experimental	.31 caliber Baby Dragoon and Model 1848 revolvers
Experimental	.28 caliber/.31 caliber Side Hammer Root revolvers
Rarest of all	.31 caliber Colt Model 1849 Pocket revolver
Very Rare	.36 caliber Model 1862 Police revolvers
Fairly Rare	.36 caliber Pocket Navy revolvers
Extremely Rare	.36 caliber Model 1861 Navy British proofed revolvers
Very Rare	.36 caliber Model 1861 Hartford Navy revolvers
Rare	.44 caliber Model 1860 Hartford Army revolvers
Common	.36 caliber Model 1851 Navy revolvers
Common	.44 caliber Model 1860 Army British proofed revolvers

The revolver itself is an unfinished Colt Model 1860 Army and the only finished parts are those modified or added by the Thuer conversion.

Of the estimated 5,000 Colt percussion revolvers converted by the Thuer system, the small frame models are of the lesser amount, with the 1849 .31 caliber Colt Thuer being the rarest. Next in rarity is the .36 caliber 1862 Police model Thuer with the fluted cylinder, followed by the .36 caliber Pocket Navy model Thuer with round rebated cylinder.

The rarest of the large frame Thuers is the .36 caliber Model 1861 Navy, with the British proofed 1861

The gripstraps are of brass and the gun contains no British proof marks, though the case is English and both the cartridge box and primer tin have London markings. It is of interest to note that the small frame Thuer conversions retain the same small hammer screws of the percussion models.

The Colt Pocket Navy Thuer conversion of Figs. 4-47 through 4-50 has a 4-1/2-inch barrel and a five-shot .36 caliber cylinder. This rare conversion also incorporates the small frame Thuer ring illustrated in Figs. 4-19 through 4-22, and has the usual Colt markings, New York barrel address and matching serial numbers, 19853. In



Fig. 4-44 Patent model of the Thuer conversion system. (Courtesy The Smithsonian Institution)



Fig. 4-45 Rare Colt Model 1849 Thuer Pocket Model conversion, serial number 310394. (Courtesy John F. Dussling)



Fig. 4-46 London casing of the Colt 1849 Pocket Model revolver, serial number 310394. (Courtesy John F. Dussling)



Fig. 4-47 Colt Pocket Navy Thuer conversion, serial number 19853. (Author's Collection)

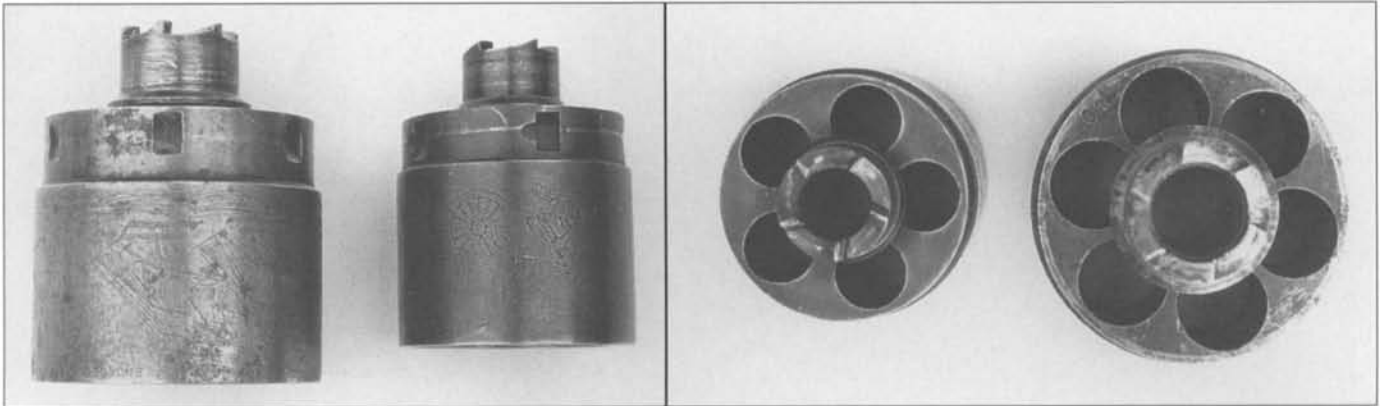


Fig. 4-48 Comparison of large frame and small frame Thuer conversion cylinders.

comparing the small frame Thuer conversion cylinders with the large frame version, it is seen that they are identical in every respect except for size and number of chambers. Figure 4-48 shows side views of both at the left and end views at the right. A top view of the cylinder, Thuer ring and recoil shield of the Pocket Navy conversion is shown with the Thuer ring in two positions in Fig. 4-49. In the top illustration, the ring is shown in the "discharge" position, with the firing pin in line with a cylinder chamber and the bore of the barrel. The lower illustration has the ring rotated so the cascade ejector levers are lined up with the hammer and the second

chamber to the right of that in line with the barrel, for ejecting the cartridge in that chamber. This is indicated by a script 'E'.

Figure 4-50 is a close-up of the cylinder, Thuer ring and frame with the ring in the "eject" position. In the small frame Thuer conversions having this type spring-detent (See Fig. 4-20), the thumb-lever must be held down against the left side of the frame by hand. Once released, the ring will automatically return to the "discharge" position.

A cased Colt 1862 Pocket Navy revolver with both percussion and Thuer-type conversion cylinders includ-

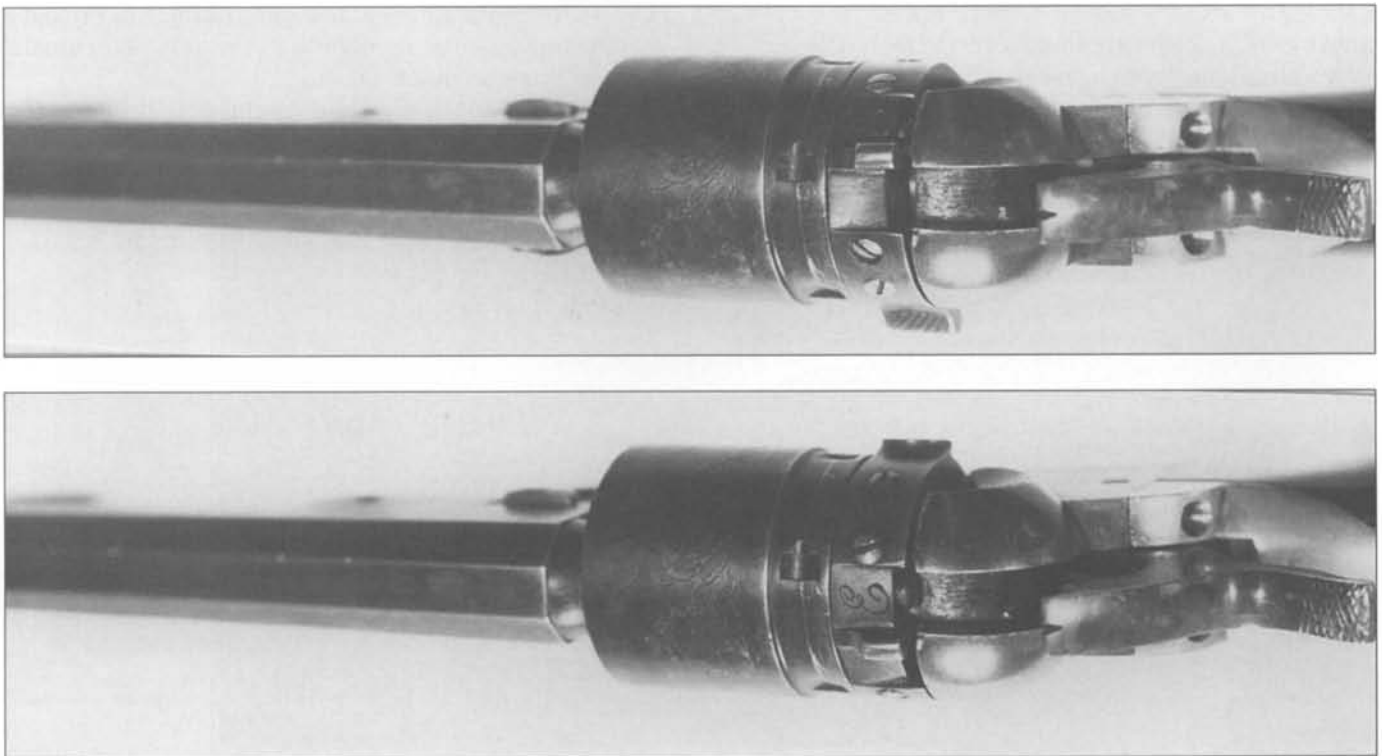


Fig. 4-49 The two positions of the small frame Thuer conversion ring.



Fig. 4-50 Cylinder and conversion ring of Colt Pocket Navy showing ring in eject position.

ed is pictured in Fig. 4-51. The revolver is serial numbered 13051, has a 5-1/2-inch barrel and five-shot, .36 caliber rebated cylinders. Unfortunately, the conversion cylinder has been renumbered to match the revolver and the Thuer ring is a well made reproduction.

The English oak case has its original green baize lining, is an original Thuer conversion case and has the

Thuer loading instructions inside the lid. Within the case are the revolver, a Dixon pistol bag flask, combination screwdriver/nipple wrench, a percussion cap tin and a percussion cylinder numbered to the gun. Unfortunately, the cartridge box is missing.

The Colt 1861 Navy Thuer revolver pictured in Fig. 4-52 has all standard Colt markings and matching serial



Fig. 4-51 A London cased Colt Pocket Navy Thuer conversion, serial number 13051. (Courtesy Butterfield & Butterfield)



Fig. 4-52 Colt Model 1861 Navy Thuer conversion revolver, serial number 14181. (Courtesy John H. Thillmann)



Fig. 4-53 Extremely rare cased set containing a pair of Colt Model 1861 Navy Thuer conversion revolvers, serial number 27164 and 29746. Thuer cylinders are numbered 058 and 794. (Courtesy Francis E. "Bud" Firth)

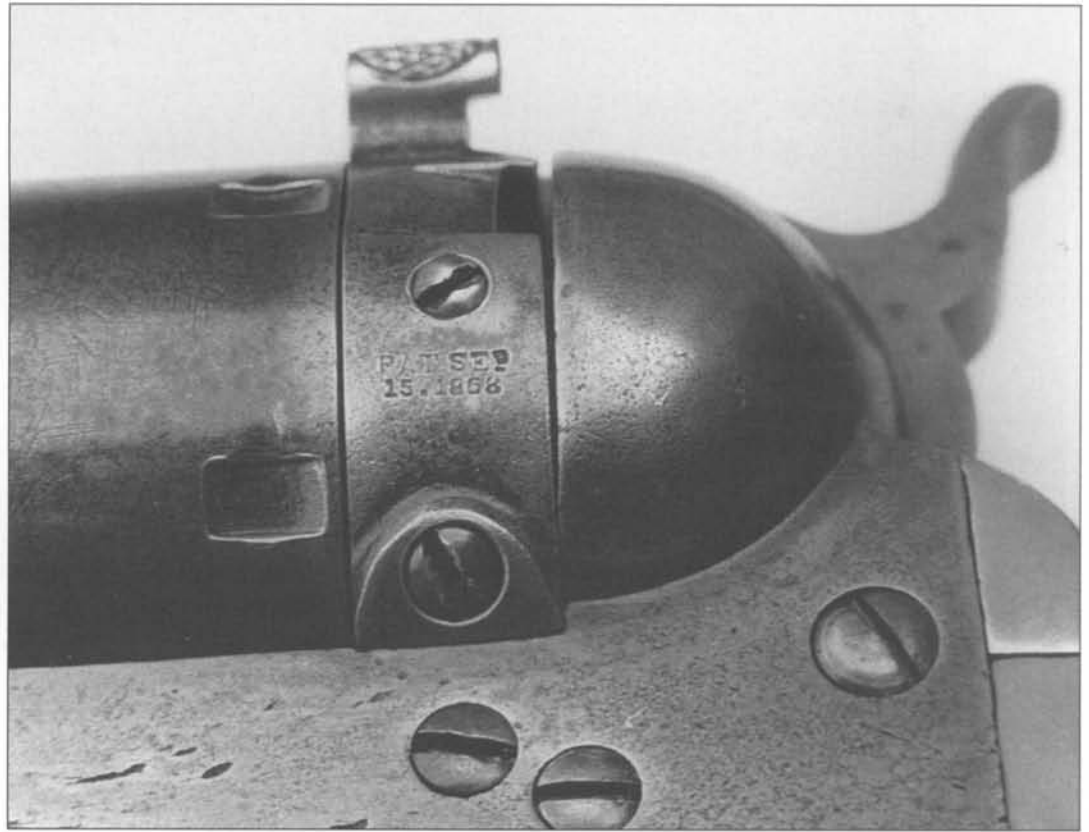


Fig. 4-54 Thuer conversion ring of Colt 1861 Navy Thuer conversion, serial number 14181, showing markings. (Courtesy Francis E. "Bud" Firth)



Fig. 4-55 Engraved and plated Colt 1861 Navy Thuer conversion with carved (Mexican Eagle) ivory grip, serial number 28139. (Courtesy Butterfield and Butterfield)

numbers, 14181 throughout, including the wedge. It is a Hartford conversion in that no British proof marks exist on the barrel or cylinder. This Thuer was originally blued which, for the most part, has turned to a plum brown. The unusual feature of this revolver is the single-piece ivory grip, which is numbered to the gun. Factory ivory grips, special finishes or after conversion engraving give indications of final factory marketing efforts to sell a line of revolvers which did not gain the popularity originally expected.

Incredibly desirable is a cased pair of Thuer conversions as pictured in Fig. 4-53. The 1861 Navy revolvers have the usual Colt factory markings, full and crisp cyl-

inder scenes and have matching serial numbers, 27164 and 29746 respectfully. The Thuer cylinders are numbered to the guns, while the percussion cylinders appear to be numbered 058 and 794. The guns and their interchangeable cylinders retain most of their factory blue and case hardening colors, while the grips are single-piece ivory. As well as the extra cylinders, the baize-lined case contains a cleaning rod, combination screwdriver/nipple wrench, set of Thuer cartridge loading fixtures, a box of .36 caliber Thuer reloadable cartridges and a tin of caps (primers).

A close-up of the markings of the Thuer conversion ring of a Colt 1861 Navy Thuer conversion, serial number

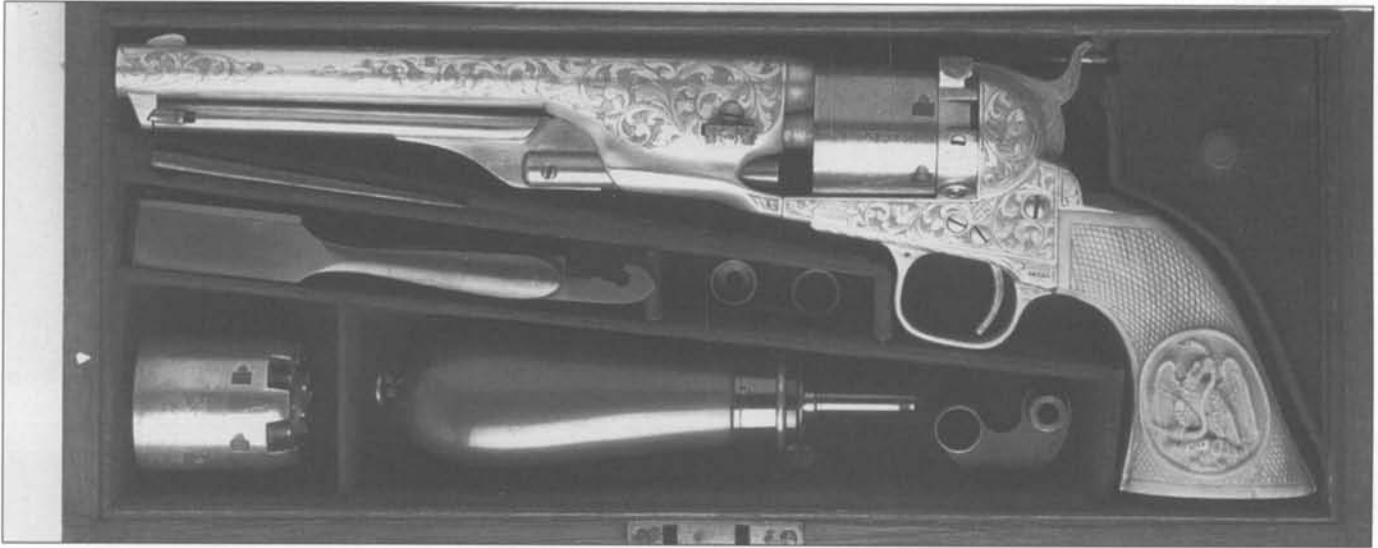


Fig. 4-56 London-cased Colt Model 1861 engraved and plated Thuer conversion with carved ivory grip, serial number 18809. (Courtesy Butterfield and Butterfield)

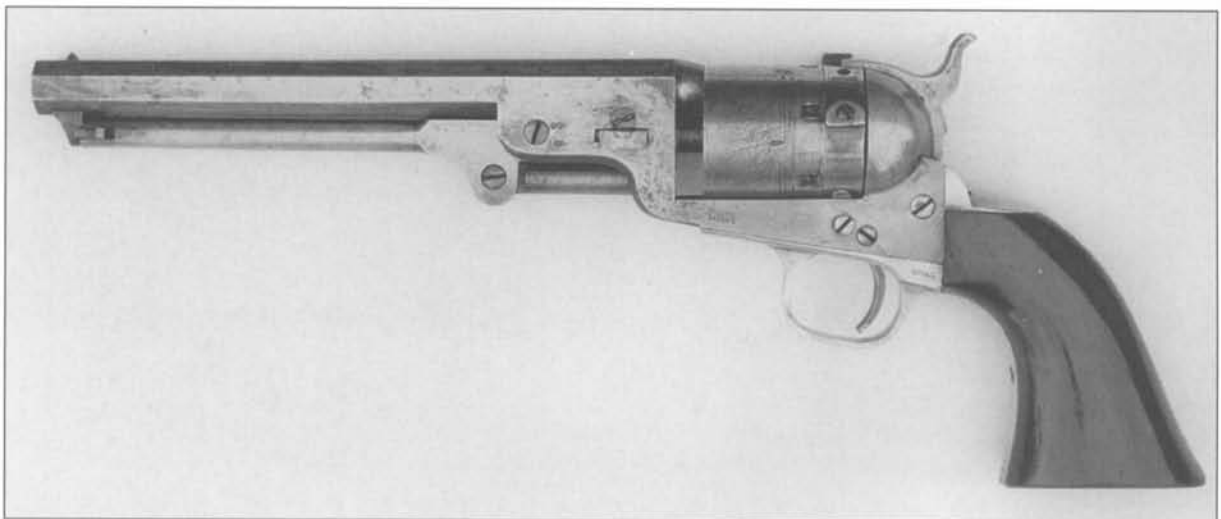


Fig. 4-57 Colt Model 1851 Navy Thuer conversion with British proofs, but brass strapped and with Hartford barrel address. Serial number 207069. (Courtesy John F. Dussling)

14181 is seen in Fig. 4-54. The PAT SEP/15.1868 stamping appears to be the same size on both large frame and small frame conversions, possibly stamped with the same die.

A rare deluxe engraved Colt 1861 Navy Thuer conversion is pictured in Fig. 4-55. This fine specimen is serial numbered 28139, has a "New York" barrel address and standard Colt factory markings. The COLTS/PATENT on the left of the frame is within a circular pattern of the engraving design. The barrel, frame, recoil shield and gripstraps are all elaborately engraved in a scroll pattern, with coverage extending to the muzzle of the barrel. The barrel, frame and gripstraps are silver plated, while the cylinder, hammer and loading lever are finished with gold wash. About 60 percent of the silver and 40 percent of the gold have flaked away, leaving a brown age patina mixed with the remaining plating. The grips are of ivory with a raised carved Mexican eagle and snake design.

A typical English cased, factory-engraved Colt 1861 Thuer converted Navy revolver is pictured in Fig. 4-56. The barrel and frame are silver plated, while the cylinder, lever and hammer are finished in gold. The grips are original checkered ivory with relief carved encircled Mexican eagle on the left panel only. The revolver is serial numbered 18809, has full cylinder scenes, "New York" barrel address and all standard Colt factory

markings. The English oak case is lined in red velour and contains the Thuer converted revolver, a percussion cylinder, cleaning rod, Dixon bag pistol flask, nipple wrench, "Colt's Patent" bullet mold and Thuer cartridge loading fixtures. The case lid contains the instructions label. Unfortunately, the engraving and serial numbers have been refreshed and the gun has been replated.

The Colt 1851 Thuer Navy conversion of Figs. 4-57 and 4-58 is serial numbered 207069, has a "Hartford" barrel address and British proof marks. All standard Colt markings and the cylinder scene are crisp and the numbers are matching throughout. The gripstraps are made of brass.

The case of Fig. 4-58 is of English oak and is baize lined. It contains the revolver, a combination screwdriver/nipple wrench, an oiler, a box of .36 caliber Thuer cartridges, a Colt's Patent bullet mold, a tin of 250 caps (primers) and a set of Thuer cartridge loading fixtures. A tin of 500 caps (primers) is found in the compartment usually used for an interchangeable percussion cylinder. Directions for loading, etc. are found in the lid.

The English cased Colt 1851 Thuer Navy conversion revolver pictured in Fig. 4-59 retains nearly all of its original factory finish, is serial numbered 17299, and con-



Fig. 4-58 London casing with all accessories, containing the 1851 Navy Thuer conversion, serial number 207069. (Courtesy John F. Dussling)



Fig. 4-59 London-cased Colt Model 1851 Navy Thuer conversion, serial number 17299. (Courtesy Francis E. "Bud" Firth)



Fig. 4-60 London-cased Colt Model 1851 Navy Thuer conversion with British proofs, serial number 125504. (Courtesy Francis E. "Bud" Firth)

tains British proof marks. The baize-lined oak case contains the Thuer converted revolver, a combination screwdriver/nipple wrench, Colt's Patent bullet mold, an oiler, a set of Thuer cartridge loading fixtures, a box of Thuer .36 caliber cartridges and a tin of percussion caps. Colt directions are glued to the inside of the lid.

The Colt 1851 Thuer Navy conversion shown in Fig. 4-60 is extremely rare in that it is a four-screw model cut for shoulder stock. The gun is serial numbered 125504, retains most of its original factory finish and contains British proof marks. The English oak case is baize lined and contains the revolver, a set of Thuer cartridge loading fixtures, a Colt's Patent bullet mold, a .36 caliber Thuer cartridge box, several loose Thuer cartridges, an oiler, a tin of percussion caps by Eley Bros. and a tin of cartridge priming caps by U.M.C. This Navy revolver is a true London Navy, having iron gripstraps.

Figure 4-61 pictures a Colt 1851 Thuer Navy conversion with the American style of percussion revolver casing. The serial number 57575 is matching throughout the gun and with the percussion cylinder, however, the Thuer conversion cylinder is numbered 6144. The "Direc-

tions for Loading" inside the case lid are for percussion revolvers only. Adding these facts together, this gun was originally a cased percussion revolver that was converted to a Thuer front loader. This revolver was either returned to the factory and a new Thuer cylinder and conversion ring added, or a new Thuer cylinder and conversion ring were purchased from the factory and the conversion done by the owner or his own gunsmith.

The revolver retains most of its factory bright blue and case-hardening colors. The gripstraps are brass and the grip is a single piece of walnut. Besides the revolver, the case contains a Colt Navy flask, Colt's Patent bullet mold, Thuer cartridge loading fixtures, a cartridge box, several loose Thuer cartridges, a combination screwdriver/nipple wrench, a percussion cylinder and a tin of caps.

Another fine London-cased Colt 1851 Thuer Navy conversion is pictured in Fig. 4-62. The revolver is shown with the conversion cylinder and Thuer ring in place; it is serial numbered 197682 and retains most of its original finish. The case is English oak lined in green baize, and contains the converted revolver, an interchangeable percussion cylinder, a bullet mold, a pack of six paper



Fig. 4-61 American cased Colt Model 1851 Navy Thuer conversion, serial number 57575. (Courtesy Francis E. "Bud" Firth)



Fig. 4-62 London-cased Colt Model 1851 Navy Thuer conversion without British proofs, and with brass grip-strings. Serial number 197682. (Courtesy Francis E. "Bud" Firth)



Fig. 4-63 Colt Model 1860 Army Thuer conversion with iron grip-strings and British proofs. Serial number 15453/L. (Courtesy John F. Dussling)

percussion cartridges, a box of .36 caliber Thuer metallic cartridges, several loose Thuer cartridges and a tin of Union Metallic Cartridge Co. priming caps. The lid label identifies George Fuller, Gun and Rifle Manufacturer of 3 Waterloo Road, London, SE. It is of interest to note that this revolver has brass gripstraps and does not contain British proof marks.

The Colt Model 1860 Thuer Army revolver was by far the most popular, and consequently the most common

of all Thuer conversions. The revolver in Figs. 4-63 and 4-64 is serial numbered 15453/L and contains British proof marks. It has iron gripstraps, matching numbers, a crisp cylinder scene and retains much of its original bright blue and case-hardening colors. The walnut grip is in fine condition with most of its original varnish. The revolver's baize-lined English oak case contains a combination screwdriver/nipple wrench, a Colt's Patent bullet mold, an oiler, a tin of lubricators, a tin of cartridge caps, a single

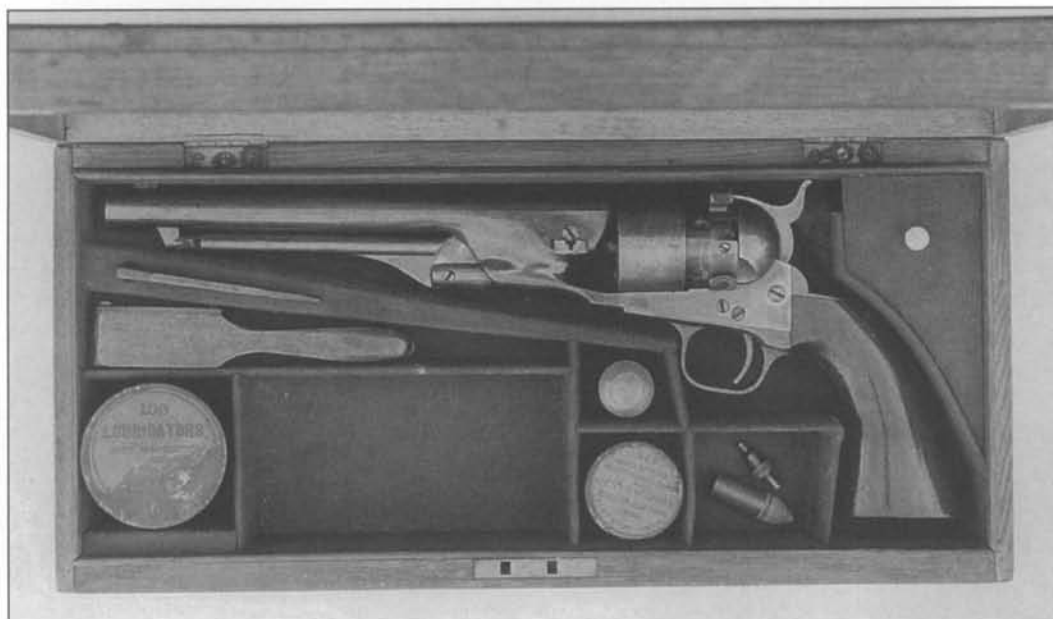


Fig. 4-64 London casing for the Colt 1860 Army Thuer conversion, serial number 15453L. (Courtesy John F. Dussling)

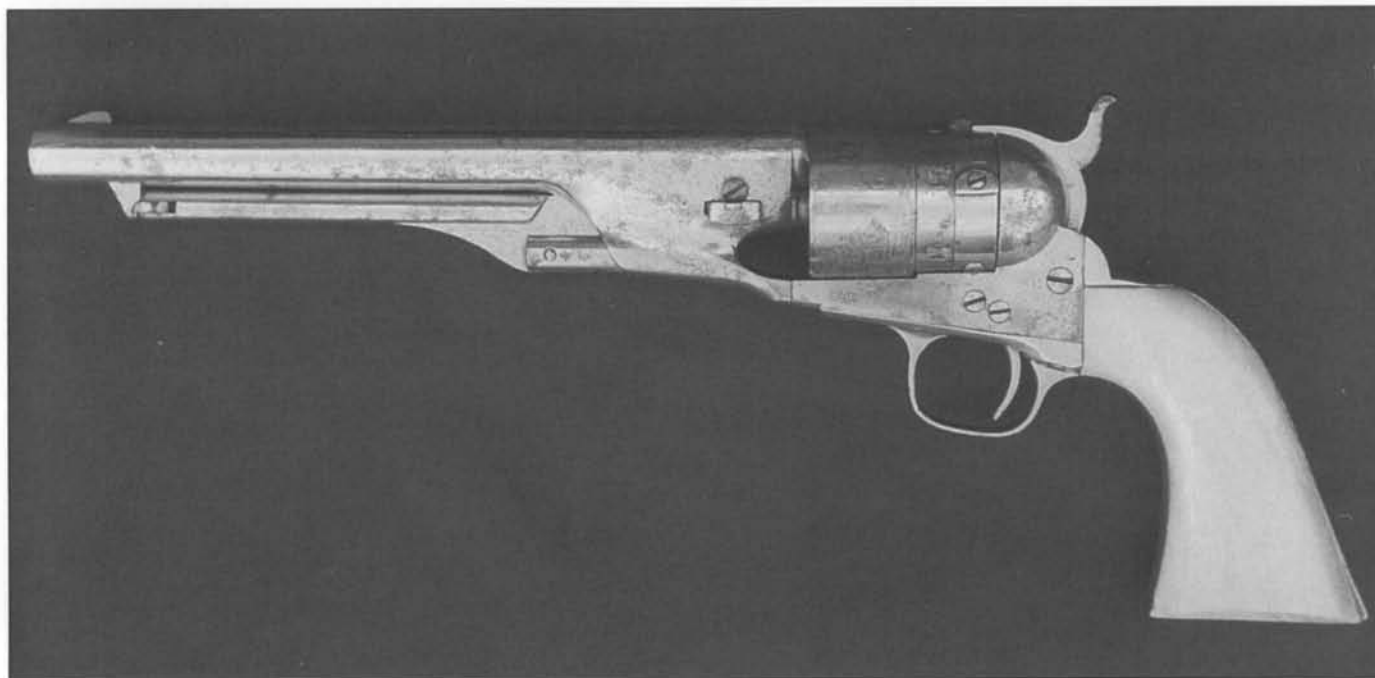


Fig. 4-65 Left side view of Hartford Colt Model 1860 Army Thuer conversion with ivory grips and full nickel plating. Serial number 185214. (Courtesy John H. Thillmann)

cartridge and the priming punch from the set of Thuer cartridge loading fixtures. The cartridge box is missing.

Though most Thuer Army conversions were made for the European markets, principally England, quite a few do exist without foreign proof marks. There are the American Thuer conversions that were generally made by the factory or by private gunsmiths using factory-produced conversion rings.

One such American Thuer Army conversion is pictured in Figs. 4-65 and 4-66. This Colt 1860 Army Thuer conversion is serial numbered 185214 with all numbers matching. It has crisp cylinder scene and markings and a good tight action. The gun is completely nickel plated and has a single piece ivory grip. Thuer conversion rings

are generally found to be finished in blue, but in this case it is also plated.

Another American Thuer Army conversion is shown in Figs. 4-67 and 4-68. This revolver is serial numbered 178577, all matching, and is finished in blue with color case hardened frame, lever and hammer. The grip is one-piece varnished walnut.

A close-up of the frame, cylinder, conversion ring, hammer, trigger and brass triggerguard is shown in Fig. 4-68. From this it can be seen that all the standard Colt percussion markings remain, with the only addition being the patent date stamped on the Thuer conversion ring.



Fig. 4-66 Right side view of Hartford Colt Model 1860 Army Thuer conversion, serial number 185214. (Courtesy John H. Thillmann)



Fig. 4-67 Hartford Colt Model 1860 Army Thuer conversion, blued and color case hardened with wood grip. Serial number 178577. (Author's collection)



Fig. 4-68 Close-up of 1860 Army Thuer conversion action showing markings. Serial number 178577.

Still other finishes are found on Thuer conversions. The near-mint Colt 1860 Thuer Army conversion pictured in Fig. 4-69 is serial numbered 177634 and is nickel plated with a gilded cylinder. The grips are single-piece varnished walnut. This type finish is generally found on only engraved and cased specimens.

There are differences between the London Thuer conversions and those converted at Hartford. The London conversion cylinders were usually not serial numbered, and the deeper loading channels cut into the right side of the barrel lugs are more noticeable on the London conversions. These distinct differences further substantiate the popular concept that London guns were not

shipped back to the Hartford factory for conversion; rather, the work was performed in-house or in one of the gun shops in the London area.

A good example of a Colt 1860 Army revolver that was apparently sold in England in its percussion form and later returned to the London sales office for conversion by the Thuer system, is pictured in Figs. 4-70 and 4-71. Note in Fig. 4-70 that the cylinder has no cylinder serial number stamping. It can be clearly seen in Fig. 4-71, and again in Fig. 4-72, that the loading channel of the barrel lug is sharper, particularly at its top, as is generally found on the London conversions.



Fig. 4-69 Colt Model 1860 Army Thuer conversion with nickel plating and gilded cylinder. Serial number 177634. (Courtesy Butterfield and Butterfield)



Fig. 4-70 British proofed Colt 1860 Army Thuer conversion originally shipped as percussion. Serial number 95123. (Courtesy Francis E. "Bud" Firth)



Fig. 4-71 Right side of Colt 1860 Army Thuer conversion, serial number 95123. (Courtesy Francis E. "Bud" Firth)

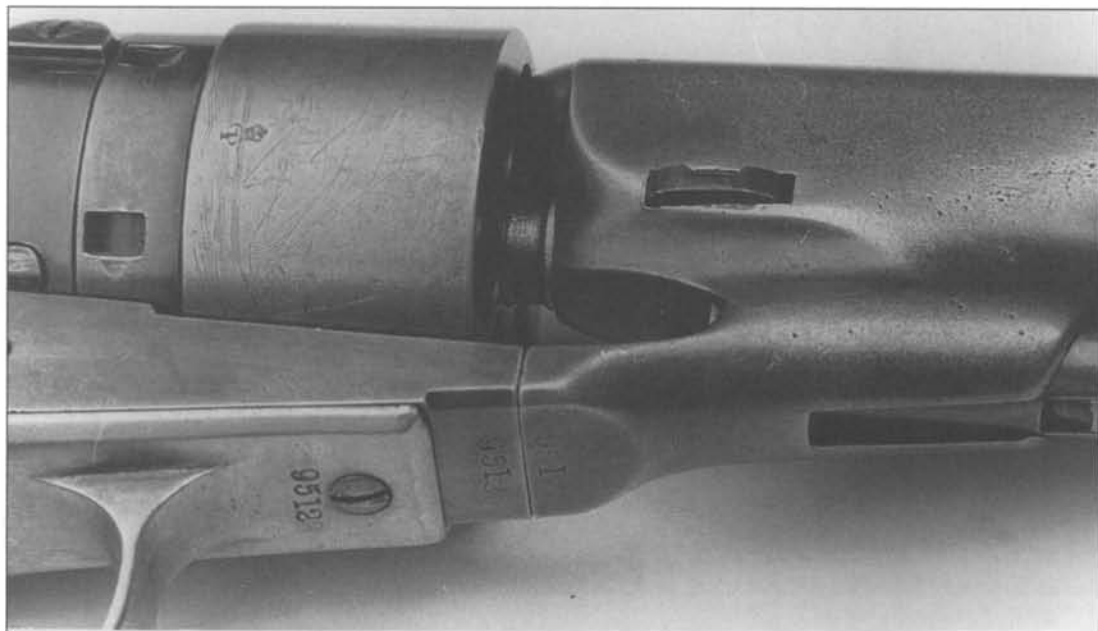


Fig. 4-72 British Proof cylinder stamp and sharp loading channel of Thuer Army conversion, serial number 95123. (Courtesy Francis E. "Bud" Firth)

Figure 4-72 is a close-up, showing the cylinder of the same Thuer Army revolver. Note the British proof mark on the cylinder and the serial number 95123 on the underside of the triggerguard. The numbers are all matching and, as already mentioned, the cylinder is unnumbered. This low serial number tells even more about this gun. Most Hartford Colt Model 1860 Army revolvers that left the factory with Thuer conversions are within the serial number range of 172000 to 195000, with a greater number in the 180000 range. Therefore, this revolver, serial number 95126, and that of Figs. 4-63 and 4-64, serial number 15453, left Hartford in percussion form, and were later converted to the Thuer system. Still another very unusual feature is noted on this revolver: the gun has a brass triggerguard, while most London Colts have all iron gripstraps.

Figure 4-73 illustrates the Thuer conversion ring and cylinder of the converted Army revolver, No. 95123, clearly showing the conversion or assembly number 78 stamped on both pieces. All Thuer conversions should have these small numbers, which are larger on the London conversions than on the Hartford. Each Thuer cylinder should be matched with a Thuer conversion ring having like assembly numbers.

The next subject of importance is that of British proof marks. If guns were supplied through the London sales office as factory-supplied Thuer conversions, the barrels and cylinders would have been proofed at the same time, sometime in the late 1860s or early 1870s. These proof marks would be smaller in size than those of the percussion days. However, guns that left the factory as percussion revolvers in the early 1860s would have the larger British proof marks on both the barrel and cylinder.

But, when the gun was returned to the London sales office for conversion (ca. 1869-1870), new Thuer cylinders and conversion rings were taken from inventory, lately received and proofed, and used to replace the percussion cylinder. These later cylinders would naturally have the later and smaller proof marks.

The factory Thuer cylinder and Thuer conversion ring of the Colt 1860 Army Thuer conversion, serial Number 95,123 is shown in Fig. 4-74. Note the absence of a cylinder serial number and the later British proof mark applied.

The barrel lug of the same Colt Army Thuer revolver is pictured in Fig. 4-75, showing the larger British proofs of the early 1860s stamped within the indentation between the plunger and barrel. This also, is strange. The usual placement of British barrel proofs is on the left side of the breech, forward of the wedge.

A final note on London Thuer conversions concerns the finish. Those Hartford-produced Thuer revolvers were made as Thuers, not converted. Therefore, whatever the condition of the finish of these guns, it is the original factory finish. On the other hand, those revolvers that left the factory as percussion guns and were later converted to the Thuer system either in London or in America, required machining on the cylinder, the hammer and the barrel lug. Therefore these parts, or the entire revolver, required polishing and refinishing. For this reason, some Thuer conversions have rather weak cylinder scenes and barrel markings, and still others have finishes that do not match from one part to another. This is particularly noticeable in reblued specimens. A few 1860 Army Thuers that left the factory as percussion guns, and were later converted to cartridge, have milling, filing, turning and polishing areas left in the

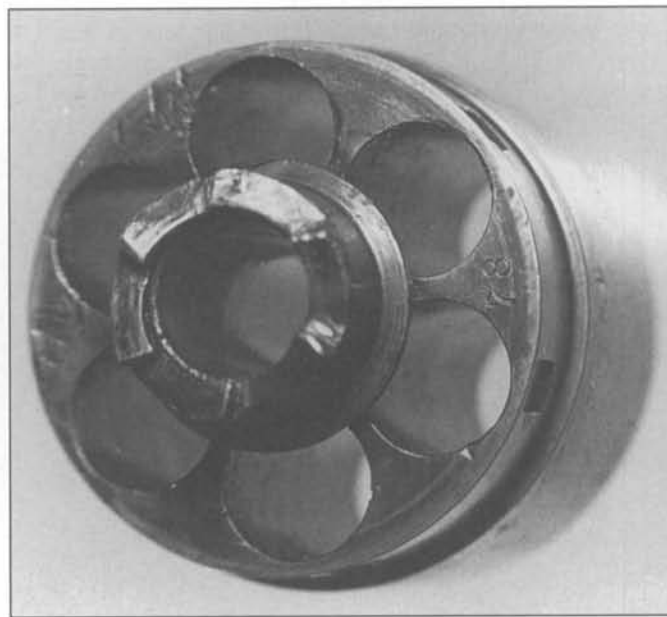
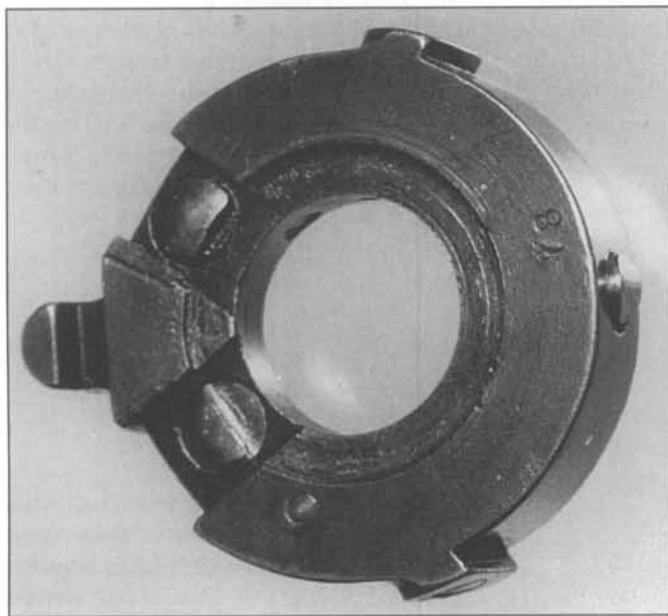


Fig. 4-73 Conversion ring and cylinder of Thuer Army conversion, serial number 95123, showing conversion number 78. (Courtesy Francis E. "Bud" Firth)



Fig. 4-74 Unnumbered Thuer conversion cylinder and patent date on conversion ring of 1860 Army Thuer conversion, serial number 95123. (Courtesy Francis E. "Bud" Firth)



Fig. 4-75 British proof marks of the early 1860s found on the barrel lug of 1860 Army Thuer conversion, serial number 95123. (Courtesy Francis E. "Bud" Firth)

Fig. 4-76A Near mint condition Colt 1860 Army Thuer conversion and accessories. Brass triggerguard, but British proofed. Serial number 178316. (Courtesy Francis E. "Bud" Firth)



Fig. 4-76B Left side view of Colt 1860 London Army Thuer conversion, serial number 178316, in near mint condition. (Courtesy Francis E. "Bud" Firth)



white (without refinishing). In these cases, metal darkening has only happened through the aging process.

The Colt 1860 Army Thuer shown in Figs. 4-76A and 4-76B is serial numbered 178316, all matching, has a brass triggerguard and British proof marks and retains nearly 100 percent of its original blue finish. Guns of this exceptionally fine condition are simply no longer available to the collecting fraternity. In comparing the two pictures (right side and left side of the same revolver), it is interesting to note the depth and shape of the cartridge channel that has been scooped out deeper at the right barrel lug. That percussion design version is seen in Fig. 4-76B.

The cylinder is numbered to the gun (316), which would indicate that the revolver was probably a Hartford-made Thuer that was later shipped to the London market and proofed there.

A cased Hartford Civilian Colt 1860 Army Thuer conversion with "Hartford" barrel address is shown in Fig. 4-77. The revolver is serial numbered 178577, with numbers matching throughout, including the cylinder. It is cased in an American-style walnut case with red baize lining. Accessories include a Colt "Stand of Flags" pistol

flask, .44 caliber Colt's Patent "44H" iron bullet mold and an incomplete set of Thuer cartridge loading fixtures.

Another extremely rare and desirable set, a cased pair of Colt 1860 Army Thuer revolvers with accessories, is pictured in Fig. 4-78. The guns are serial numbered 156360 and 156347, matching throughout, including the wedges. Both have the usual iron gripstraps and British proof marks found on English Thuer revolvers. The cylinder of serial number 156360 is unnumbered and the conversion number found on the rear of the cylinder and face of the Thuer ring is 89. Its hammer has a hardened disc set into its face and the varnished walnut grip is numbered to the gun. The cylinder of serial number 156347/L is numbered 6347 (unusual) and the conversion number is 37. The hammer face has no hardened disc (unusual) but the varnished walnut grip is numbered to the gun. Both revolvers are in exceptionally fine condition with much of the finish remaining. Both barrels have the "New York" address.

The case is English maple, lined with green baize and containing the following accessories: a Colt's Patent bullet mold, two combination screwdriver/nipple wrenches,

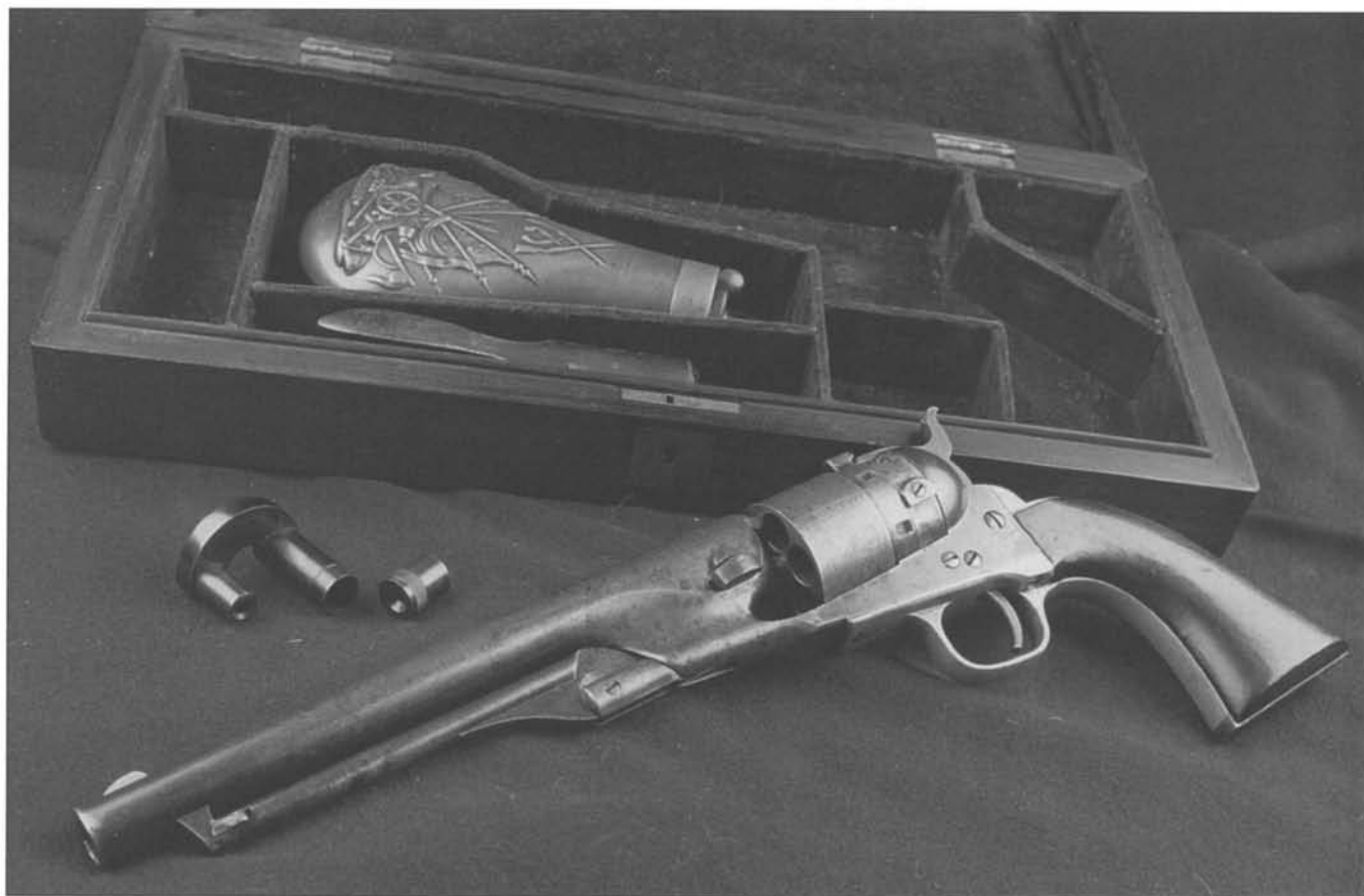


Fig. 4-77 American-cased Colt Model 1860 Army Thuer conversion with Hartford barrel address. Serial number 178577. (Courtesy Francis E. "Bud" Firth)



Fig. 4-78 Very rare cased pair of Colt 1860 Army Thuer conversions, serial numbers 156347/L and 156360. (Courtesy Francis E. "Bud" Firth)

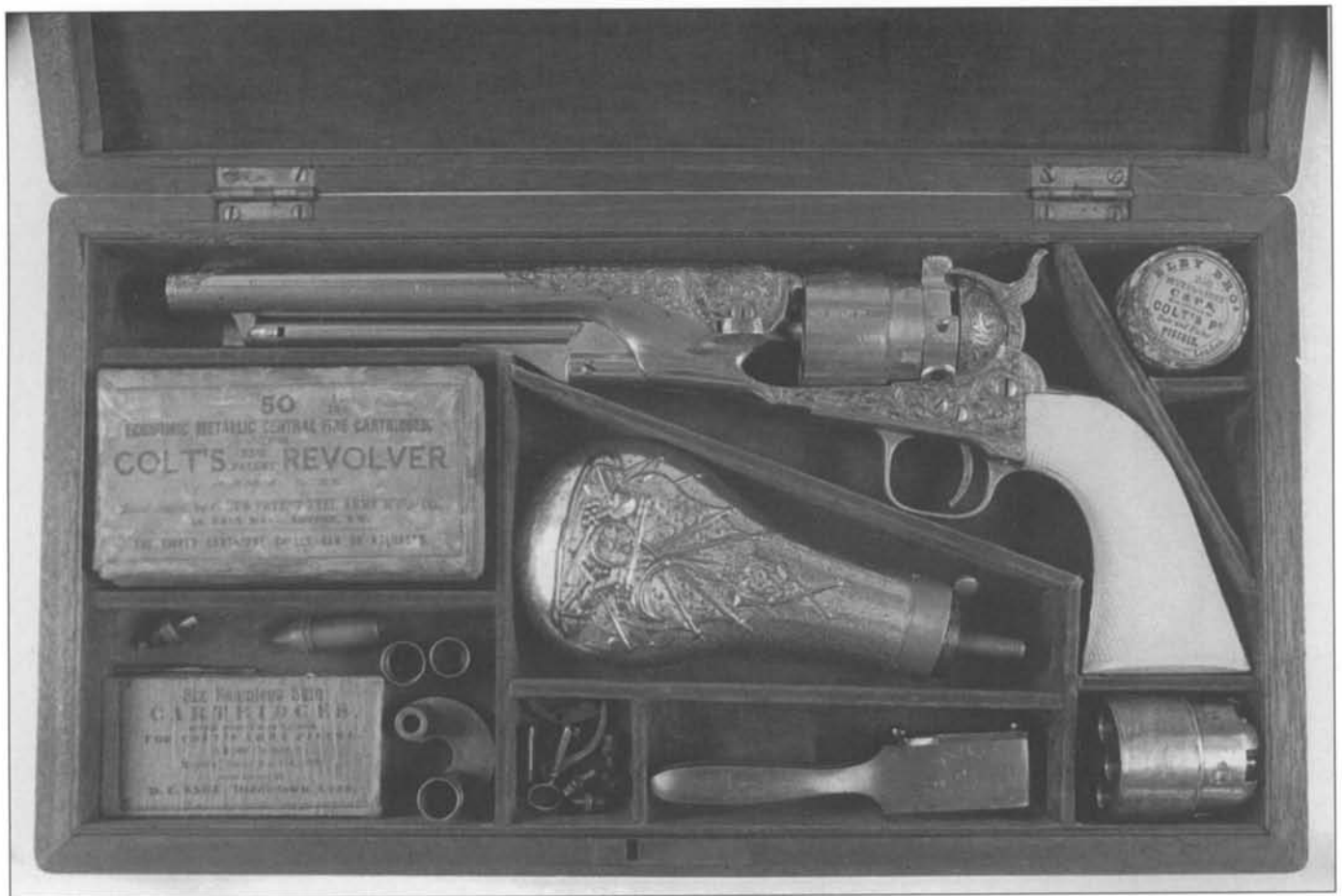


Fig. 4-79 Factory-engraved and cased Colt 1860 Army Thuer conversion revolver, serial number 185375/E. (Courtesy Francis E. "Bud" Firth)

a Colt "Stand of Flags" pistol flask, a set of Thuer cartridge loading fixtures, and two tins for caps and primers.

Factory-engraved cased Colt Thuer conversions with original accessories are the dream of most advanced conversion collectors. Sets, such as that pictured in Fig. 4-79, just don't exist in sufficient quantity to enhance even the finest collections, regardless of price. This Colt 1860 Army Thuer conversion revolver is serial numbered 185375/E, matching throughout, but with an unnumbered cylinder. The assembly number found on the face of the Thuer conversion ring is 38, but on the rear of the Thuer cylinder, the 3 is missing, leaving only an 8.

Figure 4-80 pictures the right side of this elaborately engraved Colt Thuer Army revolver showing the factory deepened loading channel, the crisp condition of the cylinder scene and the fine detail of the engraving on the hammer, frame, barrel and gripstraps.

The left side of this same revolver is pictured in Fig. 4-81, showing "Colt's Patent" line without serial number and still more details of the engraving. The revolver was probably engraved by L.D. Nimschke, using the heavy scroll on a punched dot background often found in the

work of Gustave Young. The revolver was fully nickel plated, possibly renickled with nearly 100 percent coverage, and has a factory-original single-piece checkered ivory grip.

Figure 4-82 pictures a cased Colt Model 1851 Thuer Navy revolver with British proof marks. The gun, which has an iron triggerguard, is a London model throughout. The casing, however, is the American style. It is obviously a percussion Navy revolver case as there is no provision for a Thuer cartridge box and the loading instructions found on the inside lid are for a percussion revolver.

Cased with the Navy Thuer are a Dixon pistol flask, an oiler, two tins of caps and primers, a Colt two-cavity bullet mold, a combination screwdriver/nipple wrench, a packet of percussion cartridges and several .36 caliber Thuer cartridges mixed with pre-cast Thuer bullets.

One of the finest inscription Gustave Young-engraved Colt deluxe-cased Model 1860 Army Thuer conversions is pictured in Figs. 4-83 and 4-84. The revolver is serial numbered 185326/IE, and was made for Don Lou-is Laureano Sanz, the Marquis de San Juan and Governor General of Puerto Rico. This is truly one of Gustave

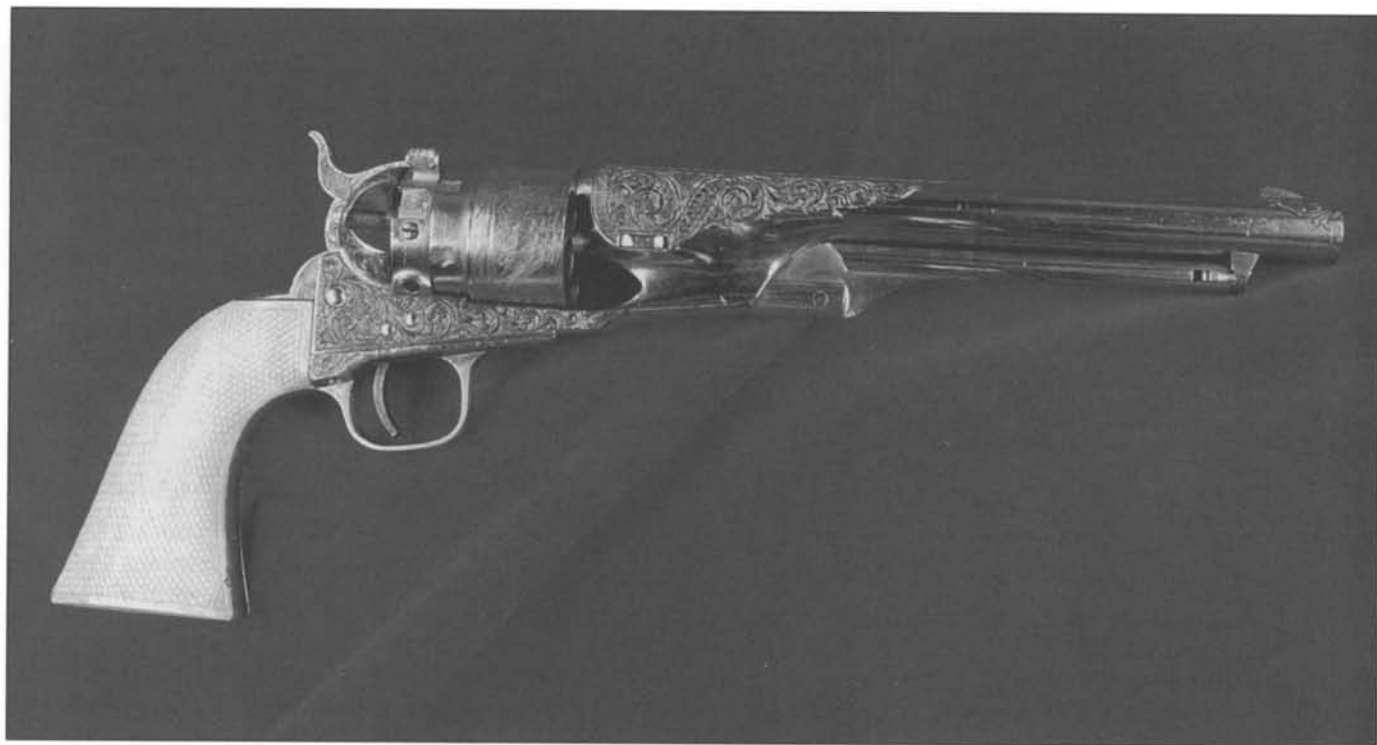


Fig. 4-80 Right side view of factory-engraved 1860 Army Thuer conversion with checkered ivory grip. Serial number 185375/E (Courtesy Francis E. "Bud" Firth)

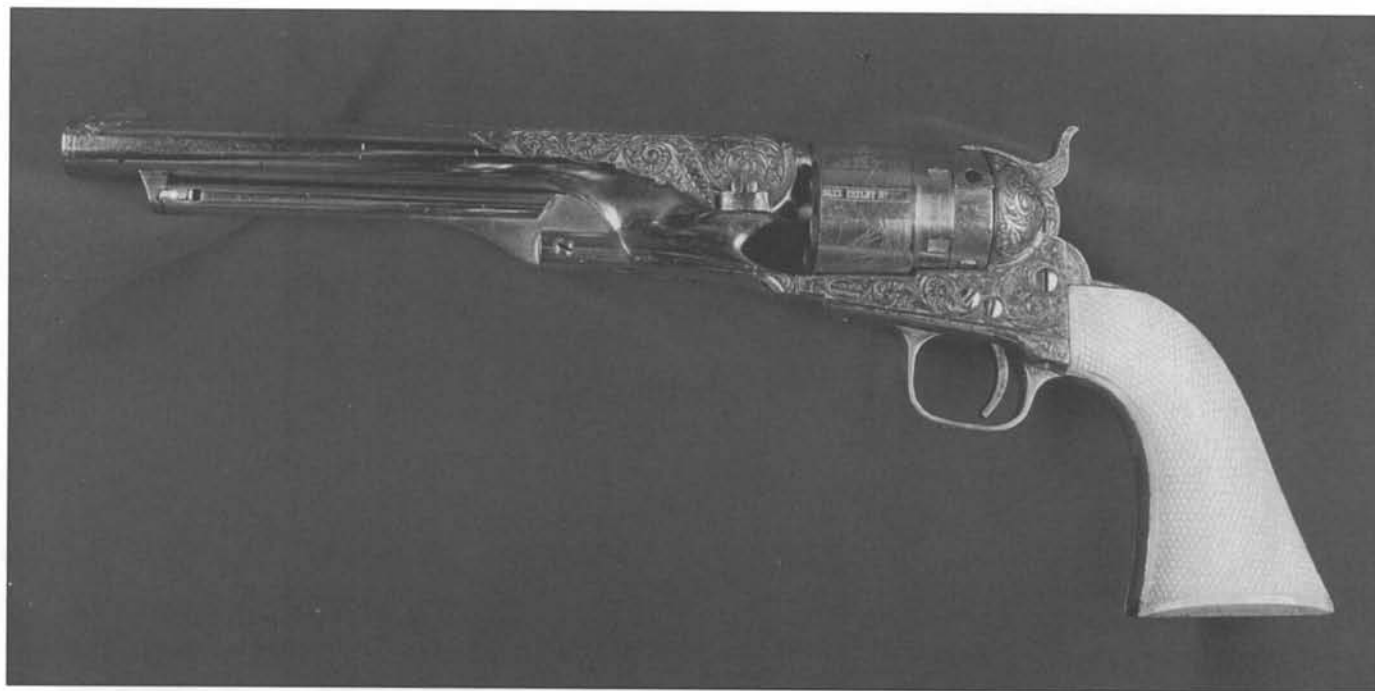


Fig. 4-81 Left side view of factory-engraved 1860 Army Thuer conversion with checkered ivory grip. Serial number 185375/E (Courtesy Francis E. "Bud" Firth)

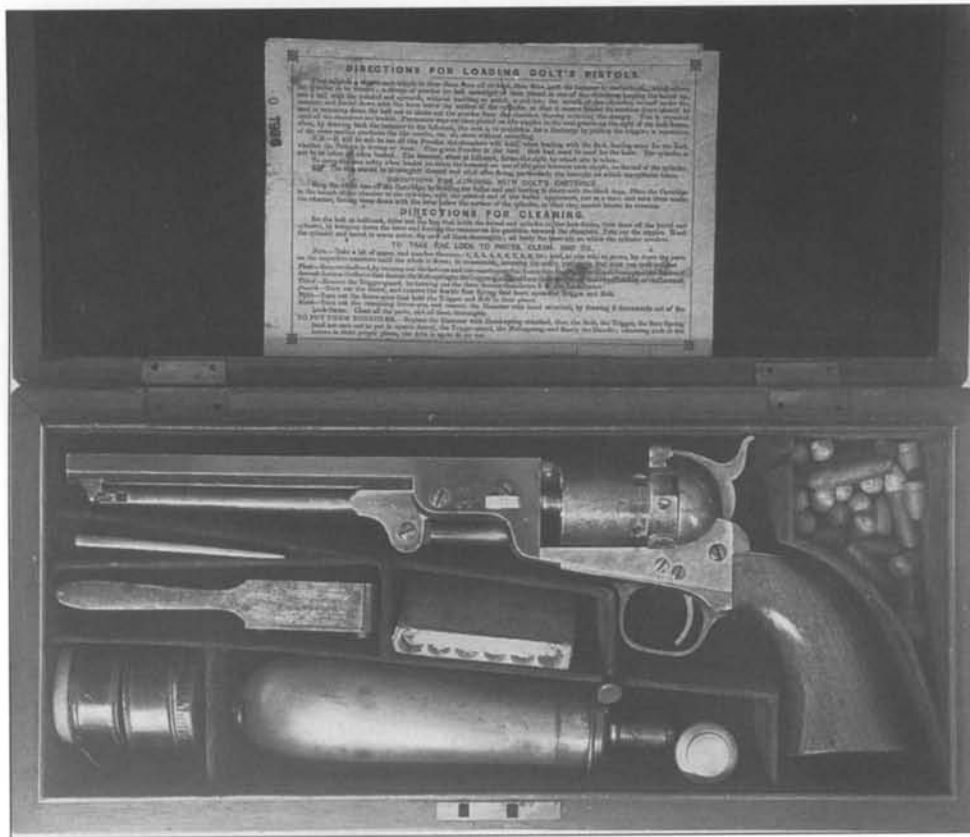


Fig. 4-82 Colt Model 1851 London Navy Thuer conversion, serial number 185115, cased in American percussion revolver case with all original percussion accessories. (Courtesy Francis E. "Bud" Firth)



Fig. 4-83 L.D. Nimschke-engraved cased Colt 1860 Army Thuer conversion, serial number 185326/IE. Made for Don Louis Laureano Sanz, Marquis de San Juan and Governor General of Puerto Rico. (Courtesy Butterfield and Butterfield)



Fig. 4-84 Right side of L.D. Nimschke-engraved Colt 1860 Army Thuer conversion, showing detail of both the engraving and carved factory ivory grip. (Courtesy Butterfield and Butterfield)

Young's masterpieces of the 1870 period. The serial numbers are matching throughout, including the interchangeable percussion cylinder, which bears the last three digits, 326. The Thuer cylinder is unnumbered.

The American-style rosewood case is fitted with fancy silver-plated brass trim and has an inlaid silver escutcheon inscribed JLS within a floral wreath. The interior is lined with faded red velvet and has separate compartments containing the Thuer revolver, the interchangeable percussion cylinder, a "Stand of Flags" Colt pistol flask with silver-plated top and slanting charger, a .44 caliber iron Colt's Patent bullet mold marked "44H", a combination screwdriver/nipple wrench, Thuer cartridge loading fixtures, a package of six seamless skin cartridges with percussion caps, a single .44 caliber Thuer metallic cartridge, a tin of percussion caps, a tin of cartridge priming caps and spare parts, including percussion nipples and screws.

The Thuer revolver is pictured separately in Fig. 4-84, showing the Thuer ring in the discharge position with the ejection flat's engraved 'E' visible. The remachined loading channel in the barrel lug can also be seen. The factory-original relief carved single-piece ivory grip has a plumed

helmet and crowned initials JLS on its left panel and a JLS monogram within a shield on the right.

The barrel, frame, hammer, conversion ring, rebated part of both cylinders, flat of the loading lever and grip-straps are profusely scroll engraved with a vine and leaf pattern over a granular background; the hammer terminates in a wolf head. The front portions of both cylinders have the regular W.L. Ormsby Navy battle scene "engaged 16 May 1843." The round portion of the loading lever is cross-hatch engraved for about two-thirds of its length, while the COLT'S/PATENT on the left front of the frame is hand engraved, rather than stamped.

Though one of Gustave Young's most impressive works, it is believed that the rebated portion of the interchangeable percussion cylinder was engraved by an assistant, rather than by the master himself. The revolver is finished in silver plating with gold wash.

The Colt Model 1851 Hartford Navy Thuer revolver shown in Fig. 4-85 has a full and crisp cylinder scene, is serial numbered 203290, matching throughout with matching cylinder and retains more than 95 percent of its original factory blue, case hardening and grip varnish. It has the standard "NEW-YORK" barrel address,



Fig. 4-85 Colt Model 1851 Hartford Navy Thuer conversion, serial number 203290, with 95 percent original finish. (Author's Collection)

the hardened disc in the hammer face and a deeply scooped out cartridge ejection channel in the right hand barrel lug. The rammer-plunger is drilled and threaded to accept the Thuer loading fixture and both the conversion breech ring and cylinder are stamped with the small assembly number 6.

The following sections summarize the characteristics traditionally found with the Colt Thuer revolvers.

Origin

All Hartford Thuers (those for the domestic market) were produced at the Colt factory in Hartford, Connecticut. These were not converted percussion revolvers; they were manufactured as Thuers from parts in Colt's percussion inventory with new conversion parts manufactured as needed. Neither the author nor any of the Colt Thuer experts contacted have evidence of percussion revolvers returned to the Hartford factory for conversion (alteration) by the Thuer system.

Direct correspondence between von Oppen (Colt's London Agent) and the Hartford factory leaves little doubt that all London Thuers were converted from percussion revolvers by London gunsmiths, using factory supplied conversion parts and loading fixtures. Also, as witnessed by the 1869 London Colt's price list reproduced in Fig. 4-86, London office customers could return their percussion Army or Navy revolvers and have them converted for only 1 pound, 17 shillings and 6 pence. This was about a third of the cost of a new Thuer Army or Navy revolver. The October 21, 1869, *London Times* suggested that intending new revolver purchasers were wise to buy the British Adams, while those already owning a Colt percussion revolver would be content with having it converted.

Quantities Produced

Other publications have estimated that as many as 5,000 Thuer revolvers were produced, as a variety of models. Based on the extremely low number of surviving specimens in museums and private collections, this author believes that figure to be grossly exaggerated.

The Rollin White U.S. Patent presented no obstacle to European gunmakers. During the European metallic cartridge conversion period (1861-1867), several British revolver manufacturers produced conversions with both percussion and cartridge cylinders that were interchangeable. The most popular British metallic cartridge revolver competing with the Thuer was the Model 1867 Adams. In its final form, it chambered the .450 centerfire Boxer cartridge (loaded from the rear), had a solid frame with a six-shot double action and the rear of the cylinder was closed off by a hinged loading gate. This, as compared to the front-loading open frame single action Thuer, was what both the British military and civilian market wanted. Consequently, European Thuer sales were somewhat disappointing.

In the domestic market, the Thuer design was soon replaced by the C.B. Richards design, resulting in a very short production span (September 1868 to July 1871). The Rollin White Patent had expired in April 1869, rendering the Thuer front-loading system virtually obsolete after only nine months of manufacture. With all the other activities in which the Colt Company was engaged, little time remained for manufacturing parts and assembling large quantities of Thuer revolvers.

Unfortunately, there are inadequate records from either the London office or the Hartford factory to relate exacting figures, and the number of Thuer revolvers originally produced will have to be left to conjecture.

Cylinders

Typically, cylinders for Hartford-produced Thuer revolvers were newly made, not converted or reworked percussion cylinders. Those for London Thuer revolvers were also newly made, and supplied by the Hartford factory. Some Thuer conversions have their original percussion cylinder, with the original serial number, as well as a newly made cartridge cylinder with no serial number so the revolver can be used as either a cartridge or percussion revolver at will.

In some cases, the original percussion cylinder was converted to the Thuer system by remachining the percussion nipple area and reboring the chambers to accept the tapered Thuer cartridge. This practice, though uncommon, is sometimes found on Thuer revolvers that were converted by private gunsmiths and such cylinders will always have the percussion serial number, while lacking a factory assembly number.

The conversion (remachining) of percussion cylinders is completely outlined in both the U.S. and British Thuer patent text, and again in a detailed description of the Thuer conversion published in *The Engineer* (London) on July 16, 1869. The question arises as to how a .44 caliber tapered chamber can be bored within an already-existing .44 caliber straight chamber. The answer is found in comparing the dimensions of the percussion chamber bores with those of Thuer tapered cartridge casings. Direct measurements taken of the bores of Colt percussion revolvers are as follows:

COLT REVOLVER PERCUSSION MODEL	SPECIFIED CALIBER	CYLINDER BORE DIAMETER
1849 Pocket	31/100 inch	0.317 inch
1862 Police	36/100 inch	0.373 inch
Pocket Navy	36/100 inch	0.373 inch
1851 Navy	36/100 inch	0.375 inch
1861 Navy	36/100 inch	0.374 inch
1860 Army	44/100 inch	0.451 inch

PRICE LIST
of
COLT'S NEW PATENT METALLIC CENTRAL FIRE CARTRIDGE REVOLVERS, &c.

The Prize Medals of 1855, 1862, and 1867, were awarded to Colt's Pat.Fire-Arms.Co.

	£	s	d
BELT or NAVY REVOLVER , 7½-in. barrel, 36*100 bore, Six Shot with Wrench & Rod, weight 2 lb. 9 oz., carrying 50 elongated, or 86 round bullets to the pound.	5	5	0
Ditto in Case complete, containing Mold, Wrench, Rod, Cartridges, Caps for re-priming the same, Loading Apparatus, &c.	6	10	0
HOLSTER or ARMY REVOLVER , 8-in. barrel, 44*100 bore, Six Shot, with Wrench & Rod, weight 2 lb. 10 oz., car- rying 33 elongated, or 48 round bullets to the pound.	6	0	0
Ditto in Case complete, containing Mold, Wrench, Rod, Cartridges, Caps for re-priming the same, Loading Apparatus, &c.	7	7	0
Converting Colt's Army or Navy Revolver, each	1	17	6
Interchangeable nipple cylinders for Belt or Holster Revolvers.	0	15	0
Cartridges for Holster Revolver, per 100	0	8	0
Ditto for Belt Revolvers, per 100	0	7	6
Metallic shells for either of the above sizes, per 100	0	6	0
Caps for re-priming shells, per box of 250	0	2	6
Apparatus for Re-loading Shells	0	7	6

COLT'S New Patent Metallic Central Fire Cartridge Revolvers, while doing away with nipples and the necessity of capping the same, have retained all the best qualities of the original Colt's Revolver. In length of range, accuracy of fire, force of penetration, simplicity of construction and durability, they surpass all other metallic cartridge revolvers.

By means of a simple loading apparatus used in connection with the Pistol, the Metallic Shells can be easily re-loaded and fired as often as may be required.

An interchangeable nipple cylinder can likewise be supplied with these pistols, which can then be loaded with loose powder and ball, a matter of so much importance in countries where made up ammunition is not easily procurable.

The Shells, through the explosion of the Cartridges, do not expand and stick in the chambers of the cylinder, a common fault in other metallic cartridge revolvers, but by simply snapping the pistol when the boss of the breech ring is turned to the left of the hammer, they, or the loaded cartridges, can be more easily and rapidly ejected than this process can be performed with any pistol as yet brought out.

The above are now ready for delivery. Others for the country and abroad will be promptly and carefully executed.

All Communications must be addressed to "Colt's Patent Fire-Arms Manfg. Co.", 14 Pall Mall, London, S.W.

Re-Typed from original 1869 London Colt's price list

Fig. 4-86 Colt's London price list of 1869 (retyped from original which was too poor in quality to reprint).

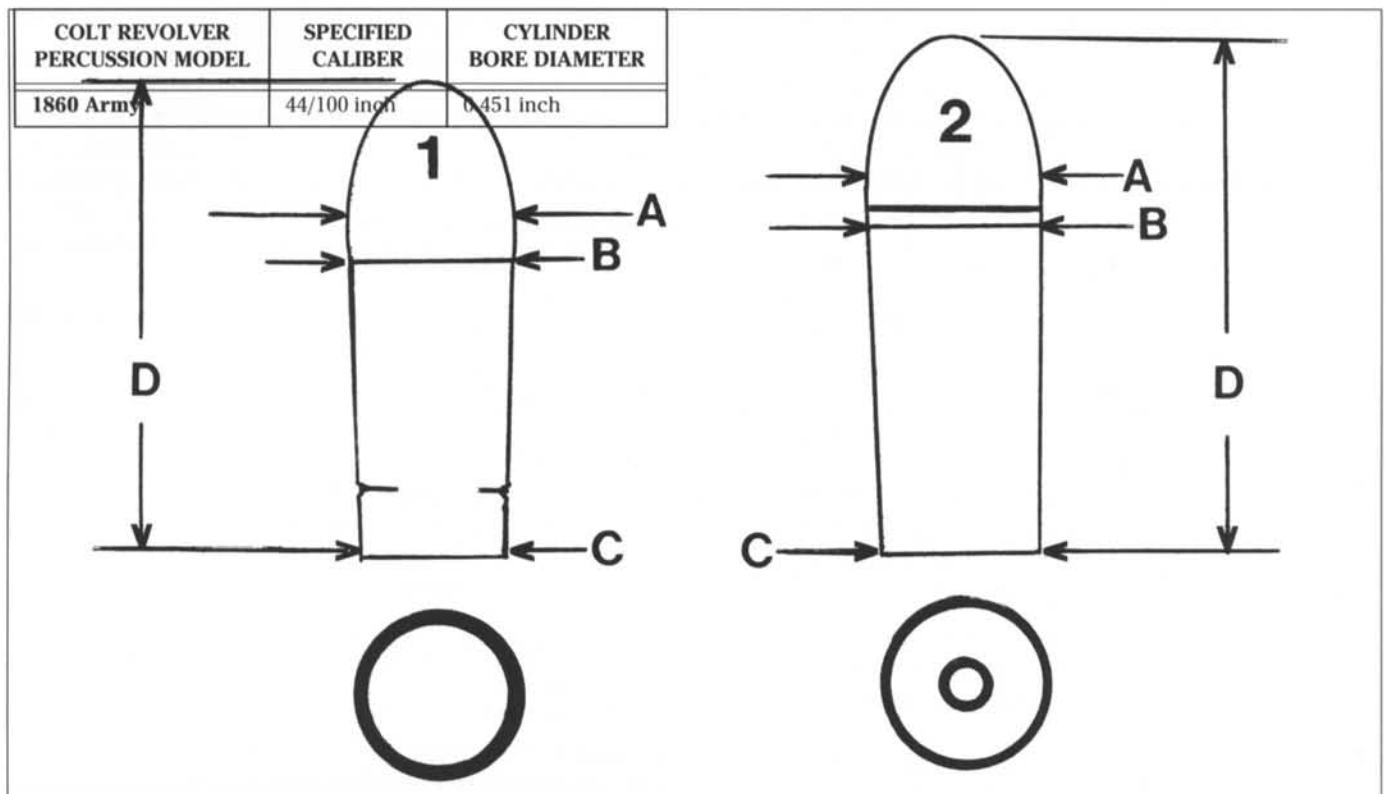


Fig. 4-87 Line drawings of Thuer cartridges. Left: Experimental .44 caliber Frankford; Right: Final Thuer cartridge design.

NOTE: The above dimensions represent the average of those taken from several cylinders of the same caliber, and may be found to vary slightly from revolver to revolver.

Thuer Cartridges

The drawings in Fig. 4-87 illustrate the first experimental Thuer cartridge (Benet primed) at (1) and the fi-

nal production design with copper cup primer at (2). Both were tapered centerfire cartridges, but only the latter brass-cased copper cup primed design was reloadable with the Colt supplied loading accessories of Figs. 4-23 through 4-27. The following chart lists the average dimensions taken from direct cartridge measurements.

CARTRIDGE	BULLET DIA. (a)	MOUTH DIA. (B)	BASE DIA. (C)	O.A. LENGTH (d)	(PRIMER) MATERIAL
.44 Caliber 1 st Exp. Thuer	.461"	.452"	.427"	1.344"	(Benet Primed) Copper (1)
.44 Caliber Thuer	.461"	.461"	.431"	1.408"	(Copper Cup) Brass (2)
.36 Caliber Navy Thuer	.381"	.383"	.359"	1.374"	(Copper Cup) Brass (2)
.36 Caliber Pocket Navy Thuer	.378"	.376"	.218"	1.220"	(Copper Cup) Brass (2)
.31 Caliber Pocket Thuer	.330" to .335"	.331"	.312"	1.171"	(Copper Cup) Brass (2)

By comparing the dimensions of the various caliber chambers with those of the same caliber cartridges, one can understand how percussion cylinders can be converted for use with the Thuer front-loading revolvers. Further, if Thuer cartridges are inserted into the bores of percussion cylinders of the same caliber, they only will go in to about one-third of their length.

The Colt Pocket Navy in Fig. 4-47 is an excellent example of a Thuer conversion to metallic cartridge from a percussion revolver with a converted percussion cylinder. The revolver is serial numbered 19853, and has a matching cylinder containing the full serial number. The conversion breech-ring is numbered 577 on its rear face, while the faces of the cylinder remain completely unnumbered.

Conversion Breech-Rings

All Thuer conversions utilize a Hartford factory-produced conversion breech-ring. The large frame Thuer ring is illustrated in Figs. 4-10, 4-12 through 4-17, 4-73 and 4-74, while the small frame conversion ring is shown in Figs. 4-19 through 4-21. All conversion rings, regardless of size, contain assembly numbers on the inside rear flat and PAT.SEP./15,1868 on their outside left circumference.

Threaded Plunger

Traditionally, the percussion rammer-plungers were drilled and threaded to receive the Thuer priming punch (see Figs. 4-2 and 4-23 through 4-27). The threaded screw of the punch was 0.166 inch in diameter and contained 26 threads per inch, with only 4 threads protruding. All Thuer priming punches had identical thread sizes, consequently all plungers were drilled and tapped the same, regardless of the caliber or size of the revolver. The number of authentic Thuer conversions without threaded plungers is so small that it is safe to say that the plunger thread size is a good means by which to separate the bogus Thuers from the genuine ones.

Casing

British	Usually oak. Rarely with London Dealer's label in lid. Very rare with proper Thuer loading label in lid.
American	Usually walnut or rosewood. Very rare.
Double Casing	(Containing 2 guns). Extremely rare.

NOTE: Some Thuer revolvers will be found cased within standard percussion revolver cases, still containing the percussion loading instructions in the lid. These cases may or may not have had their interiors altered to contain Thuer cartridge boxes.

Loading Channels (Barrel Lug Cut-Outs)

London Army	Medium channel depth increase
Hartford Army	Shallow channel depth increase, if any.
1851 Navy	Deep, vary in depth, work done by hand.
1861 Navy	Relatively deep channel increase.
Small Frame	Generally deep channel cut-outs.

Parts Modifications/Replacements

Loading Lever Plunger	Drilled and threaded 0.166 inch x 26 TPI to accept priming punch. All models same.
Hammer	Hardened disc recessed into the face of the hammer to prevent flaring.
Cylinders	Usually replaced on Hartford Thuers and often replaced on London Thuers. Original percussion cylinders were sometimes remachined and retained on London Thuers and gunsmith (non-factory) conversions.
Assembly Numbers	Found on the rear faces of conversion breech-plates and new matching cylinders. British assembly numbers were larger than Hartford.
Proof Marks	All British Thuer revolvers have London proofmarks on the barrels and cylinders. Often, the barrel proofs will be larger than the cylinder proofs, indicating the barrel was proofed in its percussion state, and the cylinder after conversion. Early arrivals appear to have had smaller proof marks than later. British proof laws changed in 1868, so the die sizes may have changed. Also, replaced broken dies could have been different sizes than the originals.

Finishes

Factory Standard	Blue steel with case-hardened frames, levers, plungers and hammers.
Factory Special	Full nickel plating.
Non-Factory	Special mixed plating (gold & silver, etc.) especially on non-factory engraved examples.
Converted from Percussion:	London Thuers and gunsmith conversions will often be found refinished.

NOTE: In some instances, legitimate Thuers converted from percussion were reblued or plated to cover the machining marks resulting from deepening the loading channel, cutting down the cylinder, etc. Refinishing generally results in a slight loss of sharpness in the cylinder scene and markings. **BUYER BEWARE** of many of the refinished Thuers. Refinishing, particularly plating, can often cover up details one looks for in identifying bogus specimens.

Rarity

Apparently, the Colt factory at Hartford had either completed a number of 1860 Army Thuer conversions, or a sizable quantity of Thuer parts by the time it was decided to discontinue this model and start work on the new 1860 Army Richards conversions. As was always the Colt practice, nothing was to go to waste, but with the availability of the rear-loading Richards, there was no market for these Thuer revolvers.

Thuer barrels, frames, gripstraps and stocks were all returned to inventory, for use on the Richards conversions. Some loading levers were sold as percussion spare parts, while others were offered to gun dealers as surplus. Thuer cylinders and conversion breech-rings were also sold to gun dealers as surplus and became available to the general public through the Godfrey Company of New York City.

Because of this, any existing production records or serial number records are meaningless in attempting to establish how many Thuer conversions are in existence. Whatever that number (if recorded at all), it is grossly exaggerated because of the fate of those guns, or parts, finally produced.

There is no way to identify original Thuer frames, gripstraps or stocks which ended up on 1860 Army Richards conversions. Thuer barrels generally can be detected by the depth of the loading channel on the right side of the barrel lug, however deeper it might be with respect to its percussion counterpart. This depth can be accurately measured by removing the Richards car-

tridge ejector assembly and using a standard depth micrometer.

Naturally, if an 1860 Army Richards conversion is found to have a Thuer barrel, it will most likely have a Thuer frame, gripstraps and stock as well. As already mentioned, the Thuer 1860 Army conversions will generally be found within the serial number range of 172000 to 190000, with most in the 180000 range. Those guns or parts never shipped will naturally have still higher serial numbers. Therefore, most reused Thuer parts containing serial numbers will be found on the Richards 12-Cylinder stop models in the 200000 serial number range, such as serial numbers 200691 and 200777 (see Chapter 5, Figs. 5-60, 5-63 and 5-65), and the First Model Percussion Range Richards in the 190000 to 200000 serial number range, such as serial number 190934 (see Chapter 5).

A final word of caution is appropriate here. Some of those cylinders and conversion breech-rings sold through the Godfrey Company have found their way onto 1860 Army Colt percussion revolvers. A serious attempt has been made here to identify specific characteristics and dimensions so a collector might know what to look for in separating the originals from those of spurious origin.

A strong possibility also exists that original Thuer parts were used by the Colt factory in constructing and converting other Richards and Richards-Mason type metallic cartridge revolvers. Of the several hundred of each type conversion examined by the author, no Model 1851 Navy Richards-Mason conversions were found to have reused Thuer barrels. Thuer barrels are quite difficult to recognize on both the Model 1861 Navy Richards-Mason conversions and the Model 1862 Police Richards-Mason conversions, as most of the lower portion of their barrel lugs have been cut away during the conversion process. However, direct measurements of the remaining portions of original loading channels have detected Thuer barrels on several of both models (see Chapters 6 and 7, respectively).

Most of the octagonal barrel Pocket Navy Richards-Mason conversions examined had the deep loading channel barrel lug cut-out of the Thuer conversion, the only difference being that some had a slight radius at the top rear of the channel, while others did not (see Chapter 7). All in all, the remaining factory inventory of usable Thuer parts was rapidly depleted during the early production of each Richards or Richards-Mason model and production continued using percussion stock and newly fabricated parts where needed.

Holsters for the Thuer conversions were seldom fabricated because the original leather holsters for their percussion counterparts could be used without alterations. The highly tooled holster of Fig. 4-88 takes a Colt Model 1860 Army percussion or Thuer conversion revolver. It is a California half-flap contoured-profile holster with an arched throat and a sewn-on closure strap.



Fig. 4-88 Holster for Colt Model 1860 Army revolver. (Courtesy John H. Thillmann)



Fig. 4-89 1860 Army Holster with Colt Model 1860 Thuer conversion, serial number 178577. (Holster, John H. Thillmann; Thuer, Author's Collection)

It is a right handed civilian holster, made of dark brown bridal weight leather with integral hand tooled half flap. The stitching of the main seam continues around, closing off the toe. Completely lined in soft leather, this handsome specimen dates back to the 1860-1870 period, but is unmarked.

Shown again in Fig. 4-89, this early hand-decorated holster contains a Colt Model 1860 Army Hartford Thuer conversion revolver, serial number 178577 with matching numbers throughout, including the cylinder.

Pictured in Fig. 4-90 is a California-style open top left handed highly tooled holster with a triple throat re-

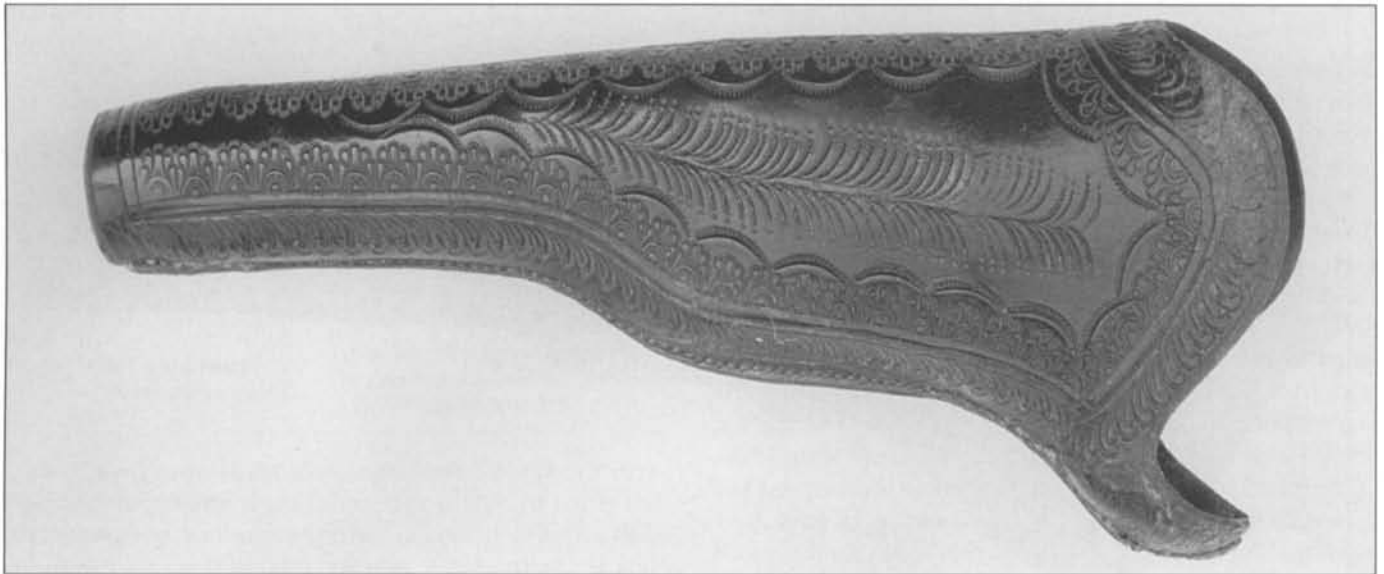


Fig. 4-90 Holster for Colt Model 1851/1861 Navy revolver. (Courtesy John H. Thillmann)

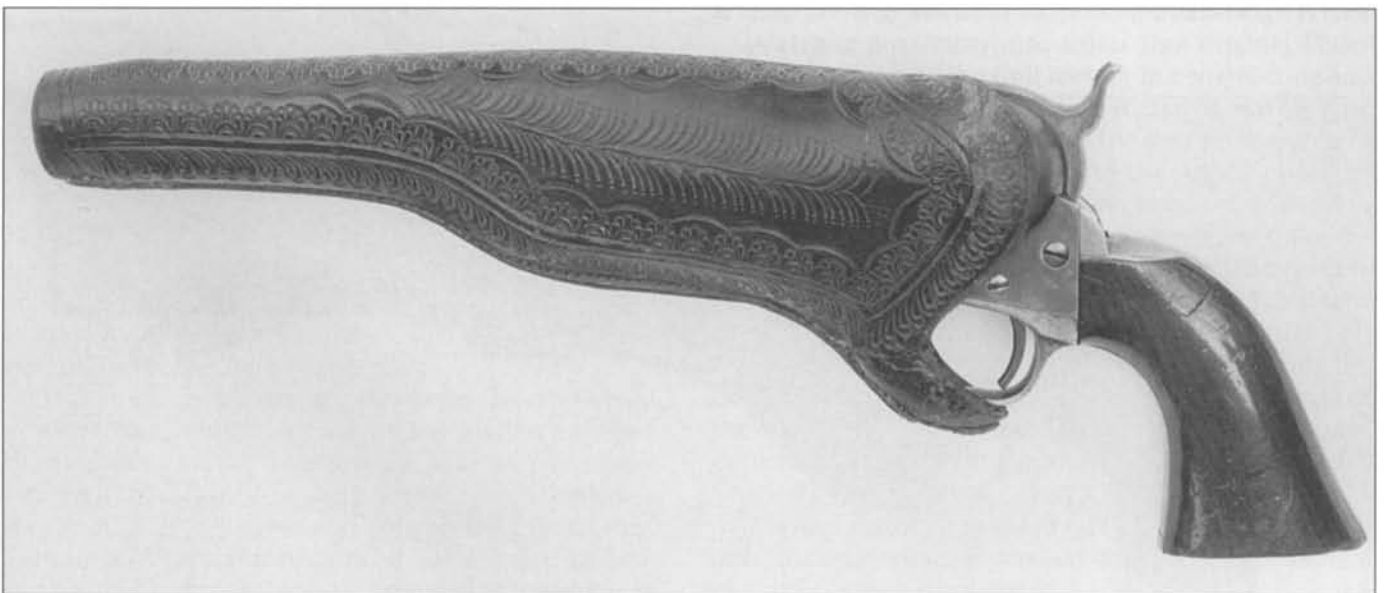


Fig. 4-91 Colt 1851/1861 Holster with Colt Model 1851 Thuer conversion, serial number 203290. (Holster, John H. Thillmann; Thuer, Author's Collection)

curve. Made of dark brown medium weight skirting leather, it takes a Colt Model 1851/1861 Navy percussion or Thuer conversion revolver, and was carried by William Morrison in Virginia City, Nevada, 1866-1869.

Morrison's Colt Navy holster is pictured again in Fig. 4-91, containing a Colt Model 1851 Navy Hartford Thuer conversion, serial number 203290 matching throughout, including the cylinder. The contoured main seam stitching ends at the bottom, leaving an open toe. There are no maker's markings on this fine Western holster, but

the history of its ownership dates its manufacture to 1860-1865.

An extensive and well-documented history of this holster, the gun it carried (Colt Model 1851 Navy revolver, serial number 141646) and the owner of both (Private William Morrison, 2nd Regiment, Pennsylvania Volunteers) can be found in an article entitled, "If Only it Could Talk" by John H. Thillmann. It was published in the Spring 1966 issue of *The Texas Gun Collector*, the official publication of the Texas Gun Collector's Association.

Chapter 5

Colt C.B. Richards Conversions



Fig. 5-1 First Model Richards serial number 191461. (Courtesy Francis E. "Bud" Firth)

By the end of 1868, it was evident that the Thuer system would not draw the enthusiasm originally anticipated. On April 3 of the following year, Rollin White's patent protecting the bored-through cylinder would expire, with little possibility of a renewal. Colt factory engineers were hard at work designing metallic cartridge revolvers with bored-through cylinders, all through 1869. This is evidenced by the many experimental models contained in the Colt Firearms Collection of the Connecticut State Library, as well as those found in other museums and private collections (see Chapters 4 and 9).

Charles B. Richards was a prominent inventor and expert mechanic among the Colt factory employees. During the beginning of the metallic cartridge era, he served as Assistant Factory Superintendent and was granted three major patents. His first (U.S. Patent 81,290) was awarded August 18, 1868, for a breech-loading firearm, followed in July 1871 (U.S. Patent 117,461)

for the "Richards Conversion," and finally in September 1871, (U.S. Patent 119,048) for the "Cloverleaf Revolver."

These last two, both of which were assigned to The Colt's Patent Fire Arms Manufacturing Company, are of major interest to this study.

The Colt Conversion Patent (117,461) was granted on July 25, 1871, and the full patent drawing is shown in Fig. 5-2A. As stated by the inventor himself, in the patent text, "My invention relates to that kind of revolver which has a chambered breech or cylinder. It has for its object to provide a compact and cheap form of this kind of arm, which shall be fitted for the convenient use of a flanged metallic cartridge, and it is particularly useful as furnishing a means of converting a revolver constructed and intended for loose ammunition into one adapted for the kind of metallic cartridges which are loaded into the chambers from the rear".

C. B. Richards' Impt^s in Revolvers.

Fig. 2 117461

PATENTED JUL 25 1871

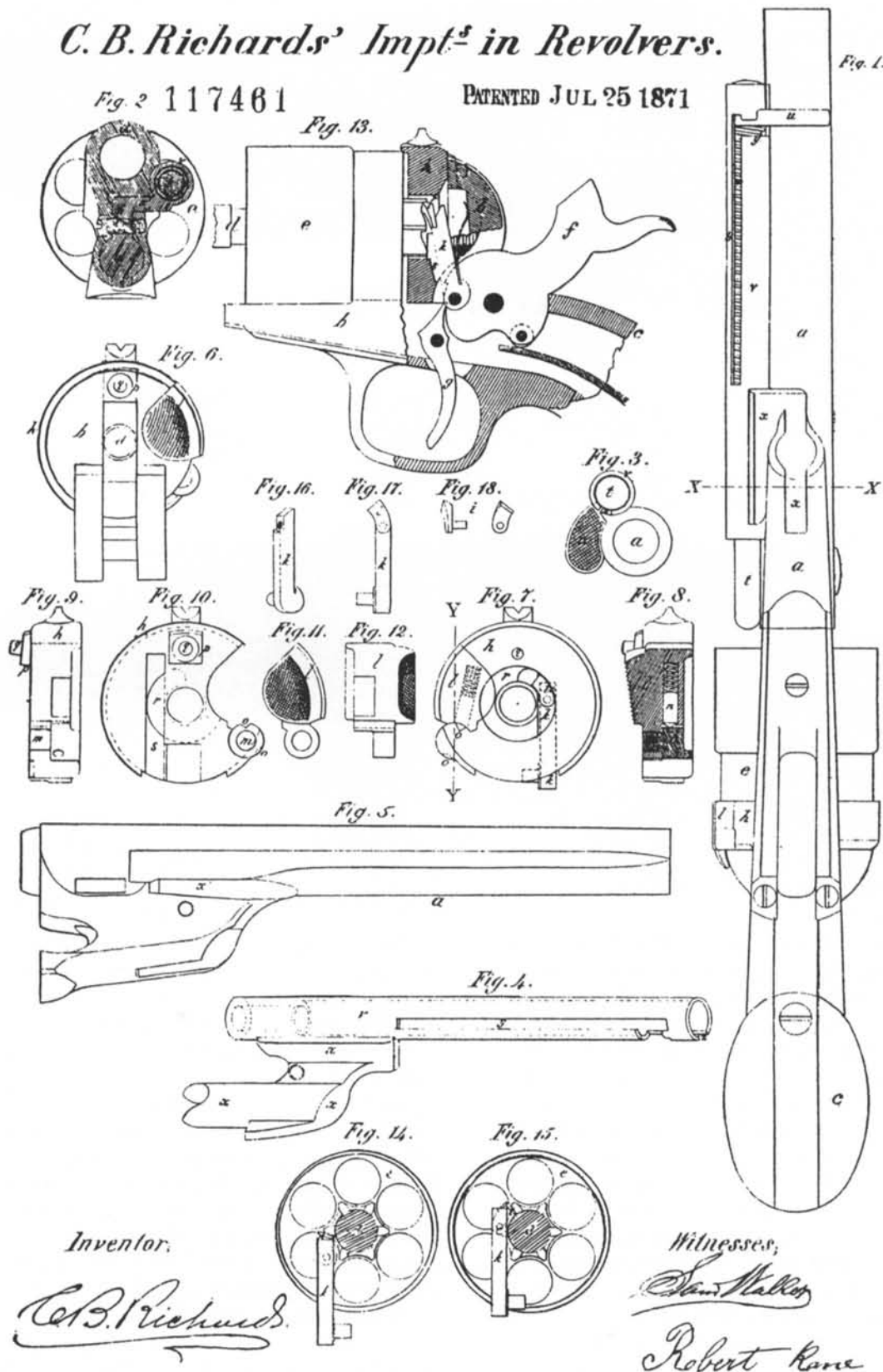


Fig. 5-2A U.S. Patent No. 117461 granted July 25, 1871 to C.B. Richards for conversion of percussion revolvers.

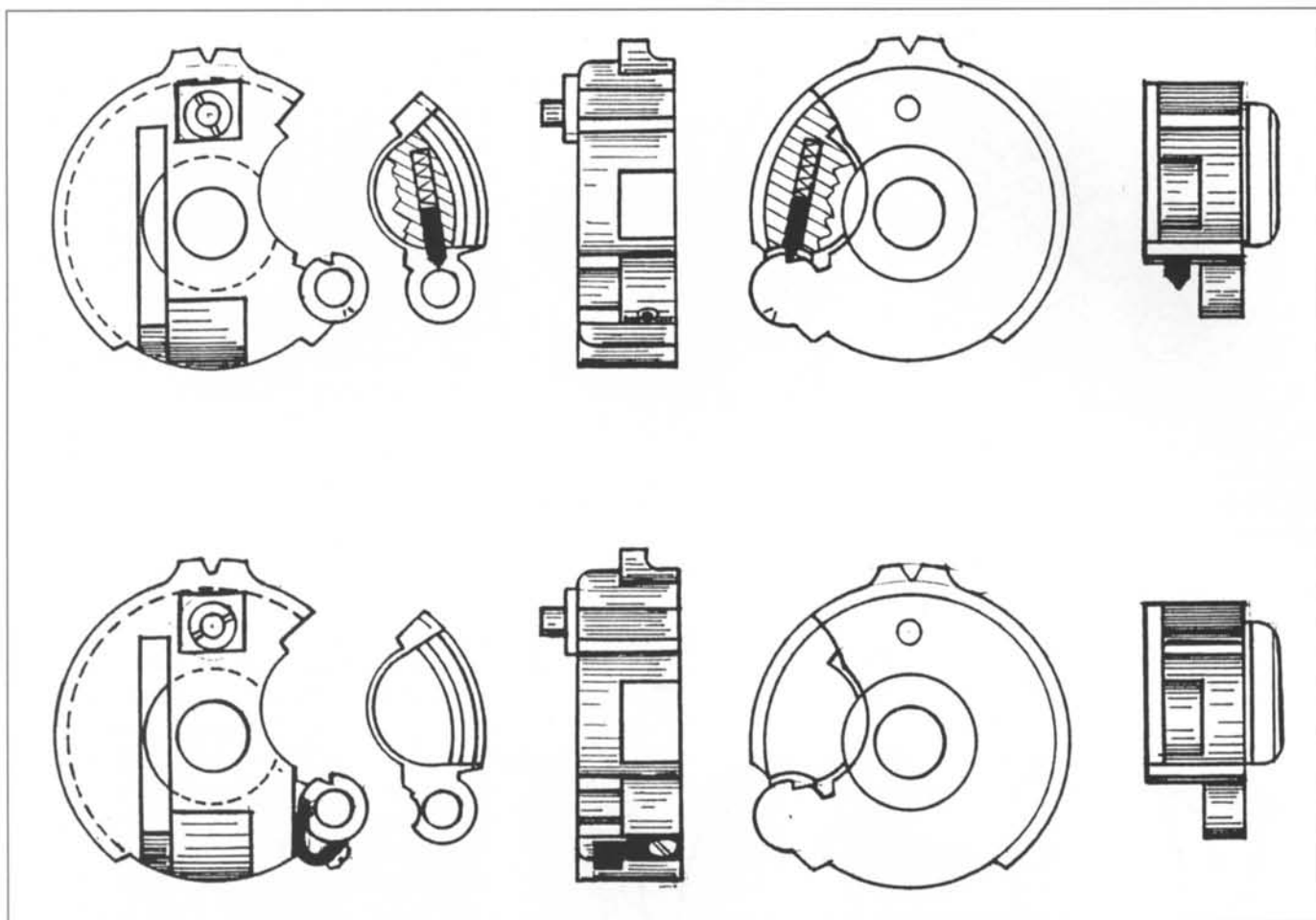


Fig. 5-2B Two types of First Model Richards conversion rings.

All Richards conversions require the fabrication of a new breech-plate, often referred to as the conversion ring. The conversion ring for the First Model Richards is illustrated in Fig. 5-2A (Figs. 7, 8, 9 and 10 of the patent drawings) and in Fig. 5-2B (drawings of both types of Richards conversion rings with internal and external gate springs). The conversion ring (as manufactured) consists of a 1.675-inch diameter disk with an integral rear sight at top and a cartridge loading channel cut into its right side. It measures 0.49 inches thick, including the 0.0312-inch lip that partially overlaps the breech end of the conversion cylinder. The new breech-plate contains a rebounding firing pin, a narrow channel to guide the rotating arm or jointed pawl (k) and a spring-detented gate, hinged to the frame to close the loading channel. This heavy conversion ring is known to Colt collectors as the Richards Type I breech-plate.

All early production First Model Richards conversions incorporated the internal gate spring illustrated in the upper drawings of Fig. 5-2B. Then at about serial number 2500 of the Original Metallic Cartridge Richards, the design was changed to that illustrated in the lower

drawings of Fig. 5-2B, using the first type flat gate spring. The reasons for this change will be discussed at length as this study continues with the various models of Richards conversions.



Fig. 5-3 U.S. Richards barrel and ejector housing, assembly number 622. (Author's Collection)

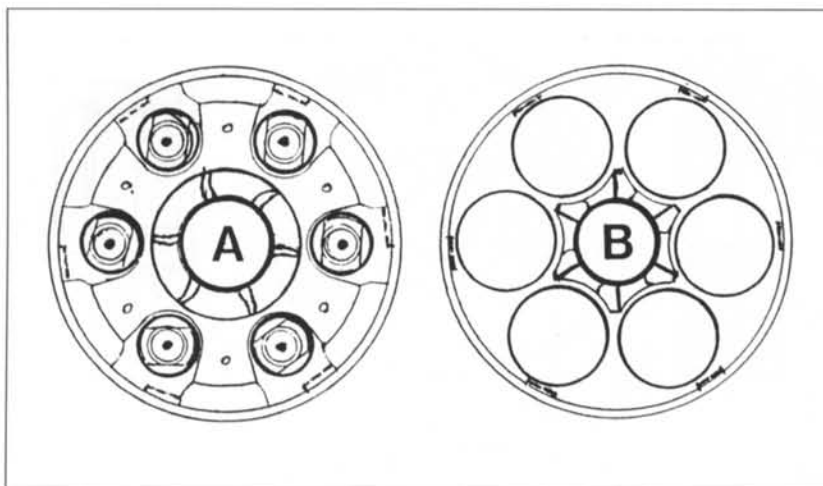


Fig. 5-4 Ratchet differences between the 1860 percussion Army and Richards conversion cylinders.

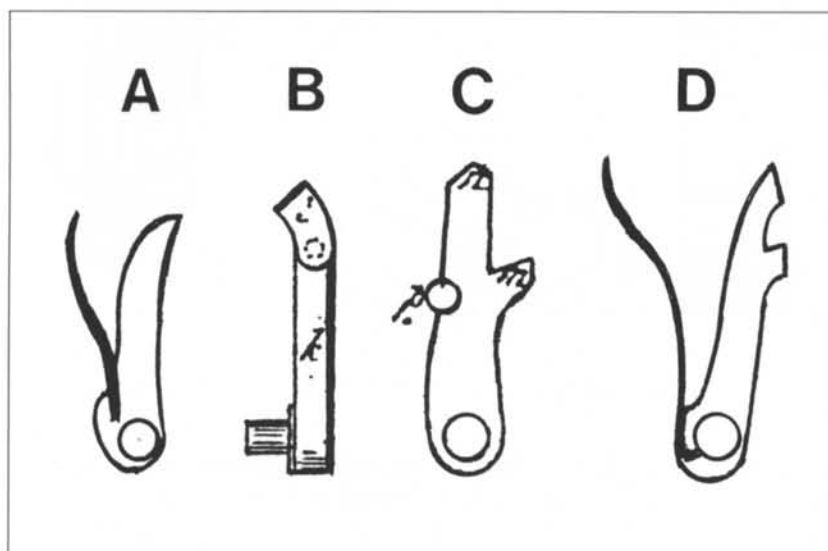


Fig. 5-5 Advancement in Hand design from 1860 percussion Army revolver to Richards conversion.

The percussion recoil shield of the 1860 Army revolver was then cut back 0.1875 inch to receive the Richards breech-plate, and a cartridge loading channel, matching that of the new breech-plate, was cut into its right side. The original cylinder-arbor was used to secure the breech-plate to the frame and the plate has a cut-out at the bottom that straddles the frame (see [A] and [D] of Fig. 5-2B).

A cartridge ejector rod, spring, head and housing were newly fabricated, to fill the openings required for the loading lever and plunger of the original percussion barrel. Additional machining of the barrel was required to accommodate the new ejector assembly, as is shown in Fig. 5-3. It was locked in place by the original lever screw, still entering from the left side.

The cylinders of the Richards conversions were, in rare instances, reworked percussion cylinders, but for the most part were newly fabricated. In either case, the cartridge cylinders had their ratchets positioned so that the flanges of the metallic cartridges could be properly seated. This is illustrated at [B] of Fig. 5-4. With this slightly advanced ratchet (compare the percussion cylinder [A] with the cartridge cylinder [B]), a modification to the short rotating arm or hand of the percussion revolver became necessary. The patent called for an extension to be attached to the top of the percussion hand that would pivot inward as the cylinder ratchet rotated clockwise, as viewed from the rear. This operation is completely detailed in Figs. 13 through 18 of the patent drawings, but to the knowledge of the author, this system was never used.

With reference to Fig. 5-5, the hand indicated at [A] is that of the original percussion system and [B] is the modification called for in the Richards patent. [C] illustrates the two finger hand of the "Cloverleaf" revolver patented by C.B. Richards on September 19, 1871 (119,048), and [D] represents the hand and spring of the Richards conversion production. This design was used on all models of the Richards conversions, on the 1871-72 Colt Open Top revolvers and on the Colt Single Action Army revolvers.

Finally, the original percussion hammer face was ground flat for the First Model Richards conversions.

The rear faces of three Model 1860 Colt Army cylinders are shown in Fig. 5-6. The one on the left is from a percussion revolver,

the one in the center is from a 12-Stop Richards conversion, and the one at the right is from a standard six-stop Richards conversion. Note that the teeth of the ratchet on the percussion cylinder are nearly in line with the chambers or nipples, while those of both conversion cylinders are directly between chambers.

The 6 cylinder stop slots on the Colt Model 1860 Army revolvers were incorporated for locking each of six chambers of the cylinder in line with the bore of the barrel when the hammer was pulled to full-cock for firing. When fully loaded, however, it was unsafe for the hammer to rest upon a live priming when the revolver was holstered or not in use. Originally, six additional stop slots were added, each between chamber stops, allowing the cylinder to be locked into a safe car-

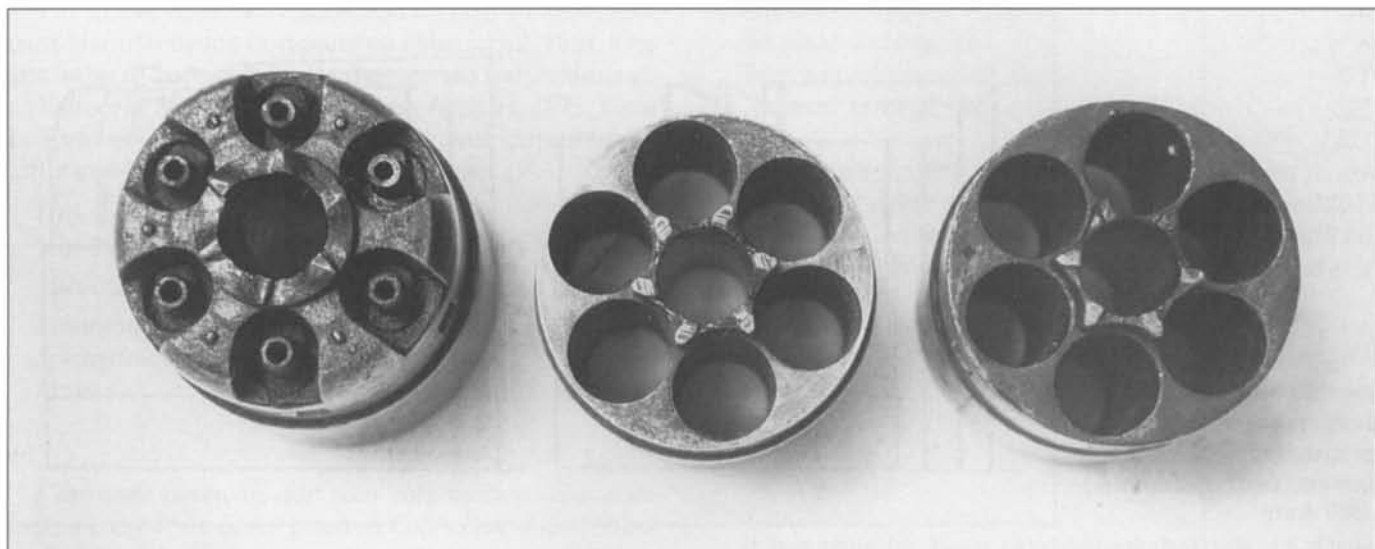


Fig. 5-6 Richards cylinders end views compared with 1860 percussion cylinder. (Author's Collection)

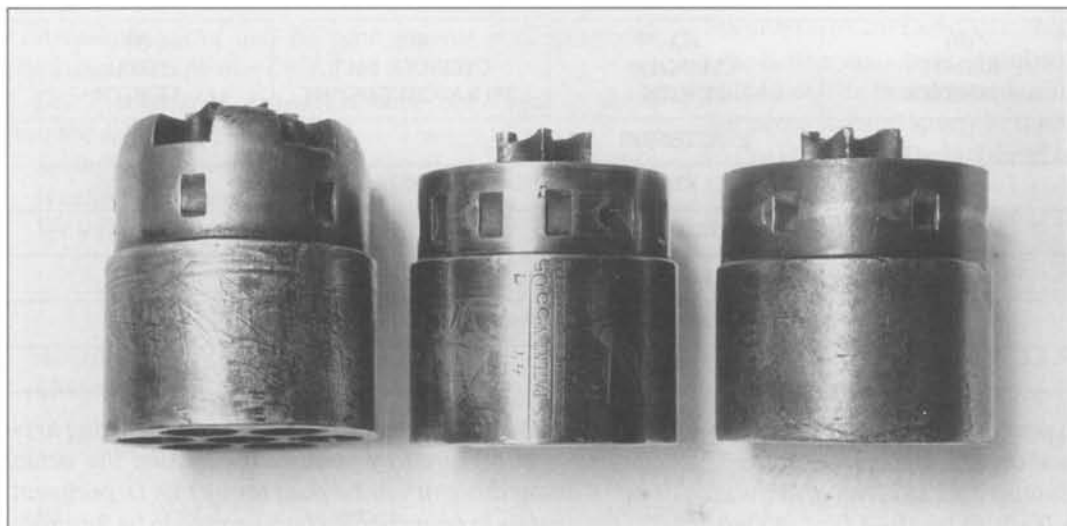


Fig. 5-7 Richards cylinders side views compared with 1860 percussion cylinder. (Author's Collection)

rying position where the face of the hammer (or firing pin) would rest between chambers. This method did not prove satisfactory and was soon abandoned.

Figure 5-7 shows side views of the same three cylinders and illustrates the differences in lengths of the conversion pieces as compared to the percussion.

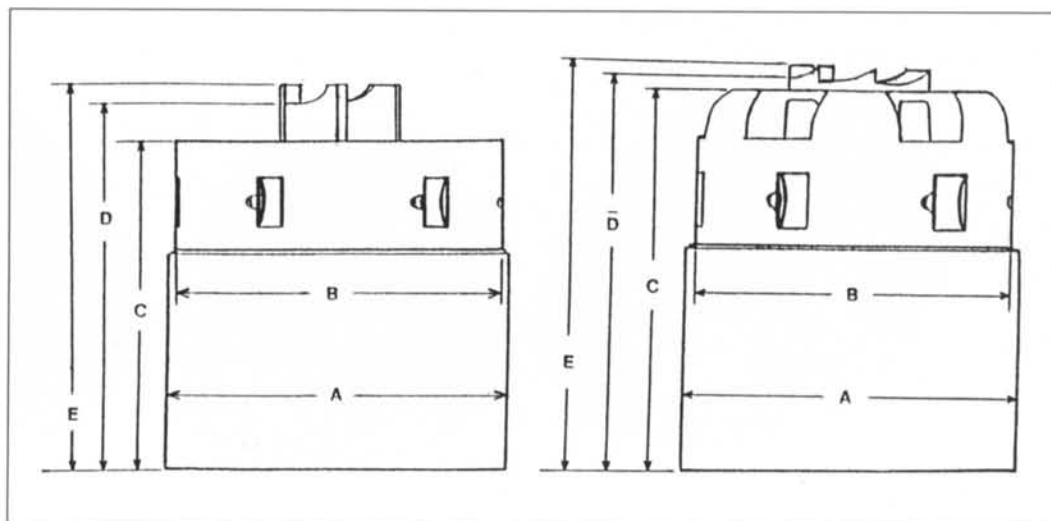
By comparing the measurements of an actual 1860 Richards conversion cylinder with those listed in the chart of Fig. 5-8, one can always tell whether the cylinder was remachined from an original percussion cylinder or whether it was a newly fabricated cylinder for the converted revolver.

It should also be noted that the overall length [dimension (E)] of both the converted percussion cylinder and the new conversion cylinder is considerably less than that of the percussion cylinder, by as much as 0.122 inches. This should clear up any confusion that might

exist as to how the ratchet teeth were advanced when converting the old percussion cylinders. After the breech end of the percussion cylinder was cut away, the remaining ratchet shaft was cut down to a new overall length of 1.844 inches $\pm$ 0.004 inches. A new chambering cutter was then used at each chamber to cut a clearance in the remaining shaft for the heads of the cartridges to be used. Finally, the new ratchet was machined, at its new advanced position.

It is impossible to determine the exact date the Colt factory machinery started turning for the production of the Richards system, or the conversion of the Colt Model 1860 Army percussion revolvers to accept metallic cartridges. The first reference is a letter to A.B. Dyer, Chief of Ordnance, from Gen. W.B. Franklin, Vice President of Colt's Patent Fire Arms Manufacturing Company, dated January 26, 1871. This letter proposed to alter (convert)

Fig. 5-8 Average dimensions taken directly from percussion (right) and conversion (left) cylinders—1860 Army



Average Dimensions Taken Directly from Percussion and Conversion Cylinders-1860 Army

(A) CYLINDER DIAMETER	(B) REBATE DIAMETER	(C) CYLINDER LENGTH	(D) CYLINDER FACE TO RATCHET DEPTH	(E) TOTAL LENGTH
PERCUSSION				
1.622"	1.534"	1.828"	1.887"	1.962"
CONVERTED PERCUSSION				
1.622"	1.533"	1.587"	1.784"	1.840"
NEW CONVERSION CYLINDER				
1.622"	1.568"	1.587"	1.780"	1.846"

Colt's Army revolvers from percussion to breech-loading for metallic cartridges, based on a model gun submitted.

Just five days later, on January 31, 1871, an order was placed with Gen. Franklin (Colt's) by the Chief of Ordnance to alter (convert), clean and repair 1,000 Army Colt's revolvers, by the following communication

Ordnance Office
War Department.
Washington, Jan'y 31st 1871
Gen. W.B. Franklin
V.Prest. Colt's Arms Co.
Hartford, Conn.

Sir:

Your letter of the 26 instant, proposing to alter Colt's Army Pistols for Metallic Cartridges according to a model submitted therewith to this Bureau has been received, and with the sanction of the Secretary of War, I hereby give you an order to alter one thousand Army Colt's Revolvers accordingly.

The pistols which require cleaning and repairing to be cleaned and repaired by your company and the actual cost of doing this work to be paid for by this Department.

The pistols to be inspected by a sample to be furnished to this Bureau by your Company and to be sealed at this Office prior to its acceptance, as standard sample.

The pistols to be boxed; the necessary boxes to be furnished by your company at their actual cost. Some pistols have been ordered to be sent to you from the Springfield Armory, and the residue will be sent from other Arsenals. Of those sent from Springfield, fifty have a special safety notch, which this Department desires to have specially tested, and you will please have these pistols packed separately from the others, and marked "Locke's" Attachment"

Please advise this office of your acceptance of this offer, and state when you will deliver the pistols.

Respectfully ec ec
(Signed) A.B. Dyer
Chief of Ordnance

The above order was accepted by Colt's Patent Fire Arms Manufacturing Company on February 2, 1871. The next letter of importance was that sent to the Commanding Officer of Springfield Armory on April 21, 1871, from the Chief of Ordnance, regarding revolver shipments to Colt's and inspection of the conversions.

Ordnance Office
War Department.
Washington, April 21, 1871

Commanding Officer
Springfield Armory
Mass.

Sir:

I transmit herewith, for your information and guidance, a copy of an order given to Colt's Patent Fire Arms Co. Hartford, Ct. for the alteration of Colt's Army pistols to use the Metallic Cartridges. The Order having been accepted by them you are charged with the inspection of the pistols.

A sample pistol will be sent you for your guidance when approved by this Office.

Colt's Army N.M. Revolvers have been sent to them from the following posts, Viz'

Springfield Armory, Mass.	513
Washington Arsenal, D.C.	28
West Point Mil. Academy, N.Y.	90

Ordnance Agency, N.Y.	10
St. Louis Arsenal, Mo.	8
Leavenworth Arsenal, Kans.	377
Augusta Arsenal, Ga.	<u>127</u>
Total	1153

which with the fifty, to which you were directed to apply the Locke safety notch-Jan'y 31, 1871-, will make 1203.

The usual Certificates of inspection and receipt will be given. A supply of blanks therefore has been sent you this day.

Respectfully
Your obedient
A.B. Dyer
Chief of Ord.

It has thus far been established that the U.S. Ordnance Department placed an order with the Colt's Patent Fire Arms Manufacturing Company to clean, repair and alter or convert 1000 Colt's Model 1860 Army percussion revolvers to metallic cartridge breech-loading revolvers. It has also been established that this order was placed on the last day of January 1871, based on an earlier proposal and sample conversion revolver submitted to the Ordnance Department by Colt's on, or before January 26, 1871. Next are related entries from a Colt's factory Day Journal dated July 1, 1871 through July 28, 1873.

[Page 85] ENTRY OCTOBER 7, 1871 - U.S. GOVERNMENT

Altering 1000 N.M.Army Revolvers to B.L.	\$3.50	\$3500.00
Cleaning 950 N.M.Army Revolvers	.10	<u>95.00</u>
		\$3,595.00

PARTS FURNISHED TO COMPLETE THE ABOVE

95	N.M.A.	Frames	\$2.50	\$ 237.50		
239	"	Barrels	4.60	1099.40		
49	"	Guards	.98	48.02		
49	"	Straps	.86	42.14		
8400	"	Screws Ass'td	1.20/C	100.80		
150	"	Triggers	.11	16.50		
61	"	Hammers	.37	22.57		
37	"	Mainsprings	.20	7.20		
550	"	Searsprings	.04	22.00		
178	"	Bolts	.14	24.92		
950	"	Keys	.14	133.00		
950	"	Stocks	.86	817.00		
950	"	Cylinders	2.62	2489.00	\$5060.25	<u>\$5060.25</u>

EXTRA PARTS FURNISHED WITH THE ORDER

100	N.M.A.	Double Hands	\$.13	\$13.00
100	"	Eject. Rod Sprgs.	.05	5.00

200	"	Firing Pins	.045	9.00		
200	"	Firing Pin Nuts	.04	8.00		
200	"	Firing Pin Sprgs.	.07	14.00		
100	"	Latch Catches	.006	.60		
1000	"	Screw Drivers	.22	220.00		
50	"	Mainsprings	.20	10.00		
50	"	Trig./Bolt Sprgs.	1.20/C	.60		
20		Packing Boxes	4.37	87.40	\$367.60	<u>\$367.60</u>
						<u>\$9022.85</u>

The information contained in the above Day Journal entry would indicate that the 50 revolvers referred to in Dyer's letter of April 21, having the Locke safety notch, did not receive new keys (wedges), stocks (grips) or cylinders.

[Page 147] ENTRY DECEMBER 4, 1871 - U.S. GOVERNMENT

Alter 126 N.M.A. Pistols to B.L.					\$3.50	<u>\$441.00</u>
SPARE PARTS FOR THE ABOVE						
35	N.M.Army	Lock Frames	\$2.50	\$ 87.50		
51	"	Barrels	4.60	234.60		
10	"	Guards	.98	9.80		
10	"	Straps	.86	8.60		
126	"	Keys	.14	17.64		
126	"	Cylinders	2.62	330.12		
126	"	Stocks	.86	108.36		
1 Large Pkg Box for Pistols				5.00		
1 Small Pkg Box for Pistols				.50		
10 Small Pkg Box for old parts			.30	3.00	\$832.84	<u>\$832.44</u>
						<u>\$1273.84</u>

The above two Day Journal entries obviously reflect the total order completion dates or the invoicing dates, because a further search into the records of the National Archives has located the following letter reflecting a shipment of 500 converted revolvers from Colt's to Springfield on August 18.

Hartford, Conn. August 18, 1871
Colonel J.G. Benton U.S.A.
Com'dg National Armory
Springfield, Mass.

Dear Sir:

We have forwarded to your address by rail this P.M. Ten boxes containing 500 Army Revolvers altered to B/L with sundry spare parts, and enclose R.R. receipt for same.

Very Respectfully Yours,
for Colts P.F.A Manfg Co.
(Signed) Lewis Sheldon

In the past, numerous authors have stated that these U.S. military revolvers were all converted at the Spring-

field Armory. Still others have speculated that they were refinished at Springfield. Then, there seems to be a wide variation as to the number of these U.S. Richards conversions actually completed for the Ordnance Department. The author believes that the information contained in the forgoing documents substantiate the following information, leaving no room for uncertainty:

(1.) **1,126 Model 1860 Colt Army Revolvers** were converted by the Richards system, for the U.S. Ordnance Department.

(2.) **All U.S. Richards Army Conversions** were done under contract at the Colt's Patent Fire Arms Manufacturing Company.

(3.) **A minimum Of 1,153 Model 1860 Colt Army Percussion Revolvers** were returned to Colt's by the Ordnance Department to be converted for metallic cartridges by April 21, 1871, with **an additional 50 having the Locke safety notch**, for a total of **1,203 revolvers**.

In addition, Dyer's letter of January 31, 1871, speaks of a Model gun (Converted Army Revolver) submitted on or before January 26, and a Sample gun to be supplied as an inspector's standard. The Sample gun was again mentioned in Dyer's letter of April 21 (see later text, serial Numbers 1216 & 1201).

There were nine other U.S. Richards conversions, each with three digit assembly numbers (174-367 range) that were presumably tested at the Springfield Armory on July 19, 1871. By adding these (one Model, two Inspector Samples and nine Test guns) to the known 1,126 U.S. Richards conversions, the final figure can be increased to 1,138.

Perhaps much of the confusion was derived from the following statement taken from the *Report of the Secretary of War* for the fiscal year July 1, 1870, to June 30, 1871, page 252, Report of the Chief of Ordnance:

"A small number of revolvers (pistols) which use the primed metallic cartridge, have been made and issued to troops, and the few reports upon them which have been received at this Bureau show that they are greatly superior to the revolvers which use the paper cartridges, and must supersede them in the service. As soon as a proper model can be selected it should be adopted, and steps should be taken to make at the National Armory all of them which the Government may require. It will be more economical for the Government to pay a fair royalty and manufacture the revolvers, than to purchase them from the manufacturer, who will charge both royalty and manufacturer's profit."

These revolvers referred to could have been Remington .44 caliber N.M. Army conversions, Colt M-1860 Richards conversions, or both. It must be remembered that under the heading "Work Done" in the Report of the Secretary of War for the fiscal year July 1, 1869, to June 30, 1870, the Chief of Ordnance reported "2 Remington Pistols and 2 Colt's Pistols were altered to Metallic Cartridge." These were the only revolver conversions done or manufactured at the Springfield Armory. Should any confusion still exist as to the National Armory activities for the fiscal year of July 1, 1870, to June 30, 1871, still another statement can be found on page 250, Report of the Chief of Ordnance:

"The operations at the Springfield Armory have been confined chiefly to the conversion of a small number of Springfield rifle-muskets into breech-loaders for issue to troops, and to the States and colleges; to the manufacture of 22,000 Remington rifles for the Navy Department; and three or four kinds of experimental muskets and carbines, for comparative trial by troops in the field. Three of these systems have been put into the hands of the troops, and monthly reports are made to this Bureau upon them, as was directed by you on my endorsement

of July 8, 1870, submitting the report of the board of officers of June 10, 1870, of which Major General Schofield was president."

The next, and possibly the last reference to the converted revolvers in the hands of troops is found in the Report of the Chief of Ordnance for the fiscal year of July 1, 1871, to June 30, 1872, as follows:

"Reports from the field are all favorable to the use of revolvers using metallic cartridges, a limited number of which have been heretofore issued to the Cavalry Service for trial. As soon as certain experiments are completed looking to the improvement of the arm as a military weapon, it is the intention of this Bureau to recommend the manufacture of a sufficient number to meet the requirements of the Army."

The Colt 1860 Army Richards conversions is found in five basic categories:

[1] The U.S. Richards were the first altered by converting in-service percussion revolvers to metallic cartridge for the U. S. Ordnance Department.

[2] The 1860 First Model Original Cartridge Richards were those made at the Colt factory as cartridge revolvers, rather than converted from percussion.

[3] The 1860 First Model Richards Converted Percussion Range were those made up from left over percussion parts in the Colt factory inventory.

[4] The Twelve Cylinder Stop Richards Conversions were the first produced and had 12 locking slots on the cylinder, rather than the usual six.

[5] The 1860 Transition Richards, or Second Model Richards, retains the cartridge ejector of the First Model Richards, but the centerfire hammer and less cumbersome conversion ring of the Richards-Mason design. Richards-Mason conversions will be outlined in Chapter 6. There is evidence that a small number of revolvers were returned to the factory for conversion.

Each of these categories will be addressed separately with general specifications for each type or model. Remember, for every detail listed there are usually exceptions. One should also remember that besides the Richards converted percussion revolvers that do not fall within the categories outlined in this chapter, many U.S. Richards are the product of modern day basement gunsmiths who have stamped bogus markings on First Model Richards conversions.



Fig. 5-9 U.S. Richards with mixed numbers, frame number 94847. (Courtesy Francis E. "Bud" Firth)

U.S. Richards Conversions	
SERIAL NO. RANGE	Mixed numbers, generally 23000 to 144000
CALIBER	.44 Martin, centerfire
BARREL LENGTH	Refaced, nominal 7-7/8", flat crown
BARREL ADDRESS	New York
EJECTOR HOUSING	Typical to all Richards (see Fig. 5-17)
EJECTOR ROD TIP	Flat, extending well past the wedge
EJECTOR HEAD	Cross-hatch
WEDGE	New-sometimes numbered, sometimes not
CYLINDER	New (See Text)
CONVERSION RING	Typical to all First Model Richards
GATE SPRING	Internal (see text and illustrations)
FRAME TYPE	Three-screw common, some four-screw below number 3000
FRAME MARKING	COLTS/PATENT
HAMMER SCREW	Small (percussion size)
HAMMER SPUR KNURL	Cross-hatch, without border
STOCK (GRIP)	New (O.W.A. cartouche on left panel)
BACKSTRAP	Blued steel
TRIGGERGUARD	Brass oval
ASSEMBLY NUMBER	Matching (see text for locations)
INSPECTOR MARKS	"A" O.W. Ainsworth (Springfield Armory)



Fig. 5-10 Close-up of barrel lug of U.S. Richards, frame numbered 38921, assembly number 468. (Courtesy Francis E. "Bud" Firth)



Fig. 5-11 Close-up showing the cylinder and conversion ring of frame number 38921, assembly number 468. (Courtesy Francis E. "Bud" Firth)



Fig. 5-12 Close-up of underside numbering of frame number 38921, assembly number 468. (Courtesy Francis E. "Bud" Firth)

All U.S. Richards revolvers were inspected by Ainsworth and his mark is found on the left side of the barrel lug, just to the rear of and slightly above the wedge (see Fig. 5-10). The US stamp was also applied to this side of the barrel lug, to the front of the wedge, and slightly above. The Ainsworth stamp can also be found on the conversion cylinder, along with a P (Colt factory inspector) as shown in Fig. 5-11 where, in this case, the P is double struck, and on the underside of the trigger-

guard just ahead of the bow and under the assembly number (see Fig. 5-12).

It is speculated that Ainsworth traveled back and forth between the Springfield Armory and the Hartford factory for inspection purposes to insure that all government standards and specifications were met.

The U.S. Richards were not found in the converted percussion range, 180000 to 200000, or in the serial number range of the original metallic cartridge models, 1 to 5000. Their frame numbers will generally be found between serial numbers 23000 and 144000. The A inspection mark was applied at Hartford.

Model guns were produced and shipped to the Ordnance Department for their approval. Such guns are indicated in Ordnance letters from Dyer. Specifically, there are two of these model guns known to the author, serial numbers 1216 and 1201 with all numbers matching. Number 1216 is in the collection at the Smithsonian Institution, complete with all documentation and 1201 (see Figs. 5-13 through 5-16) is in a private collection. All major parts of both guns are stamped with single four-digit numbers, meaning that the serial number and assembly number are the same. Figure 5-13 shows a full right side view of the Model gun 1201. Notice that the gate is numbered externally and has an internal spring. Uncommon to the U.S. Richards, the ejector rod tip is rounded.

A left side close-up of the cylinder and conversion ring of the Model gun is seen in Fig. 5-14, showing the full number 1201 on both parts. The hammer spur has a bordered and underlined knurl, possibly one of the re-



Fig. 5-13 U.S. Richards Model Gun (one of two known), assembly number and serial number 1201. (Courtesy Francis E. "Bud" Firth)



Fig. 5-14 U.S. Richards Model gun, number 1201, close-up showing left side markings. (Courtesy Francis E. "Bud" Firth)



Fig. 5-15 U.S. Richards Model gun, number 1201, close-up showing further details. (Courtesy Francis E. "Bud" Firth)

Fig. 5-16 U.S. Richards Model gun, number 1201, close-up showing underside markings. (Courtesy Francis E. "Bud" Firth)



placement hammers reported in the October 7 Day Journal entry.

Figure 5-15 is another close-up view of the left side, showing the US stamp on the barrel lug and the COLTS/PATENT marking on the frame. Note the absence of an A, Ainsworth inspector mark on serial number 1201, while it is present on serial number 1216.

The underside of the Model gun is shown in the close-up of Fig. 5-16. The serial/assembly number is shown stamped on the undersides of the ejector housing insert, barrel lug (twice), frame and triggerguard flat. Also stamped into the barrel, frame and triggerguard, just above or below the serial/assembly number, is the small letter M. It is strongly believed, though not substantiated, that this M designates "Model Gun." It is stamped in identical fashion on those parts of the Smithsonian Model gun, and one other which will be outlined later in this study.

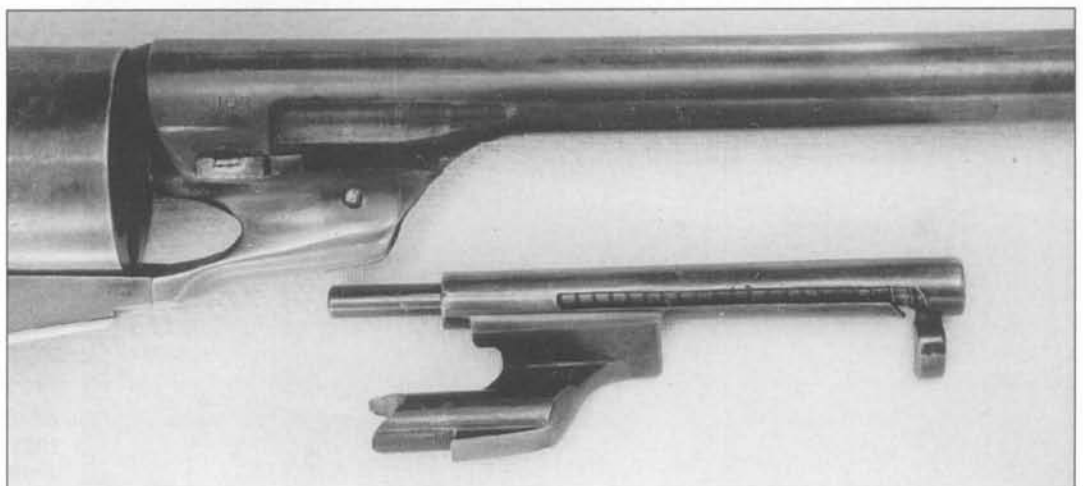
These Model guns were made up from new parts since there were no mixed percussion range serial

numbers, as was the case with the standard conversions for the Ordnance Department. They have full 8-inch barrels, while the converted percussion guns have resurfaced barrels measuring a nominal 7-7/8 inches in length.

As indicated in the specifications of the U.S. Richards conversions, the knurling of the hammer spurs was the same cross-hatch pattern as found on the 1860 Army percussion revolvers. This is true, except for sixty-one conversions which, according to the October 7, 1871, entry in the Colt Factory Day Journal, received new hammers with bordered and underlined knurling. These new hammers were also used on the Model guns, as the Model guns were made with all new parts.

The ejector housing of U.S. Richards is typical of that found on all Richards conversions (First Model Cartridge Model Richards, First Model Converted Percussion Richards and Second Model or Transition Model Richards). Figure 5-17 shows the ejector hous-

Fig. 5-17 Richards ejector assembly, assembly number 5103. (Author's Collection)



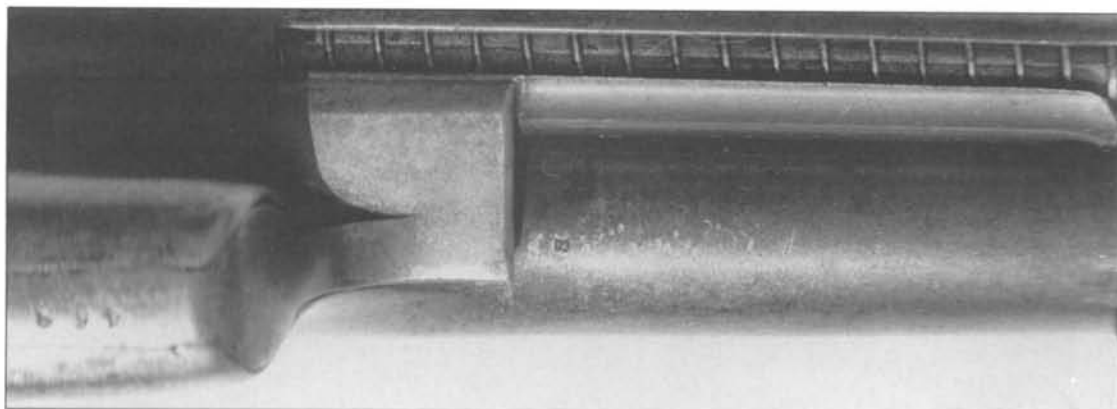


Fig. 5-18 First Model Richards factory barrel inspector mark on number 38921, assembly number 468. (Courtesy Francis E. "Bud" Firth)

ing removed from the barrel of a U.S. Richards. The housing slides into the barrel lug cavities that used to accommodate the loading lever and plunger, and is locked into position by a transverse screw. The lever latch slot on the underside of the muzzle has been plugged and resurfaced, prior to final finishing. Though rather complex in its shape, this one-piece ejector housing is a perfect fit when mounted in place.



Fig. 5-19 Standard Richards ejector rod head. (Author's Collection)

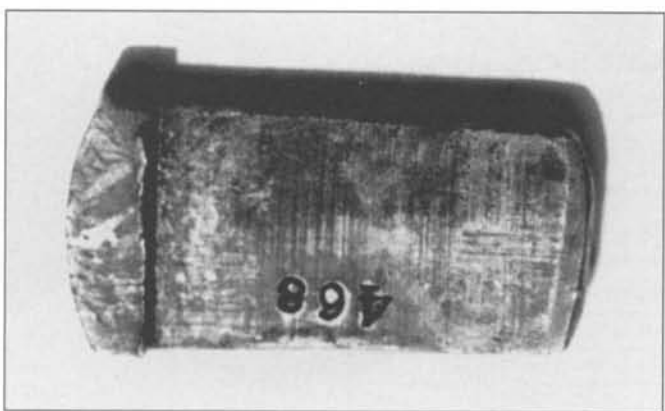


Fig. 5-20 Wedge from U.S. Richards number 38921, assembly number 468. (Courtesy Francis E. "Bud" Firth)

With the ejector housing locked into position within the lever and plunger cavities of the barrel lug, a Colt factory inspector's mark will usually be found on the underside of the barrel, just to the front of the new added assembly (see Fig. 5-18). This mark will be in the form of a small letter, such as E, S, B, etc. Most known examples are stamped K.

The ejector rod head has a cross-hatch pattern as shown in Fig. 5-19. The tip of the rod is flat, not bullet- or ball-shaped as found on the First Model and Transition Model Richards. The rod extends rearward, almost to the breech end of the barrel.

Wedges, according to the October and December entries in the 1871-1873 Day Journal, were all replaced at the time of the conversions, except for the 50 revolvers that had the Locke safety notch. As seen in Fig. 5-20, the wedge was newly made and, in this case, the assembly number was stamped on one side. These new wedges were sometimes numbered and sometimes not.

Cylinders, according to the two entries of the Colt Day Journal, were all newly made for the U.S. Richards, except for the 50 revolvers with the Locke safety notch. However, some U.S. Richards are found to have converted percussion cylinders, as that of Fig. 5-21. Converted percussion cylinders can always be determined by measuring the diameter of the rebated section (see Fig. 5-8 and its associated table of dimensions). New cylinders will have the assembly numbers stamped directly following the COLT'S PATENT NO., while converted percussion cylinders will have assembly numbers over, or in close proximity to the serial number. The thing to look for in identifying a proper U.S. Richards cylinder are the A, Ainsworth and (double-struck) P, factory inspection marks directly under the COLT'S PATENT NO.

The cylinder pins (arbors) of the First Model Richards are generally stamped on the top with the assembly number (see Fig. 5-24), and on the underside with the last three or four digits of the frame serial number (see Fig. 5-25). This also holds true for the U.S. Richards.



Fig. 5-21 U.S. Richards number 87584, assembly number 613, close up showing left side markings. (Courtesy Victor Guidetti)



Fig. 5-22 U.S. Richards, assembly number 524, close-up of right side markings. (Author's Collection)



Fig. 5-23 U.S. Richards, assembly number 524, close-up of left side markings. (Author's Collection)

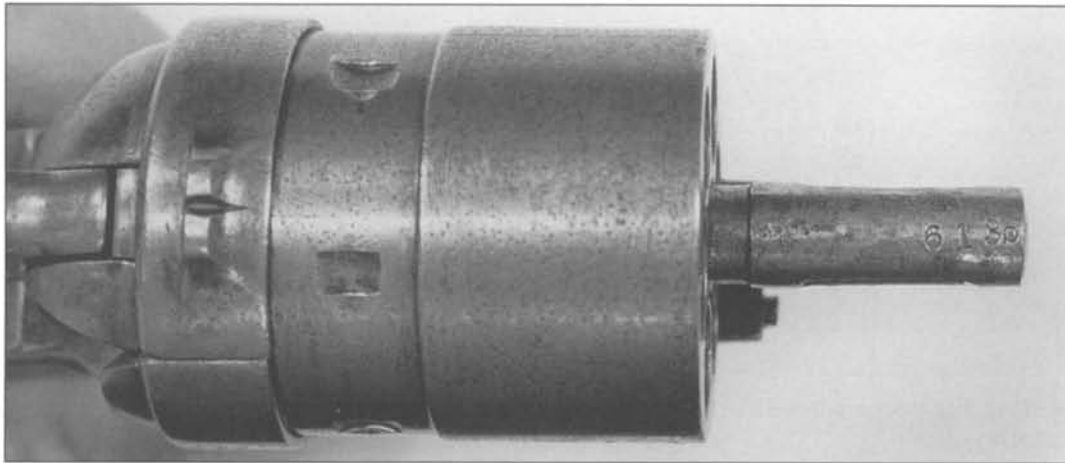


Fig. 5-24 U.S. Richards, number 87584, assembly number 613, top close-up of rear sight, cylinder, conversion ring and cylinder arbor. (Courtesy Victor Guidetti)

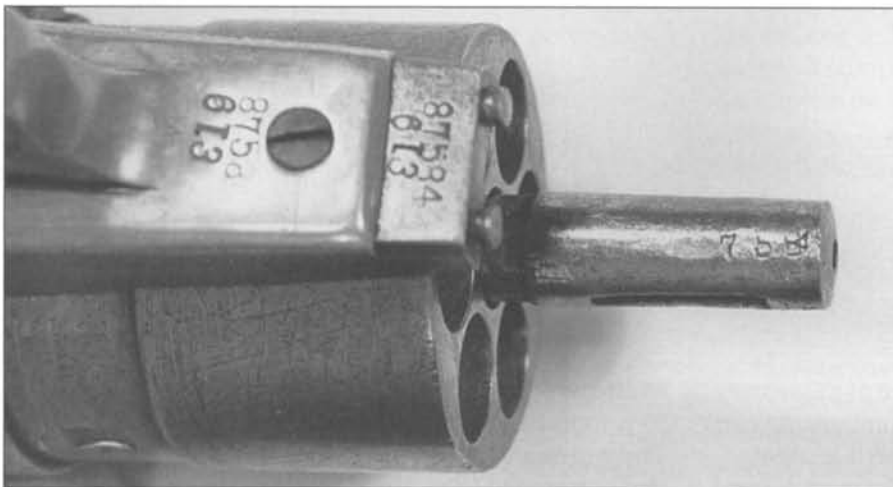


Fig. 5-25 U.S. Richards, number 87584, assembly number 613, close-up of underside frame, triggerguard and cylinder arbor markings. (Courtesy Victor Guidetti)

U.S. Richards' frames are found in both three-screw and four-screw types and all but the 130 new frames listed in the two Day Journal entries, are cut for shoulder stock (see Fig. 5-21 and 5-22). All frames are stamped COLTS/PATENT, no U.S. Richards have patent dates or U.S. stamped on their frames.

Grips were referred to as stocks in the conversion process. Again, as indicated in the Colt Day Journal entries, all but 50 of the U.S. Richards were fitted with new stocks. The new stocks have only the Ainsworth cartou-

che lightly stamped into the left panel, while those 50 Civil War period stocks contain the percussion period inspector's cartouche in the right panel as well.

All Richards conversions had assembly numbers that matched throughout the revolver. These assembly numbers had no relationship with the guns' serial numbers. The U.S. Richards generally had mixed serial numbers and the matching assembly numbers were found in the following locations (see Fig. 5-26):

EJECTOR HOUSING	Lengthwise in plunger cut-out	.058" characters
BARREL LUG	Lengthwise on underside	.058" characters
BARREL LUG FLAT	Over serial number	.1" characters
CYLINDER	Under serial number	.078" characters
FRAME	Under serial number	.1" characters
TRIGGERGUARD	Under serial number	.1" characters
BACKSTRAP	Under serial number	.1" characters
CONVERSION RING	Left outside	.078" characters
LOADING GATE	Outside	.078" characters
CYLINDER ARBOR	Front top	.1" characters

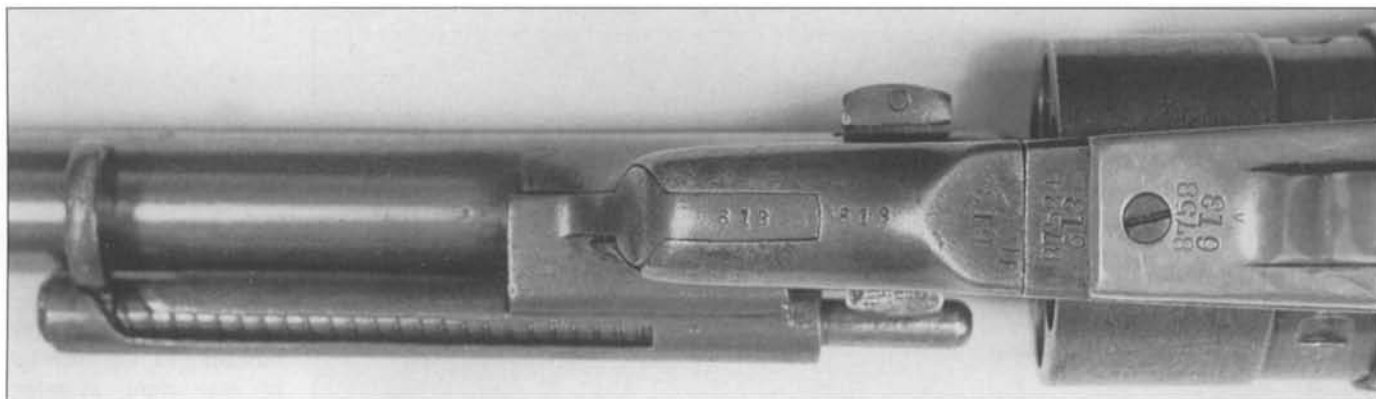


Fig. 5-26 U.S. Richards, number 87584, assembly number 613, close-up of underside barrel, ejector housing, frame and triggerguard markings. (Courtesy Victor Guidetti)

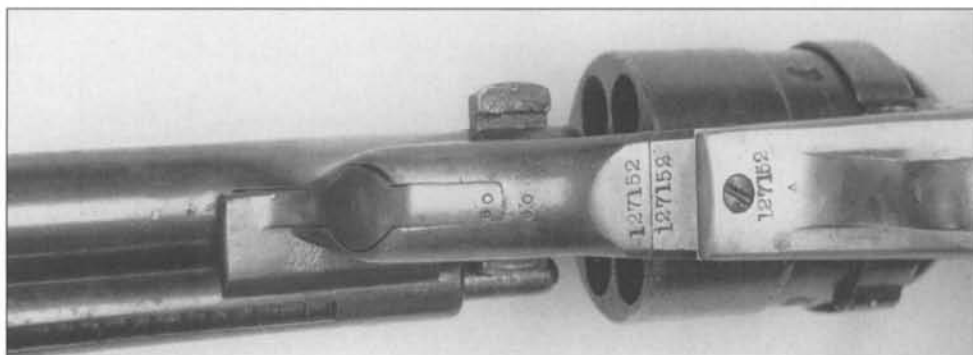


Fig. 5-27 U.S. Richards, number 127152, assembly number 60; close-up of underside barrel, ejector housing, frame and trigger guard markings. (Courtesy John H. Thillmann)

Figure 5-27 shows the underside of one of those very rare U.S. Richards with matching serial numbers. As can be seen on the triggerguard, it is Ainsworth inspected, but has a very unusual feature in that there is no assembly number on the barrel lug flat, frame or triggerguard. The low assembly number 60 is shown on both the underside of the barrel lug and the ejector housing, and it is stamped sideways rather than in the usual lengthwise manner. This was only possible with one- or two-digit assembly numbers.

Because of the extreme rarity of U.S. Richards having matching serial numbers (only two known to the author), it is believed that these particular guns were those carried by officers, and sent back to Colt by those officers for conversion by the Richards system.

The conversion of Fig. 5-28A is a true U.S. Richards in every respect. It has mixed serial numbers and the assembly number is 140. The barrel measures 7-7/8 inches in length and the cylinder was newly fabricated, in that it measures 1.569 inches in diameter at the rebated section. The hammer spur has the percussion-style cross-hatching and the ejector rod tip is flat and of the proper length. The cylinder scene is 100 percent, and 85 percent of the original finish remains throughout.

The U.S. Richards in Fig. 5-28B has seen little or no use; any deterioration was caused by storage. Much of the original finish remains. The serial numbers are mixed,

while the frame number is 94847. The assembly number 39 is found on all major parts as listed earlier in the text. The gun has a three-screw frame, cut for shoulder stock and is stamped US on the left side of the barrel lug.

Another Ainsworth inspected U.S. Richards is shown in Fig. 5-28C, with holster, hat cord and Model 1860 Cavalry saber. The gun has mixed serial numbers and all the proper parts are stamped with the assembly number 1034. The barrel is the usual refaced length and the cylinder was newly made at the time of the conversion. The cylinder scene is about 90 percent and the gun retains nearly 85 percent of its original finish. As can be seen, the frame is of the three-screw type.

The gun and holster are shown again in Fig. 5-28D. The belt was made from a Civil War carbine sling and the holster is non-military. Both gun and the rig date to the same period.

Finally, the U.S. Richards pictured with the iron-frame Henry rifle in Fig. 5-28E is another good example of a well-preserved U.S. Cavalry revolver. Though the original blue is turning to a smooth age plum brown color in places, the gun has perfect markings, a fine cylinder scene and a crisp US and A (Ainsworth inspector stamp) on the barrel lug. The frame serial number is 82533 and the assembly number is 480. Again, the barrel has been refaced and the cylinder was newly made for the conversion. The frame is a three-screw type, cut for shoul-



Fig. 5-28A U.S. Richards with usual mixed serial numbers, assembly number 140. (Courtesy Francis E. "Bud" Firth)

der stock and the hammer knurling is the percussion-style cross-hatching.

It is interesting to note the continued purchasing and issuing of both Colt and Remington percussion revolvers. The official Ordnance and Ordnance Stores inventory of June 23, 1868, listed 2,617 .44 caliber Colt Army revolvers in the hands of troops, and 4,121 at arsenals and armories, for an on-hand total of 6,738. The figures

for the .44 caliber Remington Army revolvers in the hands of troops was 6,187; another 31,645 were in arsenals and armories for a total of 37,832.

Of the 6,738 Colts remaining, 255 were sold as unserviceable to Charles Folsom on May 1, 1871, and 1,203 were sent back to the Colt factory for conversion. The condition of the remaining 5,280 is unknown. Additional purchases and issues were as follows:

FISCAL YEAR	ARMY REVOLVER PURCHASES AND ISSUES
1871-1872	1,432 Colt's Revolvers, .44 caliber (Issued Army)
1872-1873	332 Colt's Army Revolvers, .44 caliber (Purchased)
	332 Colt's Army Revolvers, .44 caliber (Issued Army)
1873-1874	35 Colt's Army Revolvers, .44 caliber (Purchased)
1874-1875	22 Colt's Revolvers, .44 caliber (Purchased)
1875-1876	
1876-1877	2 Colt's Revolvers, .44 caliber (Issued Army)
1877-1878	410 Colt's Revolvers, .44 caliber (Issued Army)
1878-1879	
1879-1880	4 Colt's Revolvers, .44 caliber (Issued Army)



Fig. 5-28B U.S. Richards, number 94847 on frame. (Courtesy Francis E. "Bud" Firth)

Fig. 5-28C U.S. Richards, mixed numbers, assembly number 1034, with cavalry saber, belt and single loop holster. (Courtesy Russelle and Dow Heard, photo supplied by Francis Firth)



Fig. 5-28D U.S. Richards, mixed numbers, assembly number 1034 with single loop civilian holster and belt made from C.W. carbine sling. (Courtesy Dow and Russelle Heard)



Fig. 5-28E U.S. Richards, frame numbered 82533, assembly number 480. (Courtesy John H. Thillmann, photo supplied by Francis E. "Bud" Firth)

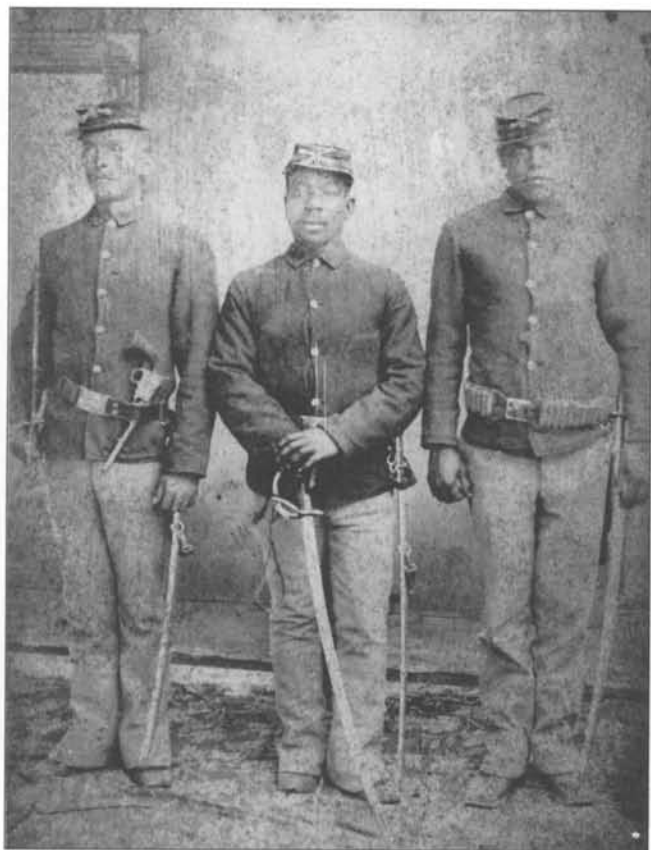


Fig. 5-29 Three Union Troopers from the 1870 period. (Courtesy John H. Thillmann, photo supplied by Smithsonian Institution, #94-4913)

Some of these could have been converted in later years by the Richards system for individual officers or troopers.

Three 10th Cavalry troopers are seen in Fig. 5-29. The original photograph was taken sometime in the early 1870s, and therefore is lacking somewhat in quality. Note the trooper to the left has a U.S. Richards tucked under his belt. Holsters for these conversions were hard to come by, unless made up or reworked from regular percussion Army revolver holsters by the post saddler. During 1872, the Ordnance Department had issued these new metallic cartridge revolvers to Cavalry troops in territories and states from Texas to Wyoming. The guns became so popular that soldiers would sell them to miners, trail herders and pioneers for such ridiculous prices that they could well afford to pay the government penalty for loosing their sidearms.

Three Indian Scouts on duty with M-Troop of the 10th Cavalry are shown in Fig. 5-30, with the one at the center holding a U.S. Richards. Dating such a photograph is difficult, but by taking into consideration several features of the breech-loading .45-70 Spring-



Fig. 5-30 Three Indian Scouts on duty with M-Troop, 10th Cavalry. (Courtesy John H. Thillmann, photo supplied by Smithsonian Institution, #94-4911)

field rifles in the hands of the other two Scouts, it is evident that the photograph was taken in 1877 or later. Most revealing is the rear sight on both rifles, the Model 1877 rear sight authorized sometime after February 1877. Actually, only 4,000 guns were produced with this new sight by the end of the first quarter of 1878. It is therefore likely that the photograph was taken sometime after April 1878.

In any event, there is no question that the U.S. Richards were issued and used well into the 1880s, until the 23,060 Single Action Army revolvers purchased from 1873 to 1880 finally made them obsolete.

With the single exception of the 12-Stop (12 cylinder stop) Richards conversions, the U.S. Richards are the rarest and most sought after Colt large-frame series conversions. Keep in mind that all of the small quantity (slightly less than 2,000) supplied to the U.S. Ordnance Department were exposed to extremely hard service. Many were damaged, some beyond repair, while many others were lost in Western desert sands, rivers or to the Indians. Of those few remaining, most are found in museums and advanced collections, leaving only a few remaining in circulation.



Fig. 5-31 First Model Original Metallic Cartridge Richards, serial number 4696. (Courtesy Francis E. "Bud" Firth)

1860 First Model Original Cartridge Richards

SERIAL NUMBER RANGE	1 to high 5000 range (see text)
CALIBER	.44 caliber centerfire
BARREL LENGTH	Full 8", flat or radius crown
BARREL ADDRESS	New York
EJECTOR HOUSING	Typical to all Richards (see Fig. 5-17)
EJECTOR ROD TIP	Ball-shaped, extending almost to cylinder
EJECTOR HEAD	Cross-hatch
WEDGE	New, sometimes numbered, sometimes not
CYLINDER	New (see Fig. 5-8 and associated table)
CONVERSION RING	Typical to all First Model Richards
GATE SPRING	Internal (serial numbers 1 to 2500 approx.)
	External (serial numbers 2500 and higher)
FRAME TYPE	Three-screw type only (not cut for stock)
FRAME MARKINGS	COLTS/PATENT (serial numbers 1 to 2500 approx.)
	Two-line patent dates (serial numbers 2500 and higher)
HAMMER SCREW	Small (serial numbers 1 to 2500 approx.)
	Large (serial numbers 2500 and higher)
HAMMER SPUR KNURL	Bordered cross-hatch with underline
STOCK (GRIP)	Single-piece wood or special order material
BACKSTRAP	Steel, blued or plated
TRIGGERGUARD	Brass (iron is rare and on higher serial number)
ASSEMBLY NUMBERS	Matching (see text for locations)
INSPECTOR MARKS	Not applicable

Upon completion of, or perhaps during, the contract with the U.S. Ordnance Department, Colt's Patent Fire Arms Manufacturing Company began producing the First Model Richards for the Civilian market.

The Colt Company lost no time in advertising its new breech-loading revolvers. The illustration in Fig. 5-32 was taken from the front of an 1872 Colt's catalog. The advertisement speaks of both Army and Navy size metallic cartridge revolvers, the Army being a First Model Richards (as illustrated), and the Navy most likely being a Richards-Mason revolver, outlined in Chapter 6 of this book.

The First Model Colt Richards revolvers which were made as original breech-loading metallic cartridge guns were serial numbered from 1 through the high 5000s. It will be found that those in the high 5000 number range will alternately be mixed with other models, such as the rare low-numbered Richards Second Model and the Richards-Mason Model. This suggests that all three models were produced simultaneously, and as they were readied for serial number assignment, a First Model Richards, a Second Model Richards and a Richards-Mason were in line to be numbered in sequence.

All of the original metallic cartridge First Model Richards frames were of the three-screw type. No four-screw frames have been reported on any original First Cartridge Models. The recoil shield was cut back to receive the Richards conversion ring, in the same manner as was that of the U.S. Richards. Shoulder stock cut-outs in the recoil shields of Original Cartridge First Model Richards, Second Model Richards and Richards-Masons are extremely scarce, but are found on rare occasions. All frames associated with the newly made cylinders were opened to accept the larger diameter of the cylinder's rebated section.

At approximately serial number 2500, or mid-1872, several changes took place in the Original Metallic Cartridge First Model Richards. The lower numbered guns

had the COLTS/PATENT frame stamping, while those above approximately 2500 were stamped with -PAT.JULY.25.1871-/PAT.JULY.2.1872-. Then, at slightly higher serial numbers, in early 1873, the size of the hammer screw was enlarged. The lower numbered guns had the smaller (percussion-size) hammer screws, while those with the higher serial numbers had the larger (Single Action Army-size) screws.

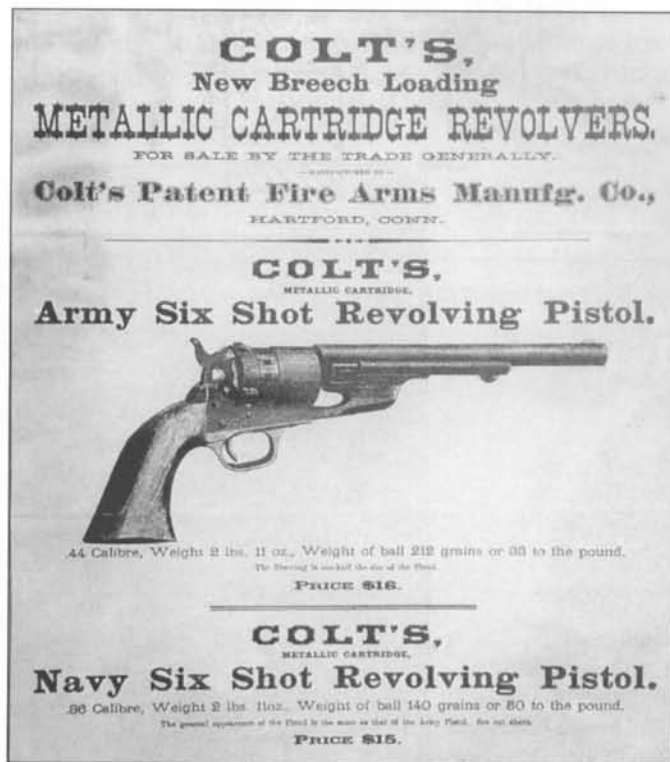


Fig. 5-32 Colt's New Breech Loading Metallic Cartridge Revolvers advertisement of 1872. (Courtesy John H. Thillmann)



Fig. 5-33 First Model Richards, serial number 2042, assembly number 816. Frame close-up showing gate hinge with internal gate spring. (Author's Collection)

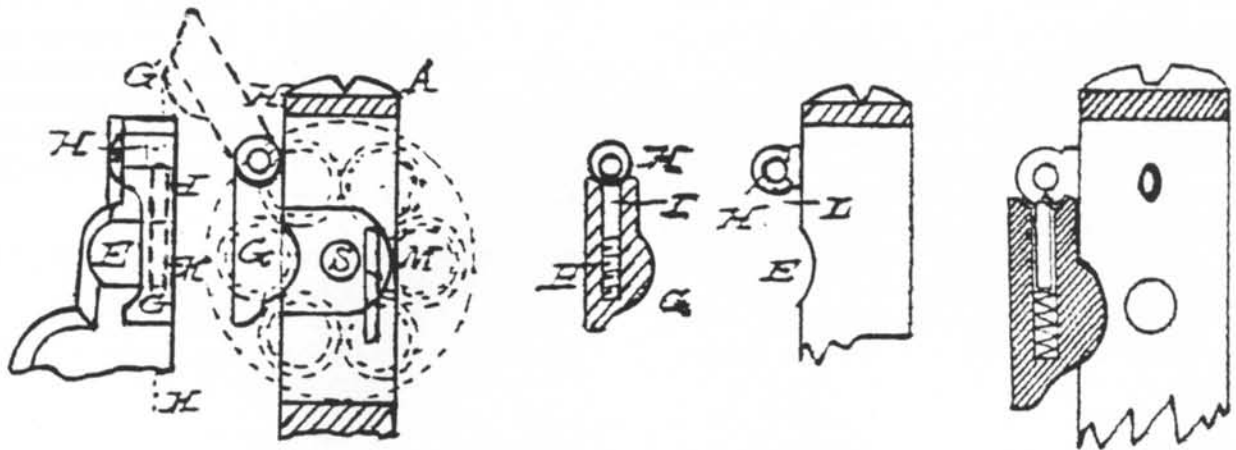


Fig. 5-34 Drawings of the John Adams patented loading gate mechanism.

A

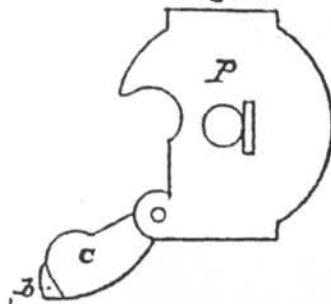
E. ALLEN.

Revolver.

No. 35,067.

Patented April 29, 1862.

Fig. 3.



The latch U is hung to frame A at a, and is provided with a tongue, b, which is received into a corresponding groove or opening, as seen at c, Fig. 1.

d is a spring which, in connection with the projecting tongue b, holds the latch U securely when it is closed, and it can be easily opened when required for the purpose of inserting the charges.

B

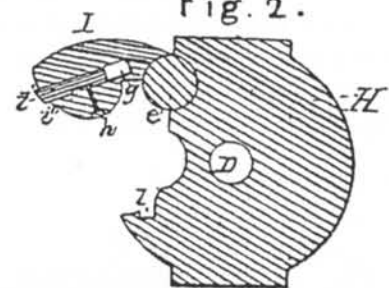
E. ALLEN.

Revolver.

No. { 2,324. }
33,328. }

Patented Sept. 24, 1861.

Fig. 2.



The recoil-plate H is provided with a latch, I, which is hung at e in the rear of cylinder B, and is secured by sliding bolt f, which is pressed outward by spring g, and is kept in place by screw h, in connection with recess i. When latch I is closed sliding bolt f is received into recess l, which secures it to recoil H. Bolt f is provided with a thumb-piece, m, which is pressed upward when it is desired to open latch I.

Fig. 5-35 Drawings and patent text pertaining to loading gates and gate detents of two U.S. patents granted to Ethan Allen; No. 33,328, Sept. 24, 1861, and No. 35,067, April 29, 1862.

As illustrated in Fig. 5-33, the lower numbered Original Cartridge First Model Richards had the same gate design as did the U.S. Richards, with an internal (coil) gate spring. After about serial number 2500, an external (flat) spring was substituted. There were several patents in effect, covering breech-loading revolvers and conversion revolvers, that fully described loading gates and spring-loaded catches that the Colt Patent Attorneys felt could lead to a future infringement suit.

The first of concern was the British patent of John Adams (No. 2961/1867). Colt attempted to purchase the Adams patent rights through its London Agent, von Oppen, but the request was flatly refused. Adams wanted no

pressing the shield upward with the finger the coned end of the bolt slips out of the recess and allows the shield to be turned up when it is desired to free the opening above described."

Two other U.S. patents of concern are drawn and described in Fig. 5-35. (A) is the Ethan Allen patent of April 29, 1862, and (B) is the Ethan Allen patent of September 24, 1861. Both illustrations contain that part of the patent text that applies to the spring-loaded latches contained within the loading gates, and need no further explanation. Clearly, the early First Model Richards used a gate and locking latch that was similar to that in all three patents.



Fig. 5-36 First Model Richards close-up of conversion ring numbered on outside with the assembly number 1627. (Author's Collection)

competition from Colt in London, particularly in the military revolver field. All this prompted John Adams to patent his revolver in the United States and U.S. Patent 85,350 was granted to him on December 29, 1868. That portion of the patent drawings relating to the Adams loading gate is shown in Fig 5-34 and the patent text stated: "To prevent the cartridges from falling out through the opening thus cut away, a small shield (loading gate) is attached to the frame by means of a hinged joint, which shield fits into the above mentioned opening, and when closed prevents the cartridges from falling out. The shield, when closed, is kept in its position by means of a small bolt and a spiral spring, which are inserted into a hole drilled into the shield. One end of the bolt is coned, and when the shield is closed is forced by the spiral spring into a small recess adapted to the shape of the coned end, which recess is cut into that portion of the hinged joint of the shield which is fixed to the frame. The shield is thus held in its position when down, and by

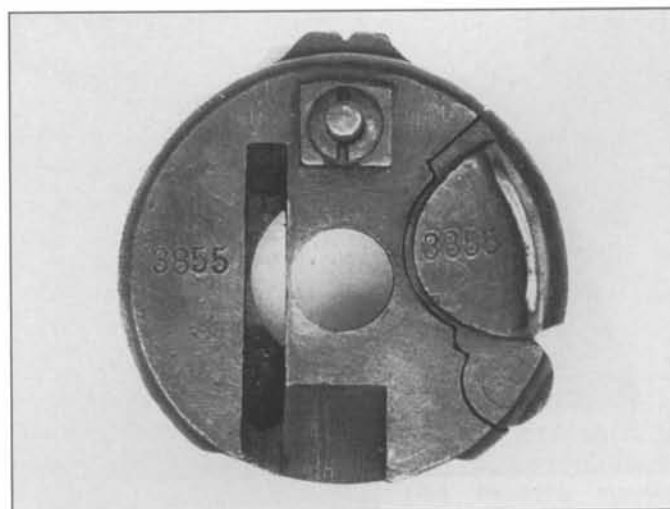


Fig. 5-37 Inside rear of conversion ring and loading gate for assembly number 3855. (Author's Collection)



Fig. 5-38 First Model Richards close-up of frame, hammer, conversion ring and cylinder for assembly number 816, serial number 2042. (Author's Collection)



Fig. 5-39 First Model Richards conversion with mixed serial numbers (147) and assembly number 165. (Courtesy Francis E. "Bud" Firth)

The Original Cartridge First Model Richards conversion rings were identical to those of the U.S. Richards, with an integral rear sight at the top, a right side hinged loading gate, a front rim extending slightly over the breech end of the cylinder and a rebounding firing pin. The lower serial numbered revolvers (generally those below number 2500) will have their assembly numbers on the outsides of both the conversion rings and the gates. Those in the higher serial number range, 2500 to high 5000, will have the assembly numbers stamped on the rear surfaces of the conversion ring and gate. Such numbering locations and other features are seen in Figs. 5-36 and 5-37, assembly numbers 1627 and 3855 respectively.

Cylinders for the Original Cartridge First Model Richards were newly made and serial numbered to the revolver. The cylinder in Fig. 5-38 is numbered 042, while the barrel, frame, triggerguard and backstrap are numbered 2042. It can also be seen that the assembly number is 816.

The ejector assemblies are identical in the Original Cartridge First Model Richards, the First Model Richards Converted from percussion and the Second Model Richards, except for the length of the ejector rod. In all three models, with the exception of the U.S. and the low assembly numbered 12-Stop Richards, the tips are ball shaped and the heads have the cross-hatch pattern. The housings are numbered on the inside flat, as are the barrels directly under the housing, with the assembly numbers.

The barrels of all guns observed on the Original Metallic Cartridge First Model Richards have the New-York barrel address and are a standard 8 inches in length. Some are crowned with a radius, while others remain flat. All have the traditional blade front sight.

The Original Metallic Cartridge First Model Richards shown in Fig. 5-39 has an extremely low frame serial number, 147, the rest being mixed. The assembly number is 165 and as can be seen from the right side

photograph, is stamped in the outside of the conversion ring. Of further interest is the flat end of the ejector rod. On some very early models, this has been carried over from the U.S. Richards production.

Gripstraps on these original cartridge First Richards are predominantly steel backstraps and brass triggerguards, but there appears to be no consistency. Occasionally, one will surface with a steel triggerguard in the 5000 serial number range, but these are extremely rare.

Finally, all Original Metallic Cartridge First Model Richards have underlined hammer knurling within a border. This is true of all cartridge conversions that were made up at the factory, and that were not U.S. Military Models.

The First Model Richards in Fig. 5-40 is believed to be another Model gun. It is fully nickel plated and serial numbered 1131 with the assembly number the same as the serial number. A small letter M is stamped under all serial numbers and the conversion parts are stamped the same as those of the U.S. Richards. The frame is stamped COLTS/PATENT and the 7-15/16-inch barrel has the New-York address and a radius at the muzzle. The conversion cylinder was newly made at the time the revolver was manufactured, as the diameter of its rebated section is 1.568 inches.

This revolver has an Army-size grip with steel backstrap and brass triggerguard, also nickel plated. The ejector assembly is identical to all thus far described, with a ball-shaped rod tip and cross-hatched head. The loading gate has an internal spring, and the entire revolver is nickel plated with more than 60 percent of the plating remaining. The hammer screw is the early (percussion) size and more than 95 percent of the cylinder scene is remaining.

The possibility exists that this M marked gun was a Model gun supplied to the Ordnance Department for U.S. nickel-plated guns supplied to troops for competitive tri-



Fig. 5-40 First Model Richards conversion Model Gun, assembly number 1131 and stamped "M". (Courtesy Francis E. "Bud" Firth)

Fig. 5-41 Engraved & plated First Model Richards, serial number 5058. (Courtesy Francis E. "Bud" Firth)



Fig. 5-42 Early photograph of three New Mexico rustlers of the 1878-1879 period. (Courtesy Palace of Governors, photo number 14264 by Bennett and Burrall)

als in the field. It is fully documented that of the 1,000 Smith and Wesson No. 3 revolvers ordered for the U.S. Army late in 1870, 20 percent were nickel plated.

The Ordnance Department order for 1,000 Colt 1860 Army revolver conversions followed this Smith & Wesson order by only one month, but there was no mention of the type of finish to be applied by Colt. Nevertheless, Colt and

Smith & Wesson were in keen competition for Ordnance Department business and both concerns were perfectly willing to supply whatever the Chief of Ordnance desired.

An exceptionally fine nickel-plated revolver is seen in Fig. 5-41. It is a later First Model Richards with the two-line patent dates on the frame and serial numbered 5058. The barrel and rebated portion of the cylinder are engraved and the grip is ivory. The cylinder scene is sharp and complete and most of the plating remains. The hammer is color case hardened and the trigger-guard has been left in natural brass. Four other Original Metallic Cartridge Models in this same serial number range with identical engraving have been observed.

Another fine example of a nickel-plated Original Metallic Cartridge First Model Richards is serial numbered 1899, with the assembly number 673. The low serial number and the externally stamped assembly number places this three-screw model in the early production range with its frame stamped COLTS/PATENT. Though flaking in areas, most of the original nickel remains.

The Richards was popular with lawmen and outlaws alike. Figure 5-42 shows three New Mexican bandits of the mid-1870s, one with a Winchester carbine and the other two with 1860 Richards conversions. Sheriffs, detective agencies, stage lines, railroads, cattlemen, gamblers, miners—every walk of life imaginable—were soon carrying this new Colt's metallic cartridge revolver. Military officers and soldiers sent their personal Colt revolvers to the Hartford factory to be converted by the Richards system to accept centerfire reloadable metallic cartridges.

Figure 5-43 shows a late production Original Metallic Cartridge First Model Richards with holster, cartridge belt, and hunting knife with sheath. The revolver is serial numbered 5116, and has the assembly number 583 stamped on all conversion parts including the inside rear of the conversion ring. The frame carries the two-line patent dates and the early renickel offers 99 percent coverage.



Fig. 5-43 First Model Richards serial number 5116, with holster, gun belt and knife. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 5-44 Engraved and plated First Model Richards, serial number 3721. (Courtesy Francis E. "Bud" Firth, photo by Francis E. "Bud" Firth)



Fig. 5-45 First Model Richards, serial number 3624. (Courtesy Francis E. "Bud" Firth)

One of the finest Original Cartridge First Model Richards known is pictured in Fig. 5-44. Serial numbered 3721, with assembly number 2885, this specimen is finely engraved in a vine and leaf pattern, fully nickel plated and stocked in checked ivory. The engraving is found on the barrel, frame, conversion ring, backstrap, triggerguard and the larger diameter portion of the cylinder. Though the serial number is in the higher portion of the range, the frame is stamped COLTS/PATENT and that stamping is enclosed within a border of the frame engraving.

Another quality Original Cartridge First Model Richards is shown in Fig. 5-45. Again, slightly above mid-range, the serial number is 3624, and the assembly number 2333. The gun has a full 8-inch barrel with New-York address, ball-shaped ejector rod tip, small percussion-type hammer screw and a wedge with retaining spring. Several Colt inspector markings are found in the usual "percussion" lo-

cations such as the small S at the breech end of the barrel, and the number 1 stamped at the bottom of the lug where the barrel meets the frame. There is also a T and a partial 2 stamped on the rear of the cylinder, the 2 being the same as found on the U.S. Richards.

The outstanding feature of this particular revolver is its overall excellent condition. Mechanically, it is perfect, and its appearance is almost unequaled. The cylinder scene is 100 percent with generous amounts of original blue remaining on the rebated portion of the cylinder. The barrel and backstrap bluing is more than 90 percent and most of the case hardening colors remain on the frame and hammer. The triggerguard is natural brass, having a smooth age patina with no evidence of having been plated. Though a higher serial number, the loading gate has an internal spring and the frame is stamped with the earlier COLTS/PATENT marking.

1860 First Model Richards, Converted Percussion Range

SERIAL NUMBER RANGE	Generally 190000 to 200000 (see text)
CALIBER	.44 caliber centerfire
BARREL LENGTH	8 inches, crowned with slight radius
BARREL ADDRESS	New York
EJECTOR HOUSING	Typical to all Richards (see text)
EJECTOR ROD TIP	Round, extending past wedge slot
EJECTOR HEAD	Cross-hatch
WEDGE	Sometimes numbered, sometimes not
CYLINDER	Newly made
CONVERSION RING	Same as U.S. and Cartridge First Model
GATE SPRING	Internal on early production, external on later production (see text)
FRAME TYPE	Three-screw, not cut for shoulder stock
FRAME MARKINGS	COLTS/PATENT on early production, two-line patent dates on later (with and without dashes-see text)
HAMMER SCREW	Large on lower serial numbers, small on higher, (see text)
HAMMER SPUR KNURL	Cross-hatch within border and underlined
STOCK (GRIP)	Army-size varnished walnut, ivory, etc.
BACKSTRAP	Blued or plated steel
TRIGGERGUARD	Brass oval, plated or plain
ASSEMBLY NUMBERS	Matching (see text)



5-46 Plated First Model Richards, serial number 191036, assembly number 5990. (Courtesy Francis E. "Bud" Firth)

Most of the percussion range Richards will be found to be in the 190000 to 200000 serial number range, as these revolvers were, for the most part, made up from overstock percussion parts in the Colt factory inventory. A few exceptions exist, as some special order guns in the 180000 serial number range were produced and used primarily for promotional purposes.

An excellent example of such a revolver is pictured in Fig. 5-47. It is serial numbered 185688 and carries the assembly number 688, representing the last three digits of the serial number. This extremely rare revolver is Nimschke engraved and Tiffany gripped. Though slightly flaking in areas, the entire gun is plated. The three-screw frame is marked COLTS/PATENT within a decorative border that is part of the engraving. The fine American-style bordered scroll, with punched dot matting, is also found on the cylinder rather than the usual roll-die sea battle scene by Ormsby. Finally, there is a wolf's head on both sides of the hammer, as is often seen on Nimschke's great work.

Other numbers outside the range of 190000 to 200000 have been found to be Richards conversions that origi-

nally left the factory as percussion revolvers and later returned to the factory to be converted to accept metallic cartridges. One such revolver is the Richards conversion pictured in Fig. 5-58, serial number 90715, assembly number 5083.

The highest recordable number found to date on a Richards in the percussion range is in the 200700 serial number range. This is more than 200 numbers higher than the previously estimated and accepted high number for percussion 1860 Army revolvers.

The Richards Percussion Range Model is similar to the Original Cartridge First Model in every respect. Cylinders can be found reused from percussion inventory, but in most cases they were newly made with larger diameter rebated sections. Occasionally, a cylinder with the Ormsby signature, ENGRAVED BY W.L.ORMSBY, NEW YORK, can be found, such as the Richards conversion in Fig. 5-48, serial numbered 191036, assembly number 5990. The gun is full nickel plated, has an unmarked frame and an external gate spring.

All Percussion Range First Model Richards have 8-inch barrels with a very slight radius at the muzzle. All barrels

Fig. 5-47 Engraved and plated First Model Richards with Tiffany grips. Serial number 185688, assembly number 688. (Courtesy Francis E. "Bud" Firth)



Fig. 5-48 First Model plated Richards, serial number 191036, assembly number 5990. (Courtesy Francis E. "Bud" Firth)



are stamped with the NEW YORK address and maintain the traditional blade front sight.

As with the Original Cartridge First Model Richards, the Percussion Range First Model and the Second or Transition Model Richards have the ejector housings and barrels stamped with the assembly numbers. This can be seen in Figs. 5-49 and 5-3. Further, the ejector rod tips are round, extending well past the wedge cut-out and the ejector head is cross-hatched.

Strangely enough, the larger hammer screws are found on those Percussion Range First Model Richards with the lower serial number. This leads one to believe that this model Richards was produced by using the highest serial number and working downwards until the inventory of percussion parts began to run too low, at which time the Original Metallic Cartridge Model numbers took precedence, although both were seemingly produced simultaneously.

There seems to be no particular relevance to the progression of assembly numbers. They are mixed intermittently between the Original Metallic Cartridge Models,

the Percussion Range Models, Transition Models and the Richards-Mason Models.

Percussion Range Model frame markings are found to vary considerably. The COLTS/PATENT frame stamping is commonly found, but in like manner, the two-line patent dates, PAT.JULY.25.1871./PAT.JULY.2.1872. are also found with dashes and without dashes. Naturally, those guns produced prior to the issue of the Mason patent will contain the COLTS/PATENT stamp. No Richards is known with only a single 1871 patent date. On the other hand, it is quite possible that some Richards frames produced before July 2, 1872, were simply set aside until the Mason patent was issued and they could receive the new patent date stamping.

The only logical explanation for some patent dates having dashes at each end is simply that more than one stamp was used. There had to be a frame stamping process on more than one assembly line.

Each assembly line had its own pattern of patent date stamps. Some had dashes, while others did not. As we progress further into this chapter (and the next), still

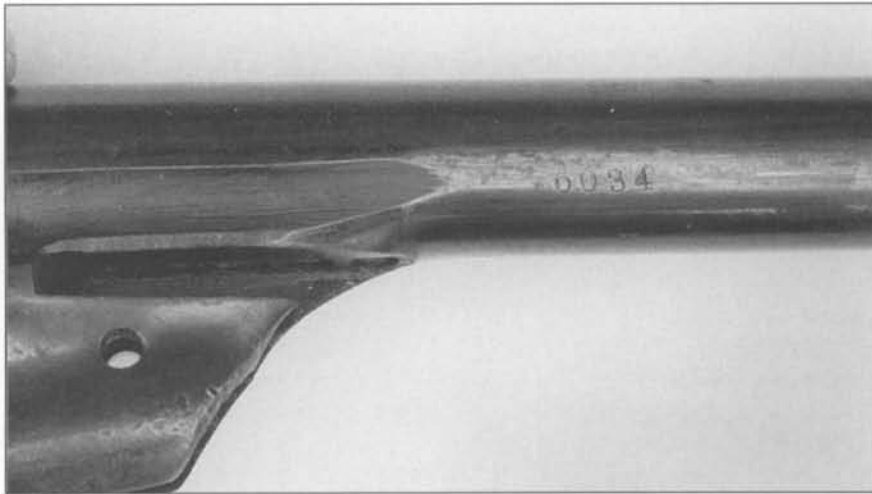


Fig. 5-49 First Model Richards, assembly number 6034. (Upper portion) Close-up of under-barrel numbering. (Lower portion) Close up of top ejector assembly numbering. (Author's Collection)

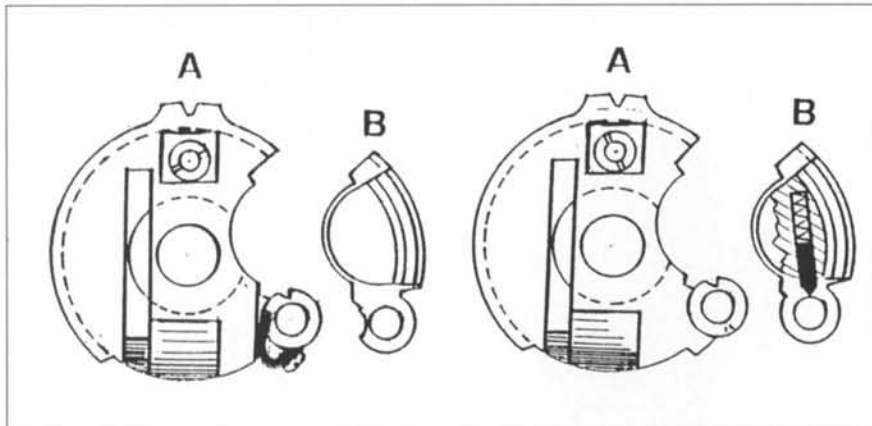


Fig. 5-50 Two types of gate springs: internal (coil) and external (flat or leaf).

other variations will be encountered in frame stampings. Some frames have the two patent dates stamped over, or to the right side of, the original COLTS/PATENT frame marking. Still other frames are stamped with broken dies, resulting in missing dashes, periods, characters or portions of characters. Remember that these patent date dies were used to stamp frames that were already case hardened. Therefore, they were vulnerable to breakage and excessive wear.

For the most part, the Percussion Range Richards have 1860 Army-size steel backstraps and brass oval triggerguards. The stock or grip material is, in most cases, varnished walnut. There are only a few exceptions known, such as iron triggerguards and special order grips (ivory, pearl, tiffany).

Two types of loading gate springs are found on the Percussion Range Richards conversions. The internal coil spring (first type) is commonly found on those with frames stamped COLTS/PATENT, while the external flat springs (second type) is more predominant on those with the double patent date stamping. As can be seen in Fig. 5-51, the flat spring for this model Richards is held to the conversion ring by a single screw, just below the gate hinge. As the progression of Colt conversions continues, several slight design changes took place with the flat springs, until finally the plunger and coil spring method was introduced into the frame, rather than in the gate itself. These changes are all associated with later models of conversions and will be detailed with the models to which they apply.



Fig. 5-51 Short Barrel First Model Richards, serial number 190856, assembly number 6560. Close-up showing flat gate spring, ejector rod tip and underside numbering. (Author's Collection)

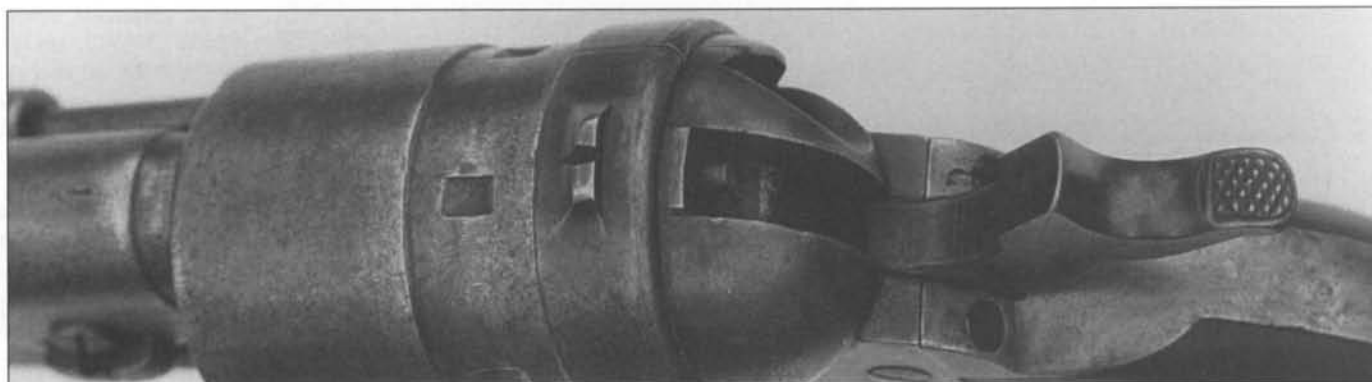


Fig. 5-52 Top close-up of First Model Richards showing integral rear sight, hammer spur knurl and rebounding firing pin.

The Percussion Range First Model Richards hammers are exactly the same as those of the Original Cartridge First Model. The knurling of the hammer spur is a cross-hatch within a border and underlined. The conversion rings are also identical on both models, with integral rear sight, rebounding firing pin and a front lip extending to and slightly over the breech end of the cylinder. These details are seen in Fig. 5-52.

In essence, the early Percussion Range Richards were produced in virtually the same manner as were the Original Metallic Cartridge Models. In late production, the only significant changes were the frame

stampings, the larger hammer screws and the external gate spring.

The Percussion Range First Model Richards shown in Fig. 5-53 is serial numbered 193837, with matching assembly number 3589 throughout. It has the standard 8-inch barrel, crowned with a slight radius, marked with the usual New-York address and fitted with a blade front sight. The cylinder was newly made for the conversion and measures 1.57 inches in diameter at the rebated section. The Army-size single-piece ivory grip, steel backstrap, brass triggerguard and blue steel with case hardened frame and hammer are all original. The round



Fig. 5-53 First Model Richards, serial number 193837, assembly number 3589, with ivory grips. (Author's Collection)

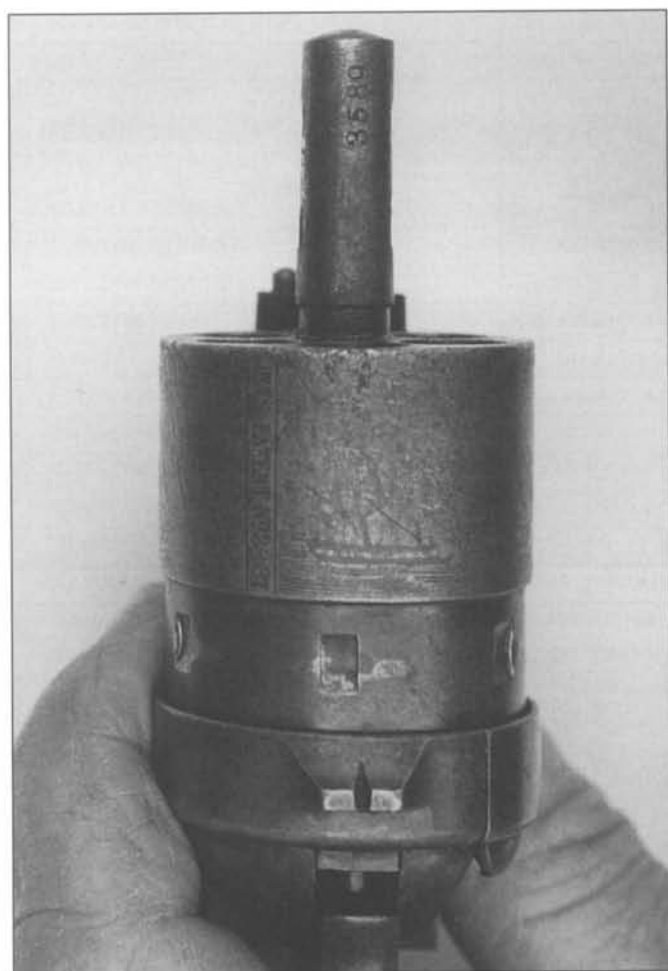


Fig. 5-54 First Model Richards, serial number 193,837, assembly number 3589, close up showing top of conversion ring, cylinder and cylinder arbor

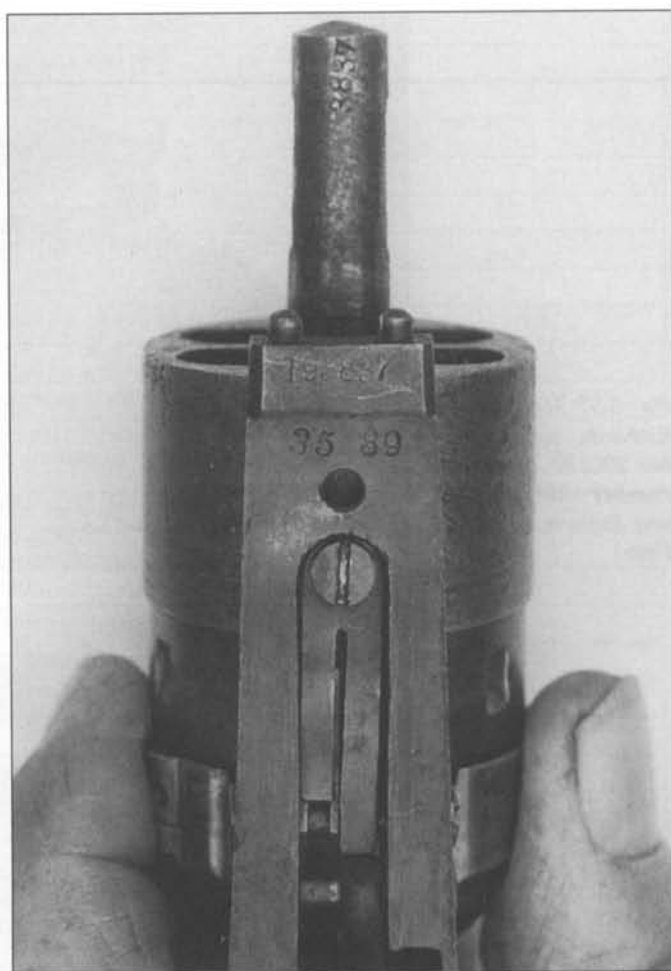


Fig. 5-55 First Model Richards, serial number 193837, assembly number 3589; close-up of underside of frame and cylinder arbor

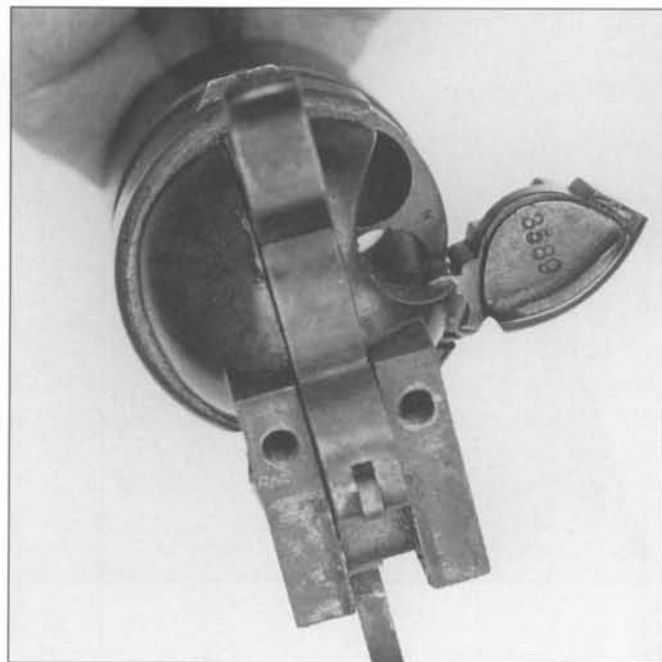


Fig. 5-56 First Model Richards, serial number 193837, assembly number 3589; close-up showing gate numbering.



Fig. 5-57 First Model Richards, serial number 200239, assembly number 301. (Courtesy Francis E. "Bud" Firth)



Fig. 5-58 First Model Richards, serial number 90715, assembly number 5083. (Courtesy Francis E. "Bud" Firth)

tip of the ejector rod extends to 5/16 inches from the cylinder face. The gun has a small hammer screw and the traditional bordered and underlined hammer spur cross-hatching, and the frame is stamped COLTS/PATENT.

The assembly number 3589 is found stamped on the top of the cylinder arbor (see Fig. 5-54) and on the underside of the frame, just above the triggerguard screw hole (see Fig. 5-55). When the triggerguard is in place, the frame number is covered. That four-digit number on the underside of the cylinder arbor represents the last four digits of the serial number.

The assembly number is also stamped on the rear of the loading gate as seen in Fig. 5-56, and on the rear of the conversion ring. The conversion ring number is not visible unless the ring is removed from the frame by removing the cylinder arbor.

One of the full nickel-plated Percussion Range First Model Richards is pictured in Fig. 5-57. It is serial numbered 200239 and has the assembly number 301

stamped in all the usual places. This revolver has the internal gate spring.

The Richards conversion shown in Fig. 5-58 is serial numbered 90715 and carries the assembly number 5083. This revolver left the factory as percussion and was later returned and converted. Except for the external gate spring it is identical to 200239.

Various Richards conversions are found with small British proof marks. No Colt 1860 Model Richards are known to have been converted by London gunsmiths, all were products of the Colt factory in Hartford. Therefore, all Richards conversions bearing British proof marks were shipped to the London office from Hartford and tested and marked by the British Proof House, before released for sale into the British markets. This was a strict requirement of the Gun Proof Act of 1868, and severe penalties were imposed for selling unproofed cylinders or barrels.

Twelve Cylinder Stop Richards Conversions

SERIAL NUMBER RANGE	Original Cartridge Models, 100-300
	Original Cartridge Models, 1000-1700
	Percussion Range Models, 200000 Range
CALIBER	.44 caliber centerfire
BARREL LENGTH	Nominal 8 inches
BARREL ADDRESS	New-York
EJECTOR HOUSING	Typical to all Richards (see Fig. 5-17)
EJECTOR ROD TIP	Normally flat
EJECTOR HEAD	Cross-hatch (early, fine; late, coarse)
WEDGE	Usually not numbered
CYLINDER	All were converted percussion cylinders
CONVERSION RING	First Type Richards, externally numbered
GATE SPRING	Generally internal
FRAME TYPE	Three-screw, not cut for shoulder stock
FRAME MARKINGS	COLTS/PATENT
HAMMER SCREW	Small (percussion size)
HAMMER SPUR KNURL	Bordered cross-hatch, underlined
STOCK (GRIP)	Army size, varnished walnut
BACKSTRAP	Steel
TRIGGERGUARD	Brass, oval
ASSEMBLY NUMBER	Same location as on U.S. Richards
SPECIAL NOTES	[1]: 12-Stop Richards were blued, none have been reported plated. No 12-Stop U.S. Richards are known to be correct.
	[2]: The 12-Stop Richards conversions were the very first Richards produced. They were converted percussion revolvers prior to the U.S. Richards, conversions produced along with the U.S. Richards, or both.
	[3]: All 12-Stop Richards conversions had reused original percussion 1860 Army revolver barrels. Original Thuer conversion barrels are sometimes found on the 12-Stop Richards, as well as other models produced from existing Colt factory percussion inventory (see Figs. 5-60 and 5-63).



Fig. 5-59 Twelve-Stop Richards, serial number 1612, assembly number 310, with engraved Henry Rifle. (Courtesy Francis E. "Bud" Firth)

A few First Model Richards were produced in which twelve cylinder locking notches can be observed in lieu of the normal six. Colt's revolvers of this type were illustrated on cartridge box labels produced by the U.S. Cartridge Company and Union Metallic Cartridge Company (see Fig. 5-92A), as well as on company advertisements for the Colt's New Breech Loading Metallic Cartridge Revolvers (see Fig. 5-32).

The close-up illustration in Fig. 5-60 shows some of the standard details of a typical Percussion Range Model having twelve cylinder stops. The gun is serial numbered 200777, and the conversion ring carries the assembly number 52. Note the flat tip of the ejector rod extending well past the wedge slot, the last three digits of the serial number stamped on the cylinder, the small assembly number stamped on the outer edge of the loading gate, the internal gate spring, and, of course, the safety notches positioned between the usual locking notches on the rebated portion of the cylinder. Note also that only the actual locking notches have bolt guides.

Other non-standard features adding to the rarity of serial number 200777 include the absence of the assembly number on the base of the barrel lug, triggerguard

and backstrap, and the lack of wrench flats on the round ball end portion of the ejector head. As might be seen in Fig. 5-60, the depth of the loading channel in the right side of the barrel lug reveals that this particular barrel was reworked for conversion by the Thuer system. Measurements and close examination have also found Thuer barrels on the 12-Stop Richards, serial number 200691, assembly number 2 (discussed later in this chapter) and the First Model Richards, serial number 190634.

Several 12-Stop cylinders (not revolvers) have been found by collectors that have a military finish. These all had percussion range serial numbers and various Colt in-house percussion inspector marks, G and H being the most common. Usually, one or more stop notches above the cartridge chambers is broken through.

The Springfield Armory was reportedly responsible for converting some percussion range cylinders in this manner. The 12-Stop cylinder must not be confused with the Locke safety notch. The Locke system is what simply evolved into the half-cock notch of a hammer, such as that later found on the Colt Single Action Army Revolver, while the 12-Stop cylinder provides a lock for the cylinder when the hammer is safely positioned between two



Fig. 5-60 Twelve-Stop Richards serial number 200777, assembly number 52; close-up showing common features of 12-stop models. (Courtesy John H. Thillmann)



Fig. 5-61 Right side view of Twelve-Stop Richards, serial number 1707. (Courtesy Francis E. "Bud" Firth)



Fig. 5-62 Left side view of Twelve-Stop Richards, serial number 1707, assembly number 452. (Courtesy Francis E. "Bud" Firth)

loaded chambers. The 12-Stop cylinder idea is probably a plagiarism of the earlier Manhattan revolvers employing that type safety system.

The 12-Stop locking system did not prove satisfactory on the Richards conversions' rebated cylinders and was quickly abandoned. It is of further interest to note that no correct U.S. Richards have been found with 12-Stop cylinders.

Perhaps the most accurate theory as to why the 12-Stop cylinders became obsolete so rapidly was because it could facilitate jamming of the action. If the fingers of the locking bolt became worn, or were not properly fitted, the bolt could prematurely lock into the wrong stop and thereby render the action inoperative by preventing full cocking. This condition could become rather serious in a hand-to-hand situation.

A highly publicized inaccurate reasoning for the impracticality of the 12-Stop safety system was that one or more of the added stop slots occasionally wore or broke through. The six intermediate stop notches were machined between those above the cylinder chambers, thus into portions of the cylinder having much heavier

metal beneath. It would be virtually impossible for any of them to break through. It was the original chamber notches (stop notches) that often broke through, and this was due to the weakness created by increasing the diameter of the bores (chambers) when converting the rebated six-shot percussion cylinders to metallic cartridge. With the newly fabricated conversion cylinders, the diameter of the rebated section was increased from 1.534 inches to 1.568 inches, thereby alleviating the break-through problem (see Fig. 5-8).

It was because of this inherent weakness, resulting from increasing the bore to that required by the .44 caliber metallic cartridge casing, that all subsequent six-shot .44 caliber Richards and Richards-Mason cylinders were newly fabricated, including those for the U.S. Richards.

The 12-Stop Richards in the Original Metallic Cartridge Model are predominantly found with extremely low serial numbers, usually in the low three-digit serial number range, such as serial number 195. They are occasionally numbered in the 1000 serial number range, as high as 1600 and 1700. That pictured in Figs. 5-61 and 5-62 is serial number 1707, with assembly number 452. Very seldom have

Fig. 5-63 Right side view of Twelve-Stop Richards, serial number 200691, assembly number 2. (Courtesy John H. Thillmann)



Fig. 5-64 Left side view of Twelve-Stop Richards serial number 200691, assembly number 2. (Courtesy John H. Thillmann)





Fig. 5-65 Twelve-Stop Richards, serial number 200691, assembly number 2, close-up detail of right side. (Courtesy John H. Thillmann)

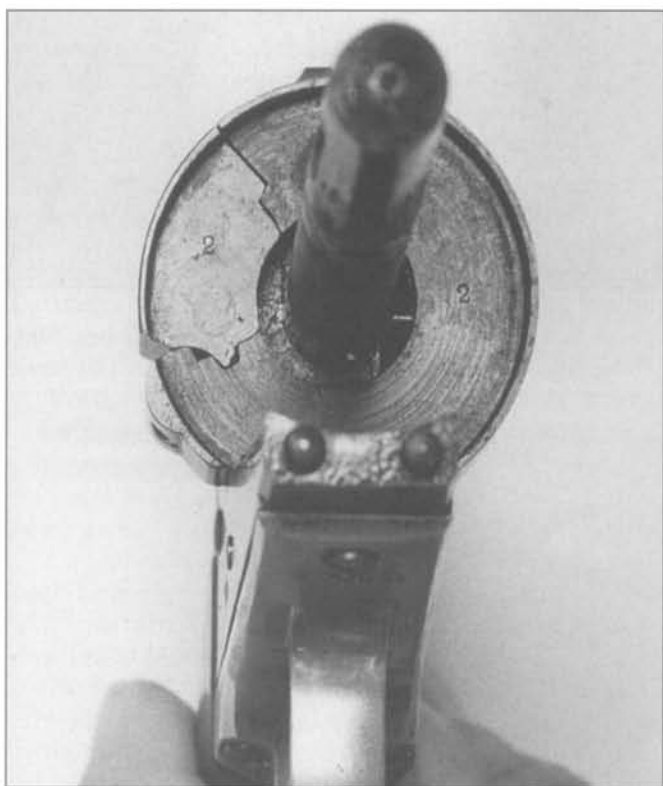


Fig. 5-66 Twelve-Stop Richards, serial number 200691, assembly number 2, close-up of front of conversion ring and gate. (Courtesy John H. Thillmann)

any authentic models shown up in the 2000 range, and none have been reported in the 3000, 4000 or 5000 serial number ranges.

The 12-Stop Cylinder Richards in the percussion range are predominantly found in the 200000 serial number range, and there has been a specific set produced in this high 200000 range with one- and two-digit assembly numbers, starting with number 1. Figures 5-63 and 5-64 show one of these very rare revolvers, serial numbered 200691 and possessing the assembly number 2 on all major parts. These revolvers' assembly numbers are about half the size of those normally found on the First Model Richards, and in most cases, are found in the same locations as those of the U.S. Richards.

The 12-Stop Richards serial numbered 200691 is unique in its numbering system. As illustrated in Fig. 5-65, the cylinder is numbered 2 (the assembly number) on the patent line, rather than 691 (last 3 digits of serial number) as would be normal. The flat ejector rod tip and the internal gate spring are both common to the 12-Stop Richards. The assembly number 2 is stamped on the inside front surfaces of both the gate and the conversion ring, as shown in Fig. 5.66. Also note from Figs. 5-63 and 5-65, that this 12-Stop First Model Richards has a deepened loading channel and has the barrel of a Thuer conversion.

The underside of the barrel lug is seen in Fig. 5-67. The assembly number 2 is stamped on both the bottom of the ejector housing plunger insert and the bottom of

Fig. 5-67 Twelve-Stop Richards, serial number 200691, assembly number 2, close-up showing underside markings. (Courtesy John H. Thillmann)



Fig. 5-68 Left side view of Twelve-Stop Richards made up from military experimental cylinder and incorrect serial number range conversion. Serial number 5741, assembly number 786.



Fig. 5-69 Right side view of Twelve-Stop Richards, made up from military experimental cylinder and incorrect serial number range conversion. Serial number 5741, assembly number 786. (Courtesy of an anonymous collector)



the barrel lug. Both stampings read from left to right, rather than in the usual manner. Also of interest, the cross-hatching of the ejector head is very fine, as compared to the coarse cross-hatch found on higher assembly numbers.

Collectors of Richards conversions should be extremely cautious when considering the purchase of a 12-Stop model as many spurious 12-Stop revolvers have been assembled, perhaps in far greater quantity than the originals. The recordable number of true 12-Stop conversions, from a survey taken over a 30-year period, is approximately two dozen.

The Original Metallic Cartridge Model Richards shown in Figs. 5-68 and 5-69 is one to which one of the converted percussion 12-Stop cylinders has been added. The revolver is serial numbered 5741 and contains the assembly number 786, while the 12-Stop cylinder is numbered 8921 (the last four digits of the percussion serial number). Other features that are not common to a true 12-Stop Richards are the iron triggerguard, the two-line patent dates stamped into the left side of the frame, the rounded ejector rod tip, the external gate spring, the high Original Metallic Cartridge Model serial number, internal assembly numbers, etc. A simple, but careful, study by the prospective buyer can result in a satisfactory conclusion.

Although there may be a rare exception to one or several of the specifications outlined in this chapter, virtually all of the 12-Stop Richards are consistent with the following characteristics:

(1) The knurling of the hammer spurs will be within a border and underlined. The hammer screw will always be the smaller (percussion) size.

(2) The 12-Stop Model conversion rings (breech-plates) will be externally numbered (assembly number) on their sides as was traditional with the early Metallic Cartridge Models. The same will be true of the loading gate and the gate springs will be internal. (For exceptions to this type numbering, see Figs. 5-65 and 5-66).

Normally, the wedges of 12-Stop Richards are not numbered, barrels are 8 inches in length, uncrowned and have New-York addresses, triggerguards are brass, backstraps are steel and the single-piece walnut grip is Army size.

Ejector rods normally have flat ends extending well past the wedge, and the head contains the typical cross-hatch pattern. The ejector housing is the same as found on all First Model Richards conversions.

No special variations are to be found on correct 12-Stop Richards. Engraving, special plating, ivory or pearl grips, etc. have never been observed on these models. All 12-Stop Richards were blued; to date, there are no correct nickel-plated versions known.

Several 12-Stop Second Model Richards are known to exist, but none are true 12-Stop factory products.

There were no Second Model 12-Stop revolvers produced by Colt. The revolver in Fig. 5-70 is a standard Second Model Richards, serial number 198602, with its original cylinder exchanged for a military percussion conversion cylinder with 12 stops and numbered 5505. The cylinder has its own story to tell in that it also bears the assembly number 47 and two in-house inspector marks, C and C, the second of which has been cut through by one of the added stop slots. The assembly number identifies the cylinder as having originally come from an earlier 12-Stop Richards conversion.

Only three numbers later, still another Second Model Richards, serial number 198605 was modified in the same manner with a 12-Stop military cylinder numbered 7297. This revolver, featuring genuine pearl grips, is pictured in Fig. 5-71.

In the two previous conversions, a not-too-well-informed basement mechanic intended to upgrade a cheaper Colt to one of four or five times its value, simply by adding a good condition, original 12-Stop military cylinder. In reality, he seriously decreased the value of his rare Second Model Colt conversion by separating it from its original conversion cylinder.

Where did all these 12-Stop cylinders come from? Extensive searching of old records and correspondence has come up with only one probable source, and several possible ones. The probable source is revealed in the July 31, 1871, entry in the Colt Factory Day Journal under the name of W.F. Cady. This particular entry called for:

1,000 New Model Army Cylinder Ratchets squared \$10.00

347 New Model Army Cylinders chambered 27.76

230 New Model Army Cylinders counterbored 4.60

1,000 New Model Army Cylinders Alt. hole cut 7.50

Then we know that the Springfield Armory experimented with 12-Stop cylinders of the 1860 Colt Army type. After the Army found these cylinders to be inferior for reasons already covered, did they sell them off as surplus parts, scrap metal, unusable materials?

We also know that the Colt factory discontinued the use of 12-Stop cylinders that were converted from 1860 Army percussion revolver cylinders, after a very limited production of 12-Stop Richards conversion revolvers. What did the Colt company do with their supply of 12-Stop converted percussion cylinders? Was the iron (steel) valuable enough to melt down and use again for other parts, or were the cylinders worth more as parts that could be sold to the civilian surplus markets?

Some of the larger, well-known antique weapons and parts dealers offered these 1860 Army 12-Stop converted percussion cylinders to the public as late as the 1960s. They appear to be so plentiful that most advanced Colt conversion collectors have several in their collections, and still more are seen at various gun shows.



Fig. 5-70 Right side view of Second Model Richards, serial number 198602, with 12-stop converted percussion military cylinder. (Author's Collection)



Fig. 5-71 Second Model Richards, serial number 198605, frame close-up, with 12-stop converted percussion military cylinder. (Author's Collection)



Fig. 5-72 Second Model Richards, serial number 196090. (Courtesy Francis E. "Bud" Firth)

The 1860 Type II Richards (Transition Model)

SERIAL NUMBER RANGE	Generally 190000 to 199000
CALIBER	.44 caliber centerfire
BARREL LENGTH	Nominal 8 inches, flat crown
BARREL ADDRESS	New York
EJECTOR HOUSING	Typical to all Richards (see Fig. 5-17)
EJECTOR ROD TIP	Round, extending well past wedge slot
EJECTOR HEAD	Cross-hatch
WEDGE	Not numbered unless replaced
CYLINDER	Newly made
CONVERSION RING	0.41 inches thick, number on rear flat
GATE SPRING	External (see text and illustrations)
FRAME TYPE	Three-screw, not cut for shoulder stock
FRAME MARKINGS	Two-line patent dates, with and without dashes
HAMMER SCREW	Large (Single Action Army size)
HAMMER SPUR KNURL	Bordered cross-hatch, underlined
STOCK (GRIP)	Army-size, single-piece varnished walnut
BACKSTRAP	Blued or plated steel
TRIGGERGUARD	Plain or plated brass oval
ASSEMBLY NUMBER	Generally last four digits of serial number
SPECIAL NOTE	The Second Model Richards has the hammer and shorter conversion ring of the Richards-Mason Model, leaving an 0.060-inch space between the front face of the conversion ring and the rear face of the cylinder (see also Chapter 6).



Fig. 5-73 Right side view of Second Model Richards serial number 194660. (Author's Collection)



Fig. 5-74 Left side view of Second Model Richards serial number 194660. (Author's Collection)



Fig. 5-75 Second Model Richards, serial number 194660, close-up of hammer, frame, cylinder, conversion ring and ejector rod tip. (Author's Collection)

A typical Second Model (Transition Model) Richards is shown in Figs. 5-73 (right side) and 5-74 (left side). This model differs from the First Model Richards in that the conversion ring (breech ring), hammer and gate of the Richards-Mason design were substituted for those of the Richards, while the original Richards ejector system was retained.

The original percussion-type hammer, with a V-shaped rear sight on the top lip, was retained. Instead of grinding the face flat for striking a firing pin, a slot was cut at its face to receive a new firing pin that, when seated, was held in place by two small rivets. Also, both lower edges of the hammer were ground to a radius matching the contour of the new conversion ring hammer cut-out. These changes are shown in the close-up photograph in Fig. 5-75.

The original 0.480 inch (± 0.005 inch) thick First Model Richards conversion ring was replaced by one having no front lip and measuring only 0.415 inch (± 0.005 inch) thick. The new ring, known as the 2nd Type Richards conversion breech ring (see Fig. 5-76), has no integral rear sight at its top; rather it has a slight opening and a 0.12 inch thick partition with a hole to clear the firing pin.

When the hammer is down, its front top lip rests upon the top of this partition, while the firing pin extends through the hole to discharge the priming of the centerfire cartridge (see Figs. 5-76 and 5-77). In like manner, the loading gate has also been made thinner so its front face will be in line with the front face of the conversion ring. The operation of the external gate spring can best be understood by a close examination of Figs. 5-76 (A) and (B) and 5-77. The external gate spring is held in place by a single screw entering the conversion ring just under the gate hinge barrel. This is best illustrated in Figs. 5-75, 5-76 (C) and 5-83.

Only four specimens of the Second Model Richards have been reported in the Original Metallic Cartridge Model serial number range—two in the 6000 range and another two in the high 5000 serial number range. All other examples are numbered in the Percussion Conversion Richards serial number range of 190000 to 200000.

Occasionally, an unusual Second Model Richards is found serial numbered below the 190000 range. These generally have special features, such as those pictured in Figs. 5-78 through 5-80. The Second Model Richards in Fig. 5-78 is serial numbered 173617/E. It was hand-somely scroll engraved as a percussion revolver and later converted to metallic cartridge.

The left panel of the ivory grips has a raised carved Mexican Eagle within an oval and a bordered checkered background, as shown in the close-up photograph in Fig. 5-79. Also, note that the COLTS/PATENT on the left side of the frame is hand engraved and bordered, and positioned further back than usual.

The Second Model Richards pictured in Fig. 5-80 is serial numbered 183867 and is also engraved. Of special interest is the barrel lug, which has been styled in the manner found on the Richards-Mason Model 1861 Navy conversions (see Chapter 6) and the Mystery conversions (see Chapter 9). At first glance, one might mistake this rare revolver for a Mystery conversion, but the heavier Second Model Richards conversion ring was not used on any of the known Mystery conversions.

Both of these guns have substantial "south of the border" influence, or were possibly returned to the factory for conversion in the late 1870s or early 1880s, and are exceptional one-of-a-kind specimens.

All Second Model Richards are rare because of the limited number produced, but to find a blued Second Model with any appreciable finish remaining is extremely difficult. The gun pictured in Fig. 5-81 is a good example of the average blue Second Model in today's collecting world. It has excellent traces of original finish, but shows considerable use. The gun is serial numbered 196787, assembly number 6787. Nickel-plated models have naturally held up longer and, though more of these exist with much of the original finish remaining, many exhibit areas where small amounts of plating has flaked away, leaving bare metal.

Barrels are the standard 8-inch length and have New-York addresses and blade front sights. They are normally flat crowned, but often the edges appear to have a radius, due to wear.

The Second Models' ejector rod housings are the same as those of the First Model Richards and are traditionally numbered on the underside, as is the barrel, directly under the housing flat (see Fig. 5-3). The rod tips are round and normally extend well past the wedge slot, unless shortened or replaced. Ejector rod heads have the traditional cross-hatch pattern, but more times than not they have been replaced as is the case in Fig. 5-82. These heads are easily broken by holster wear or hitting them against another object. Sometimes, the replacements are hand made, but in many cases the doughnut head of the Single Action Army made a good substitution.

As illustrated in Figs. 5-76 and 5-77, the loading gates of all Second Model Richards have external springs.

Assembly numbers are always found on the rear flat of the gate, just under the gate hood as shown in Fig. 5-83. Note that the assembly number 6787 is the last four digits of the serial number 196787. This is the usual practice in assigning assembly numbers to Second Model Richards in the percussion range, but none in the Original Metallic Cartridge range Second Models are numbered in this manner.

Variations exist in the rebated sections of cylinders, indicating that while most Second Model Richards cylinders were brand new, a few were simply remachined percussion cylinders converted for metallic cartridges.

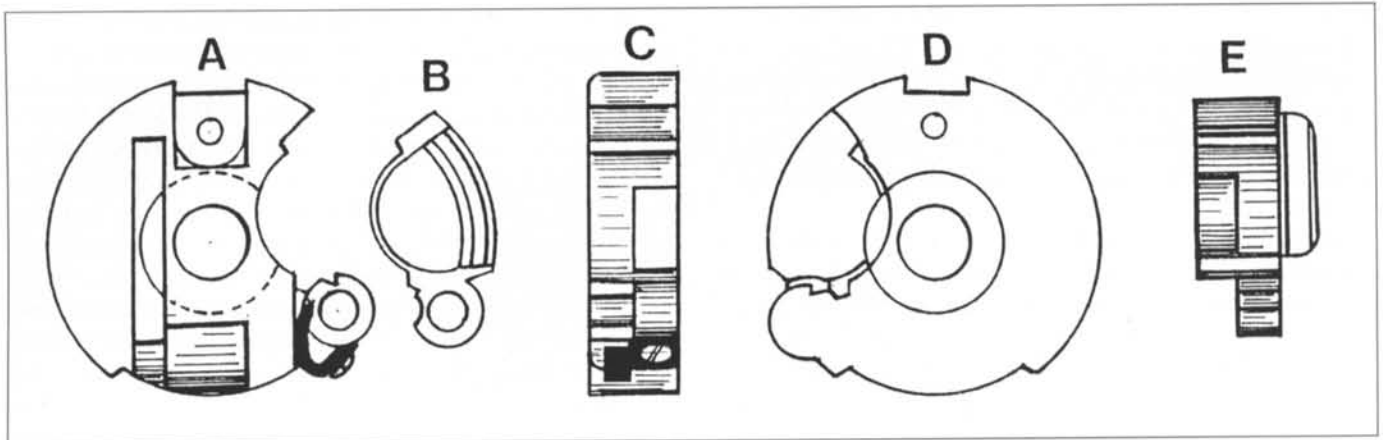


Fig. 5-76 Richards type II conversion ring.



Fig. 5-77 Rear view of Mason type conversion ring numbered 1192, with an internal gate spring. (Author's Collection).

Fig. 5-78 Right side view of Second Model Richards, serial number 173617/E. Special order engraved revolver with ivory grips. (Courtesy Francis E. "Bud" Firth)



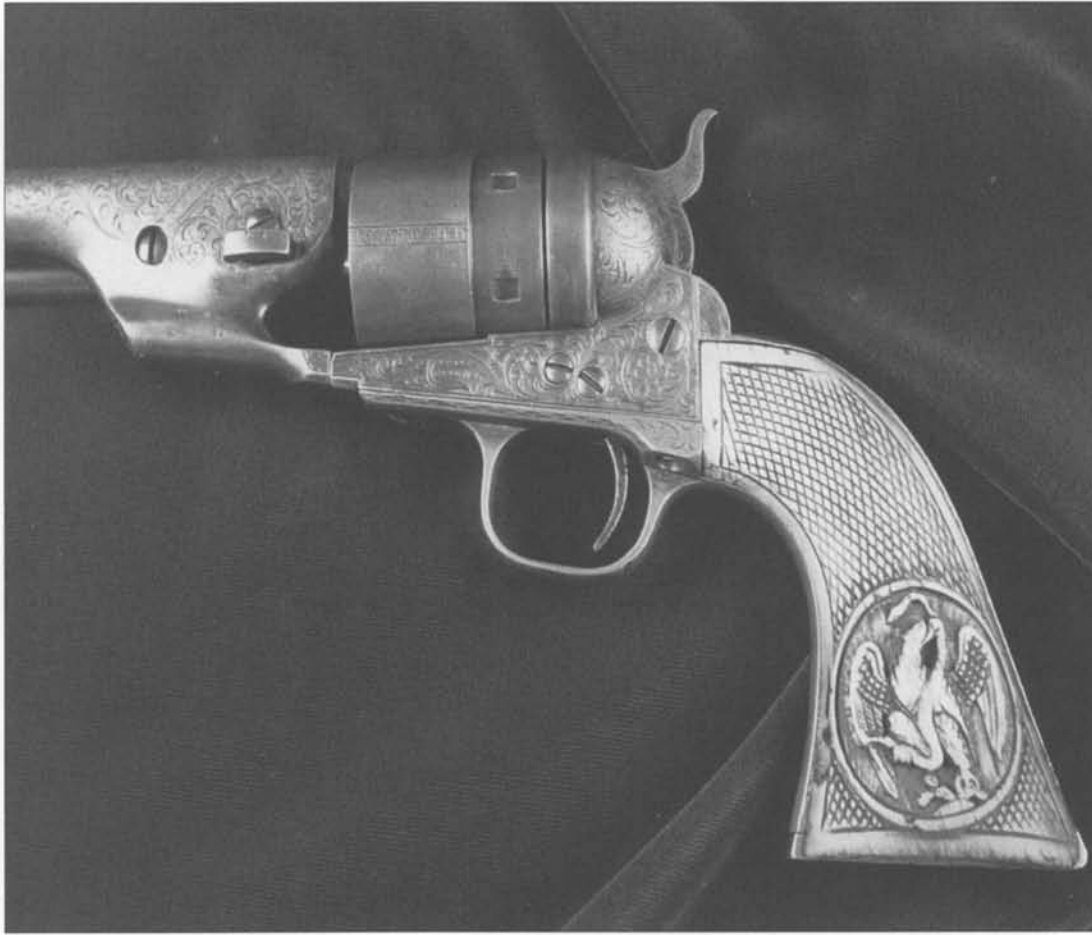


Fig. 5-79 Second Model Richards, serial number 173617/E; close-up showing detail of engraving and ivory carving. (Courtesy Francis E. "Bud" Firth)

Whichever the case, easy identification can be made by measuring and comparing diameters with the chart in Fig. 5-8.

There seems to have been no particular scheme of serial number or assembly number sequence that aligns any of the Second Model Richards with any particular frame stamping. As already mentioned, COLTS/PATENT is seldom found on 2nd Model frames.

The two-line patent dates, -PAT.JULY.25.1871.-/PAT.JULY.2.1872-. is the predominant frame stamping for this particular model, as illustrated in Fig. 5-84. These patent dates are sometimes found stamped over an earlier COLTS/PATENT stamping, as is the case with the gun in Fig. 5-84, stamped to the right side of the earlier stamp, or stamped on a new frame that has not been previously stamped. The two-line patent dates are sometimes



Fig. 5-80 Second Model Richards, fitted with rare Richards-Mason Navy type barrel and engraved with ivory grips. Serial number 183867. (Courtesy Francis E. "Bud" Firth)



Fig. 5-81 Second Model Richards, serial number 196787, assembly number 6787, with "doughnut" ejector head. (Author's Collection)

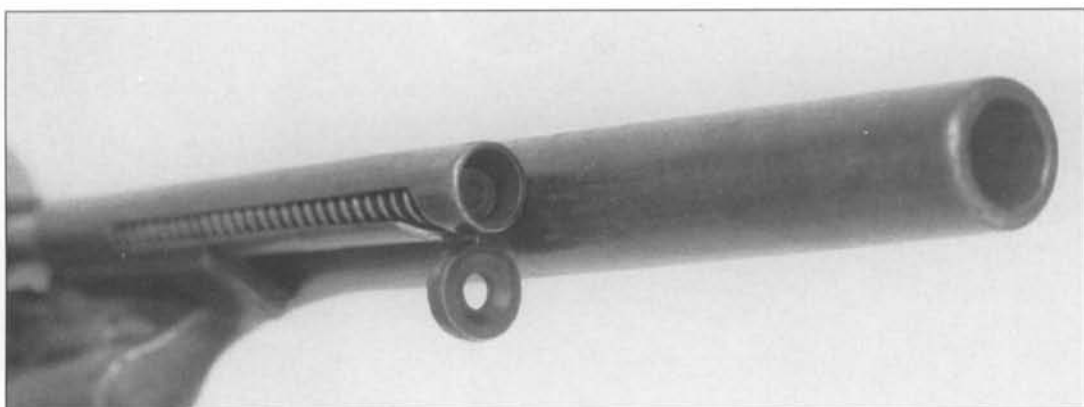


Fig. 5-82 Second Model Richards, serial number 196787; close-up showing barrel and replaced ejector rod head.



Fig. 5-83 Second Model Richards, serial number 196787; close-up showing assembly number in rear of the loading gate.



Fig. 5-84 Second Model Richards, serial number 196787; left side close-up of frame, hammer, cylinder and conversion ring.



Fig. 5-85 Second Model Richards, serial number 196787; close-up of underside numbering.

stamped with dashes at the beginning and end of each line and other times without dashes, as previously explained.

As on other Richards conversions, the backstraps of Second Model Richards are steel and the oval trigger-guards brass. Both are the 1860 Army size, and grip materials are generally varnished walnut or special order ivory, pearl, etc. Hammer screws are the large Single Action Army size.

Serial numbers on Second Model Richards conversions are found in the same locations as on the 1860 percussion Army revolvers, as illustrated in Fig. 5-85.

There are, as with other Richards models, some very outstanding specimens in private collections. The Sec-

ond Model Richards shown in Fig. 5-86 is an excellent example. It is serial numbered 197023, assembly number 7023, but the frame is not numbered. All the assembly numbers are matching on the gate, cylinder arbor and cylinder, but the ejector assembly is numbered 1870. The wedge is from percussion parts and numbered 504. The frame has the two-line patent dates stamped over COLTS/PATENT. Originally blued, this revolver retains 75 percent of its blue and the single-piece walnut grip has more than 98 percent of its original varnish.

Finally, consider the full nickel-plated Second Model Richards in Fig. 5-87. Serial numbered 193989, assembly number 3989, this exceptional piece has a newly made cylinder, all matching numbers and all the standard features



Fig. 5-86 Right side view of Second Model Richards, serial number 197023. (Courtesy Francis E. "Bud" Firth)



Fig. 5-87 Second Model Richards, serial number 193989, with Model 1873 Winchester rifle. (Courtesy Francis E. "Bud" Firth)

of the Second Model. The frame is stamped with the two-line patent dates, without dashes. All markings and numbers are crisp, the cylinder scene is 100 percent and better than 85 percent of the original bright nickel remains.

The production of the Transition Model was quite short lived. As soon as the stock of 1860 Army percussion barrels became exhausted, the Richards-Mason Models began to appear. These had newly fabricated barrels and incorporated the Mason simplified and patented cartridge ejector system (see Chapter 6 for Richards-Mason Models).

Generally, the Colt factory did not supply cases for the 1860 Richards conversions. After interviewing sev-

eral advanced collectors and experts on the subject, they could only account for two authentic casings of 1860 Richards conversions. Both are in private collections, and in typical London-marked oak cases with cartridge blocks. The case pictured in Fig. 5-88 contains a First Model Richards, serial numbered 191462, with assembly number 6369. The other (not illustrated) is serial numbered 198214, with assembly number 4531. Both revolvers contain small British proof marks.

It is suspected by many historians and knowledgeable collectors that while the Rollin White patent on the bored-through cylinder was still in effect (prior to April 3, 1869), the U.S. Ordnance Department was

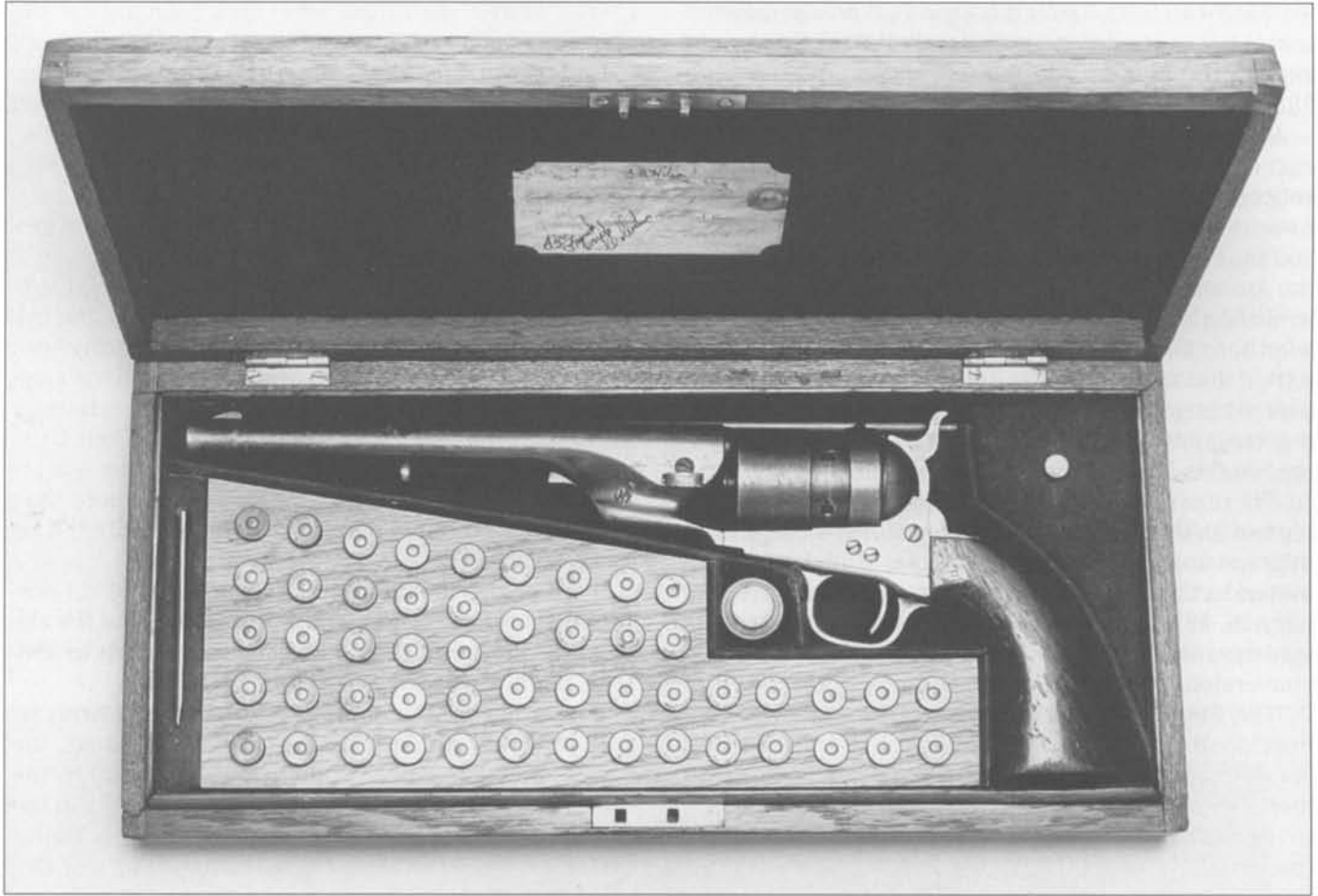


Fig. 5-88 Cased, British-proofed First Model Richards conversion, serial number 191462, assembly number 6369. (Courtesy Francis E. "Bud" Firth)



Fig. 5-89 Frankford Arsenal box of 12 Martin .44 caliber center-fire cartridges for Colt's and Remington's Army revolvers, dated April, 1871. (Courtesy Dow and Russelle Heard)

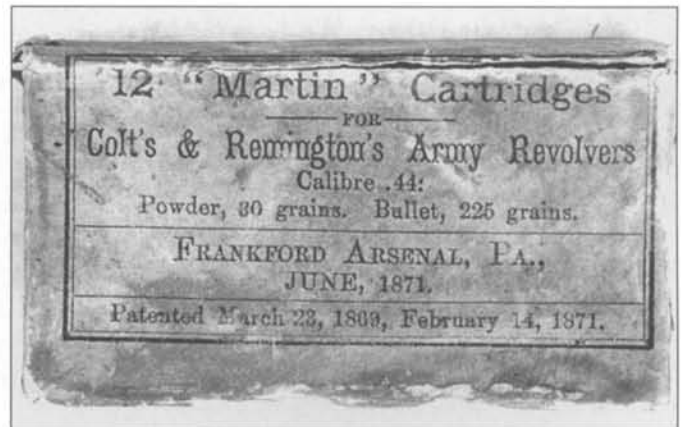


Fig. 5-90 Frankford Arsenal Box of 12 Martin .44 caliber center-fire cartridges for Colt's and Remington's Army revolvers, dated June, 1871. (Courtesy Dow and Russelle Heard)

working with both Remington and Colt on a somewhat secret basis, leaving no paper trail. If true, this would explain the lack of information in the government's files.

It is a fact that the Ordnance Department experienced much difficulty with those claiming to be the inventors of certain features used by the Springfield Armory during its long history of small arms improvements. These problems are outlined in great detail in the Annual Reports of the Chief of Ordnance from 1869 to 1872. Numerous royalty claims were filed, and whether valid or not, the Ordnance Chief wanted no part of them. It is therefore logical to assume that quite a bit of non-published research, development and testing was going on at the armory, the Colt factory, Frankford Arsenal and elsewhere during 1869.

There are two major factors to consider in attempting to date the first Richards conversions: the lead time in preparing and testing the original Model guns submitted to the Ordnance Department on or before January 26, 1871; and the center fire metallic cartridges made available for the Model guns and those Richards conversions that followed.

The Benet inside-primed centerfire cartridge was developed in March 1868 and was manufactured at the Frankford Arsenal for about five years. If Colt's 1860 Richards conversions were available for testing prior to the development of the Martin centerfire cartridge (patented March 23, 1869), the Benet-type cartridges were certainly used in these revolvers.

The Martin cartridges were also produced at the Frankford Arsenal. Figure 5-89 pictures a box dated April 1871. This is the earliest known (by the author) Frankford Arsenal label for the Martin cartridges designated specifically for "Colt's & Remington's Army Revolvers." Another box, dated June 1871, is pictured in Fig. 5-90. These, and others dated still later are extremely rare, but the April date is the most desirable to the collectors of U.S. Richards conversions.

A single copper-cased Martin primed cartridge is shown chambered in an 1860 Richards conversion cylinder in Fig. 5-91. To have been in full production by April 1871, certainly the prototypes would have been completed and tested many months earlier, allowing time for the preparation of tooling and forming dies. Then, if the refolding feature of the February 14, 1871, patent was absolutely necessary, the new design would more than likely be ready for full manufacture on or before the actual patent date.

With all this in mind, there seems to be a great possibility that the 1860 Richards conversions, and the ammunition they required, could date back to early or mid-1869, if only on a trial or experimental basis.

According to ammunition purchases and Army issues reported annually by the Chief of Ordnance, the U.S. Richards were continued in use right up to the 1880s. There seems to have been no uniformity in the definitions of the various cartridges, so one must speculate as to the exact meaning of the following wording taken directly from the various ordnance reports:

Fiscal Year	Ammunition Purchased and/or Issued to the Army
1871-1872	219,880 centerfire pistol cartridges, 44 caliber
	367,988 Colt's and Remington's pistol cartridges, 44 caliber
1872-1873	40,700 Colt's altered [R.F.] pistol cartridges, 44 caliber
	19,200 centerfire pistol cartridges, 44 caliber
1873-1874	94,158 pistol ball cartridges, 44 caliber
1874-1875	3,200 revolver ball cartridges, metallic, 44 caliber
1875-1876	5,000 revolver ball cartridges, 44 caliber (militia issue)
1876-1877	500 metallic ball cartridges, 44 caliber
1877-1878	276,374 revolver ball cartridges, metallic, 44 caliber
1878-1879	6,500 revolver ball cartridges, metallic, 44 caliber
	1,200 pistol ball cartridges, 44 caliber (militia issue)
1879-1880	1,100 revolver ball cartridges, 44 caliber
	The pistol ball cartridges, 45 caliber (Colt's centerfire metallic cartridges for the new Single Action Army revolvers), first appeared in the 1873-1874 Ordnance Report, but were purposely left out of the above listing as they had no relevance to this study.

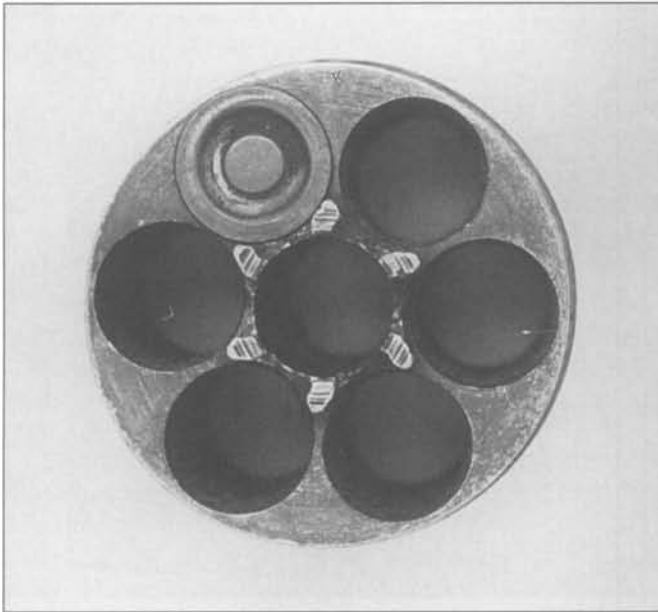


Fig. 5-91 U.S. Richards conversion cylinder with single Martin cartridge chambered. (Author's Collection)

Commercial cartridges, known as the .44 Colt, became available in 1871 and are commonly found boxed with labels of the United States Cartridge Co. and the Union Metallic Cartridge Co. as illustrated in Figs. 5-92A and 5-92B. Clockwise, starting with the top left is a yellow labeled box of 50 cartridges by the United States Cartridge Co. of Lowell, Mass. These date back to the 1870s and, as can be seen in Fig. 5-92B, they are marked with a December 17, 1872, patent date. Next is a 50 count box with the orange label of the Union Metallic Cartridge Co. of Bridgeport, Conn. These date to the 1880s and carry the A.C. Hobbs patent dates of Oct. 31, 1876, and April 18, 1882. The third is another yellow label box by the United States Cartridge Company, with the side label reading "Solid Head Re-Loading Cartridges." Finally, a later yellow label box by the United States Cartridge Company is shown, dating to the 1880s.

The same cartridge boxes are shown in side view in Fig. 5-92B, with the same clockwise identification. The Union Metallic Cartridge Co. label has Colt's Patent Fire Arms Manuf'g Co. in script, or signature, style and the Rampant Colt on the side label, while the later cartridge



Fig. 5-92A Top labels of four boxes of 50 .44 caliber Colt centerfire commercial cartridges for the 1870 - 1890 period. (Courtesy John H. Thillmann)



Fig. 5-92B Side labels of four boxes of 50 .44 caliber Colt center-fire commercial cartridges for the 1870-1890 period. (Courtesy John H. Thillmann)



Fig. 5-93 Late .44 caliber Colt cartridge boxes of fifty, dating between the 1880s and the turn of the century. (Courtesy John H.

box of the United States Cartridge Co. contains its encircled US trademark.

These commercial .44 caliber Colt cartridges contained somewhat lighter bullets and lighter powder charges than their Frankford Arsenal counterparts. The cases were brass with copper primers, charged with 23 grains of black powder and containing a 210 grain lead bullet. Picture boxes, such as those pictured in Fig. 5-92A, are extremely scarce and desirable to cartridge collectors as well as serious collectors of Colt conversions.

These 1860 Richards conversions were so economically practical and popular that the cartridges for them were manufactured well into the 20th Century.

The 50-count cartridge boxes pictured in Fig. 5-93 were manufactured by the United States Cartridge Company (note both addresses: New York, N.Y., and Lowell, Mass.), the Winchester Repeating Arms Company of New Haven, Conn., and the Union Metallic Cartridge Company of Bridgeport, Conn. Dates of manufacture range from the 1880s through the turn of the century. The .44 caliber Colt cartridge, in its smokeless powder form, was not discontinued until 1939. The reason it remained in production for so long is unknown.

Holsters for the 1860 Richards conversions are extremely scarce, perhaps because there weren't that many made or because holster leather didn't weather as well as gun metal over the years. Figure 5-94 pictures a standard U.S. conversion rig. The saber belt is stamped A.D. LAIDLEY and U.S. ORDNANCE, and the holster, J. DAVY & CO. NWK, N.J.. Included are a Dyer carbine ammunition pouch and a converted cap box for pistol cartridges. The saber belt straps are the "JEB Stewart" pattern, and are Ordnance stamped.

Again, it is difficult to establish the number of Ordnance Department purchases and issues during the period of use of the U.S. Richards revolvers because of the lack of definitions in the various Annual Reports of the Chief of Ordnance. Those covering the major years, July 1, 1871, through June 30, 1873, have the following information:

Fiscal Year 1871-1872

Statement of principal articles procured by purchase, and by fabrication at the arsenals, during the year ending June 30, 1872.

3,718,701	<i>Metallic cartridges for small arms</i>
500	<i>Sets cavalry accouterments</i>
500	<i>Sets cavalry equipment</i>
53,000	<i>Appendages, various</i>

Statement of ordnance and ordnance stores issued to the Regular Army, and to Posts, during the year ending June 30, 1872.

1,432	<i>Colt's revolvers, 44 caliber</i>
1,957	<i>Remington revolvers, 44 caliber</i>
377	<i>Smith & Wesson revolvers, 44 caliber</i>
99	<i>Smith & Wesson revolvers, 44 caliber, nickel plated</i>
3,977	<i>Pistol-belt holsters</i>
2,439	<i>Pistol cartridge pouches</i>
980	<i>Stewart's saber attachments</i>
317,114	<i>Colt's & Remington pistol cartridges, 44 caliber</i>
219,880	<i>Centerfire pistol cartridges, 44 caliber</i>
11,650	<i>Centerfire pistol cartridges, blank, 44 caliber</i>
130,088	<i>Martin pistol cartridges for Smith & Wesson 44 caliber</i>

Fiscal Year 1872-1873

Statement of principal articles procured by purchase, and by fabrication at the arsenals, during the year ending June 30, 1873.

4,933,007	<i>Metallic cartridges for small arms.</i>
7	<i>Sets cavalry accouterments, altered</i>
1,309	<i>Pistol-belt holsters</i>
4,003	<i>Sets cavalry equipment</i>
47,497	<i>Appendages, various</i>

Statement of ordnance, ordnance stores, etc., issued to the Regular Army and to Posts during the year ending June 30, 1873.

1,529	<i>Remington single-barrel pistols, 50 caliber</i>
322	<i>Colt's revolvers, 44 caliber</i>
1,017	<i>Remington revolvers, 44 caliber</i>
12	<i>Smith & Wesson revolvers, 44 caliber</i>
4,220	<i>Pistol-belt holsters</i>
2,756	<i>Pistol-cartridge pouches</i>
3,601	<i>Saber-belts</i>
888	<i>Saber attachments</i>
1,050	<i>Sets of cavalry equipment</i>
1,000	<i>Sets of cavalry accouterments</i>

We can not establish the exact meaning of cavalry accouterments, cavalry equipment or various appendages, nor can we say for certain that the Colt's revolvers were the Richards conversions. Therefore, the above listed pistol belt holsters could have been for percussion or cartridge revolvers. Three types of revolvers and one type of single shot pistol are listed, with no indication as to which the holsters were adapted.

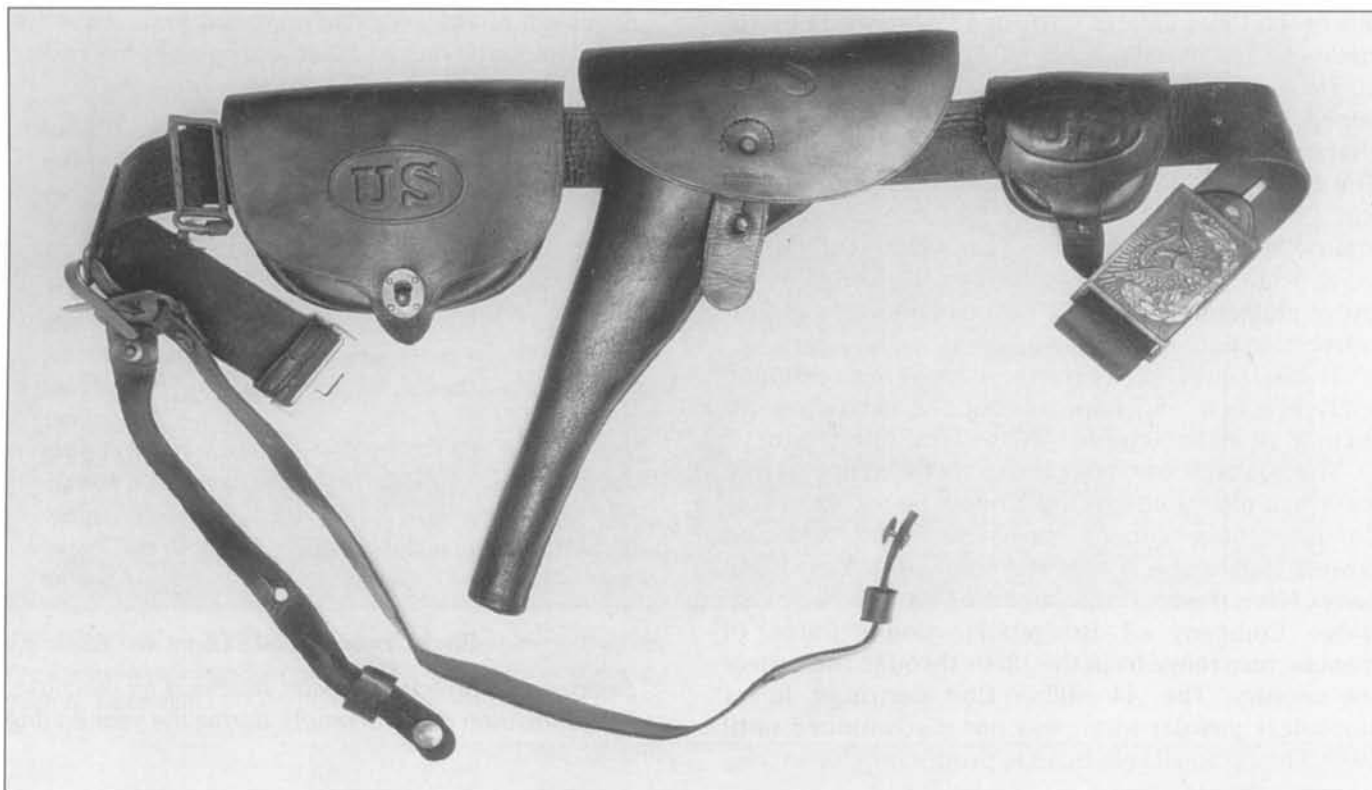


Fig. 5-94 Standard U.S. Richards Conversion Rig with saber belt and straps, flap holster, carbine ammunition pouch and converted pistol cartridge pouch. (Courtesy John H. Thillmann)

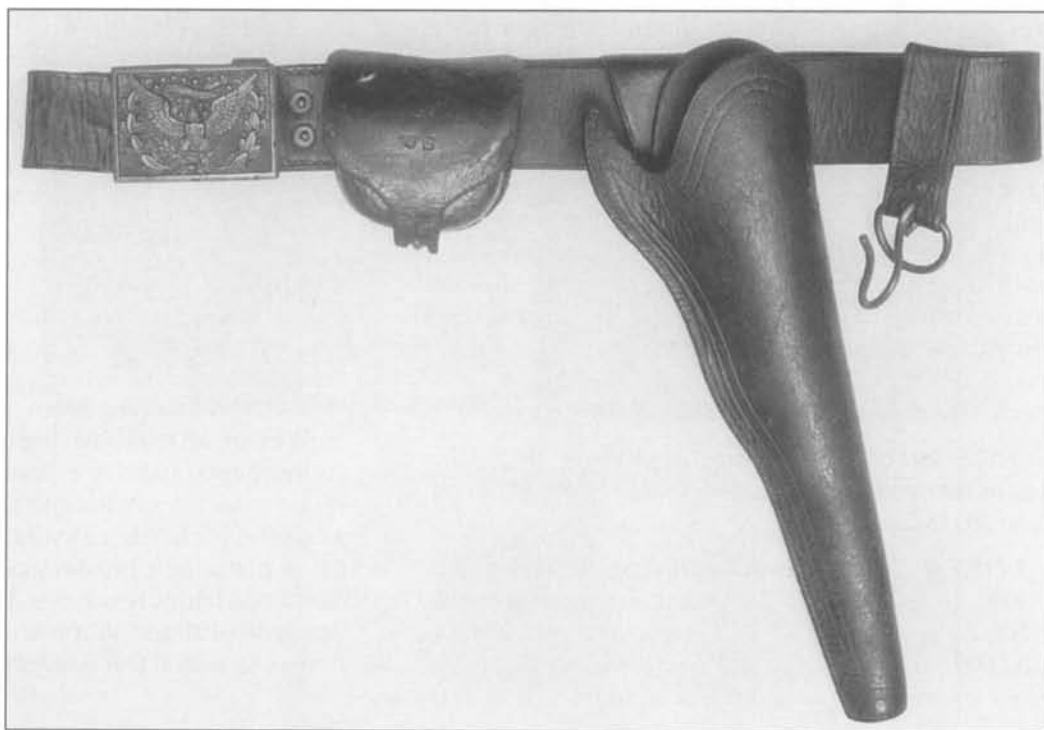


Fig. 5-95 Scarce U.S. Richards officers rig consisting of holster, belt, cartridge pouch, officers buckle and saber hook. The holster was converted from civilian to military belt loop with rivets, probably by post saddler. (Courtesy John H. Thillmann)



Fig. 5-96 Back of Richards officers rig shown in Fig. 5-95.



Fig. 5-97 "Slim Jim" California style holster for Model 1860 Richards, serial number 194537, assembly number 3576. (Courtesy Francis E. "Bud" Firth)

During the 1871-1872 fiscal year, 3,865 revolvers were issued along with 3,977 holsters. The next year, 3,880 handguns were issued along with another 4,220 holsters. Of the 7,745 handguns issued over the two year period, only 1,754 of them were 44 caliber Colt revolvers. Therefore, about 1,800 of these holsters were for the Colts, but how many were issued for percussion and for conversions will have to be left to conjecture.

The U.S. Richards would not easily fit the standard holster issued for the 1860 Army percussion revolver because the ejector assembly required additional space. Because percussion holsters were, of necessity, used anyway, early examples have a distinct swell on the back of the holster where the ejector rod and head was situated. The holster in Fig. 5-94 exhibits this con-

dition, as do others, both military and civilian—even if made expressly for the Richards—because of the pronounced size of the ejector head. Also, officers would have modifications made to their field equipment to suit their own taste. Figures 5-95 and 5-96 represent an excellent example of such a field modification by the post saddler. As shown in Fig. 5-96, a formerly civilian California skintight holster of heavy skirting leather has had a new military belt loop secured in place, in exactly the same manner as required in the regulation flap holster, with a half moon of stitching and two rivets. The stitching pattern from the old wide belt loop can be faintly seen. Also note that this regulation saber belt has the buckle-keeper reversed and reriveted in place to support an officer's Eagle belt plate with the wider tung

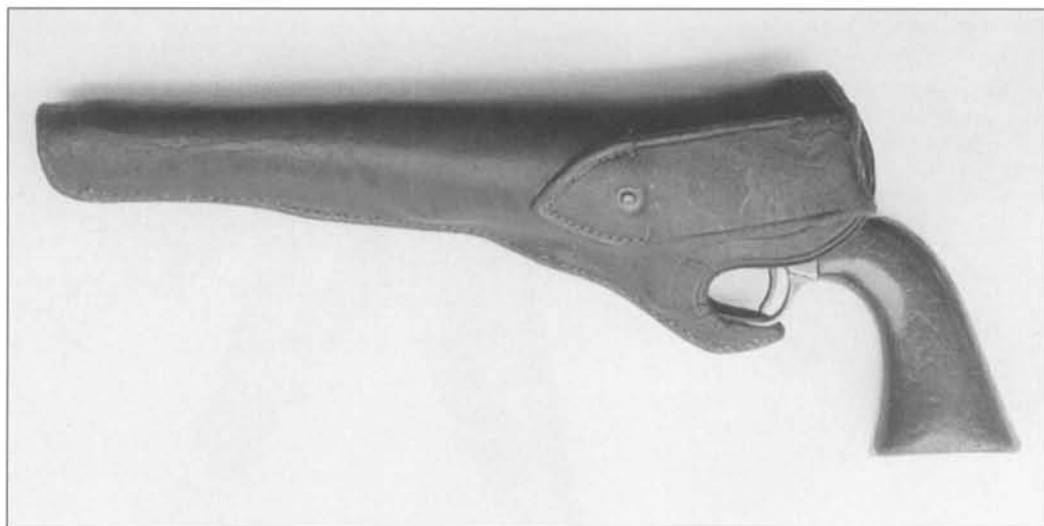


Fig. 5-98 Rear of "Slim Jim" Holster of Fig. 5-97.

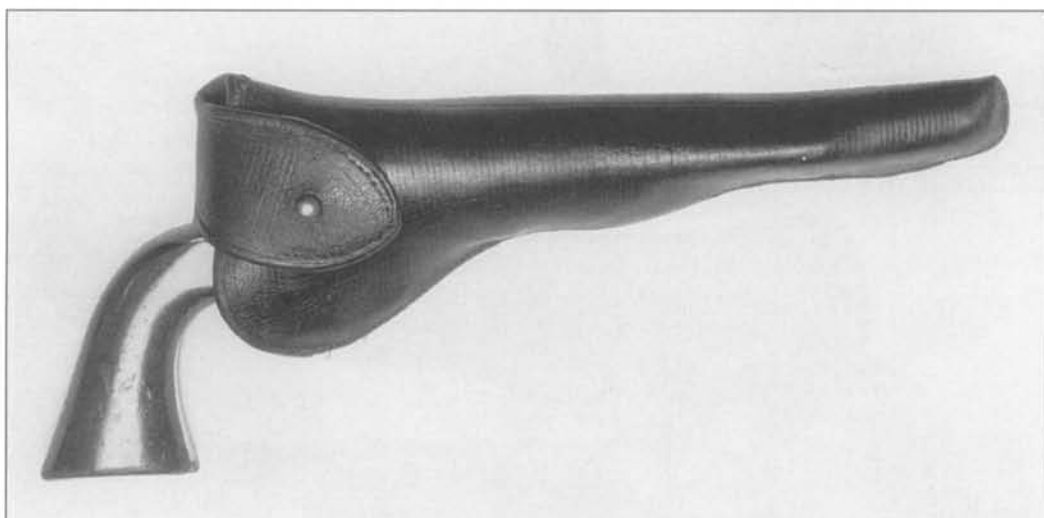


Fig. 5-99 Early Southwestern skin-tight holster for an 1860 Richards conversion; from the 1870s. (Courtesy John H. Thillmann)



Fig. 5-100 Civilian flap holster for an 1860 Richards conversion. (Courtesy John H. Thillmann)



Fig. 5-101 Civilian flap holster for 1860 Richards conversion. Made from brown tooled leather, ca. 1870. (Courtesy Dow and Russelle Heard)

hook rather than the standard larger saber belt plate with a narrow hook.

Often referred to as "Slim Jim" holsters, the civilian California-style open-top holster shown in Figs. 5-97 and 5-98 has a riveted and sewn belt loop at its rear and a double-line border at the top opening. It contains a First Model Percussion Range Richards, serial number 194537, assembly number 3576.

Holsters of this type were often worn on the left side, or "butt-front"—this was for cross draw. Note the position of the belt loop in Fig. 5-98. It is positioned so the holster will hang with the butt slightly lowered. This is a matter of preference, especially for quick use when seated, or mounted on horseback. Indeed, some are made to hang on about a 45 degree angle for the so-called fast draw gunman.

In the early 1850s, saddle makers began producing belt holsters for the Western settlers. Some were maker-marked while most were not identified. The first civilian holster designs were tailored after the military style, with a flap over the top of the gun to secure it in place and to protect it. Open-top California-style holsters quickly became very popular as well. Those made for the First Model Richards conversions were initially Colt

1860 Army percussion revolver holsters that were refitted to the Richards (simple wetting of the leather when new and supple was all that was necessary), and that pictured in Fig. 5-99 is a superb example. It is an unmarked Southwestern skintight flap holster from the late 1860s or early 1870s, completely form fitted to the Richards.

Many former Cavalry officers and troopers preferred the left-handed (cross-draw) flap holster similar to the ones they carried in the service. That pictured in Fig. 5-100 is a civilian design of the military concept. It was made for a First Model Richards conversion and has a punch and roller-die checkered pattern throughout.

The tooled brown leather holster in Fig. 5-101 is another left-handed flap holster for the First Model Richards. Rather than the usual brass post clasp, the flap is held closed by a short belt that fits within a loop. This fine piece dates back to the late 1860s or early 1870s. It was found in the Southwest and was probably made in Texas, Southern California or Mexico.

The early Western holsters soon evolved to the California style (see Figs. 5-95 and 5-97) and then to the Mexican loop style, both of which were open-top. The loop holster became the most popular, and remained the holster of the American West until the mid-20th Century.

Chapter 6

Colt Richards-Mason Conversions

The first Richards system of conversion was an excellent design with many sound mechanical features, but the short rebounding firing pin and complex cartridge extractor assembly made it costly to manufacture. The conversion breech-ring changes that were incorporated into the Type II (Transition) Richards eliminated the rebounding firing pin, and made possible a hammer design that could adapt to either center-fire or rimfire metallic cartridges (see Chapter 5).

During the early to mid-1870s, the Hartford factory inventory of Colt 1860 Army percussion barrels had been depleted, thus requiring the fabrication of new barrels for the .44 caliber conversions. The new barrels had an S-shaped lug contour with no loading notches or rammer/plunger cut-outs.

William Mason, an experienced and talented fire-arms designer and pattern maker spent one year with the Colt Company from 1861 to 1862. He returned to Colt in 1866 as superintendent of the armory and maintained that position until mid-1882, when he accepted employment with the Winchester Company in New Haven, Connecticut.

On July 2, 1862, William Mason was granted U.S. Patent 128,644 for an improvement in revolving fire-arms, which he assigned to Colt's Patent Fire Arms Manufacturing Company. His improvement consisted of a simple and inexpensive cartridge ejector to be used with the new conversion barrel. Figure 6-1 shows the W. Mason patent drawings, outlining the ejector design, assembly and attachment to the barrel.

A portion of the patent text reads: "My invention relates to a revolver with a many-chambered breech, capable of being loaded at the rear. It has for its object to provide for an efficient means of rotating the breech; also, for the application to the pistol of a conveniently arranged shell ejector. To these ends my said invention consists in making a cylindrical stud on the shell-ejector case and a recess in the barrel, fitted to receive the stud, so combined as to form as an inexpensive means

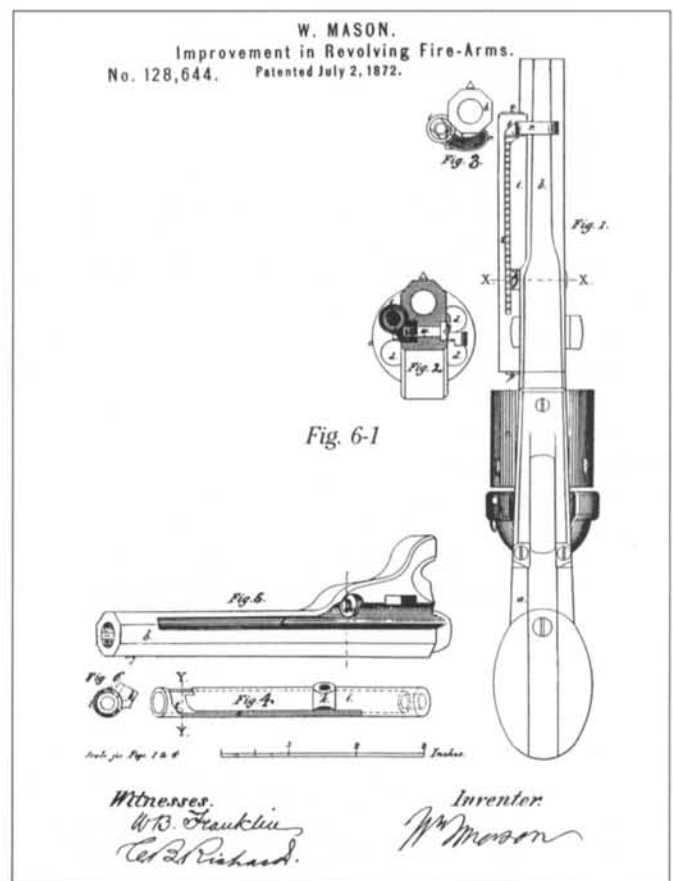


Fig. 6-1 Original patent drawings for W. Mason improvements upon the C.B. Richards conversion design. U.S. Patent 128,644, July 2, 1872.

of fastening the case to the barrel. It also consists in making an incline offset in the slit through which the ejector thumbpiece protrudes from the case, which acts in combination with the ejector-spring to keep the thumbpiece in its proper position, as hereinafter set forth." It is interesting to note that the application was witnessed by C.B. Richards.



Fig. 6-2 Colt Model 1860 Richards-Mason conversion, serial number 6119. (Courtesy Francis E. "Bud" Firth)

The combination of the design features retained from the Richards patent 117,461 (see Chapter 5) and the new cartridge ejector system of the Mason patent 128,644 resulted in a final revolver design to be known as the Richards-Mason conversion.

Richards-Mason conversions are found in six basic categories:

1. The 1860 Richards-Mason conversions were those produced from unnumbered 1860 Colt Army percussion parts remaining in factory inventory, combined with new barrels, cylinders and conversion parts.

2. The 1851 Original Metallic Cartridge Richards-Mason conversions were those produced from unnumbered 1851 Colt Navy percussion parts remaining in factory inventory, and newly made conversion parts.

3. The 1851 Percussion Range Richards-Mason Navy conversions were those Model 1851 Navy percussion revolvers returned to the factory for conversion to metallic cartridge.

4. The 1861 Original Metallic Cartridge Richards-Mason conversions were those produced from unnumbered 1861 Colt Navy percussion parts remaining in factory inventory, and newly made conversion parts.

5. The 1861 Percussion Range Richards-Mason conversions were those Model 1861 Navy percussion revolvers returned to the factory for conversion to metallic cartridge. Also included in this category are those that were produced from Model 1861 Navy percussion revolver parts previously numbered, and completed percussion arms remaining in factory inventory, hence converted for metallic cartridge use.

6. Richards-Mason Belt and Pocket Model conversions (also referred to as Small Frame Richards-Mason conversions) include the numerous variations in the 1862 Colt Police and Pocket Navy conversions as well as models with newly manufactured barrels.

The small frame conversions will be covered with full details in Chapter 8. Those Model 1851 and 1861 Colt revolvers converted for the U.S. Navy Ordnance

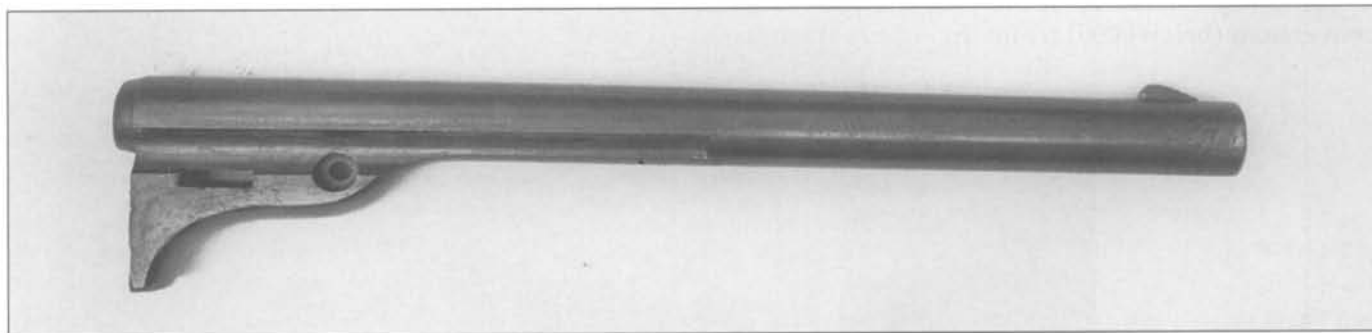


Fig. 6-3 Colt Model 1860 Richards-Mason barrel. (Author's Collection)

Bureau will be covered in this chapter under separate headings. This chapter will be devoted entirely to the large frame Richards-Mason conversions in categories [1] through [5], outlined above. As was the case with

all of the Richards conversions, general design specifications exist for the Richards-Mason, but exceptions are found in all five categories. Experimental and gunsmith conversions will be discussed in Chapter 9.

The 1860 Richards-Mason Conversion

SERIAL NUMBER RANGE	5900 to 7300 (see text)
CALIBER	.44 caliber centerfire
BARREL LENGTH	8-inch crowned, new made with S contour
BARREL ADDRESS	-COLT'S PT.F.A.MFG.CO.HARTFORD,CT.U.S.A.-
EJECTOR HOUSING	Mason patent design (see Fig. 1)
EJECTOR ROD TIP	Round
EJECTOR HEAD	Target pattern (concentric rings)
WEDGE	Unnumbered
CYLINDER	Newly made, rebated with Navy scene
CONVERSION RING	Richards Type II (see Figs. 6-12, 6-13 and 6-14)
GATE SPRING	External
FRAME TYPE	Newly made or unnumbered percussion
FRAME MARKINGS	Generally two-line patent dates with dashes
HAMMER SCREW	Large (S.A.A. size)
HAMMER SPUR KNURL	Cross-hatch, bordered and underlined
STOCK (GRIP)	Standard varnished walnut (see text)
BACKSTRAP	Steel (Army size)
TRIGGERGUARD	Steel, oval, occasionally brass
ASSEMBLY NUMBER	Has no relationship with serial number
SPECIAL NOTE: The 1860 Army Richards-Mason conversion utilizes the same converted percussion-type hammer and shorter conversion breech-ring as found on the Second Model Richards, leaving an 0.60 ± 0.005 -inch space between the front face of the conversion ring and the rear face of the cylinder.	

The 1860 Richards-Mason conversions are found finished in both full nickel plating and blue with case hardened frames and hammers. Special factory treatment of this model, such as engraving or special grips, is extremely rare. Ivory grips are occasionally found, and are considered a rare feature when original to the gun (see Figs. 6-7 and 6-8).

Some serial numbers of the 1860 Richards-Mason conversions (below 6000) are intermingled with the lat-

er production of the First Model Original Metallic Cartridge Richards, but for the most part they are within a numbering range of their own. These serial numbers begin in the 5900 range and conclude in the 7200 range.

The lowest serial number reported to the author to date is 5969, and the highest is 7271. This could lead one to believe that approximately 1,300 Model 1860 Richards-Mason conversions were produced. However, considering that some of the First Model Original Me-

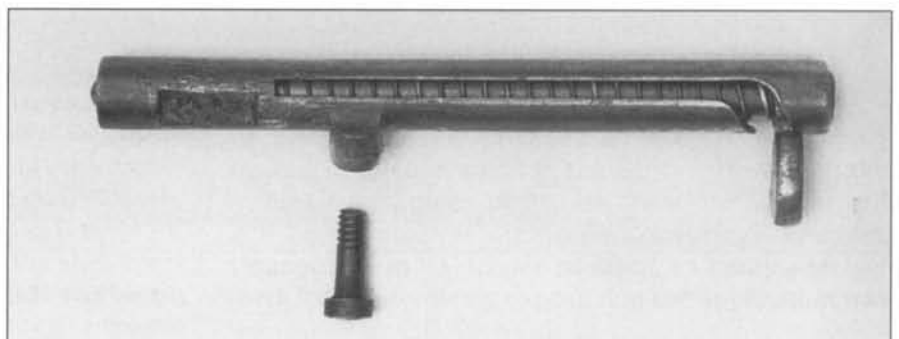


Fig. 6-4 Colt Model 1860 Richards-Mason ejector assembly. (Author's Collection)

tallic Cartridge Richards are found in this range, as well as possibly a few Transition Models, 1,200 is a more likely number. With the exceptions of the 12-Stop Richards and the U.S. Richards, the 1860 Richards-Mason model is considered the next rarest of the large frame Colt factory conversions.

The newly manufactured barrel is one of the more interesting features of the 1860 Richards-Mason conversion, and provides the most diversification. Different lands and grooves and different twists, from left hand to right hand are found and the rifling of the barrel has been observed in four different variations.

The 1860 Army Richards-Mason barrel is 8 inches long with an S-shaped contour to the barrel lug, similar to that of the 1871-1872 Colt "Open-Top" barrel, but without an integral rear sight. Note that a channel is milled at the right side to seat a cylindrical shaped cartridge ejector housing (see Fig. 6-3).

Figure 6-4 shows the Mason patented ejector assembly and the stud by which the ejector housing is attached to the barrel. It should be noted from the several side-view illustrations of 1860 Richards-Mason conversion throughout this chapter that the ejector housing extends completely to the rear face of the barrel lug.

This is the final ejector assembly design and is used on all large frame Richards-Mason conversions.

The 8-inch barrels have crowned muzzles and blade front sights. The barrel address of all 1860 Richards-Mason revolvers is COLT'S PT.F.A.MFG.CO.HARTFORD.CT.U.S.A. and reads from muzzle to breech, as shown in Fig. 6-5.

The design of the ejector rod head was changed from the cross-hatch to the target or concentric ring seen in Fig. 6-6. Again, as in many of the Richards conversions, the Richards-Mason models are occasionally found with replaced ejector rod heads, due to the weakness of the original part.

A few Richards-Mason conversions are found with barrels shorter than the standard 8-inch length. These barrels were cut shorter by owners, or their gunsmiths, and are not considered factory original. Standard factory produced Richards-Mason barrels were all 8 inches in length (see Chapter 9).

On very rare occasions, an 1860 Richards-Mason conversion is encountered with factory grips made of materials other than the standard varnished walnut. Figures 6-7 and 6-8 picture an 1860 Richards-Mason with ivory, or possibly walrus, grips that are numbered



Fig. 6-5 Colt Model 1860 Richards-Mason barrel address. Serial number 7048, assembly number 1244. (Author's Collection)

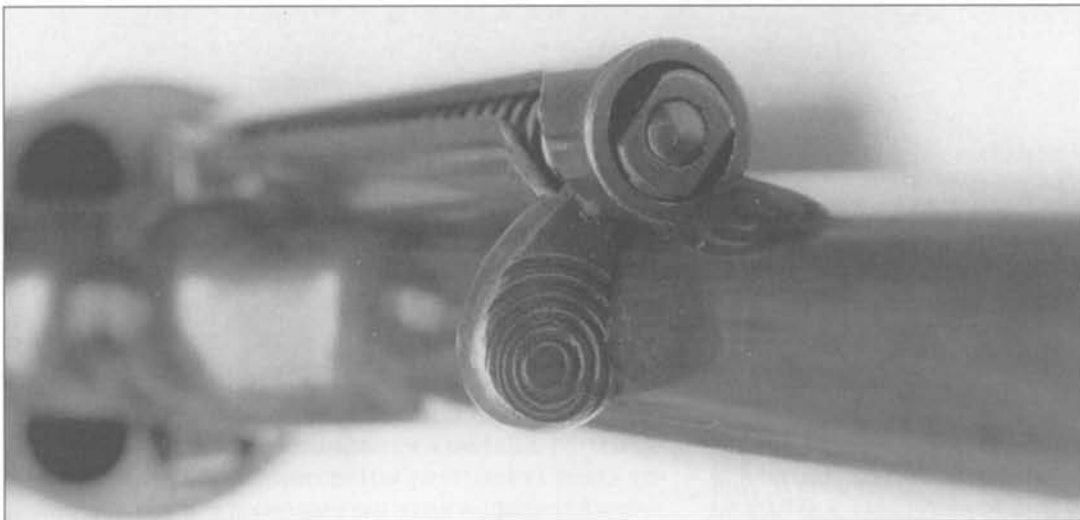


Fig. 6-6 Colt Model 1860 Richards-Mason conversion ejector head. (Author's Collection)



Fig. 6-7 Nickel-plated Colt Model 1860 Richards-Mason revolver with original ivory, or walrus, grips. Serial number 7123, assembly number 1293. (Courtesy John H. Thillmann)



Fig. 6-8 Close-up of nickel-plated Model 1860 Richards Mason frame and cylinder, showing frame markings and cylinder number 123 matching that of the gun, 7123. (Courtesy John H. Thillmann)



Fig. 6-9 Colt Model 1860 standard Richards-Mason conversion with civilian frame that has no shoulder stock cut-outs at recoil shield. (Author's Collection)



Fig. 6-10 Colt Model 1860 Richards-Mason conversion using percussion frame that has cut-outs at the recoil shield for shoulder stock. Serial number 7048, assembly number 1244. (Author's Collection)

to the gun. The grips were made in two pieces and separated by a wood spacer in the same manner as those found on the Single Action Army revolvers. The revolver is serial numbered 7123, all matching with assembly number 1293 and is nickel plated throughout. The matching cylinder, numbered 123, retains the complete Ormsby sea battle scene and shows very little wear. The frame is stamped with the Type II patent dates.

The 1860 Richards-Mason is not a converted 1860 Army revolver. It was produced as a metallic cartridge revolver from new unnumbered percussion parts remaining in factory inventory with the addition of some

newly fabricated parts. Most of the remaining percussion frames, as well as all of the newly manufactured frames, were of the civilian type, having no cut-outs in the recoil shield for the projecting ends of a detachable shoulder stock (see Fig. 6-9).

Some frames remained in stock from the old percussion inventory with their recoil shields cut for shoulder stocks. Those 1860 Richards-Mason conversions utilizing this type frame are quite scarce (see Fig. 6-10).

Typically, the 1860 Richards-Mason frame marking will be the two-line patent date, -PAT.JULY25,1871-/-PAT.JULY.2,1872.-. Two types of dies were used for these mark-



Fig. 6-11 Typical frame marking on Colt Model 1860 Richards-Mason revolver. (Courtesy John H. Thillmann)

ings; The first type had no dashes at the beginnings and ends of each line, while the second type did (see Fig. 6-11). Various two-line patent date frame markings, as discussed elsewhere in the text, were caused by die breakage, but the 1860 Richards-Mason is generally found to have nice clear stampings with dashes at the beginnings and ends of each line. The author is not aware of any examples of this model with broken-die stampings.

The gripstraps (triggerguard and backstrap) of the 1860 Richards-Mason conversions are Army size, and both are steel. Only a few exceptions to this have been noted (see Fig. 6-16).

The conversion ring (breech-plate) used with the 1860 Richards-Mason conversion is identical to that of

the Richards Second (Transition) Model. As illustrated in the drawings of Fig. 6-12, it is a thinner plate than that of the First Model Richards because the protruding lip at the front is no longer used. Also, there is no rear sight at the top of the ring. Again, the assembly numbers are found on the rear flat of the conversion ring and on the rear of the gate, as shown in Fig. 6-13. The number on the gate is always visible, but the number on the ring can only be seen by removing the cylinder arbor and then the conversion ring.

All Model 1860 Richards-Mason conversions incorporate an external gate spring of the type shown at (A) and (C) of Fig. 6-12, and again in Fig. 6-13. When the gate is in the closed position, it is maintained by the tip of the

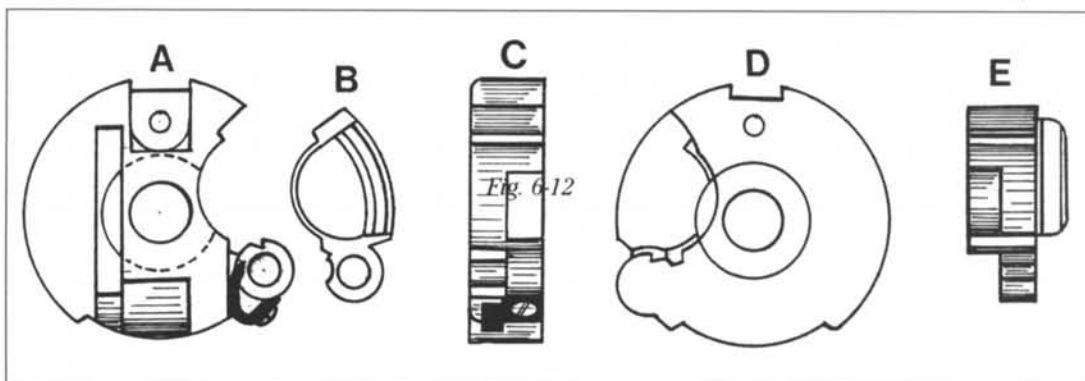


Fig. 6-12 Drawings of Colt Model 1860 Richards-Mason conversion ring (Type II Richards conversion ring).

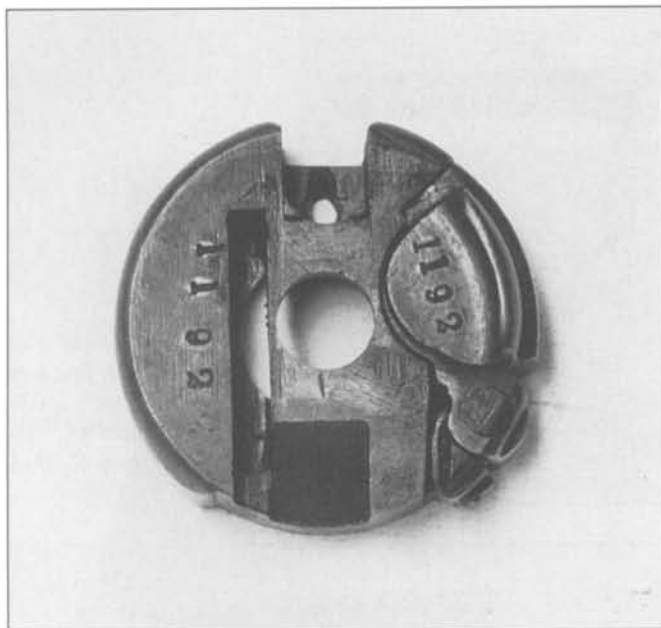


Fig. 6-13 Rear view of Colt Model 1860 Richards-Mason conversion ring with gate closed, assembly number 1192. (Author's Collection)



Fig. 6-14 Rear view of Colt Model 1860 Richards-Mason conversion ring with gate open, assembly number 1192. (Author's Collection)

spring resting within a small cut-out in the gate hinge (see Fig. 6-13). In the open position, the spring tip simply presses against the barrel of the gate hinge (see Fig. 6-14). The external gate springs are held to the conversion rings by a single screw, as seen at (A) and (C) of Fig. 6-12.

All 1860 Richards-Mason conversions were for centerfire ammunition. They were designed to shoot the .44 caliber Colt cartridge. Consequently, hammers for these revolvers were fitted with firing pins that would pass through a hole in the conversion ring, immediately in line with the center of the chamber in line with the bore of the barrel. The hammers were the old percussion style, with a protruding top lip containing a V-notched rear sight. A slot was cut vertically into the face of the hammer, where a centerfire firing pin was fitted and maintained by two rivets (see Fig. 6-15).

The hammer spur has the standard cross-hatch knurling with border and underline and the larger hammer screws (Single Action Army size) were used throughout the production.

The Richards-Mason assembly numbers do not match the serial numbers, as with the Transition Model Richards. They have their own particular assembly numbers sequence, separate from any percussion range or original metallic cartridge range Richards conversions. Assembly numbers are generally found on the rear face of the gate, rear face of the conversion ring, on the bottom of the frame and on the cylinder arbor, but variations in numbering are not uncommon.

A classic example is the 1860 Richards-Mason revolver shown in Fig. 6-16. The gun is serial numbered

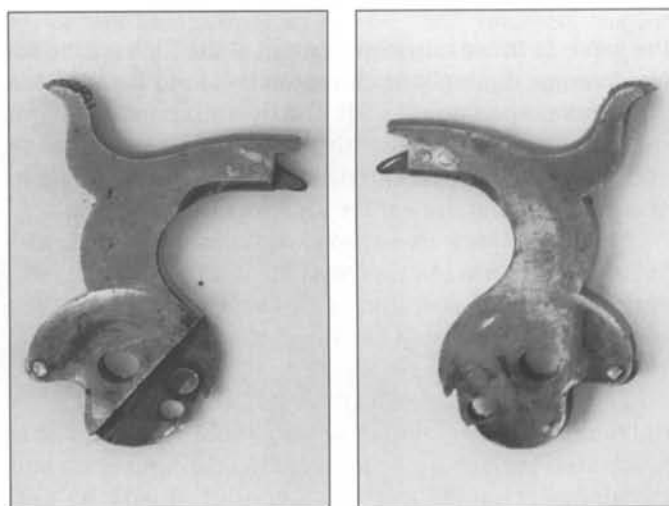


Fig. 6-15 Left and right views of converted Colt Model 1860 percussion hammers with added centerfire pins for Richards-Mason Conversions. (Author's Collection).

6034 and has the assembly number 96. The brass triggerguard is uncommon.

Richards-Mason wedges are generally unnumbered and without springs. As can be seen in Fig. 6-17, the wedges are channeled out at the top so they can be pushed out far enough for removal of the barrel, but the wedge screw prevents their complete removal without first removing the screw. The percussion-type wedges with springs were also used, until the supply was depleted.

The Model 1860 Richards-Mason conversions were equipped with newly made cylinders. They were exactly



Fig. 6-16 Colt Model 1860 Richards-Mason revolver, serial number 6034, assembly number 96. (Courtesy Francis E. "Bud" Firth)

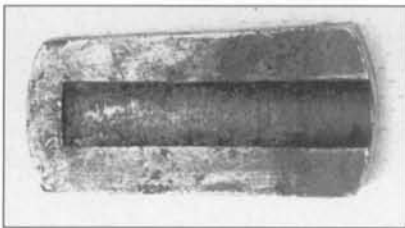


Fig. 6-17 Colt Model 1860 Richards-Mason newly fabricated wedge, without spring. (Author's Collection)

the same as those fabricated for all of the Richards models. Average dimensions can again be found listed in the graph accompanying Fig. 5-8. The overall chamber length remains 1.587 inches (slightly more than 1-37/64 inches), and the same metallic cartridge is used in the 1860 Richards-Mason as in the earlier Richards conversions.

No authentic twelve-stop variations of the Richards-Mason are known. As was the case with some of the Richards models, surplus twelve-stop cylinders were sometimes added post factory, perhaps to trick an unsuspecting buyer.

The 1860 Richards-Mason revolver of Fig. 6-19 is serial numbered 7237 and assembly numbered 1409. It is illustrated here as being in standard configuration and remaining in excellent overall condition with 95 percent original factory finish.

Still another 1860 Richards-Mason revolver in crisp condition with 70 percent finish is pictured in Fig. 6-20. It is serial numbered 6034 with the assembly number 26 in all the usual locations. The gun has perfect markings throughout, including two P's on the barrel lug, one stamped sideways and a J and 1 stamped on the rear face of the cylinder. The small P's on the barrel lug are similar to those found on U.S. Richards cylinders and are believed to be the stamp of a Colt factory inspector.

The Colt Model 1860 Richards-Mason conversion was manufactured concurrently with the Colt Model 1871-1872 "Open-Top" .44 caliber rimfire cartridge revolver (see Chapter 7). With the 1860 Richards-Mason conversions very short production run, not too many

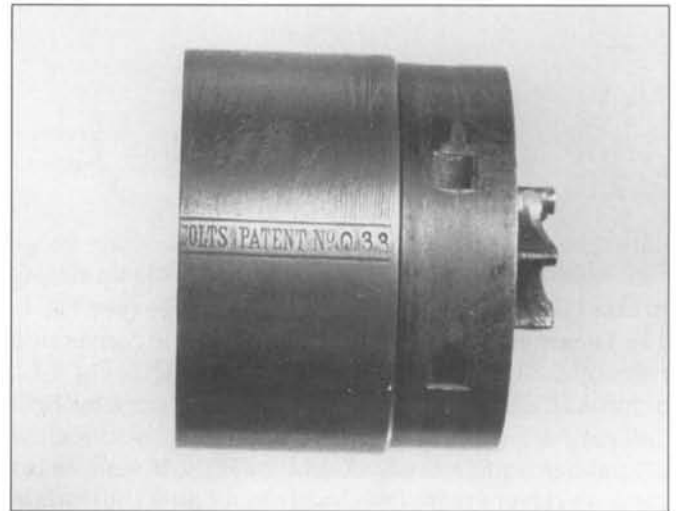


Fig. 6-18 Colt Model 1860 Richards-Mason conversion cylinder, numbered 033 from revolver serial numbered 6033. (Courtesy Francis E. "Bud" Firth)

variations are known. The bore variations of the barrel have already been mentioned.

Engraved 1860 Richards-Mason revolvers were most likely not factory engraved. Colt revolvers of all descriptions were sometimes engraved after they left the Colt factory, generally by dealers, such as Schuyler, Hartley and Graham or Francis DeGress. Collectors should be wary of engraved specimens.

The Richards-Mason Navy Conversions

The 1851 and 1861 Colt Navy conversion revolvers fall into the four basic categories listed above, with each being separated into two or more sub-categories. These will all be outlined separately under their individual headings and specifications. General information pertaining to all models of Colt Navy conversions will be addressed first.



Fig. 6-19 Colt Model 1860 Richards-Mason conversion in excellent overall condition; serial number 7237, assembly number 1409. (Courtesy Francis E. "Bud" Firth)



Fig. 6-20 Colt Model 1860 Richards-Mason conversion, serial number 6,033, assembly number 92, with a brass trigger guard. (Courtesy Francis E. "Bud" Firth)

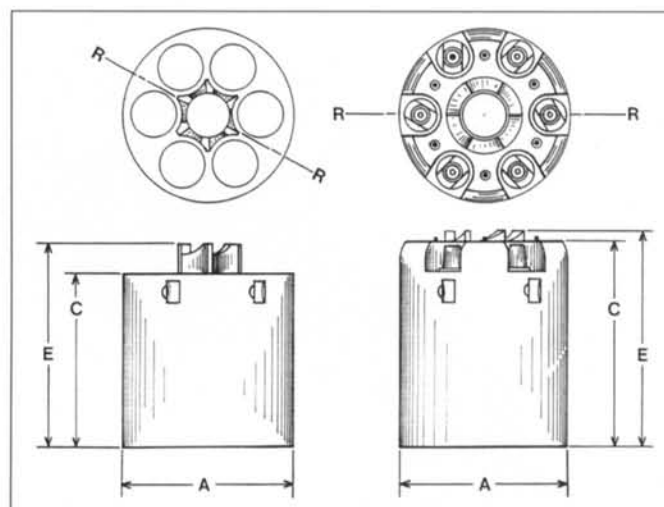


Fig. 6-21 Drawings of Colt Navy Model cylinders; left is conversion, right is percussion.

Average Dimensions of Colt Navy Revolver Cylinders

DIMENSION	MODEL 1851 PERCUSSION CYLINDER	MODEL 1861 PERCUSSION CYLINDER	MODEL 1851 CONVERSION CYLINDER	MODEL 1861 CONVERSION CYLINDER
A	1.531"	1.536"	1.533"	1.528"
C	1.694"	1.697"	1.388"	1.390"
E	1.823"	1.824"	1.683"	1.689"

Correspondence between the Colt factory at Hartford, Connecticut, and the Navy Bureau of Ordnance, from 1873 through 1876 (National Archives RG-74, E-5, Volumes 17 through 20 and RG-74, E-22, Volumes 47 through 54) not only supplies invaluable information pertaining to the U.S. Navy Richards-Mason conversions, but verifies specific details of all Colt Navy conversions, as well.

It has been stated elsewhere that in converting .36 caliber percussion Colt Navy revolvers to .38 caliber metallic cartridge revolvers, the barrels were rebored and rerifled for the new larger caliber. This is not true. Exact measurements have been made in comparing the barrels of a number of percussion Colt Navy revolvers with a like number of Colt Navy revolvers that were converted to metallic cartridge, and all were found to be within a few thousandths of an inch of each other. Of the guns tested, half were the Model 1851 and half the Model 1861. Of the conversions, half were rimfire and the other half were centerfire. Further substantiating this finding was previously mentioned correspondence located at the National Archives.

First, consider this excerpt from a letter from General Franklin (Colt) to Captain Jeffers (Navy Bureau of Ordnance), dated September 10, 1873: "I have sent you by mail today a cylinder and barrel belonging to the pistols now in course of alteration by us for your Bureau. An examination of them will show you that they are bad-

ly rusted in the bores. So far as we have examined them, we find that about 4 percent of the barrels are in the condition of that sent."

Next, discussing a subsequent order for converting Navy-owned percussion revolvers to metallic cartridge, General Franklin wrote Captain Jeffers on March 16, 1875: "I have sent you by mail today a barrel of a Navy pistol taken from those here for alteration. You can observe in looking through the muzzle how badly it is scarred. Shall we in such cases use the barrel, or would you prefer us to use our own judgment and place new ones where we consider those now in the pistols as unserviceable?"

If in the process of converting these percussion revolvers to metallic cartridge, it was necessary to rebore and rerifle the barrels to a larger caliber, there would not have been any concern over rusty or scarred bores, as all rust and scratches would simply be removed during the reboring process.

There were quite a few modifications made to both the Model 1851 and Model 1861 percussion barrels, including plugging the lever latch dovetails, plugging the lever channel, plugging and reboring the lever screw hole, milling a groove for the Mason ejector assembly and on the 1861 models, plugging the plunger holes. These modifications vary somewhat and will be outlined under the particular conversion categories.

Unlike the 1860 Richards and Richards-Mason conversions, the percussion cylinders of the Model 1851 and Model 1861 Navy Richards-Mason conversions were re-bored to accept the larger diameter of the casing for the .38 caliber Long Colt metallic cartridge. As can be seen from the drawings of Fig. 6-21 and their associated dimensions, there was more than sufficient metal around each chamber to allow the bores of the chambers to be enlarged to that required for the 0.378-inch diameter case of the .38 Long rimfire cartridge, or the 0.375-inch diameter of the .38 Long centerfire cartridge adopted by the U.S. Navy (0.379 inches for UMC cartridges).

The dimensions listed above represent the average dimensions of direct measurements taken from many specimens. Actually, the same cylinders were used on both the 1851 and 1861 models and they can be directly interchanged. Sometimes, conversions are found with cylinders having the full matching serial number stamped on the patent line (see Fig. 6-22), while others contain only the last few digits of the serial number. Quite often, the numbers appearing on the patent line of the cylinder do not match the serial number of the revolver, meaning that the cylinder is a replacement, or it was changed at the time of conversion. This was



Fig. Fig. 6-22 Colt Navy cylinder, numbered 56942, from a Model 1861 Navy conversion revolver, serial numbered 3662. (Courtesy Francis E. "Bud" Firth)



Fig. 6-23 Colt Model 1851 Navy cylinder numbered 89792, converted and renumbered to two Model 1861 Navy conversions, 2895 and 3145. (Photo by L. Frank Richey, Sam Pachanian Collection)

the general rule with most U.S.N. conversions. When this occurs, a second number is usually found directly under the patent line, and this second number matches the last few digits of the serial number.

On rare occasions, a cylinder is found with three sets of numbers, such as that shown in Fig. 6-23. This particular cylinder is from a Model 1851 Colt Navy revolver, serial number 89792. It was factory converted and placed on a Model 1861 Colt Navy conversion with its serial number ending in 3145. Next, it found its way to still another Model 1861 Colt Navy conversion with the last four digits of the serial number being 2895.

Not all conversion cylinders were renumbered in this manner. Some had the secondary number stamped into the rear face of the cylinder, as pictured in Fig. 6-24. Here, the number 729 is stamped into the rear face of a Model 1861 Navy Colt cylinder. The original number stamped on the cylinder patent line is 3662.

During the conversion process, the nipple ends (breech ends) of the percussion cylinders were turned down, leaving only an approximate 0.550-inch diameter ratchet shaft. This reduced the cylinder body from the percussion dimension [C] Fig. 6-21 (right) to the conversion dimension [C] Fig. 6-21 (left), or approximately 1.695 inches to 1.390 inches. The length of the ratchet shaft was then shortened from 1.824 inches to approximately 1.69 inches. The next step was to bore the chambers to the metallic cartridge case size, and then counter-bore the ratchet shaft to allow ample clearance for the cartridge heads. New ratchet teeth were

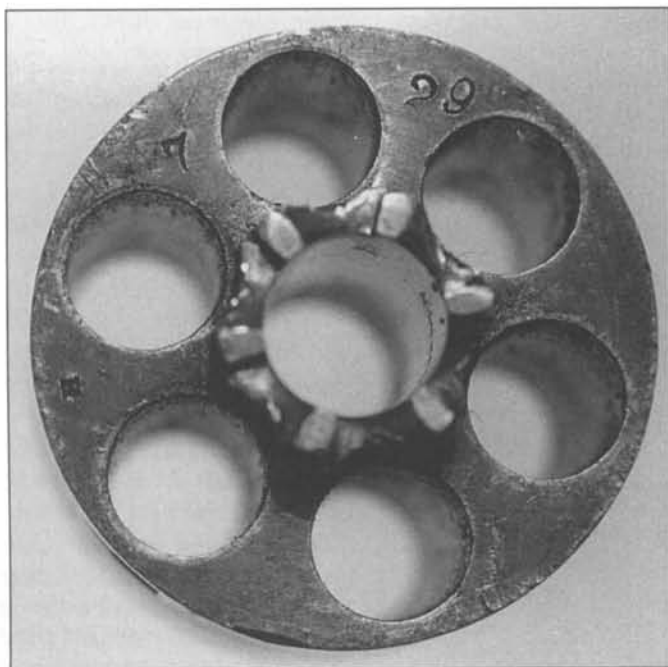


Fig. 6-24 Rear face of Colt Model 1861 Navy Cylinder, numbered 729, from a U.S. Navy-Navy conversion serial numbered 3662. (Courtesy Francis E. "Bud" Firth)

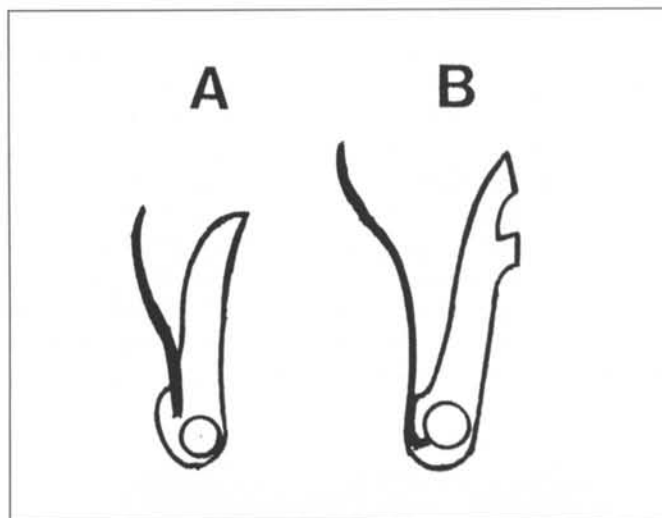


Fig. 6-25 Drawings showing the difference between the percussion hand (left) and the two-fingered conversion hand (right).

then machined into the end of the ratchet shaft on the line [R-R] of the conversion cylinder end view drawing (about 15 degrees ahead of the line [R-R] of the percussion cylinder of Fig. 6-21).

Because of this advance in the ratchet, and the restricted size of the ratchet teeth imposed by the increased size of the chambers, the percussion style rotating arm, or pawl (Fig. 6-25 [A]) could no longer be used. The same two-fingered arm used in the 1860 Richards and Richards-Mason conversions (Fig. 6-25 [B]) was necessary with the Navy conversions. This two-fingered rotating arm was often used as a sales point by General Franklin of the Colt Company. When originally competing with Remington and Smith & Wesson for a U.S. Navy contract, General Franklin wrote in a letter to Admiral Case on March 13, 1873:

In speaking of the ratchet and pawl in my letter yesterday, I referred to the action of the double toothed pawl. When the revolution of the cylinder begins, the top most of the pawl engages in the ratchet. As the motion progresses, this tooth is necessarily thrown out of gear, and the second tooth immediately takes hold and completes the revolution. This arrangement enables us to materially increase the diameter of the ratchet by placing it between the chambers, instead of inside of them, giving a material increase of effect to the action of the hammer in revolving the cylinder. This double toothed pawl, and consequently the ratchet between the chambers is peculiar to met's cart'ge pistols of our make.

All Model 1851 and Model 1861 Colt Navy conversions used the same conversion breech-rings, known as the Richards Type III conversion ring. When mounted within the frame of the conversions, their outer surface was flush with that of the recoil shield. The drawings of

Fig. 6-26 detail the Richards Type III conversion ring in two styles: [1] for centerfire conversions (upper set of drawings) and [2] for rimfire conversions (lower set of drawings). Also illustrated are the two types of loading gate springs found on the Colt Navy conversions: [1] the internal gate spring (upper set of drawings) and [2] the external type (flat leaf) gate spring (lower set of drawings). The loading gate springs are shown in this manner as a matter of convenience, and do not necessarily associate themselves with the particular ring with which they are illustrated. Internal gate springs were traditionally used on early production conversions, while the external type is found on later models, as well as all U.S. Navy percussion revolvers that were returned to the factory and converted to metallic cartridge under contract with the Navy Bureau of Ordnance. External springs were cheaper to manufacture.

A typical Richards Type III Conversion ring is pictured in rear view in Fig. 6-27. It is the conversion ring from a Model 1861 Navy conversion, serial number 743, assembly number 1872, and is of the rimfire type. A matching assembly number is stamped on both the rear of the loading gate and the rear surface of the con-

version ring. The conversion ring number can not be observed without removing the ring, by first removing the gate hinge screw and the cylinder arbor. With this assembly, an internal gate spring is used.

A top view of the same conversion ring is pictured in Fig. 6-28, showing its rear surface to be convex, rather than flat as found on the Richards Type I and II conversion rings (see also Fig. 6-26 [C] and [C]). At its outer surface, the thickness of the Type III conversion ring measures only 0.3125 inch, while the depth of the central cut-out that receives the cylinder ratchet is 0.235 inch. The remaining partition (approximately $5/64$ th of an inch) would not have allowed sufficient strength for the cylinder arbor to clamp the ring to the recoil shield of the frame. It was therefore necessary to increase the thickness of the center of the conversion ring to 0.400 inch, and a slight radius or arc was machined between the outer rim and the thicker center portion. A matching radius was milled into the front face of the recoil shield so the two pieces would fit comfortably together. In other words, the rear face of the conversion rings were convex, while the front faces of the recoil shields had a matching concave shape.

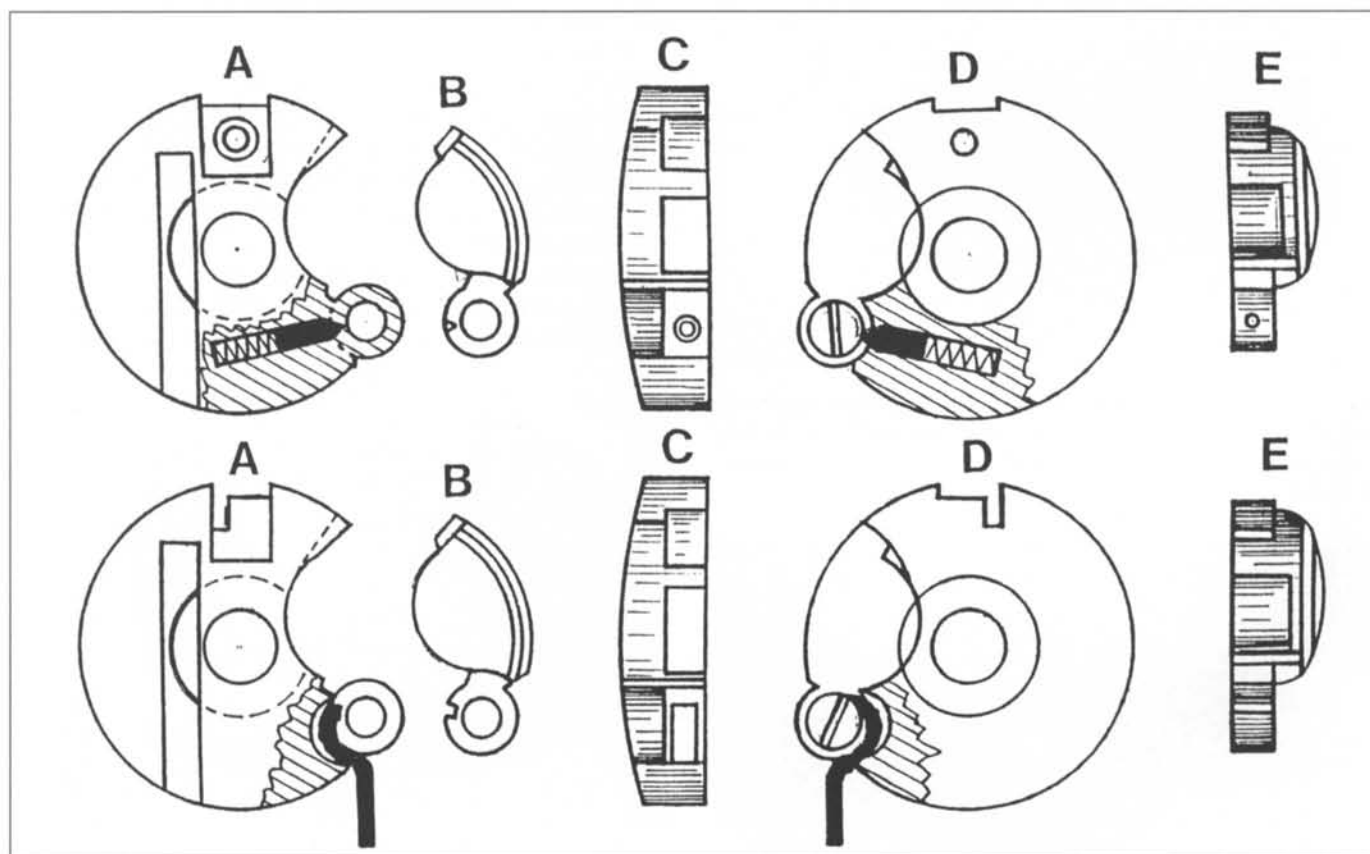


Fig. 6-26 Drawings of the two types of Colt Navy Richards-Mason conversion rings (Richards Type III conversion ring)—centerfire (upper) and rimfire (lower)—and two types of gate springs—internal (upper) and external (lower).

The conversion ring of a centerfire Colt Navy conversion is shown disassembled in Fig. 6-29. The revolver was a Model 1861, serial numbered 4927 with the assembly number 1207. This conversion ring incorporates the external-type (flat leaf) gate spring.

Both styles of the Type III conversion rings (rimfire and centerfire) have a partition at the front of the hammer channel that separates the face of the hammer from the rear of the cartridge, and features a shallow cut-out at its top to accommodate the protruding top lip on the face of the conversion hammer. The only difference between the two styles is the ignition port. The rimfire ring has a rectangular cut-out at the upper left side of the partition to allow passage of the flat (off-cen-

ter) rimfire firing pin, while the centerfire ring has a hole through the center of the partition to allow passage of the centerfire firing pin.

Figure 6-30 shows assembly number 1207 conversion ring in rear view and now fully assembled. The end of the flat external-type gate spring extending outward from between the gate hinge and the conversion ring will attach to the frame of the conversion revolver once the ring is installed.

A bottom view of assembly number 1207 conversion ring is pictured in Fig. 6-31. The flat external gate spring is shown entering the small circular channel cut into the conversion ring (see Fig. 6-26, [A] and [D], lower drawing), and its tip acts within the slot cut into the hinge barrel of the gate (see [B] of the same set of drawings), holding the gate closed.

The gate hinge barrel on the Type III conversion ring differs from the Type I and Type II versions in that the portion that is part of the gate is at the front, while on the other two types, it is at the rear.

As insignificant as they may seem, the hammer channel shapes of the Richards Type II and the Richards Type III conversion rings determine the shapes of the hammers used on these various conversions, and the style of firing pin incorporated.

Rear and cross-section views of the Richards Type II conversion ring is shown in Fig. 6-32. This was the ring used in both the Transitional 1860 Richards conversions and the 1860 Richards-Mason revolvers.

Note that the hammer channel was cut or finished by means of a flat nose end mill, and therefore has a rounded bottom.

For this reason, the hammer shown in Fig. 6-33 was required, with the radius [R] ground into each side of the hammer throat. A flat, or blade type centerfire firing

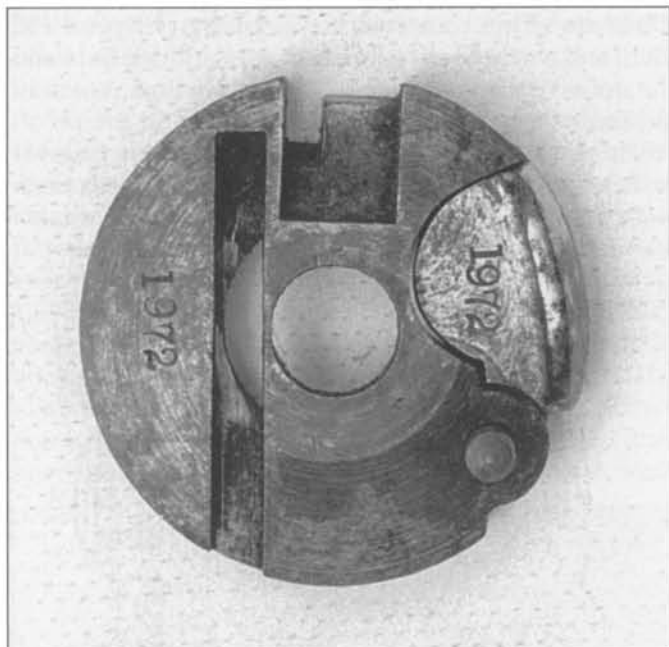


Fig. 6-27 Rear view of Richards Type III conversion ring from Colt Model 1861 Navy conversion, serial number 743, assembly number 1972, with internal gate spring and for rimfire. (Author's Collection)

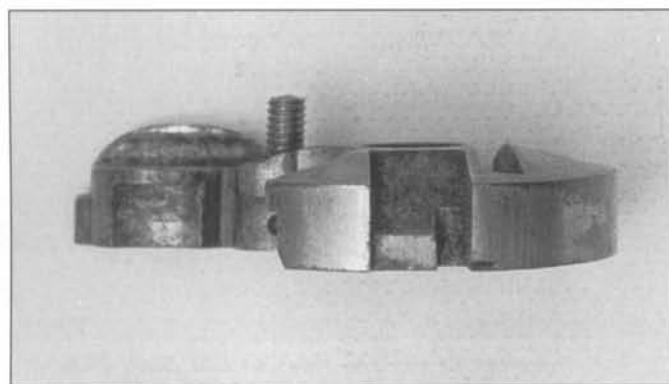


Fig. 6-28 Top view of Richards Type III rimfire conversion ring, assembly number 1972.

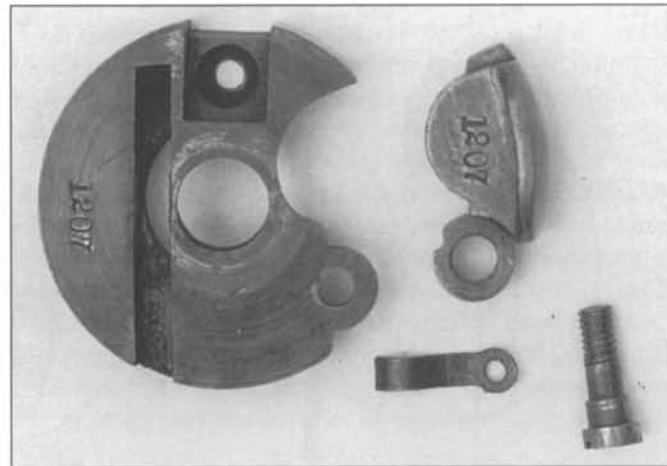


Fig. 6-29 Rear view of a Richards Type III conversion ring from a Colt Model 1861 Navy Richards-Mason conversion. Serial number 4927, assembly number 1207, for centerfire and with external gate spring, disassembled. (Author's Collection)

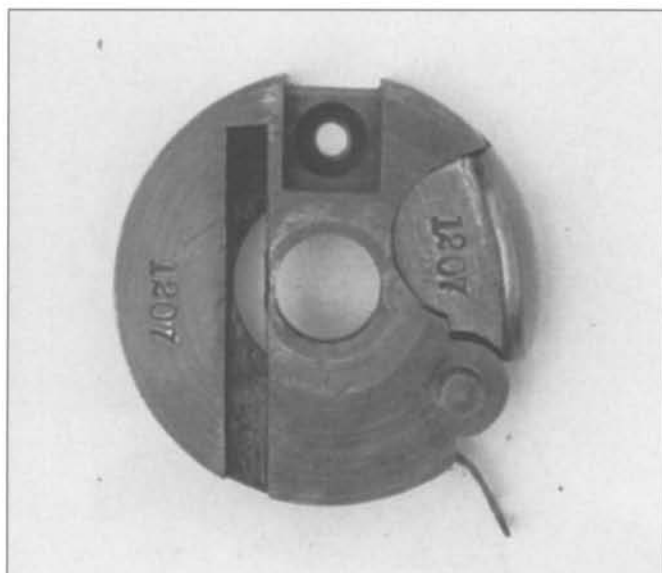


Fig. 6-30 Rear view of assembled Richards Type III conversion ring, assembly number 1207, centerfire with external gate spring

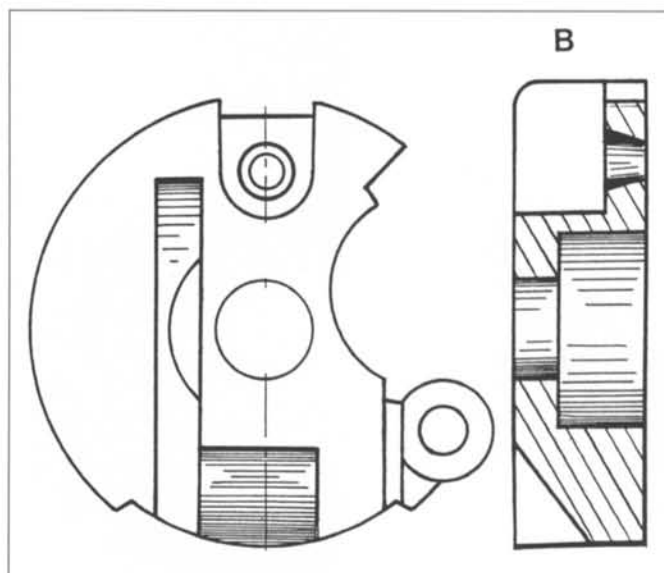


Fig. 6-32 Drawing of the Type II conversion ring, illustrating the shape of the centerfire hammer slot milled at the top rear.

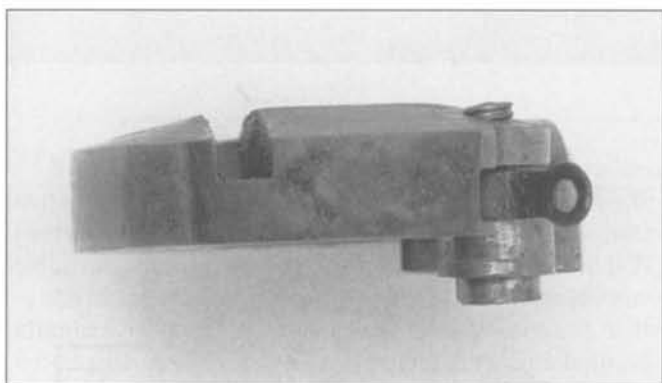


Fig. 6-31 Bottom view of assembled Richards Type III conversion ring, assembly number 1207, centerfire with external gate spring.

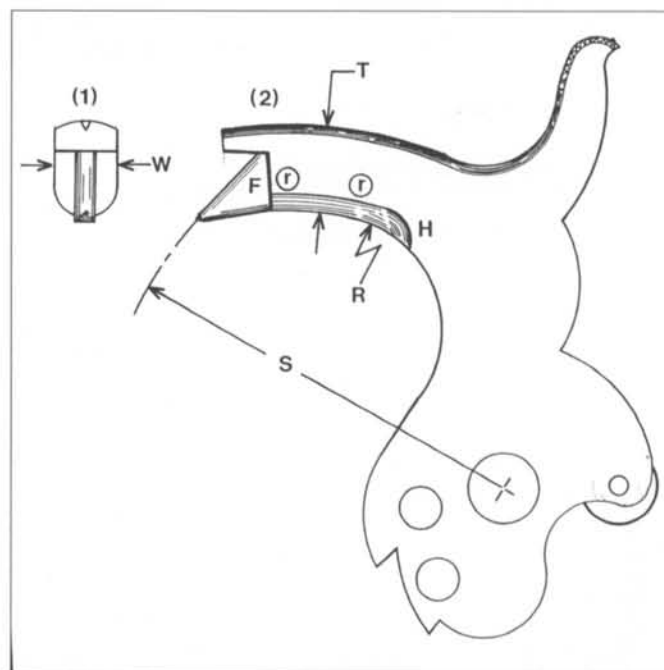


Fig. 6-33 Drawing of Richards-Mason centerfire hammer details for the 1860 conversions.

pin was inserted within a milled vertical slot in the face of the hammer and maintained by two rivets.

Several Colt Navy conversions are known to have the 1860 Richards-Mason style hammer. The hammer in Fig. 6-34 is a Model 1851 Colt Navy-Navy conversion, serial number 59721, with an 1860 Richards-Mason hammer.

This style of hammer is common to the early production of both Model 1851 and Model 1861 Navy conversions. There are slight differences between the 1860 Army hammers and the 1851/1861 Navy hammers that can be used in identification. With reference to Fig. 6-33, the length of the firing pin [F] will be approximately 3/16 inch on the Second Model Richards and the 1860 Richards-Mason hammers. On the Navy conversions, they will be 1/4 inch long. Secondly, the height of the hammer

throat (dimension [T], Fig. 6-33) is heavier on the 1860 hammers than on those of the 1851 and 1861 Navy models. The Second Model Richards and the 1860 Richards-Mason hammers measure 0.396 inch at the throat and those hammers made specifically for the early Navy conversions measure 0.353 at the same point. Dimensions [W] (hammer thickness) and [S] (hammer swing) remain relatively constant on all four models.



Fig. 6-34 A Richards-Mason 1860 Army Hammer fitted to an 1851 Navy-Navy conversion, serial number 59721. (Photo by L. Frank Richey, Sam Pachanian Collection)

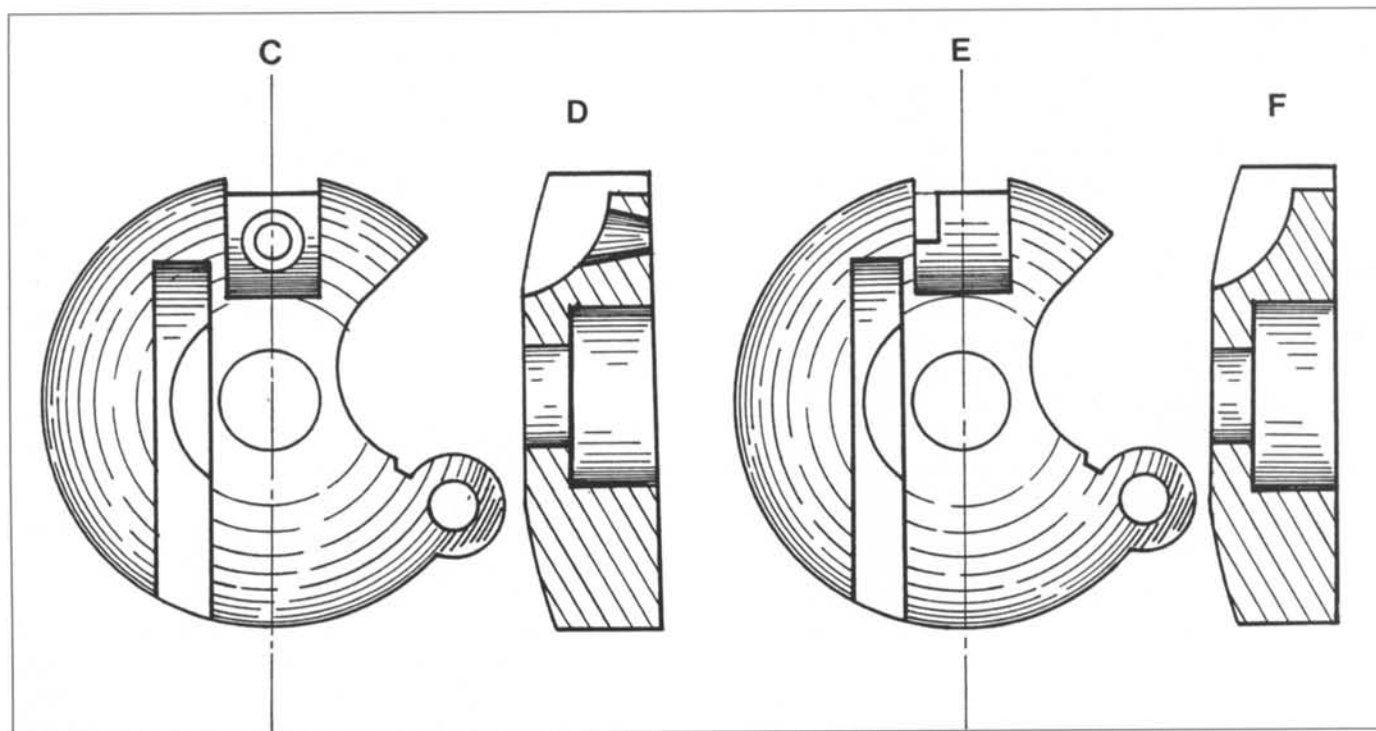


Fig. 6-35 Drawings of Richards Type III conversion rings: center-fire (left) and rimfire (right).

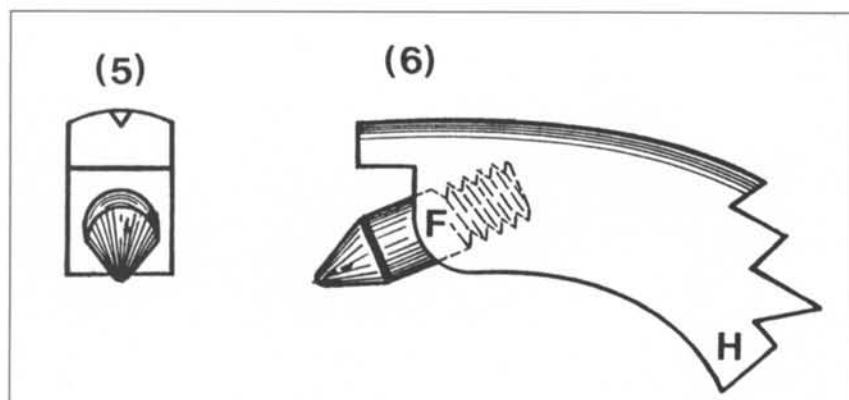


Fig. 6-36 Drawing of cone-type centerfire firing pin installed into hammer face.

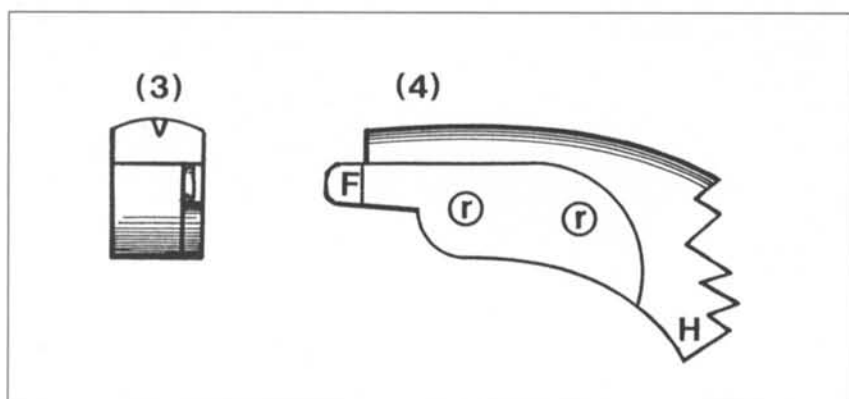


Fig. 6-37 Drawing of rimfire blade firing pin installed at left side of hammer face.

The 1851/1861 Colt Navy conversion rings are illustrated in rear view and cross-section for both centerfire (left) and rimfire (right) in Fig. 6-35 and their associated firing pins are shown directly below (Figs. 6-36 and 6-37).

As illustrated in [D] and [F] of Fig. 6-35, the hammer channels of the Colt Navy conversions were cut or finished with an arbor-type milling cutter, thus leaving a radius or curved block into which the hammer face must fall. With this style of hammer channel, the face of the hammer is usually under-cut with a radius as shown in Fig. 6-36 [6] and Fig. 6-37 [4].

End and side views of the later centerfire firing pin is illustrated in Fig. 6-36. With this particular design, a round, pointed and threaded firing pin [F] is screwed into a threaded hole in the hammer face, as indicated by the dotted lines. This is the most commonly found centerfire hammer arrangement for Colt Navy conversions, particularly the Navy-Navy conversions.

Finally, the rimfire firing pin illustrated in Fig. 6-37 was the type used in all Model 1851 and Model 1861 Civilian Navy conversions produced or converted to chamber rimfire cartridges. The left side of the hammer throat [H] was milled out with a 3/8-inch end mill, 0.093 inches deep and 0.550 inches back from the hammer face. Into this cavity was placed a flat, hardened rimfire firing pin that was maintained by two rivets, as illustrated at [3] (end view) and [4] (side view) of Fig. 6-37.

The beveled tip of the firing pin extends 1/4 inch from the face of the hammer.

Thus we find four variations in the Model 1851 and Model 1861 Navy conversion hammers; [1] The 1860 Richards-Mason (Army) blade-type centerfire hammer, Fig. 6-38A (only a few are known); [2] The 1851/1861 Navy blade-type centerfire hammer, Fig. 6-38A (found on early production only); [3] The 1851/1861 Navy cone-type centerfire hammer, Fig. 6-38B (most commonly found centerfire hammer); and [4] The 1851/1861 Navy Civilian rimfire hammer, Fig. 6-38C (the only type rimfire hammer used throughout production.)

Frame markings were found to vary through the production or conversion period of the Richards-Mason Navy metallic cartridge revolvers. All revolvers produced or converted prior to July 1872 were stamped on the front left side of the frame with the percussion style COLTS/PATENT marking. Later Colt Model 1851 and 1861 conversions were stamped with a two-line patent date, PAT.JULY.25.1871./PAT.JULY.2.1872. The two-line patent date marking is found in several configurations, as mentioned earlier in the text. It is often found stamped over, or to the right side of the original COLTS/PATENT stamping as pictured in Fig. 6-39. This is common when original percussion frames were over stamped, but when new frames were used for conversions, no COLTS/PATENT marking is present.

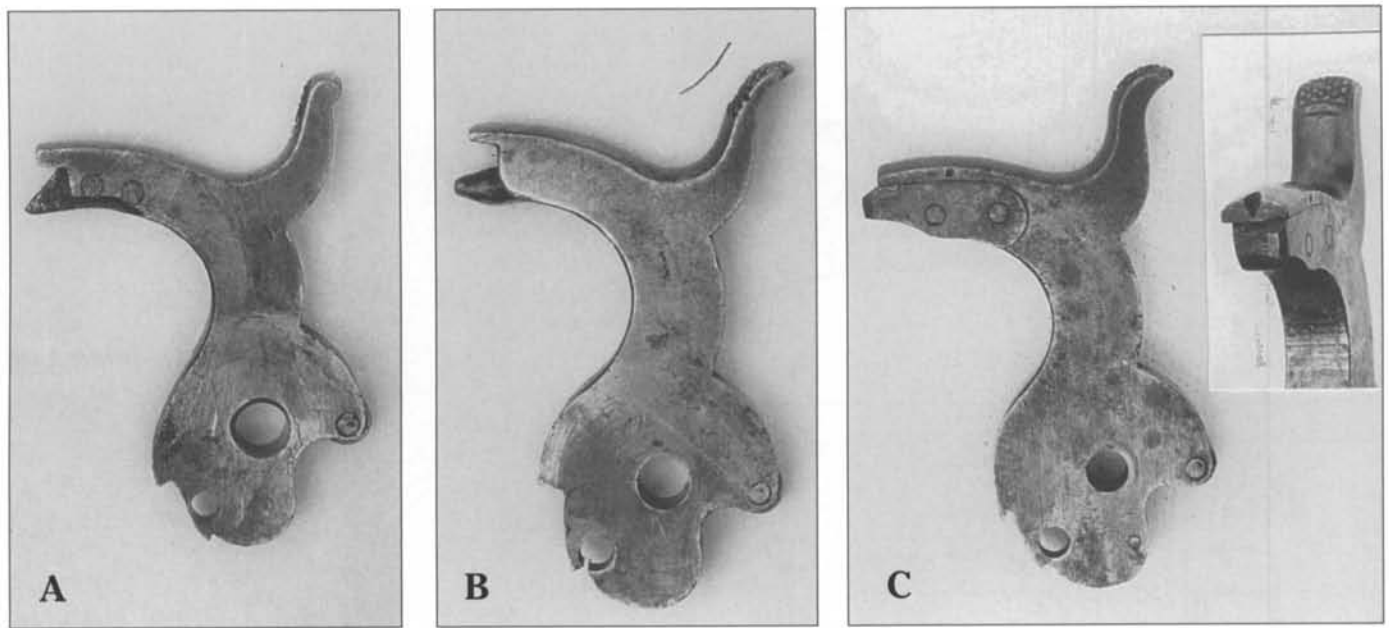


Fig. 6-38 Three types of factory made conversion hammers used on Colt Model 1851 and 1861 Richards-Mason conversions: (A) blade-type firing pin, (B) cone-type firing pin, and (C) rimfire offset blade firing pin (see text).



Fig. 6-39 Two-line patent dates stamped to the right of the original percussion frame stamping on a U.S. Model 1861 Navy-Navy conversion, serial number 4154 (mixed). (Courtesy Francis E. "Bud" Firth)



Fig. 6-40 Two-line patent dates typically stamped on new Colt Navy conversion frames, with dashes at the beginning and end of each line. (Author's Collection)



Fig. 6-41 Two-line patent dates on Original Metallic Cartridge Colt Model 1861 Navy conversion, period at end of top line missing because of broken die. (Courtesy Francis R. "Bud" Firth)

The two-line patent date stamping is found in two basic forms, without dashes at the beginning and end of each line, as that of Fig. 6-39, and with dashes as pictured in Fig. 6-40. Here, the COLTS/PATENT stamp was never applied, or was buffed out prior to the application of the two-line patent date marking.

These double patent date dies each contained eight dots or periods, which were vulnerable to breakage when applied to a case-hardened steel frame. As the

conversions continued, these dies were used over and over again, until eventually some of the periods, dashes and even portions of the characters began to break away. Even with these broken or missing characters, the dies continued in use, and those frames stamped with these defective dies became known as "broken die frames." A good example of a broken die frame marking is pictured in Fig. 6-41. On this particular frame, only the period after the top line year (1871) is missing.

According to Sam Pachanian, who reported rather extensively on the subject in the June 1987 newsletter of the Gun Collectors Association (see Bibliography), both early and late Colt Model 1851 Navy-Navy conversions are known where everything after the top left hooks of the 7s is missing.

Barrel addresses found on the tops of the Model 1851 and 1861 Navy Richards-Mason conversions will vary with the percussion serial numbers of the conversions, and will invariably be the Type II New York address -ADDRESS COL. SAML COLT NEW YORK U.S. AMERICA- on the original metallic cartridge models and on all the 1861 Navy revolvers. On Model 1851 percussion revolvers converted to metallic cartridge, those with serial numbers below 74000 will have the type I New York address -ADDRESS SAML COLT NEW-YORK CITY-. Traditionally, single line Colt percussion revolver barrel addresses are right handed,

meaning that it reads from muzzle to breech. The Type I New York address has been found to read left-handed (breech to muzzle) on serial numbers between 59000 and 59720. These were from the 615 early Navy-Navy revolvers shipped to the Norfolk Navy Yard.

The Hartford barrel address -ADDRESS SAML COLT HARTFORD CT.- is normally found, reading from muzzle to breech on Model 1851 Colt Navy percussion revolvers converted to metallic cartridge in the 74000 to 101000 serial number range. Those from serial number 101000 to the end of production have the Type II New York address.

Based on the foregoing, we determine that the barrel addresses of the original Colt percussion Navy revolvers directly purchased by the U.S. Navy are as follows:

YEAR	COLT MODEL	QUANTITY	SERIAL NOS.	BARREL ADDRESS
1857	1851 Navy	2,000	55500-62000	New York, Type I
1859	1851 Navy	600	89000-91000	Hartford
1861	1861 Navy	2,000	100-4600	New York, Type II
1862	1861 Navy	1,380	4600-10000	New York, Type II

Note: None of the above include Navy purchases from the open market.



Fig. 6-42 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver, serial number 3170. Pictured with box of .38 Short metallic cartridges by U.S. Cartridge Co. (Courtesy Francis E. "Bud" Firth)

The Model 1851 Navy Original Metallic Cartridge Richards-Mason Conversion

SERIAL NUMBER RANGE	1 through 3800
CALIBER	.38 rimfire or .38 centerfire
BARREL LENGTH	7-1/2" octagonal, newly made or taken from only partially completed percussion parts inventory
BARREL ADDRESS	-ADDRESS COL. SAML COLT NEW YORK U.S.AMERICA-
EJECTOR HOUSING	Mason type
EJECTOR ROD TIP	Round
EJECTOR HEAD	Concentric rings
WEDGE	Percussion type with spring (early production) Newly made without spring (later production)
CYLINDER	Converted new percussion or newly made
CONVERSION RING	Richards Type III (see Fig. 6-26)
GATE SPRING	Generally internal (early production) External (later production)
FRAME TYPE	1851 Percussion Navy
FRAME MARKINGS	COLTS/PATENT (early production), two-line patent dates or both (later production).
HAMMER SCREW	Small (early), large (late production)
HAMMER SPUR KNURL	Bordered and underlined cross-hatch
HAMMER	Rimfire (serial number 1 to approx. 3200), typical Centerfire (serial number 2450 to 3800), typical
STOCK (GRIP)	Normally varnished walnut (see text)
BACKSTRAP	Usually brass, sometimes steel (see text)
TRIGGERGUARD	Large oval brass, sometimes steel (see text)
ASSEMBLY NUMBERS	Matching on gate, frame, arbor and conversion ring

Though referred to as conversions, the Original Metallic Cartridge Model 1851 Navy revolvers were actually produced at the Colt factory as cartridge revolvers. They were assembled from new and unnumbered Model 1851 Colt Navy percussion parts remaining in the factory inventory, both remachined and newly fabricated cylinders, and newly fabricated conversion parts, such as the conversion rings, gate assemblies and ejector assemblies.

Naturally, the early production specimens contain more of the original percussion parts than those with the higher four-digit serial numbers. Many of these original percussion parts were only partially completed when assigned to the conversions. As long as they lasted, partially completed percussion barrels were used, and when this supply became exhausted, newly fabricated barrels began to appear. Figure 6-43 shows an Original Metallic Cartridge 1851 Navy of early production. It has a three-digit serial number and utilizes a partially completed percussion barrel.

The barrel lug has the bevel scooped out on its lower right side, but the loading V cut-out was never milled

into the bevel. This is seen again in Fig. 6-44, an ivory grip Original Metallic Cartridge 1851 Navy with serial number 1790.

A close-up view of the same conversion is shown in Fig. 6-45. When completed percussion barrels were used on conversions, there were several modifications required. The loading lever channel was filled, the lever latch dovetail was filled, the lever screw hole was filled and redrilled off-center to accommodate the ejector housing stud, and a semi-circular channel was cut in the right side to receive the full length of the Mason ejector assembly. The state of completion of the percussion barrel determined which of these modifications were necessary. All barrels required the channel for the ejector housing and the mounting hole for the housing stud. Generally speaking, all barrels of the Original Metallic Cartridge 1851 Navy revolvers retained the plunger hole or had one bored. This was provided for removing the barrel with a mallet and wooden dowel, because there was no loading lever.

The Original Metallic Cartridge Model 1851 Navy revolver pictured in Fig. 6-46 has either a percussion barrel

Fig. 6-43 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver, serial number 144, with partially completed percussion barrel. (Courtesy John H. Thillmann)



Fig. 6-44 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver, full nickel plated with ivory grips, and partially completed percussion barrel. Serial number 1790, assembly number 3340. (Courtesy Dow and Russelle Heard)



Fig. 6-45 Frame, cylinder and barrel lug close-up of Original Metallic Cartridge Richards-Mason revolver showing partially completed percussion barrel, scooped out at the lug but no "V" loading notch cut. (Courtesy Dow and Russelle Heard)





Fig. 6-46 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver with newly fabricated barrel with no lug cut-outs. Serial number 437, assembly number 684. (Courtesy Dow and Russelle Heard)

with none of the millings and borings performed, or a newly fabricated barrel. Generally, the newly fabricated barrels are found on later production revolvers (those in the higher four-digit serial number range). The revolver seen in Fig. 6-46, and shown in close-up side view in Fig. 6-47 is serial numbered 437 and has the assembly number 684. Also, the possibility exists that the barrel could be a later replacement, numbered to the gun.

This revolver features the William Mason ejector assembly as patented on July 2, 1872 (see Fig. 6-1). It is far less complex than the Richards design patented July 25, 1871 (see Chapter 5, Fig. 5-2A), and consequently much less costly to manufacture. As can be seen in Fig. 6-47, the ejector housing extends back to the rear face of the barrel lug, and completely encloses the round ended ejector rod. The Original Metallic Car-



Fig. 6-47 Close-up of Model 1851 Richards-Mason frame, cylinder and barrel lug, showing no loading cut-out at barrel lug. Serial number 437. (Courtesy Dow and Russelle Heard)

tridge 1851 Navy revolver ejector heads have the concentric ring pattern at their front surfaces.

Early production of the Original Metallic Cartridge 1851 Navy revolvers incorporate the percussion-type barrel wedge with a spring. As production continued and the inventory of the older style wedges became thin, a new type of wedge became predominant. This new wedge has no spring—rather a partial channel allowing the wedge to pass the wedge screw—but it could not be removed from the barrel lug without first removing the wedge screw.

It has often been said that the wedge spring was not necessary, as it served no purpose on the Richards-Mason type conversions. Because of the position of the Mason ejector housing with respect to the barrel, there was no place for the wedge spring tip to hook to. This seems to be one of the weaknesses in the Mason design. Wedges could, and often did, slip out as there was nothing to hold them in place.

Cylinders have already been outlined in full detail earlier in this chapter. One additional thing to note is that the Original Metallic Cartridge Model 1851 Navy revolver cylinders are typically serial numbered to match the revolver.

Percussion frames and newly fabricated frames are both found on the Original Metallic Cartridge Model 1851 Navy revolvers. The faces of the recoil shields of both frame types were machined with a concave radius to match the convex rear face of the Type III conversion rings (see Figs. 6-26 and 6-35). Early production frames (those prior to July 2, 1872) were stamped on the left side with COLTS/PATENT, while frames marked after that date were stamped with the two-line patent dates -PAT.JULY.25.1871.-/PAT.JULY.2.1872.-. Some had dashes at each end of each line, while others did not. Sometimes the two-line patent dates are found stamped over, or to the right side of the COLTS/PATENT stamping (see previous chapters for further frame stamping details).

The percussion cap-loading cut-out in the right recoil shield of each frame to be used on the Original Metallic Cartridge 1851 Navy revolvers was required to be milled deeper to allow passage of the new cartridge to be used. The loading gates attached to the conversion rings were formed to mate with this new size and shape when closed.

Early production of the Original Metallic Cartridge 1851 Navy revolvers incorporated the small size (percussion size) hammer screw and internal gate springs. In later production specimens, the larger size (Single Action Army size) hammer screws were normally found, as were external gate springs. The gate spring change occurred simultaneously in the Richards and the Richards-Mason conversions because of a possible patent infringement (see Chapter 5).

The gripstraps of the Original Metallic Cartridge 1851 Navy Revolvers are standard brass; however, in the higher serial number range steel is sometimes found, along with combinations of brass and steel. When the supply of percussion brass gripstraps diminished, leftover steel triggerguards and backstraps from percussion Navy/Navy revolver production were used.

Therefore, while uncommon, high-numbered Original Metallic Cartridge 1851 Navy revolvers with a brass triggerguard, a steel backstrap, a steel triggerguard and a brass backstrap, or all-steel gripstraps are found.

The earlier production brass triggerguards are usually found stamped with the old percussion marking 36 CAL. Still others are known with no caliber stamping at all. To date, no Original Metallic Cartridge 1851 Navy revolvers stamped with the true caliber, .38 caliber, have been identified.

Colt Navy conversions, whether converted from percussion or originally produced for metallic cartridges, were all chambered for .38 caliber ammunition. Both the .38 Long rimfire and the .38 Short rimfire cartridges became available in the United States in the early 1860s. The .38 Short Colt centerfire and the .38 Colt Navy centerfire cartridges were not available in this country until 1874.

The British .380 centerfire revolver cartridge was developed in 1866 and was interchangeable with the later .38 Short Colt cartridge. The .380 cartridge was imported to the United States for use with British-made centerfire revolvers, but was not commonly available in this country. No records could be located regarding American-converted percussion revolvers chambered for the .380, or any American cartridge manufacturer producing that cartridge. The .38 Webley centerfire cartridge (also interchangeable with the .38 Short Colt) was offered by the U.S. Cartridge Co., but not until 1870.

From the preceding, it becomes apparent that all early .38 caliber Colt conversions or original metallic cartridge Navy revolvers produced were chambered for rimfire ammunition. We can only speculate as to the exact date Colt started producing centerfire Navy conversions and Original Metallic Cartridge Navy revolvers. The first one Colt produced was shipped to the U.S. Navy Bureau of Ordnance on July 16, 1873, prior to the availability of .38 caliber centerfire metallic cartridges. This revolver was a sample of what Colt intended to supply in the way of 800 conversions (subsequently increased to 1,200) ordered by the Navy on July 10, 1873. (Refer to the section on Colt Model Navy-Navy conversions in this chapter.) The date of this first centerfire Colt Navy revolver conversion is substantiated by a letter from General Franklin of Colt to Captain Jeffers of the Bureau:

Office of Colt's Patent Fire Arms Manufacturing Co.
Hartford, Conn. July 16, 1873

Commodore William N. Jeffers
Chief Bureau of Ordnance Navy Dept.

Commodore

I have sent you by express a Navy Pistol altered to central fire Met. Cart'gs. It is not one of those belonging to the Navy, but it is sent in order that cartridges may be obtained for it. As I have already informed you the Union Met'c. Cart. Co. of Bridgeport Conn. has been experimenting in this direction and is doubtless prepared to furnish them in quantities at short notice, we ought to have some as soon as possible, for we want to be sure that pistol & cartridges go well together, and we cannot be entirely sure of that unless we have the adopted cartridge. There are nice points such as size of head of cartridge, length & consequently penetration of firing pin &c &c which can be best determined by having the very cartridge that is to be used.

*Respy yours,
W.B. Franklin
V. Prest Gel Agt.*

On October 31, 1873, General Franklin advised Captain Jeffers that the 1,200 Navy pistols had all been altered (converted) and were ready for delivery. It appears that 12 were shipped a few days prior to October 31, and 100 were shipped during the last week of September or the first week of October.

Dating the production of the first centerfire Original Metallic Cartridge Model 1851 Colt Navy revolvers remains a challenge, but the scope of possibilities is somewhat narrowed by the preceding information.

Apparently, these .38 caliber Original Metallic Cartridge centerfire models did not appear until mid-1874. Certainly, the cartridges required were not readily

available on the civilian markets. During the period of converting the percussion revolvers for the U.S. Navy, they would have been the Colt factory's priority, leaving little time to produce conversions in Original Centerfire Metallic Cartridge form for the civilian market.

As was the case with the 1860 Richards and Richards-Mason conversions, the Colt Model 1851 Navy conversions witnessed extensive use and considerable abuse in the West and Mexico. Amazingly, some of the surviving specimens of the Original Metallic Cartridge Richards-Mason Model 1851 Navy revolvers still retain 80 percent or better original finish, such as that pictured in Fig. 6-48. This revolver, serial numbered 345 with a newly fabricated barrel without any of the milling or boring found on percussion barrels, is an exception to the rule. Though the serial number indicates early production, this type barrel and the external loading gate spring are typical of later production revolvers, as is the centerfire type cartridge.

In addition, the frame has the earlier COLTS/PATENT stamping and the 7-1/2-inch octagonal barrel is marked with the Type II New York address. The brass post front sight is standard for this model. Both gripstraps are brass and the revolver has matching assembly number 33 throughout.

The Original Metallic Cartridge Richards-Mason 1851 Navy revolver in Fig. 6-49 is serial numbered 597 and bears the assembly number 1317. The slightly higher numbers place this revolver later in production than that of Fig. 6-48, while it has some earlier production features. It is for .38 caliber rimfire ammunition and the conversion utilizes a partially completed percussion barrel. Note that the barrel lug has the bevel scooped out, but no loading V cut-out. The brass gripstraps, Type II New York barrel address and the COLTS/PATENT frame stamping are common to the early production serial number of the gun, as is the internal loading gate spring.

Compare the barrel of revolver number 345 (see Fig. 6-48) with that of number 3170 (see Fig. 6-50). Number



Fig. 6-48 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver with newly fabricated barrel with no lug cut-outs for loading. Serial number 345, assembly number 33. (Courtesy John H. Thillmann)

Fig. 6-49 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver with partially completed percussion barrel that has the lug bevel scooped out, but no "V" loading cut-out. Serial number 597, assembly number 1317. (Courtesy John H. Thillmann)



Fig. 6-50 Original Metallic Cartridge Colt Model 1851 Navy Richards-Mason revolver with newly fabricated barrel. Serial number 3170. (Courtesy Francis E. "Bud" Firth)



Fig. 6-51 Original Metallic Cartridge Colt Model 1851 Navy Richards-Mason revolver with full nickel plating. Serial number 103, assembly number 154. (Author's Collection)



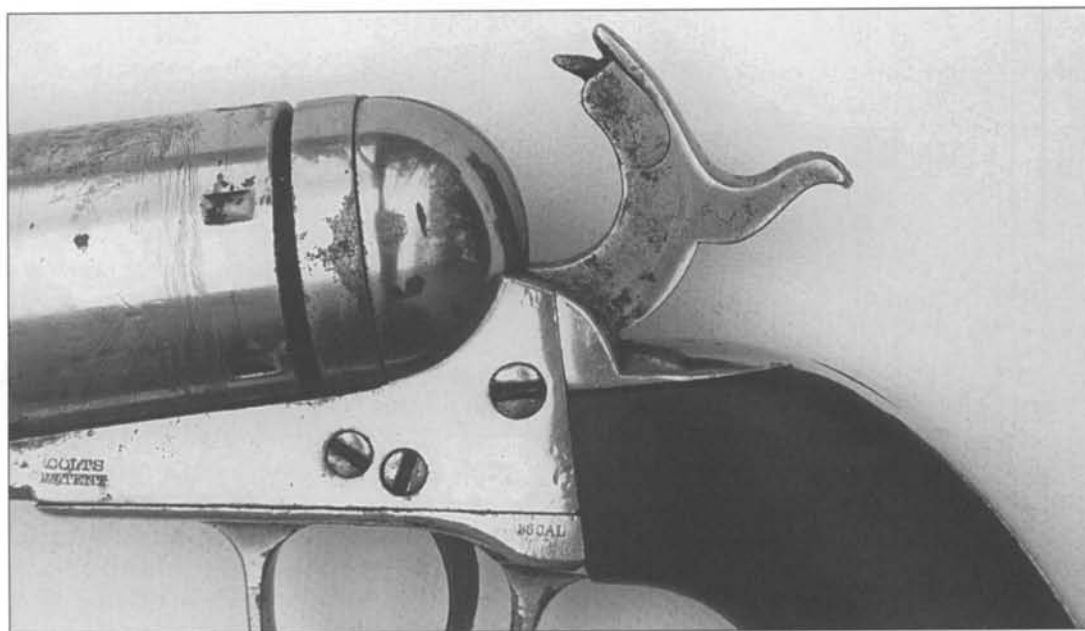


Fig. 6-52 Hammer details of Richards-Mason Colt Model 1851, serial number 103. Originally converted to rimfire and later to centerfire (see text).



Fig. 6-53 Close up frame, cylinder, conversion ring and barrel lug of Richards-Mason Colt Model 1851 Navy, serial number 103.

345 is of early production and 3170 is late production; however, both have identical newly fabricated barrels. This demonstrates that for every rule regarding Colt revolvers, there are certainly exceptions. Both barrels are numbered to their respective revolvers, so neither is a replacement. All three revolvers pictured, numbers 345, 547 and 3170, are in exceptionally fine overall original condition and fully demonstrate the Colt tradition of excellence in workmanship.

Several Colt conversions are known to have been reconverted to centerfire by non-factory gunsmiths, after

their conversion to rimfire. The Original Metallic Cartridge 1851 Navy revolver shown in Fig. 6-51 is currently centerfire and is full nickel plated. The revolver is serial numbered 103, and bears the assembly number 154. It was originally produced as a rimfire revolver, with a flat rimfire firing pin riveted to the side of the hammer in the conventional manner (see Fig. 6-37) and later changed to centerfire by cutting away the front of the rimfire pin plate and inserting a centerfire firing pin as in Fig. 6-36. This modification is pictured in Fig. 6-52. Also, the original rimfire conversion ring (see Fig. 6-35



Fig. 6-54 Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver, serial number 144, assembly number 89. (Courtesy John H. Thillmann)



Fig. 6-55 Barrel lug, frame and cylinder close-up of original Metallic Cartridge Model Richards-Mason revolver, serial number 144.

E and F) was changed to centerfire by drilling a hole at the center of the hammer channel to receive the new firing pin. Though not done at the Colt factory, the author is aware of six other rimfire conversions that were later changed to centerfire.

A close-up view of the frame and cylinder of No. 103 is seen in Fig. 6-53. This Original Metallic Cartridge 1851 Navy revolver is from early production and therefore retains the COLTS/PATENT frame marking, has an internal loading gate spring and incorporates a converted percussion barrel. Original percussion barrels were used as long as they remained in the factory percussion inventory, and are generally found on the earlier Original Metallic Cartridge revolvers with lower serial numbers.

Another excellent example of a low-numbered Original Metallic Cartridge Richards-Mason Model 1851 Navy revolver with a converted percussion barrel is pictured in Fig. 6-54. The gun is serial numbered 144, with assembly number 89 stamped in the standard locations. Though very slight, the barrel lug has a forward slant, as can be seen in Figs. 6-54 and 6-56. The barrel is a late 3rd Model type, with thick lug and a post front sight. Both the bevel and V loading notch were cut for percussion loading.

Figure 6-55 is a close-up of the barrel lug, frame, trigger guard, cylinder, conversion ring and hammer of serial number 144. The number is matching throughout, including the cylinder. Since this revolver is early pro-

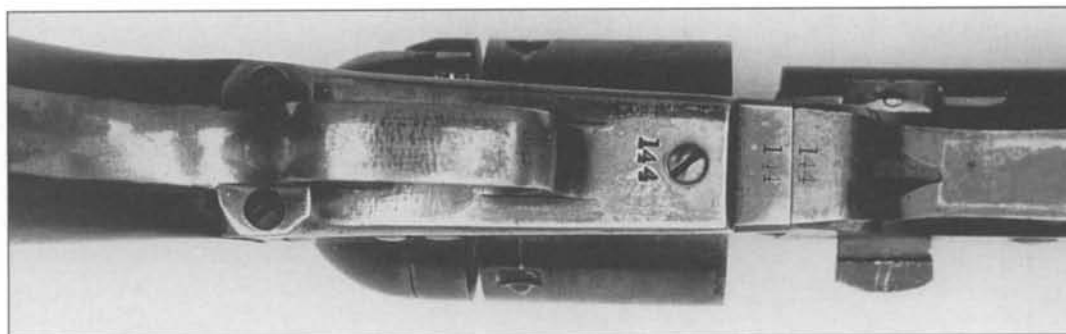


Fig. 6-56 Close-up underside view of Colt Model 1851 Richards-Mason conversion, serial number 144.

duction (before July 1872), only the COLTS/PATENT is stamped into the frame. This revolver was designed for the .38 caliber rimfire cartridge, and has the Type II New York barrel address, internal gate spring, brass gripstraps and varnished walnut grip. It is one of those rare pieces with 100 percent cylinder scene and 95 percent factory finish.

A portion of the underside of the Colt Model 1851 Navy Original Metallic Cartridge conversion serial number 144 is pictured in Fig. 6-56, showing the numbers stamped into the triggerguard, frame and barrel lug. Also seen here is the filled-in channel, originally cut for the percussion loading lever, and the finished diameter of the conversion ring as compared to that of the recoil shield to which it is attached.

Figure 6-57 illustrates several design details that are not easily seen in side-view photographs. First, note the placement of the assembly number 89 on the rear of the loading gate. Then, in looking through the open gate,

one section of the rotating ratchet of the cylinder can be seen with its ratchet tooth positioned between two chambers.

The final design change worthy of mention is the step seen in the loading channel of the recoil shield. All .44 caliber Richards, Transitional Richards and 1860 Richards-Mason conversions had stepless loading channels of larger diameter than those of the 1851 and 1861 Navy conversions. The .38 caliber small frame conversions (see Chapter 8) have still smaller openings for loading metallic cartridges.

For the sake of comparison, the .44 caliber Richards and Richards-Mason conversions had loading channels with a radius of $11/32$ inch, flaring out to an approximate 0.790-inch opening. This means that the tool used to mill the loading channel had an $11/16$ -inch diameter ball nose and tapered out to 0.79 inch about 0.4 inch from its tip. Those loading channels milled into the recoil shields of the Navy and small frame revolvers had

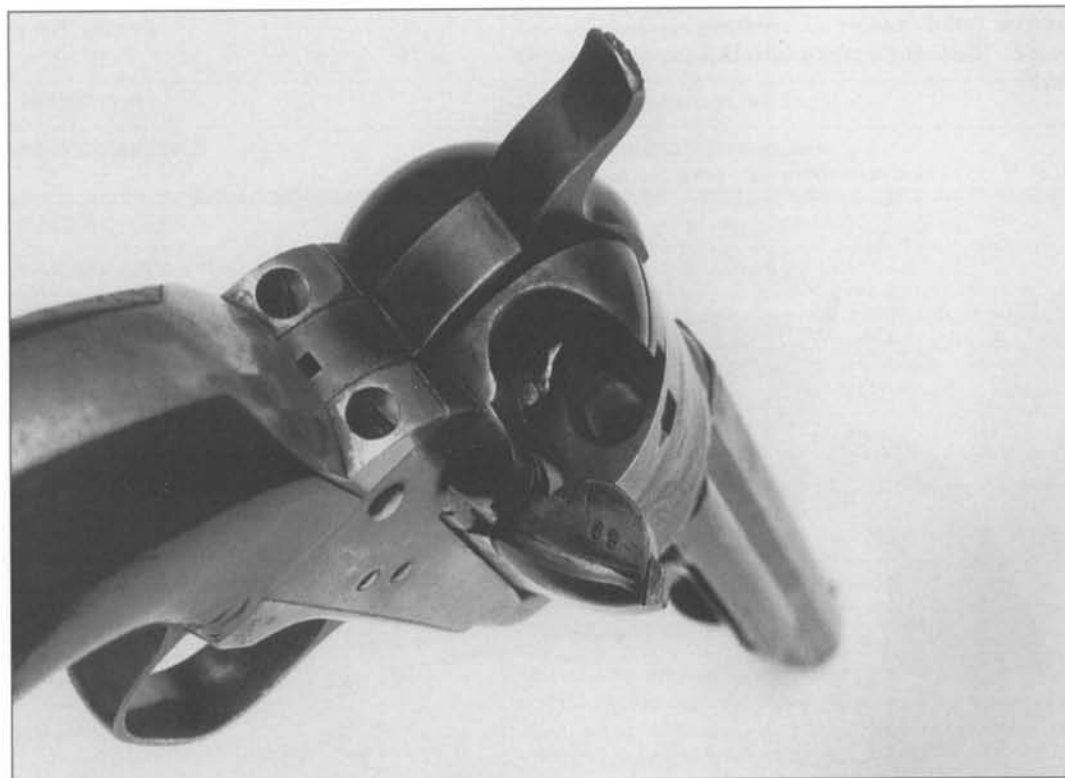


Fig. 6-57 Close-up rear view of Colt Model 1851 Navy Richards-Mason conversion, serial number 144.

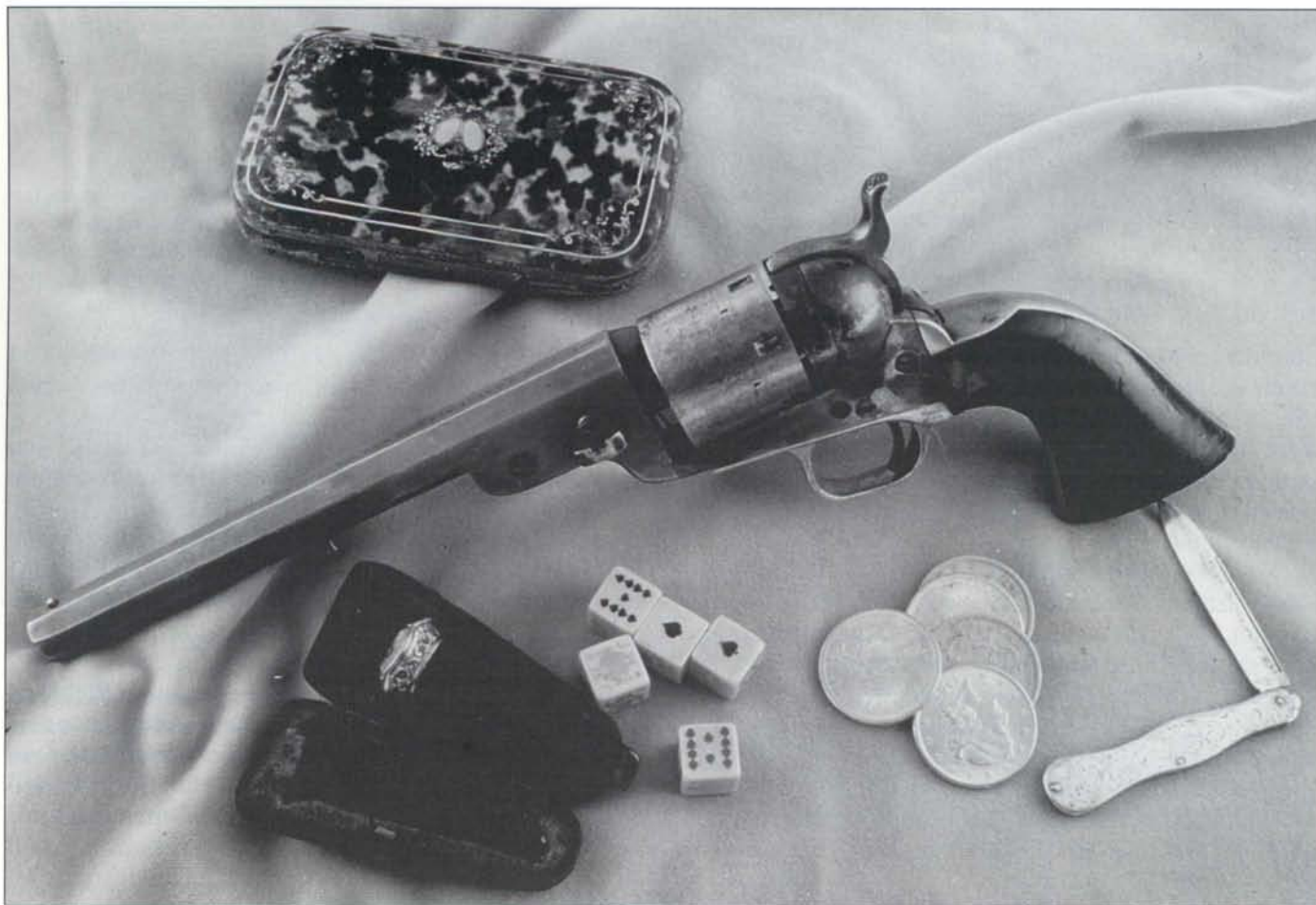


Fig. 6-58 British-proofed Original Metallic Cartridge Colt Model 1851 Navy Richards-Mason revolver, serial number 23, assembly number 11. (Courtesy Francis E. "Bud" Firth, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 6-59 Colt Model 1851 Navy-Navy Richards-Mason conversion, serial number 89754, assembly number 555. (Courtesy Dow and Russelle Heard)

radii of 9/32 inch and 7/32 inch, respectively, but were milled into the upper sections of shallow, but much wider, percussion capping channels than those of the 1860 Army Model. Therefore, steps in the Navy and small frame cartridge loading channels resulted.

An Original Metallic Cartridge Colt Model 1851 Richards-Mason revolver with the full British-style muzzle crown and small British proof marks is pictured in Fig. 6-58. This revolver is not a converted London Navy Colt with its own serial number range. It is an early pro-

duction Hartford-made Original Metallic Cartridge model, serial numbered 23 and bearing the assembly number 11. All features are common with this description; however, they are representative of both early and late production.

The 7-1/2-inch barrel has the Type II New York Address, both gripstraps are brass, it has the unique feature of an external gate spring and the frame is stamped COLTS/PATENT. Consistent with British preference, the gun is fully reblued (see also Fig 6-99 and associated text).

The Model 1851 Navy Percussion Range Richards-Mason Conversions

SERIAL NUMBER RANGE	45750 to 128300 (see text)
CALIBER	.38 rimfire or .38 centerfire
BARREL LENGTH	7-1/2 inches nominal (often refaced)
BARREL ADDRESS	ADDRESS SAML COLT -NEW-YORK CITY- ADDRESS SAML COLT -HARTFORD CT.- ADDRESS SAML COLT -NEW-YORK U.S. AMERICA-
EJECTOR HOUSING	Mason type
EJECTOR ROD TIP	Rounded
EJECTOR HEAD	Cross-hatch (civilian) Concentric rings (U.S.N.)
WEDGE	Percussion type with spring (early production) Newly made without spring (later production)
CYLINDER	Reworked percussion, often mismatched
CONVERSION RING	Richards Type III (see Fig. 6-26)
GATE SPRING	Internal (early production) External (later production and all U.S.N. models)
FRAME TYPE	Converted percussion (see text)
FRAME MARKINGS	COLTS/PATENT (early production) Two-line patent dates (late production and all U.S.N. models)
HAMMER SCREW	Generally the small percussion size
HAMMER SPUR KNURL	Percussion-style cross-hatch
HAMMER	Rimfire (all early production and scattered later production). Centerfire (later production and all U.S.N. Models)
STOCK (GRIP)	Single-piece walnut or special order types
BACKSTRAP	Brass (civilian) Iron (U.S.N. models)
TRIGGERGUARD	Brass (civilian) Iron (U.S.N. models)
ASSEMBLY NUMBERS	Gate, frame, arbor and conversion ring.
INSPECTOR MARKS	(See U.S. Navy conversions)
ENGRAVING & CASING	The Colt factory did not engrave or case Model 1851 Navy conversions in-house. Any such work was done by dealers or when the revolvers were in their percussion state. When engraved percussion revolvers were converted, the re-machining often cut through the engraving (see text).



Fig. 6-60 Close-up of frame, barrel lug, cylinder and conversion ring of Model 1851 Navy-Navy conversion, serial number 89754. (Courtesy Dow and Russelle Heard)



Fig. 6-61 Percussion Range Model 1851 Colt Navy Richards-Mason conversion serial number 122299. (Author's Collection)

Conversions of privately owned Colt Model 1851 Navy percussion revolvers were few in number and consequently extremely rare. Two hundred or fewer of these factory converted 1851 engraved Navies appears to be the accepted figure; however, this is only conjecture.

From existing correspondence in the National Archives, it is known that several naval officers sent their personal Colt Navy revolvers back to the factory for conversion. It is further known that besides the 2,097 Model 1851 and Model 1861 Colt Navy revolvers converted for the Navy Ordnance Bureau, 11 civilian conversions were sold to the U.S. Navy. What is not known is where the conversion of these civilian Navy revolvers fit into the factory program of producing Original Metallic Cartridge revolvers, and converting percussion revolvers for the Navy.

General Franklin, Vice President and General Agent for the Colt Company, was forever conscious of the costs in-

involved in setting up the necessary machining operations for converting revolvers. On several occasions he contacted the Navy Ordnance Bureau by letter, requesting that all percussion revolvers requiring conversion be sent at one time so the factory could convert the entire quantity without interruption. An example of this can be found in a portion of a letter sent to Admiral Case regarding the Admiral's request to set aside defective percussion revolvers, which the Navy would replace at a later date:

"... I have received your letter of the 12 inst. (September 12, 1873) For the small number of pistols required to make up the 1200, if the defective parts are left out, it will be a loss for us to fit up our machines, all of the 1200 having already had the machine work done on them, and the machines have already been put to other work..."



Fig. 6-62 Frame, hammer and hand close-up from percussion range Model 1851 Navy Richards-Mason conversion. (Author's Collection)

Barrels, cylinders, hammers and frames of percussion pistols required extensive machining during the conversion process, and these parts could not be pre-machined and placed into inventory because they were not available. Conversion rings, loading gates, wedges and ejector assemblies had to be newly fabricated. It is therefore difficult to believe that a civilian could simply return his percussion Navy revolver to the factory to have it converted, without paying a heavy premium, unless such returned revolvers were held by the factory until a new production run became necessary, at which time they were completed and returned to the customer.

The Model 1851 Navy barrels required the most rework of all the original percussion parts. The channel for the percussion loading lever had to be filled, as did the lever screw hole. Next the latch dovetail on the underside of the muzzle required filling, and these metal plugs were all machined and polished to blend in with the original metal of the barrel. Finally, a channel was cut on the right side to receive the case of the ejector and a new mounting hole was bored and counter-bored to accommodate its stud and mounting screw. The barrel was polished and reblued.

The percussion cylinders were turned down at the rear, removing the percussion nipples, but leaving a shaft for a newly machined ratchet (see Figs. 6-21 and 6-22). The six chambers were bored to accept the .38 caliber metallic cartridge and the ratchet shaft was counter-bored to clear the cartridge heads.

Quite often, cylinders were pre-converted and placed into inventory for later use on conversions. When this was done, on military models, a second serial number, or the last few digits of a second serial number matching the serial number of the revolver, was stamped above or below the original cylinder serial number, or on its rear face between the chambers (see Figs. 6-23, 6-24 and 6-68).

The percussion frames required only minor rework. The front face of the recoil shield was machined with a concave surface to receive the convex shape of the conversion ring to be installed (see Figs. 6-26, 6-28, 6-31 and 6-35). In most cases, the percussion cap cut-out of the right recoil shield was milled deeper to clear the cartridges for loading and to receive the shape of the new gate. The frame was then stamped with the two-line patent dates (later production), polished and case hardened again.

The tips of the percussion hammers were reshaped and fitted with rimfire or centerfire firing pins (see Figs 6-36 and 6-37).

The only internal part that required replacing was the hand (rotating arm). With the advanced cylinder ratchet position and the restriction in the width of the ratchet teeth, the two-fingered hand was required (see [B] of Fig. 6-25).

1851 Navy metallic cartridge revolvers converted from percussion are easily detected by the large loading cut-outs in the right recoil shield. When the conversion ring is in place, a notch or bevel remains

immediately to the rear of the loading gate hinge. It is not uncommon to find some of the threads at the top of the gate mounting screw exposed. This can be seen in Fig. 6-60, and in greater detail in Fig. 6-77.

Figure 6-61 pictures a typical Colt Model 1851 percussion range Richards-Mason conversion, serial number 122299. The revolver represents late production, is chambered for centerfire ammunition, and has brass gripstraps and an external gate spring. The barrel top has the Type II New York address, while the frame retains the original percussion COLTS/PATENT stamping with no patent dates over-stamped. This is unusual for

this late-production conversion. 36 CAL remains on the left triggerguard panel. The grips are the original single-piece varnished walnut and the gun retains 65 percent original finish.

The frame of another Model 1851 percussion range Richards-Mason conversion is shown in Fig. 6-62 with the barrel, cylinder and conversion ring removed. With the hammer placed at full cock, the wedge type firing pin and the two fingers of the hand (rotating arm) can be seen. The frame is stamped with the two-line patent dates, and there is no evidence of an earlier COLTS/PATENT marking.

U.S. Navy Model 1851 Percussion Range Richards-Mason Conversions (Colt Old Model Navy-Navy Conversions)	
SERIAL NUMBER RANGE	55500 to 63000 and 89000 to 91000
CALIBER	.38 caliber centerfire only
BARREL LENGTH	7-1/2 inches nominal, refaced and slightly crowned
BARREL ADDRESS	-ADDRESS SAML COLT NEW-YORK CITY- -ADDRESS SAML COLT. HARTFORD CT.-
EJECTOR HOUSING	Mason type
EJECTOR ROD TIP	Round
EJECTOR HEAD	Concentric rings
WEDGE	Percussion type with spring Newly made without spring
CYLINDER	Converted percussion, matched or mismatched and re-numbered to the revolver
CONVERSION RING	Richards Type III (centerfire only)
GATE SPRING	External
FRAME TYPE	Colt Navy percussion type
FRAME MARKING	Two-line patent date over COLTS/PATENT
HAMMER SCREW	Small (percussion type)
HAMMER SPUR KNURL	Cross-hatch (percussion style)
HAMMER	Percussion, converted to centerfire
STOCK (GRIP)	Original or replaced oiled walnut
BACKSTRAP	Normally steel
TRIGGERGUARD	Flat bottom bow steel (early serial numbers) Large oval bow steel (later serial numbers)
ASSEMBLY NUMBER	Matching on gate, frame, arbor and conversion ring
INSPECTOR MARKS	See text

During the years 1873, 1875 and 1876, the Colt factory converted 2,097 percussion Colt Navy revolvers to

centerfire metallic cartridge for the U.S. Navy Ordnance Bureau. In addition to the above, the Navy pur-



Fig. 6-63 U.S. Navy-Navy Colt Model 1851 percussion range Richards-Mason conversion, serial number 89754. (Courtesy Francis E. "Bud" Firth)

chased 11 nickel-plated civilian conversions from Colt, three of which had ivory grips. The Navy orders were all in letter form and were found in the National Archives as follows:

RG-74, E-5, Vol.18, P-299

10 July, 1873

General W.B. Franklin
Vice President and General Agt
Colts Arsenal, Hartford Conn.

Sir:

Your letter of the 8th inst. is received. The Bureau accepts your offer to alter Colt's navy revolvers to center fire metallic cartridges at \$3.50 each, and has advised the Commandant of the Boston, New York and Philadelphia Navy Yards to send to your manufactory 100, 400 and 300 pistols respectively for alteration.

It is desired that this order may be executed as soon as practicable and the Bureau notified when each 100 pistols are completed in order that it may meet their disposition; please send two of them when altered to the Bureau as models.

William N. Jeffers
Chief of Bureau

RG-74, E-5, Vol.18, P-318/319

12 Aug 1873

Colt's Patent Fire Arms Mnfg. Co.
Hartford Conn.

Sirs:

Your letter of the 6 Aug. 1873 is received.

That Bureau has directed the Commandants of the Boston, New York, and Philadelphia Navy Yards to send to your manufactory 100, 100 and 200 revolvers respectively for alteration which with the others previously forwarded will make 1200. On their completion of the first 100 pieces send 50 to the Portsmouth and New York Navy Yards each consigned to the Commandants thereof; this number it is desired maybe finished as soon as possible in order to put the pistols into service.

William N. Jeffers
Chief of Bureau

RG-74, E-5, Vol.19, P-269

28 Oct 1874

Colt's Arms Co.
Hartford Conn.

Sirs:

The Bureau has directed the Commandant of the New York NY to send to your works 497 Colt's revolvers, which you will please alter to fire metallic cartridges and then return them to that Station.

William N. Jeffers
Chief of Bureau

RG-74, E-5, Vol.19, P-284

18 Nov. 1874

Colt's Arms Co.
Hartford Conn.

Sirs:-

Your letter of 16 inst. relative to altering revolvers is received.

In addition to the number sent from the New York Navy Yard there are 183 on their way from Mare Island caliber which will be delivered to you as soon as received.

William N. Jeffers
Chief of Bureau

RG-74, E-5, Vol.19, P-295

30 Nov. 1874

Colt's Arms Co.
Hartford Conn.

Sirs:

The Bureau has directed 27 Colt's revolvers to be sent you from the Norfolk Navy Yard for alteration to breech-loaders.

William N. Jeffers
Chief of Bureau

RG-74, E-5, Vol.19, P-340

22 Jan. 1875

Colt's Arms Co.
Hartford Conn.

Sirs:-

The Bureau has directed the Commdt of the Portsmouth NY to send you for alteration 12 navy revolvers.

William N. Jeffers
Chief of Bureau

RG-74, E-5, Vol.20, P-152

31 Jan. 1876

Colt's Arms Co.
Hartford Conn.

Sirs:-

The Bureau has directed 30 Colt's revolvers to be sent you for alteration from the Norfolk NY by express.

William N. Jeffers
Chief of Bureau

Seventy-three percussion revolvers were sent to Colt from the Navy on, or about, February 3, 1876, but no letters or references could be found in the National Archives relating to this shipment.

The final 75 percussion revolvers were received by Colt, as verified by the following letter, but no prior correspondence from the Bureau concerning these revolvers could be located.

RG-74, E-22, Vol.53, Letter No. 204

Office of Colt's Patent Fire Arms Manufacturing Co.
Hartford, Conn.
June 13, 1876

Capt. Wm N. Jeffers
Chief Bureau of Ordnance U.S. Navy

Dear Sir

Forty Five Navy revolvers sent here for alteration from the New York Navy Yard, Jan. 15 last, and thirty, with sundry spare parts sent here for the same purpose from the Norfolk Navy Yard Feb. 5 last are now ready for shipment. Please advise us as to where to send them.

Respy yours
WB Franklin
V Prest Gen Agt

The majority of the Model 1851 Colt Navy factory conversions received from the various Navy Yards in percussion form and returned to the United States Navy Ordnance Bureau were from the 2,600 Colt revolvers purchased by the Navy in 1857 and 1859. The barrels, frames, cylinders and hammers went through the same remachining and conversion steps as did the civilian models, with all hammers of the center fire variety. Also, the details of the newly fabricated parts, such as the centerfire conversion rings, the loading gates with their external springs and the Mason-type ejector



Fig. 6-64 U.S. Navy-Navy Colt Model 1851 early percussion range Richards-Mason conversion with lanyard ring. Serial number 8253. (Author's Collection)

assemblies, were exactly the same as those conversions for the civilian market.

The U.S. Navy models, known as the Navy-Navy conversions, differed in the grips, the gripstraps, inspector markings and minor design details. Still another source of U.S. Navy Colt Navy revolvers was the open market. During the Civil War, the United States government required more small arms than the American gun manufacturers could supply. Revolvers of all makes and descriptions were purchased on the open market with little or no regard for the standards or specifications to which the manufacturers were strictly held.

A very good example can be found in the U.S. Navy Model 1851 gripstraps. Those 1851 Navy revolvers purchased directly from Colt had steel triggerguards and steel backstraps, while those the Navy purchased on the open market had brass gripstraps.

This combined with the extensive revolver repairs by both the factory and the Bureau of Ordnance renders numerous non-standard variations in many of the Navy-Navy conversions existing today.

SERIAL NUMBERS of the Colt Model 1851 Navy-Navy conversions fall within two specific groups: 55000 to 63000 (representing the early Navy-Navy revolvers of the 1857 contract) and 89000 to 91000 (representing the late Navy-Navy revolvers of the 1859 contract). Most surviving specimens are found within the serial number ranges of 55750 to 62500 and 89250 to 89950, respectively. The numbers are spotted throughout these ranges, because only about 1,000 of the 2,097 Navy-Navy conversions were the Model 1851, of which 2,600 were purchased in percussion form directly from Colt.

A Colt Model 1851 Navy-Navy conversion that was obviously purchased in its percussion form on the open market by the Navy Ordnance Bureau is pictured in Fig. 6-64. It has matching serial numbers through-

out-8253-including the cylinder, an external gate spring, the Type I New York barrel address and brass gripstraps.

A close-up of the frame, cylinder and barrel lug is shown in Fig. 6-65. In evidence here is the V-cut loading notch in the barrel lug, without the bevel. This is typical of the early Third Model 1851 Navy Colt, as is the thin-type barrel lug and the small rounded brass trigger-guard oval.

The left side of the frame is seen in close-up in Fig. 6-66. Here, the two-line patent dates stamped into the frame has the dashes after each year missing. This is due to a broken die, explained earlier. Further, the rear left panel of the triggerguard is stamped 36 CAL, even though the conversion is of .38 caliber. For some unknown reason, many of the 1851 Navy-Navy conversions remained stamped 36 CAL while others were not stamped at all. In the latter case, the original percussion stamping was either worn or polished away. Still other specimens are found with a 36 CAL over-stamp, meaning that a double stamping is sometimes in evidence.

Navy-Navy revolvers had the Colt Model 1851 octagonal barrel type with the frame stamped US and were fitted with iron gripstraps. They were sold directly to the Navy Bureau of Ordnance. Navy-Army revolvers were the same model Colts, also with the frames stamped US but with brass gripstraps, and were sold directly to the U.S. Ordnance Department. These revolvers and their conversions are often referred to as "Navy-Navies" and "Navy-Armies".

This peculiar practice either went unnoticed by the Navy inspectors, or was of no concern to them. Of still further interest, there is no evidence of a U.S. stamped on the side of the frame, which was generally found on both 1851 Navy-Armies and Navy-Navies to designate government ownership.



Fig. 6-65 Close-up of frame, barrel lug, cylinder and conversion ring of Colt Model 1851 Navy-Navy conversion showing early features at right side of barrel lug. Serial number 8253.



Fig. 6-66 Frame and cylinder markings of Model 1851 Navy-Navy conversion showing broken die patent date stamp on frame. Serial number 8253.

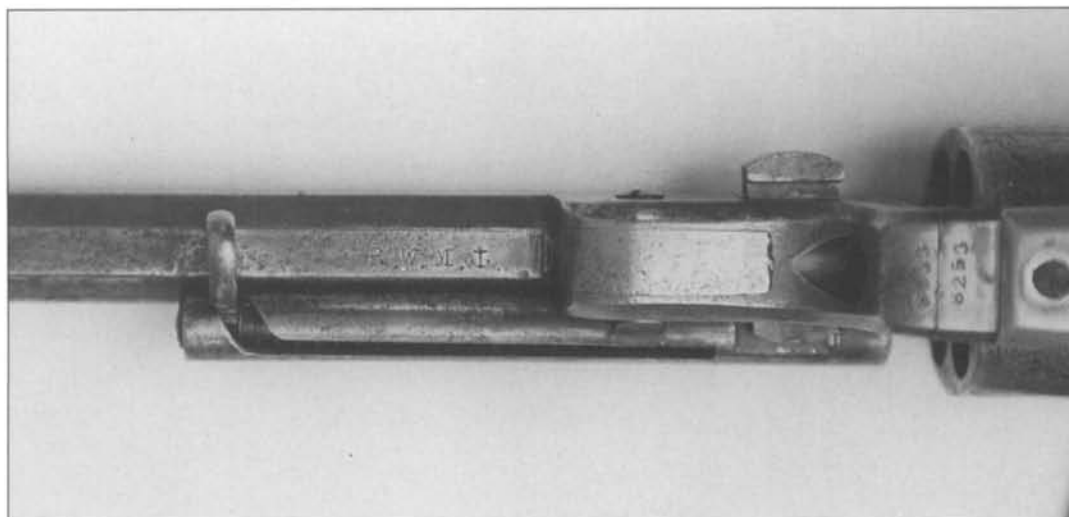


Fig. 6-67 Underside of Model 1851 Navy-Navy conversion barrel with New York Navy Yard conversion inspector stamp. Serial number 8253.



Fig. 6-68 Close-up of frame, barrel lug, cylinder and conversion ring of out of range Colt Model 1851 Navy-Navy conversion, showing two-line patent dates and dual cylinder numbering. Serial number 45422. (Courtesy Francis E. "Bud" Firth)

The underside of the barrel is pictured in Fig. 6-67, showing the Navy Inspectors mark R.W.M. and an anchor, which is that of Commander Richard W. Meade at the New York Navy Yard (see also Fig. 6-70). Note the matching serial numbers 8253 on the bottom of the barrel lug, frame and triggerguard. The loading lever channel plug and the Mason ejector assembly are also shown in Fig. 6-67.

Another out-of-range serial number is found on the Navy-Navy conversion of Fig. 6-68. The revolver contains its percussion serial number 45422, while the originally numbered cylinder 3327 was stamped 5422 to match that of the revolver. The gripstraps are steel, so there is no question that the gun was originally sup-

plied to the Navy by Colt. The frame is stamped with the two-line patent dates without dashes, but as in Fig. 6-66, there is no U.S. stamping to indicate government ownership.

Standard on all government-purchased Colt Model 1851 Navy revolvers is the small U.S. stamped just below the COLTS/PATENT frame stamping of percussion revolvers, as pictured in Fig. 6-69. The U.S. has nothing to do with conversions, but simply remained on their frames from the percussion days. The revolver in Fig. 6-69 is serial numbered 61769, and its conversion cylinder is stamped 1981. It is a standard early Navy-Navy conversion with the Type I New York barrel address, steel grip-

Fig. 6-69 Close-up of frame, barrel lug, cylinder and conversion ring of Colt Model 1851 Navy-Navy conversion showing two-line patent dates stamped to right of percussion frame stamp, with "U.S." remaining. Serial number 61769. (Courtesy Francis E. "Bud" Firth)

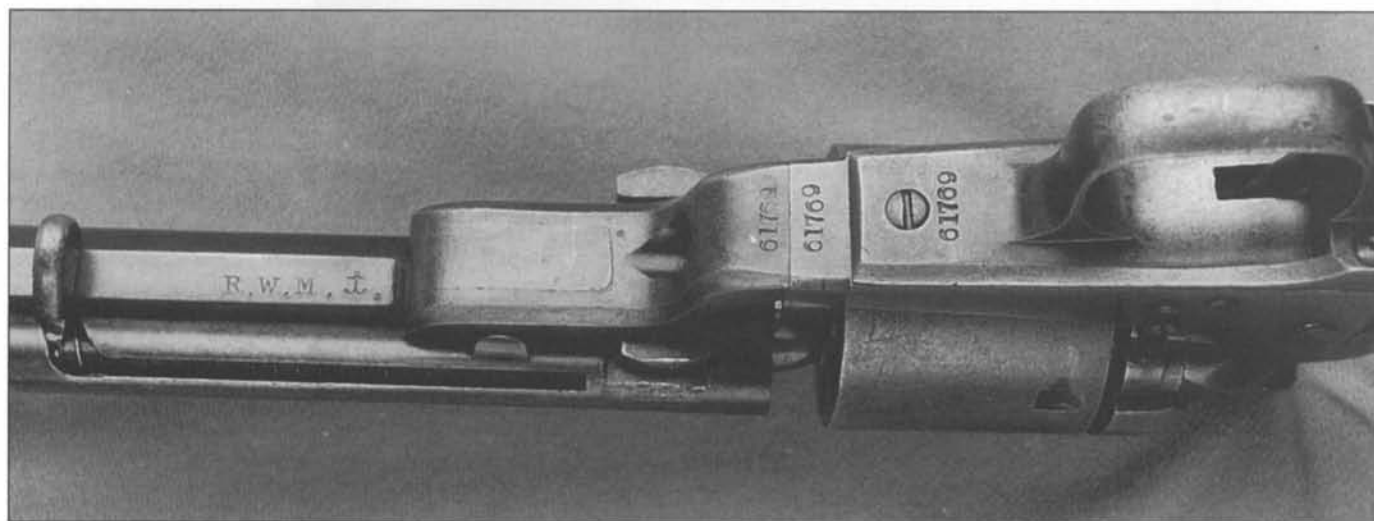


Fig. 6-70 Underside of Colt Model 1851 conversion barrel showing rammer lever plug and New York Navy Yard conversion inspector mark. Serial number 61769. (Courtesy Francis E. "Bud" Firth)

straps and a converted frame over-stamped with the two-line patent dates without dashes.

INSPECTOR MARKINGS of Model 1851 Navy-Navy conversions vary from none at all to those originally stamped when the percussion revolvers were inspected. The mark of Navy Inspector Commander Richard W. Meade is again shown stamped into the barrel of the

1851 Navy-Navy conversion serial number 61769 (see Fig. 6-70). Commander Meade's mark is found on all Model 1851 and 1861 Navy-Navy conversions that were shipped to the New York Navy Yard, and it indicates acceptance by the U.S. Navy. It is not known whether Colt conversions shipped to the other Navy Yards were inspected or not, but none other than those to the New

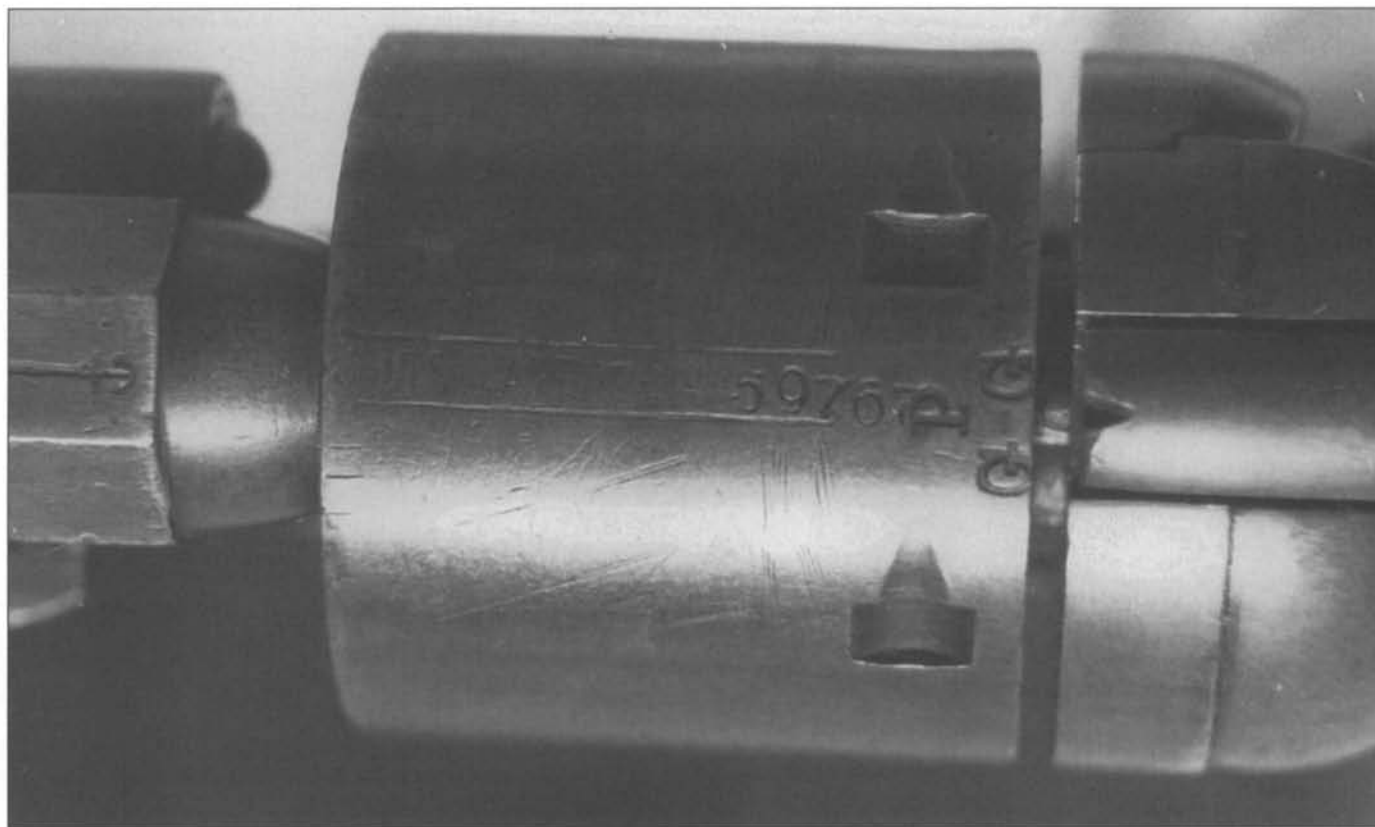


Fig. 6-71 Top of breech and outer cylinder surface of Colt Model 1851 Navy-Navy conversion showing older reinspection markings. Serial number 59767. (Photo by L. Frank Richey, Sam Pachanian Collection)

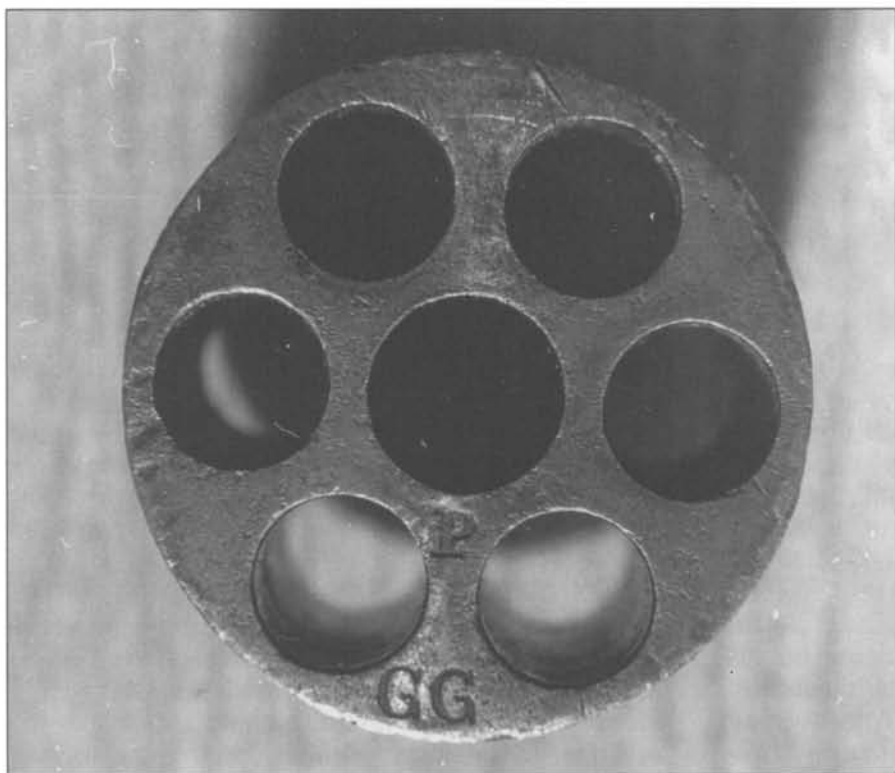


Fig. 6-72 Front face of conversion cylinder from Model 1851 Navy-Navy conversion, serial number 61222, showing alternate method of reinspection stamping. (Photo by L. Frank Richey, Sam Pachanian Collection)

York Navy Yard bear any form of conversion inspection marks.

Immediately following the American Civil War, The Navy Bureau of Ordnance decided to reinspect its small arms for condition. Percussion revolvers found suitable for service were to have their barrels stamped with a small anchor at the breech and the faces of their cylinders with a P over the inspector's initials. Thus, the carry-over of these reinspection markings are found on some of the 1851 Colt Navy-Navy conversions (see Fig. 6-71). For one reason or another, this reinspection policy was short-lived and not all Navy-Navy percussion revolvers that were later converted carried these markings.

According to the very accurate and complete study entitled, "U.S. Navy markings & their variations on Colt 1851 & 1861 Navy Model revolvers, percussion and conversions," which appeared in *Bulletin No. 65* of the American Society of Arms Collectors (see Bibliography), author Sam Pachanian relates the fact that as far as Colt revolvers are concerned, only two inspectors were involved with their reinspection. Serial number 59767 in Fig. 6-71 was reinspected by Commander Guert Gansevoort, who stamped his mark P/GG at the outer rear surface of the cylinder as shown. The other inspector was Commander John R. Goldsborough, who would stamp his mark P/J.R.G. or J.R.G./P horizontally on the cylinder in the same location.

GG stamped the front face of cylinder 61222 in an alternate method, with the inspector's P and initialed GG as shown in Fig. 6-72. Possibly the term "on the face of the cylinder" was not clearly defined in the reinspection order. Thus, examples of P/GG are found in this position.

Naturally, at the time of conversion, if the original percussion cylinder was not kept with the gun, these markings become a source of good information in future mating of cylinder to gun by virtue of original serial number in the cylinder cartouche.

The buttstraps of most 1851 Colt Navy-Navy percussion revolvers carried U.S.N. markings in one form or another and in some instances the butts of the wood grips contained the initials of the inspectors. These markings and their variations are discussed in detail in the above-listed reference. A few of the Colt Model 1851 Navy-Navy conversions are found with some of these percussion stampings still remaining, but for the most part, replaced grips and metal refinishing has resulted in their obliteration. The markings remaining on the butt of the 1851 Colt Navy-Navy conversion serial number 59082 are pictured in Fig. 6-73. The U.S.N. and the J.L.H. on the steel buttstrap are the original percussion markings of Inspector James L. Henderson, who inspected the 615 early Navy-Navy revolvers received at the Norfolk Navy Yard from the 1857 contract. The

E.C.G. found stamped into the original percussion wood grip is believed to be that of E.C. Grafton, listed as a Navy inspector in 1861.

It appears that the first batch of Navy percussion revolvers shipped for conversion (400 in all) was received by Colt on July 19, 1873. Two samples were converted immediately and returned to the Navy Bureau of Ordnance on July 30, 1873, with the following communication:

RG-74, E-22, Vol.48, Letter No.250

Office of Colt's Patent Fire Arms Manufacturing Co.

Hartford, Conn.

July 30, 1873

Capt. Wm. N. Jeffers

Chief Bureau of Ordnance U.S. Navy

Dear Sir

I have caused to be sent you by Express today two of your pistols altered. One has been restocked, and the strap & guard are blued. The other has had nothing done to it, except what we do under the contract or order for altering, and it is a fair sample of the appearance of all of them. Some have brass straps & guards and others iron.

If you wish, we will for 75 cents each restock the pistols, re-blue those with iron straps & guards, and replate those with plated straps, or leave the brass repolished (showing the brass finish) as you may prefer.

This will give the pistols a new appearance, and I make you the proposition because the very great improvement in appearance for the small outlay seems to me a thing worth considering. At any rate, whatever may be your decision, please return the pistols to us.

Respy yours

WB Franklin

V Prest Gen Agt

Captain Jeffers accepted General Franklin's proposal at 75¢ additional on August 1, 1873. Based on this, all wooden grips of Navy-Navy conversions were to be replaced and all gripstraps were to be polished and refinished. This operation lost most of the inspector stampings and a good portion of the U.S.N. markings. Some conversions did slip through without these improvements, such as serial number 59082 of Fig. 6-73.

NON-STANDARD NAVY-NAVY CONVERSIONS
sometimes resulted from the Navy's haste in gathering enough percussion Colt revolvers to meet the desired quantity of conversions. Several Model 1851 Navy-Navy conversions are known to have Model 1861 barrels. This type arrangement is found with three numbering



Fig. 6-73 Remaining butt markings of Colt Model 1851 Navy-Navy conversion, serial number 59082. (Photo by L. Frank Richey, Sam Pachanian Collection)

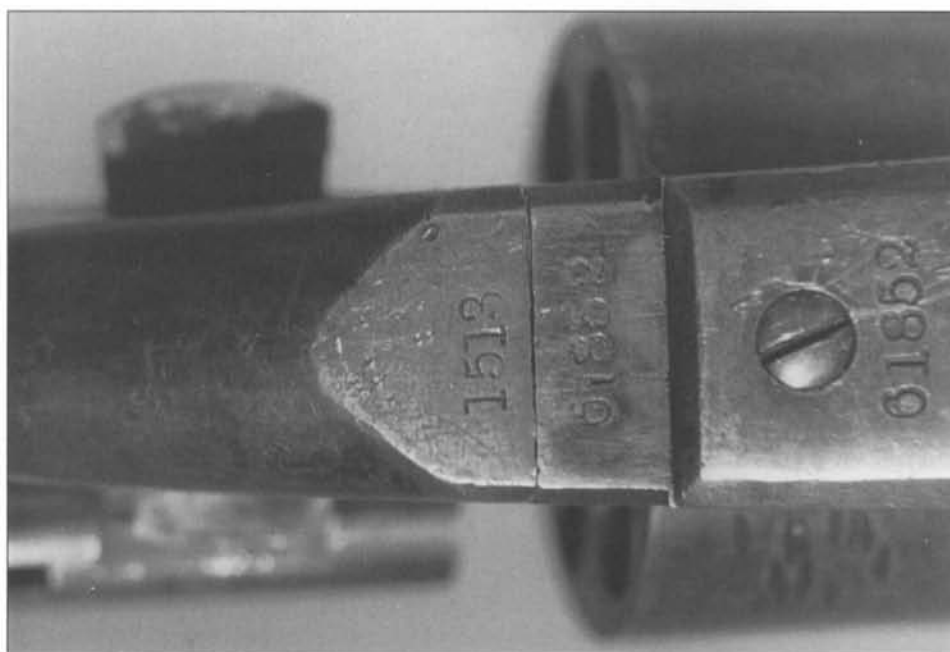


Fig. 6-74 Colt Model 1851 Navy, Navy conversion with Model 1861 conversion barrel. Serial numbers 61852 on frame, 1513 on barrel. (Photo by L. Frank Richey, Sam Pachanian Collection)

variations; [1] with no barrel serial number at all; [2] with only the original barrel serial number; and [3] with the number matching that of the 1851 Navy revolver stamped on the barrel, just above the original barrel serial number. Serial number 56977 is an example of a 1851 Navy-Navy conversion with an unnumbered 1861 Navy barrel, and serial number 61852 (see Fig. 6-74) is an example of a 1851 Navy-Navy conversion with a 1861 Navy barrel numbered 1513. All parts were basically interchangeable between the two Navy models, and when original parts required replacement during the conversion process, the Colt factory had no hesitancy in substituting a part from one model to another if they

had it in their parts inventory. Obviously, the Navy inspectors had no objection either, as is demonstrated with the Colt Navy-Army-Navy conversion of Fig. 6-75.

Serial numbered 62968, the late Third Model 1851 Colt Navy conversion shown in Fig. 6-75 was originally a Colt Navy-Army percussion revolver with the Type I New York barrel address, small oval brass trigger-guard, brass backstrap, thick barrel lug with a large beveled loading notch on its right and some of the usual U.S. Army inspectors letter marks remaining on some of the major parts. The left side of the frame is stamped COLTS/PATENT/U.S.



Fig. 6-75 Colt Model 1851 Navy-Army converted to a Richards-Mason Navy-Navy revolver. Serial number 62968 (Third Model). (Photo by L. Frank Richey, Sam Pachanian Collection)



Fig. 6-76 Commander Richard W. Meade conversion inspection mark on barrel of conversion, serial number 62968. (Photo by L. Frank Richey, Sam Pachanian Collection)

How the revolver became one to be returned to the factory by the Navy remains a mystery. Nonetheless, it is a standard Model 1851 Navy-Navy type conversion in all respects, except for the brass gripstraps. The cylinder was probably from another Navy-owned revolver and both its original number 4451 and the new number 2968 are stamped in the usual locations. As pictured in Fig. 6-76, once the conversion was accepted by the Navy at the New York Navy Yard, it received the inspector's stamp of Commander Richard W. Meade.

Still another oddity is the Model 1851 Fourth Model Navy frame installed on, and renumbered to, a Model 1861 Navy-Navy conversion. A close-up of such a frame is pictured in Fig. 6-77. Though not at all common, the author knows of two conversions of this type, and both are identical in frame types, markings and conversion features.

Note the large percussion cut-out in the right recoil shield, resulting in a distinct bevel to the rear of the gate hinge. Also note the flat external gate spring and the channel into which it is seated.

The early Navy-Navy conversion in Fig. 6-78 is a late Third Model 1851 with a Model 1861 barrel, and with the third type of numbering. The buttstrap of this revolver is stamped U.S.N, which denotes Navy acceptance in its original percussion form. As a conversion, it was returned to the New York Navy Yard, where it received the R.W.M./anchor mark of Navy Inspector Commander Richard W. Meade. The underside of the same 1851/1861 Navy-Navy conversion barrel, frame and triggerguard is shown in Fig. 6-79 with matching serial number 61790 on the frame and guard, while the barrel has its original number 7286 with the number 1790 stamped above it, matching the revolver.

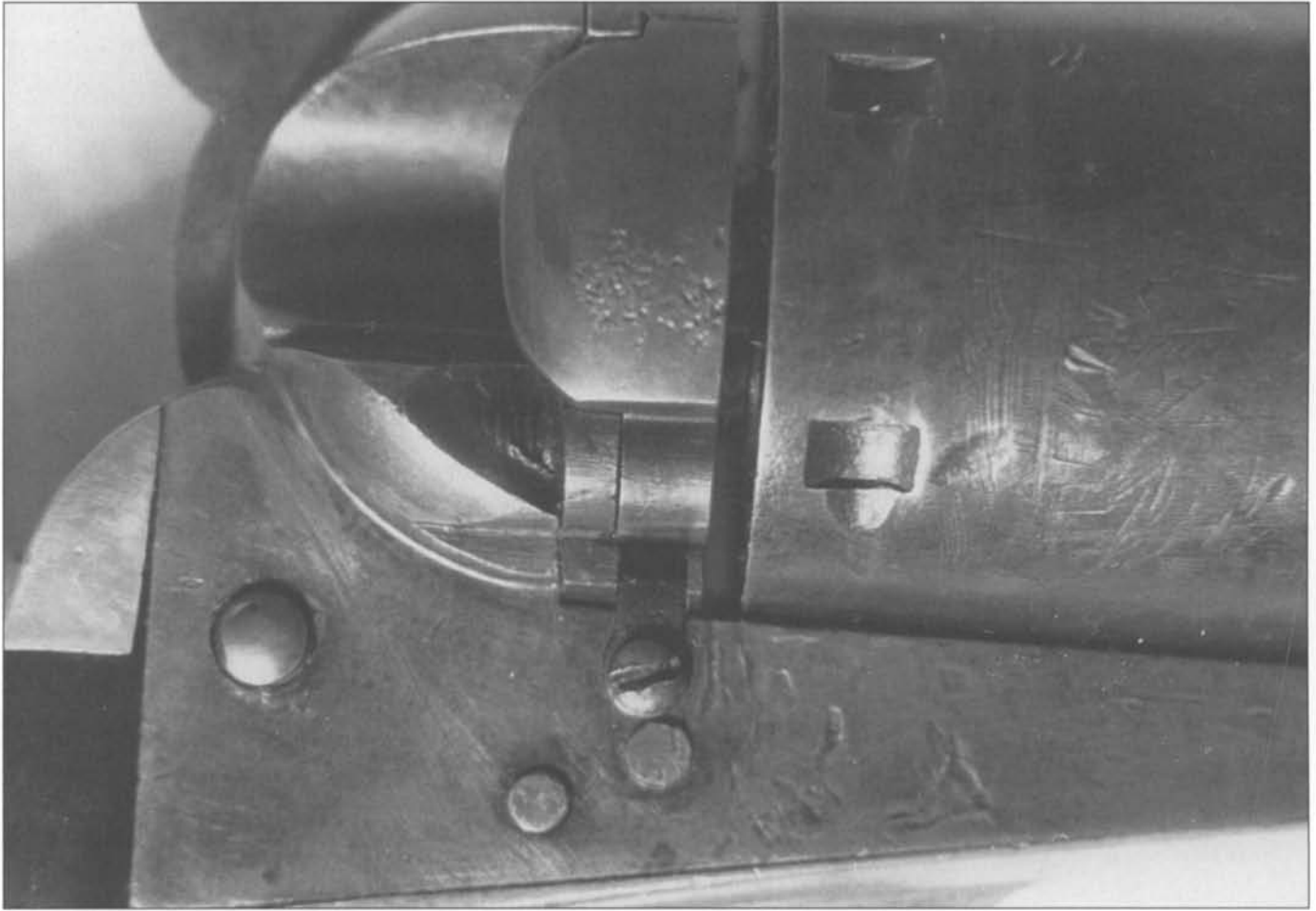


Fig. 6-77 A Colt Fourth Model 1851 frame, cut for shoulder stock and replaced on, and numbered to, an 1861 Navy-Navy conversion. (Photo by L. Frank Richey, Sam Pachanian Collection)



Fig. 6-78 A Model 1851 Navy-Navy conversion with a Model 1861 barrel that has an original 7286 serial number, and is additionally stamped 61790 to match the 1851 Navy number. (Courtesy John H. Thillmann)

A late Navy-Navy conversion, serial number 89824 with its cylinder numbered 89308 on the side and 9824 on its rear face, is pictured in Fig. 6-80. The barrel contains the Hartford address and the two-line patent dates without dashes are stamped on the frame adjacent to the original COLTS/PATENT/U.S. The original percussion period U.S.N. remains in the steel buttstrap, in large letters. The steel triggerguard has the late large oval bow, the gate spring is external, the ejector rod tip is round and the ejector head has the target (concentric rings) pattern. The revolver has no conversion inspector markings and no anchor stamped at the breech of the barrel. This is simply a standard Model 1851 Colt Navy-Navy Richards-Mason conversion in every respect.

An interesting early Navy-Navy conversion, serial number 60889, is pictured in Fig. 6-81, and it was most likely one of the 718 percussion Navy revolvers shipped to

the New York Navy Yard from the 1857 contract. The steel buttstrap is stamped U*S*N in the two-star style of Navy Inspectors Commander James R. Madison Mullaney (lower serial numbers) and Commander Stephan C. Rowen (higher serial numbers). Because the original grips were replaced at the time of conversion, the inspector's initials are lost. This revolver has the Type I New York barrel address and the two-line patent dates without dashes, adjacent to the COLTS/PATENT/U.S. on the left side of the frame.

Another Navy-Navy conversion, serial numbered 61769, is probably from this same group of 718 New York Navy Yard revolvers; it is shown in Fig. 6-82. The one common feature of all the Navy-Navy conversions illustrated, is that they are complete, 100 percent original and contained in some of America's most advanced collections.

One of the 600 percussion revolvers ordered from Colt by the Navy in 1859 is pictured in its converted



Fig. 6-79 Underside of Model 1851 Navy-Navy conversion with Model 1861 barrel showing serial numbers and Navy conversion inspector stamp. (Courtesy John H. Thillmann)



Fig. 6-80 Colt Model 1851 standard Navy-Navy conversion with mismatched cylinder that has second number matching that of the revolver. (Photo by L. Frank Richey, Sam Pachanian Collection)



*Fig. 6-81 Colt Model 1851 Navy-Navy conversion with "U*S*N" stamped on the buttstrap in the two-star style. Serial number 60889. (Courtesy John H. Thillmann)*



Fig. 6-82 Colt Model 1851 Navy-Navy conversion, serial number 61769, in 90 percent original condition. (Courtesy Francis E. "Bud" Firth)



Fig. 6-83 Colt early Fourth Model 1851 Navy-Navy conversion with Hartford barrel address, serial number 89846. (Courtesy John H. Thillmann)

form in Fig. 6-83. It is an early Fourth Model, serial numbered 89846, has the Hartford barrel address, steel backstrap and large rounded triggerguard, and the frame is stamped with the two-line patent dates adjacent to COLTS/PATENT/U.S.

The only inspector for these 600 revolvers was Commander George W. Rogers. His most common buttstrap

stamping was simply U S N with no stars or punctuation marks until after serial number 89850. His later mark was U*SN*. The USN still remains on this specimen, but the GWR inspector initials were lost due to the change of grips at the time of the conversion. All conversion features of this revolver are standard, and a generous amount of original finish remains.

The Model 1861 Navy Original Metallic Cartridge Richards-Mason Conversion	
SERIAL NUMBER RANGE	1 to 3300
CALIBER	.38 caliber rimfire or .38 caliber centerfire
BARREL LENGTH	7-1/2 inches nominal, slightly crowned
BARREL ADDRESS	-ADDRESS COL.SAML COLT NEW-YORK U.S. AMERICA-
EJECTOR HOUSING	Mason type (see Fig. 6-1)
EJECTOR ROD TIP	Generally round, flat replacements are known
EJECTOR HEAD	Target (concentric circles)
WEDGE	Percussion type with spring (early production)
	Newly made without spring (later production)
CYLINDER	Reworked percussion, generally matching numbers
GATE SPRING	Internal (early production)
	External (later production)
FRAME TYPE	Percussion Navy (same as 1851 conversion)
FRAME MARKINGS	COLTS/PATENT, two-line patent dates with or without dashes, or with both markings
HAMMER SCREW	Small percussion size and large S.A.A. size
HAMMER SPUR KNURL	Cross-hatch, with and without border and underline
HAMMER	Rimfire, generally below serial number 1500 (see Fig. 6-37)
	Centerfire, serial number 1500 to 3300 (see Figs. 6-34, 6-36 and 6-38A and 6-38B)
STOCK (GRIPS)	Normally single piece varnished walnut, rare with ivory, pearl, tiffany, etc.
BACKSTRAP	Brass (see special notes)
TRIGGERGUARD	Large oval brass (see special notes)
ASSEMBLY NUMBER	Matching on gate, frame, arbor and conversion ring
INSPECTION MARKS	Factory (I) under frame, T.G. and B.S. numbers
SPECIAL NOTES	Both the Model 1861 and 1851 Navy Richards-Mason conversions are identical in frame and hammer modifications, cylinder remachining and conversion ring and ejector assembly fabrication. On rare occasions steel gripstraps are found mixed with brass. British percussion proof marks appear on some cylinders (see Fig. 6-99 and associated text).



Fig. 6-84 Colt Model 1861 Original Metallic Cartridge Richards-Mason revolver pictured with a box of .38 Short rimfire cartridges by U.M.C. Serial number 1132/1 (Courtesy Francis E. "Bud" Firth)



Fig. 6-85 Colt Model 1861 Original Metallic Cartridge Richards-Mason revolver, serial number 567/1, assembly number 1043. Internal gate spring. (Courtesy Francis R. "Bud" Firth)



Fig. 6-86 Late production Colt Model 1861 Original Metallic Cartridge Richards-Mason revolver, serial number 2888. External gate spring. (Author's Collection)

All Original Metallic Cartridge Model 1861 Navy Richards-Mason conversions produced prior to the availability of centerfire .38 caliber cartridge in the United States were constructed for rimfire ammunition. The change-over came about in August 1873, or at about serial number 1500. Even then, these cartridges were only in their early stage of manufacture, so considerable time was required to distribute them throughout the eastern United States and the new frontiers of the West. Therefore, as production of these Original Metallic Cartridge Model 1861 revolvers continued, they were supplied in both rimfire and centerfire configurations.

Finally, as the reloadable centerfire ammunition became readily available, the production of rimfire revolvers dwindled.

As was the case with the OMC (Original Metallic Cartridge) 1851 Navy revolvers, early production specimens have internal gate springs, the pre-1872 frame stamping, small hammer screws and the percussion-type hammer spur knurl without border or underline. These combined features are found on the OMC Model 1861 Richards-Mason revolver, serial number 567 and assembly number 1043, in Fig. 6-85. The number stamped on the patent line of the cylinder

567 matches that of the revolver, which is standard for the OMC models; however, this is not always the case.

These Original Metallic Cartridge 1861 revolvers are distinguished from their 1851 counterparts by the "New Model" streamlined barrel shape, and the slightly different method used in their conversions. Unlike the Original Metallic Cartridge 1851 conversions, new barrels were not fabricated for the 1861 models. Apparently, there was an ample supply of unnumbered percussion barrels in the factory parts inventory, so tooling for new barrels was not necessary.

The creeping loading lever and plunger channels, as well as the lever latch dovetail, were all plugged and finished to blend in with the surfaces surrounding them. No opening was left to facilitate removal of the barrel by dowel and mallet. It was probably found equally convenient to simply place a block of wood against the face of the cylinder and hammer the revolver apart while holding the barrel.

A channel was milled at the right side of the converted barrel to receive the Mason ejector assembly, and a hole was drilled and counter-bored for the mounting screw and stud. There was no lever screw hole to

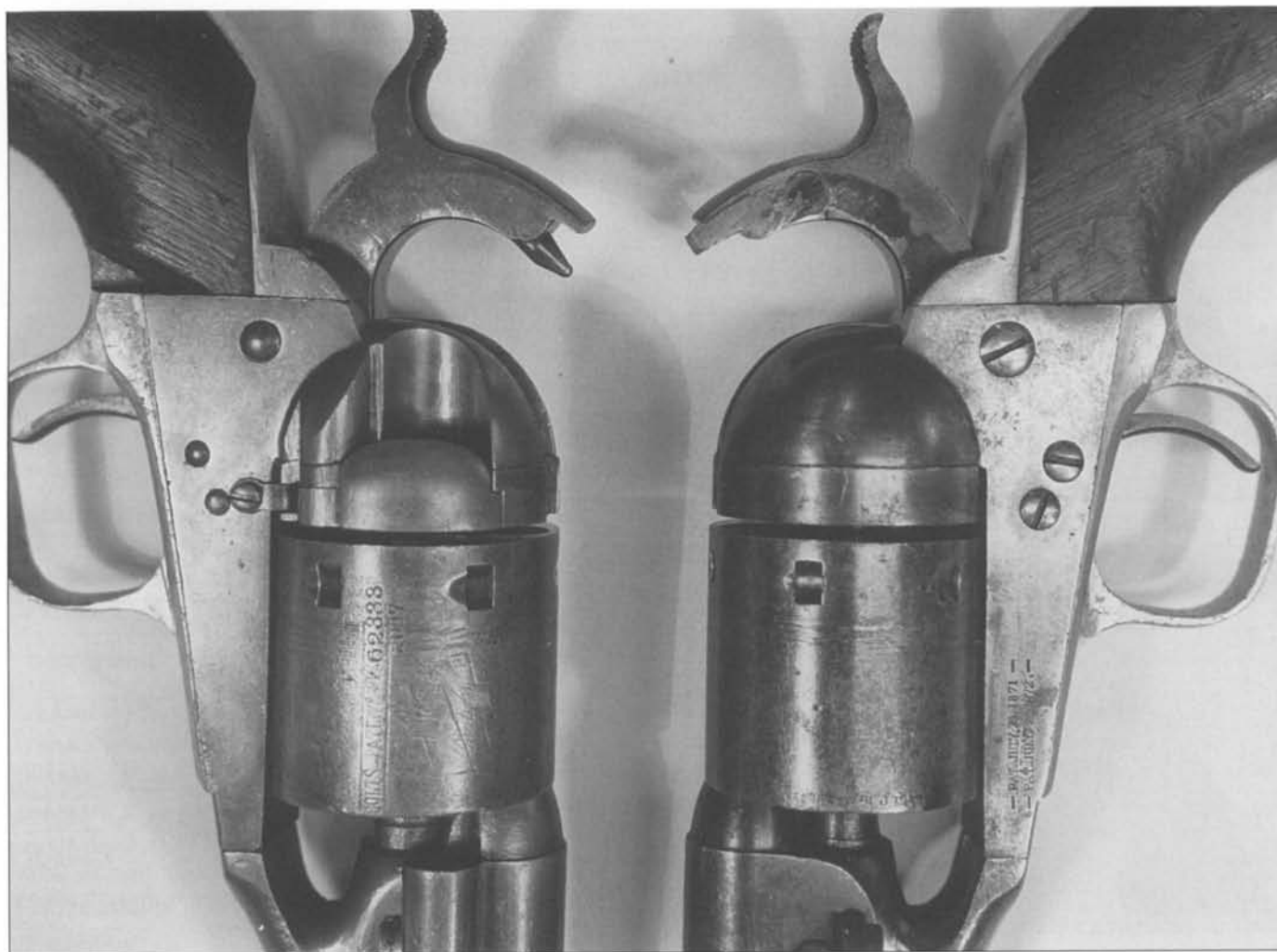


Fig. 6-87 Two major type firing pins found on Colt Model 1861 Richards-Mason revolvers: Cone-type centerfire (left), off-set flat rimfire (right)

plug, since the creeping loading lever operated on the rack-and-pinion gear principle, which had no pivot.

As production continued, the external gate spring was substituted for the internal type and, once the supply of percussion hammers was exhausted, newly fabricated hammers with bordered and underlined knurling on their spurs began to appear. With the new hammers came the larger diameter hammer screw. Those Original Metallic Cartridge 1861 revolvers assembled after mid-1872 have the two-line patent dates stamped on their frames, in the same manner as the other large frame Richards-Mason conversions.

These late-production features are found on the Original Metallic Cartridge Model 1861 Richards-Mason revolver, serial number 2888, pictured in Fig. 6-86. Of interest is the fact that the barrel of this revolver was first reworked for use on a Thuer conversion, then returned to the factory parts inventory and finally renumbered to match this Original Metallic Cartridge 1861 Navy conversion. This is substantiated by the added

depth to the loading channel at the right side of the barrel lug.

All barrels of Colt Model 1861 Navy conversions are stamped with the Type II New York barrel address, reading from muzzle to breech -ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA-. There are no exceptions to this, unless a barrel from another model, such as the Model 1851 Navy, has been substituted.

Early production frames will be stamped on their forward left sides with COLTS/PATENT, while those of later production will be stamped -PAT.JULY.25.1871.-/ -PAT.JULY.2.1872.-. This two-line patent date marking is stamped with or without the dashes at the beginning and end of each line. Generally, later production frames will be newly made and have no markings other than the two-line patent dates. However, those specimens with pre-stamped percussion frames and assembled after mid-1872 will display both of the above markings.

The 36 CAL mark usually found stamped on the left triggerguard flat is a holdover from percussion models,



Fig. 6-88 Less common blade-type centerfire firing pin found mounted within slot cut at center of Model 1861 hammers and maintained by two rivets.

and for some unknown reason was not changed, even though the conversion caliber was .38 caliber. A few Navy conversions, as well as a few small frame .38 caliber conversions are known to exist with 38 CAL over-stamps, but as a general rule, the 36 CAL stamping prevails.

Three types of hammer conversions are common to all Colt Model 1861 Richards-Mason conversions, and

are illustrated, with their associated conversion rings in Figs. 6-32, 6-33, 6-35, 6-36 and 6-37. The three types of conversion hammers are pictured unmounted in Figs. 6-38 A, B and C, and mounted in Figs. 6-34, 6-87 and 6-88.

The revolver on the left in Fig. 6-87 has the cone-type centerfire firing pin, which is threaded into the lower face of the converted percussion hammer (also see Fig.

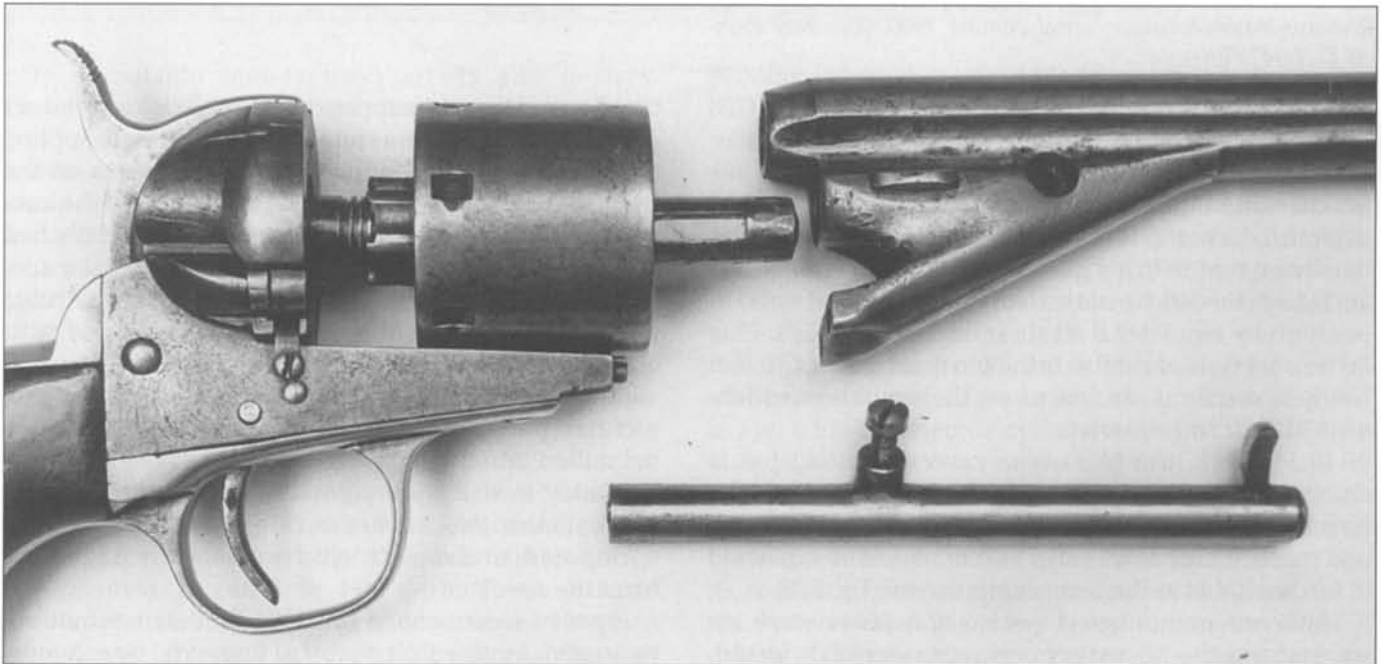


Fig. 6-89 Partially disassembled Colt Model 1861 Richards-Mason revolver, cylinder number 4250 (Author's Collection).

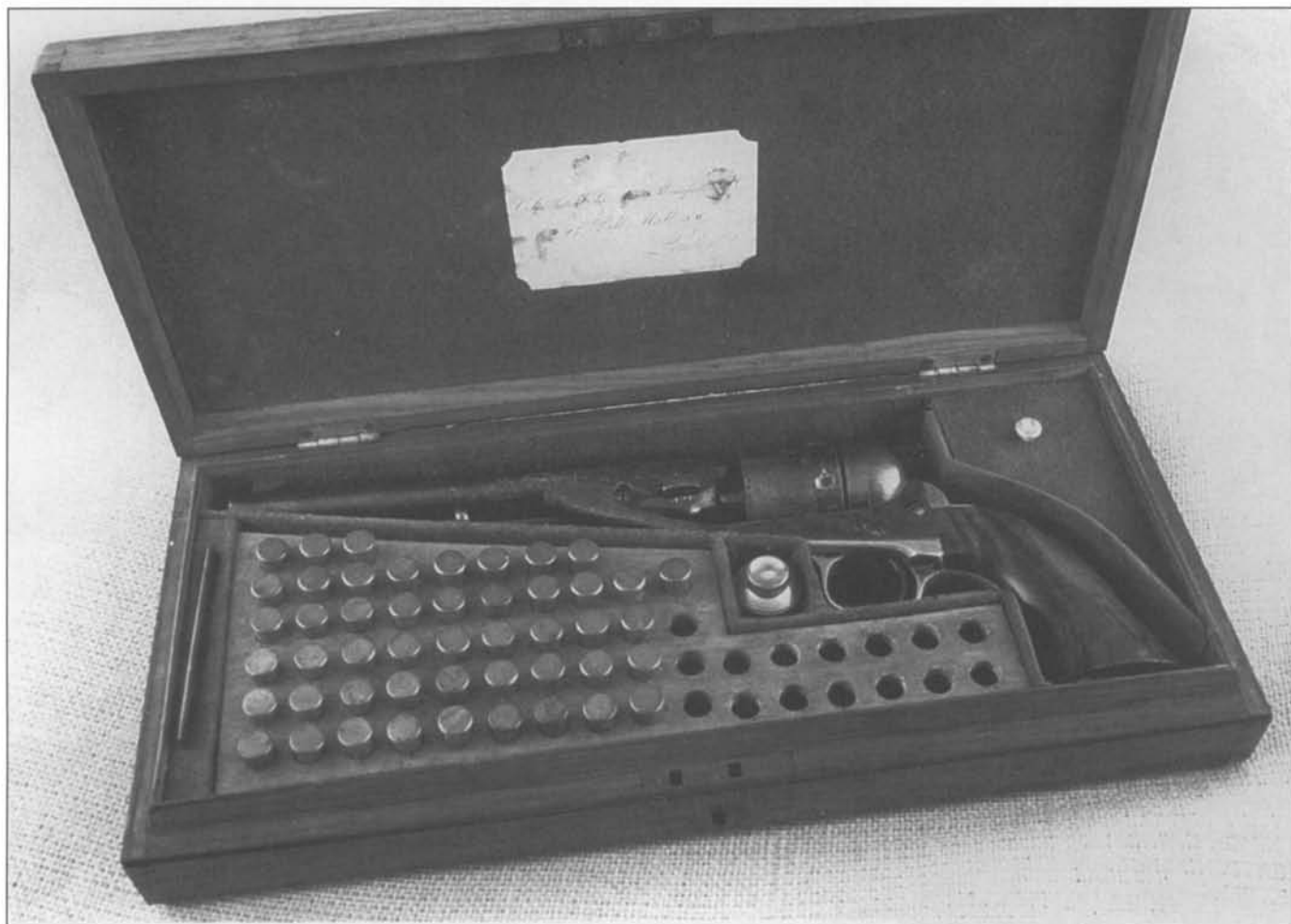


Fig. 6-90 Cased Colt Model 1861 Original Metallic Cartridge Richards-Mason revolver, serial number 1906. (Courtesy Francis E. "Bud" Firth)

6-36). This is the type found on the major portion of U.S. Navy-Navy conversions, some of the Original Metallic Cartridge 1861 revolvers and some of the Model 1861 percussion range conversions. At the right of Fig. 6-87 is pictured a converted percussion hammer with a flat hardened rimfire firing pin mounted within a milled out surface at the left tip of the hammer and maintained in position by two lateral rivets (also see Fig. 6-37). This is the only type of rimfire firing pin used on the Civilian Navy conversions, as well as on the small frame Richards-Mason conversions.

In Fig. 6-88, the blade-type centerfire firing pin is shown mounted within a vertical slot at the center of the hammer face, and again maintained in position by two lateral rivets. This pin was also hardened and is explained in further detail in the text accompanying Fig. 6-33.

After all unnumbered percussion parts were reworked and the necessary new parts were fabricated, serial numbers were applied to the barrel lugs, frames, triggerguards, backstraps and cylinders. These num-

bers ranged from 1 to approximately 3300. A second set of numbers, known as assembly numbers, were applied to the rear of the loading gates, undersides of the frames and cylinder arbors and on the rear of the conversion rings. These assembly numbers generally had no relationship with the serial numbers. Except for special order finishes, most Original Metallic Cartridge Model 1861 Richards-Mason revolvers were blued, with case hardened frames and hammers.

A Colt Model 1861 Richards-Mason conversion is pictured partially disassembled in Fig. 6-89. The channel milled into the barrel to accept the Mason ejector assembly is visible, along with the reworked percussion cylinder, the conversion ring with an external gate spring and a complete ejector assembly separated from the revolver.

Special treatment of the 1861 Models was not encouraged by the Colt factory. Engraved specimens, fancy grips and cased conversions are extremely rare. The few engraved examples were most likely the prod-



Fig. 6-91 British proofed Colt Model 1861 Original Metallic Cartridge Richards-Mason revolver. (Courtesy Francis E. "Bud" Firth)



Fig. 6-92 Factory experimental Model 1861 Richards-Mason conversion. Right side view shows Richards-type ejector system and the Type III Richards-Mason conversion ring. No loading gate is incorporated. (Courtesy Francis E. "Bud" Firth)

ucts of outside (non-factory) artists and dealers. Cased specimens with British dealers' and Pall Mall, London, address labels are found. One of the best-known dealers that supplied high quality engraved or cased revolvers during this period, was Schuyler, Hartley and Graham of New York.

A very rare cased and British-proofed Original Metallic Cartridge Model 1861 Richards-Mason conversion, serial number 1906, is pictured in Fig. 6-90. The internal lined partitions offer separate compartments for the revolver, cartridge block, oiler, screwdriver and cleaning patches. Both the conversion and the case are in exceptionally fine overall condition.

Like most Colt conversions, a select few of the Original Metallic Cartridge Model 1861 Richards-Mason revolvers are found to have British proof marks, such as the revolver pictured in Fig. 6-91. These British-proofed conversions were produced at the Hartford factory and shipped to foreign customers through Colt's London agent. Once received in England, it was the law that they be tested and stamped with British

proofs before being released to the public (see also Fig. 6-99 with associated text).

For the most part, experimental Colt conversions will be covered in Chapter 9, but one particular factory tool room Model 1861 Richards-Mason conversion is appropriately discussed here. It is shown in full right and left side views in Figs. 6-92 and 6-93, respectively.

This revolver is decidedly a transitional model between the .44 caliber centerfire Richards design and the .36 caliber rimfire Richards-Mason design, and incorporates some features unique to both. As pictured in Fig. 6-92, the ejector system is that of the 1860 Richards, while the conversion ring is of the Type III Richards configuration used on the Richards-Mason Navy conversions. Its outer surface is flush with that of the recoil shield, it has a flat front face, is thin, and its rear face takes on the same convex shape as the final design of the .36 caliber Navy conversion rings. It differs in only two characteristics: It has no provision for a loading gate, and it has a rimfire rebounding firing pin.

Fig. 6-93 Factory experimental Model 1861 Richards-Mason conversion. Left side view shows there are no frame markings. The gun is unnumbered and the barrel address is the New York Type II. (Courtesy Francis E. "Bud" Firth)



It is evident from Fig. 6-93 that this experimental model has no frame stamping, and the wedge is the percussion type with spring. The barrel is 7-1/2 inches long, flat at the muzzle, has the standard seven-groove bore and is marked with the Type II New York barrel address. The straight, round six-shot Navy cylinder

measures 1.532 inches in diameter and 1.474 inches long and contains the Ormsby "sea battle" scene. The gripstraps are brass and the grip is a fancy burl walnut. The only number on the gun is the number 1 found inside the wooden grip.

The Model 1861 Navy Percussion Range Richards-Mason Conversions

SERIAL NUMBER RANGE	Low 4-digit percussion range to 34000 for civilian conversions, 1500 to 10000 for U.S.N.
CALIBER	.38 caliber rimfire or .38 caliber centerfire
BARREL LENGTH	7-1/2 inches, refaced, slightly crowned
BARREL ADDRESS	-address col.saml colt new-york u.s.america-
EJECTOR HOUSING	Mason type
EJECTOR ROD TIP	Round
EJECTOR HEAD	Target (concentric rings)
WEDGE	Percussion type with spring and new without
CYLINDER	Reworked percussion, usually matched to gun
CONVERSION RING	Richards Type III (rimfire and centerfire)
GATE SPRING	Internal (early conversions), External (later and all U.S.N. conversions)
FRAME TYPE	Model 1861 percussion Navy type
FRAME MARKINGS	COLTS/PATENT (early conversions) (Two-line patent dates (over-stamped on later and U.S.N. models))
HAMMER SCREW	Small (percussion size)
HAMMER SPUR KNURL	Cross-hatch, with and without border and underline
HAMMER	Converted percussion, rimfire and centerfire
STOCK (GRIP)	Generally varnished walnut (see text)
BACKSTRAP	Brass (plated or polished)
TRIGGERGUARD	Large oval brass (plated or polished)
ASSEMBLY NUMBERS	Matching on frame, arbor, gate and conversion ring
INSPECTOR MARKS	No government markings on civilian conversions
SPECIAL NOTES	Some civilian percussion range conversions have serial numbers in the U.S.N. Model 1861 conversion serial number range of 1500 to 10000.



Fig. 6-94 Colt Model 1861 Navy percussion range Richards-Mason conversion, serial number 6953. (Author's Collection)

Serial numbers sometimes can be used to separate Model 1861 Percussion Range and Original Metallic Cartridge conversions from the Model 1861 Navy-Navy

conversions (see Figs. 6-84, 6-94 and 6-103).

Basic physical differences can be obtained from the following:

COLT MODEL 1861		
SUBJECT	OMC CONVERSIONS	NAVY-NAVY CONVERSIONS
FINISH	Deep dark reddish blue	Thin gray blue
SERIAL NO. DIE	New die made for serial numbers	Original percussion
CYLINDER & SERIAL NOS.	Matching or last three digits	Mismatched, taken from other 1851 or 1861 guns
ASSEMBLY NUMBERS	Consistent location and size	Various ways of stamping assembly numbers
STOCKS	Varnished walnut	Oil finished walnut
WEDGE	Percussion style with spring or newly made without spring	Percussion style and newly made
HAMMER SCREW	Small in early production, large in later production	Small (percussion size)
HAMMER KNURL	Cross-hatch only on early production, bordered later	Cross-hatch only, with no border or underline
INSPECTOR MARKS	None other than factory	Government inspection marks and sometimes RWM & anchor.

Some of the Original Metallic Cartridge Model 1861 Navy revolvers have the small number 1 stamped directly under their serial numbers on the frames, triggerguards and backstraps.

Naturally, those Civilian Colt Navy revolvers that were purchased by the U.S. Navy Ordnance Bureau on the open market, and later returned to the Colt factory for conversion, can lead to a great deal of confusion. These converted 1861 U.S. Navy Models will be identical in every respect to those percussion range Model 1861 Colt Navy conversions that the Colt factory assembled from prenumbered parts or completed prenumbered revolvers, including their serial number range. Unless they contain some form of Navy identification or inspection marks, proper identification is extremely difficult.

Basically, all rimfire conversions are the civilian type, as U.S. Navy orders called for centerfire. Ham-

mers of the U.S. Navy Model 1861 conversions generally incorporated the cone-type firing pins illustrated in Fig. 6-36, while the blade type, pictured in Fig. 6-95 will often be encountered with the centerfire civilian conversions (see also Fig. 6-33). Regardless of the type of centerfire firing pin used, the conversion ring hammer channel will be constructed as that pictured in Fig. 6-96, with a tapering hole at its center to allow ample clearance for the firing pin to act upon the cartridge priming (See also Fig. 6-35).

The original percussion capping channels of the Model 1861 Navy recoil shields were narrower than those of the 1851 Models, as can be seen in Figs. 6-95 and 6-97. Therefore, that portion directly to the rear of the gate hinge has no bevel and none of the gate screw threads are exposed. These percussion channels were, however, milled deeper into the recoil shields to allow passage of cartridges when being loaded into the cylinders.

Fig. 6-95 Colt Model 1861 Navy centerfire conversion, serial number 4274, assembly number 34, with external gate spring and blade-type firing pin. (Author's Collection)



Fig. 6-96 Top close-up view of Colt Model 1861 Navy conversion, serial number 4274, showing the hammer channel of the centerfire conversion ring.

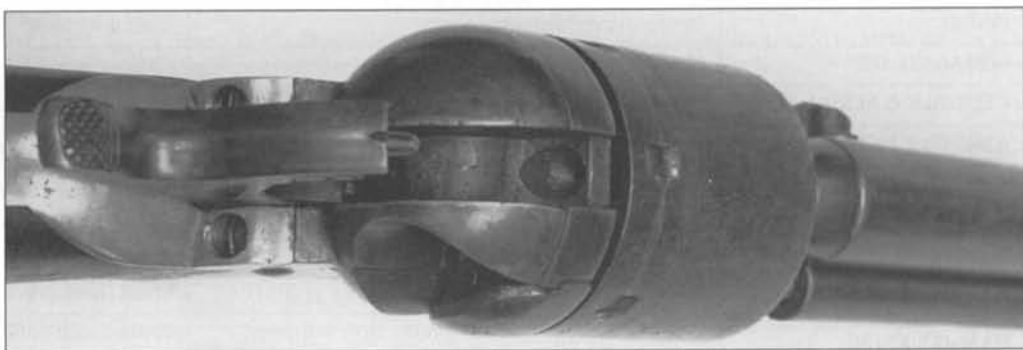


Fig. 6-97 Close-up of frame, barrel lug, cylinder and conversion ring of Colt Model 1861 Richards-Mason conversion, serial number 6953, showing details of loading channel in recoil shield. (Author's Collection)



The left side of the frame of the Model 1861 conversion, serial number 6953, is shown in Fig. 6-98 with the two-line patent date without dashes stamped adjacent to the original percussion stamping (COLTS/PATENT). Also note that the cylinder is numbered 3938, indicating a replacement, either at the time of the conversion or at a later date to replace a defective cylinder.

Figures 6-99 and 6-100 illustrate a Model 1861 Navy percussion range Richards-Mason conversion with a

British-proofed cylinder. The revolver is serial numbered 31314, with assembly number 1314, and the cylinder is numbered 818/314. The close-up of Fig. 6-99 shows the frame with the two-line patent dates (indicating that the conversion was done after July 1872) and the converted percussion cylinder with British proof marks between cylinder stops. Obviously, this cylinder was tested and proofed in its percussion state and the number 818 on the COLTS PATENT NO. line rep-



Fig. 6-98 Close-up of left side of Colt Model 1861 Navy conversion, serial number 6953, showing frame stampings and mismatched cylinder.



Fig. 6-99 Close-up of frame and cylinder of a Model 1861 Percussion Range Richards-Mason conversion, serial number 31314, assembly number 1314. The cylinder is numbered 818 and 314 and is British proofed. (Courtesy John H. Thillmann)

Fig. 6-100 Colt Model 1861 Percussion Range Richards-Mason conversion, serial number 31314, assembly number 1314, with British-proofed cylinder. (Courtesy John H. Thillmann)



Fig. 6-101 Pair of engraved and plated Colt Model 1861 Richards-Mason conversions with tiffany-type grips. Serial numbers 8875 and 9200. (Courtesy Francis E. "Bud" Firth)



resents the last three digits of the original percussion serial number. There are several possibilities as to how the cylinder was returned to Hartford and found its way back into the percussion parts inventory, from where it was later converted and renumbered to revolver 31314. The most probable is that it was one taken from a British-proofed percussion revolver that was converted to the Thuer system in London, and the new Thuer cylinder made the percussion cylinder obsolete. Another Colt 1861 Navy Richards-Mason conversion with a British-proofed cylinder, numbered 31498, was in the same collection. Once there was no further need for these percussion cylinders, they were returned.

The full right side of gun is pictured in Fig. 6-100, with the cylinder indexed to show the COLTS PATENT NO. line

with cylinder numbers and British proof marks. It is a standard Hartford factory conversion with only the cylinder having British proof marks. Ninety-nine percent of the cylinder scene remains and all markings are crisp and clear. The gun was refinished at the time of conversion and more than 90 percent color case hardening and blueing remain.

Perhaps the most often photographed, and certainly the most valuable pair of factory engraved, tiffany gripped Colt Model 1861 Navy Richards-Mason conversions are pictured in Fig. 6-101. They are serial numbered 8875 and 9200 and carry a pedigree, dating back to November 18, 1862, when they were shipped from the factory to Colt's New York Agency, 240 Broadway, New York City.

A factory letter attests to the shipping date, destination and states that the original Civil War shipping ledgers list both serial numbers as being engraved. As percussion revolvers, both were engraved by Gustave



Fig. 6-102 Tiffany (or Ames) grips of Model 1861 Navy conversions, serial numbers 8875 and 9200, have "American Eagle" butt caps and feature "The Civil War Battle Scene." (Courtesy Francis E. "Bud" Firth)

Young and have the customary "." in close proximity with the serial numbers of the barrels and triggerguards. The style of engraving is a generously hand-cut scroll within a border, and is found on the frame, barrel, hammer and triggerguard. The hammers also contain the wolf-head design on both sides. Uncommon, but not unprecedented, are the absence of the COLTS/PATENT stamp on the frames, and the heavy scroll engraving, with cross-hatch background found applied over the original "Navy Battle" scenes of the cylinders.

These revolvers were fully engraved before being factory converted some 10 or 12 years later. With this in mind, it is absolutely amazing that the engraving of the conversion rings, loading gates and ejector housings so closely matches that of the revolvers, and that none of the original pattern has been cut through.

The tiffany grips are a study in themselves. The type found on these two engraved Navy Model 1861 Richards-Mason conversions (serial numbers 8875 and 9200) is known as "The Civil War Battle Scene" with "American Eagle" butt caps. They were cast in bronze by Tiffany and Company, or possibly the Ames Sword Company, and silver plated, matching the finish on the revolvers. As pictured in Fig. 6-102, each has an escutcheon on the rear panel for a monogram or inscription. Also, note again the fine detail of the engraving on the recoil shields of the revolvers. Rather than simply cutting through the original engraved pattern at the time of conversion, when the loading channels were cut deeper, the bordered pattern was redone to such perfection, one would never know that the engraving was done in two separate stages.

These conversions are the only two of these particular specifications known to the author, and both are of museum quality. A few other engraved and plated single Colt percussion and conversion revolvers, as well as the 1871-72 Open Top and Colt's Single Action Army revolver are known with "tiffany"-style metallic grips of three different grip patterns, but none can match the superb quality of embellishment found with these two converted Colt Navy revolvers.



Fig. 6-103 U.S. Navy Colt Model 1861 Richards-Mason conversion, serial number 3662. (Courtesy Francis E. "Bud" Firth)

U.S. Navy Model 1861 Percussion Range Richards-Mason Conversions (Colt New Model Navy-Navy Conversions)

SERIAL NUMBER RANGE	100 through 10000 (statistically)
	1500 through 9800 (realistically)
CALIBER	.38 caliber centerfire only
BARREL LENGTH	7-1/2 inches, refaced and recrowned
BARREL ADDRESS	-ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA-
EJECTOR HOUSING	Mason type
EJECTOR ROD TIP	Round
EJECTOR HEAD	Target (concentric rings)
WEDGE	Percussion type (with spring) and newly made without spring
CYLINDER	Converted from percussion, usually mismatched
CONVERSION RING	Richards Type III, centerfire only
GATE SPRING	External
FRAME TYPE	Colt percussion Navy size
FRAME MARKINGS	Original COLTS/PATENT over-stamped with two-line patent dates (no U.S. on frame of 1861)
HAMMER SCREW	Small (percussion size)
HAMMER SPUR KNURL	Cross-hatch (percussion style), no border
HAMMER	Centerfire converted percussion hammer with (screw-in) cone-type firing pin
STOCK (GRIP)	Replacement or original oiled walnut
BACKSTRAP	Brass
TRIGGERGUARD	Oval brass
ASSEMBLY NUMBERS	Matching on frame, arbor, gate and conversion ring.
INSPECTION MARKS	Varied (see text)
SPECIAL NOTES	All U.S. Navy conversions were of the centerfire type, taking the .38 Long Colt centerfire cartridge. Grip straps were normally made of brass, as were those of the percussion 1861 Models. Few will be found with replacement gripstraps of steel, or combined brass and steel.

THE SERIAL NUMBER RANGE of the Model 1861 Colt Navy-Navy conversions has been estimated from existing records of U.S. government purchases. Attempting to establish exact serial numbers by dates of manufacture of the original percussion revolvers is next to impossible, since many of the Colt factory records were destroyed in the disastrous fire of February 4, 1864.

It is known that by 1863, state and federal government purchases of Colt Model 1861 Navy percussion revolvers, known as New Model Navy Colts, amounted to 8,774. From a very extensive study by John D. McAulay entitled "Civil War Pistols" (see bibliography), the following purchases of New Model Colt Navy revolvers were recorded:

PURCHASED BY	PURCHASED FROM	PERIOD	QUANTITY
State of Connecticut	Colt	1861	461
State of Illinois	Colt	1861	50
State of Rhode Island	Colt	1861	120
U.S. Army	Colt	1862/1863	2,056
U.S. Army	Joseph C. Grubb & Co.	1862/1863	307
U.S. Army	B. Kittredge & Co.	1862	2,400
U.S. Navy	Colt	1861/1862	3,380



Fig. 6-104 Mixed numbers U.S. Navy Model 1861 Richards-Mason conversion. Serial numbers 6957 (frame and backstrap), 4274 (barrel and triggerguard) and 3441/6699 (cylinder). Close-up shows frame markings. (Author's Collection)



Fig. 6-105 U.S. Navy Model 1861 Richards-Mason conversion. Cylinder numbered 2969/2476. Has two-line patent dates without dashes. (Author's Collection)

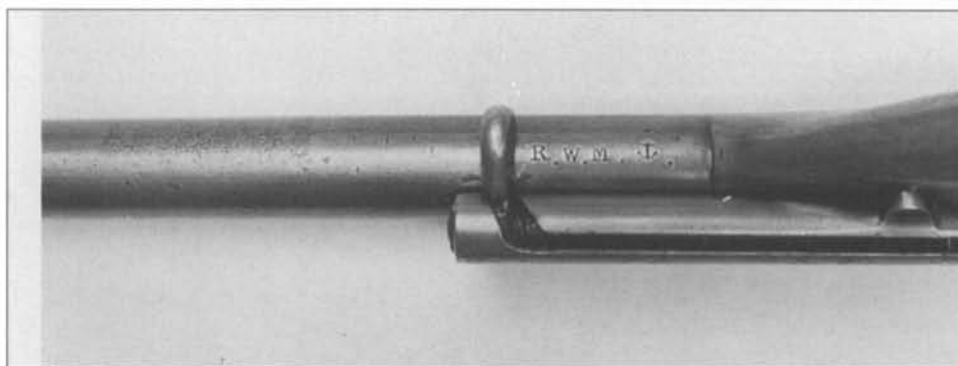


Fig. 6-106 Underside of U.S. Navy Model 1861 Richards-Mason conversion barrel with conversion inspector's stamp. Serial number 2476. (Author's Collection)

Fig. 6-107 Full nickel plated U.S. Navy Model 1861 Richards-Mason conversion, serial number 7333, assembly number 57 (Author's Collection)



Due to the excessive price, 1862 saw the last of the New Model Navy revolver purchases by the Navy. After 1866, another 1,600 Model 1861 Navy revolvers were purchased by the government, but possibly not by the Navy Bureau of Ordnance.

With the nearly 9,000 known U.S. Government-purchased Model 1861 Navy Colt revolvers, 3,380 of which were for the Navy, the serial numbers had to be in excess of 8774 by 1863, not accounting for any civilian or individual officer sales of this model. Taking all into consideration, estimating the serial numbers of the Model 1861 Navy-Navy Richards-Mason conversions to be between 1500 and 9800 appears to be realistic, with outside limits set at 100 and 10000.

MARKINGS on the Colt Model 1861 Navy-Navy conversions will be identical to those found on the later production of the Original Metallic Cartridge Model and the Model 1861 Navy percussion range conversions. All have the Type II New York barrel address and all have the two-line patent dates stamped over, or adjacent to, the original percussion COLTS/PATENT stamping. That of Fig. 6-104 (serial number 6957, mixed) has dashes at the beginning and end of each line, while Fig. 6-105 pictures a frame (serial number 2969) with the two-line patent dates without dashes.

The left flat of the triggerguard of 6957 is lightly stamped with the original 36 CAL mark, which shows considerable wear. The 36 CAL mark on the triggerguard of 2969 has been over-stamped, thus leaving a dual impression. Both revolver frames give only a slight indication of a percussion COLTS/PATENT frame stamping. Though difficult to see, the N and T of PATENT are shown just below the 2 of the lower patent line.

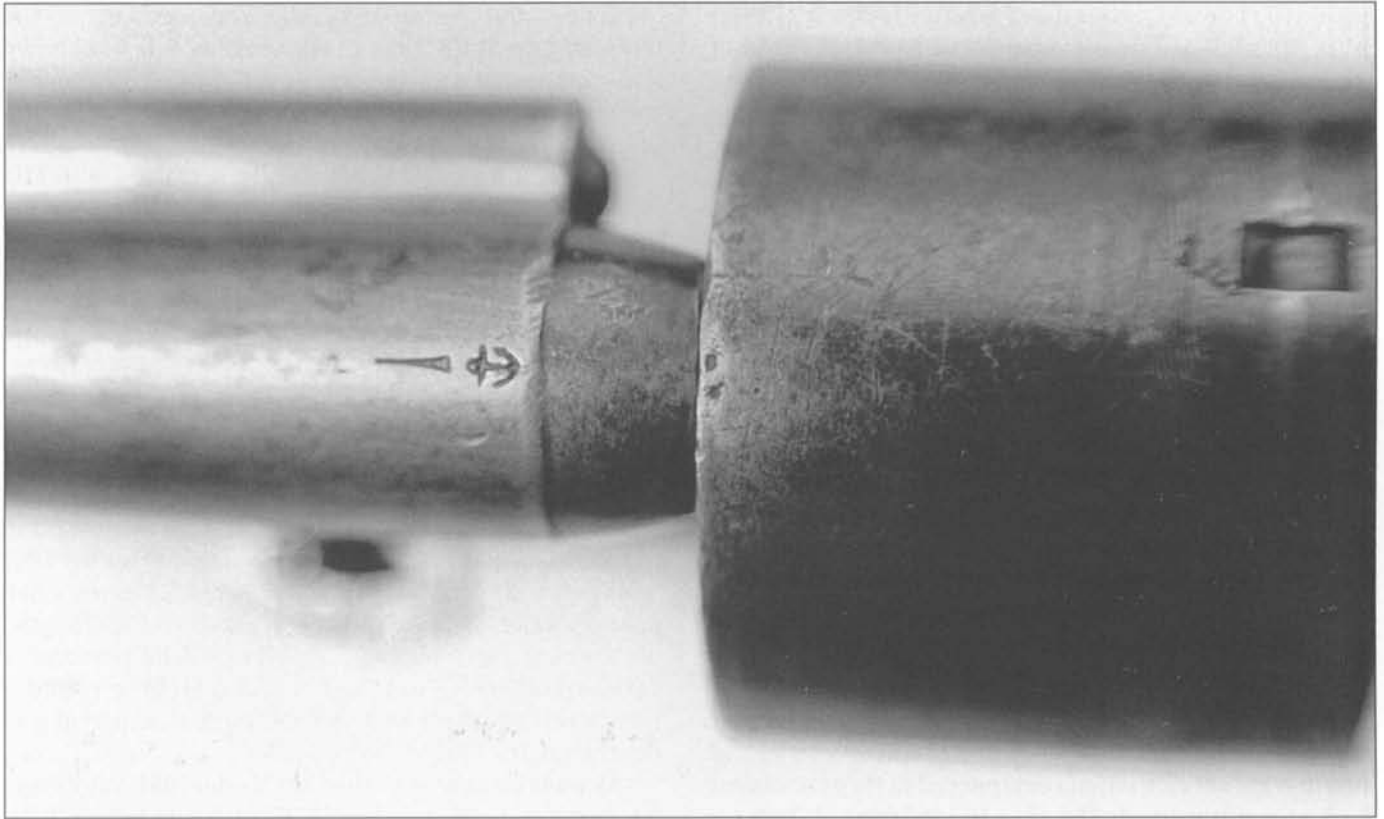
The converted percussion hammer is pictured in its fully cocked position in Fig. 6-105, fully illustrating the "screw-in" conical-type centerfire firing pin and the re-shaping of the hammer face to match the milled radius of the conversion ring hammer channel.

INSPECTION MARKS found on conversions are for the most part carry-overs from percussion inspections and reinspections. The only true conversion inspector's mark is that of Commander Richard W. Meade, which is found on the undersides of the barrels of those Model 1851 and 1861 Navy-Navy conversions shipped to and received by the New York Navy Yard. His stamp, R.W.M. & anchor is pictured in Fig. 6-106, and is found on just about half of all the Navy-Navy conversions, because more than half of those contracted for were sent to his Yard.

A very interesting 1861 Navy-Navy conversion revolver inspected by Commander Meade is pictured in

Fig. 6-108 U.S. Navy Colt Model 1861 Richards-Mason conversion, with original percussion Navy markings and reinspection markings. Serial number 4158, assembly number 918. (Courtesy Francis E. "Bud" Firth)





Above: Fig. 6-109 Close-up top view of barrel breech and cylinder of U.S. Navy Model 1861 Richards-Mason conversion, serial number 4158. The small anchor indicates reinspection while percussion. (Courtesy Francis E. "Bud" Firth)



Left: Fig. 6-110 "U.S.N." butt stamping of U.S. Navy Model 1861 Richards-Mason conversion, serial number 4158, assembly number 918. (Courtesy Francis E. "Bud" Firth)



Right: Fig. 6-111 "U.S.N." butt stamping of U.S. Navy Model 1861 Richards-Mason conversion, serial number 1958. (Photo by L. Frank Richey, Sam Pachanian Collection)

Fig. 6-107. The unique feature found with this specimen is its full nickeled finish. According to the records of the National Archives, only ten nickel-plated Navy conversions are accounted for; eight with wooden grips and two with ivory. All ten are reported to be of the civilian type. The serial number of this revolver is 7333, all matching except for the Model 1851 Navy converted cylinder, stamped with its original percussion number, 59147, and restamped with 2734 immediately below. The two-line patent dates on the left side of the frame are found stamped with dashes over the percussion COLTS/PATENT stamp. All features are exactly as they should be, including the external gate spring and the concentric circle pattern of the ejector head. The wedge is of the new replacement type, without spring.

A Model 1861 Navy-Navy Richards-Mason conversion is pictured in Fig. 6-108 with original percussion Navy markings, as well as postwar reinspection markings. The revolver is serial numbered 4158, with assembly number 918. The frame is stamped with the two-line patent dates without dashes, directly over the percussion COLTS/PATENT stamp.

The top of the barrel is stamped with a small anchor at the breech, indicating that the revolver was found suitable for service when reinspected in its percussion form sometime during the 1864 to 1865 period. This reinspection stamp is pictured in Fig. 6-109. Accordingly, the cylinder should have been reinspected and stamped with a proof mark P above the initials of the inspector, on its face or outer surface. The absence of these markings indicates that the original percussion cylinder was replaced during, or after the time of, conversion.

The brass buttstrap of serial number 4158 still retains the original U.S.N. stamp from its percussion ac-

ceptance, but because of the replacement of the wooden grip at the time of conversion, it is not known if any inspector's initials were ever applied. Because of the pressures of the war many, if not all, inspection processes were abandoned.

The buttstrap stamping is pictured in Fig. 6-110. Note that there are periods between the U and S and the S and N, but not after the N. The hole further to the rear was more than likely for the attachment of a lanyard ring.

Another brass buttstrap with the same U.S.N stamping with only two periods is pictured in Fig. 6-111. This is from a Colt Model 1861 Navy-Navy conversion, serial numbered 1958. Without other identifying marks, such as inspector's initials, it is virtually impossible to determine from which Navy Yard this specimen came.

Various other examples exist with all reinspection markings properly and fully displayed. The Model 1861 Navy-Navy conversion shown in Fig. 6-112 has the small anchor at the breech of its barrel and the P/GG stamped on the rear periphery of the cylinder. The revolver is serial numbered 7104, and has a matching cylinder numbered 104. Note that the anchor is stamped at a 45 degree angle.

As was the case with the Colt Model 1851 Navy-Navy conversion, serial number 59767 pictured in Figs. 6-71, the cylinder of this Model 1861 Navy-Navy conversion is marked on its rear periphery. Also compare the cylinder face of the 1851 Navy conversion (serial number 61222) of Fig. 6-72 with that at the left of Fig. 6-113. The initials P/G G displayed on the cylinder faces are those of Commander Guert Gansevoort, one of the two inspectors assigned to the reinspection.

The other reinspection inspector was Commander John R. Goldsborough, and his mark was either P/J.R.G.

Fig. 6-112 Close-up top view of barrel breech and cylinder of U.S. Navy Model 1861 Richards-Mason conversion showing percussion reinspection stampings of serial number 7104. (Photo by L. Frank Richey, Sam Pachanian Collection)



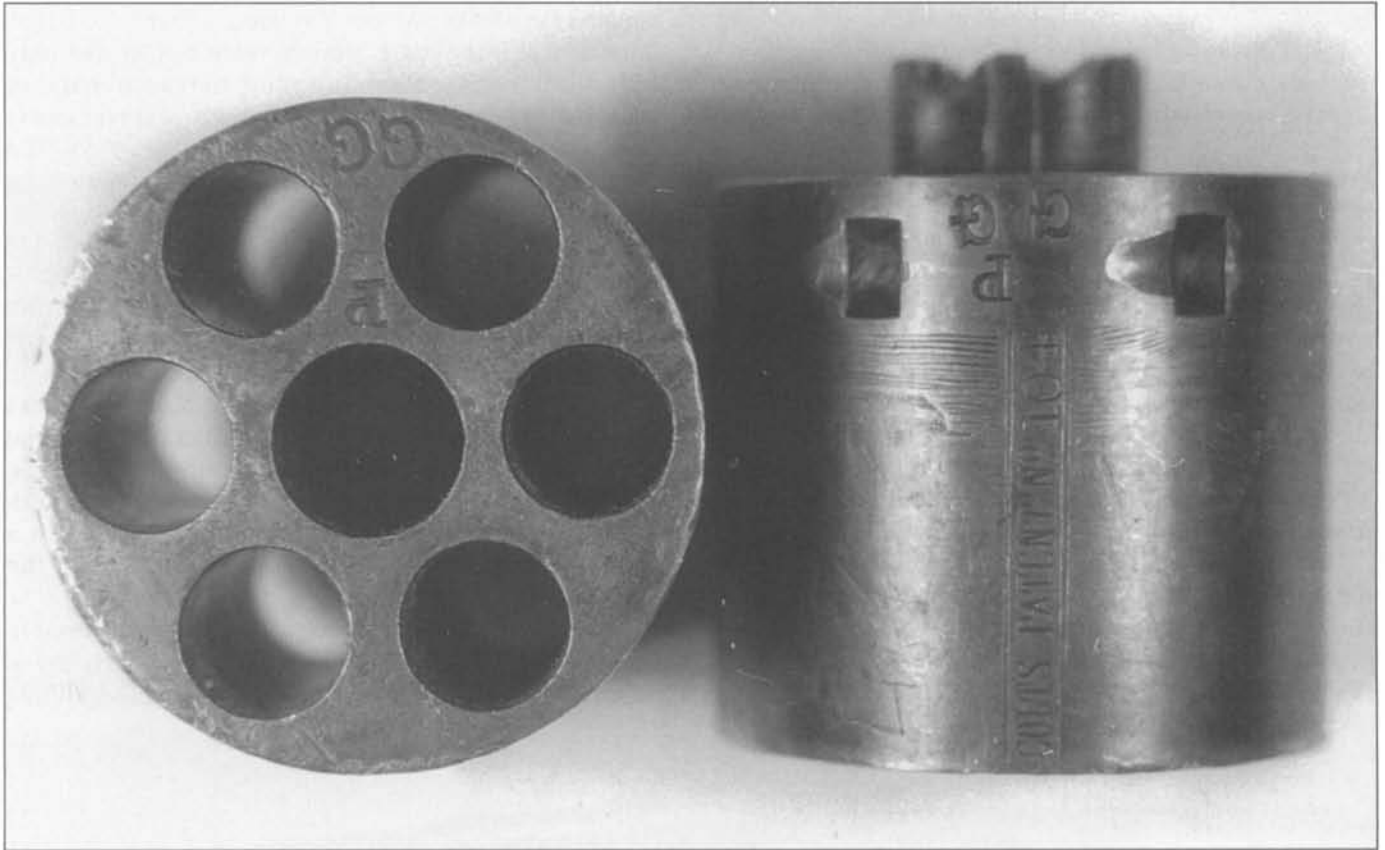


Fig. 6-113 Side and front views of cylinders from 1861 Navy-Navy conversions, showing two methods of reinspection stamping. (Photo by L. Frank Richey, Sam Pachanian Collection)

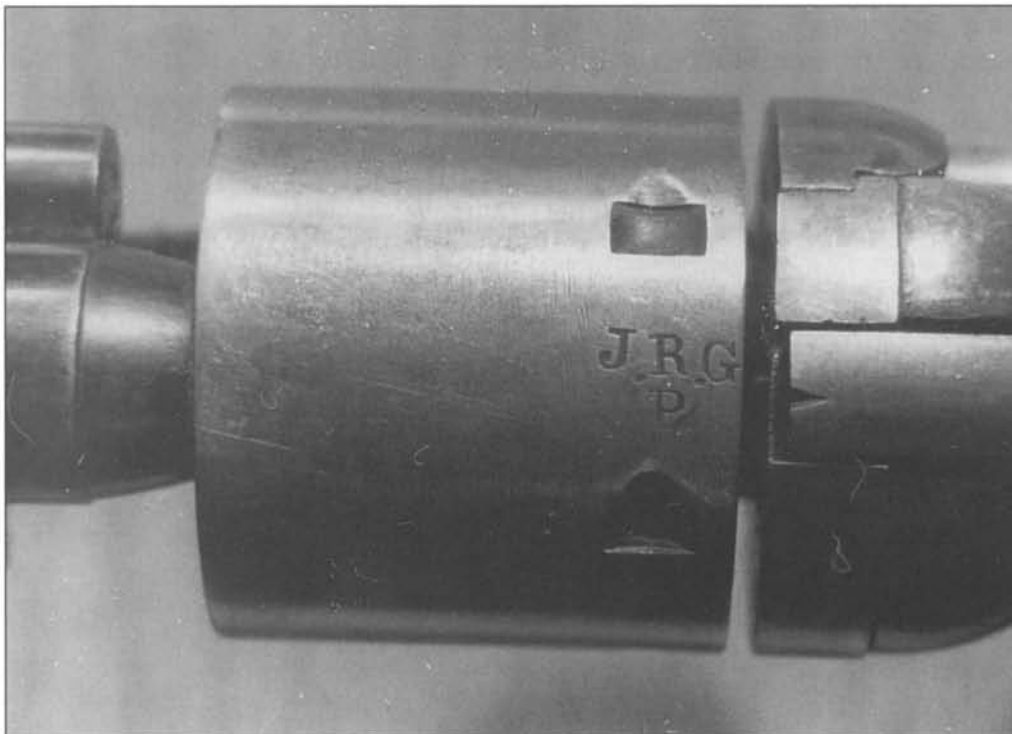


Fig. 6-114 Close-up top view of U.S. Navy Model 1861 Richards-Mason conversion, serial number 6602, showing cylinder reinspection stamping. (Photo by L. Frank Richey, Sam Pachanian Collection)

or J.R.G./P, as pictured on the side of the cylinder in Fig. 6-114. This cylinder is from a Model 1861 Navy-Navy conversion, serial number 6602. On this particular conversion, there is no anchor stamped at the breech of the barrel.

The left side of the frame is stamped with the two-line patent dates without dashes, and to the right of the original percussion COLTS/PATENT stamping, leaving both markings crisp and clear. As pictured in Fig. 6-115, this Model 1861 Navy-Navy conversion is in excellent overall condition, retaining much of its original blue and case hardening colors. The left triggerguard flat contains the original percussion 36 CAL marking, the wedge is the percussion type with spring, the old wooden grips were replaced at the time of conversion and all conversion features are as they should be for this model.

It might be well to consider that when the Navy Ordnance Bureau ordered the various Navy Yards to gather together the required number of percussion Colt Navy revolvers to be converted, the order called for "those in the best condition." The Model 1851 Navy per-

cussion revolvers had been in use since the 1857-1859 period, while the 1861 Models were not in use until 1861-1863. It would therefore stand to reason that considerably more 1861 (New Model) Navy revolvers were converted and returned to the Navy than 1851 (Old Models). For this reason, more 1861 Navy-Navy conversions are in circulation than the 1851 Navy-Navy conversions, and their overall condition is expected to be much better.

As a general practice, the Colt Company kept all of the serial numbers together when performing the Navy-Navy conversions, except for the cylinders. In other words, when these converted Navy revolvers were returned to the Navy, they had matching serial numbers on all numbered parts except the cylinders, but the substituted cylinders, or any other parts added at this time were generally renumbered, with a second number matching the serial number of the gun.

The Model 1861 Navy-Navy conversion pictured in Figs. 6-116 through 6-118 has, for the most part, mixed serial numbers. The barrel and triggerguard are num-

Fig. 6-115 Left side view of U.S. Navy Model 1861 Richards-Mason conversion, serial number 6602, showing the original percussion frame stamping with the two-line patent dates stamped to the right. (Photo by L. Frank Richey, Sam Pachanian Collection)



Fig. 6-116 Right side of mixed number U.S. Navy Model 1861 Richards-Mason conversion showing external gate spring and deepened loading channel. (Author's Collection)



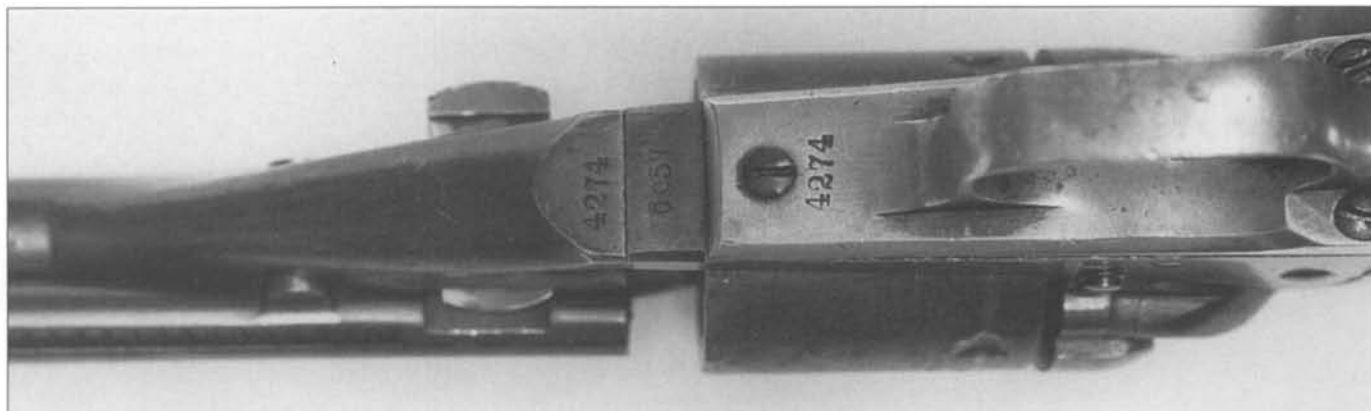


Fig. 6-117 Underside of U.S. Navy Model 1861 Richards-Mason conversion with frame numbered 6957 (see text). (Author's Collection)



Above: Fig. 6-118 Underside of barrel of U.S. Navy Model 1861 Richards-Mason conversion with New York Navy Yard conversion inspector's stamp. Frame serial number 6957.



Left: Fig. 6-119 U.S. Navy Model 1861 Richards-Mason conversion, serial number 4637. Close-up showing triggerguard with "C.M." marking. (Courtesy Francis E. "Bud" Firth)

bered 4274, the frame and backstrap 6957, and the cylinder is stamped with two numbers, 3441 and 6699. The underside is pictured in Fig. 6-117, showing three of these serial number locations.

The mismatched numbers were of no concern to Commander Meade, as the conversion was shipped to the New York Navy Yard and accepted as evidenced by his inspection mark on the underside of the barrel (see Fig. 6-118). This revolver is another fine condition specimen, retaining more than 95 percent original blue, 98 percent original case hardening color and a full crisp cylinder scene.

Another unusual specimen is found in the Model 1861 Navy-Navy conversion serial number 4637. This revolver is a standard Richards-Mason conversion in every respect, but is stamped either COURT MYERS or simply C.M. on various major parts. The underside of the brass triggerguard is stamped C.M. just under the se-



Fig. 6-120 U.S. Navy Model 1861 Richards-Mason conversion, serial number 4637. Close-up showing cylinder with dual numbering and "C.M." marking. (Courtesy Francis E. "Bud" Firth)

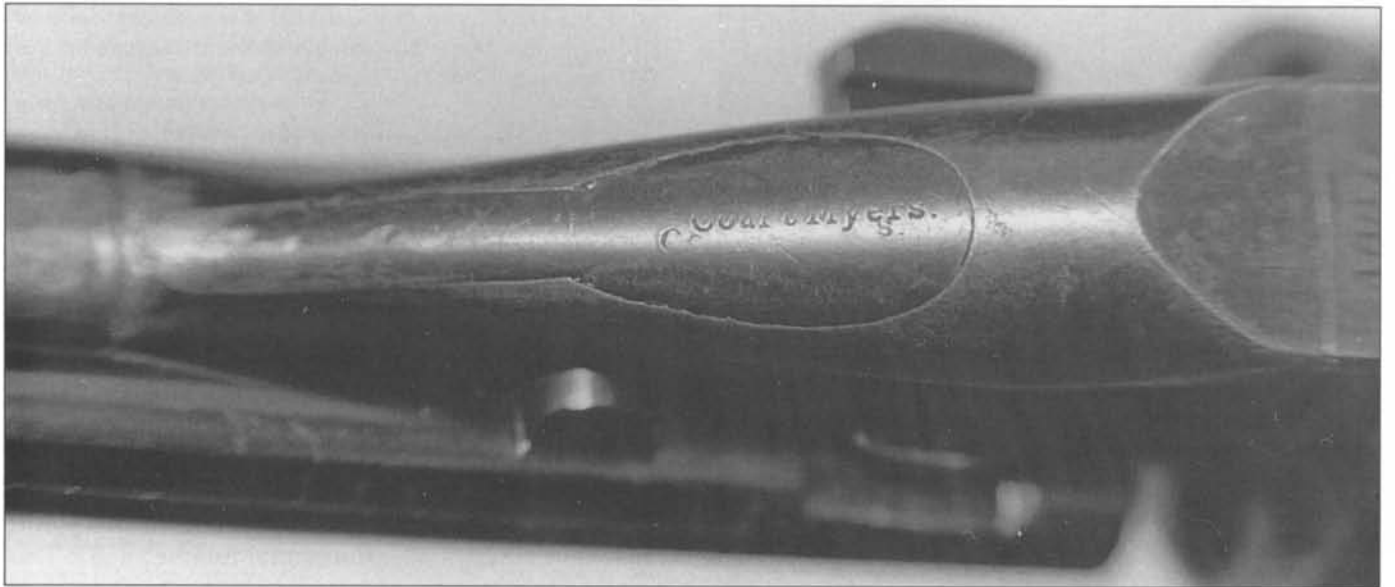


Fig. 6-121 U.S. Navy Model 1861 Richards-Mason conversion, serial number 4637. Close-up showing barrel plug stamped "Court Myers". (Courtesy Francis E. "Bud" Firth)

rial number in large characters. Note the absence of a period after the M in Fig. 6-119.

A close-up of the cylinder is shown in Fig. 6-120. Here is another example of a Model 1851 Colt Navy conversion cylinder mounted on a Model 1861 Navy-Navy conversion. The cylinder retains the old percussion number 59236 and has also been restamped with another number, 1750. A much smaller C.M. is found stamped to the rear of the original cylinder number. Both the underside of the loading lever/plunger barrel plug (see Fig. 6-121) and the brass buttstrap (see Fig. 6-122) are stamped with the full name, COURT MYERS.

The identity of Court Myers is unknown to both the owner of this fine specimen and the author. A thorough search of the Civil War military service, regimental, medical and pension records might prove a very interesting study in itself. Such a search could well turn up

some useful historical information on this Model 1861 Navy-Navy conversion and its association with one Court Myers.

Serial number 2476 is pictured in Fig. 6-123, and is a standard Model 1861 Colt Navy-Navy Richards-Mason conversion in every respect. It features the converted percussion hammer with "screw-in" cone-type firing pin, percussion-style spur knurling and small hammer screw, the Mason-type ejector with round rod tip and concentric ring pattern head, and the Type III centerfire conversion ring with external gate spring. The wedge is the percussion type with spring, and the walnut grips are factory replacements. Figure 6-124 pictures a close-up frame and cylinder view of the same conversion, showing the two-line patent date without dashes stamped over the original COLTS/PATENT on the forward left side of the frame, and the double stamped 36 CAL on the left

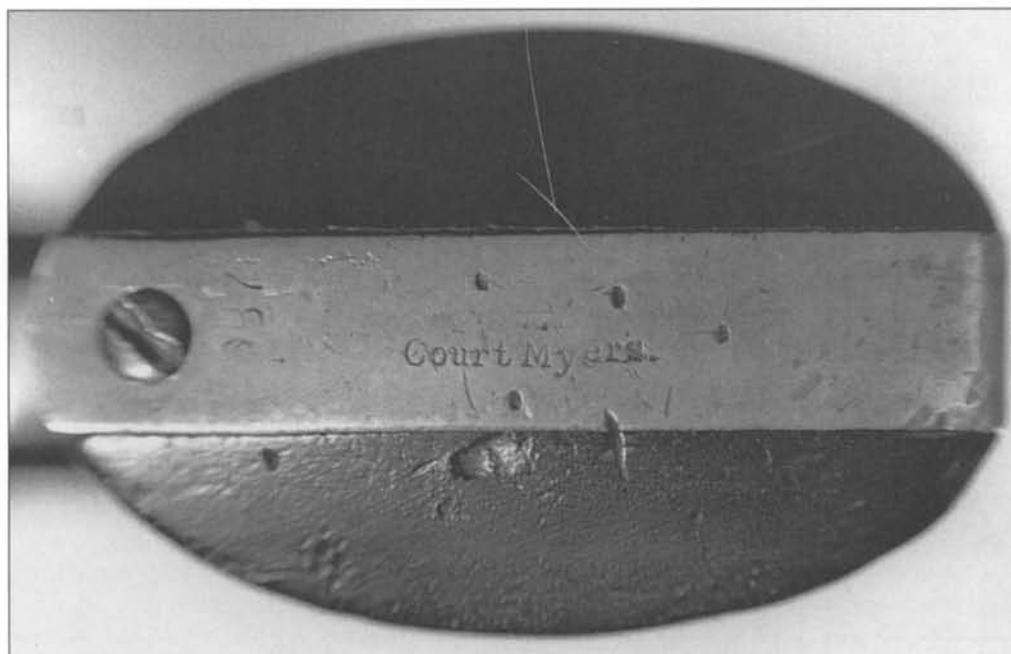


Fig. 6-122 U.S. Navy Model 1861 Richards-Mason conversion, serial number 4637. Close-up showing buttstrap stamped "Court Myers". (Courtesy Francis E "Bud" Firth)



Fig. 6-123 Standard U.S. Navy Model 1861 Navy-Navy conversion, serial number 2476, stamped with New York Navy Yard conversion inspector's marking. (Author's Collection)

Fig. 6-124 Close-up of frame, barrel lug, cylinder and conversion ring of Model 1861 Navy-Navy conversion, serial number 2476, showing double cylinder number and frame stamping.



Fig. 6-125 U.S. Navy Model 1861 Richards-Mason conversion with large hammer screw and newly made wedge. Serial number 7624, assembly number 699. (Courtesy Dow and Russelle Heard)



triggerguard flat. The original cylinder number 2969 remains on the patent line of the cylinder, while a second number, 2476 is found stamped directly below.

The Model 1861 Colt Navy-Navy conversion of Fig. 6-125 is serial numbered 7624, and has the conversion number 699. It differs from those illustrated and described previously in that it has the larger size (Single Action Army size) hammer screw. Also, the wedge is the newly fabricated type without a retaining spring.

METALLIC AMMUNITION for the 1860 Richards-Mason revolvers is the same as that used in the First and Second Models of the Richards conversions. These .44 caliber centerfire metal-jacketed cartridges were produced for the military by Frankford Arsenal, and for the civilian market principally by the Union Metallic Car-

tridge Co., the United States Cartridge Company and finally, the Winchester Repeating Arms Company. These cartridges are pictured in Figs. 5-89 through 5-93 in Chapter 5.

The Frankford Arsenal continued to supply the military, as is indicated by the cartridge box pictured in Fig. 6-126, dated September of 1872. Note that this cartridge box does not contain the word "Martin" in the label. Starting about January 1872, military and civilian .44 caliber centerfire cartridges began using rounded brass Burden primers, flat copper Farrington primers and Winchester rounded smaller copper primers. Copper casings were replaced by the stronger brass variety.

Weights of bullets and charges varied with manufacturer. Military cartridge labels listed both, while some commercial labels indicated the weight of the

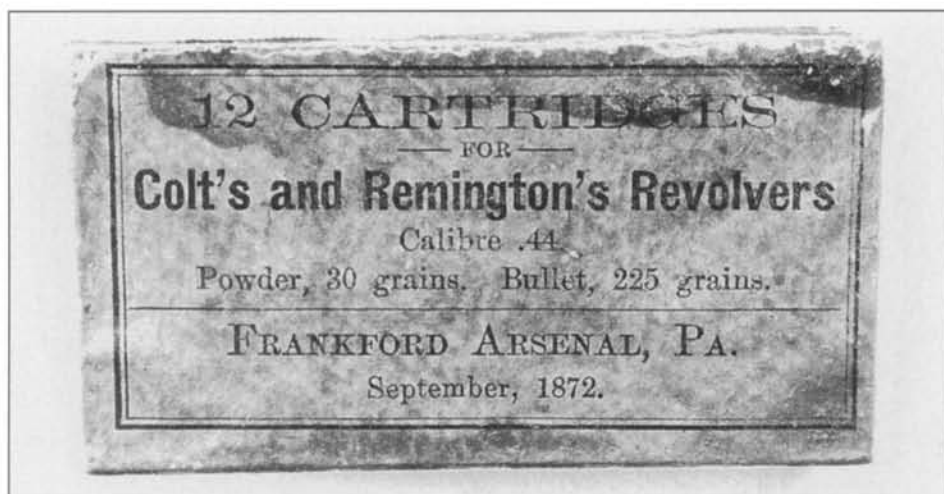


Fig. 6-126 Box of Frankford Arsenal .44 caliber centerfire cartridges, marked "For Colt's and Remington's Revolvers" and dated September, 1872. (Author's Collection)



Fig. 6-127 Red label box of ".44 Colt (Old Model)" centerfire cartridges by U.M.C. (Author's Collection)



Fig. 6-128 Red label box of ".44 Colt (Old Model)" centerfire cartridges by U.M.C. shown open.



Fig. 6-129 Green label box of .38 Short rimfire cartridges by Winchester. (Author's Collection)



Fig. 6-130 Green label box of .38 Long rimfire cartridges by U.M.C. (Author's Collection)

lead bullet only. The Red U.M.C. label on the box of .44 caliber Colt cartridges in Fig. 6-127 lists a 210 grain bullet. As illustrated in Figs. 5-89, 5-90 and 6-26, Frankford Arsenal revolver ammunition was packaged 12 cartridges to the box, while commercial ammunition was traditionally packaged 50 cartridges to the box, as pictured in Fig. 6-128. Boxes are known to be marked "Manufactured by Colt's Patent Fire Arms M'fg. Co." but the more common brands are those listed above.

Both the .38 Short and .38 Long rimfire cartridges were made in the early 1860s, and were readily available by the time the Colt Richards-Mason Navy conversions were produced. As early as the American Civil War, the Bacon Manufacturing Company produced a single action spur trigger "Navy" six-shot revolver that chambered the .38 Short rimfire cartridge, and E.A. Prescott manufactured another that chambered the .38 Long rimfire cartridge. These revolvers, and others of the type and period, are discussed in detail in Chapter 1.

This copper-cased ammunition was manufactured by many cartridge companies, both large and small,

such as Phoenix Metallic Cartridge Co., American Metallic Cartridge Co., C.D. Leet, Federal Cartridge Co., Ethan Allen, Cascade Cartridges, Crittenden & Tibbals Mfg. Co., Hall & Hubbard, W.H. Mason, William Irving, N.Y. Metallic Ammunition Co., E. Remington & Sons, Smith, Hall & Farmer, Winchester Repeating Arms Co., Union Metallic Cartridge Co., United States Cartridge Co., Alton Jones, and others.

Full boxes of 50 rimfire .38 caliber copper-cased metallic cartridges are pictured in Figs. 6-129 and 6-130. The Green Label Winchester box of Fig. 6-129 contains .38 Short rimfire cartridges, which are marked "Rifle Cartridges." These were used in revolvers as well as in rifles, but because they were manufactured by the Winchester Repeating Arms Co., it is only natural that they be labeled "Rifle Cartridges". The Green Label Union Metallic Cartridge Co. box shown in Fig. 6-130 contains .38 Long rimfire cartridges, with no further designation as to the weights of the bullet or charge, or the type of gun they are manufactured for. Again, the same rimfire cartridge can be used in pistols, revolvers or rifles, as



Fig. 6-131 Green label box of .38 Long rimfire cartridges by Winchester. (Author's Collection)



Fig. 6-132 Red label box of .38 Short centerfire cartridges by U.M.C. (Author's Collection)



Fig. 6-133 Green label box of .38 Long centerfire cartridges by U.M.C., shown open. (Author's Collection)

long as their overall length does not extend past the breech or cylinder.

Another box of Stetson swaged .38 caliber rimfire Winchester cartridges is pictured in Fig. 6-131. The Green Label of this box is again marked "Rifle Cartridges" for the same reason as that of Fig. 6-129. These .38 Long rimfire cartridges are also suited for revolvers of the period. The average overall length of these .38 Long rimfire cartridges is 1.372 inches and the average chamber length of the Colt Navy conversions is 1.388 inches (see Fig. 6-21 and accompanying table). The cartridge boxes pictured are from the 1870-1880 period and do not necessarily represent the earliest or the latest manufactured.

Centerfire cartridges in .38 caliber were not commercially available in the United States until about 1874, when the .38 Short Colt (.38 Short centerfire) and the .38 Colt Navy (.38 Long Colt centerfire) were introduced.

The first Colt Model 1851 and 1861 Navy percussion revolvers converted for the United States Navy were shipped on August 12, 1873. The first order for centerfire cartridges was issued by Captain Jeffers, Navy Ordnance Bureau on July 23, 1873, to the Union Metallic Cartridge Company calling for "1,000 .38 caliber cartridges for the altered Colt's revolvers."

Sometime between July 1873 and August 1875, the Navy decided to change their cartridge supplier because on August 2, 1875, Captain Jeffers ordered 1,000 centerfire cartridges from the U.S. Cartridge Company, to be sent directly to Remington. On this same date, Captain Jeffers advised E. Remington & Son that their proposal to alter Remington Navy percussion revolvers to breech-

loaders that could accept cartridges supplied by the U.S. Cartridge Company was accepted (see Chapter 3).

Difficulty was experienced with the U.S. Cartridge Company cartridges, and on October 25, 1888, the Mare Island Navy Yard was advised that the Navy Bureau of Ordnance had condemned the cartridges manufactured by the U.S. Cartridge Company. Based on the preceding, the United States Navy used centerfire metallic .38 caliber cartridges manufactured by the Union Metallic Cartridge Company for their Colt Model 1851 and 1861 Richards-Mason conversions, and later changed over to those produced by the U.S. Cartridge Co.

Thirty-eight caliber centerfire metallic cartridges were commercially made in Short Colt and Long Colt by a variety of cartridge manufacturers. Figures 6-132 and 6-133 picture both types manufactured and boxed by the Union Metallic Cartridge Co. Figure 6-133 shows a box of .38 caliber Long Colt's Central-Fire cartridges, with three missing. All are head stamped U.M.C./S H/.38 LONG.

HOLSTERS are of the same styles and types normally found with the First and Second Model Richards conversions, and equally as rare (see Chapter 5).

A Colt Model 1851 Navy Richards-Mason conversion with ivory grips is pictured in Fig. 6-134, contained within a California style open-topped left handed decorative holster of the 1870-1875 period. Made of dark heavy skirting leather, the holster contains a hand-tooled vine and leaf pattern and is form fitted to the revolver. It contains no toe plug, allowing the muzzle of the barrel to extend slightly beyond the leather. This piece is in fine overall condition.



Fig. 6-134 California style open-top hand-tooled leather holster for Colt Model 1851 Richards-Mason conversion revolver. (Courtesy Dow and Russelle Heard)



Fig. 6-135 Pommel bag holster with Colt Model 1851 Richards-Mason revolver contained. (Courtesy John H. Thillmann)

During the late 1840s and the 1850s, leather pommel holsters were used to carry large single shot heavy-caliber percussion pistols. They were generally made of plain saddle-skirting leather with metal (generally brass) end caps, and form fitted to the particular pistol they were to carry. Many of these plain designs originated in Southern California, while the fancier hand-tooled designs were made in Mexico. As the lighter revolvers came to be, belt holsters soon replaced the pommel holsters. By the 1870s, pommel holsters in the American West were a thing of the past. But, something new had come out of California back in the 1850s. The "cantenos" or pommel bag holsters were being produced by some of the major saddlers of the West. Though not all that popular, pommel bag holsters were made right up to the 1890s. They were small saddle bags, usually made of medium skirting leather, and containing a holster on one (or both) bag faces, covered and protected by the pouch cover flaps.

A typical set of pommel bags with holster for a Colt Model 1851 Navy Richards-Mason conversion is pictured in Fig. 6-135, with the holster on the opposite side of one bag and the Navy conversion in place. They are made of dark medium skirting leather, plain in design with a tooled vine and leaf border, and held closed by a single buckle and leather strap on both pouches. The pommel bag holster was fabricated by J. Clark of Portland, and is so marked on each pouch, as shown in Fig. 6-136. Among other well known saddlers making pommel bag holsters were Main & Winchester of San Francisco, W.L. Pickard & Son of Salt Lake City, Victor Earnshield of Marysville, California, H.H. Heiser of Denver, S.C. Gallup of Pueblo, and Denver Manufacturing Co. Most were made for the small frame revolvers, such



Fig. 6-136 Pommel bag panel with maker's name (J. Clark/Portland) stamped. (Courtesy John H. Thillmann)



Fig. 6-137 Pouch containing holster, shown with bag flap open. (Courtesy John H. Thillmann)

as the Colt 1849 Pocket Model, the Colt 1862 Police and Pocket Navy Models. Seldom is one found that was made for a conversion, making this specimen extremely rare.

As can be seen from the photographs of Figs. 6-135, 6-137 and 6-138, no attempt was made to conceal the revolver. It was placed at a convenient angle for quick access in the event it became needed to protect the rider or his possessions. It is interesting to note that Wells Fargo & Company used pommel bag holsters for mail service to the mining camps of Northern Nevada.

Figures 6-137 and 6-138 picture the front and rear of the single bag or pouch containing the holster. With the flap raised in Fig. 6-137, the holster is seen attached to the bag face at the proper angle for easy access to the revolver it contains. No particular effort was made to

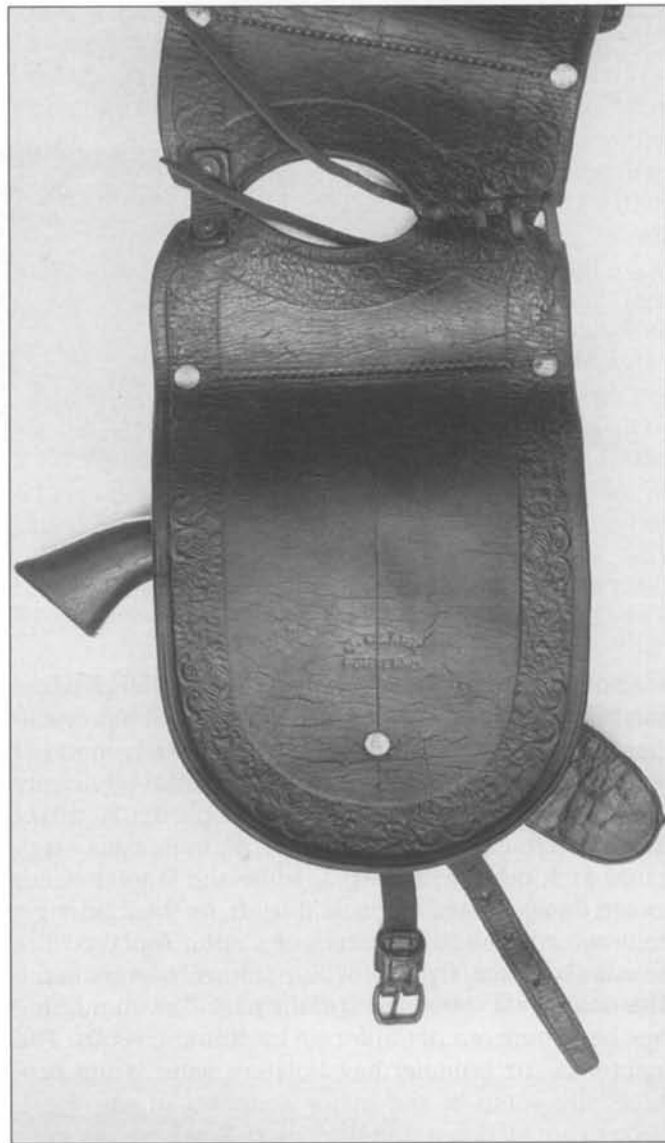


Fig. 6-138 Pouch containing holster, shown with bag flap closed but not buckled in place. (Courtesy John H. Thillmann)

form fit the revolver, since this rig could possibly have been designed to accept a variety of medium-frame-size revolvers of varying barrel lengths. This is indicated by the excess leather at the holster toe.

The rear view of the same bag is pictured in Fig. 6-138, showing the maker marking, border design and holster with revolver extending outward from both sides.

Both bags are round at the bottoms and the front and rear panels are sewn to an expandable gusset to increase their capacity. The round opening at the junction of the two bags (see Fig. 6-135) is simply slipped over the front horn of a saddle and the leather thongs are used to secure it in place.

Figures 6-139 and 6-140 show another form-fitted, S-top, California-style holster with a Colt Model 1860



Fig. 6-139 California style open-top holster for a Colt Model 1860 Richards-Mason revolver. (Courtesy John H. Thillmann)



Fig. 6-140 Rear view of Model 1860 Richards-Mason revolver holster. (Courtesy John H. Thillmann)



Fig. 6-141 Main & Winchester double-holstered pommel bags for pair of Richards-Mason conversion revolvers. (Courtesy High Noon Wild West Collector's Show & Auction)



Fig. 6-142 A crooked poker game in a saloon at Price, Utah. (Courtesy of Nelson B. Wadsworth, Archival Photography)

Richards-Mason conversion in place. Unlike that of Fig. 6-134, this holster is sewn closed at the bottom with front and rear eyelets for a tie-down thong. It is made of plain brown medium skirting leather and has no design, other than the line tooling on both sides at the top, and around the belt loop. There is no maker's name, and the only mark is the 3 on the belt loop just above the rivet.

A fine pair of pommel bags with double holsters for Colt Richards-Mason conversions is pictured in Fig. 6-141, with the maker's trademark stamped into the outer flap, just above the closing strap. The pommel bags were made of plain light brown skirting leather by the Main & Winchester company of San Francisco, California, a major

northern California saddlery from 1849 until it was acquired by Keystone Bros. in 1912.

Double holstered pommel bags are extremely rare, and cantenas with two conversion revolver holsters, such as that shown in Fig. 6-141 were probably made to special order in the 1870s.

Originally a cattle town settled by the Mormons, Price, Utah soon became a mining town with all the typical violence of the early "Wild West." As the population increased, it moved the saloons, gamblers, dance-hall girls, gunslingers, thieves and the cardsharps. Those playing poker in the 1890 Price saloon are either cheating or posing for the picture, but any dispute can quickly be settled by the short barrel Colt Navy conversion on the table.

Chapter 7

The Colt Model 1871-1872 Open Top Revolver

Collectors often refer to the Colt 1871-1872 Open Top as the forerunner of the Colt Single Action Army Revolver. This misconception suggests that the 1871-1872 Open Top was merely a stepping stone between the 1860 Richards-Mason Conversion and the Single Action Army, which is also incorrect.

The fact is that production began on the Colt .44 caliber rimfire Open Top as soon as William Mason had completed his initial design for simplifying the C.B. Richards plan for a cartridge extractor. This was several months prior to the Mason patent date of July 2, 1872, possibly at the time of application for patent, or even before.

This means that the Colt 1871-1872 Open Top revolvers were manufactured concurrently with the Richards and Richards-Mason conversions. It is therefore estimated that the production span for the Colt 1871-1872 Open Top revolvers lies primarily between February of 1872 and June of 1873.

To further substantiate these dates, the Colt Factory Day Journal of 7/1/1871 to 7/28/1873 (see Appendix) lists the sale of "1 Army breech loading revolver for Winchester cartridge" to Francis DeGress, on March 12, 1872. The same record book lists "2 45/cal. Army 'A' pistols" shipped as samples on memo to the London Agency, on June 23, 1873. This latter shipment was for solid-frame Single Action Army Colt revolvers.

As outlined in earlier chapters, most Colt conversions were made as metallic cartridge revolvers from parts remaining in percussion inventory and from newly fabricated parts. As percussion inventory parts became exhausted, replacements were manufactured, sometimes to an entirely new design. The barrel and cartridge ejector of the Richards-Mason conversion is a good example of an entirely new design.

This practice was not followed with the production of the 1871-1872 Open Top revolvers. This Colt revolver is not a conversion; it was manufactured as a metallic cartridge revolver. With the exception of the gripstraps and some internal pieces, all major parts were especially made for this model and most were not interchangeable with those of other models. Major parts will be outlined in detail as this chapter progresses.

As with the previous Colt conversions, the Colt 1871-1872 Open Top revolvers must be separated into two categories: [1] Early Production (serial numbers 1 through 1000); and [2] late production (serial numbers 1000 to almost 6000). Separate specifications are listed for each category and the description of parts that follows will illustrate and outline the major differences between these two categories and between the 1871-1872 Open Top metallic cartridge revolver and the 1860 Richards-Mason conversions.



Fig. 7-1 Colt Model 1871-1872 Open Top revolver. Early production type, serial number 4. (Courtesy Francis E. "Bud" Firth)

Colt Model 1871-1872 Open Top Revolver (Early)	
SERIAL NUMBER RANGES	1 through 1000
CALIBER	.44 rimfire (see text)
BARREL LENGTHS	Nominal 7-1/2 inches
BARREL ADDRESS	ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA
EJECTOR HOUSING	Large frame Richards-Mason type
EJECTOR ROD TIP	Round
EJECTOR HEAD	Target pattern (concentric rings)
BARREL WEDGE	Typically percussion type with spring
CYLINDER	6-shot, straight round, Navy battle scene
CONVERSION RING	None used
LOADING GATE SPRING	Typically internal, some external
FRAME TYPE	1860 Army type, without cylinder step
FRAME MARKINGS	COLTS/ PATENT -PAT.JULY.25,1871.-/-PAT.JULY. 2, 1872.-
HAMMER SCREW	Small (early), large (late)
HAMMER SPUR KNURL	Typically bordered knurl
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Brass, Navy size; sometimes mixed
TRIGGERGUARD	Brass, Navy size; sometimes mixed
ASSEMBLY NUMBER	Gate, frame (underside) and cylinder arbor
SPECIAL NOTES	Small hammer screw = .196" body, .263" head Large hammer screw = .225" body, .287" head



Fig. 7-2 Colt Model 1871-1872 Open Top revolver. Late production type, serial number 2729 (Courtesy Francis E. "Bud" Firth)

Colt Model 1871-1872 Open Top Revolver (Late)	
SERIAL NUMBER RANGES	1001 through 5000 serial number range
CALIBER	.44 rimfire (see text)
BARREL LENGTHS	Nominal 7-1/2 inches
BARREL ADDRESS	address col.saml colt new-york u.s.america
EJECTOR HOUSING	Large frame Richards-Mason type
EJECTOR ROD TIP	Round
EJECTOR HEAD	Target pattern (concentric rings)
BARREL WEDGE	Typically late type without spring
CYLINDER	6-shot, straight round, Navy battle scene
CONVERSION RING	None used
LOADING GATE SPRING	Typically external
FRAME TYPE	1860 Army type, without cylinder step
FRAME MARKINGS	-PAT.JULY.25, 1871.-/-PAT.JULY. 2,1872.-
HAMMER SCREW	Large-0.225" body, 0.287" head
HAMMER SPUR KNURL	Typically bordered knurl
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Steel, Army size (see text)
TRIGGERGUARD	Steel, Army size (see text)
ASSEMBLY NUMBER	Gate, frame (underside) and cylinder arbor
SPECIAL NOTES	Many variations exist between serial number 1000 and 1600, particularly in gripstraps and grip sizes (see text).

THE CALIBER of the Colt Model 1871-1872 Open Top revolvers is .44 rimfire for all revolvers, unless altered to centerfire (.44-40 W.C.F.) after leaving the factory. The cartridge to be chambered is the Stetson .44 Henry (Stetson swaged and lubricated projectile). Because of the terminology originating with Colt Patent Fire Arms Manufacturing Company and the numerous references made by collectors and dealers of antique Colt fire-arms, there is tremendous confusion concerning the caliber of the Colt 1871-1872 Open Top revolver. The .42 Stetson cartridge is a misnomer-there is no such thing.

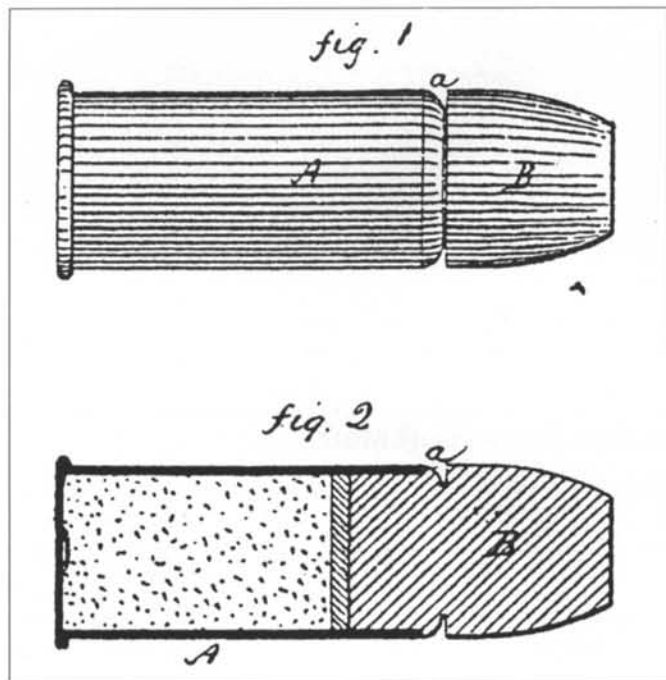


Fig. 7-3 Patent drawing of Stetson cartridge.

George R. Stetson was granted U.S. Patent No. 120,403 on October 31, 1871, for an "Improvement in Metallic Cartridges." This invention has as its object the use of a swaged projectile without using a patch. A portion of the patent drawings is shown in Fig. 7-3. The following is extracted from the patent text:

This invention relates to an improvement in that class of ball-cartridge in which the powder and ball are arranged in a metallic case, the object of the invention being to allow the use of swaged balls. Such balls, it is well known, are superior to molded balls, in consequence of greater perfection in shape and equal density of metal; but with such balls a patch has been required for lubricating purposes.

By my invention the use of the patch is avoided, and consists in forming the ball of the internal diameter of the shell - that is, the diameter of the bore of the arm in which they are to be used - then inserting the ball into the shell

onto the wad of powder, and after it is so inserted, by any suitable tool I form an annular groove in the ball near the end of the shell, pressing the lead to form this groove, which causes the lead to rise against the shell, and said groove being sufficient to retain the requisite quantity of lubrication; and the enlargement to so form the groove and shoulder is sufficient to take the grooves of the bore and give the requisite rotation to the ball.

The Stetson patent (U.S. Patent No. 120,403) was assigned to the Winchester Repeating Arms Company of New Haven, Connecticut, on its date of issue (October 31, 1871). Thereafter, many of the Winchester cartridge box labels contained the oval shaped logo, STETSON'S/PATENT/OCT.24TH 1871 (note the incorrect date).

Many owners of Colt 1871-1872 Open Top revolvers have requested letters from Colt's historian, requesting information from factory records pertaining to the serial number of their particular gun. In most cases, the response has been as follows:

Dear Mr. Brown:

This is to confirm the information given to you to-day, in response to your telephone request for historical information on Colt .44 Rim Fire Model 1872 Army Revolver #127, with open top frame.

Upon researching our old records, we locate the following information describing the old Colt Revolver mentioned above as this arm was originally shipped from the Colt factory in 1872:

Calibre	.42 for Stetson cartridge
Barrel length	Not listed
Finish	Not listed
Stocks	Not listed
Sold & shipped to:	Spies, Kissam & Company
Address	New York, N.Y.
Date of shipment	July 18, 1872
Number of same guns in this shipment.	Twenty
<i>Trusting this information will be of interest, we are Yours truly,</i>	

This was an actual letter, dated March 20, 1963, under the signature of R.H. Wagner for Colt's Patent Fire Arms Mfg. Co. Inc.

Entries found in the Colt Factory Day Journal for July 1, 1871-July 28, 1873, list shipments of 1871-1872 Open Top revolvers, using various descriptions for the guns. Such entries are as follows:

March 12, 1872-Francis DeGress
1 Army Breech Loading Revolver for Winchester Cartridge

June 13, 1872-W.B. Franklin
1 N.M. 42/Cal. B.L. Revolver, C.F. #51 [Author's note - Obviously this revolver was for the .44 caliber Smith & Wesson American Centerfire Cartridge and the serial number of the revolver

is 51. Also, this entry includes 1 N.M. 44/Cal. B.L. Revolver, C.F. with Skeleton Frame, which was a Richards or Richards-Mason conversion].

July 13, 1872-Francis DeGress

10 N.M. Army Revolvers-Stetson Ctge

August 27, 1872-Samuel Walker

6 42/Cal. Breech Loading Army Revolvers

August 28, 1872-Francis DeGress

20 42/Cal. Breech Loading Revolvers

September 11, 1872-Francis DeGress

75 42/Cal. N.M. Army B.L. Revolvers

November 13, 1872-Francis DeGress

100 42/Cal. Army Breech Loading Revolvers

January 31, 1873-Francis DeGress

6 42/Cal. Army Breech Loading Revolvers

February 27, 1873-Francis DeGress

18 42/Cal. Army Breech Loading Revolvers

March 17, 1873-London Agency, on Memo for Vienna Exposition

2 N.M. Army 42/Cal. Breech Loading Revolvers, Ivory, Plain

May 12, 1873-Francis DeGress

30 42/Cal. Breech Loading Army Revolvers

June 6, 1873-Francis DeGress

10 42/Cal. Army Breech Loading Revolvers [Author's Note: This is the last 1871-1872 Open Top revolver entry in this Day Journal, as the next is for the Solid Frame Single Action Army revolvers].

June 23, 1873-London Agency (Memo. - Samples)

2 45/Cal. Army "A" Pistols

200 45/Cal. Army "A" Pistol Shells, Primed

200 45/Cal. Army "A" Pistol Bullets

2 45/Cal. Army "A" Reloading Fixtures

The Colt Day Journal from which these entries were extracted was obviously not the only one for that pe-

riod. The 20 Open Top revolvers of the above letter, the 13 known to have been shipped to J.P. Moores & Sons of New York City on July 18, 1872, and the 50 shipped to Cooper, Harris and Hodgkins of New York City on July 25, 1872, were not listed.

The Colt Company was producing the 1860 Richards-Mason and the Model 1871-1872 Open Top simultaneously, and required terminology for proper identification of the two in their records. Therefore, the 1860 Richards-Mason revolver was listed as the New Model Army Breech Loading Revolver (N.M. Army B.L. Revolver in .44 caliber) and the 1871-1872 Open Top was designated the 42/Cal. Army Breech Loading Revolver.

Forty-four caliber (0.440 inch) and .42 caliber (0.420 inch) can be taken from the same rifled barrel bore. The Henry rifle has often been referred to as a .42 caliber weapon (see "Rimfire Arms and Cartridge Data" on page 198 of *The History and Development of Small Arms Ammunition*, Volume One, by George A. Hoyem). This is because the land-to-land measurement of the bore is 0.420 inch, while the groove-to-groove dimension is 0.440 inch. This leaves a difference of 0.020 inch, meaning that the depth of each groove is ten one-thousandths of an inch. The same is true of the barrel bore dimensions of Colt Model 1871-1872 Open Top revolver. The rifling has seven grooves, making direct measurements difficult, but a precision machined brass rod with a diameter of 0.420 inch was found to fit perfectly into the muzzle of 37 Model 1871-1872 Open Top revolvers examined and measured. Further, a Stetson swaged .44 Henry Flat cartridge was found to chamber perfectly in the cylinders of all 37 guns, while other .44 Henry cartridges would not fit.

The Stetson swaged .44 Henry Flat cartridge used as a test cartridge is illustrated in the drawing of Fig. 7-4. Unfortunately, all .44 Henry cartridges do not have the same exact measurements. The bullet uniformity of

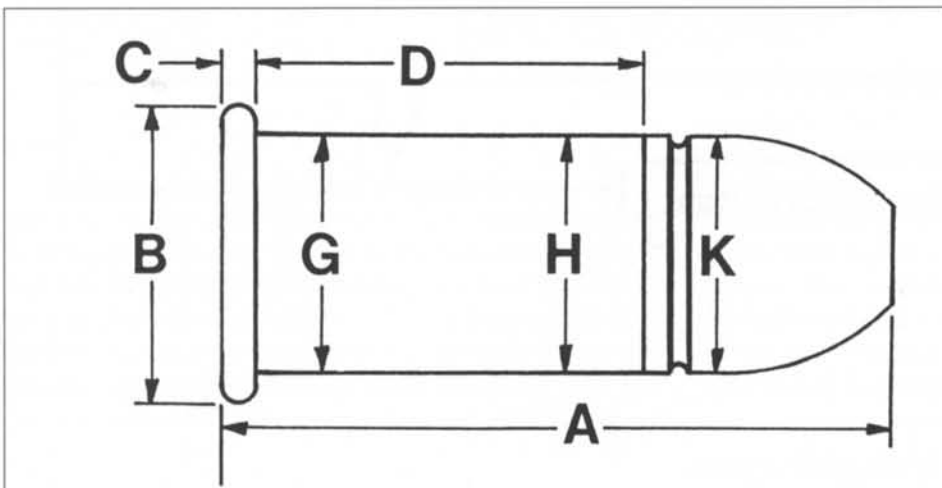


Fig. 7-4 Drawing of Winchester .44 Henry Flat rimfire cartridge with Stetson swaged bullet.

swaged projectiles is not found in cast bullets, and dimensions are found to vary considerably between manufacturers. The dimensions of the Stetson swaged .44 Henry Flat cartridge (with the raised H head stamp) of Fig. 7-4 are as follows;

(A) Overall Length.....	1.346 inches
(B) Flange Diameter	0.520 inch
(C) Flange Thickness	0.064 inch
(D) Case Length	
(Less Flange Thickness)	0.832 inch
(C) + (D) Overall Case Length	0.896 inch
(G) Case Head Diameter	0.440 inch
(H) Case Mouth Diameter	0.440 inch
(K) Bullet Diameter	0.422 inch
	(front of groove)
	0.427 inch
	(rear of groove)

Other Henry cartridges have been found to have cases measuring as much as 0.445 inch and bullets with diameters in excess of 0.444 inch. In some instances, collectors have attempted to insert .44 Short rimfire or .44 Long rimfire cartridges into 1871-1872 Open Top revolvers, believing them to be Henry cartridges. These .44s have entirely different dimensions and will not fit properly.

The American-made .42 rimfire cartridge was made for the Forehand & Wadsworth (Allen & Wheelock) Falling Block Rifle and was never intended for revolver use. It was not manufactured by the Winchester Repeating Arms Co. and was therefore not manufactured or marketed under the Stetson patent. Those who have attempted to chamber this .42 caliber cartridge in the Model 1871-1872 Open Top revolver can testify that the

fit is similar to that of a .32 caliber cartridge in a .38 caliber chamber.

With the success of the centerfire 1860 Richards and 1860 Richards-Mason revolvers, and the continued insistence on the part of the Ordnance Department for centerfire ignition, one wonders why the Colt Company elected to design the Model 1871-1872 Open Top revolver to take an obsolescent rimfire cartridge. The Richards-Mason type centerfire firing pin would have certainly been no more costly to incorporate than the side-hammer rimfire plate striker. Therefore, economics did not enter into the decision making.

Forty-four caliber centerfire cartridges were readily available to the military through government armories, but circulation throughout the civilian market was very limited during 1872-1873. This was not the case with .44 caliber rimfire ammunition. Oliver Winchester had marketed his .44 rimfire Henry and Model 1866 rifles quite well in the Midwest, western territories and Mexico. Forty-four caliber rimfire Henry ammunition was well circulated through these areas, thus providing a ready-made market for a .44 rimfire revolver.

Though closely resembling the Model 1860 Richards-Mason Colt conversion in appearance, the Model 1871-1872 Open Top .44 rimfire revolver offered several changes. Those parts effected by these changes were basically the frame, cylinder, barrel, firing-pin and in many specimens examined, the grips and gripstraps.

BARRELS had the same general appearance as those of the 1860 Richards-Mason Model, in that they contained the same S-curve lug contour and the same type cartridge ejector assembly, mounted in the same manner. The drawing of Fig. 7-5 illustrates the barrel,

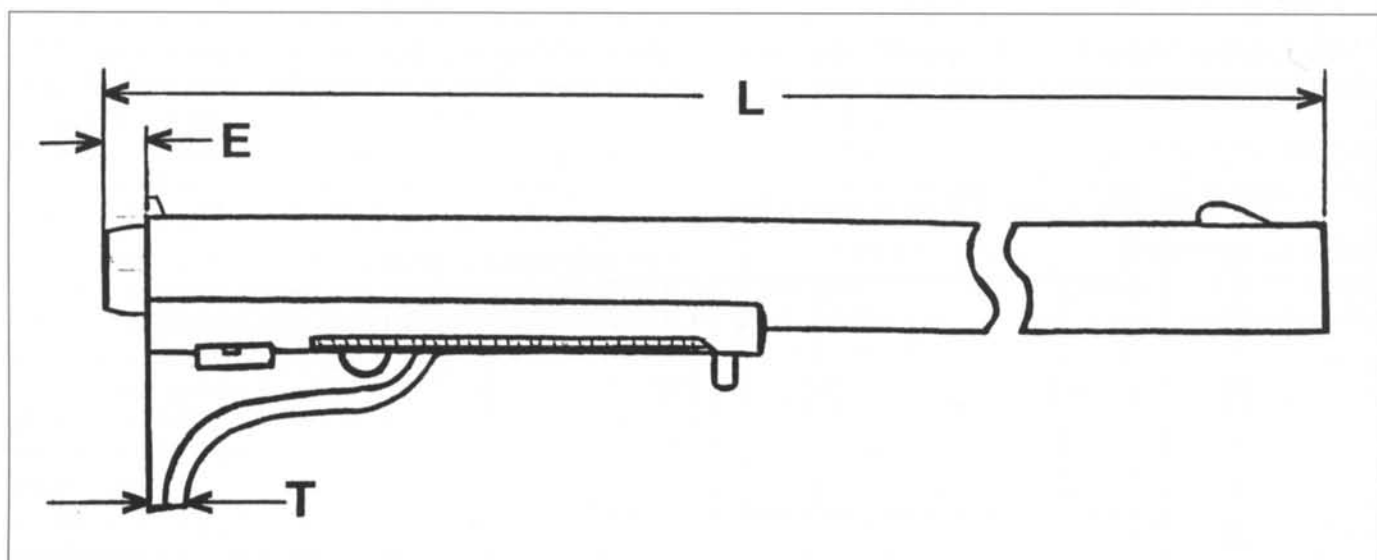


Fig. 7-5 Drawing of Mason type S-Lug Barrel with ejector assembly.

with letters representing dimensions for comparing 1860 Richards-Mason barrels with 1871-1872 Open Top barrels:

Revolver Model	(L) Length	(E) Breech Cone	(T) Lug Tip
1860			
Richards-Mason	8 inches	0.145 inch	0.260 inch
1871-1872			
Open Top	7-1/2 inches	0.30 inch	0.308 inch

The Open Top barrel has an integral rear sight at the breech end. Most barrels are found with the address line-ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA-. The author knows of two specimens with COLT'S PT. F. A. MFG. CO. HARTFORD, CT. U.S.A., and three others with this latter

barrel address, measuring 8 inches long (probably Richards-Mason barrels adapted to 1871-1872 Open Top revolvers).

Some Model 1871-1872 Open Top .44s have short barrels, such as that pictured in Fig. 7-6. The gun is serial numbered 4138, has a 5-3/8-inch barrel and Army-size ivory grips with steel gripstraps. Most of these revolvers were shipped from the factory with 7-1/2 inch barrels, and if shortened, were done so by owners or gunsmiths after they left the factory. Shorter barrels were very popular with lawmen, gunfighters, railroad detectives and others needing to clear leather in a hurry.



Fig. 7-6 Colt Model 1871-1872 Open Top revolver with short barrel and ivory grip.

Both the mechanical details and the superb workmanship of the 1871-1872 Open Top (serial number 4138) suggest that the shorter barrel is factory original. The full barrel address-including the long dashes at each end-remains, the front sight is perfectly set into the top of the barrel the proper distance back from the muzzle, and the muzzle is properly crowned with the

same very slight radius found on the 7-1/2-inch barrels. The color of the metal (age color) at the muzzle, perfectly matches that of other sections where the plating has worn away. The only modification that appears to be non-factory is the chamber bores and the centerfire firing pin. This gun has been altered to accept .44-40 (.44 W.C.F.) cartridges.

CYLINDERS for the 1871-1872 Open Top revolvers (Fig. 7-7) differ from those for the 1860 Richards-Mason (Fig. 7-8) in many respects. With reference to these drawings, and dimensions listed below, most differences become evident.

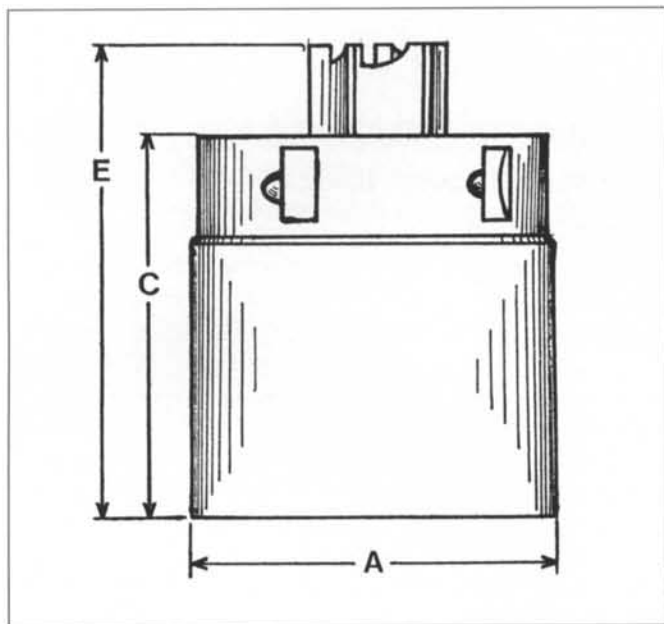


Fig. 7-8 Drawing of rebated 1860 Richards-Mason revolver cylinder

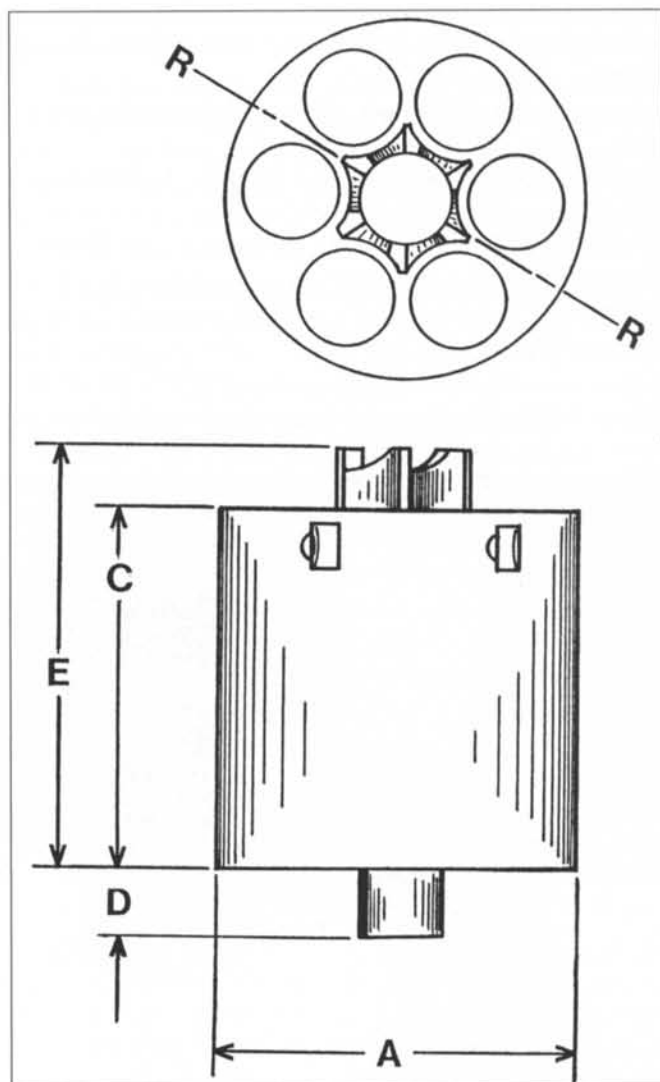


Fig. 7-7 Drawing of Model 1871-1872 Open Top revolver cylinder.

Revolver	(A) Dia.	(C) Chamber	(D) Extension	(E) Length
1860 Richards-Mason	1.622"	1.587"	None	1.846"
1871-1872 Open Top	1.595"	1.614"	0.328"	1.844"

Because of the frame's generous cylinder opening (see dimension [Y] in Fig. 7-9), the barrel's breech cone was increased from 0.145 inch to 0.31 inch (see dimension [E] in Fig. 7-5) and a small diameter extension (see dimension [D] in Fig. 7-7) was added to the front of the cylinder.

The Model 1871-1872 Open Top revolver has a straight round six-shot cylinder, as illustrated in Fig. 7-7. Unlike that of the 1860 Richards-Mason revolver, it has no rebated rear section and a constant diameter

of 1.595 inches (average) is maintained over its entire chamber length of 1.614 inches (average). Note also that the ratchet shaft extends rearward by 0.230 inch on the 1871-1872 cylinder, and 0.252 inch on the Richards-Mason.

Cylinders are numbered to the revolvers and they contain the typical roll-die Navy battle scene engraving found on Colt 1860 Army, 1851 Navy and 1861 Navy models.

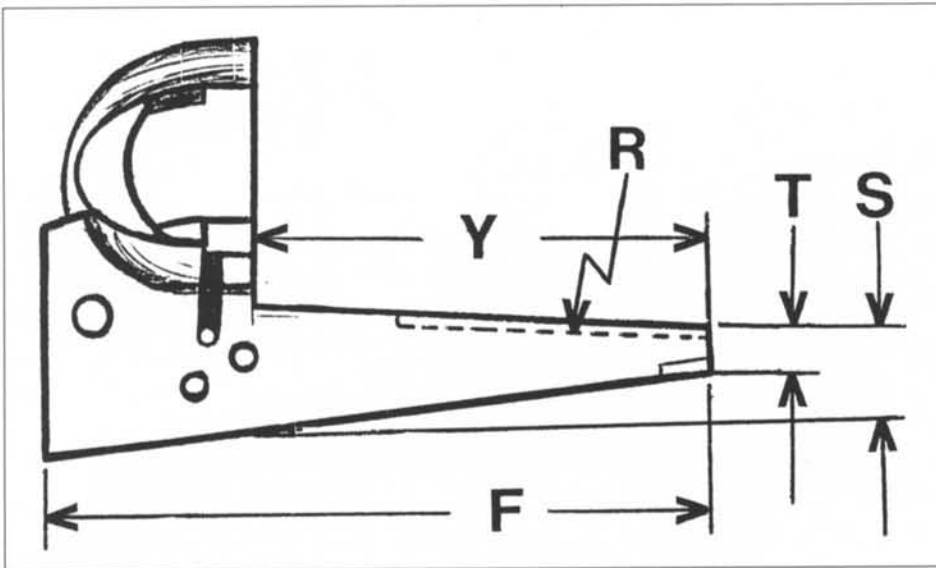


Fig. 7-9 Drawing of Model 1871-1872 Open Top revolver frame.

THE FRAME of the Model 1871-1872 Open Top revolver was the same length as those of the 1860 percussion Army and the 1860 conversions (see dimension [F] in Fig. 7-9), but was an entirely new design, elimi-

nating the step [R] for the front section of the rebated cylinder, and the conversion ring of the Richards-Mason design. Following are comparative dimensions;

Revolver	(T) Tip	(S) Frame*	(Y) Cylinder	(F) Overall
1860 Percussion Army	0.93" Avg.	0.585" Avg.	2.080" Avg.	2.940" Avg.
1860 Richards-Mason	0.90" Avg.	0.540" Avg.	1.840" Avg.	2.940" Avg.
1871-1872 Open Top	0.91" Avg.	0.540" Avg.	2.025" Avg.	2.940" Avg.

(*) Dimension (S) was measured 1-7/8 inches back from tip (T).

(R) Dotted line represents rebated cylinder cut-out in percussion and Richards-Mason models.

Early frames (typically those under serial number 1001) are stamped on the left forward frame with COLTS/PATENT. Frames of later production (typically above serial number 1000) have the two-line patent dates, with dashes stamped in the same location.

THE LOADING GATES on the 1871-1872 Open Top revolvers are smaller than those found on Richards-Mason conversions. Neither the gate body nor the gate hinge extends outward beyond the periphery of the cylinder.

THE CARTRIDGE LOADING CHANNEL through the right recoil shield is not perfectly circular, as is found in the Richards-Mason conversion. The 1871-1872 Open Top loading channel has a small step at its lower side, at that portion of the recoil shield that supports the hinge of the loading gate.

LOADING GATE SPRINGS of early production 1871-1872 Open Top revolvers (typically serial numbers below 1001) are generally internal, but this is not always the case. Serial number 64 has an external gate spring. Beyond serial number 1000, gate springs are external. A narrow notch is cut through the top left of the hammer channel to allow passage of the rimfire firing plate, attached to the left tip of the hammer.

HAMMERS of the 1871-1872 Open Top revolvers are basically the same as those of the Richards-Mason conversions, but the two are not interchangeable. A slight modification was necessary to the inside contour of the hammer for a proper fit to the 1871-1872 Open Top revolver frame. After milling away the proper shape and to the proper depth, on the left front portion of the hammer (T) a rimfire striking plate (F) was riveted in place

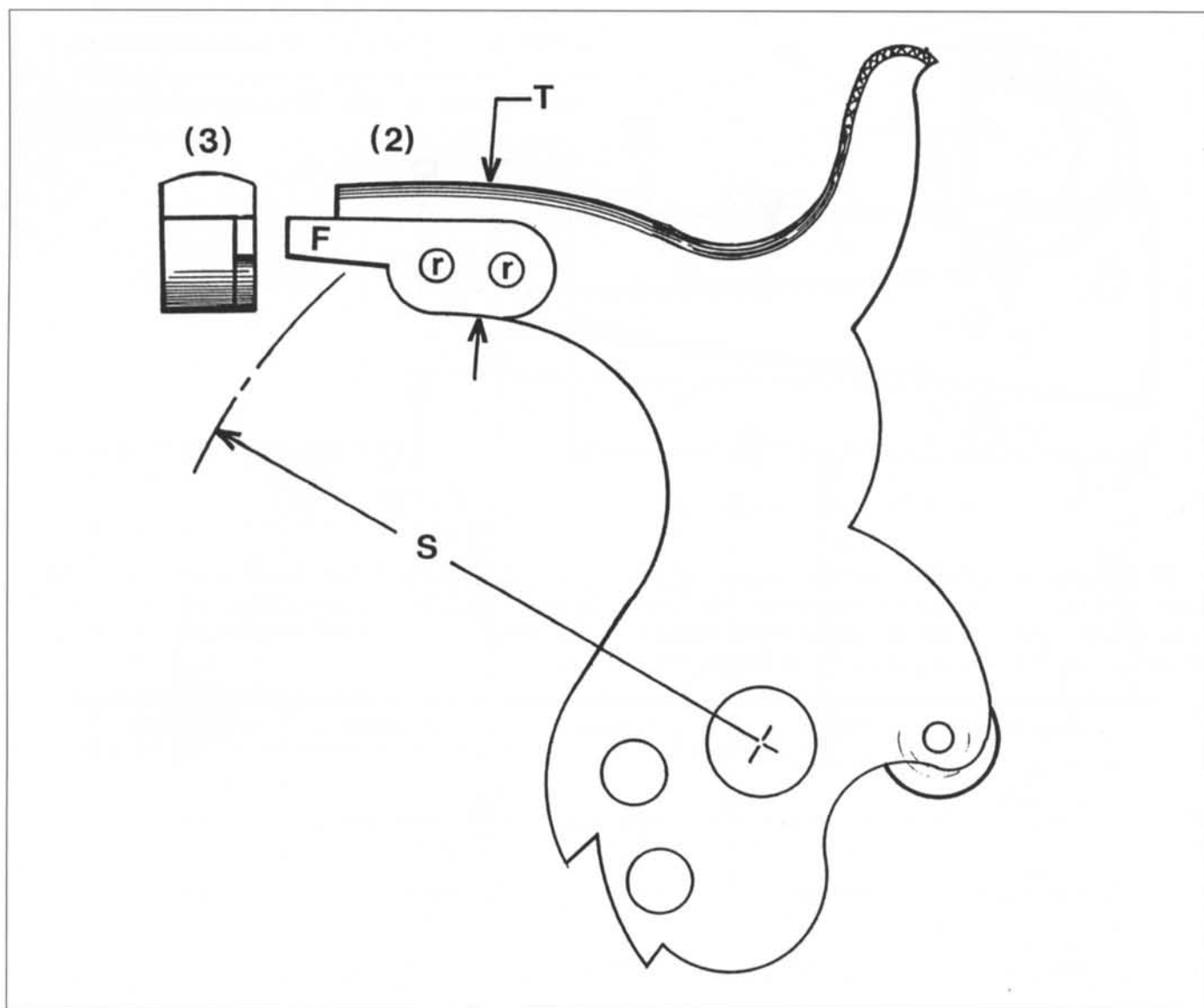


Fig. 7-10 Drawing of rimfire hammer for Model 1871-1872 Open Top revolver.

by two lateral rivets, (r) and (r) in Fig. 7-10. Unlike the rimfire strikers of the Richards-Mason Navy and Small Frame models, which were beveled to a somewhat wedge-shaped striking edge, the face of the Model 1871-1872 Open Top revolver firing pins was left perfectly flat as shown at (3) in Fig. 7-10.

The close-up photograph in Fig. 7-11 shows the detail of the reshaped hammer, the loading channel, loading gate and external gate spring of a late production Model 1871-1872 Open Top revolver. The step in the loading channel can also be seen.

CARTRIDGE EJECTOR ASSEMBLIES of the Model 1871-1872 Open Top revolvers are exact duplications of the Mason types used on the 1860 Richards-Mason

and Colt Navy conversions. The ejector tips are round and the ejector heads have the "target" or concentric ring pattern. The housings are mounted identically in all above models, within a short semicircular channel milled into the right side of the barrel. A mounting stud is partially recessed below the channel and held in position by a screw entered from the left side of the barrel.

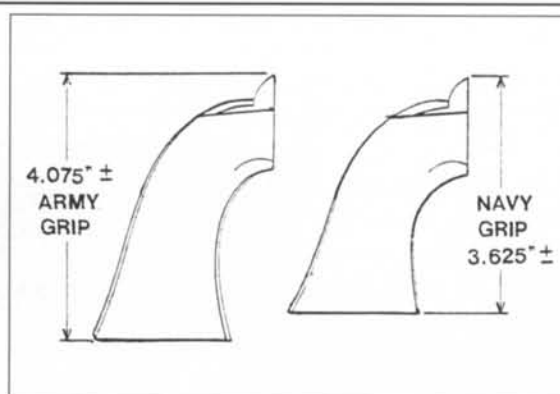
THE INTERNAL LOCK MECHANISM remains virtually the same as that of the 1860 Richards-Mason, and most parts are found to be interchangeable. Keep in mind that two different lengths of mainsprings are used, as determined by the gripstrap sizes incorporated with each individual 1871-1872 Open Top revolver.



Fig. 7-11 Typical rimfire Model 1871-1872 Open Top revolver hammer, firing pin, frame, gate, gate spring, cylinder and breech cone of barrel.

GRIPS AND GRIPSTRAPS offered the most variety throughout production. As a rule of thumb, early production 1871-1872 Open Top revolvers (those with serial numbers less than 1001) were fitted with Navy-size grips and had brass gripstraps, while late production pieces had Army-size grips with steel gripstraps. Specimens having serial numbers between 1001 and 1650 are often found to have Army-size grips with brass triggerguard straps and steel backstraps. Though the foregoing appears to identify standard practice, many variations are encountered. Early production revolvers have emerged with Navy-size grips, and steel gripstraps. Still others have gripstraps of dissimilar materials, such as steel backstraps and brass triggerguard straps (or vice versa). Apparently, those Colt Army, Navy and conversion gripstraps remaining in the factory parts inventory were still being used during the 1872 production period of the 1871-1872 Open Top revolvers.

An early production Model 1871-1872 Open Top revolver (serial number 64) is shown in Fig. 7-12, with Navy-size grip and brass triggerguard and backstrap. The left triggerguard shoulder is stamped 44 CAL, and the left side of the frame is stamped with the COLTS/PATENT



Navy-size grips are shorter, with less downward curvature than Army-size grips, as shown in the illustration. The Navy-size grips are almost identical to the single-piece walnut grips first used on the Single Action Army revolvers of 1873. All three grip assemblies (Navy size, Army size, and Single Action Army size) are directly interchangeable as the grip-strap mounting screw holes of the 1860 Army, 1851 Navy, 1861 Navy and Single Action Army frames are identically positioned.



Fig. 7-12 Colt Model 1871-1872 Open Top revolver with brass Navy-size grip straps, serial number 64. (Author's Collection)

early production frame marking. An uncommon feature of serial number 64 is the external gate spring, generally found on later production revolvers of this type.

As is generally the case with Colt Model 1871-1872 Open Top revolvers with serial numbers between 1 and 100, the assembly number is the same as the serial number. Therefore, no assembly number is stamped at either side of the front triggerguard screw on the underside of the frame. Serial numbers (assembly numbers) of the Model 1871-1872 Open Top revolver (64) are found stamped on the barrel lug, frame, trigger-

guard, butt of the backstrap, cylinder, gate and underside of the cylinder arbor.

ASSEMBLY NUMBERS on higher serial numbered guns are found on the underside of the frame, the cylinder arbor and on the rear of the loading gate. Typically, the assembly numbers are matching on these three parts, but have no relationship with the revolver's serial numbers.

ENGRAVING, SPECIAL GRIPS and CASING of the Colt 1871-1872 Open Top revolvers was not a standard factory practice. Of the limited number of engraved



Fig. 7-13 Plain factory ivory grip (right); checkered ivory grip by dealer or outside contractor (left).



Fig. 7-14 Engraved and plated Colt Model 1871-1872 Open Top revolver, serial number 2396, with checkered ivory grip. (Courtesy Francis E. "Bud" Firth, photo by C.D. Terry and Francis E. "Bud" Firth)

specimens known, most of the work was performed by dealers, such as Schuyler, Hartley and Graham for the United States trade, and Francis DeGress for the Mexican market. These dealer-engraved Open Top .44s are extremely rare, but rarest of them all would be an engraved revolver that could be documented as of factory origin.

Factory standard grips for the Colt Model 1871-1872 Open Top revolvers were single-piece varnished walnut in Navy size for the early production guns, and Army-size for revolvers with four digit serial numbers. Select burl walnut, genuine ivory and in rare instances, ebony, was available on special order.

Factory ivory grips, such as pictured on the right in Fig. 7-13, were typically plain and highly polished. Those with checkered panels (Fig. 7-13, left) or relief carvings were generally the work of dealers, exporters or their contractors. Other special grips, such as carved ivory and "tiffany" style metal grips were sometimes supplied and installed by gun dealers.

A finely engraved and full plated specimen is pictured in Fig. 7-14. This 1871-1872 Open Top revolver is serial numbered 2396, with assembly number 1466, and it retains 100 percent crisp engraving and roll-die "Navy Battle" cylinder scene. The scroll vine motif, checkered

ivory grip and the wavy line and dot borders around the cylinder are all believed to be the work of Nimschke.

The revolver is of late production, having Army-size gripstraps, two-line patent date frame stamping and external gate spring. Ninety percent of the original plating remains.

Colt Model 1871-1872 Open Top revolvers were seldom factory cased, and of those few known, all were presentations. In some instances, cased revolvers were supplied by dealers, in either English or American-made cases with cartridge blocks or sections for holding full boxes of cartridges. Such original cased Open Top revolvers are extremely rare.

FINISH applied to the Colt Model 1871-1872 Open Top revolvers was typically blued with color case-hardened frames and hammers. Steel gripstraps were generally blued, while those of brass were left plain or plated in nickel or silver. Full nickel plating was not uncommon. Many Open Top .44s are found with either excellent traces or generous amounts of original nickel remaining. A very limited number of presentation-grade engraved specimens are known with full silver plating and a combination of silver and gold plating.

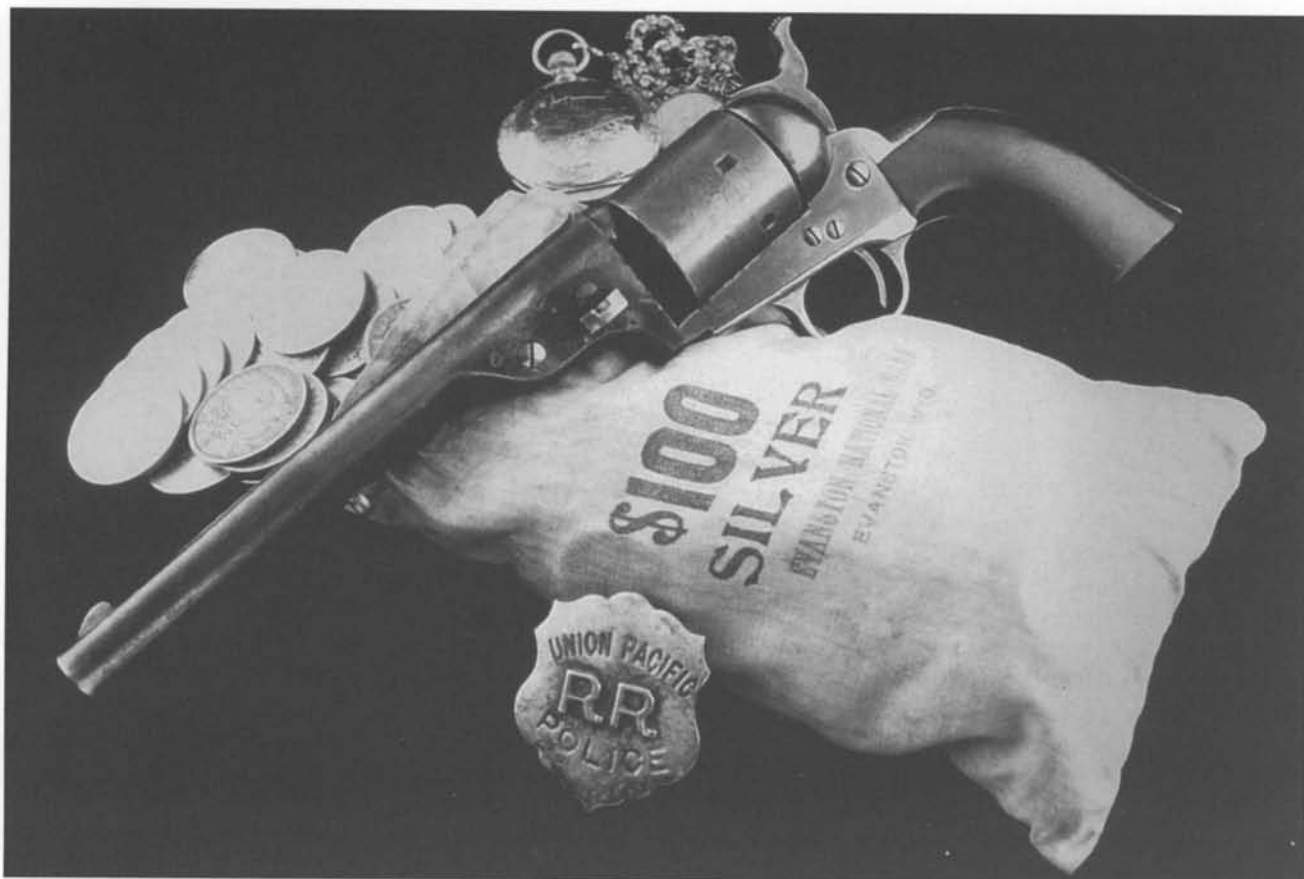


Fig. 7-15 Colt Model 1871-1872 Open Top revolver, serial number 421, marked U.P.R.R. and AM EX CO 2636. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 7-16 Backstrap markings of U.P.R.R. and AM EX CO 2636 Open Top revolver. (Courtesy Francis E. "Bud" Firth)

HISTORICAL SPECIMENS of the Colt Model 1871-1872 Open Top revolvers are in great demand among collectors, dealers and large museums containing exhibits of firearms and Western memorabilia.

The 1871-1872 Open Top .44 caliber rimfire revolver pictured in Fig. 7-15 is serial numbered 421, with as-

sembly number 390. It is an early production gun, with the COLTS/PATENT frame stamping, Navy-size grips and brass triggerguard and backstrap. One of a known quantity purchased by the Union Pacific Railroad, this revolver's backstrap is inscribed U.P.R.R.CO'S EXPRESS. A later stamping AM EX CO 2636 was added directly above,

as pictured in Fig. 7-16. The AM and EX CO can be seen double stamped, with the first attempt cutting into the PR of the original UPRR inscription. The gun was finished in blue, with color case-hardened hammer and varnished walnut grips.

STRETCHED BARRELS are often found on the 1871-1872 Open Tops. This is because of the fact that many of these revolvers were shipped to Mexico and South America, where the original barrels were cut shorter. In later years, when these guns became quite valuable

in their full 7-1/2-inch barrel length, basement mechanics would weld on the front section of a cheaper 1860 Army barrel, ream the bore of the entire (lengthened) barrel, and solder or force-fit a new rifled liner into the bore. Once completed and finished, these stretched barrels are difficult to detect. One must look for a discoloration of the metal at the point of the weld, a seam at the breech or muzzle and incorrect rifling or bore measurements. More on this subject follows with Fig. 7-38.

Colt Prototype "Baby Open Top" Revolvers

SERIAL NUMBER RANGES	Low single digit serial numbers
CALIBER	.32 and .38 rimfire and .38 centerfire
BARREL LENGTHS	4-1/2 inches and 5-1/8 inches
BARREL ADDRESS	ADDRESS COL.SAML COLT NEW-YORK U.S. AMERICA
EJECTOR HOUSING	Small frame Mason patent type
EJECTOR ROD TIP	Round
EJECTOR HEAD	.32, concentric rings; .38, checkered
BARREL WEDGE	Late type, without spring
CYLINDER	6-shot, straight round, (.32 caliber) 6-shot, rebated (.38 caliber) Both have roll-die Stagecoach scenes
CONVERSION RING	None used
LOADING GATE SPRING	.32 none; .38 external
FRAME TYPE	Open top Pocket Model size
FRAME MARKINGS	None
HAMMER SCREW	Small size
HAMMER SPUR KNURL	Fine cross-hatch within open border
STOCK (GRIP)	Varnished select walnut or ebony
BACKSTRAP	Plated brass, Pocket Model size
TRIGGERGUARD	Plated brass, Pocket Model size
OTHER MARKINGS	Some .38 specimens have British proofs
FINISH	Blued with case hardened hammer and frame. Some .38 caliber specimens are full silver or full gold plated
SPECIAL NOTES	Experimental Open Top models are known to exist in .32 and .38 caliber, but they are generally found to be incomplete, without markings and in the white.

Apparently, the Colt Company intended to test both the British and American markets for possible sales of Open Top metallic cartridge revolvers in smaller calibers, and a handful of samples (prototypes) were produced by their model shop for this purpose. Basically, these prototypes can be separated into two individual models of which the author estimates that less than ten were ever manufactured.

The first model was a six-shot .32 caliber rimfire revolver with a straight round cylinder. It had a 5-1/8-inch round S-lug barrel with a cone-type front sight, and a

V-notch rear sight dovetailed at the breech end. This model had no loading gate; consequently, no gate spring was provided.

The second model differed from the first in that it had a rebated cylinder, chambered for the .38 Webley (380 British) centerfire cartridge, a 4-1/2-inch barrel and a loading gate with external spring. The two known revolvers of this type have British proof marks and are full plated, one in silver and the other in gold. (See *The Book of Colt Firearms* by Sutherland and Wilson, page 234.)



Fig. 7-17 Colt Model 1871-1872 .32 caliber "Baby Open Top" revolver, serial number 2. (Courtesy Francis E. "Bud" Firth)



Fig. 7-18 Right side of "Baby Open Top" revolver number 2. (Courtesy Francis E. "Bud" Firth)

Both models incorporated the Mason patent type cartridge ejector assembly and the long breech cone, typical to the Open Top revolver barrels. One of the .32 caliber models has no serial number. It could possibly have been intended to be number 1.

The .32 caliber "Baby Open Top" revolver shown in Figs. 7-18 and 7-19 is serial numbered 2, and is one of only two known to exist. The serial number is stamped in the usual Colt Open Top revolver locations: bottom of the barrel lug, frame, triggerguard and backstrap,

and on the cylinder below COLTS/PATENT. It is also found marked three times in pencil within the grip-strap openings of the select walnut grip.

As can be seen in Fig. 7-18, there is no loading gate on this revolver; however, the face of the right-hand recoil shield has been fully machined to receive one. Also, the right side of the frame has been drilled and tapped for mounting an external gate spring. It is not known whether a gate and spring were originally in place on this revolver or not.



Fig. 7-19 Left side of "Baby Open Top" revolver number 2. (Courtesy Francis E. "Bud" Firth)

The 5-1/8-inch barrel was made in its original metallic cartridge form for this .32 caliber "Baby Open Top" revolver, with its S-shaped lug contour following that of the larger 1860 Richards-Mason and .44 caliber Open Top models. A V-notch rear sight was dovetailed into the breech end and the single-line barrel address -ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA- was roll-die impressed from muzzle to breech.

The left side of the number 2 "Baby Open Top" prototype revolver is pictured in Fig. 7-19, offering a more complete view of the S-lug contour, and showing the Mason cartridge ejector assembly mounting screw. This particular revolver has 100 percent of its stage-coach cylinder scene remaining, along with more than 95 percent original color case hardening and 20 percent high gloss Colt factory blue.

The .32 caliber straight round cylinder measures 1.244 inches in diameter by 1.411 inches long, and was also specially fabricated as an original metallic cartridge part. Because of its relatively short overall length, as compared to the generous cylinder opening of the frame, a long breech cone was required at the breech end of the barrel. Also, note that no COLTS/PATENT or two-line patent dates appear on the front left side of the frame, and the .32 caliber "Baby Open Top" revolvers do not contain British proof marks.

It is believed that both the .32 caliber and .38 caliber "Baby Open Top" prototype revolvers were produced after the manufacture of .44 caliber rimfire Open Top revolvers had commenced, possibly well after the issuance of the 1872 Mason patent. In any event, they

could not have been earlier than the Mason cartridge extractor design (early 1872), or later than the Colt New Line Pocket (solid frame) revolvers in .30 caliber, .32 caliber, .38 caliber and .41 caliber rimfire (W. Mason U.S. Patent No. 155,095, issued on September 15, 1874).

Keep in mind that Colt already had many Model 1862 Police and Pocket Navy conversions available in both .38 rimfire and .38 centerfire, as well as 3-1/2 inch round barrel cartridge revolvers, and all these were open top models. Then, production of the .41 caliber solid frame four-shot Colt "Clover Leaf" began in 1871 (C.B. Richards U.S. Patent No. 119,048, issued on September 19, 1871), soon to be followed by the .41 caliber solid frame five-shot Colt "House Pistol" in 1874.

Needless to say, the production of .32 caliber and .38 caliber "Baby Open Top" revolvers never advanced beyond the few prototype models produced in the Colt factory model shop. Because of the limited number produced and their unique quality of workmanship and final finish, these "Baby Open Top" revolvers are perhaps among the rarest and most desirable metallic cartridge handguns ever manufactured by the Colt factory.

The Colt Model 1871-1872 Open Top revolver pictured in Fig. 7-20 is a recipient of the National Rifle Association's Silver Award. The gun is serial numbered 4 at the rear of its loading gate, while the standard Colt number locations were left plain. Pictured directly below the revolver, is the NRA Silver Medal. With nearly



Fig. 7-20 NRA Silver Award Colt Model 1871-1872 Open Top revolver, serial number 4. (Courtesy Francis E. "Bud" Firth, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 7-21 Colt Model 1871-1872 Open Top revolver, serial number 6. (Courtesy Francis E. "Bud" Firth, photo by C.D. Terry and Francis E. "Bud" Firth)

100 percent original blue and color case-hardening remaining, this fine revolver is classed as a prototype.

The straight round cylinder measures 1.589 inches in diameter by 1.616 inches long, and is chambered for the .44 caliber Smith & Wesson Russian centerfire cartridge. The hammer bridge at the top of the recoil shield has a single central hole to pass the centerfire firing pin, which is attached to the face of the hammer.

As typically found on early production Open Top .44s, the single-piece walnut grip is of Navy size, and both gripstraps are brass. There are no frame markings, the cylinder is not numbered, but all other major parts are numbered. Other characteristics include concentric rings on the ejector head, a round tip on the ejector rod, external loading gate spring, and a short bordered knurl on the hammer spur.

Another centerfire prototype Colt Model 1871-1872 Open Top revolver is pictured in Fig. 7-21. The gun is serial numbered 6 on the rear of the gate and on all major parts, while normal serial number locations are left plain. No serial number is stamped into the periphery of the cylinder.

The straight round cylinder measures 1.60 inches in diameter by 1.615 inches long, and is chambered for the .44 caliber Smith & Wesson Russian centerfire cartridge. The bridge at the top of the recoil shield has a central hole to clear the centerfire firing pin attached to the hammer face. The barrel is stamped with the U.S.AMERICA address line, while the front left side of the frame remains unmarked. This revolver contains small British proof marks.

The single-piece walnut grips are of Navy size, and both gripstraps are silver plated brass. One hundred percent of the Navy Battle cylinder scene remains, as does 99 percent of the original blue and color case-hardening.

Most other characteristics are not entirely as one would expect for an early production 1871-1872 Open Top revolver. The ejector rod tip is round, the ejector head has a cross-hatch pattern, the hammer screw is the larger size, the hammer spur has a fine long checkered pattern within a border, and the loading gate has an external spring.

A more true-to-form early production Colt Model 1871-1872 Open Top revolver is pictured in Fig. 7-22,

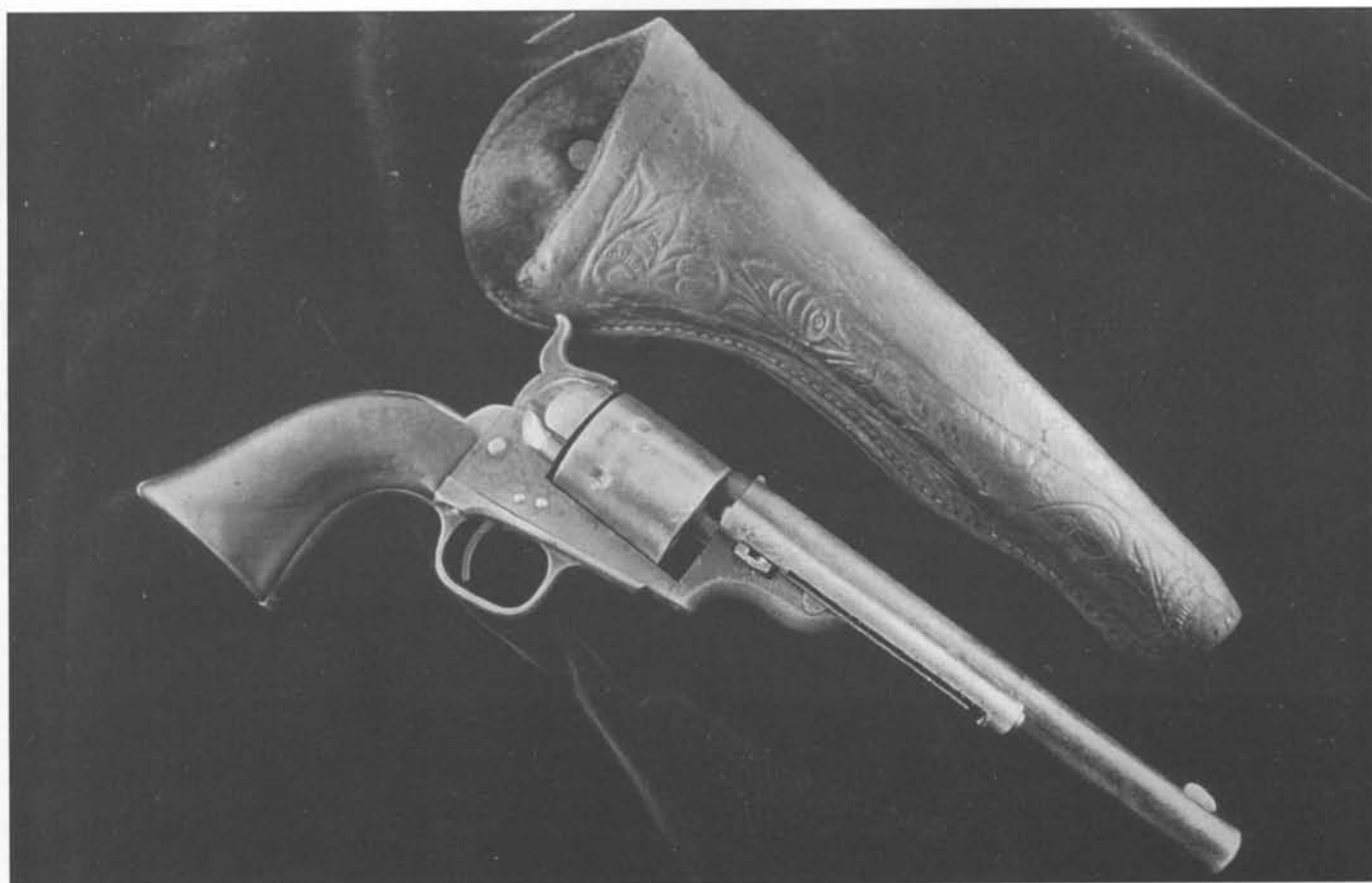


Fig. 7-22 Colt Model 1871-1872 Open Top revolver, serial number 34. (Courtesy Dow and Russelle Heard)



Fig. 7-23 Colt Model 1871-1872 Open Top revolver, serial number 41. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)

with its form-fitted "California" open top style holster. The gun is serial numbered 34, its assembly number is the same, and the 34 is stamped in small characters on the frame, gripstraps, cylinder, gate, barrel, wedge and cylinder arbor. The burl single-piece walnut grip is also numbered to the gun.

This revolver is chambered for the Stetson .44 Henry rimfire cartridge, has a 7-1/2-inch barrel with the standard U.S.AMERICA barrel address, COLTS/PATENT frame stamping and Navy size grip. Both gripstraps are steel and the ejector head is missing.

The right-hand holster is constructed of medium weight russet skirting leather and is decorated with a wide floral border design. No section has been cut out for exposing the triggerguard once the revolver is holstered. The gun must therefore be withdrawn by the grip alone.

The 1871-1872 Open Top revolver shown in Fig. 7-22 had no finish remaining, while that in Fig. 7-23 retains nearly 100 percent of its original blue and color case-hardening. This gun is pictured with its form-fitted half-flap holster and is serial numbered 41 in all standard locations. The unnumbered cylinder has a crisp and full

scene, and is chambered for the Stetson .44 Henry Flat cartridge (.442-inch maximum diameter). The cylinder measures 1.60 inches in diameter by 1.612 inches long and the exact length of the barrel is 7-5/16 inches. This gun, which is also an early production revolver with Navy-size grip and steel gripstraps, exhibits all the standard characteristics for its period of manufacture. The round ejector rod tip, concentric ring pattern on the ejector head, small hammer screw, internal loading gate spring and the COLTS/PATENT frame stamping are all typical for this low serial numbered revolver.

The holster is right-handed and equipped with a brass button closure for the flap. Made of russet skirting leather, this rather plain holster has a narrow leather strip sewn for the full length of its main seam, terminating in a completely sewn closed toe. Under the flap is found the popular S-shaped opening for exposing the trigger and a portion of the guard.

The 1871-1872 Open Top revolver serial number 47 is the subject of Fig. 7-24, pictured with a "California" pattern S-curve open top holster and cartridge belt. Again, the assembly number is the same as the serial number and 47 is found stamped on the barrel, frame,



Fig. 7-24 Colt Model 1871-1872 Open Top revolver, serial number 47. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)

triggerguard, backstrap, gate and the custom single-piece burl grip. The cylinder is unnumbered and chambered for the .44 caliber rimfire Henry cartridge. The grip is Navy size and both gripstraps are made of steel. This rare revolver came from a New Orleans cavalry family and is a unique specimen in that the backstrap is cut for a detachable stock. It is believed to be the only known Open Top with this feature.

Early production features include an internal gate spring and the COLTS/PATENT frame stamping. The Mason-type cartridge ejector housing is typical to this model, but on this revolver the tube is lined with a brass sleeve. The ejector rod has the usual round tip and the ejector head contains the concentric rings pattern.

The holster is made of black skirting leather, hand-decorated with a simple leaf pattern and left open at the toe. The lined gun belt contains loops for the .44 caliber cartridges.

Figure 7-25 shows a Colt Model 1871-1872 Open Top revolver, serial number 54 and assembly number 665, with Navy-size ivory grip, holster and gun belt. All characteristics are typical of early production, such as brass gripstraps, COLTS/PATENT frame stamping, caliber (.44 rimfire Henry) and 7-1/2-inch barrel.

The "California" pattern S-shape open-top holster is made from black lightweight skirting leather with sewn-in muzzle plug. Decorated only with two conchos, the holster is mounted on a black leather gun belt with .44 caliber cartridge loops.

The Colt Model 1871-1872 Open Top revolver shown in Fig. 7-26 is serial numbered 88, with assembly number 26, and is pictured with a "Mexican Loop" pattern holster, gun belt and a box of Stetson .44 Henry Flat cartridges. The serial number appears on the barrel lug, frame, triggerguard and backstrap, while the assembly number 26 is found on the cylinder, gate, frame and cylinder arbor. The ivory grip is Navy size and both gripstraps are made of brass. The COLTS/PATENT frame stamping and all other characteristics are typical of early production Open Top .44s.

The holster is from a later period; it has two skirt loops, a high upper profile with an abrupt recurve over the trigger. Made of medium weight skirting leather, this right-hand holster is mounted on a much older gun belt with .44 caliber cartridge loops.

Many of the Model 1871-1872 Open Top revolvers were sold in Mexico and South America, where they saw hard use. Serial number 387, assembly number 331, was such a gun and is pictured in Fig. 7-27. Another gun



Fig. 7-25 Colt Model 1871-1872 Open Top revolver, serial number 54. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 7-26 Colt Model 1871-1872 Open Top revolver, serial number 88. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)

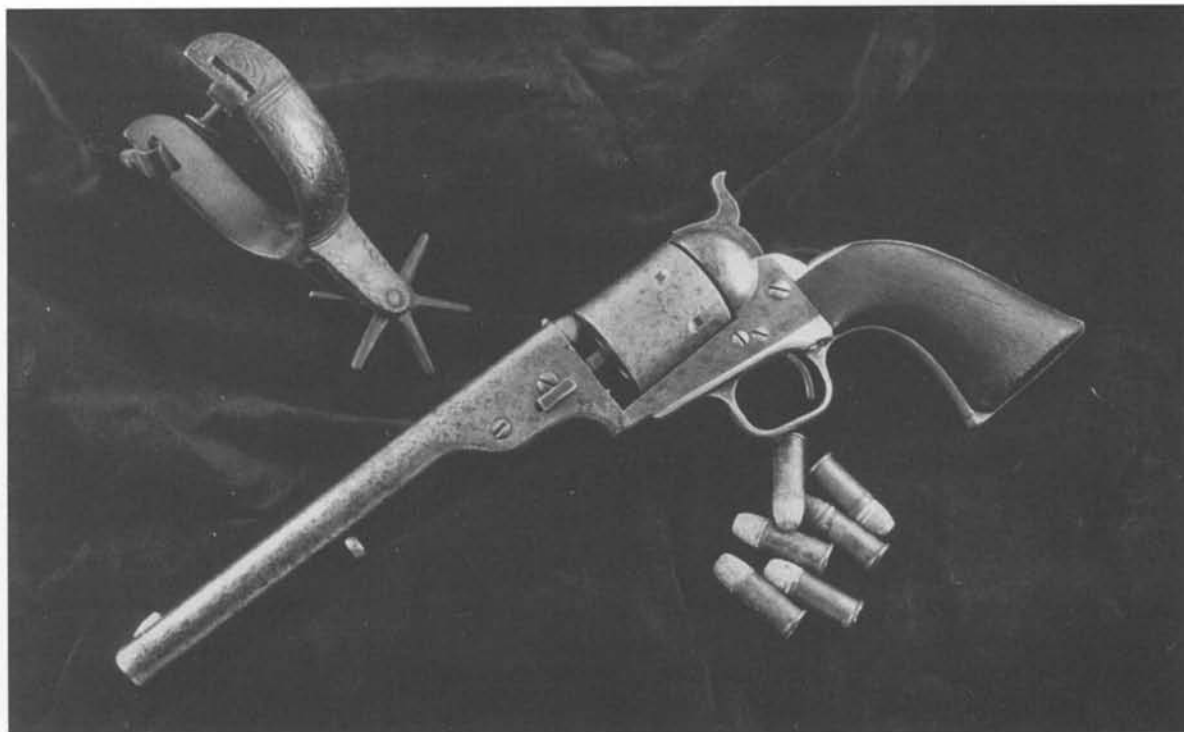


Fig. 7-27 Colt Model 1871-1872 Open Top revolver, serial number 387. (Courtesy Francis E. "Bud" Firth)



Fig. 7-28 Colt Model 1871-1872 Open Top revolver, serial number 411. Property of U.P.R.R. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 7-29 Colt Model 1871-1872 Open Top revolver, serial number 461. (Courtesy Francis E. "Bud" Firth)

of early production, it has a Navy-size grip, brass grip-straps and the COLTS/PATENT frame stamping.

Another well-used Model 1871-1872 Open Top revolver is pictured in Fig. 7-28, with a double loop holster, gun belt, a very good poker hand and a few .44 caliber Henry cartridges. The gun is serial numbered 411, with assembly number 382, and, with the single exception of the external gate spring, demonstrates all of the early production characteristics.

The single-piece walnut grip is of Navy size, both grip-straps are brass and the frame is stamped COLTS/PATENT.

The "Mexican Double Loop" pattern holster with cartridge belt is made from medium-weight russet skirting leather, has a deep body and features a high-top profile with a somewhat abrupt recurve over the triggerguard. The stitching of the main seam continues through the toe. A pressed border of dots was applied to the front top and rear of the holster, while the loops are bordered with thin lines.

A full nickel-plated Colt Model 1871-1872 Open Top revolver is pictured in Fig. 7-29. This fine gun is serial numbered 461, retains 100 percent Navy Sea Battle cylinder scene and well over 90 percent of the original nickel plating. The Navy-size grip is checkered ivory

and is factory original. Both the triggerguard and backstrap are made of iron.

The straight round cylinder measures 1.598 inches in diameter by 1.615 inches long, is numbered to the gun, and is chambered for the .44 caliber rimfire Henry cartridge with a .442-inch maximum diameter. The frame is stamped COLTS/PATENT, and the gate spring is external. The assembly number of this revolver is 528.

Pairs of Colt revolvers with consecutive serial numbers are nearly impossible to locate in any early type or model, and in the Model 1871-1872 Open Top revolvers they are virtually nonexistent. The pair of Colt Open Top .44s pictured in Fig. 7-30 are serial numbered 522 and 523, with assembly numbers 490 and 460 respectively. Both revolvers are identical in basic specifications, but because of extensive use, some dimensions are found to vary slightly, as do remaining markings.

Both have barrels measuring exactly 7-7/16 inches in length, Navy-size genuine ivory grips, brass grip-straps, external gate springs, large hammer screws, short bordered hammer spur knurl and ejector heads with concentric rings. Both cylinders are chambered for the .44 caliber Henry rimfire cartridge with a .442-inch maximum case. The slight differences found are illustrated in the table on page 301 as follows:

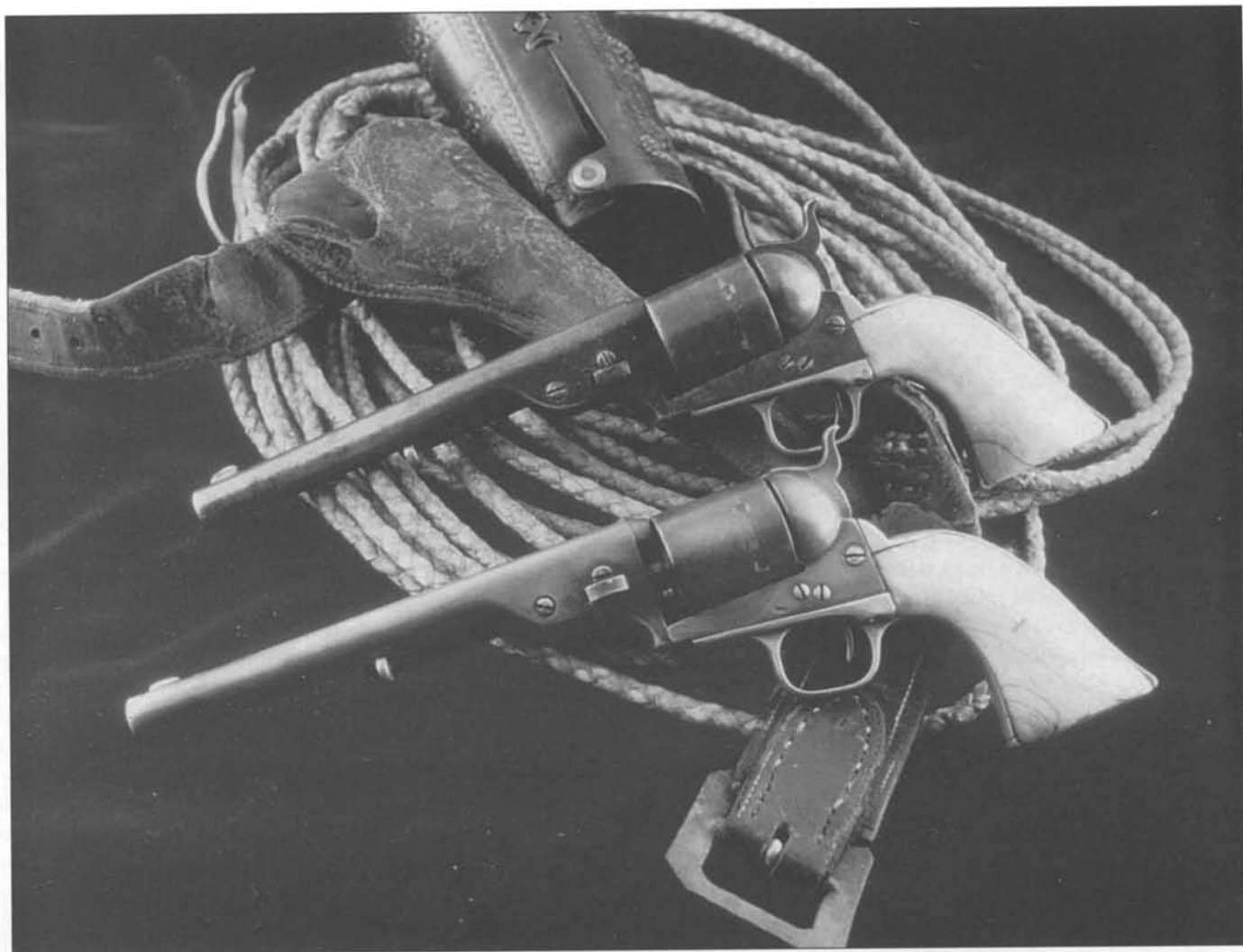


Fig. 7-30 Consecutively numbered Colt Model 1871-1872 Open Top revolvers, serial numbers 522 and 523. (Courtesy Francis E. "Bud" Firth, photo by C.D. Terry and Francis E. "Bud" Firth)

CHARACTERISTIC	SERIAL NUMBER 522	SERIAL NUMBER 523
CYLINDER DIAMETER	1.577 inches	1.596 inches
CYLINDER LENGTH	1.60 inches	1.616 inches
EJECTOR ROD TIP	Flat	Round
LOADING GATE SPRING	Replaced	Original
FRAME STAMPING	None remaining	COLTS/PATENT
BARREL ADDRESS	Restamped	Original
CYLINDER SCENE	80 percent	10 percent



Fig. 7-31 Left side view of Colt Model 1871-1872 Open Top revolver, serial number 1496. (Courtesy Francis E. "Bud" Firth)

With the extensive hard use evidenced and the few minor honest repairs taken into consideration, this consecutively numbered pair of 1871-1872 Open Top revolvers is extremely rare and very valuable.

Common Late Production Changes

Several changes took place between early production and late production 1871-1872 Open Top revolvers. The revolver pictured in Figs. 7-31 and 7-32 is serial

numbered 1496, with assembly number 472, and is a late production specimen with more than 95 percent original factory blue and color case-hardening. The cylinder is numbered to the gun (496) and contains a full crisp Navy Battle scene.

The first notable change is that of the frame stamping. Rather than the earlier COLTS/PATENT marking, these revolvers with four-digit serial numbers are stamped with the two-line patent dates, -PAT.+JULY.25,1871,-/PAT.JULY.2,1872.-. The barrel address re-



Fig. 7-32 Right side view of Colt Model 1871-1872 Open Top revolver, serial number 1496. (Courtesy Francis E. "Bud" Firth)



Fig. 7-33 Colt Model 1871-1872 Open Top revolver, serial number 1642, nickel-plated, with carved ivory grip. (Author's Collection)

mained the same, as did the locations of serial numbers and assembly numbers.

The second major change is found in the size of the grip and associated gripstraps. Rather than the Navy size generally used on early production revolvers, those between serial numbers 1001 and 1650 have Army-size grips with brass triggerguards and steel backstraps, such as those found on serial number 1496.

With reference to Fig. 7-32, the gate spring is shown as a flat external leaf spring attached to the right side of the frame by a small machine screw. External gate springs are found on many of the early production 1871-

1872 Open Top revolvers, and all late production guns with four-digit serial numbers.

A full nickel-plated Colt Model 1871-1872 Open Top revolver with carved ivory grip is pictured in Fig. 7-33. Serial numbered 1642, with assembly number 677, this gun was possibly one of many shipped to Mexico through Francis DeGress. Certainly the relief carved and encircled Mexican eagle of the right grip panel suggests this to have been the case.

This revolver's Army-size gripstraps are both made of steel, and it was from this approximate serial number to the end of production that steel Army-size gripstraps



Fig. 7-34 Colt Model 1871-1872 Open Top revolver, serial number 1848, nickel-plated, with ivory grip. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)



Fig. 7-35 Colt Model 1871-1872 Open Top revolver owned by the U.S. Cartridge Co., serial number 2729. (Courtesy Francis E. "Bud" Firth, photo by C.D. Terry and Francis E. "Bud" Firth)

were considered standard. All other late production features are incorporated, such as the external gate spring and two-line patent date frame stamping.

Approximately 70 percent of the original nickel plating remains. Unfortunately, when age brown patina sets in where plating has flaked away, photography portrays the revolver to be in a much poorer condition than it actually is. This specimen is in very good condition, with crisp markings and a full cylinder scene.

Another full nickel-plated Colt Model 1871-1872 Open Top revolver, with more original plating remaining and a genuine ivory grip, is pictured in Fig. 7-34. This gun, serial numbered 1848 with assembly number 787, contains all late production features, including Army-size grip, steel gripstraps, two-line patent dates frame stamping, external gate spring and large hammer screw. It is in fine overall condition.

Once the property of the U.S. Cartridge Co., the near mint-condition Colt Model 1871-1872 Open Top revolver pictured in Fig. 7-35 is stamped at the top of its backstrap, U.S.C.CO. The gun is serial numbered 2729, with assembly number 1527, and chambered for the Stetson .44 Henry rimfire cartridge with a .442-inch maximum diameter.

This excellent revolver, pictured on a pair of chaps by Robert T. Frazier of Pueblo, Colorado, and accom-

panied by a U.S. Cartridge Co. broadside and several U.S. Cartridge Co. Henry cartridges, demonstrates its rich blue and case-hardening colors. Also apparent are the Army-size grip, blued steel gripstraps and the two-line patent dates on the frame.

The straight round cylinder measures 1.598 inches in diameter by 1.612 inches long, has chambers of 0.442-inch bore and a full crisp Navy Sea Battle roll-die engraved scene. The hammer knurl is the short type within a border, the hammer screw is the large size, and the ejector rod has a round tip, and a head with the concentric ring pattern. All numbers are matching throughout, while the cylinder was never numbered.

Originally full nickel plated, the Colt Model 1871-1872 Open Top revolver in Fig. 7-36 is serial numbered 3119, has assembly number 107, and is fitted with a genuine Army-size ivory grip. Only very slight traces of the original nickel remain; the balance of the gun has a light gray color. Though light in areas, the cylinder has a full scene, and all markings on the gun are crisp and clear. As would be expected of this serial number (3119) both gripstraps are steel, the frame stamping has the two-line patent dates, the hammer screw is the large size and the gate spring is external.

A rather large chip was broken away from the right-hand ivory grip panel, but fortunately the original piece



Fig. 7-36 Colt Model 1871-1872 Open Top revolver, serial number 3119, with ivory grip. (Author's Collection)

was recovered and glued back into place. No effort was made to hide this repair, and it can be plainly seen in Fig. 7-36.

The serial number 3440 is found on a late production Colt Model 1871-1872 Open Top revolver that experienced considerable use in the American West. Originally blued, but presently having a smooth age brown patina, this gun exhibits matching serial numbers throughout, with assembly number 678 located in the usual places. This late revolver, which has a weak, but

full cylinder scene, contains all the proper features: Army-size single-piece walnut grip, steel gripstraps, two-line patent date frame stamping, large hammer screw and external gate spring. The hammer spur contains the long knurl with underlined border.

The Colt Model 1871-1872 Open Top revolver pictured in Fig. 7-38, has a stretched barrel that is so well done that it would normally go unnoticed. Under (10X) magnification, there is absolutely no trace of a replaced barrel liner from either the muzzle or breech end of the barrel.



Fig. 7-37 Colt Model 1871-1872 Open Top revolver, serial number 3440. (Author's Collection)



Fig. 7-38 Colt Model 1871-1872 Open Top revolver, serial number 4975, with ivory grip and stretched barrel. (Author's Collection)

The gun is serial numbered 4975, matching throughout including the cylinder (numbered 975), and the assembly number is 429. Late production features include Army-size ivory grip, steel gripstraps, external gate spring, large hammer screw, two-line patent dates frame stamping and a long hammer knurl within an underlined border. The cylinder has a weak, but full Navy Sea Battle scene.

The picture in Fig. 7-38 gives indication that the right-hand ivory grip panel has been repaired by inserting a non-matching ivory wedge in from the butt. This is not the case. The mismatch of the ivory grain is nothing more than the core of the tusk from which the grip was fabricated.

The barrel address was what first gave indication that the gun might have a stretched barrel. L.S.A.M.L COLT NEW-YORK U.S.A.MERICA- was stamped to the usual depth common to these revolvers, while -ADDRESS CO was exceptionally weak. Further examination, under magnification, revealed that -ADDRESS CO was engraved and that the typeface didn't even match that of the balance of the address line. Had this basement mechanic been a little more knowledgeable, he could have possibly put this one over by simply removing all but the traces of the original barrel address and properly crowning the muzzle.

Yet another modification was started with this revolver, but never completed. All six chambers of the cylinder have been rebored to accept the .44-40 (.44 W.C.F.) cartridge, but the hammer and the bridge across the top of the hammer channel were never converted to centerfire. This would have been a simple matter, and the author can think of no reason for this not to have been completed.

The reason for elaborating on the stretched barrel so extensively is because there are quite a few of these very rare revolvers in circulation that have stretched barrels, and an equal number of unethical individuals that would have the unsuspecting average collector believe that they are original. In purchasing these very rare and valuable antique firearms, looking them over carefully and consulting with the experts in the field can not be over-emphasized.

The highest serial number assigned to the 1871-1872 Open Top is estimated to be in the high 5000 range; however, the highest serial number examined by the author is 5210. As a point of interest, the highest number examined with a Navy-size grip with brass triggerguard and steel backstrap is 1127.

The production of the Colt 1871-1872 Open Top revolvers came to an abrupt halt with the introduction of the solid-frame Colt Single Action Revolvers. U.S. Ordnance Department testing of the Single Action revolvers began in November of 1872, and the initial government order for 8,000 revolvers was issued on July 23, 1873. The first 1,000 were received on November 28, 1873, while civilian shipments started in September of that year, according to *A Study of the Colt Single Action Army Revolver* by Graham, Kopek and Moore. Keeping in mind the sample Single Action Army revolvers sent to the Colt London agency on June 23, 1873, we can safely speculate that for all practical purposes, mid-1873 marked the end of production of the Colt Model 1871-1872 Open Top revolvers. Sales continued until inventory of completed 1871-1872 Open Top revolvers was exhausted.

Chapter 8

Small Frame Colt Conversions

The study of Colt conversions is complicated and often difficult to understand, because of the lack of published information and accurate records. For the large frame models, some government records still exist that provide valuable information on both military and civilian Richards and Richards-Mason conversions. But, for the small frame models, records other than incomplete factory ledgers and day journal entries are virtually nonexistent. Variations in construction are numerous, including barrel shapes and lengths, cylinder and frame types, the use or exclusion of cartridge ejectors and loading gates, screw sizes and spring types, and differences in numbering and markings. When it appears that standards had been established, more exceptions to the rule are found in the small frame conversions than in Colt's large frame series.

There are five basic models of small frame Richards-Mason conversions: [1] The Model 1862 Police conversion, which was supplied in 4-1/2, 5-1/2 and 6-1/2-inch barrel lengths, with both ejector assembly and loading gate. Earlier rimfire specimens are found to have fluted cylinders, while round rebated cylinders are found on most later centerfire models; [2] The 4-1/2-inch Octagonal Barrel Pocket Navy conversion, which has no ejector assembly and is found with or without a loading gate. Extremely rare variations are known to exist with 3-inch barrels, and a very low serial numbered specimen has an experimental, or special order ejector assembly; [3] The Turned Round Barrel Pocket Navy conversion, which has a 4-1/2, 5-1/2 or 6-1/2-inch barrel that was turned round from a percussion octagonal barrel. This model was produced with an ejector assembly and a loading gate. [4] The 3-1/2-inch Round Cartridge "S" Lug Barrel conversion, better described as The Newly Made Round Cartridge Barrel Model with S-contour lug, which is the most common of all Colt conversions. It was produced without an ejector assembly and, in most cases, without a loading gate. A limited number of specimens are known to have loading gates;

[5] The Round Cartridge "S" Lug Barrel With Ejector, which is a longer barrel version of [4] listed above. It was supplied with a 5-1/2 or 6-1/2-inch barrel, ejector assembly and loading gate. Each of these small frame models will be explained in greater detail as this chapter progresses, but first those specifications and parts that are common to all must be investigated.

A large quantity of unused, and in many instances, unnumbered percussion parts remained in the Colt factory parts inventory, well into the 1870s. A sizable portion of these parts were those produced for the small frame Colt percussion revolvers, namely the Model 1849 Pocket Revolver, the Model 1862 Police Revolver and the Pocket Navy Revolver. Many of the small frame parts were directly interchangeable between the three models, and were combined with newly fabricated conversion parts to produce the five basic models of .38 caliber small frame conversions.

Police conversions, as well as the large frame models, were produced concurrently with Colt Metallic Cartridge Revolvers, such as the Model 1871-1872 Open Top Frontier, the Open Top .22 caliber Pocket Revolver and the Cloverleaf House Pistol, during the 1870-1871 period. The Single Action Army Revolver was added to Colt line in the 1873-1874 period, as were the New Line Revolvers, and by 1877-1878 the Double Actions appeared. With all this, the production of other conversions continued until the percussion parts inventory became depleted. Sales of small frame conversions, particularly the 3-1/2-inch Round Cartridge Barrel Model continued into the early 1880s.

SERIAL NUMBERS are found in three separate ranges: [1] 35500 to 47000 Range—The original percussion range of the concurrently manufactured Models 1862 Police and Pocket Navy revolvers between approximately 1867 and 1873, that were converted to Metallic Cartridge; [2] 1 to 19000—The Model 1862 Police and Pocket Navy revolvers that were produced as Original Metallic Cartridge models from unused and unnumbered percus-

sion parts from factory inventory with newly manufactured conversion parts; [3] 273000 to 328500—The Model 1849 Pocket Model revolvers from which frames (re-milled with two-plane base to accommodate a rebated cylinder), gripstraps and some internal parts were used with newly manufactured conversion parts to produce conversions or cartridge revolvers. Most of the high-numbered 3-1/2-inch Round Cartridge Barrel models are from this category. Some will even be found with .31 CAL or .31 CAL with 36 over-stamped on the trigger-guard shoulder.

YEARS OF MANUFACTURE are difficult to accurately establish because of the incomplete nature of

1870 through 1873, when cartridge handgun production was only 7,700 to 11,500 pieces annually, and probably again at times between 1877 and 1879 when production fell from 57,443 to 17,752 (see chart of Fig. 8-112). Once all machining was completed, assembly could have taken place at any time, preferably as orders were received. Further speculation places the Round S-Lug Cartridge barrel models at a later period, which will be discussed in detail within the text for that model.

Based on the foregoing, following is an estimate of periods of manufacture and quantities produced in each category:

CATEGORY	CONVERSION DESCRIPTION	ESTIMATED YEARS OF MANUFACTURE	ESTIMATED QUANTITY PRODUCED
1-A	Model 1862 Police (Fluted cylinders only)	1871-1872	2,500
1-B	Model 1862 Police (Round rebated cylinder only)	1872-1874	5,500
2	4-1/2" Octagonal Barrel Pocket Navy Conversion	1873-1875	4,000-4,800
3	Turned Round Barrel Pocket Navy Conversion	Spotted 1873-1874	1,200-2,000
4	3-1/2" Round Cartridge "S" Lug Barrel Revolver	1874-1875, 1877-1879	6,500
5	Round Cartridge "S" Lug Barrel With Ejector Revolver (see text)	1877-1879	1,000

existing records. Shipping dates are available, but information pertaining to actual production dates is sketchy. We know that .38 caliber rimfire conversions were being produced by 1871 or probably earlier. The Colt Factory Day Journal of July 1, 1871, to July 28, 1873 (see Appendix), lists one 4-1/2-inch Police Breech Loading Pistol sold to Col. D.M. Clun on August 10, 1871, for \$11.75. Then, on September 1, 1871, six 5-1/2-inch Police Breech Loading Revolvers were sold to the dealer, Francis DeGress at \$12.15 each, less 10 percent, less 5 percent. This same Day Journal also lists two police pistols that were altered (converted) to breech loaders on October 24, 1871, at \$4.00 each, one for Josiah Howe and the other for K.W. Jacobs.

Prudent business managers could not allow machinery to be set up, or valuable production space to be occupied for ten years to produce 20,000 to 25,000 small frame conversions. The Colt factory was capable of manufacturing more than 90,000 cartridge handguns a year, as it demonstrated in 1876. Therefore, it would seem that all necessary machining for the small frame series of conversions was done from

BARRELS are found in various lengths and shapes, which will be outlined under each separate category of small frame conversions. Basically, the shapes are [1] Full octagonal; [2] Turned round from full octagonal; [3] Round from the Model 1862 percussion Police Model; [4] Solid "S" Lug round barrel, made as a cartridge barrel in 3-1/2-inch length without ejector or gate; and [5] Solid "S" Lug round barrel, made as a cartridge barrel in 5-1/2 and 6-1/2-inch lengths, with thin lug, ejector and gate.

The solid "S" Lug round cartridge barrel was produced as a cartridge barrel in 3-1/2, 5-1/2 and 6-1/2-inch lengths after the Model 1862 Police and Pocket Navy percussion barrel inventory was depleted, estimated at sometime during 1874. The 3-1/2-inch length is by far, the most common.

The Turned Round Barrel was originally a full octagonal barrel from the Colt Pocket Navy percussion revolver and is found in 4-1/2, 5-1/2 and 6-1/2-inch lengths. They were turned round not as the barrels of the Colt .44 caliber Dragoons, but in the style of a percussion Second Model Bacon revolver, with



Fig. 8-1 Single line New York barrel address.

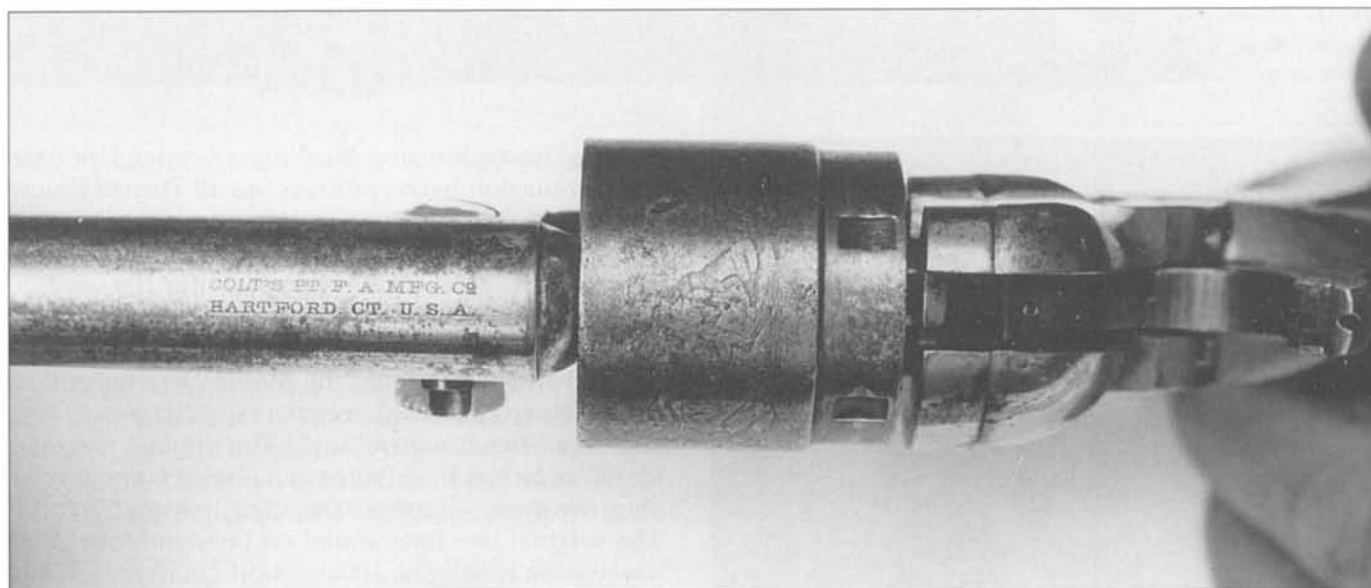


Fig. 8-2 Two line Hartford barrel address.

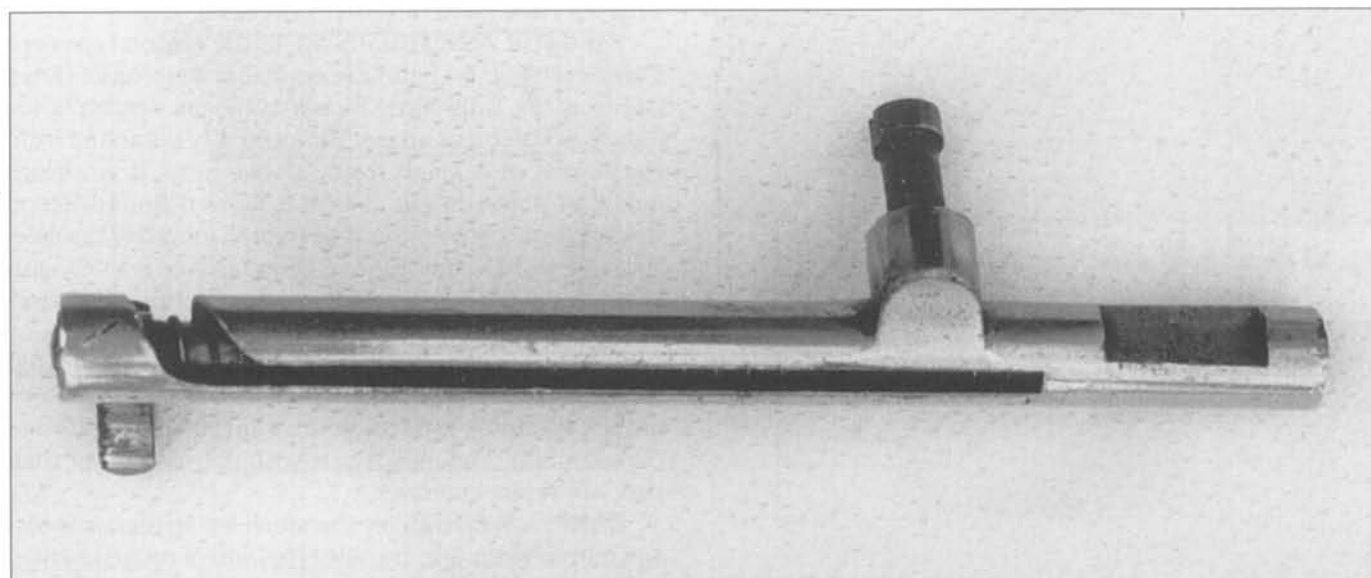


Fig. 8-3 Colt small frame Mason cartridge ejector assembly.

Fig. 8-4 Mason ejector assembly mounted on Turned Round Barrel Colt Pocket Navy conversion, serial number 12272.



Fig. 8-5 Ejector head of small frame Mason ejector.

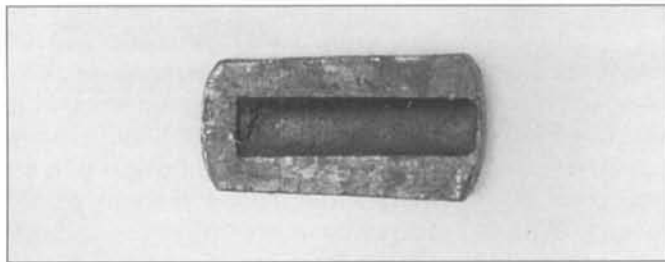


Fig. 8-6 Wedge from Richards-Mason Pocket Navy conversion.

rounded barrel housing. Machining removed the original percussion barrel address, so all Turned Round Barrels were restamped COLT'S PT.F.A.MFG.CO/HARTFORD CT.U.S.A. This late barrel marking places these barrels in the same production period as the solid "S" Lug round cartridge barrels.

BARREL ADDRESSES are of four types. [1] The original single line found on Model 1862 Police and Pocket Navy percussion revolvers, ADDRESS COL. SAML COLT NEW-YORK U.S.AMERICA; [2] The original two lines found on Model 1862 Police and Pocket Navy percussion revolvers, ADDRESS SAML COLT/HARTFORD CT.; [3] The original two lines found on London Model 1862 percussion revolvers, ADDRESS SAML COLT/LONDON; and [4] The later two lines found on the Turned Round Barrels and the Mason "S" Lug Round Cartridge barrels, COLT'S PT.F.A.MFG.CO/HARTFORD CT.U.S.A. All barrel addresses read from muzzle to breech.

EJECTOR ASSEMBLIES are of the Mason type (see Chapter 6, Fig. 6-1) and are a smaller version of those used on the Colt Navy Richards-Mason conversions. Figure 8-3 pictures an ejector assembly detached from the barrel of a small frame conversion; it is shown again, in place, in Fig. 8-4 on a Turned Round Barrel Pocket Navy conversion. The overall length of the ejector tube is 3-1/2 inches, and the rear face is even with the rear flat of the barrel lug, when mounted. The ejector tip is almost even with the rear end of the tube.

The design of the ejector rod head is the same as that of the large frame Richards-Masons, a target pattern more commonly known as the concentric ring design (see Fig. 8-5). The only heads with patterns other than this, are replacements.

BARREL WEDGES for the small frame Richards-Mason conversions are the new type, with a round channel milled partially across the top to clear the head of the wedge screw, but not far enough to allow removal of the



Fig. 8-7 Converted Colt Model 1862 Police fluted cylinder.



Fig. 8-8 Converted Colt Pocket Navy round rebated cylinder.

wedge without first removing the wedge screw (see Fig. 8-6). Wedges are found both with and without numbers, and quite often those with numbers will not match the numbers of the gun.

CYLINDERS of the small frame Colt conversions fall into two categories: [1] The five shot Model 1862 fluted cylinder; and [2] The five shot Pocket Navy round rebated cylinder. The fluted cylinder are found on early production 1862 Police models with serial numbers in the

four-digit or fewer range. Often, they are found on Police conversions with internal gate springs and small hammer screws, but again this is not always the case. At some point during the 1871-1872 period, it was decided that the fluted cylinder shown in Fig. 8-7 was not as strong as the round rebated cylinder in Fig. 8-8, and thereafter, with only few exceptions, the round rebated cylinder was to be used on all subsequent small frame conversions.

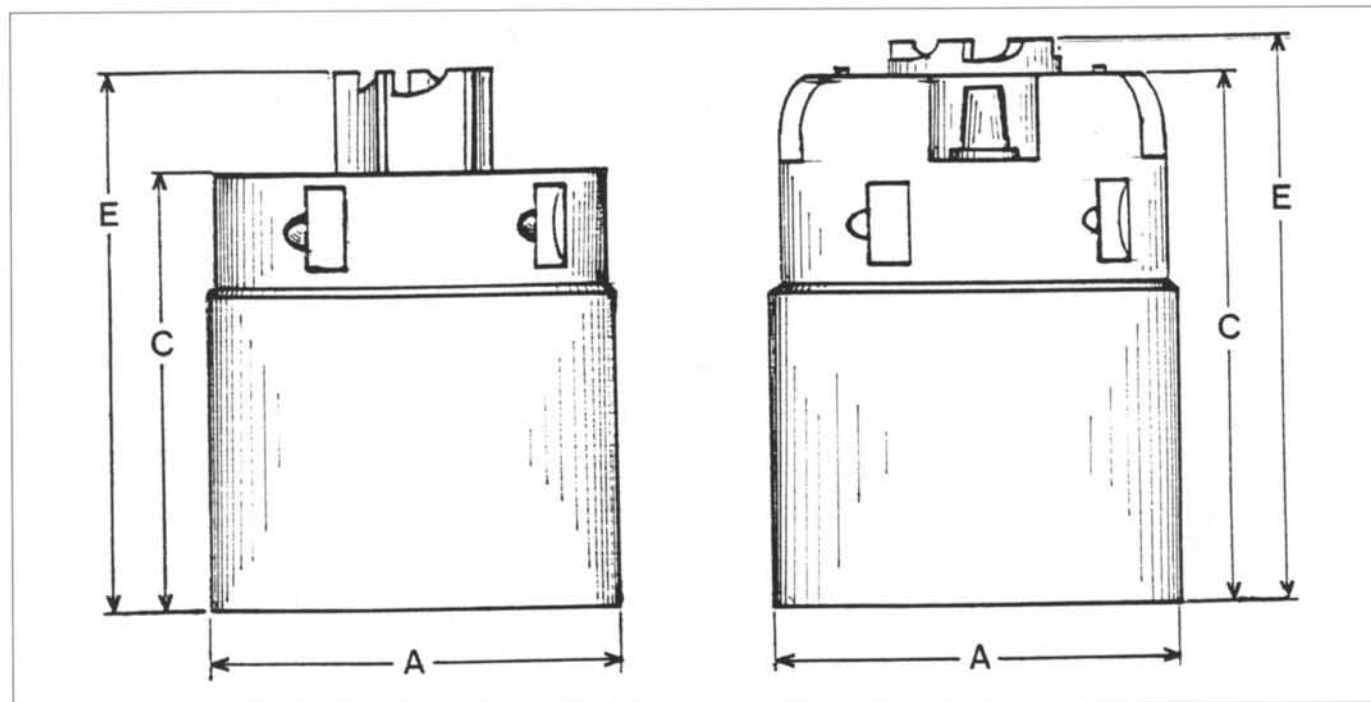
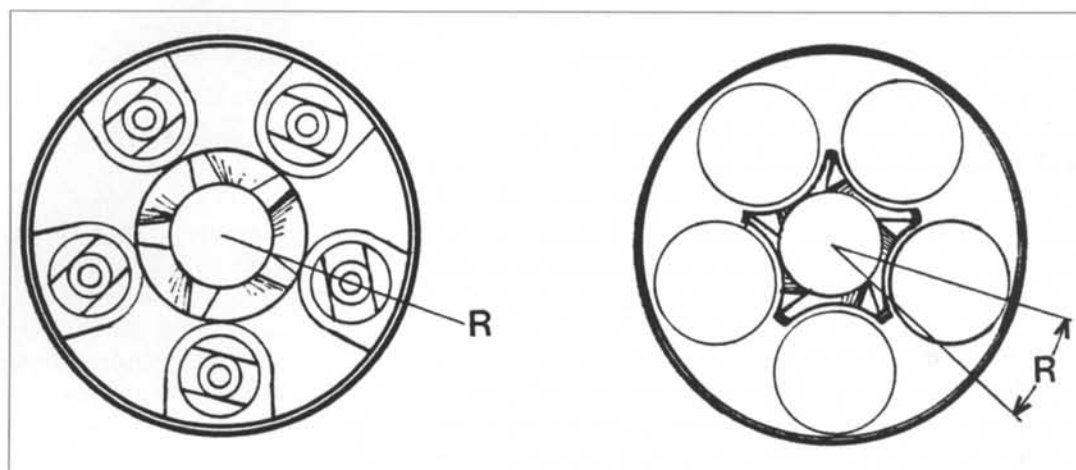


Fig. 8-9 Drawings of converted (left) and percussion (right) round rebated Colt Pocket Navy cylinders (side views).

DIMENSION	PERC. RND. REBATED CYLINDER	CONV. RND. REBATED CYLINDER	PERC. FLUTED CYLINDER	CONV. FLUTED CYLINDER
A	1.305" ±.002"	1.305" ±.002"	Not Applicable	Not Applicable
C	1.595" ±.002"	1.315" ±.002"	1.595" ±.002"	1.315" ±.002"
E	1.703" ±.002"	1.620" ±.002"	1.703" ±.002"	1.620" ±.002"

NOTE: Dimension (A) of the 5-shot fluted cylinders could not be measured because of the flute opposite each chamber. The center to outside measures the same on round and fluted cylinders.

Fig. 8-10 Drawing of percussion and converted five-shot round rebated cylinders (rear view) illustrating ratchet advance of conversion



The percussion cylinders of the Model 1862 Police and the Colt Pocket Navy revolvers were remachined to accept the .38 caliber cartridges of the small frame conversions. No new cylinders were fabricated until percussion cylinders in the factory inventory were depleted, or in the case of converting completed percussion revolv-

ers, when the percussion cylinders were damaged beyond use.

The percussion cylinders were converted to cartridge in the same manner as were those of the Colt Model 1851 and Model 1861 Navy conversions. The nipple end of the cylinder was cut down, as seen in the drawing on the left in Fig. 8-9, leaving only the stem or shaft that contained the ratchet. The ratchet stem was faced off to the new dimension (E) and each chamber was bored to the proper size to receive the cartridge casing. The ratchet shaft was then counter-bored for cartridge head clearance, and new ratchet teeth were formed. Figure 8-10 is a drawing of the rear of both a percussion cylinder (left) and a converted cylinder (right). The ratchet teeth of the percussion cylinder are nearly in line with the center of each chamber, but because of the amount of metal removed from the ratchet shaft for cartridge rim clearance, it became necessary to advance the ratchet teeth by approximately 23 degrees, as indicated by angle (R).

Because of this ratchet advance and the reduction in the size of the ratchet teeth, it was necessary to replace the single finger percussion hand (Fig. 8-11, A) with one having two fingers (B). As the rearward motion of the hammer causes the hand to rise, the top finger

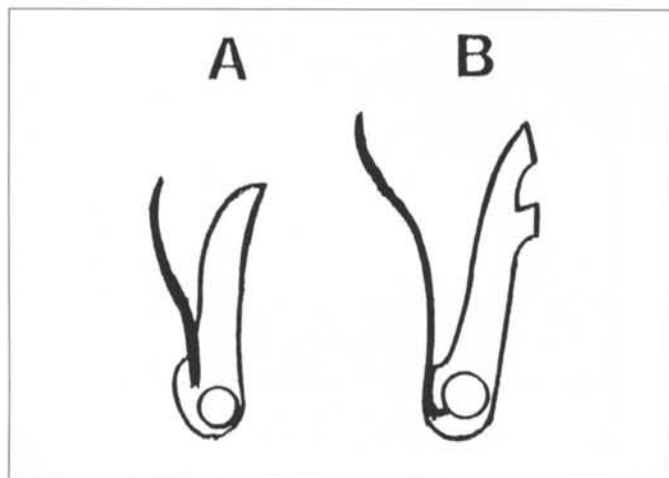


Fig. 8-11 Drawings of percussion hand (left) and conversion hand (right) for small frame Colt revolvers.

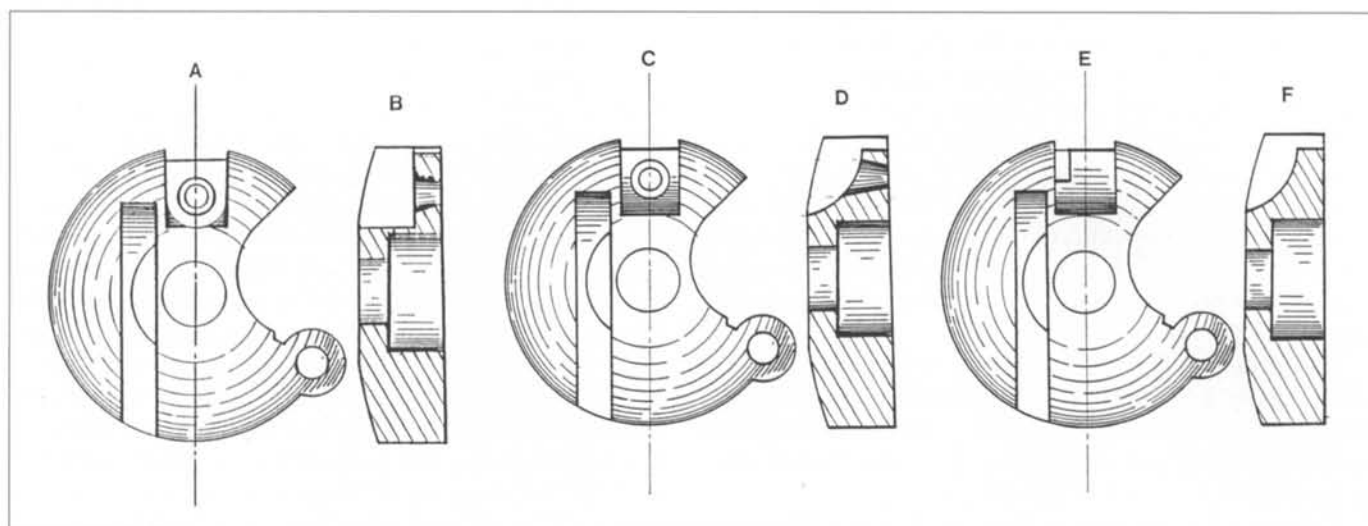


Fig. 8-12 Drawings of centerfire (A, B, C and D), and rimfire (E and F) Richards Type IV conversion rings.

engages with the ratchet, causing the cylinder to rotate. As the cylinder continues its rotation, the top finger and shallow ratchet tooth will disengage, at which time the lower finger engages with the next ratchet tooth and completes the rotation. This type of two-fingered hand was used in all single action Colt revolvers which followed.

CONVERSION RINGS used with the small frame Colt conversions were of the same mechanical design as those

found on the Model 1851 and Model 1861 Navy Richards-Mason conversions, but of a smaller size. For sake of classification, the small frame conversion rings will be identified as the Type IV, and will be broken down into four separate categories. Category 1 is pictured at 'C' and 'D' in Fig. 8-12. This is the type of conversion ring required for the centerfire hammer with a screw-in cone-type firing pin (see Fig. 8-20). Though this type of firing pin was seldom used on small frame conversions, enough are known

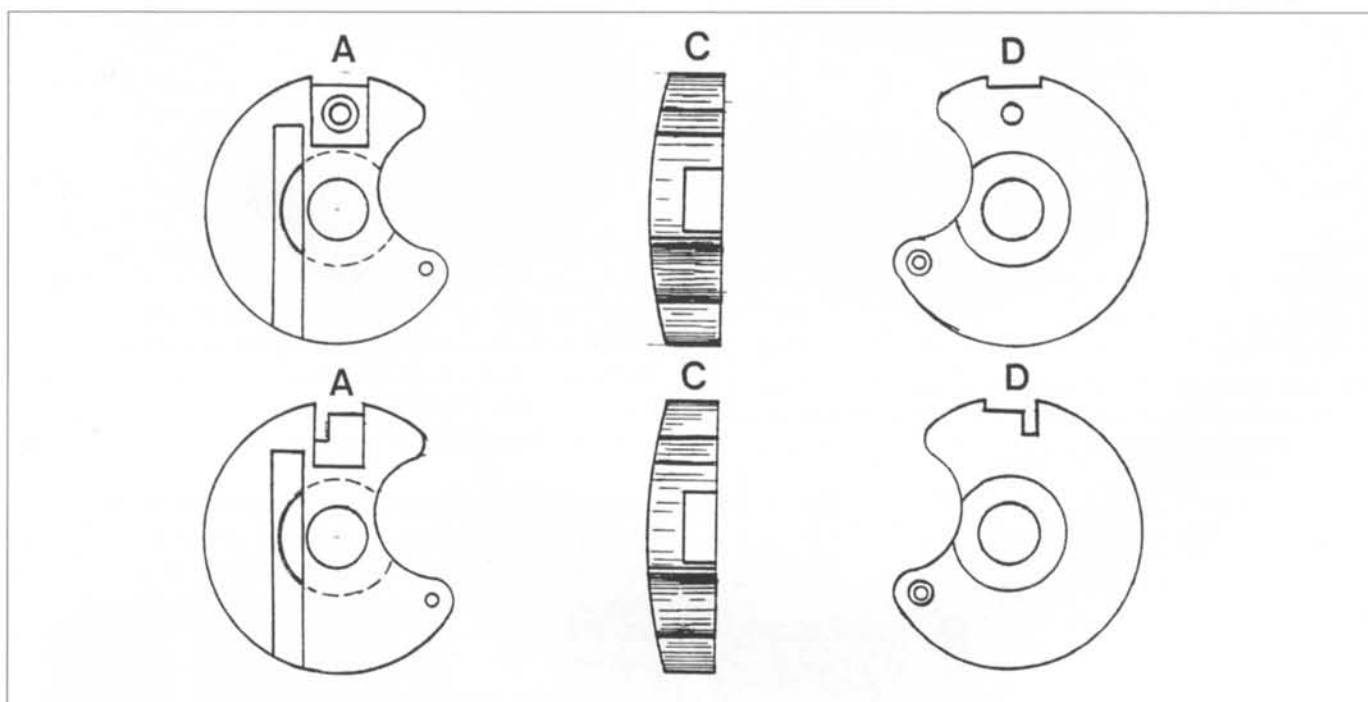


Fig. 8-13 Drawings of Richards Type IV conversion rings for Colt small frame conversions without gates: centerfire (top), rimfire (bottom).

to make the illustration and description necessary. Two examples are serial number 10559, a 5-1/2-inch solid "S" Lug Cartridge Barrel model with loading gate and ejector, and serial number 5009, a 5-1/2-inch Pocket Navy Model with loading gate, ejector and British proof marks of the small cartridge size.

Category 2 is pictured at 'A' and 'B' in Fig. 8-12, and is that type of conversion ring used with the wedge-type centerfire firing pin (see Fig. 8-17). This is the firing pin type commonly used on Colt small frame Richards-Mason centerfire conversions.

The Category 3 conversion ring is illustrated by 'E' and 'F' of Fig. 8-12. It is the type used with all rimfire Colt small frame Richards-Mason conversions. It is designed for the flat, hardened, sheet firing pin inlet at the left side of the hammer tip (see Figs. 8-18 and 8-19).

Category 4 is pictured in Fig. 8-13 (A, C and D) and is the conversion ring used on all Colt small frame Richards-Mason conversions not incorporating a loading gate. The upper drawings are for centerfire hammers, and the lower are for rimfire. These conversion rings have no provisions for a loading gate hinge or gate spring. Both corners of the loading channel have a generous arc, and the ring is held in place by the cylinder

arbor and a small screw which, on the previous three conversion rings, would be the gate screw.

As illustrated by drawings 'C' and 'C' in Fig. 8-13, all Type IV conversion rings have a flat front surface and a convex rear surface. The rear surface usually contains the assembly number, which is also found on the frame, under and obscured by the triggerguard, and on the rear of the loading gate (when one is used). Figure 8-14 shows the rear surfaces of two conversion rings with no provisions for loading gates. The one to the left (assembly number 377) is for rimfire, while the other (assembly number 7059) is for centerfire. Both rear surfaces are convex.

The Type IV conversion rings measure 1.275 inches $\pm$.005 inch in diameter (one was found to be 1.284 inches), 0.255 inches $\pm$.005 inch thick at periphery and 0.350 inch thick at central portion around the arbor hole. The depth of the center counter-bore (cylinder arbor recess) is 0.230 inch.

A top view of the same two conversion rings is shown in Fig. 8-15, looking in from the loading channels. Here, the pronounced arcs at either side of the loading channels are well illustrated. All Type IV conversion rings produced without provisions for loading gates will be formed in this manner.

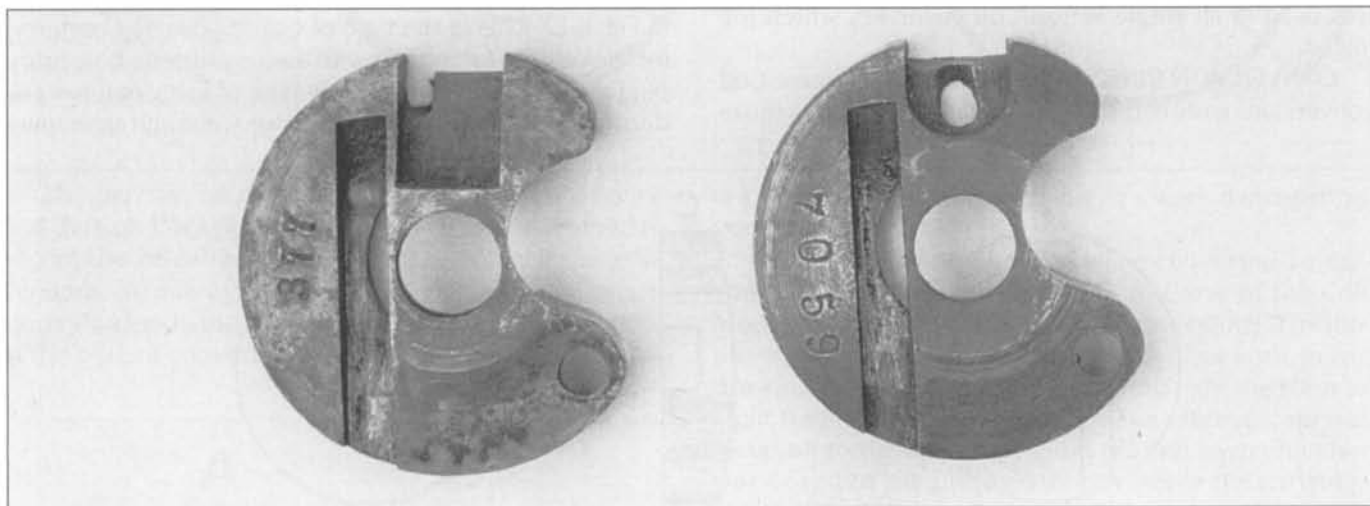


Fig. 8-14 Richards Type IV conversion rings (rear views) for rimfire (left) and centerfire (right) for Colt small frame conversions without loading gates.

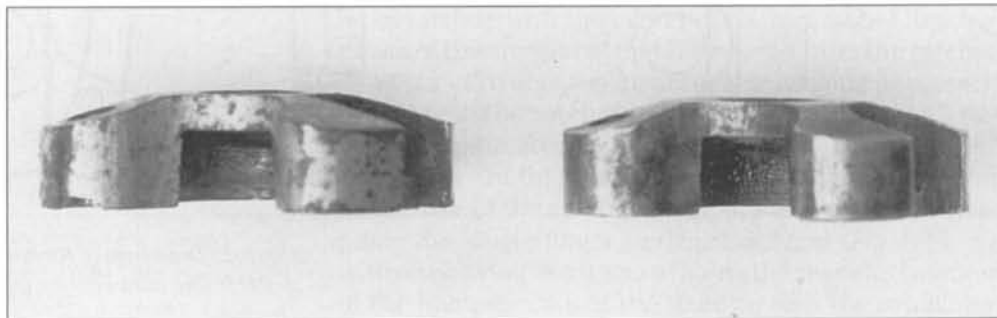


Fig. 8-15 Side views of small frame Richards Type IV conversion rings without loading gates.



Fig. 8-16 Converted percussion hammers for rimfire (left) and centerfire (right) Colt small frame cartridge conversions.

HAMMERS of the small frame Colt conversions are basically of two types, as pictured in Fig. 8-16, and both are found with firing pin variations.

The rimfire hammer is shown at left in Fig. 8-16, and is of the same construction as that of the Models 1851 and 1861 Colt Navy rimfire conversions (see Chapter 6, Fig. 6-38C). The left side of the hammer throat 'H' (see Figs. 8-18 and 8-19, '4' and '4') was milled out with a 3/8-inch end mill, 0.060 inch deep and 0.415 inch back from the hammer face. A flat, hardened, rimfire (plate) firing pin was placed into the cavity and maintained by two rivets. The beveled tip of the firing pin extends approximately 0.205 inch beyond the hammer face.

The right hand drawing of Fig. 8-16 pictures the most commonly found centerfire firing pin on Colt small frame conversions. As further illustrated in the drawings of Fig. 8-17, this is a wedge-type pin mounted within a vertical slot at the center of the hammer face and maintained by two rivets.

Just below the rivets (r and r) shown on drawing '2' of Fig. 8-17, is an arc cut into the throat of the hammer 'H.' This arc is required on both sides of the hammer throat to clear the lower part of the hammer channel of the centerfire conversion ring (see Fig. 8-12A and B, and Fig. 8-14 right side).

Slight variations are found in the tips of rimfire firing pins, as pictured in Figs. 8-18 and 8-19. Some are found to have sharp edges at the tips (Fig. 8-18), while others have arcs or broken corners at the tips (Fig. 8-19). Note

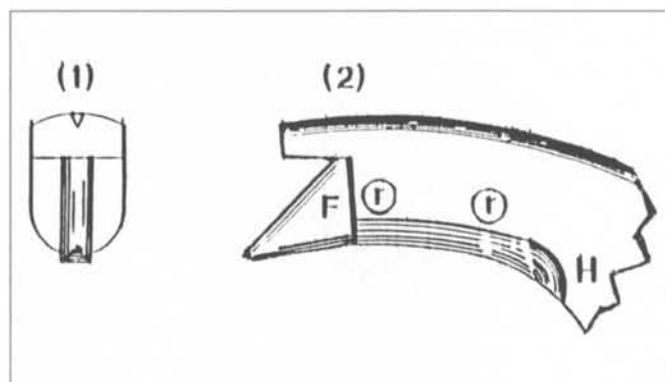


Fig. 8-17 Drawing of small frame hammer tip with wedge type centerfire firing pin at center.

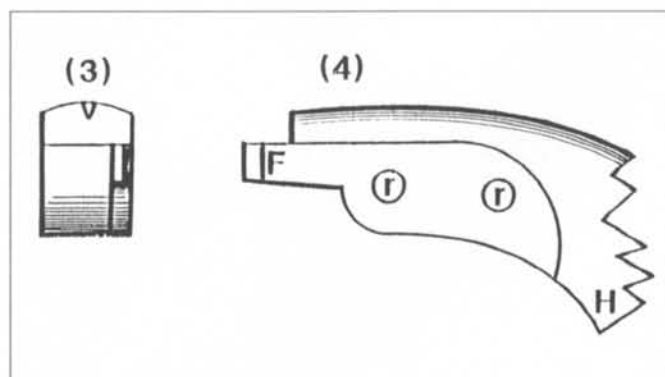


Fig. 8-18 Drawing of small frame hammer tip with (sharp cornered) rimfire firing pin recessed at left side.

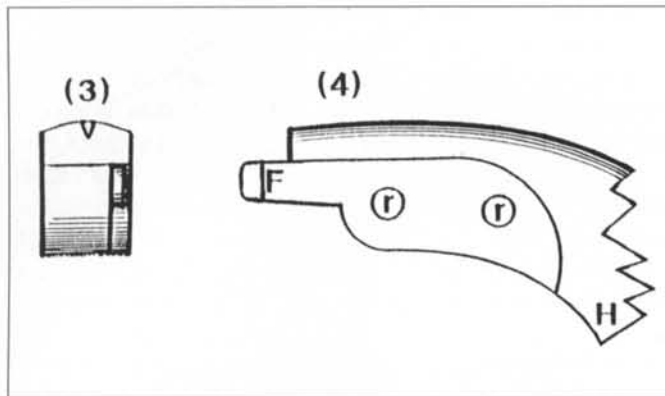


Fig. 8-19 Drawing of small frame hammer tip with (rounded corner) rimfire firing pin recessed into left side.

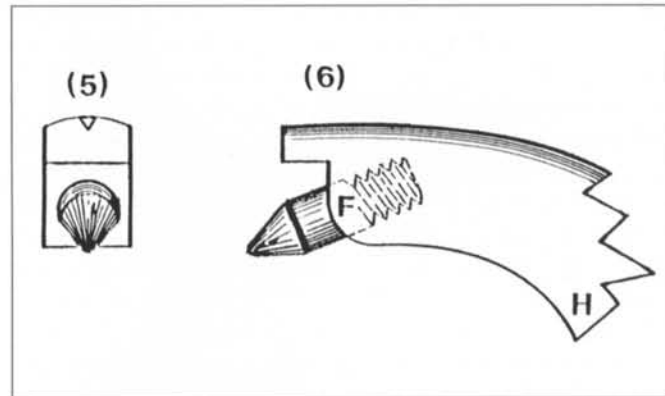


Fig. 8-20 Drawing of small frame hammer tip with uncommon (screw-in) cone-type centerfire firing pin.

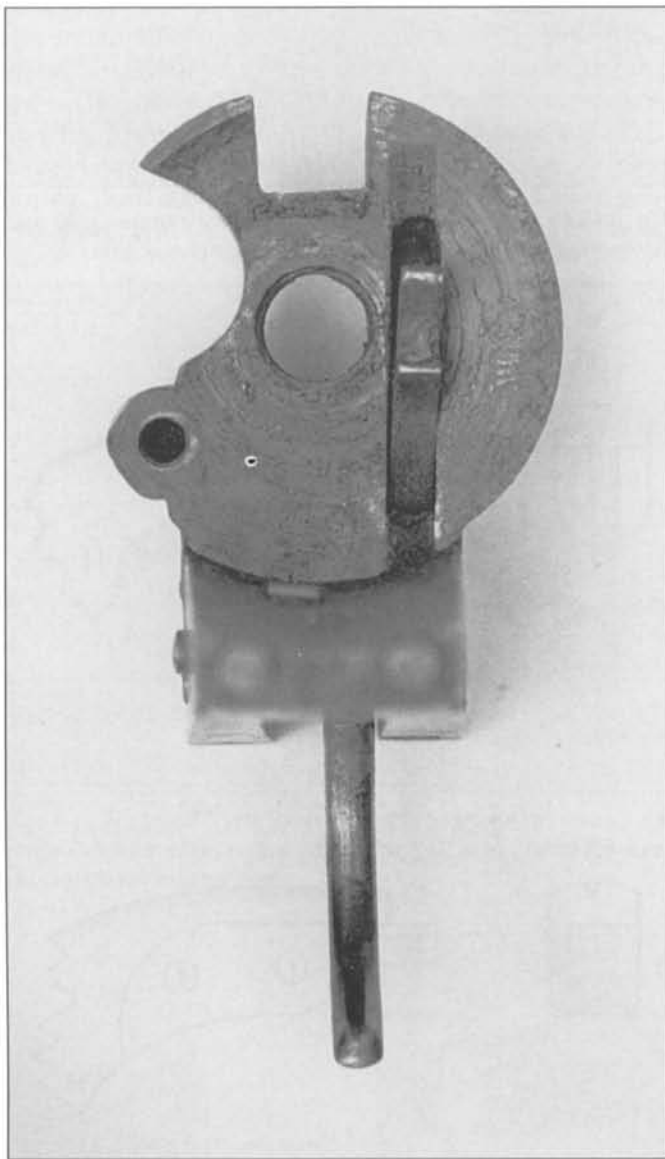


Fig. 8-21 Remachined face of Colt small frame recoil shield ready to receive Type IV conversion ring.

also that the firing pin bevel starts about 0.070 inch back from the tip, rather than at the face of the hammer lip, as in the Colt Navy conversions.

A few screw-in cone-type centerfire firing pins are found on Colt small frame conversions, along with the conversion ring illustrated at 'C' and 'D' of Fig. 8-12. A typical cone-type firing pin is shown at 'F' of Fig. 8-20. Two known examples of small frame conversions incorporating this firing pin type were described previously in this chapter, and another example, serial number 626, is a 4-1/2-inch Pocket Navy revolver that was originally converted to rimfire, and later reconverted to centerfire. This was accomplished by grinding off the tip of the rimfire pin and inserting a cone-type firing pin in the face of the hammer. This revolver will be further discussed under the section on 4-1/2-inch Colt Pocket Navy Conversions.

HAMMER SCREWS are one of two sizes on the small frame Colt conversions. The smaller size (body diameter 0.170 inch, head diameter 0.25 inch) are mostly found on early production conversions and on Original Metallic Cartridge models below serial number 5000. The later larger screws (body diameter 0.250 inch, head diameter 0.285 inch) are generally found on all Pocket Navies with turned round barrels, all late solid "S"-Lug Newly Made Cartridge Barrel models, late production conversions and higher numbered Original Cartridge models.

HAMMER SPUR KNURL on small frame Colt conversions is found, for the most part, with a border and underlined. Two size patterns have been noted, but the difference is so slight it is hardly worth mentioning. The pattern found on the solid "S"-Lug new made cartridge barrel models is the shorter of the two. This shorter pattern is also found on a limited number of other models, but the longer is more common.

FRAMES for the small frame Colt conversions came from several sources. First, there were the Model 1862 percussion Police and Pocket Navy frames remaining in the Colt factory inventory. After the supply of these frames became exhausted, Model 1849 percussion Pock-

et Model frames remaining in Colt's factory inventory were remachined, providing the two-plane base or step necessary to accommodate the rebated cylinder. New frames could have possibly been fabricated once all inventory of the percussion frames was consumed. Percussion frames required minor machining to cut the face of the recoil shield back far enough to allow ample space for the new conversion ring. The base of the cut resulted in a concave surface that mated with the convex rear surface of the conversion ring.

Figure 8-21 pictures the concave machined face of a Colt Pocket Navy conversion frame, ready to receive the conversion ring and cylinder arbor. At this point, any of the four previously described conversion rings can be attached: rimfire, either type of centerfire, or one of the conversion rings without gate provisions. Note the two-fingered hand (rotating arm) at the right of the cylinder arbor hole. As previously mentioned, this type of hand was used on all Colt cartridge conversions and single action cartridge revolvers.

LOADING GATE SPRINGS on small frame Colt conversions are both the internal and external types illustrated in the drawings of Fig. 8-22. Strangely enough, internal and external loading gate springs are found mixed in the Colt small frame cartridge guns below serial numbers in the 5000 range, and for the most part, external in the higher serial number ranges. Model 1862 Police conversions with fluted cylinders have internal gate springs, while those with round rebated cylinders have external springs. Most Pocket Navy conversions with loading gates, and most 5-1/2 and 6-1/2-inch solid "S" Lug Newly Made Cartridge Barrel models will have external gate springs.

Figure 8-23 pictures a Colt Pocket Navy conversion with a 6-1/2-inch turned round barrel, cartridge ejector assembly and loading gate. It has an external gate spring, held to the right side of the frame by a single screw. This is the flat spring configuration illustrated in drawings 'A' and 'D' at the lower portion of Fig. 8-22.

A 6-1/2-inch Colt Model 1862 Police conversion with cartridge ejector and loading gate is pictured in Fig. 8-24. This revolver has an internal gate spring configuration as illustrated in drawings 'A' and 'D' of the upper portion of Fig. 8-22. Those small frame Colt conversions and cartridge revolvers that do not incorporate loading gates have the type of conversion ring illustrated in Figs. 8-13, 8-14 and 8-15, and no gate spring is used.

FRAME MARKINGS found on the left forward portion of small frame Colt conversions and cartridge revolvers take five forms: (1) A few of the small frames have no frame markings at all; (2) The original COLTS/PATENT stamping is often found on early production 4-1/2-inch Pocket Navy conversions and the 1862 Police conversions and cartridge revolvers; (3) PAT.JULY.25.1871./PAT.JULY.2.1872. is found stamped (without dashes) on later production 4-1/2-inch Pocket Navy conversions and the 1862 Police conversions and cartridge revolvers; (4) -PAT.JULY.25.1871.-/PAT.JULY.2.1872.- (note the absence of the period after 1871) is found on the frames of Turned Round Barrel Pocket Navy cartridge revolvers and all revolvers with solid "S" Lug barrels of all lengths; (5) PAT.SEPT.19.1871/PAT.JULY.2.1872 is sometimes stamped on the frames of late production Model 1862 Police and Pocket Navy conversions and cartridge revolvers with ejectors and loading gates.

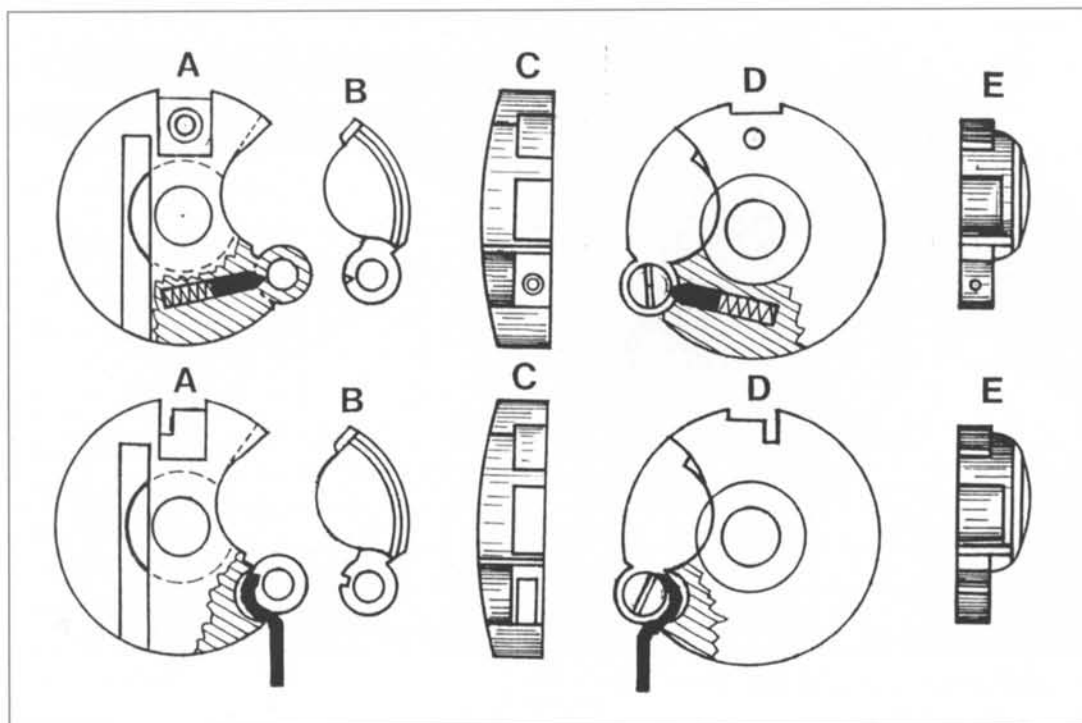


Fig. 8-22 Drawing illustrating two types of small frame gate springs, internal (top drawings) and external (bottom drawings).



Fig. 8-23 Typical Turned Round Barrel Colt Pocket Navy conversion with a round rebated cylinder and an external gate spring.

GRIPS AND GRIPSTRAPS will be discussed separately under sections on individual models and types.

ASSEMBLY NUMBERS of the small frame models are generally found stamped on the rear of loading gates (when used), on the underside of the frames (hidden by the trigger guards), and on the rear of the conversion rings. These assembly numbers are gen-

erally the last four digits of the serial numbers on the fluted cylinder Model 1862 Police conversions and early production cartridge revolvers. On the later production 1862 Police conversions with rebated cylinders and Pocket Navy conversions, these numbers quite often have no relationship with the serial numbers.



Fig. 8-24 Typical Colt Model 1862 Police conversion with a round rebated cylinder and an internal gate spring.



Fig. 8-25 Two 4-1/2-inch Colt Model 1862 Police conversions: (Top) Serial number 37765 with fluted cylinder. (Bottom) Serial number 2682 with round rebated cylinder. (Author's Collection)

Model 1862 Police Conversions

SERIAL NUMBER RANGES	1-19000 and 35500-47000
CALIBER	.38 rimfire and .38 centerfire
BARREL LENGTHS	4-1/2, 5-1/2 and 6-1/2 inches
BARREL ADDRESS	ADDRESS COL.SAML COLT NEW-YORK U.S. AMERICA
EJECTOR HOUSING	Small frame Richards-Mason type
EJECTOR ROD TIP	Round, flush with housing end
EJECTOR HEAD	Target pattern (concentric rings)
BARREL WEDGE	Late type without spring
CYLINDER	Converted fluted percussion, early
	Converted round percussion, later
CONVERSION RING	Richards Type IV (See Text)
LOADING GATE SPRING	Internal, early production
	External, later production
FRAME TYPE	Remachined 1862 Police/Pocket Navy type
FRAME MARKINGS	COLTS/PATENT, early production
	PAT.JULY.25.1871./PAT.JULY. 2.1872, later
	PAT.SEPT.19.1871./PAT.JULY. 2.1872, final
HAMMER SCREW	Generally large, sometimes small
HAMMER SPUR KNURL	Bordered and underlined medium knurl
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Usually brass, sometimes iron
TRIGGERGUARD	Usually brass, sometimes iron
ASSEMBLY NUMBER	On frame, conversion ring and gate
SPECIAL NOTES	Assembly numbers on fluted cylinder models usually match the serial number of the gun. Those on the round cylinder models usually do not match the serial number of the gun.



Fig. 8-26 Typical Colt Model 1862 Police conversion with round rebated cylinder and internal gate spring. Loading gates and cartridge ejector systems are common to all Model 1862 Police conversions, as illustrated.

All indications are that the Colt Model 1862 fluted cylinder Police percussion revolvers were the first to be factory converted, and the first to be produced as Original Metallic Cartridge revolvers from unused and unnumbered parts in the factory percussion inventory. It is believed that they were produced along with the large frame Colt conversions as early as 1870.

Production of Original Metallic Cartridge Model 1862 Police revolvers with fluted cylinders continued into the

middle of the four-digit serial number range. At this point, the round rebated five-shot (Pocket Navy type) cylinders were found to be stronger and cheaper to fabricate when new ones were required. From serial number approximately 5000 up, the round rebated cylinder became standard with this model revolver. However, fluted cylinders are often found on higher-numbered conversions. Examples are found in Figs. 8-29 and 8-30, serial numbers 46644 and 37765 respectively, both being later conversions.



Fig. 8-27 Early production Colt Model 1862 Police Cartridge revolver with COLT'S/PATENT frame marking; rimfire ignition, serial number 2682. (Author's Collection)

With few exceptions, Original Metallic Cartridge Model 1862 Police revolvers with fluted cylinders have internal loading gate springs, small hammer screws, COLTS/PATENT frame markings and rimfire hammers and conversion rings.

During the entire production of the Model 1862 Police conversions or Original Metallic Cartridge revolvers, rimfire models outnumbered centerfire models. The Original Metallic Cartridge revolvers (serial number range 1-19000) were mostly rimfire through approximately serial number 5000. Between serial numbers 5000 and 19000, both rimfire and centerfire ignition is common. Generally, the Model 1862 Police conversions between serial numbers 35500 and 47000, as well as those that were produced using Model 1849 Pocket Model frames in the six-digit serial number range, will be centerfire.

The original round percussion barrels of the Model 1862 Police revolvers were converted for the cartridge models. Both the lever and plunger holes were plugged, as was the dovetail for the lever catch. The barrel lug was then reshaped in the same style as that of the Model 1861 Colt Navy conversion. A small round channel was milled into the right side of the barrel lug, just above the wedge slot, to receive the ejector housing, and a transverse hole was drilled and counter-bored for the screw that held the cartridge ejector assembly in place.

The Model 1862 Police frame was remachined to accept a conversion ring gate and, on later production, an external gate spring. The percussion capping cut-out at the right side of the recoil shield was milled deeper, to clear the body and flange of the cartridge to be used. The

final operation was to rework the throat and face of the hammer and install the rimfire or centerfire firing pin.

Assembly numbers were applied to the gate, conversion ring and the underside of the frame. All unnumbered parts taken from the percussion parts inventory were serial numbered. If the parts were used on a high-numbered conversion, they were numbered to the gun. In the event of the assembly of an Original Metallic Cartridge revolver from unnumbered inventory parts and new conversion parts, a new serial number in the range of 1 to 19000 was assigned and applied.

All Model 1862 Police conversions and Original Metallic Cartridge revolvers were equipped with loading gates and ejector systems, as pictured in Fig. 8-26. Early production generally incorporated internal gate springs as shown, while the later conversions and revolvers had external gate springs (see Fig. 8-30). The differences in conversion ring designs to accommodate the two types of gate springs are illustrated in the drawings of Fig. 8-22.

Naturally, all Model 1862 Police conversions and cartridge revolvers produced prior to July 1872 have the original percussion COLTS/PATENT frame marking, as seen in Fig. 8-27. Here, an Original Metallic Cartridge Model 1862 Police revolver, serial number 2682, has the fluted cylinder replaced with a round rebated cylinder, renumbered 682. Also, this relatively early production specimen has a rimfire hammer and conversion ring and a small hammer screw. The 36 CAL stamp on the shoulder of the triggerguard remains unchanged, which was the usual practice with this model.

A close-up of a fluted cylinder Model 1862 Police conversion is shown in Fig. 8-28. The serial number is 46644 and the assembly number is 6644, the last four digits of



Fig. 8-28 Late production Colt Model 1862 Police conversion with Early Colt Single Action Army frame marking; rimfire ignition, serial number 46644. (Author's Collection)



Fig. 8-29 4-1/2-inch Colt Model 1862 Police conversion, serial number 46644; blued, rimfire and fluted cylinder. (Author's Collection)

the serial number. This conversion represents a late converted revolver, as the frame marking is PAT. SEPT. 19. 1871/PAT. JULY. 2. 1872. This was the late-first patent date format stamp found on the Colt Single Action Army revolvers between, approximately, serial numbers 25 and 22000. (See Fig. 8-100.)

Other late-production characteristics can be identified, such as the large hammer screw and the external

gate spring (see Fig. 8-29). The rimfire hammer and conversion ring are found throughout the entire production range, as is the 36 CAL stamp on the triggerguard shoulder.

Figure 8-29 illustrates a full right-side view of the Colt Model 1862 Police conversion, serial number 46644. It has a 4-1/2 inch barrel, which was the most common barrel length for this model. About 60 percent had 4-1/2-inch bar-



Fig. 8-30 4-1/2-inch Colt Model 1862 Police conversion, serial number 37765, plated, rimfire and fluted cylinder. (Author's Collection)



Fig. 8-31 Nickel-plated Colt Model 1862 cartridge revolver, serial number 468. (Courtesy Francis E. "Bud" Firth)

rels, 25 percent had 5-1/2 inch barrels and 15 percent of the barrels were 6-1/2 inches long. The fluted cylinder of this revolver does not contain the PAT. SEPT. 10TH 1850 marking common on the 1862 percussion Police revolvers.

Standard factory finishes were blue with case-hardened frame and hammer (Fig. 8-29), or full nickel plated. The Model 1862 Colt Police conversion shown in Fig. 8-30 is serial numbered 37765, with assembly number 7765, and is full nickel plated. It also has a large hammer screw, external loading gate spring and a fluted cylinder. The frame marking is again the two-line patent dates found on the early Colt Single Action Army revolvers. The slightly crowned barrel is 4-1/2 inches long, with the typical single line New York barrel address, and the plated triggerguard shoulder is stamped 36 CAL.

Many of the Colt conversions were shipped to the American Southwest and Mexico, where they experienced hard use and considerable abuse. Therefore, the majority of these guns are found in poor to fair condition, while others were cared for or were unused and remain in fine condition with generous amounts of original finish. Very little is found between these two descriptions. The 1862 Original Metallic Cartridge Police revolver in Fig. 8-31 represents the latter of the two conditions. It is serial numbered 468, with assembly number 413, has a 4-1/2-inch barrel, fluted cylinder, small hammer screw and internal gate spring. The frame is stamped COLTS/PATENT, and the hammer and conversion ring are for rim-fire ignition. This fine condition conversion is full nickel plated, and 98 percent of the original nickel remains.



Fig. 8-32 Engraved Colt Model 1862 Police cartridge revolver, serial number 7896, with ivory grips. (Courtesy Francis E. "Bud" Firth)



Fig. 8-33 Right side view of Nimschke-engraved Colt Model 1862 Police cartridge revolver; silver plated with ivory grips, serial number 466. (Courtesy John H. Thillmann)

A limited number of Model 1862 Police cartridge revolvers with fluted cylinders were engraved and fitted with special material grips. One of these rare engraved specimens is pictured in Fig. 8-32. The revolver has a 5-1/2-inch barrel, is serial numbered 7896, has ivory grips and is full plated. It is believed to be the fine work of L.D. Nimschke. His typical style of scroll engraving with a punched dot background, the wavy line and dot design around the

conversion ring, the border of the triggerguard and the cross-hatched pattern on its shoulder, and the delicate checkerboard and sunburst motif on the recoil shield are characteristics that serve to identify Nimschke's work.

Figures 8-33 and 8-34 picture the right and left sides of another Nimschke-engraved Colt Model 1862 Police Original Metallic Cartridge revolver with fluted cylinder and ivory grips numbered to the gun. The pattern of the



Fig. 8-34 Left side view of Nimschke-engraved Colt Model 1862 Police cartridge revolver; silver plated with ivory grips, serial number 466. (Courtesy John H. Thillmann)

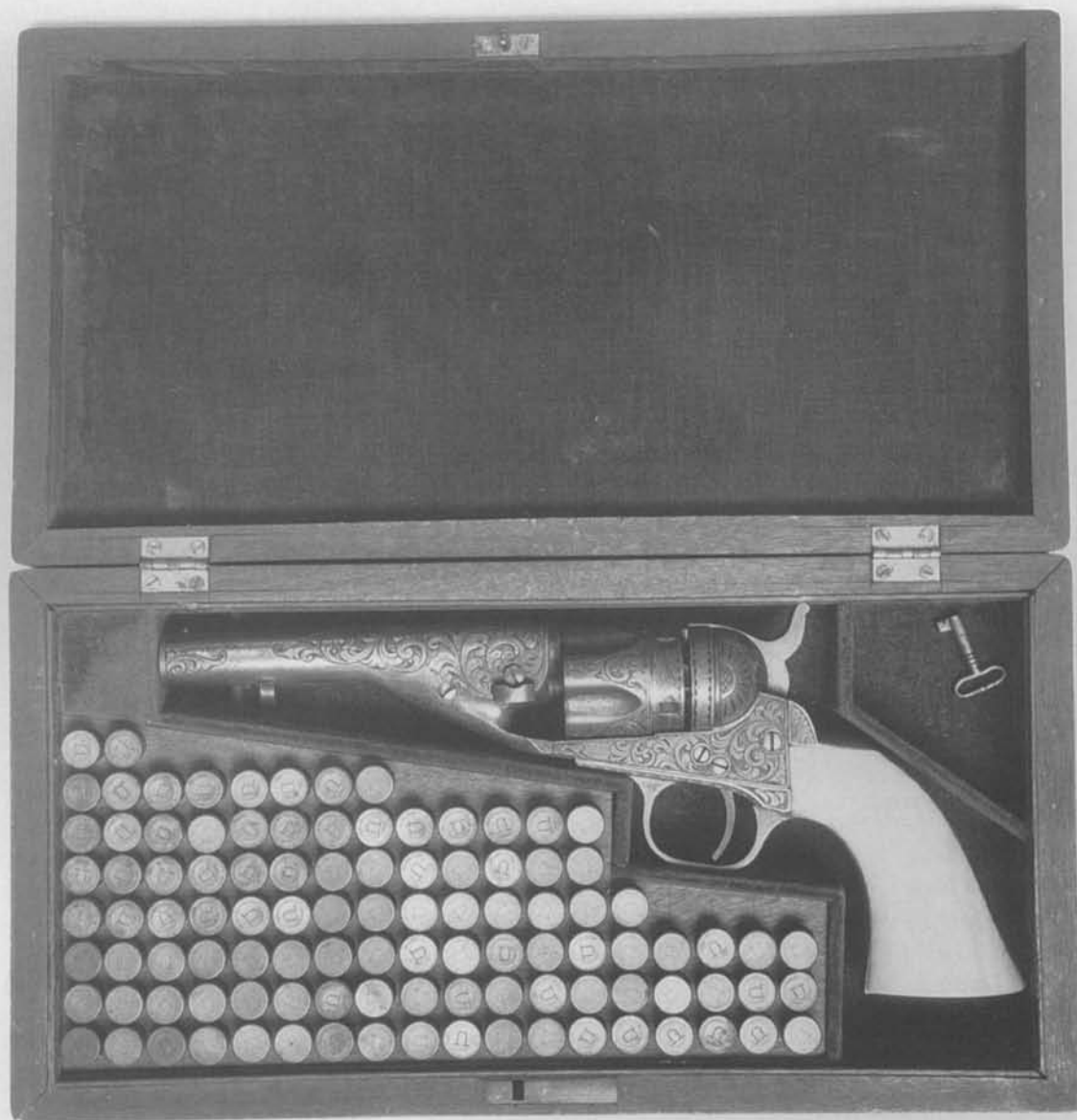


Fig. 8-35 Cased and engraved Colt Model 1862 Police cartridge revolver, serial number 466. (Courtesy John H. Thillmann)

engraving is almost identical to that of Fig. 8-32, and the gun is richly silver plated with gold-washed hammer, cylinder and ejector housing. The revolver is serial numbered 466, with assembly number 340. It has a 4-1/2-inch barrel and all the features of early production, including the internal gate spring, small hammer screw and the original COLTS/PATENT frame marking. The hammer and conversion ring are for rimfire ignition and this extremely rare and fine condition revolver is cased, as shown in Fig. 8-35. The original American style casing is rosewood, with blue velvet lining and bullet block original to this cartridge revolver.

Nimschke's masterful engraving style can only be enhanced by the addition of tiffany grips. The 5-1/2-inch engraved Colt Model 1862 Original Metallic Cartridge fluted cylinder revolver shown in Figs. 8-36 and 8-37 is serial numbered 1955, has assembly number 2033, and is completely plated with about 95 percent finish remaining. This revolver is also from the early rimfire series, with small hammer screw, internal gate spring and COLTS/PATENT frame stamping. It was a deluxe engraved model supplied by Schuyler, Hartley & Graham, which subcontracted the engraving and "American Eagle"-type tiffany grips.



Fig. 8-36 Right side view of deluxe engraved Colt Model 1862 Police cartridge revolver, serial number 1955, with tiffany grip; from Schuyler, Hartley & Graham. (Right side) (Courtesy Francis E. "Bud" Firth)



Fig. 8-37 Left side view of deluxe engraved Colt Model 1862 Police cartridge revolver, serial number 1955, with tiffany grip; from Schuyler, Hartley & Graham. (Courtesy Francis E. "Bud" Firth)

The Colt Model 1862 Police conversions and cartridge revolvers, supplied with round rebated cylinders are also found in early and late production configurations. Figure 8-38 pictures an early production Original Metallic Cartridge model that was assembled from reworked unnumbered percussion inventory parts and newly made conversion parts. It has the early COLTS/PATENT frame

marking, small hammer screw and an internal gate spring. Specimens such as this example are generally found below serial number 5000 in the Original Metallic Cartridge Models, but anywhere in the 35500 to 47000 serial number range of revolvers converted from percussion. Still others are found in the six digit serial number range where Colt Model 1849 frames were used on cartridge guns. Serial



Fig. 8-38 Early production Colt Model 1862 Police cartridge revolver with internal gate spring and small hammer screw. (Author's Collection)



Fig. 8-39 Late production Colt Model 1862 Police cartridge revolver with external gate spring and large hammer screw. (Author's Collection)

number 327801 (see Fig. 8-51) is a good example of a Model 1862 Police cartridge revolver in this category.

A later production Colt Round Cylinder Model 1862 conversion is pictured in Fig. 8-39. Original Metallic Cartridge revolvers of this type are generally serial numbered between 5000 and 19000, or in the six-digit serial number range for the same reason as explained previously. Late Round Cylinder Colt Model 1862 Conversions

also are in the 35500 to 47000 serial number range. The conversion of Fig. 8-39 has the two-line double July patent date frame marking, large hammer screw and an external loading gate spring.

As with the fluted cylinder models, those with round rebated cylinders are found in three barrel lengths. The 4-1/2-inch barrels are the most common, the 5-1/2-inch barrels are scarce and the 6-1/2-inch barrels are rare.



Fig. 8-40 4-1/2-inch Colt Model 1862 Police Original Metallic Cartridge revolver. (Author's Collection)

Fig. 8-41 5-1/2-inch
Colt Model 1862
Police Original Metal-
lic Cartridge revolver.
(Author's Collection)



Fig. 8-42 6-1/2-inch
Colt Model 1862
Police conversion,
serial number 43285.
(Courtesy Francis E.
"Bud" Firth)



The percentages of each length produced are the same as previously stated, regardless of cylinder type.

A typical early production Colt Model 1862 Original Metallic Cartridge revolver with 4-1/2-inch barrel is pictured in Fig. 8-40. It is serial numbered 2682, has the COLTS/PATENT frame marking, small hammer screw and internal loading gate spring.

Another revolver with 5-1/2-inch barrel is shown in Fig. 8-41. This early production Original Metallic Cartridge revolver is identical to that of Fig. 8-40, except for the longer barrel.

A Colt Round Cylinder Model 1862 Police conversion with a rare 6-1/2-inch barrel is pictured in Fig. 8-42. The gun is serial numbered 43285, has ivory grips and is full nickel plated. It was converted to cartridge from a percussion model and is in excellent overall condition, with 100 percent cylinder scene, nearly 100 percent coverage of nickel and near perfect condition ivory.

A few round cylinder models received the same special treatment as those fluted cylinder specimens pic-

tured in Figs. 8-32 through 8-37. A fine factory engraved specimen is shown in Figs. 8-43 and 8-44. The gun is a Colt Round Cylinder Model 1862 Police conversion, serial number 37960E. The frame is marked with COLTS/PATENT, in a double arc, and is part of the original engraving. It is a centerfire model, with large hammer screw and an external loading gate spring.

The pattern of the engraving is a combination of the Gustave Young style and the vine style scroll found on factory-engraved percussion revolvers around the American Civil War period and later. Coverage is on the frame, barrel, backstrap, triggerguard, "Wolf's Head" hammer and even the wedge. The major engraving was applied while the gun was percussion. At the time of conversion, the gate and conversion ring were engraved, but the entire ejector assembly was left plain. This accounts for the two pattern styles. The round rebated cylinder was left with the original roll-die impressed stagecoach hold-up scene and the varnished walnut grips are original to the percussion revolver.



Fig. 8-43 Right side view of factory engraved Colt Model 1862 centerfire converted revolver, serial number 37960E. (Right side) (Courtesy John H. Thillmann)

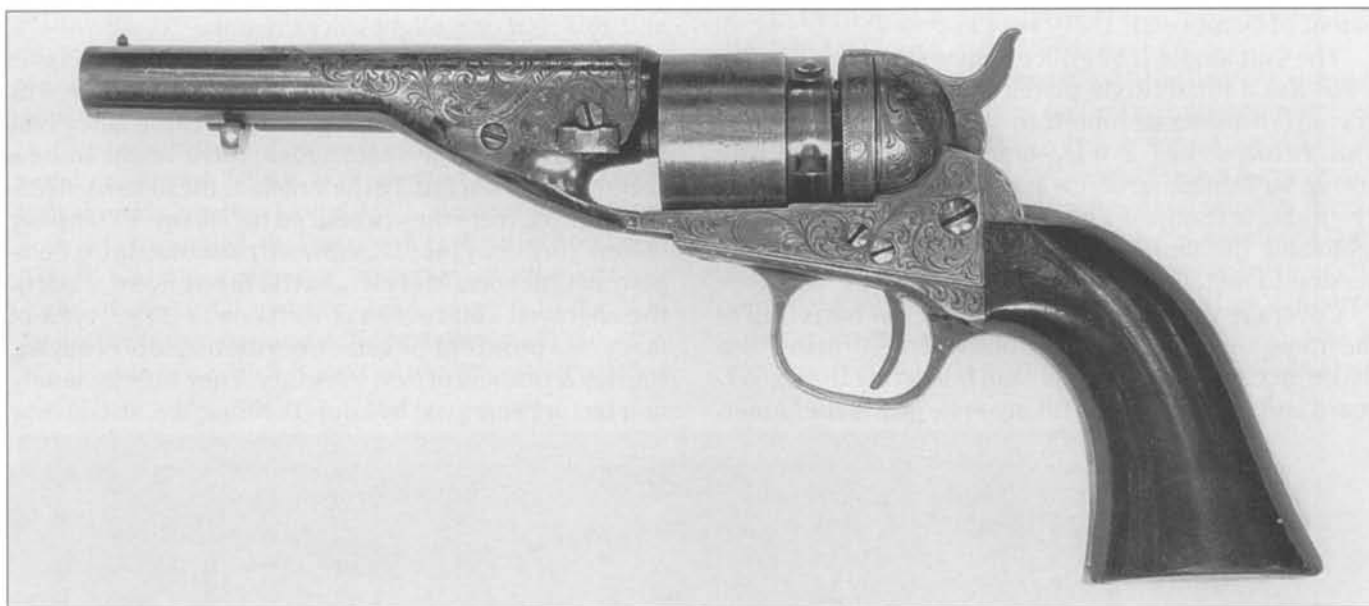


Fig. 8-44 Left side view of factory engraved Colt Model 1862 centerfire converted revolver, serial number 37960E. (Courtesy John H. Thillmann)

One of the finest specimens known is the Model 1862 Police conversion shown in Fig. 8-44A. It has a 4-1/2-inch barrel, late production conversion features and is serial numbered 413841/E. In exceptionally fine condition with most of its rich factory blue and vivid color case hardening, the conversion is cased with an L-shaped screw-driver and a box of .38 caliber Short cartridges.

This revolver was factory engraved in its percussion form and, later, factory converted to metallic cartridge.

For this reason, the pattern found on the conversion ring is of a later style and the original COLTS/PATENT marking on the frame is not over-stamped.

The French-style casing has a violet velvet lining and is fitted to the conversion revolver, rather than percussion. It is interesting to note that the Winchester label on the cartridge box contains the STETSON/PATENT/OCT.24TH 1871 logo. This identifies these .38 caliber Short rimfire cartridges as having swaged bullets, with the car-

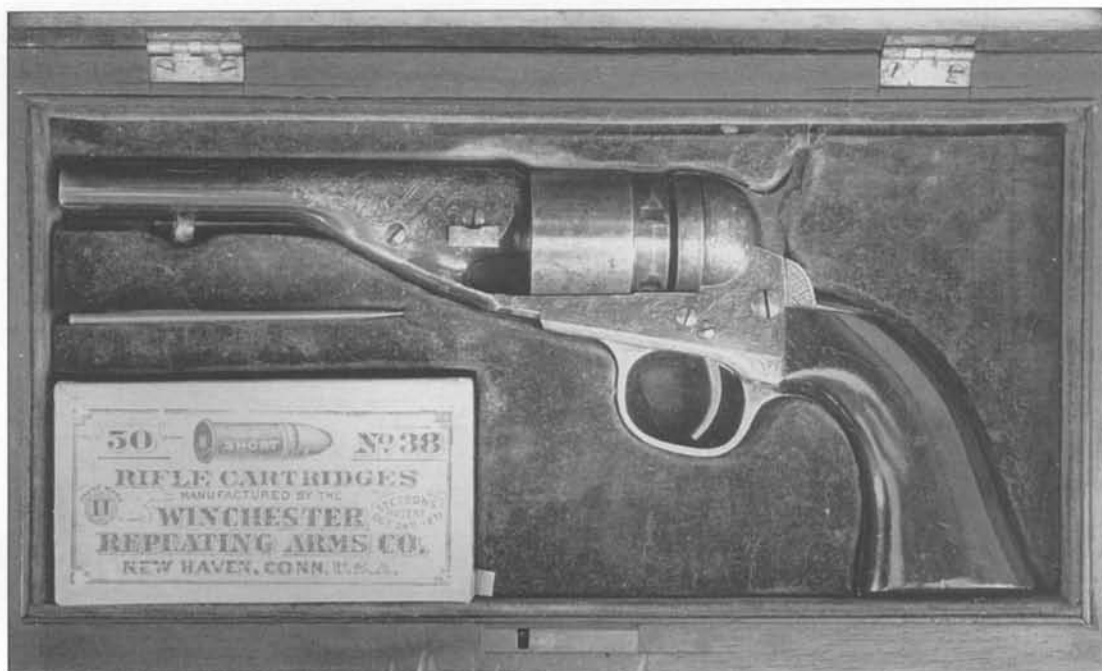


Fig. 8-44A Engraved and cased Colt Model 1862 Police conversion, serial number 41384/IE. (Collection of Michael Leff)

tridges constructed as outlined in the George R. Stetson patent of October 31, 1871 (see Chapter 7).

The Colt Model 1862 Police conversion shown in Fig. 8-44B has a tiffany-style plated bronze grip, and is engraved in a moderate American-style vine and leaf scroll. This revolver has a 6-1/2-inch barrel, external gate spring, large hammer screw and is serial numbered 5712. The frame is stamped with the two-line patent dates, establishing the time of engraving after the factory conversion to metallic cartridge.

Coverage is found on 75 percent of the barrel, all of the frame and recoil shield, in place of the Ormsby "Sea Battle" scene on the cylinder, and bordering the trigger-guard and backstrap. The tiffany-style grip is the "Amer-

ican Eagle" type. The gun was originally plated in silver and gold, but only slight traces remain.

More Colt conversions have tiffany-style metallic grips than their percussion counterparts. Perhaps this is because of the time period in which these fancy cast bronze grips were available. Also, there seems to be a controversy concerning the origin of these fancy decorative grips. Were they produced by Tiffany & Company of New York or by the Ames (Sword) Manufacturing Company of Chicopee, Massachusetts? In any event, most of the engraved Colt revolvers with one of three styles of fancy cast bronze grips came from the house of Schuyler, Hartley & Graham of New York City. They were generally non-factory engraved by Louis D. Nimschke, also of New



Fig. 8-44B Engraved 6 1/2 Inch Colt Model 1862 Police conversion with tiffany-style grip, serial number 5712. (Collection of Michael Leff)



Fig. 8-44C Advertising cut from 1864 Schuyler, Hartley & Graham catalog. (Courtesy Norm Flayderman)

York City, and closely associated with Schuyler, Hartley & Graham. This firm advertised Colt percussion revolvers with the "American Eagle," "Mexican Eagle," "Civil War Battle Scene" and "Missionary & Child" cast bronze grips in its 1864 catalog (see Fig. 8-44C).

The same pattern of engraving found on the conversion serial numbered 37960E is duplicated on the 4-1/2-inch Colt Round Cylinder Model 1862 conversion shown in Figs. 8-45 through 8-49. The revolver is serial numbered 37958E and has a matching cylinder with the last four digits of the serial number, 7958, as seen in Fig. 8-46. Again, the frame marking is the percussion COLTS/PATENT in a double arc, which is part of the original engraving,

The conversion ring carries a wiggly line and punched dot pattern, typical of the style of engraving done during the late 1860s and early 1870s.

The S-like ribbon worked in with the barrel's vine-pattern engraving is common on Colt percussion revolvers of this period (1868-1869) and is found on other engraved percussion 1862 Police and Pocket Navy revolvers throughout almost the entire serial number range.

The right side of the frame of serial number 37958E is pictured in Fig. 8-48. This 1862 Police revolver was converted during the later production period, as it incorporates a large hammer screw (see Fig. 8-49) and an external loading gate spring. The original roll-die stage-



Fig. 8-45 Factory engraved Colt Model 1862 Police converted revolver, serial number 37958E. (Courtesy Francis E. "Bud" Firth)



Fig. 8-46 Frame and cylinder close-up of factory engraved Colt Model 1862 Police converted revolver, serial number 37958E. (Courtesy Francis E. "Bud" Firth)



Fig. 8-47 Barrel engraving of Colt Model 1862 Police conversion, serial number 37958E. (Courtesy Francis E. "Bud" Firth)



Fig. 8-48 Right frame engraving and recoil shield cut-out of Colt Model 1862 Police conversion, serial number 37958E. (Courtesy Francis E. "Bud" Firth)



Fig. 8-49 Engraving of left recoil shield, hammer and a portion of the backstrap of Colt Model 1862 Police conversion, serial number 37958E. (Courtesy Francis E. "Bud" Firth)

coach hold-up scene remains on the cylinder, with no other engraving. Note the Gustave Young style of treatment to both the shoulders and under-edges of the triggerguard. The fact that this gun was engraved in its percussion state is further emphasized by the portion of original engraving cut away at the recoil shield when the loading channel was machined to accept a cartridge.

The engraving of the conversion plate, recoil shield, hammer and a portion of the backstrap are illustrated in Fig. 8-49. The engraving on the frame and recoil shield, with the vine terminating at the center of a flower, is certainly representative of the 1860-1870 period style engraving. The "Wolf's Head" motif and the pattern of the backstrap engraving strongly suggest the influence of Gustave Young.

Both American and English casings are found with round cylinder and fluted cylinder Model 1862 conversions and cartridge revolvers, but are very rare.

The 4-1/2-inch Colt Model 1862 Original Metallic Cartridge revolver pictured in Fig. 8-50 is cased in an Amer-

ican walnut case with a compartment for a box of cartridges. The gun is serial numbered 1848, has assembly number 1679 and is of early production. The hammer and conversion ring are rimfire type, while the revolver has a small hammer screw and an internal loading gate spring. Both the revolver and the case are in excellent overall condition.

Figure 8-51 pictures a Colt Round Cylinder Model 1862 Police Original Metallic Cartridge revolver with a remachined Model 1849 Pocket Model frame. The revolver is serial numbered 327801 and the cylinder 042. It has a 4-1/2-inch barrel and large hammer screw, but an internal gate spring. It is another specimen in fine overall condition.

A close-up of the barrel lug, frame and cylinder of a London-proofed Colt Round Cylinder Model 1862 Police Original Metallic Cartridge revolver is shown in Fig. 8-52. The gun is serial numbered 5009 and the cylinder is numbered 998. The London proof marks on the barrel lug, above and to the left of the wedge screw, and on the

Fig. 8-50 Cased Colt Model 1862 Police cartridge revolver, serial number 1848. (Courtesy Francis E. "Bud" Firth)

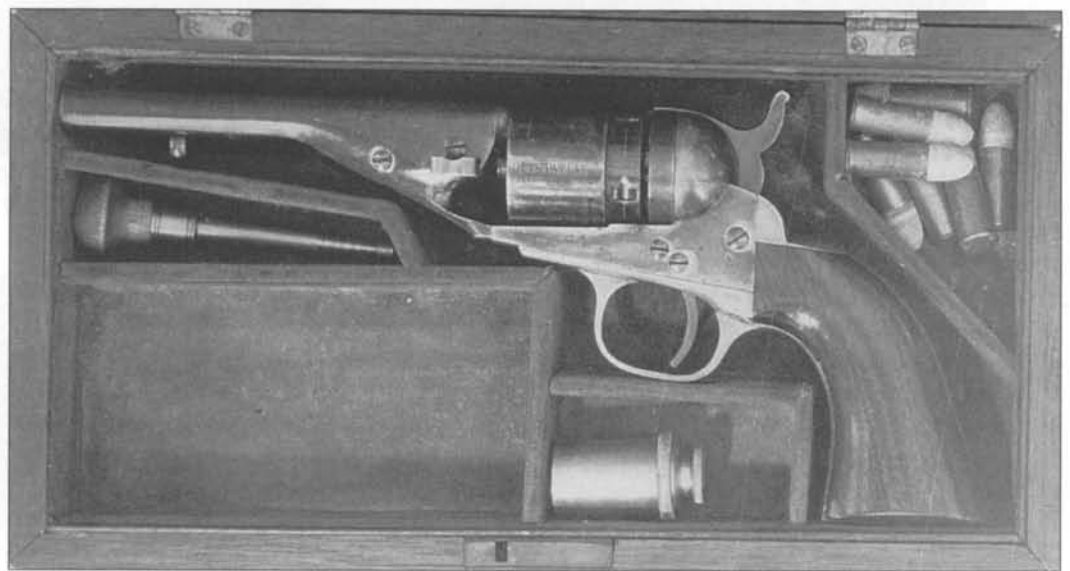


Fig. 8-51 Colt Model 1862 Police conversion with iron triggerguard and backstrap, serial number 327801 (Courtesy John H. Thillmann)



Fig. 8-52 Close-up of Colt Model 1862 Police cartridge revolver, serial number 5009, with British proof marks. (Courtesy John H. Thillmann)



cylinder, to the right of the cylinder number are the small cartridge proofs, not the percussion size. Also, the barrel has the U.S. address, rather than the two-line London address. Therefore, it is obvious that this revolver was produced at Hartford and shipped to England,

where it was proofed upon receipt. The gun is in excellent overall condition, retaining 95 percent blue and color case hardening, as well as 100 percent of its original grip varnish.

Model 1862 4-1/2-Inch Octagonal Barrel Pocket Navy Conversions

SERIAL NUMBER RANGES	1-19000 and 20000-45500 in general
CALIBER	.38 rimfire, few reconverted to centerfire
BARREL LENGTHS	4-1/2 inches, slightly crowned
BARREL ADDRESS	ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA
EJECTOR HOUSING	None incorporated
EJECTOR ROD TIP	None incorporated
EJECTOR HEAD	None incorporated
BARREL WEDGE	Late type without spring
CYLINDER	Converted round percussion Pocket Navy
CONVERSION RING	Richards Type IV, rimfire (see text)
LOADING GATE SPRING	Most were external when gates were used
FRAME TYPE	Remachined 1862 Police/Pocket Navy type
FRAME MARKINGS	COLTS/PATENT, on early production (scarce)
	PAT.JULY.25.1871./PAT.JULY.2.1872. on most
HAMMER SCREW	Small on early production
	Large on later production
HAMMER SPUR KNURL	Bordered and underlined medium knurl
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Generally brass, from Colt Model 1862
TRIGGERGUARD	Generally brass, from Colt Model 1862
ASSEMBLY NUMBER	On frame, conversion ring and gate
SPECIAL NOTES	Assembly numbers may, or may not, represent all or a portion of the serial number of this model. At least one is known to have a factory installed ejector assembly.



Fig. 8-53 Standard 4-1/2-inch Colt Pocket Navy Cartridge revolver, serial number 303, assembly number 198. (Author's Collection)

It is speculated that the Colt Pocket Navy conversions and Original Metallic Cartridge revolvers were the second type of small frame conversions produced at the Hartford factory. Because the two-line 1871/1872 patent dates are found on the frames of very low serial numbered Original Metallic Cartridge Pocket Navy revolvers, along with large hammer screws and external gate springs, it would appear that the period of their manufacture started in mid to late 1872. Examples of this are found as low as serial numbers 1, 135, 169, 187, 303, and right on up into the higher 21000 serial number range.

Naturally, those models without loading gates will not have gate springs.

Then, there are the group of Colt Pocket Navy conversions, with serial numbers in the original 1862 Police/Pocket Navy percussion range of possibly 1 through 47000, or more likely 20000 through 45500. Specimens exist with lower numbers, such as serial numbers 4669 and 4946 with COLTS/PATENT frame markings, internal gate springs and small hammer screws and 4957, which is identical except there is no loading gate. These are early conversions to cartridge from percussion. One en-



Fig. 8-54 4-1/2-inch Colt Pocket Navy Cartridge revolver with all early production features. Serial number 4946. (Courtesy John H. Thillmann)

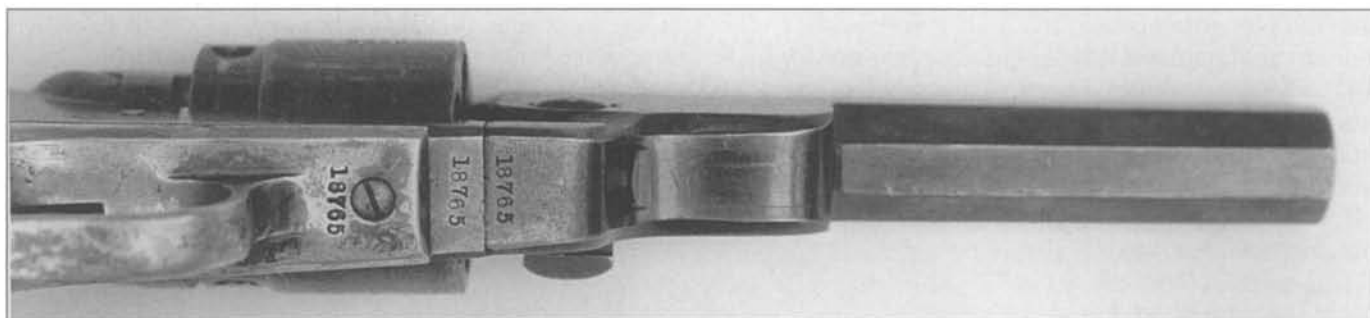


Fig. 8-55 Underside of Colt Pocket Navy percussion barrel, plugged and converted for cartridge. Serial number 18768. (Author's Collection)



Fig. 8-56 4-1/2-inch Colt Pocket Navy Cartridge revolver with early production serial number (405), but external gate spring. (Courtesy John H. Thillmann)

graved Pocket Navy conversion is known in the 46800 serial number range and others still higher could possibly exist.

The Colt Pocket Navy Octagonal percussion barrels were converted by plugging the lever channels, the transverse lever screw holes and the dovetails for the lever latches. Plunger holes and the loading channels in the right of the barrel lugs were left unaltered. No cartridge ejectors were used on this model, so no barrel modifications were required for mounting ejector tubes. Only one, with a two digit serial number is known with a factory-installed ejector assembly.

Small frame conversions produced without ejector assemblies were easily concealed and offered considerably less wear to form-fitted holsters. To extract spent cartridge casings from these conversions, knife blades, small picks, even tree twigs were often used. Keep in mind that many conversion revolvers were kept in the home or place of business, where loading accessories were readily available.

The lower numbered Pocket Navy Original Metallic Cartridge revolvers appear to have loading gates, as pictured in Fig. 8-56. From the survey taken (outlined at the

end of this chapter), loading gates were found on those specimens in the serial number range of 1 through 5761, while those with serial numbers between 14920 and 21065 had none. A few between serial number 20675 and 21065 had rare 3-inch barrels (see Fig. 8-62). It is almost as if production started in the 21000 serial number range and worked down to serial number 1.

Conversions without loading gates could present serious problems when firing at an object overhead. Generally, five-shot cylinders were used when loading gates were eliminated. So, when the cartridge to be fired was in line with the barrel, the open loading channel was between two other cartridges. If the revolver is cocked with the muzzle down, it can be fired in any position. The purpose of no loading gate was purely economic.

Figure 8-57 pictures a high-numbered 4-1/2-inch Original Metallic Cartridge Pocket Navy revolver that was produced without a loading gate. The gun is serial numbered 18765, with a double-numbered cylinder. Obviously, at the time of assembly, a prenumbered cylinder was taken from inventory and renumbered to this revolver as shown. The number appearing in the cylinder's number box is 8982 and the new number is 8765.

Fig. 8-57 Right side view of 4-1/2-inch Colt Pocket Navy conversion, made without loading gate and double-numbered cylinder. Serial number 18765. (Author's Collection)



Fig. 8-58 Left side of Colt Pocket Navy conversion, serial number 18765.

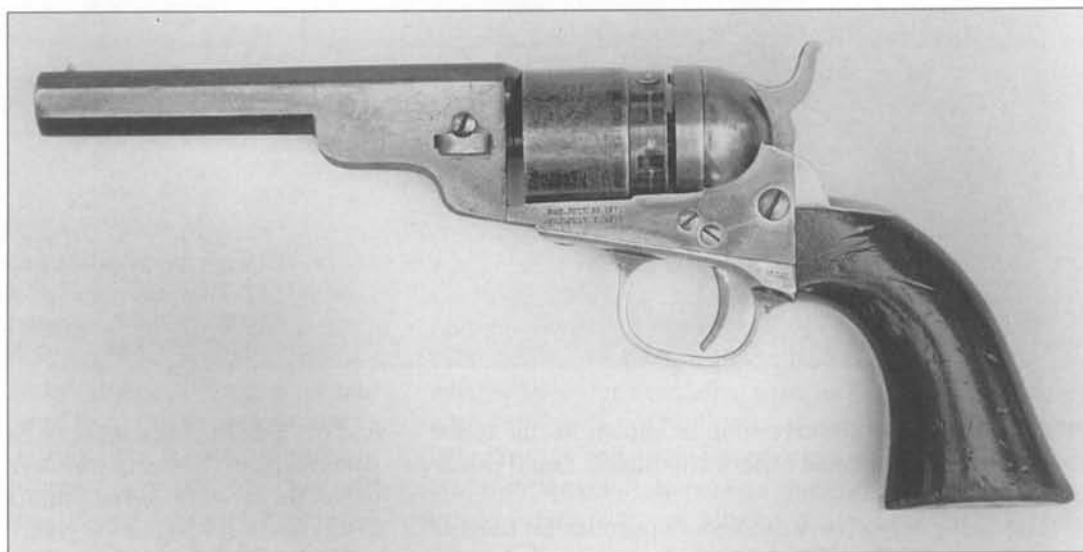


Fig. 8-59 Right side of 4-1/2-inch Colt Pocket Navy Cartridge revolver, serial number 5375, assembly number 942. (Author's Collection).



The left side of the same revolver (serial number 18765) is pictured in Fig. 8-58, showing the large hammer screw, the two-line double July patent dates on the frame and the original percussion 36 CAL stamping on the shoulder of the triggerguard. This is a rimfire revolver in excellent overall condition.

Another Original Metallic Cartridge Pocket Navy revolver, serial number 5375 is pictured in Figs. 8-59 and 8-60, with loading gate, external gate spring and large hammer screw. As seen in Fig. 8-60, this revolver has the two-line double July frame stamping and the original percussion 36 CAL stamp on the shoulder of the triggerguard. All serial numbers are matching, including the cylinder.

A double numbered cylinder is found again on a high serial number Original Metallic Cartridge Pocket Navy re-

volver, shown in Fig. 8-61. The gun is numbered 17959 and the cylinder was restamped with the matching number 7959, while the original cylinder number was 8756. This 4-1/2-inch rimfire revolver has a large hammer screw and no loading gate. The overall condition of this gun is no less than excellent, with a full cylinder scene and most of its original finish. The color case hardening of the frame and hammer are nearly 100 percent. This gun, and that shown in Figs. 8-57 and 8-58 (serial number 18765) tend to indicate that unnumbered round rebated .36 caliber percussion cylinders became extinct near the end of production, or somewhere between serial numbers 17000 and 18000. If this was the case, prenumbered cylinders from either percussion inventory or completed percussion revolvers were used, and second numbers were applied to match them to the cartridge revolvers.



Fig. 8-60 Left side of Colt Pocket Navy Cartridge revolver, serial number 5375.



Fig. 8-61 4-1/2-inch rimfire Colt Pocket Navy conversion without loading gate. Serial number 17959. (Courtesy John H. Thillmann)



Fig. 8-62 Extremely rare Colt Pocket Navy conversion with 3-inch barrel and without loading gate. Serial number 21001. (Courtesy John H. Thillmann)

Model 1862 3-Inch Octagonal Barrel Pocket Navy Conversions	
SERIAL NUMBER RANGES	Within 20400 to 21100 range (See Text)
CALIBER	.38 rimfire (5-shot cylinder)
BARREL LENGTHS	3 inches, very slightly crowned
BARREL ADDRESS	ADDRESS COL. SAML COLT NEW-YORK U.S. AMERICA
EJECTOR HOUSING	None supplied
EJECTOR ROD TIP	None supplied
EJECTOR HEAD	None supplied
BARREL WEDGE	Late type without spring
CYLINDER	Converted round percussion Pocket Navy
CONVERSION RING	Richards Type IV (see text)
LOADING GATE SPRING	None supplied
FRAME TYPE	Remachined 1862 Police/Pocket Navy type
FRAME MARKINGS	PAT.JULY.25.1871 PAT.JULY. 2.1872.
HAMMER SCREW	Large (0.25-inch body and 0.285-inch head)
HAMMER SPUR KNURL	Bordered and underlined knurl, 1/4 inch High
STOCK (GRIP)	Varnished walnut
BACKSTRAP	Brass (Silver plated grip-straps)
TRIGGERGUARD	Brass oval, with (36 CAL) shoulder stamp
ASSEMBLY NUMBER	None incorporated
SPECIAL NOTES	Extremely rare variant, with brass bead front sight set back only 3/16 inch from muzzle. Made without loading gate or cartridge ejector system, only nine authentic specimens are known to the author.



Fig. 8-62A Colt Model 1862 Pocket Navy conversion with 3-inch barrel. Serial number 20902. (Author's Collection)

Though extremely rare, a very small quantity of short 3-inch Octagonal Barrel revolvers are known to exist within the 20400-21100 serial number range of this type of Pocket Navy. Examples are serial numbered 20484, 20675, 20706, 20902, 21001, 21065 and 21068. Two others outside of this serial number range have been reported,

one with a loading gate and the other elaborately engraved. The revolver shown in Fig. 8-62 is serial numbered 21001, is rimfire, has no gate or spring, has a large hammer screw and has two-line double July patent dates stamped on the frame. The other serial numbers listed previously are identical in all respects.



Fig. 8-63 Engraved Colt Pocket Navy Cartridge revolver without loading gate. Serial number 2045. (Courtesy Francis E. "Bud" Firth)



Fig. 8-64 Engraved Colt Pocket Navy conversion without loading gate. Serial number 20147. (Courtesy Francis E. "Bud" Firth)



Fig. 8-65 4-1/2-inch Colt Pocket Navy cartridge revolver originally rimfire and converted to centerfire. Serial number 626, assembly number 510. (Author's Collection).



Fig. 8-66 Hammer of Colt Pocket Navy cartridge revolver, serial number 626, showing both firing pins.

Strange as it may seem, more special treatment was given to the Colt Pocket Navy cartridge revolvers than to any other Colt conversions. It is also known that in the percussion line of Colt Pocket Navy revolvers, engraved pieces were carried as stock items. Stock engraving was generally the vine-style scroll of the 1860-1870 period, while others have the heavy vine and leaf scroll with punched dot backgrounds. The conversion pictured in Fig. 8-63 is serial numbered 2045, and was engraved in its percussion state. The pattern of engraving is the standard vine-style scroll generally found on stock engraved percussion revolvers of the period. Once again, the engraving is found cut away at the loading channel in the recoil shield, a result of machining the channel to receive cartridges.

The 4-1/2-inch Pocket Navy conversion shown in Fig. 8-64 is engraved in the heavy vine and leaf scroll with punched dot background pattern. The gun, serial number 20147, has no loading gate and was engraved after the conversion from percussion to cartridge. Coverage is found on the frame, barrel, triggerguard, backstrap

and hammer. The cylinder was left with the original roll-die stagecoach hold-up scene, with line and dot borders added at the front and rear. The frame pattern cuts through the center of COLTS, in the COLTS/PATENT frame stamping and 38 CAL appears double-stamped at the left rear of the triggerguard oval.

Sales of 4-1/2-inch Octagonal Barrel Pocket Navy cartridge revolvers started to decline, probably in 1874, but B. Kittredge & Co. advertised the series as late as January 1875.

A very limited number of rimfire Pocket Navy cartridge revolvers have been reported as reconverted to centerfire ignition. Such a gun, serial number 626 assembly number 510 is pictured in Fig. 8-65. This revolver has a low serial number and a loading gate. The gate spring is external and the hammer screw is the larger size found on this model. The frame is marked with the two-line double July patent dates.

As shown in Fig. 8-66, the firing pin of the rimfire hammer has been ground back even with the hammer face, and a new cone-type centerfire firing pin screwed into the center of the face of the hammer.

This type reconversion was probably done by a private gunsmith, rather than by the Colt factory. The revolver is

pictured and described here, rather than in Chapter 9 because it represents the continuation in the study of 4-1/2-inch Colt Pocket Navy metallic cartridge revolvers. It was originally factory-produced as a rimfire Original Metallic Cartridge revolver and remains in excellent overall condition, with much of its original bright blue and color case hardening remaining. The matching cylinder retains 100 percent of the original stagecoach hold-up scene.

As interest began to diminish in ejectorless 4-1/2-inch octagonal-barreled Pocket Navy metallic cartridge revolvers—partially because of the open top frame—more and more of the .41 caliber solid-frame “Cloverleaf” House revolvers (1871) and solid-frame “New Line” revolvers (.22 and .32 caliber, 1873 and .30, .38 and .41 caliber, 1874) were purchased in the American market for “Hide-Away” guns. This forced Colt’s marketing efforts in two new directions. First, the company concentrated on foreign markets, principally Mexico, to use up all of its overstocked percussion revolvers and percussion revolver parts. Second, to take advantage of whatever appeal there might have been in the domestic for these converted small frame revolvers, they had to be cosmetically improved. For these reasons, the Turned Round Barrel Pocket Navy Model was developed.

Model 1862 Turned Round Barrel Pocket Navy Conversions

SERIAL NUMBER RANGES	Model 1862 Percussion range, to 40000 (rare). Generally in the Original Metallic Cartridge range, typically 1000-15000
CALIBER	Typically .38 rimfire
BARREL LENGTHS	4-1/2, 5-1/2, and 6-1/2 inches
BARREL ADDRESS	COLT'S PT.F.A.MFG.CO/HARTFORD CT.U.S.A
EJECTOR HOUSING	Small frame Richards-Mason type
EJECTOR ROD TIP	Round, flush with housing end
EJECTOR HEAD	Target pattern (concentric rings)
BARREL WEDGE	Late type without spring
CYLINDER	Converted round percussion Pocket Navy
CONVERSION RING	Richards Type IV (see text)
LOADING GATE SPRING	External
FRAME TYPE	Remachined 1862 Police/Pocket Navy type
FRAME MARKINGS	-PAT.JULY.25.1871 -/PAT.JULY. 2.1872-
	Original COLTS/PATENT sometimes visible
HAMMER SCREW	Large (0.25-inch body and 0.285-inch head)
HAMMER SPUR KNURL	Bordered and underlined medium knurl
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Generally brass from Colt Model 1862
TRIGGERGUARD	Generally brass from Colt Model 1862
ASSEMBLY NUMBER	On frame, conversion ring and gate
SPECIAL NOTES	Assembly numbers may, or may not, represent all or a portion of the serial number of this model. All of this type cartridge revolver had loading gates and cartridge ejectors.



Fig. 8-67 4-1/2-inch
Turned Round Barrel
Colt Pocket Navy con-
version, serial number
12761, assembly num-
ber 1316. (Right side)
(Author's Collection)



Fig. 8-68 Left side view of Turned Round Barrel Colt Pocket
Navy conversion, serial number 12761.

To enhance the overall appearance of the Colt Pocket Navy Original Metallic Cartridge models and conversions, the factory offered a new version in this series, known as the Round Barrel Pocket Navy Revolver with Cartridge Ejector.

The barrels of this series of cartridge revolvers were converted from the Colt percussion Pocket Navy revolvers by plugging the lever channels, plunger holes and transverse lever screw holes of the barrel lugs, and the lever latch dovetails under the octagonal barrels. The barrels were then turned round, to the final shape of that pictured in Figs. 8-68 and 8-69.

Figure 8-69 shows the underside of the turned round barrel of a 4-1/2-inch revolver serial numbered 12932. This illustration shows the above-mentioned channel, hole and dovetail filled and finished off by the final turning operation. A channel was milled into the right side of the barrel to properly seat the ejector case, and a new transverse hole was drilled and counter-bored for the ejector mounting screw. The barrel in Fig. 8-69 has the ejector assembly mounted.

A portion of the July 2, 1872, W. Mason patent drawings is duplicated in Fig. 8-70, showing the barrel (Fig. 5), the ejector type (side view Fig. 4 and end view Fig. 6) and



Fig. 8-69 Underside of 4-1/2-inch Turned Round Barrel Colt Pocket Navy conversion barrel, serial number 12932. (Author's Collection)

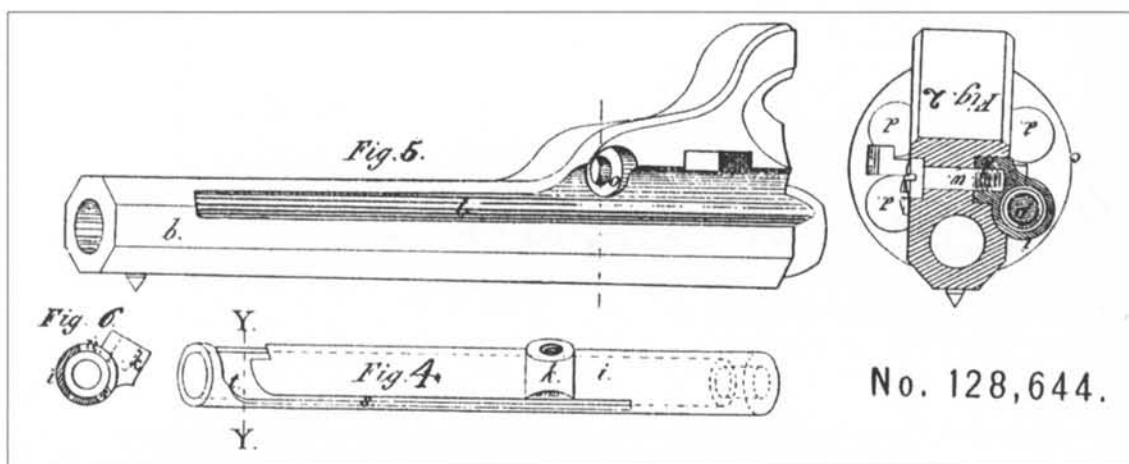


Fig. 8-70 Mason type barrel and cartridge ejector assembly drawings taken from Wm. Mason Patent No. 128,644.

a cut section of the ejector mounting details (Fig. 2). Although the barrel is octagonal in the illustration, the mechanical details and design features are identical to those that have been turned round. The retention of the loading cut-outs at the rear of the lug, the shape of the lug and the type ejector assembly, classify such barrels as "Mason Barrels," whether octagonal or round in shape.

Attempting to establish an exact production period or serial numbering sequence is virtually impossible. Serial numbers were randomly assigned, apparently within the range of 1000 and 15000. In our survey, the first group of Turned Round Barrel Pocket Navy Cartridge Revolvers were found to be numbered in the 1200 to 4000 range, while the second group was numbered in the 9400 to 14000 serial number range. A few were numbered be-

tween these two ranges, serial number 6997 for example, and a Turned Round Barrel Conversion is found numbered as high as 38180. These, however, are only samplings and others are certain to be numbered below, between and above these serial number ranges.

The Turned Round Pocket Navy barrels are found in three separate lengths. The most common barrel length was 4-1/2 inches and about 60 percent of all turned round barrels were sold in this length. The 5-1/2-inch barrel length was next in popularity, and represents approximately 27 percent of sales. The rarest was the 6-1/2-inch barrel, and the remaining 13 percent were sold in that size.¹

All Pocket Navy Original Metallic Cartridge Revolvers and Conversions with turned round barrels incorporat-

1. Percentages of each length turned round for Colt conversions comes from the culmination of 40 years of records kept by the author, Dow Heard, and John Thillmann, based on actual serial numbers examined in museums, private collections, gun shows, and auctions of complete collections.

ed both loading gates and cartridge ejectors. Because most were produced after July 1872, this model generally has the large hammer screws, external loading gate springs and the two-line double July frame markings.

A standard 4-1/2-inch Turned Round Barrel Colt Pocket Navy Original Metallic Cartridge Revolver is pictured in Fig. 8-71, full right side view, and in Fig. 8-72, full left side

view. It is serial numbered 12932, with assembly number 3895, and the matching cylinder is numbered 2932. The gun has the standard two-line HARTFORD barrel address, two-line double July patent dates frame stamping (with dashes), and the original percussion 36 CAL mark remains on the triggerguard shoulder. The large hammer screw, external gate spring and cartridge ejector are common to



Fig. 8-71 Right side view of nickel-plated 4-1/2-inch Turned Round Barrel Colt Pocket Navy conversion, serial number 12932, assembly number 3896. (Author's Collection)



Fig. 8-72 Left side of the Turned Round Barrel Colt Pocket Navy conversion, serial number 12932.



Fig. 8-73 Nickel Plated 5-1/2-inch Turned Round Barrel Colt Pocket Navy Cartridge revolver, serial number 3198, assembly number 3139. (Courtesy John H. Thillmann).



Fig. 8-74 Left side view of 5-1/2-inch Turned Round Barrel Colt Pocket Navy Cartridge revolver, serial number 3198.

this model. The trigger, wedge and screws are bright blued, the hammer is color case hardened and the remainder of the revolver is nickel plated. The gun is in excellent overall condition with a full crisp cylinder scene and more than 90 percent original finish. With slightly crowned barrel, bead front sight and rimfire hammer and conversion ring, this specimen is typical of the Turned Round Barrel Model in every respect.

The 5-1/2-inch Turned Round Barrel Colt Pocket Navy Original Metallic Cartridge revolver shown in Figs. 8-73 (right side) and 8-74 (left side) is full nickel plated and serial numbered 3198, including the cylinder. The assembly number is 3139. All screws, except the ejector tube mounting screw are blued. The frame

marking is the two-line double July patent dates (without dashes) and the original percussion 36 CAL remains on the triggerguard shoulder. The gun is in excellent overall condition.

Figures 8-75 and 8-76 picture the full right and left sides of a rare 6-1/2-inch Turned Round Barrel Colt Pocket Navy Original Metallic Cartridge Revolver with cartridge ejector. This gun is serial numbered 3124, has assembly number 3296, and the cylinder is stamped with both numbers. The two-line double July patent dates stamped on the frame have all eight periods, but no dashes. Except for the barrel length and the frame stamping, this gun is mechanically identical to those previously described. It has a color case-hardened hammer



Fig. 8-75 Blued and color case hardened 6-1/2-inch Turned Round Barrel Colt Pocket Navy Cartridge revolver, serial number 3124, assembly number 3296. (Courtesy John H. Thillmann)



Fig. 8-76 Left side view of 6-1/2-inch Turned Round Barrel Colt Pocket Navy Cartridge revolver, serial number 3124.

and frame and brightly blued barrel, cylinder, trigger and screws. It is in virtually new condition.

The barrels of Figs. 8-71, 8-73 and 8-75 are typical turned round Mason types, as they each have the original percussion bullet loading V-notch at the lower right sides of their lugs. Don't confuse these barrels with the solid "S" Lug barrels of the Type 4 and Type 5 "S" Lug Cartridge Barrel revolvers, which follow, or that of the experimental Baby Open Top Model described in Chapter 7. Those are later barrels that were specifically manufactured as cartridge barrels, while the Turned Round

Pocket Navy barrels were conversions or modifications of original octagonal percussion barrels.

Quite often, sights were changed in the field to best meet the needs of owners of conversions and Original Metallic Cartridge revolvers. The 6-1/2-inch Turned Round Barrel Colt Pocket Navy Original Metallic Cartridge revolver shown in Fig. 8-77 has a blade front sight, with the sight base dovetailed into the top of the barrel. The revolver is serial numbered 11552, with a matching cylinder (1552) and has the assembly number 2680. All other characteristics of this revolver are standard, such



Fig. 8-77 Blued and color case hardened 6-1/2-inch Turned Round Barrel Colt Pocket Navy conversion, serial number 11552, assembly number 2680. (Courtesy Francis E. "Bud" Firth)

as the large hammer screw, external gate spring and two-line double July frame stamping. It is blued and color case hardened and in excellent overall condition.

The 5-1/2-inch Turned Round Barrel Colt Pocket Navy conversion shown in Figs. 8-78 and 8-78A is an extremely rare revolver. Serial numbered 11635, it was handsomely engraved in the L.D. Nimschke style of scroll vine with punched dot background, and was fully gold washed except for the hammer and trigger. The engraving was done after the revolver was factory convert-

ed to metallic cartridge. Except for the border lines added to the front and rear, the original "Stagecoach Hold-Up" cylinder scene remains, unaltered.

As shown in Fig. 8-78, the loading gate incorporates an external spring and the ejector housing is engraved with an interwoven border motif, often favored by Nimschke. Why the screws are plated and the hammer was left plain and blued is unknown.

The left side of the same gun (serial number 11635) is pictured in Fig. 8-78A, showing the two-line patent date



Fig. 8-78 Right side view of engraved and gold-washed Colt Model 1862 Pocket Navy conversion, serial number 11635, with 5-1/2-inch Turned Round Barrel. (Collection of Michael Leff)



Fig. 8-78A Left side view of engraved Colt Model 1862 Pocket Navy conversion, serial number 11635. (Collection of Michael Leff)



Fig. 8-79 Rare 6-1/2-inch Colt Model 1862 Police Cartridge revolver with internal gate spring and fluted cylinder. Serial number 1659 (Courtesy John H. Thillmann)

frame marking, bordered by scroll engraving. This always affirms that the engraving was applied after the revolver was converted from percussion to metallic cartridge.

Engraving coverage is generous on all exposed parts of the revolver. More than 85 percent of the length of the barrel exhibits a full pattern, with only the muzzle left plain. The frame, conversion ring and loading gate are fully engraved, while the gripstraps are highlighted in exposed areas and at the butt.

The cylinder number does not match that of the revolver, which is often the case with Colt factory conversions. The Colt factory obviously premachined

(converted) many previously numbered percussion cylinders and returned them to the parts inventory. Then, as revolvers were converted and numbered, any converted cylinder was taken from the parts bin and used.

It is difficult to understand the reasoning behind the turned round barrel shape. The final product was similar to the barrel design incorporated in the first percussion revolvers of Griswold and Gunnison, and identical to the Second Model round barrels of the Bacon Mfg. Co. Mechanically, it would have been much simpler to turn these barrels round in the style of the Colt Dragoon percussion barrels, leaving the octagonal

form at the top of the barrel housing. Perhaps the managers of the Colt factory were attempting to emulate the more modern appearance of the 1862 Police cartridge revolver barrels, which were well-received but, by then, no longer available.

The graceful lines of the rare 6-1/2-inch Colt Model 1862 Police cartridge revolver are again pictured in Fig. 8-79. This is one of the fluted-cylinder models (serial number 1659) with small hammer screw and internal gate spring.

Comparing the barrel shape of this 1862 Police Model with that of the Turned Round Barrel Pocket Navy Model (Figs. 8-79 and 8-75) suggests that Colt was attempting to create an attractive streamlined profile.

By the mid-1870s, one of two possibilities caused the shift from converted percussion barrels to newly manufactured cartridge barrels. Either the supply of Pocket Navy percussion barrels had dwindled away, or the Colt Company realized that it was cheaper to make new barrels than to rework the older ones.

Model 1862 3-1/2-Inch Round "S" Lug Cartridge Barrel Revolvers	
SERIAL NUMBER RANGES	1-19000, Original Cartridge range
	19000-21500, Model 1862 range
	Approximately 275000-330000 (see text)
CALIBER	.38 rimfire, low serial numbers
	Mixed 13000-275000
	.38 centerfire above 275000.
BARREL LENGTH	3-1/2 inches only
BARREL ADDRESS	COLT'S PT.F.A.MFG.CO/HARTFORD CT,U.S.A.
EJECTOR HOUSING	None supplied
EJECTOR ROD TIP	Not applicable
EJECTOR HEAD	Not applicable
BARREL WEDGE	Late type without spring
CYLINDER	Converted round percussion or newly made
CONVERSION RING	Richards Type IV, without gate (see text)
LOADING GATE SPRING	None supplied
FRAME TYPE	Remachined percussion Models 1862 and 1849
FRAME MARKINGS	PAT.JULY.25.1871./PAT.JULY.2. 1872. or
	-PAT.JULY.25.1871./PAT.JULY.2. 1872.-
HAMMER SCREW	Large (0.25-inch body and 0.285-inch head)
HAMMER SPUR KNURL	Bordered and underlined, both long and short
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Generally brass, occasionally steel
TRIGGERGUARD	Generally brass, occasionally steel
ASSEMBLY NUMBER	On frame and conversion ring, when used
SPECIAL NOTES	Assembly numbers were used sporadically in the low (four digit) serial number range, and are very seldom encountered in the high (six digit) serial number range on this model.

The 3-1/2-inch Round Cartridge Barrel revolvers had barrels that were made as cartridge barrels, with solid lugs and without cartridge ejectors. The barrels carried the two-line HARTFORD address, had small-post front sights and were slightly crowned. Barrel wedges were the later type without springs.

This model revolver was made as an Original Metallic Cartridge revolver from unnumbered parts remain-

ing in the factory percussion parts inventory and newly fabricated cartridge parts. The first produced were serial numbered in a range of 1 through approximately 21500.

Once the supply of Model 1862 Police and Pocket Navy unnumbered percussion frames became exhausted, a second group of these revolvers was produced using remachined Model 1849 percussion Pocket Model



Fig. 8-80 3-1/2-inch Round Cartridge Barrel revolver, serial number 3007. (Author's Collection)

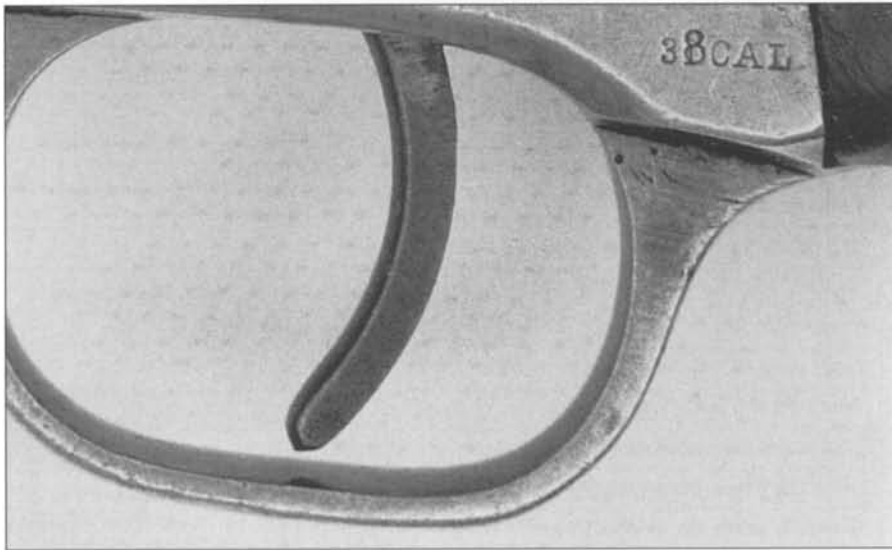


Fig. 8-81 31 CAL changed to 38 CAL on trigger guard shoulder of 3-1/2 inch Cartridge Barrel revolver, serial number 311963.

frames. These frames came from both the percussion parts inventory and completed percussion Pocket Model revolvers, and were mostly prenumbered in the serial number range of 275000 through 330000. Rather than removing these existing serial numbers, the barrels and cylinders used in making up these revolvers were numbered to the frames.

The Model 1849 percussion frames had a straight plane between the recoil shield and front, where they pinned to the barrel lugs. During the machining operation of cutting the face of the recoil shield back to receive the conversion ring, this straight plane was recut with

a step to receive the .38 caliber rebated cylinder. Original .31 caliber percussion cylinders were too small in diameter to be converted to accept .38 caliber cartridges, and were sold as parts or scrapped.

Generally, when a Model 1849 Pocket Model frame was used on this model revolver, its triggerguard, backstrap and walnut grip were also used, as were several of the internal parts. Therefore, it will be found that the gripstraps were already numbered to the gun. The original 31 CAL stamped on the shoulder of the triggerguard is often over-stamped with an 8 over the 1, as is the case with serial number 311963 pictured in Fig. 8-81. Those

3-1/2-inch Cartridge revolvers made up from unnumbered parts (lower serial number range) will typically be found to have 36 CAL triggerguard shoulder marks.

The frame markings are the two-line double July patent dates on both serial number ranges. Some have dashes while others have no dashes. The high serial number revolvers (275000 to 330000) will often show traces of the original COLTS/PATENT frame stamping, as well.

Cylinders were the five-shot round rebated Pocket Navy size, converted from .36 caliber percussion to .38 caliber flanged cartridge, or newly made in .38 caliber. All in our survey were numbered to the revolvers. Dimensions are found in the table accompanying Fig. 8-9, and the associated text describes the conversion from percussion to cartridge.

With the exception of a few guns made for the Quincy Police (25 reported in *Colt Tips* by E. Dixon Larson; see Bibliography), the 3-1/2-inch Round Cartridge Barrel revolvers had no loading gates, and therefore no gate springs. Those reported observed with loading gates (only five) are all centerfire, have external gate springs and are in the middle of the four-digit serial number range with three digit assembly numbers.

The 3-1/2-inch Cartridge Model was produced in both rimfire and centerfire configurations. The majority of rimfires are found below serial number 13000, while most above serial number 275000 are centerfire. Between these two numbers, they are found to be mixed. All are .38 caliber and the standard model (without load-

ing gate) uses the Richards Type IV conversion ring illustrated in Figs. 8-13 through 8-15.

A close-up of a 3-1/2-inch Round Cartridge Barrel revolver frame, conversion ring and cylinder is shown in Fig. 8-82. The barrel has been removed and the cylinder moved forward on the arbor to show the new ratchet shaft of the cylinder. The gun is serial numbered 4525 with matching cylinder, number 525.

The two-line double July patent dates stamped on the left side of the frame have dashes at the beginning and end of each line, but the period after 1871 is missing. The patent date stamp on serial number 3007 (see Fig. 8-89) has all eight periods, but no dashes. The frame markings with dashes seem to outnumber those without dashes, while the majority with dashes have the period missing after the 1871. In the survey, all frame markings without dashes had all eight periods. The missing period in the frame stampings with dashes at both ends of each line is attributed to a broken die (see preceding chapters).

The rimfire and centerfire firing pins are pictured in Figs. 8-83 and 8-84, respectively. The rimfire hammers were constructed as illustrated in Figs. 8-18 and 8-19, while those designed for centerfire ignition incorporated the wedge-type firing pin illustrated in Fig. 8-17. Cone-type centerfire firing pins are seldom encountered with this model cartridge gun, and their use appears to be confined to reconversions from rimfire to centerfire ignition.

A low serial number range 3-1/2-inch Round Cartridge Barrel revolver is pictured in Figs. 8-85 (right side)



Fig. 8-82 3-1/2-inch Cartridge Barrel revolver with barrel removed and cylinder forward on arbor, showing ratchet shaft detail. Serial number 4525 (Author's Collection)



Fig. 8-83 Rimfire hammer of 3-1/2-inch Round Cartridge Barrel revolver, serial number 4525.

and 8-86 (left side). The gun is serial numbered 4525, with matching cylinder stamped 525. The original percussion capping channel at the right side of the recoil shield was milled deeper, to allow clearance for both the

case and flange of the metallic cartridges to be loaded into the converted cylinder (see Fig. 8-85.). This resulted in a partially exposed ratchet stem, as shown.



Fig. 8-84 Centerfire hammer of 3-1/2-inch Round Cartridge Barrel revolver, serial number 311963. (Author's Collection)



Fig. 8-85 Right side view of 3-1/2-inch Round Cartridge Barrel revolver, serial number 4525, showing detail of recut loading channel through recoil shield. (Author's Collection)

Of greater interest is the size and shape of the remaining portion of the recoil shield, just below this deepened loading channel and at the point where it meets the conversion ring. Note that a small portion of the recoil shield has been ground or milled away, on a slight angle, at this junction point. This is the case with many of the low serial number models because the frames used were originally converted percussion frames intended for conversions or cartridge revolvers incorporating loading gates. This angular section was cut away so the bulky

rear of the loading gate would clear that part of the recoil shield when swung open or closed.

Another important characteristic to note is the difference in the amount of metal remaining at the lower portion of the recoil shields after the capping ports had been cut. This varies considerably from percussion revolver to percussion revolver of the same model, as well as from model to model. For instance, in the early fluted 1862 Police models, the lower portions of the recoil shields extended outward from the frame by only 0.050



Fig. 8-86 Left side view of 3-1/2-inch Round Cartridge Barrel revolver, serial number 4525.

inch, as on serial number 1620. On serial number 12380 it measured only 0.070 inch. Both of these percussion revolvers had recoil shield cut-outs and capping grooves.

All small frame conversions, regardless of type or model, measured 0.140 inch at this point. Therefore, any percussion frame with the lower portion of the recoil shield extending less than 0.140 inch outward from the frame could not be used for conversion from percussion to cartridge.

The 3-1/2-inch Round Cartridge Barrel revolver serial numbered 4525 is a rimfire full nickel plated specimen with standard varnished walnut grip. As pictured in Fig. 8-86, the frame is stamped with the two-line double July patent dates, with dashes and with the period missing after the 1871. The original 36 CAL percussion stamp in the shoulder of the triggerguard remains unchanged.

In contrast to the frame illustrated in Fig. 8-85, the frame in Fig. 8-87 has no bevel cut at the front of the lower right side recoil shield. This frame was not originally intended for a revolver with loading gate, and later rerouted to this 3-1/2-inch Round Cartridge Barrel revolver. The revolver pictured in Figs. 8-87 (right side) and 8-88 (left side) is serial numbered 4336, with matching cylinder numbered 336. It is full nickel plated, has a varnished walnut grip and the frame and triggerguard stampings are identical to serial number 4525, pictured in Fig. 8-86.

A close-up photograph of a rimfire 3-1/2-inch Round Cartridge Barrel revolver, serial number 3007, is shown in Fig. 8-89. With the hammer at full cock, the rimfire firing pin is seen riveted into its recess milled into the front left flat of the hammer. This revolver has the type of frame stamp with all eight periods, but no dashes.

Fig. 8-87 Right side view of 3-1/2-inch Round Cartridge Barrel revolver, serial number 4336. (Author's Collection)



Fig. 8-88 Left side view of 3-1/2-inch Round Cartridge Barrel revolver, serial number 4336.





Fig. 8-89 Close-up of frame, cylinder and rimfire hammer of 3-1/2-inch Round Cartridge Barrel revolver, serial number 3007. (Author's Collection)



Fig. 8-90 Close-up of frame, cylinder and centerfire hammer of 3-1/2-inch Round Cartridge Barrel revolver, serial number 311963. (Author's Collection)

The common wedge-type centerfire firing pin is pictured in the close-up of the 3-1/2-inch Round Cartridge Barrel revolver of Fig. 8-90. This revolver is serial numbered 311963 and has the frame and gripstraps of a Model 1849 Colt Pocket Model revolver. The two-line double July patent dates of the frame have dashes, and the original 31 CAL percussion stamping on the shoulder of the triggerguard has been changed to 38 CAL by stamping an 8 over the 1. Note that the 8 is a larger stamp than used on the original marking (see Fig. 8-81).

Figure 8-91 shows another 3-1/2-inch Round Cartridge Barrel revolver in the high serial number range; it has a Colt Model 1849 percussion Pocket revolver frame. The gun is serial numbered 317285, has the two-line double July patent dates stamped into the frame, with dashes and missing period after 1871, and a complete restamping of the caliber mark on the shoulder of the triggerguard. The original percussion 31 CAL stamp has been over-stamped with 36 CAL. The new stamp was slightly longer than the original, and though the 3s line up, the CAL is a double strike. The original 1 can be seen under the new 6 (see Fig. 8-92).

The next question is, "Why .36 caliber rather than .38?" and the answer might be that Colt already had 36

CAL stamps in its tooling or marking department, while 38 CAL would require the purchase of new tooling. Regardless of why these stamps were used it is important to note that all small frame Richards-Mason conversions are either .38 caliber rimfire or .38 caliber centerfire. There are no .36 caliber cartridge revolvers or conversions.

The 3-1/2-inch Round Cartridge Barrel revolvers were inexpensive to manufacture, as there was no loading gate, no cartridge ejector system and the barrels required no plugging and remachining. Therefore, they were offered at a very attractive price and for that reason, combined with the Colt name for quality, were well-accepted over more expensive competing revolvers of the same size and caliber.

This was strictly a pocket or "hide-away" revolver, and the range of its accuracy was limited by the barrel length. As demand started to decrease for the 3-1/2-inch Model, the Colt Company came out with a longer round barrel cartridge revolver of the same caliber, which was suitable to be carried in a belt holster. This new longer-barrel cartridge revolver was later to become known as the Round Cartridge Barrel Model with Loading Gate and Cartridge Ejector.

Model 1862 Round "S" Lug Cartridge Barrel Revolvers with Cartridge Ejector and Loading Gate

SERIAL NUMBER RANGES	Approximately 1000-19000 in original numbering range
	38000-48000 in Model 1862 Police/Pocket Navy range
CALIBER	.38 rimfire and .38 centerfire
BARREL LENGTHS	5-1/2 and 6-1/2 inches (3-3/4 inches see text)
BARREL ADDRESS	COLT'S PT.F.A.MFG.CO/HARTFORD CT.U.S.A.
EJECTOR HOUSING	Small frame Mason type
EJECTOR ROD TIP	Round, flush with rear of barrel housing
EJECTOR HEAD	Target pattern (concentric rings)
BARREL WEDGE	Late type without spring
CYLINDER	Converted round percussion or newly made
CONVERSION RING	Richards Type IV (see text)
LOADING GATE SPRING	External
FRAME TYPE	Remachined percussion Models 1862 and 1849
FRAME MARKINGS	-PAT.JULY.25.1871 -/-PAT.JULY. 2. 1872.-
HAMMER SCREW	Large (0.25-inch body and 0.285-inch head)
HAMMER SPUR KNURL	Bordered and underlined medium knurl
STOCK (GRIP)	Varnished walnut or special order material
BACKSTRAP	Brass
TRIGGERGUARD	Brass
ASSEMBLY NUMBER	On frame, conversion ring and gate
SPECIAL NOTES	Assembly numbers are generally four digits and may or may not represent all or a portion of the serial number. In most instances, there is no relationship between assembly and serial numbers.



Fig. 8-91 Left side view of 3-1/2-inch Round Cartridge Barrel centerfire revolver, serial number 317285. (Author's Collection)

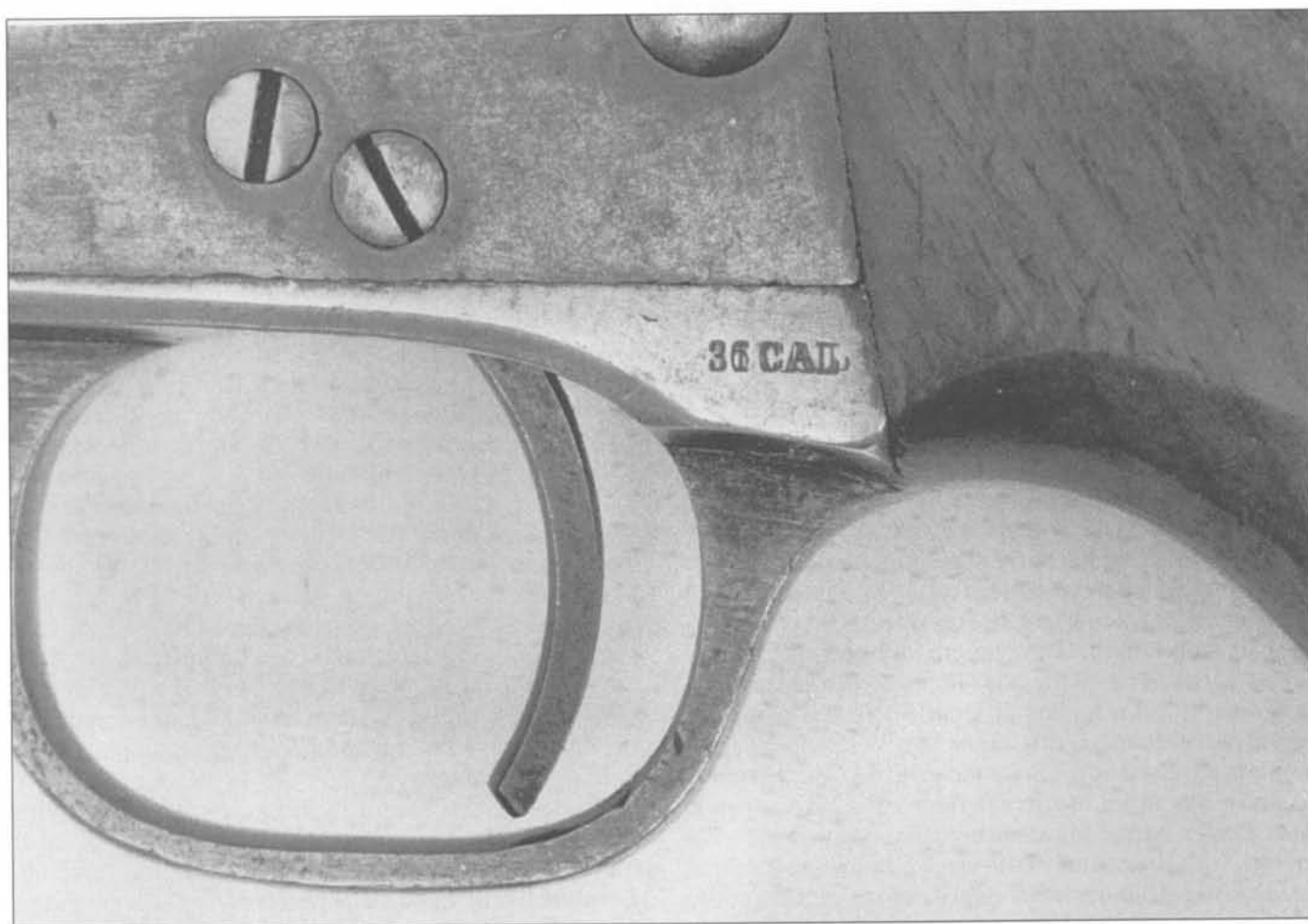


Fig. 8-92 31 CAL overstamped with 36 CAL on left triggerguard shoulder of 3-1/2-inch Round Cartridge Barrel revolver, serial number 317285. (Author's Collection)



Fig. 8-93 Two Round "S" Lug Cartridge Barrel Pocket Navy conversions: (Top) Serial number 46833 with 6-1/2-inch barrel; (Bottom) Serial number 10559 with 5-1/2-inch barrel. (Courtesy John H. Thillmann)

With the exceptions of the few known 3-inch Pocket Navy cartridge revolvers and the possible 3-1/2-inch Round Cartridge Barrel revolvers with loading gates, the 5-1/2-inch and 6-1/2-inch Round Cartridge Barrel revolvers with ejectors are the rarest of all Colt factory small frame conversions. Of the two longer barrels, it appears that more were made in 6-1/2 inches than in 5-1/2 inches. The ratio is about 8 to 5. One is known with a short 3-3/4-inch barrel, believed to be factory original.

Like the 3-1/2-inch cartridge barrels (see Fig. 8-79), the 5-1/2-inch and 6-1/2-inch cartridge barrels were manufactured as cartridge barrels, and not turned round or converted from percussion barrels. The only difference between the 3-1/2-inch and the two longer versions, other than their length, is the length and configuration of the barrel lug. That of the 3-1/2-inch barrel measures approximately 1-3/8 inches in length before a complete round barrel diameter of 0.632 inches, while a longer barrel lug is required on the 5-1/2-inch and 6-1/2-inch barrels to allow mounting of the cartridge-extractor housing. This longer barrel lug measures approximately 1.775 inches, with the center of the ejector housing mounting hole located 1.125 inches forward of the rear face of the lug.

Figure 8-94 compares the left sides of an extremely rare 3-3/4-inch Round Cartridge Barrel Model With Ejector (upper photo) to that of a 3-1/2-inch Round Cartridge

Barrel Model (lower photo). Here, the distinct difference between the two barrel lugs is evident.

The 3-3/4-inch Round Cartridge Barrel Model With Ejector (right side pictured in Fig. 8-95) is full nickel plated and serial numbered 9807. The muzzle is properly crowned and the post front sight set back the proper distance, leaving little doubt to its authenticity. It is believed to have been a special order and no others in this barrel length have been reported.

Right-side views of both the 3-3/4-inch Round Cartridge Barrel Model With Ejector (upper) and the 3-1/2-inch Round Cartridge Barrel Revolver (lower) are shown in Fig. 8-95. Here again, the two types of barrel lugs can be compared. The revolver with a loading gate and cartridge ejector is distinguished as a Round Cartridge Barrel Model With Ejector. Also seen in Figs. 8-94 and 8-95 are the external gate spring, large hammer screw and two-line double July patent dates frame stamping, common to this model.

Basically, the Round Cartridge Barrel Model With Ejector was a centerfire revolver. In the survey of small frame Colt Conversions and Original Metallic Cartridge Revolvers, only one (serial number 9657) was found to be rimfire.

Serial numbers are found in two separate ranges, with no indication of a method or pattern of assigning a particular group of numbers to a specific barrel length.



Fig. 8-94 Left side views comparing 3-3/4-inch Round Cartridge Barrel revolver with ejector, serial number 9807 (top) with 3-1/2-inch Round Cartridge Barrel revolver (bottom). (Author's Collection)



Fig. 8-95 Right side views comparing 3-3/4-inch Round Cartridge Barrel revolver with ejector, serial number 9807 (top) with 3-1/2-inch Round Cartridge Barrel revolver (bottom).

Fig. 8-96 Extremely rare 5-1/2-inch Round Cartridge Barrel revolver with ejector, serial number 10559. (Courtesy John H. Thillmann)



Fig. 8-97 Rare 6-1/2-inch Round Cartridge Barrel revolver with ejector, serial number 46997. (Courtesy Dow and Russelle Heard)



Fig. 8-98 Left side view of 6-1/2-inch Round Cartridge Barrel revolver with ejector, serial number 46997.





Fig. 8-99 6-1/2-inch Round Cartridge Barrel revolver with ejector and ivory grips, serial number 46833. (Courtesy John H. Thillmann)

The 5-1/2-inch and 6-1/2-inch barrels were mixed throughout the 8500 to 14000 and 41000 to 48000 serial number ranges. The lowest serial number observed was 8879, and the highest 47543.

This revolver's conversion rings were mostly of the centerfire ignition type illustrated at 'A' and 'B' of Fig. 8-

12, and the hammers incorporated the wedge-type firing pin shown in Fig. 8-17. The few rimfire specimens produced had the conversion ring illustrated at 'E' and 'F' in Fig. 8-12, with a rimfire firing pin as shown in Fig. 8-18 or Fig. 8-19. At least one 5-1/2-inch Round Cartridge Barrel Model is known to have a cone-type firing pin as il-



Fig. 8-100 Early Colt Single Action Army revolver frame stamping found on a limited number of late Colt small frame conversions.

illustrated in Fig. 8-20. This revolver, with loading gate and cartridge ejector, is serial numbered 10559.

Because the Round Cartridge Barrel Model With Ejector is a late production revolver (ca. 1877-1879) it invariably has a large hammer screw, external gate spring and a two-line double July patent date stamped into the left side of the frame. The patent dates generally have dashes at the beginning and end of each line, but a limited few have been observed without dashes.

A low serial number Round Cartridge Barrel Model With Ejector is pictured in Fig. 8-96. The revolver is serial numbered 10559, has a 5-1/2-inch barrel and is centerfire with a "screw-in" cone-type firing pin, which is not the type most commonly used on this model revolver. The frame is stamped with the usual two-line double July patent dates with dashes. The gate spring is external and the hammer screw is the large size, as typically found. The grip is the standard single-piece varnished walnut of the 1862 Pocket Navy size and the early percussion caliber stamp, 36 CAL remains on the triggerguard.

Summary Section: Small Frame Conversions

By combining of records regarding serial numbers and mechanical features compiled and maintained over many years by John H. Thillmann, Dow Heard and the author, an attempt was made to recognize patterns of standardization, dates of production, dates of changes, serial number ranges for specific design details and to determine at which serial number changes in design or markings took place.

The following information was taken from 289 small frame Colt Conversions and Original Metallic Cartridge Revolvers, serial number range 1 through 327801.

Serial Number Range 1-6410 and 14920-21065

- 20.2 percent were 4-1/2-inch Pocket Navy revolvers
- 1.3 percent were 3-inch Pocket Navy revolvers

Serial Number Range 1276-13318

- 9.4 percent were 4-1/2-inch Turned Round Pocket Navy revolvers
- 4.3 percent were 5-1/2-inch Turned Round Pocket Navy revolvers
- 2.5 percent were 6-1/2-inch Turned Round Pocket Navy revolvers

Serial Number Range 268-8509 and 25768-327801

- 17.2 percent were 4-1/2-inch Model 1862 Police revolvers
- 8.2 percent were 5-1/2-inch Model 1862 Police revolvers
- 7.4 percent were 6-1/2-inch Model 1862 Police revolvers

Serial Number Range 2957-325520

- 23.0 percent were 3-1/2-inch Cartridge Barrel revolvers

A 6-1/2-inch Round Cartridge Barrel Model With Ejector is pictured in Fig. 8-97 (right side) and Fig. 8-98 (left side). With the single exception of the barrel length, this revolver is identical to that shown in Fig. 8-96. It has the same loading gate with external gate spring, the same large hammer screw and the same two-line double July patent dates frame stamping with dashes. Note again that the period following the 1871 of the top patent line is missing. This 6-1/2-inch specimen is serial numbered 46997, from the higher serial number range.

Too few examples of this model were located, during the years of research in preparation of this study, to establish special factory treatment. Authentic engraved or cased specimens were neither located nor reported. One 6-1/2-inch barrel example was found with an ivory grip, serial numbered to the revolver, as pictured in Fig. 8-99. The gun is serial numbered 46833 (high serial number range), and has the two-line patent dates with dashes, large hammer screw and external gate spring.

- 2.4 percent were 5-1/2-inch Round Cartridge Barrel With Ejector Model

- 4.1 percent were 6-1/2-inch Round Cartridge Barrel With Ejector Model

Fluted Cylinders

- Among the Model 1862 Police cartridge revolvers, only 24 percent had fluted cylinders in the serial number range of 268-2194, and one at serial number 46644.

Hammer Screws

- All 1861 Police Models below serial number 5000 had small hammer screws, and above serial number 5000 had large hammer screws.
- All Pocket Navies had large hammer screws.
- All Turned Round Pocket Navies had large hammer screws.
- All Round Cartridge Barrel models had large hammer screws.

Frame Stamping

- 14.65 percent had COLTS/PATENT frame stampings, generally Model 1862 Police revolvers below serial number 5000 and some in the 37900 range.
- 6.46 percent Pocket Navy models randomly numbered in the ranges 2044-4952 and 17613-20099, and some Round Cartridge Barrel models in the six-digit serial number range also have the COLTS/PATENT frame marking.
- 29.10 percent had two-line double July patent dates without dashes.
- 41.02 percent had two-line double July patent dates with dashes.
- 1.64 percent had Early Single Action Army patent dates.
- 7.27 percent had no frame markings.

The few small frame Colt cartridge revolvers with the PAT. SEPT. 19. 1871 / PAT. JULY. 2. 1872 frame stamp, as pictured in Fig. 8-100, were mainly late Model 1862 Police conversions with fluted cylinders, in the serial number range of 37000-47000. It is interesting to note that this frame marking has no periods after the 1871 and 1872. It was struck by a six-period die or stamp. The reason for this early Colt Single Action Army revolver frame marking is unknown. The revolvers that possessed this were later production conversions, which were probably percussion revolvers returned to the Colt factory by their owners, possibly after the original two-line double July patent dates dies had become too worn for further use.

Rimfire vs. Centerfire

- 71.54 percent of all Colt small frame cartridge guns were rimfire within the serial number range of 1-327802. Most of the rimfire revolvers are found in the lower end of the serial number range (below 13000).

- 28.46 percent were centerfire within the serial number range of 1618-325520.

Loading Gates and Gate Springs

Most Colt small frame cartridge revolvers with loading gates had external gate springs. The early Model 1862 Police revolvers (serial number range 268 through 5009) had internal gate springs, but after serial number 5053

they were generally external. Serial numbers 8509 and 327801 are two exceptions. Most Pocket Navy models and Turned Round Barrel Pocket Navy models had external gate springs.

- 3-1/2-inch Round Cartridge Carrel models had no loading gates. The 5-1/2 and 6-1/2-inch models have external gate springs.

- Of the 289 Colt small frame cartridge revolvers studied, 34.15 percent had no loading gates and therefore no gate springs.

- 21.95 percent had internal gate springs.

- 43.90 percent had external gate springs.

Finally, the Colt factory inventory of percussion parts and obsolete percussion revolvers had diminished to a point where it was neither practical nor profitable to continue with the production of conversion revolvers. Competition was keen and peacetime markets were far less demanding than those Colt had enjoyed during the Civil War years. The success and demand for large caliber solid frame revolvers, such as the .41 caliber Colt House Pistol, the .45 caliber Single Action Army revolver (also .44 rimfire in 1875 and .44-40 in 1877) and the addition of the Models 1877 and 1878 double action revolvers to the line, rendered the open top small frame Colt conversion revolvers a thing of the past.

Holsters

Holsters for the small frame Colt conversions and Original Metallic Cartridge revolvers are perhaps more scarce and difficult to find than those for the large frame models, simply because fewer were made. Most short barrel small frame models were carried in the pocket, while those with longer barrels were made in limited quantities. Therefore, the demand for small frame holsters was minimal. Most existing small frame Colt conversion holsters are percussion revolver holsters, sometimes reformed and other times not.

Figure 8-101 pictures a holster and cartridge belt for a Colt Pocket Navy conversion revolver. The holster is form-fitted to a 4-1/2-inch model and is the double loop style. Note the dagger design (probably a maker's logo) impressed at the upper outside. The cartridge belt has loops containing .38 caliber metallic cartridges. This is not a converted percussion rig; the holster was made specifically for the Pocket Navy conversion.

A very rare form-fitted hip holster for a 3-inch Colt Pocket Navy conversion is pictured in Fig. 8-102. The revolver is a 3-inch octagonal barrel type without extractor and gate. This holster dates back to the mid-1870s.

Still another Colt Pocket Navy conversion is pictured in Fig. 8-103. The revolver is a 4-1/2-inch octagonal barrel model without an ejector and is shown again, out of its holster, in Fig. 8-104. The holster is a California-style S-top left-hand-or cross-draw-type with a single belt loop

attached to the rear by three rivets at the top and a semi-circle pattern of stitching at the bottom. Both front and rear have a single thin border line at all edges, as does the belt loop. The top front is notched to receive the revolver hammer. The dark brown leather is of medium skirting material, sewn closed at the toe, and with a wedge-shaped spacer to the rear of the triggerguard.

Flap holsters were standard military issue during the mid to late 1800s, and remained popular with discharged Cavalrymen. The one illustrated in Fig. 8-105 is a right-hand flap-type belt holster for a Turned Round Barrel Colt Pocket Navy conversion with a 6-1/2-inch barrel. It is made of medium black skirting leather, with a single fastening strap held closed by a brass button. Both the flap and fastening strap have a thin-line border pattern. The revolver contained is serial numbered 11552, with assembly number 2680.

The brown leather flap holster shown in Fig. 8-106 is a short belt holster, housing a 3-1/2-inch Round Cartridge Barrel revolver. It has a sewn toe and a thin single belt loop, held in position by a top and bottom rivet. The flap has a thin single-line border pattern, while the pattern on the belt loop is double lined.

Figure 8-107 shows both a revolver and a holster. This combination was most likely carried on the left front of the belt, and concealed by the vest or coat of a gambler, express agent or detective agent. The holster flap has

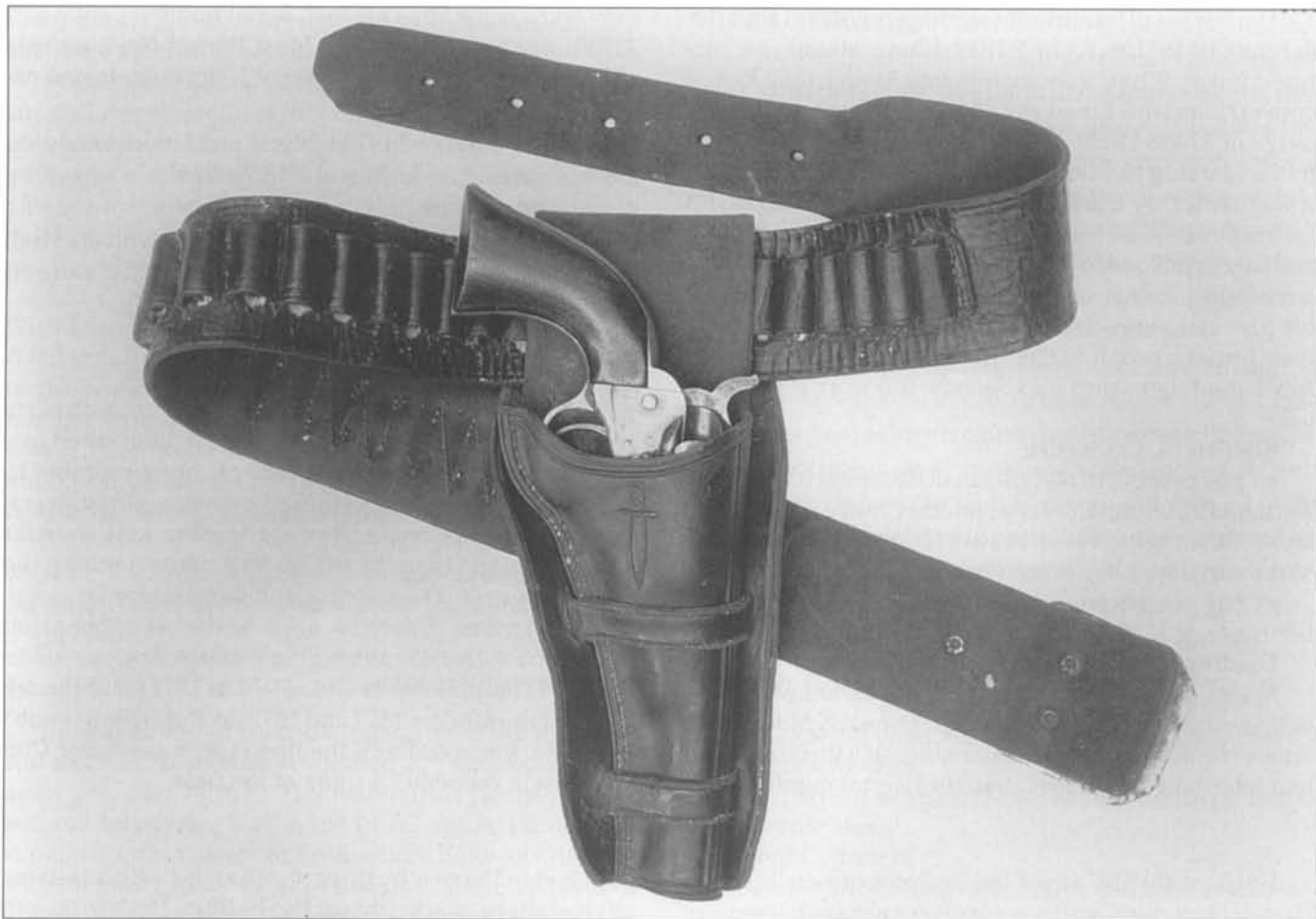


Fig. 8-101 Cartridge belt and form-fitted double loop holster for a Colt 4-1/2-inch Model 1862 Police Cartridge revolver. (Courtesy John H. Thillmann)



Fig. 8-102 Left handed hip holster for a Colt 3-inch Pocket Navy conversion. (Courtesy John H. Thillmann)



Fig. 8-103 California S-Top belt holster for a Colt 4-1/2-inch Pocket Navy Cartridge revolver with revolver in place. (Author's Collection)

no fastening strap; rather, the flap is held closed by a brass button in combination with a button hole at the tip of the flap itself.

A Colt Pocket Navy conversion (serial number 5404) with a carved Mexican Eagle ivory grip, is pictured in Fig. 8-108. The holster is a half-flap design, made of medium skirting leather. Made in Mexico or the southwest

United States, the holster dates back to the turn of the century.

The hand-carved, custom-made lined holster shown in Fig. 8-109 dates back to the early 1870s, and originally contained a 3-1/2-inch Round Barrel Colt Cartridge revolver that had a portion of the triggerguard shot out while an Oklahoma sheriff was attempting to serve a war-



Fig. 8-104 California S-Top belt holster with 4-1/2-inch Colt Pocket Navy Cartridge revolver, serial number 4952, withdrawn. (Author's Collection)

rant. The outer leather is fully sewn to the lining and hand-carved with a vine-and-foliage design. The final stitching starts at the lower portion of the triggerguard and continues, closing the toe. The half flap is held closed by a single brass post.

An open-top holster for a Colt 4-1/2-inch Model 1862 Police or Pocket Navy percussion revolver is pictured in Fig. 8-110. It now contains a Pocket Navy conversion. The revolver has a strap-and-tab closure for securing the gun in place. The strap is not integral with the holster; it is sewn to the rear by the same double stitching that

secures the top of the belt loop. The holster is made of brown medium skirting leather, is fully stitched at its rear and contains a toe plug. This piece dates to the 1860-1870 period.

Figure 8-111 illustrates an open-top California-style holster for a 6-1/2-inch Colt Model 1862 Police percussion revolver. It now contains a cartridge conversion of the same model gun. Dating back to the 1870-1880 period, the dark medium skirting leather features a border design on both front and rear. The S-shaped contour of the open top has a rather deep trigger cut-out with a



Fig. 8-105 Flap holster for 6-1/2-inch Turned Round Barrel Colt Pocket Navy Cartridge revolver, serial number 11552. (Courtesy Francis E. "Bud" Firth)



Fig. 8-106 Flap holster for 3-1/2-inch Round Cartridge Barrel revolver. (Author's Collection)



Fig. 8-107 Flap holster with 3-1/2-inch Round Cartridge Barrel revolver, serial number 307059, withdrawn. (Author's Collection)



Fig. 8-108 Half-flap holster for 4-1/2-inch Colt Pocket Navy revolver, serial number 5404, with carved (Mexican Eagle) ivory grip. (Courtesy Dow and Russelle Heard)

Fig. 8-109 Hand-tooled holster for a Colt Model 1862 3-1/2-inch "S" Lug Round Barrel conversion. (Courtesy John H. Thillmann)

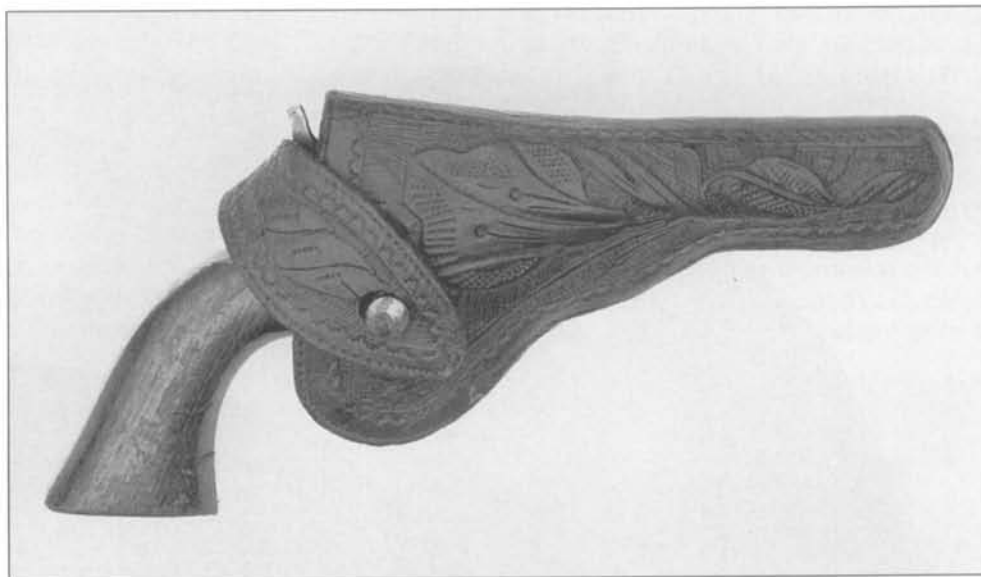


Fig. 8-110 Open top holster for Colt 4-1/2-inch Model 1862 Police or Pocket Navy revolver or conversion. (Courtesy John H. Thillmann)



Fig. 8-111 Open top California style holster for 6-1/2-inch Colt Model 1862 Police revolver or conversion. (Courtesy John H. Thillmann)



sharp upper angle. The rear seam is fully stitched, while the toe is open. The belt loop was originally held to the rear of the holster by two top rivets, a bottom rivet and a center rivet. The belt loop is numbered 41, which is the only marking, and the center rivet is missing. Note the original rear profile allowing for the percussion loading lever.

The chart shown in Fig. 8-112 outlines the annual production of cartridge guns at the Colt factory, excluding

the Gatling Guns and conversions, between 1871 and 1880. No consideration is given to other products manufactured during this same period. A steady increase is shown from 1871 (7,700 pieces) through 1876 (91,398 pieces), followed by a decline from 1877 (57,443 pieces) through 1879 (17,752 pieces) and a slight recovery in 1880 to 28,916 pieces. These figures are important in attempting to establish dates and periods of conversion revolvers.

COLT PRODUCTION c 1871 - c 1880

MODEL	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880
SAA			200	14,800	7,000	11,000	8,000	8,000	4,000	9,000
DER #1	E 300	E 300	E 300	E 300	E 300	E 300	E 300	E 300	E 300	E 300
DER #2	E 400	E 400	E 400	E 400	E 400	E 400	E 400	E 400	E 400	E 400
DER #3						E 1200	E 1200	E 1200	E 1200	E 1200
CLOVER	4000	1000	1000	1000	1200	2752				
OPEN 22	3000	3000	3000	1500	40,500	37,000	29,200			
NEW 22			4500	4500	4000	30,000	12,343			
NEW 30				1500	7700	1746				
NEW 32			2100	6700	1200	3000	1000	1000	1000	1000
NEW 38				500	5300	200	1000	2000	2000	7516
NEW 41				1000	2200	3800	2000	1000	702	
M-1877							2000	10,500	5500	9000
M-1878								1450	2650	500
TOTALS	7700	4900	11,500	32,200	69,800	91,398	57,443	25,850	17,752	28,916
COLT DERINGERS "E" - AVERAGE YEARLY PRODUCTION CALCULATED FROM TOTAL 1871-1880 PRODUCTION FIGURE.										

Fig. 8-112 Colt's production of cartridge guns, excluding conversions, between 1871 and 1880.

Chapter 9

Private and Experimental Colt Conversions

Well before the expiration of the Rollin White Patent and Alexander Thuer's concept of a revolving front loader had evolved, the Colt company had been experimenting with metallic cartridge revolvers. Many experimental models and new innovations were turned out by the Colt designers during the mid-1860 to 1870 period and, perhaps, even before. Most of these experimental guns were made up from existing Colt revolvers with new features added or percussion parts remachined for adaptation to the rimmed metallic cartridge.

Quite often confusion exists in separating true experimental or prototype models from conversions produced by non-factory sources, such as private gunsmiths, machinists, gun owners and sometimes by those not qualified for this type of work. Also, the term

"special order" has too often been used in describing an honest factory product that was later modified in one way or another, after leaving the factory.

The first part of this chapter will deal with a limited number of experimental Colt conversions, non-factory (outside) conversions and true factory conversions that were modified after leaving the factory.

An attempt to include all such experimentation by the Colt company, or by others using percussion Colt revolvers to illustrate their inventions, would result in a volume by itself. Numerous experimental and prototype Colt metallic cartridge revolvers of this period can be found in the Colt Collection of the Connecticut State Library, various museums throughout the country and in many private gun collections. Several of these experi-



Fig. 9-1 An experimental Colt pocket revolver with two-piece cylinder. Serial number 226983. (Courtesy Francis E. "Bud" Firth)



Fig. 9-2 The sliding cartridge extractor rod of experimental Colt. Serial number 226983. (Courtesy Francis E. "Bud" Firth)

mental models are discussed in earlier chapters, leading to the final designs of the Colt conversion revolvers to which they pertain.

The study will continue with Colt Walker, Sporting Rifle and Dragoon conversions and conclude with the Mystery conversions and the extremely rare Long Cylinder conversions.

A very unusual experimental Colt revolver is pictured in Figs. 9-1 and 9-2. This appears to be an 1849 Pocket Model with the recoil shields milled even with the

frame sides and a new-and much shorter-cartridge cylinder added. As can be seen in Fig. 9-1, COLTS/PATENT remains on the left front side of the frame, which is serial numbered 226983, indicating the revolver was reworked from a percussion model.

This early cartridge revolver has several unusual features. The short cylinder is semi-fluted in a style that was not common with Colt revolvers until the introduction of the Single Action Army revolvers of 1873. Full-fluted cylinders are found on certain "side hammer" root mod-



Fig. 9-3 Right side of experimental Colt small frame cartridge revolver. Serial number 75516. (Courtesy Francis E. "Bud" Firth)



Fig. 9-4 Left side of experimental Colt small frame cartridge revolver. Serial number 75516. (Courtesy Francis E. "Bud" Firth)

els, early 1860 Colt Army revolvers and most Hartford revolving longarms, but semi-fluting was first introduced to the Colt line for the Model 1862 Police cylinder, which was also rebated. This two-piece straight round fluted cylinder follows the design of the Remington Pocket, Police and Belt Model conversions (see Chapter 3)

in that it is fitted with a rear cap that admits only the tip of the hammer for rimfire ignition.

Either the bottom of the barrel lug was milled shorter so the barrel could seat on top of the frame front, rather than in front and aligned by two pins, or a new barrel was fabricated without wedge openings. The barrel was

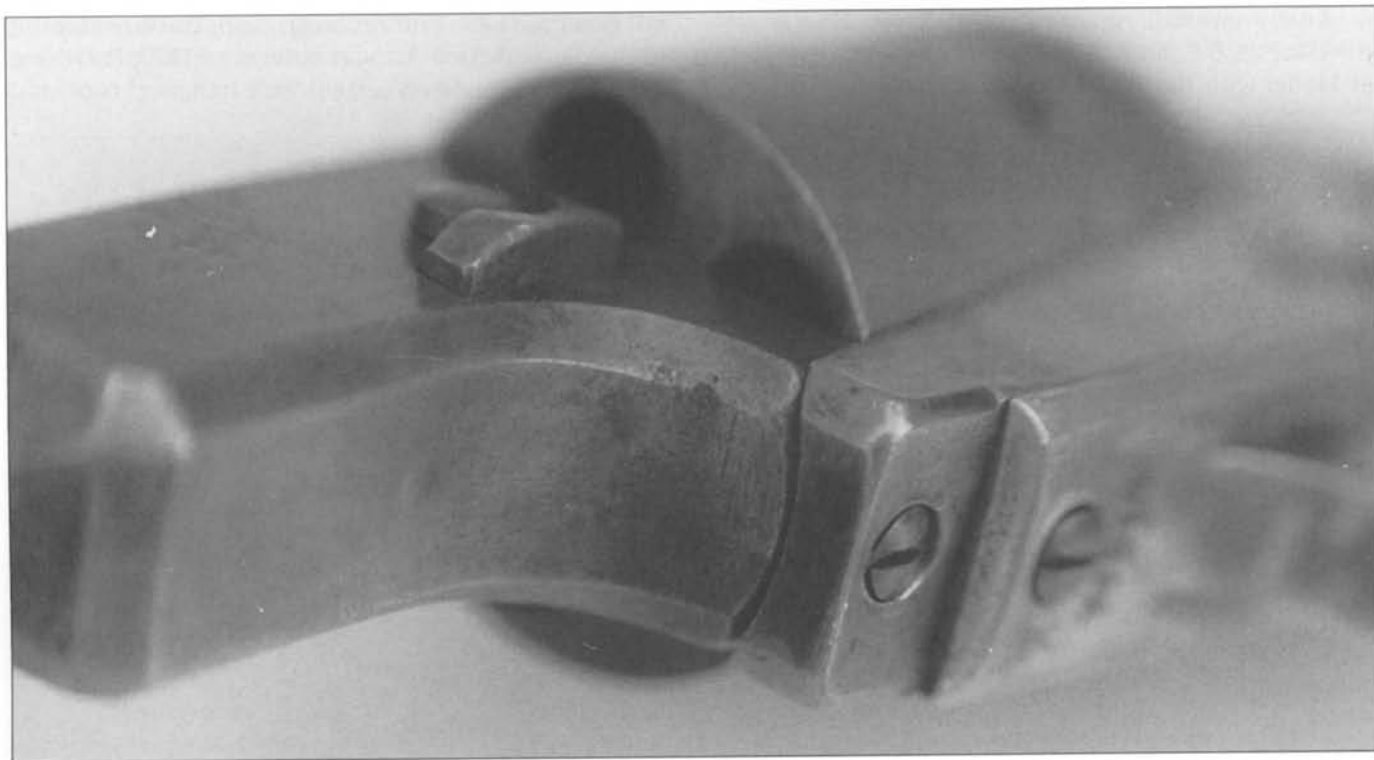


Fig. 9-5 Barrel to frame connection of serial number 75516. (Courtesy Francis E. "Bud" Firth)

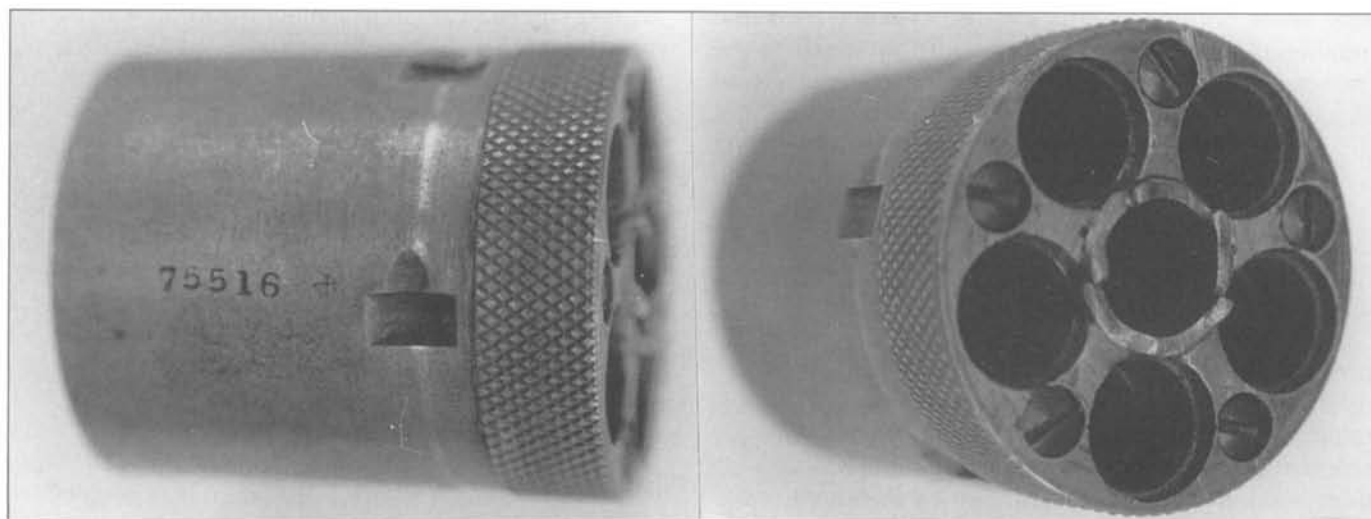


Fig. 9-6 Five-chamber cylinder of serial number 75516. (Courtesy Francis E. "Bud" Firth)

set farther back because of the shorter cylinder and, with this new design, a screw through the front bottom of the frame secured the barrel in place.

Flats were milled in both the rear top of the barrel and at the top of the frame at either side of the hammer. Obviously, a topstrap was intended for the frame, but never installed.

The offset lever shown along the right side of the barrel is a cartridge ejector (see Fig. 9-2). It is designed to slide back and forth along the barrel, with the offset ex-

tension entering the cylinder from the front to eject cartridges from the rear, once the cylinder cap is removed.

Unfortunately, this experimental revolver was never completed and is therefore not operational. It will not shoot, and the width of the sliding ejector extension is too large to allow it to enter a chamber of the cylinder. Nonetheless, all intended features are self-explanatory.

Another interesting experimental Colt conversion of a Model 1849 Pocket revolver is pictured in Figs. 9-3 (right side) and 9-4 (left side). This specimen has no frame mark-

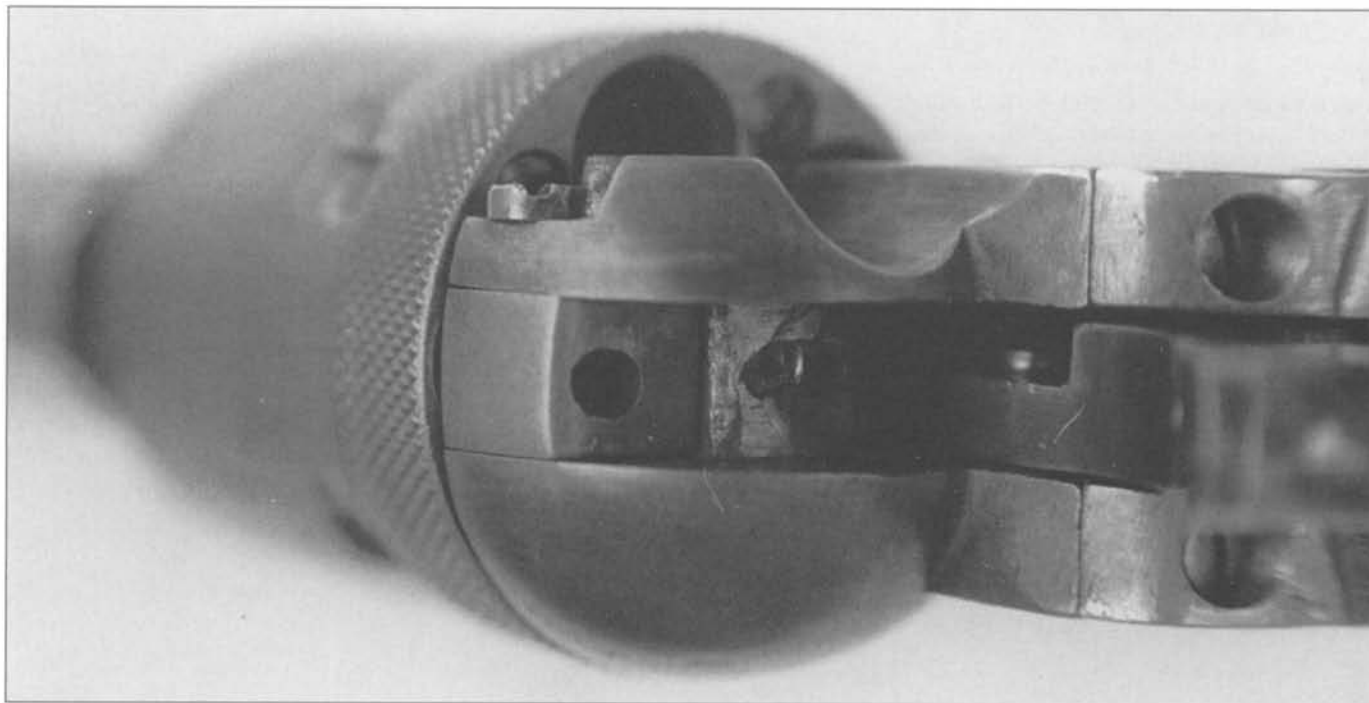


Fig. 9-7 Hammer-stop of serial number 75516. (Courtesy Francis E. "Bud" Firth)

ings, while both gripstraps and the cylinder are serial numbered 75516. The barrel has been attached to the frame in the same manner as with the experimental model shown in Figs. 9-1 and 9-2. The convex bottom surface of the barrel lug seats within a concave surface at the front top of the frame, and a single screw, in combination with the cylinder arbor, holds the two pieces together. Note that on this revolver, the barrel wedge is also used and it is a later type, without a spring. Figure 9-5 shows a close-up of this method of barrel to frame assembly.

Two separate views of the converted cylinder are pictured in Fig. 9-6. The percussion nipple portion of the original cylinder was cut away, leaving only a shaft containing the ratchet. Note that the original percussion position of the ratchet teeth was maintained. Rather than a conversion ring, a spacer ring with a thickness repre-

senting the cut-away rear cylinder portion was placed over the ratchet shaft and attached to the rear of the cylinder by six machine screws. The assembly was then re-bored to the size of the metallic cartridge case. The extension ring was knurled at its outer edge, as pictured.

Figure 9-7 pictures the recoil section of the frame with the centerfire hammer drawn to full cock. A bridge plate has been fitted into the front of the hammer slot at the top of the recoil shield, containing a rebounding firing pin (pin is missing) and maintained in position by a screw entering from the right, as shown. The hammer face has been ground flat and the hammer spur lengthened for ease in cocking.

This revolver has neither a loading gate nor cartridge ejector. The post front sight has its base dovetailed into the top of the barrel, but no rear sight is in evidence.



Fig. 9-8 Right side view of Colt "Tool Room" conversion of a Model 1851 Navy revolver, serial number 99967. (Courtesy Francis E. "Bud" Firth)

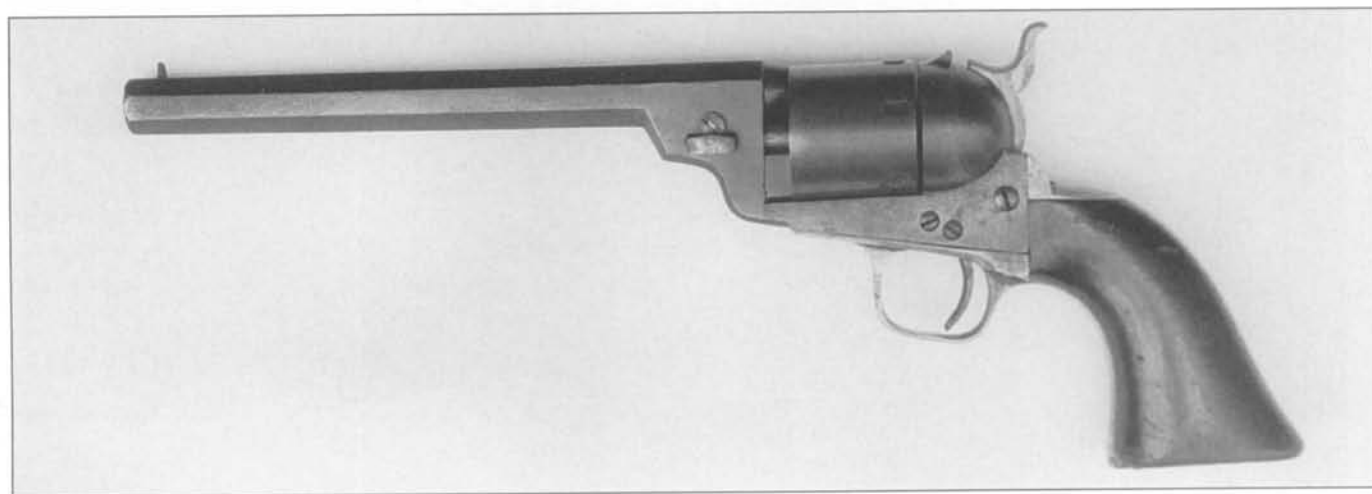
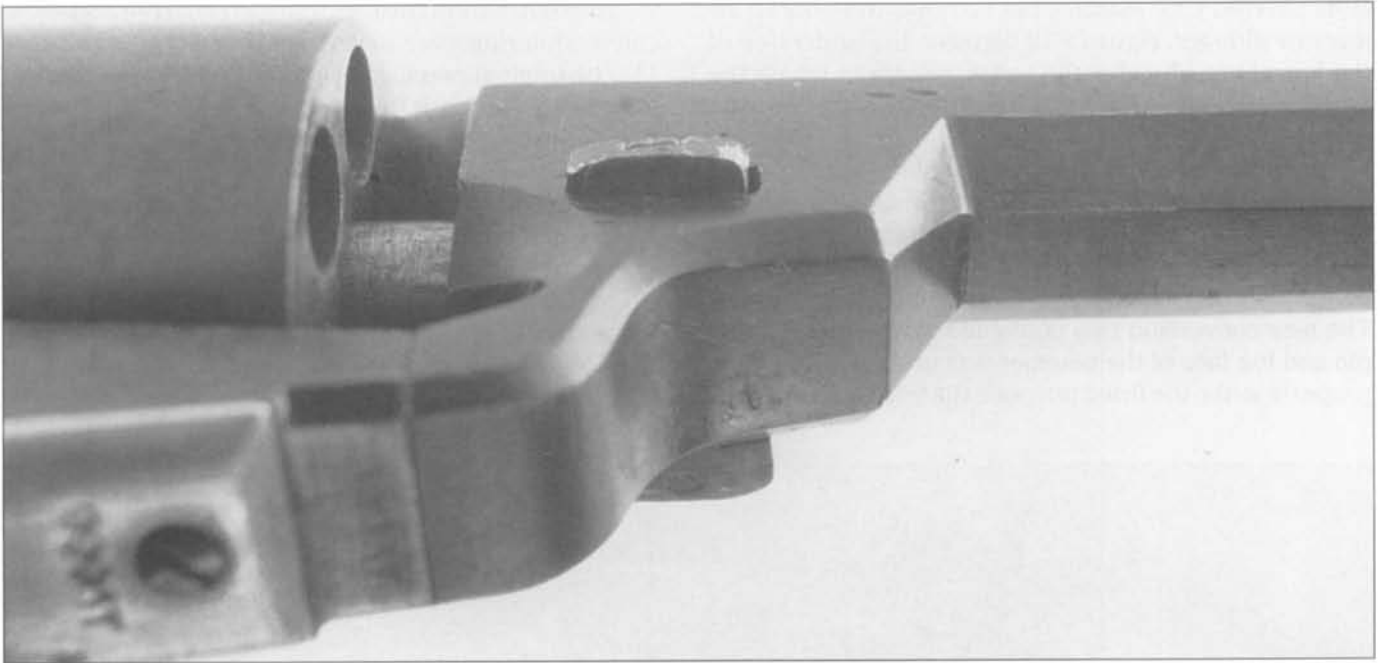


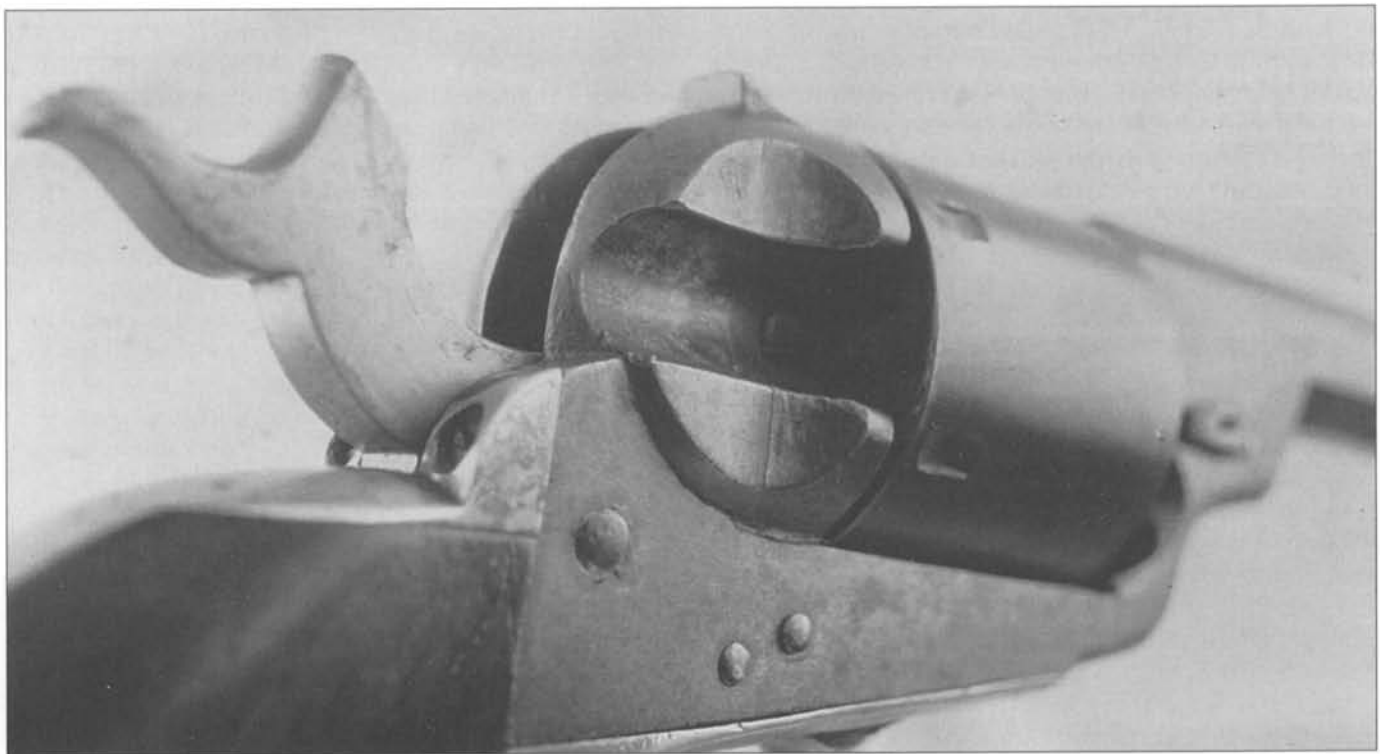
Fig. 9-9 Left side view of Colt "Tool Room" conversion, serial number 99967. (Courtesy Francis E. "Bud" Firth)



*Fig. 9-10 Barrel to frame junction of serial number 99967.
(Courtesy Francis E. "Bud" Firth)*

Figures 9-8 and 9-9 illustrate the right side and left side of a Colt "Tool Room" Model 1851 Navy conversion without loading gate or cartridge ejector. The revolver is serial numbered 99967, has a standard post front sight

and a raised rear sight integral with the conversion ring. The octagonal barrel is attached to the frame in the conventional manner, using the two pins and a barrel wedge. At the right side of the barrel lug is found the percussion-



*Fig. 9-11 Cartridge loading channel of serial number 99967.
(Courtesy Francis E. "Bud" Firth)*

style beveled V for loading, but no holes were bored for lever or plunger. Figure 9-10 pictures the underside of the barrel lug, showing the exact manner in which the edges are beveled. The barrel wedge of this model is the earlier type with spring.

The percussion cylinder was machined as previously described, leaving the long ratchet shaft and original ratchet teeth. The space between the rear cylinder face and the front of the recoil shield was then occupied by a conversion ring which was attached to the recoil shield. The new conversion ring contained a rebounding firing pin and the face of the hammer was ground flat so as to properly strike the firing pin once the trigger was pulled.

The right side of the recoil shield and a portion of the conversion ring were milled away as pictured in Fig. 9-11. The original percussion capping channel was milled deeper to clear both the body and the flange of the metallic cartridge to be used. Again, no provisions were made for a loading gate or cartridge ejector.

The rebounding firing pin was apparently a favored feature among the Colt designers. It was used on many experimental model conversions and became standard with the Richards conversion of the Model 1860 Army revolver. The experimental Model 1861 Navy revolver shown in Figs. 9-12, 9-13 and 9-14 has a rimfire conversion ring with a rebounding firing pin. Apparently, at the



Fig. 9-12 Right side of experimental Model 1861 Navy conversion with 1860 Richards-style barrel and extractor. (Courtesy Francis E. "Bud" Firth)



Fig. 9-13 Left side of experimental Model 1861 Navy conversion. (Courtesy Francis E. "Bud" Firth)

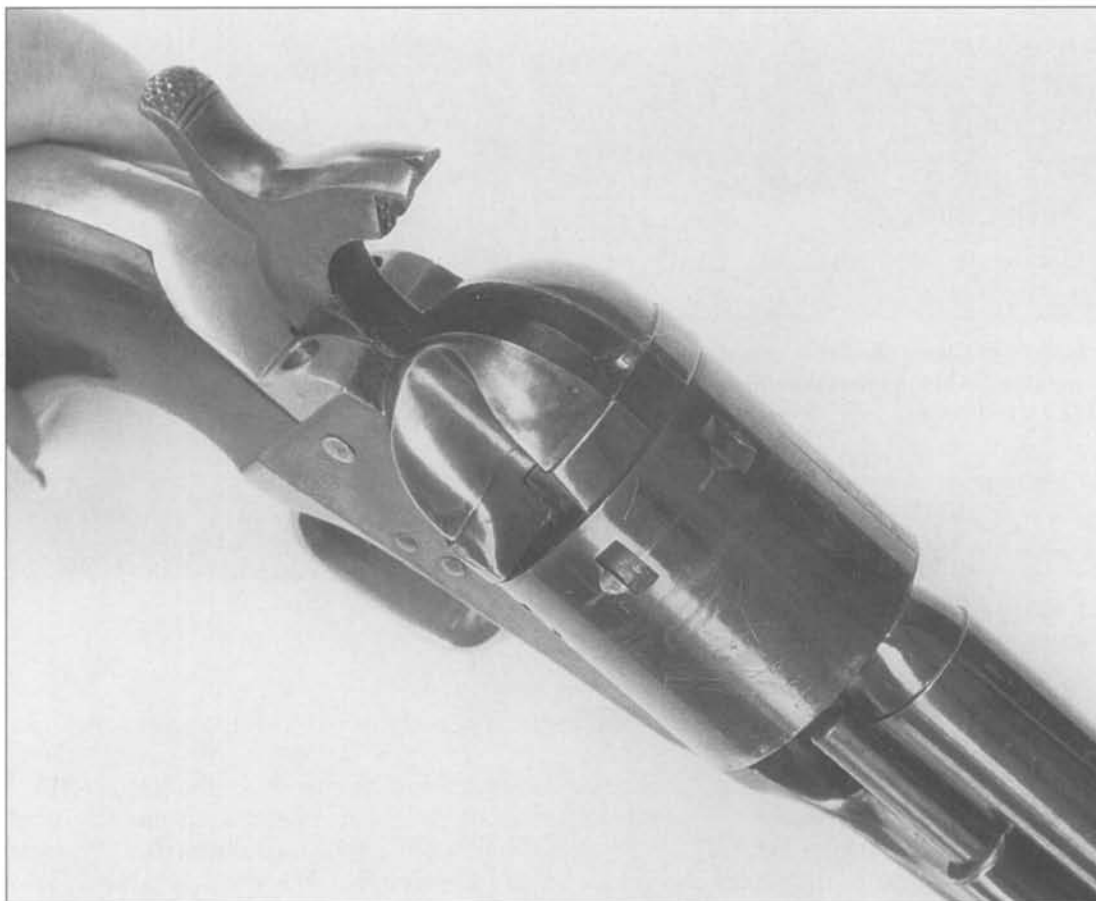


Fig. 9-14 Close-up of experimental Model 1861 Navy conversion showing hammer, loading channel and conversion ring. (Courtesy Francis E. "Bud" Firth)

time of designing (or producing) the Richards conversion of the 1860 Army Colt revolver, plans were being considered to convert the Model 1861 Colt Navy revolver by this same method. That would explain the experimental Model 1861 Navy conversion revolver pictured in these illustrations.

The gun is unnumbered and has a .38 caliber 7-1/2-inch barrel with a Model 1860 Army Richards type ejector assembly, but no loading gate. The hammer face was left flat, retaining its top lip with V-notch rear sight. The round Navy cylinder measures 1.532 inches in diameter by 1.464 inches long, which is slightly longer than those of the production 1851 and 1861 Navy conversions (see Chapter 6, Fig. 6-21). The deep metallic cartridge loading channel of this revolver also exposes the ratchet shaft.

A close-up view of the experimental 1861 Colt Navy conversion is featured in Fig. 9-14, showing the unaltered hammer face, the deepened loading channel of the recoil shield and conversion ring and the rebounding rimfire firing pin, offset to the left of the hammer channel. Though the Colt 1860 Army Richards conversions were adapted to .44 caliber centerfire metallic cartridges, no .38 caliber centerfire metallic cartridges were available in the United States until late 1873 or early 1874. Therefore, all early .38 caliber experimental or prototype conversions were of rimfire design.

The Colt Company experimented extensively with every known type of metallic cartridge and all ignition systems. Numerous experimental and prototype cartridge revolvers and conversions were assembled by the experienced gun designers of the Colt factory in an attempt to establish a reliable cartridge model revolver that would meet the requirements of the Ordnance Department, fill the needs of the civilian market, and not infringe on existing patents. Many of these Colt experimental models are displayed at the Connecticut State Library in Hartford, with a few dating back to before the Civil War.

A Colt Model 1851 Navy percussion revolver, serial number 55366 has been converted to accept a .36 caliber Dreyse-type needlefire cartridge. As pictured in Figs. 9-14A (top view) and 9-14B (right-side view), the rear section of the cylinder has been machined in much the same way as were those of the Model 1851 and 1861 Navy Richards-Mason conversions, by cutting the nipple section down to a ratchet shaft. A conversion ring was then added to fill the space resulting from the shortened chambers of the cylinder.

The second modification of major significance is the hammer, its long firing pin (needle), and the hammer-stop bridge at the top of the hammer channel of the recoil shield. The hammer's percussion anvil was cut

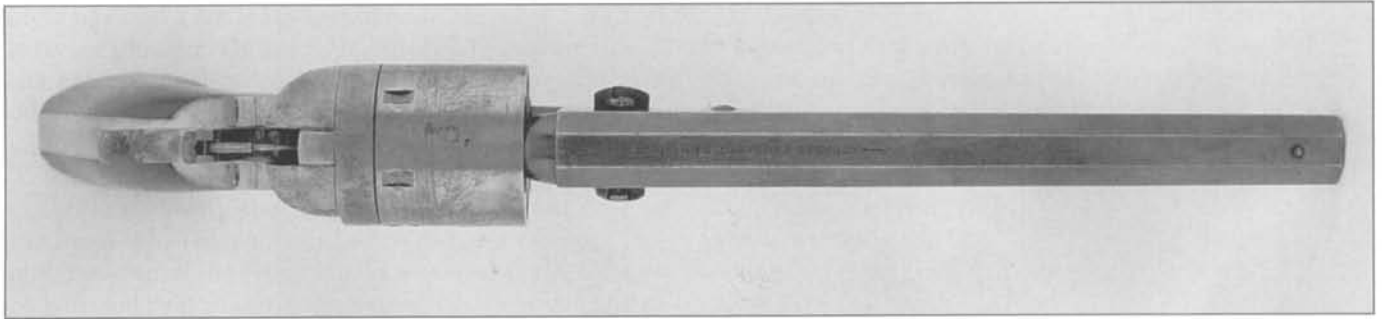


Fig. 9-14A Top view of Colt Model 1851 Navy needlefire experimental conversion, serial number 55366. Connecticut State Library inventory number 352. (H.G. Houze)

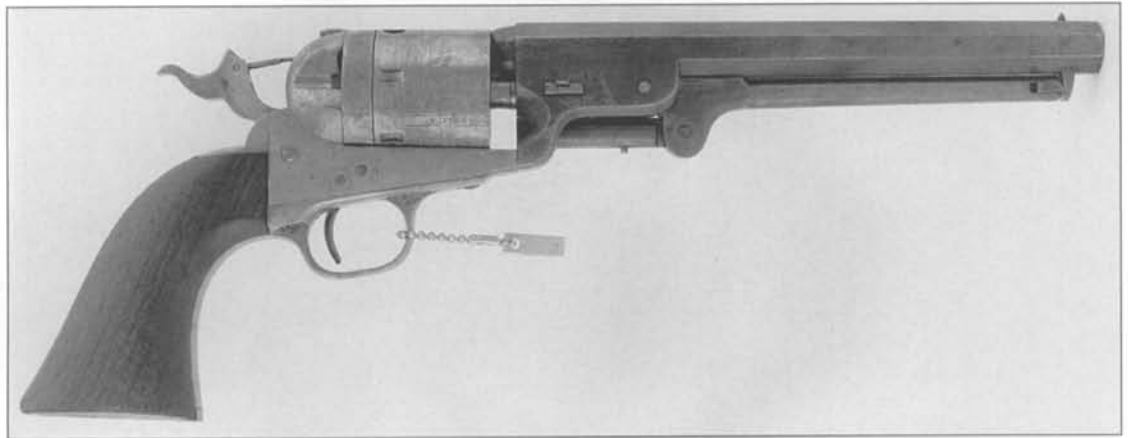


Fig. 9-14B Right side view of Colt Model 1851 Navy needlefire experimental conversion, serial number 55366. Connecticut State Library inventory number 352. (H.G. Houze)

away, leaving a very short neck, as seen in Fig. 9-14B. A center section of the new hammer face was cut out and a transverse pin installed as a pivot for the long floating needle, as shown in Fig. 9-14A. This needle was guided through the holes of the bridge and conversion ring, to strike the rear of the cartridge when the trigger was pulled.

Another very early Colt factory experimental conversion is pictured in Figs. 9-14C (top view) and 9-14D (right-side view). This revolver is a Third Model Colt Dragoon that has been converted from percussion to .44 caliber pinfire metallic cartridge by replacing the cylinder and

modifying the frame's recoil shield and the hammer. The barrel remains unaltered, with only the lever and plunger removed as they had no further function. The new cylinder is bored completely through, with "V" notches cut at each chamber, allowing the cartridge pins to extend outward for ignition by the hammer.

The recoil shield required two modifications. First, the deep cartridge loading channel on the right side replaced the shallow percussion capping cut-out. Second, a thin plate was attached to the front face of the recoil shield to prevent the pinfire cartridges from moving back, out of the cylinder and into the left step or right

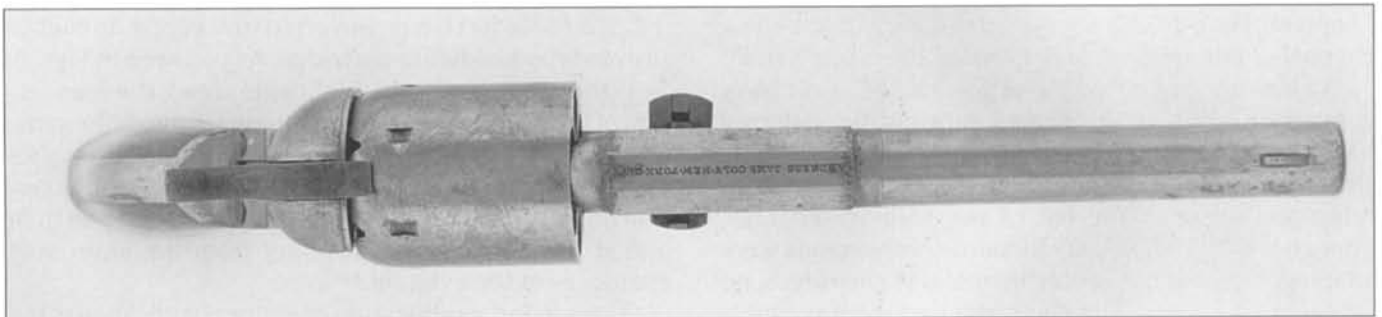


Fig. 9-14C Top view of Colt Third Model Dragoon pinfire experimental conversion Connecticut State Library inventory number 351A. (H.G. Houze)



Fig. 9-14D Right side view of Colt Third Model Dagoon pinfire experimental conversion. Connecticut State Library inventory number 351A (H.G. Houze)

cap discharge groove of the original percussion recoil shield face.

The final modification necessary was to reshape and build up the neck of the hammer, to give it ample strength to strike the cartridge pins with its top lip. This new hammer shape is well illustrated in Fig. 9-14D.

Neither the Colt Model 1851 needlefire conversion nor the Colt Dagoon pinfire conversion advanced be-

yond the experimental stage, because both designs required a bored-through cylinder, and would therefore infringe on the Rollin White Patent.

As early as 1865, the Colt Company expressed interest in the Silas Crispin metallic cartridge revolver design that incorporated a two-part cylinder that broke apart for loading and cartridge extraction. A Crispin Model gun, converted from a Smith & Wesson No. 2 revolver

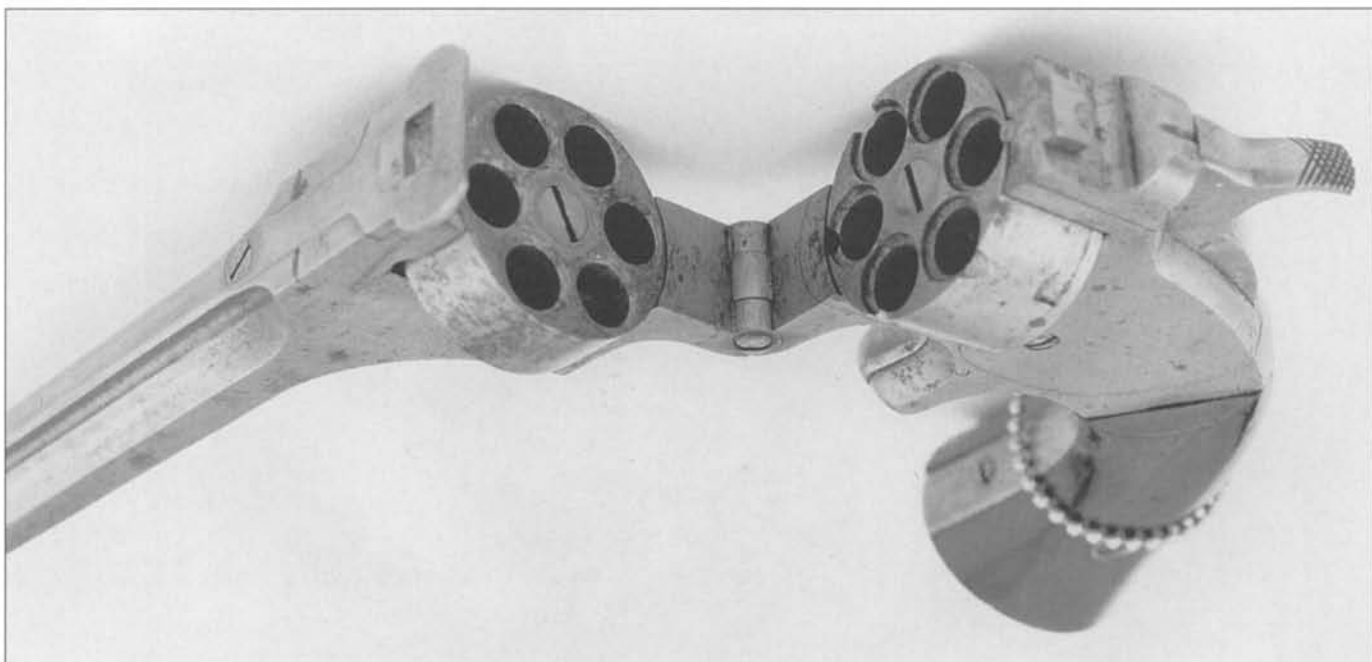


Fig. 9-14E Crispin revolver converted from Smith & Wesson No. 2, serial number 33862. Connecticut State Library inventory number 815. (H.G. Houze)

(serial number 33862) is pictured in Fig. 9-14E, shown broken open for loading. Because the cylinder chambers were not bored through completely, Crispin's invention did not infringe on the Rollin White Patent No. 12,648, but repeated test firing of the Crispin cartridges (see Chapter 2, Fig. 2-20) proved them troublesome and of inferior construction. Also, Rollin White held another patent of concern U.S. Patent No. 19,961, claiming a divided, or two-piece, cylinder.

Apparently Hiram Berdan of Hartford, John Adams of London and Thomas Poultny of Baltimore had all envisioned a revolver design incorporating individual firing pins in each chamber of the cylinder. Thomas Poultny's concept was a modification of Crispin's patent, and one of his experimental breech loading revolvers is pictured in Fig. 9-14F. It is a top break-open model with a two-piece cylinder, but required licensing by Rollin White. Though Colt showed interest at first, the Poultny design was discarded because of possible patent infringements.

Private Conversions

Private conversions of Colt percussion revolvers are often referred to by other names, such as "outside conversions," "field conversions," "blacksmith conversions," etc. To prevent any possibility of confusion, the term "private conversions" will be used throughout this text to identify all conversions of Colt percussion revolvers that were not converted or produced by the Colt factory.

Private Colt conversions are numerous, and generally speaking, each one is a one-of-a-kind specimen. Collecting these private conversions is more challenging

than collecting Colt factory conversions because of the tremendous number of variations.

The reasons for these private conversions are many. Owners, gunsmiths, mechanics and small job shops were likely able to convert a percussion revolver to metallic cartridge at far less cost than that charged by the Colt factory. The time and expense involved in two-way shipping was reduced and, quite often, the individual or small business converting the percussion revolver could loan the customer another percussion or cartridge revolver while conversion was being done.

Early private conversions were tailored after the many European conversions, which dated back to as early as 1869, while later ones were copied from the work performed by Colt. Because of the many methods of converting percussion revolvers, private conversions can be found with or without loading gates, conversion rings, two-piece cylinders, cartridge ejector systems or original percussion loading levers and plungers. Quite often, some of the design features of factory experimental conversions are found duplicated on a private conversion, usually because several gunsmiths had the same ideas.

A private conversion of a Martial Colt Model 1851 Navy revolver is pictured in Fig. 9-15. The revolver is serial numbered 58687, and in its percussion state was one of the 2,000 revolvers supplied to the United States Navy on the order issued in 1857. The percussion nipple section was cut away from the rear of the cylinder, leaving a ratchet shaft and the original ratchet teeth. A new cylinder section was attached to the rear of the cylinder and the chambers were then bored to the proper size to re-



Fig. 9-14F Poultny revolver, modification of Crispin's Patent. Connecticut State Library inventory number 816. (H.G. Houze)

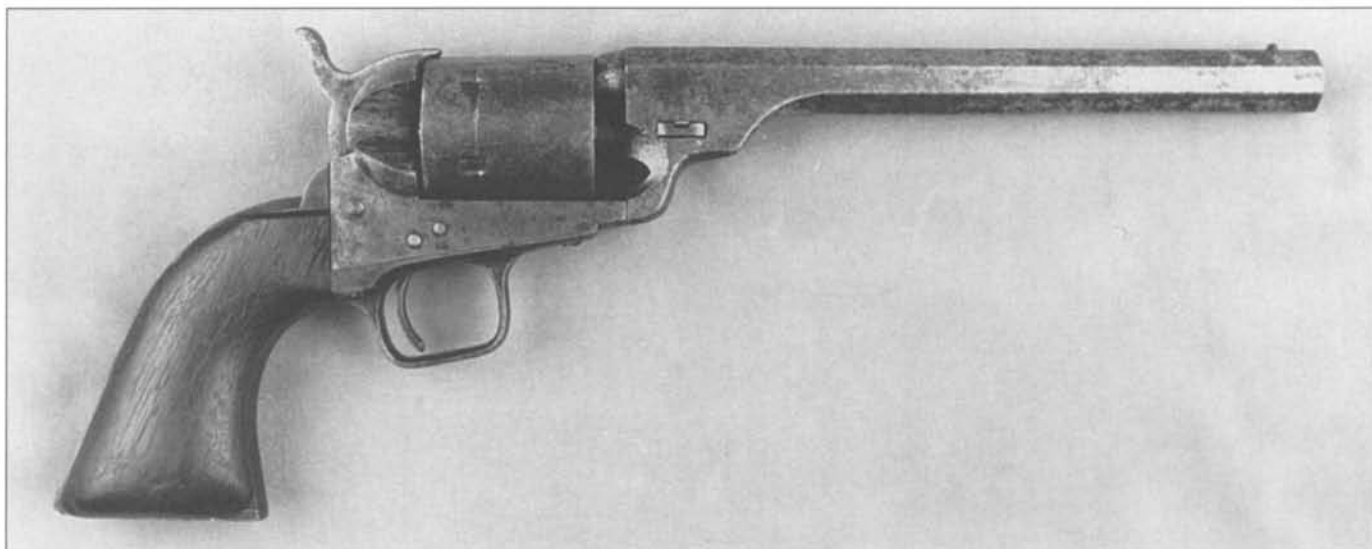


Fig. 9-15 Private conversion of Colt Model 1851 Navy revolver, serial number 58687. (Courtesy Francis E. "Bud" Firth)

ceive the metallic cartridges. The barrel lug was plugged and reshaped as illustrated.

The enlarged close-up of Fig. 9-16 pictures the long cartridge cylinder and the COLTS/PATENT/U.S. frame marking, indicating government property. Here, the new shape of the barrel lug is again shown. Note the similarity to the shape of the barrel lug of Figs. 9-8, 9-9 and 9-10.

The percussion ratchet teeth and single-finger hand were retained in this conversion. Because no conversion ring was incorporated, none of the original recoil shield required removal.

Figure 9-17 illustrates the butt of the backstrap stamped U.S.N. and J.L.H. This revolver was one of the 615 sent to the Norfolk Navy Yard on November 9, 1857, and

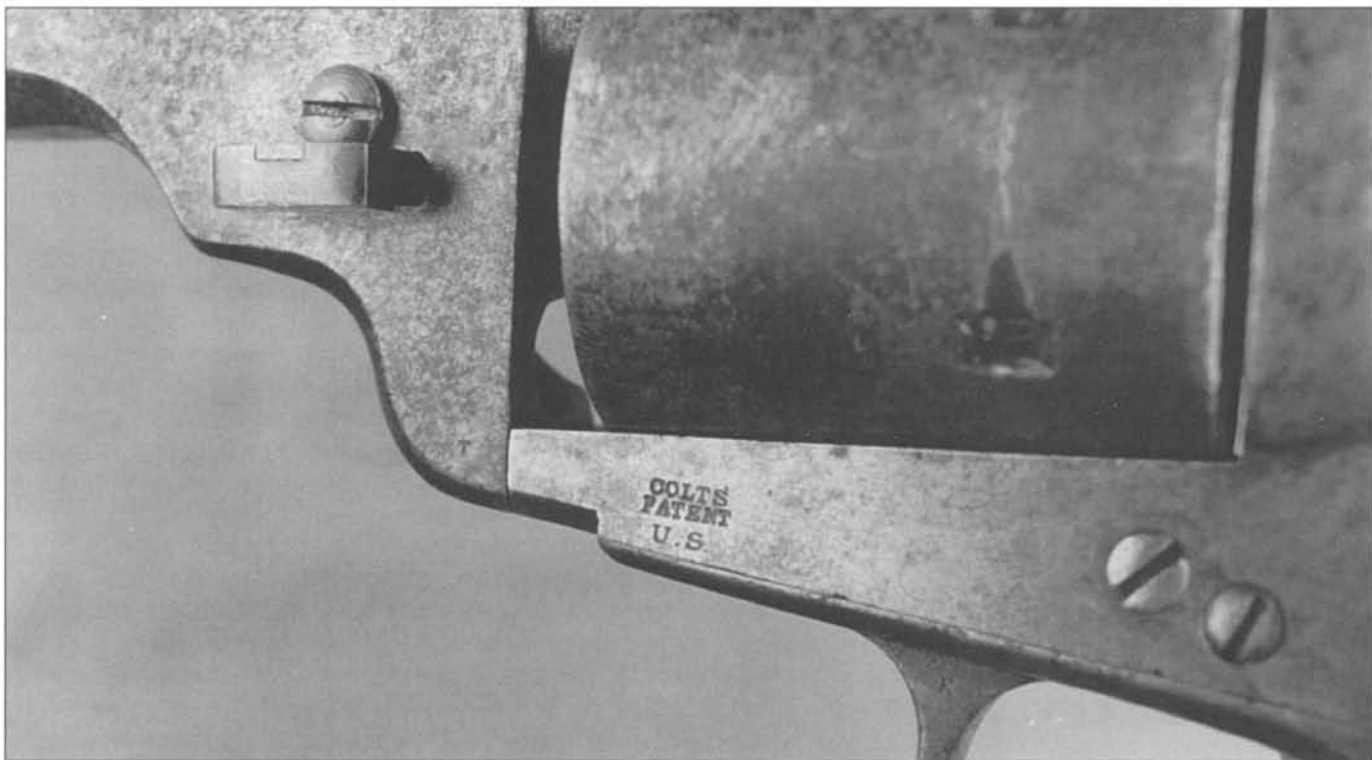


Fig. 9-16 Close up of frame markings on Navy conversion, serial number 58687. (Courtesy Francis E. "Bud" Firth)



Fig. 9-17 U.S.N./J.L.H. butt markings of 1851 Navy conversion, serial number 58687. (Courtesy Francis E. "Bud" Firth)

as indicated, was inspected by Commander James L. Henderson.

Another very interesting private conversion of a Martial Model 1851 Navy revolver is pictured in Fig. 9-18. The barrel lug was again plugged and shaped in the same manner as those of the Colt Tool Room conversion and serial number 58687. This revolver, serial number 57237, has a somewhat shorter cylinder and a conversion ring, but no loading gate or cartridge ejector. Both front blade sight and rear V-notch sight are dovetailed into the top barrel flat. Both gripstraps are brass, indicating the revolver was supplied to the United States Army in its percussion form.

Figure 9-19 is a close-up photograph showing the cylinder, frame, COLTS/PATENT/U.S. frame marking, conversion ring, reshaped hammer face and unaltered recoil shield. The cylinder chambers are counter-bored for the cartridge flanges, thus allowing the rear of the cylinder to abut against the face of the recoil shield. An unusual feature is the beveled loading slot on both sides of the barrel lug (see also Fig. 9-18).

Unique to the design of this conversion is the hinged plate in the hammer channel that contains the firing pin. A vertical slot was milled at the front of the recoil shield, deep enough for this plate to play on a pivot. The conversion ring, attached to the face of the recoil shield,



Fig. 9-18 Private conversion of Colt Model 1851 Navy revolver. Serial number 57237. (Author's Collection)



Fig. 9-19 Close-up of frame, conversion ring, cylinder and hammer of converted 1851 Navy revolver, serial number 57237. (Author's Collection)

holds the plate at its pivot point. It has a hole at the top to allow passage of the firing pin, which is attached to the front face of the hinged plate. With the hammer cocked, or with cartridges in the cylinder and the hammer at half cock, the hinged plate rests in a rearward position as pictured in Fig. 9-20. When the hammer strikes the hinged plate, the firing pin moves forward through the conversion ring and discharges a centerfire metallic cartridge.

A private conversion of a Colt Model 1851 Navy revolver, based on the Remington two-piece cylinder design (cartridge cylinder with backing plate), is pictured

in Fig. 9-21. The gun is serial numbered 112901. Both the lever channel and plunger hole of the barrel lug were plugged, as was the lever latch dovetail on the front underside of the barrel.

The rear of the percussion cylinder was reworked, eliminating the percussion nipples and resulting in six open chambers with a hexagonal ratchet shaft containing the original percussion teeth. All chambers were bored to the .38 caliber metallic case diameter and a rimfire cap was fabricated with a central hole matching the shape of the ratchet shaft. Both the converted cartridge cylinder and its rimfire rear cap are pictured separately

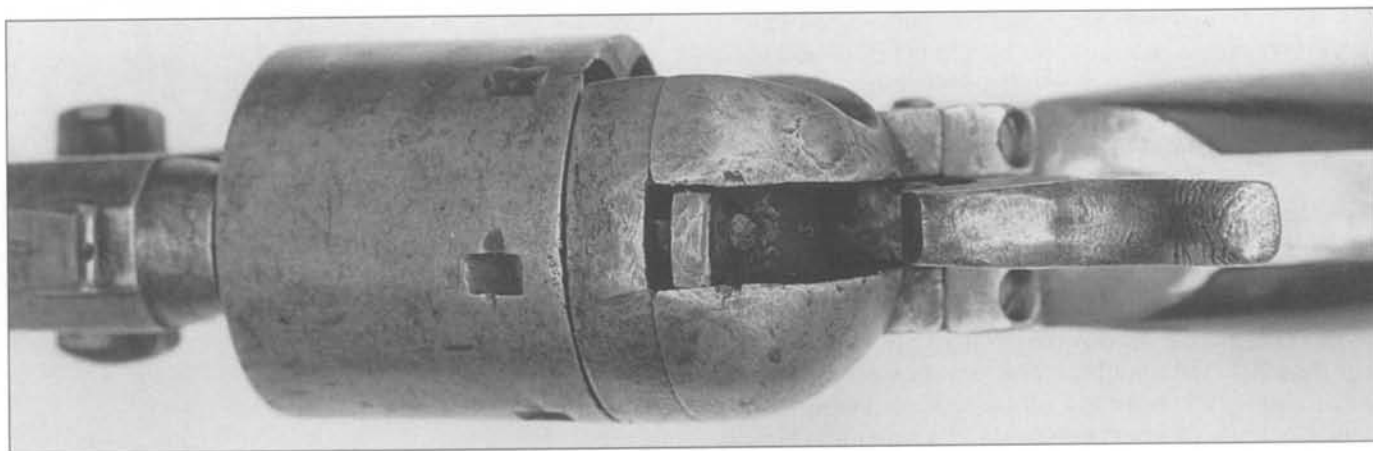


Fig. 9-20 Close-up showing firing pin of converted 1851 Navy revolver, serial number 57237. (Author's Collection)



Fig. 9-21 Converted Model 1851 Colt Navy revolver with 2-piece cylinder. Serial number 112901. (Courtesy George R. Innocent)

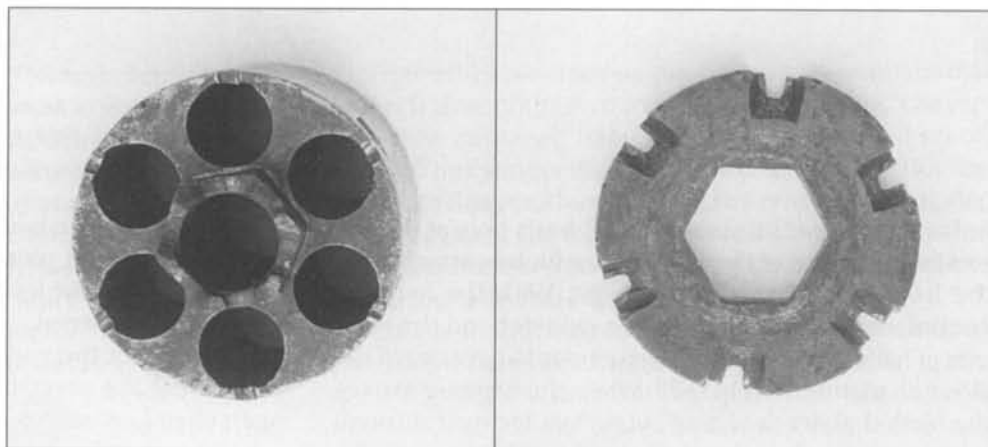


Fig. 9-22 Model 1851 Navy conversion two-piece cylinder, serial number 112901. (Courtesy George R. Innocent)

in Fig. 9-22 and assembled in Fig. 9-23. Because the original percussion ratchet teeth were retained, the original single-fingered hand was left in place for proper cylinder indexing. As was the case with the small frame Remington conversions (see Chapter 3), the cylinder had to be removed for cartridge ejection and loading.

The face of the hammer was modified by grinding away the top lip and reforming the tip with a rimfire firing pin which would enter through the six rectangular cut-outs of the cylinder plate to discharge the flanged cartridges. With this type conversion, neither a loading gate nor cartridge ejector were necessary.

Unusual indeed is the private conversion of the round barrel Colt Model 1851 Navy revolver shown in Fig. 9-24. The details of the conversion were so perfect and in line with those of Colt factory conversions that this specimen was first believed to be a genuine factory product. The revolver is serial numbered 130858, has brass gripstraps, a percussion-type barrel wedge with

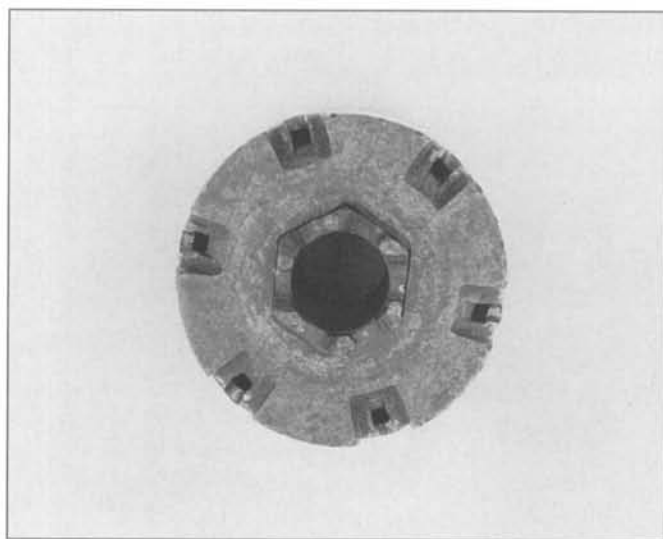


Fig. 9-23 Model 1851 Navy conversion cylinder assembled. Serial number 112901. (Courtesy George R. Innocent)



Fig. 9-24 Colt Model 1851 Navy conversion with round barrel. Serial number 130858. (Author's Collection)

spring and the percussion style of knurl on the hammer spur.

The underside of the barrel lug, frame and trigger-guard are seen in Fig. 9-25, with matching serial numbers. The lever channel has been plugged and finished, while the plunger hole has been left open for ease of removing the barrel. With the wedge withdrawn, a short dowel is placed against the face of the cylinder through the plunger hole. While holding both the barrel and dowel with one hand, a mallet is used to gently tap the frame away from the barrel.

The close-up photograph of Fig. 9-26 shows the percussion hammer converted to centerfire ignition by means of a cone-type firing pin and the loading gate incorporating an internal spring. The full round 7-1/2-inch barrel has the single-line Type II New York address and a small blade front sight.

The Mason-style ejector housing is mounted in the same manner as on factory conversions, but is slightly longer, resulting in its rear extending slightly past the rear face of the barrel lug. Both the conversion ring and loading gate closely resemble those produced by Colt.

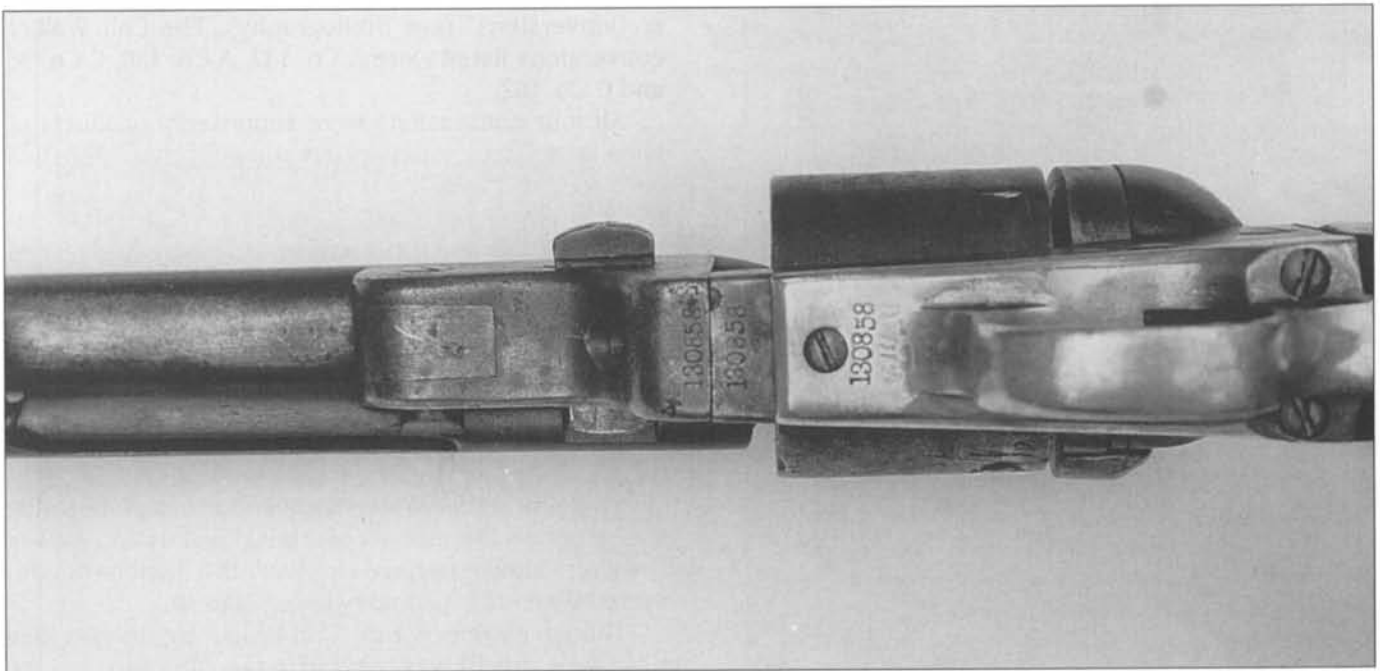


Fig. 9-25 Underside detail of round barrel 1851 Navy conversion, serial number 130858. (Author's Collection)



Fig. 9-26 Firing pin, loading gate and ejector housing detail of round barrel 1851 Navy conversion. Serial number 130858. (Author's Collection)



Fig. 9-27 Conversion cylinder for Colt Third Model Dragoon revolver. Serial number 18445. (Author's Collection)

They could have even been Colt produced, and purchased for this conversion.

Several private conversions of Colt Whitneyville Walker revolvers have been reported, but none have been made available to photograph. Four specimens appeared in an article by Tom Seymour in the April 1970 issue of *The Gun Report* entitled, "Colt Whitneyville Walker Conversions" (see Bibliography). The Colt Walker conversions listed were A Co. 137, A Co. 150, C Co. 96 and C Co. 162.

All four conversions were supposedly products of Mexico or Texas, with very few common characteristics among them. All had conversion rings of one form or another, while only one had a loading gate. All four had cartridge ejectors, and firing pins varied from cones placed in hammer faces to rebounding firing pins within the conversion rings. All four had percussion cylinders with the rear portions removed and chambers rebored and one used a converted First Model Dragoon cylinder in combination with an extension on the rear barrel lug projection to compensate for the shorter cylinder length.

No doubt, other Walker conversions exist, but with the extremely low number of original percussion Walker revolvers known to have survived, the number of converted Walkers is probably fewer than 10.

Though extremely rare, Colt Dragoon revolvers that have been privately converted to metallic cartridge are more common than the Whitneyville Walker conversions. Figure 9-27 pictures a Third Model Colt Dragoon

cylinder converted to accept the .44 caliber rimfire Henry cartridge. It is serial numbered 18445, and has the original percussion ratchet teeth with no advance in position. Five of the six stop notches have slightly broken through, which is often the case with converted Second and Third Model Colt Dragoon cylinders.

An unusual private conversion of a First Model Colt Dragoon revolver is illustrated in Figs. 9-28 (right side) and 9-29 (left side), incorporating a three-piece cylinder. The rear end of the original percussion cylinder was machined away, leaving six open chambers and a ratchet stem. The chambers were then rebored to the proper size to receive the cartridge cases. Finally, a two-piece ring sandwiching six individual firing pins was posi-

tioned over the ratchet stem and indexed to rotate with the cylinder. This type three-piece cylinder is also shown in Chapter 10, associated with the British Deane-Harding and American Cooper conversions. To load this revolver, both the cylinder and two-piece firing pin section must be removed. Also of interest is the fact that the percussion loading lever and plunger remain on this conversion and a new rear sight was added.

The private conversion of an early Third Model Colt Dragoon with ivory grips is pictured in Fig. 9-30. The revolver is serial numbered 11907, matching throughout, and demonstrates exceptionally fine craftsmanship. The capping channel at the right side of the recoil shield was milled deeper, to clear the flanges of the metal car-



Fig. 9-28 Right side of Colt First Model Dragoon conversion with three-piece cylinder. (Author's Collection)



Fig. 9-29 Left side of Colt First Model Dragoon conversion with three-piece cylinder. (Author's Collection)



Fig. 9-30 Right side of Colt Third Model Dragoon conversion, serial number 11907. (Author's Collection)

tridges during loading. A loading gate with external spring was added and the top front face of the recoil shield was extended inward to form a stop for the hammer. The barrel lug was cut back as shown in Fig. 9-31, leaving an open plunger hole and only a pilot hole where the lever channel ended. As seen in Fig. 9-30, the original lever catch still remains on the front underside of the barrel.

The nose of the original percussion hammer was reshaped into a rimfire firing pin, as seen in the close-up

photograph of Fig. 9-32. The percussion cylinder was machined in the conventional manner, removing the percussion nipples and enlarging the bores of the chambers. A plate was then attached to the rear of the cylinder to compensate for the metal removed in the machining process and the six chamber bores were then extended through this plate.

The loading gate is itself a unique feature. It was fabricated to fit within the deep loading channel and with a long handle turning to the rear for manipulating the

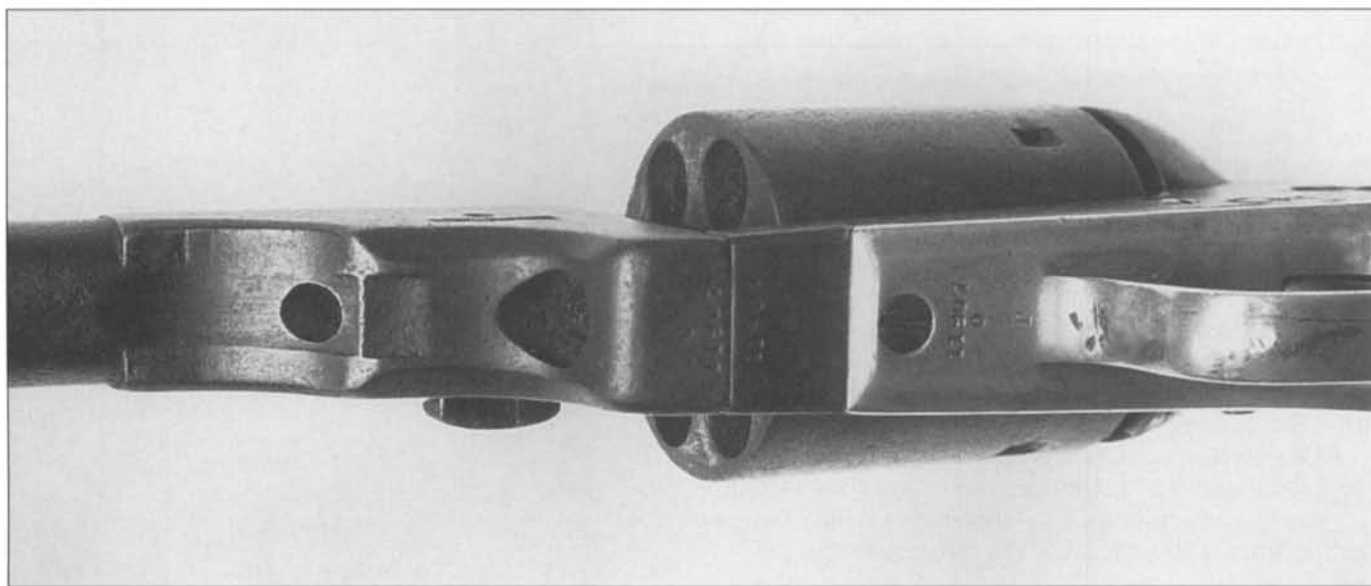


Fig. 9-31 Barrel lug underside detail of converted Dragoon, serial number 11907. (Author's Collection)



Fig. 9-32 Close-up showing frame, loading channel, gate, hammer-stop and cylinder of converted Dagoon, serial number 11907. (Author's Collection)

gate by hand. Extending downward from the gate is a hinge piece that fits into a narrow slot milled into the lower part of the recoil shield and pivots on a single screw entering from the front. The external gate spring is a flat spring placed in the hinge channel under the hinge piece of the gate, pressing outward from the inside to hold the gate closed or open.

A third method of private conversion is known to exist for Colt Dagoon revolvers that incorporates a conversion ring much like that of the Richards design. In this variation, a rebounding firing pin is used in conjunction with a hammer that has its nose ground flat. The author knows of two Dagoon conversions of this description, one with a loading gate, the other without. Both specimens retain the original percussion loading lever and plunger.

Contrary to published reports, no factory conversions of Colt Dagoon revolvers are known to exist, and no factory records are known to indicate that Dagoon revolvers were ever converted at the Colt factory. Therefore, as of this writing, we must consider all Dagoon conversions as private conversions.

A Colt full-stock First Model (Military Pattern) Sporting Rifle, privately converted to .46 Remington rimfire

metallic cartridge is pictured in Fig. 9-33. The 2.615-inch-long full-fluted cylinder was probably fabricated as a cartridge cylinder, as there is no evidence of an extension attached after the removal of the nipple end of a percussion cylinder. The nose of the hammer was slightly built up and reshaped, forming a rimfire firing wedge that seated within the shallow cut-outs at each cylinder chamber. The chambers were counter-bored so the flanges of the metallic cartridges would seat down to the depth of these cut-outs.

The top of the short octagonal portion of the barrel is fitted with the military-type folding leaf rear sight, while a standard musket type front sight is brazed to the front of the 31-inch barrel, 1-1/4 inches back from the muzzle. The gun is serial numbered 144, matching throughout and has been professionally converted and refinished to its present excellent overall condition.

The rear of the full-fluted cylinder of the converted rifle is illustrated in Fig. 9-34, showing one cartridge chambered, with the rear of its flange flush with the rear cylinder face.

The percussion capping channel of the right recoil shield has been deepened at its center to facilitate loading. This, along with the new cylinder and the reshaping



Fig. 9-33 Close-up of right side of converted Colt First Model (Military Pattern) Sporting Rifle, serial number 144. (Author's Collection)

of the hammer, was all that was necessary for the conversion. The original loading lever and plunger were maintained, and no changes were made to the internal mechanism.

One Colt Paterson rifle of the 1839 patent design has been reported as having been privately converted to .46 caliber rimfire. It is serial numbered 706, has a cylinder machined shorter, a conversion ring with loading gate on its left side, and a left side loading channel cut through the frame and upper part of the buttstock.

There may be more converted Colt revolving long-guns in existence than those mentioned here, but however many, they are extremely rare—much more so than the converted Colt revolvers.

Numerous Colt factory conversions were modified in one way or another, after they left the Colt factory. The majority of these private modifications amounted to nothing more than shortening the barrels and, in some instances, eliminating the cartridge ejection systems.

Unfortunately, some collections containing privately modified Colt factory conversions have been publicized, stating that these modified revolvers are experimental factory conversions or factory model shop products. The Richards conversion of Fig. 9-35 is perhaps the type most often mislabeled in this manner. The unique features outlined consist of the short barrel (in this specimen, 5-1/2 inches), no cut-outs for lever or plunger, and no ejector system. The Richards conversion illustrated

is serial numbered 186537, and is an authentic factory conversion of a Colt Model 1860 Army revolver, but the barrel was cut to its shorter length by a non-factory gunsmith equipped to do this type of work, and renumbered to the gun. As pictured in Fig. 9-36, the muzzle is properly

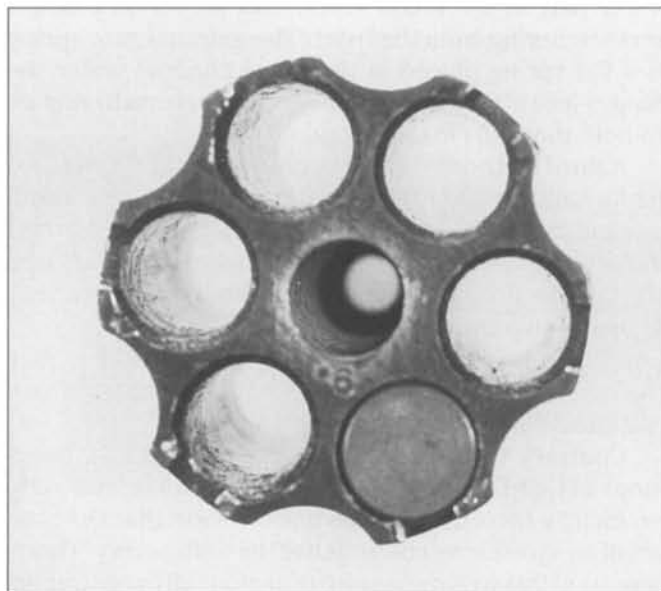


Fig. 9-34 Rear of conversion cylinder, serial number 144, showing full flutes and counter-bored chambers. (Author's Collection)



Fig. 9-35 Colt Model 1860 Richards conversion with 5-1/2-inch privately modified barrel. Serial number 186537. (Author's Collection)

crowned with a slight radius and both the lever channel and plunger hole have been plugged in a very professional manner.

This type of workmanship was performed by an experienced machinist with the necessary patience required for the extremely fine hand finishing before blueing. Other barrel lengths observed in this category of modification are between 2-3/4 inches and 6 inches. Most were represented as being factory experimental models, while in fact all were privately cut to shorter lengths after leaving the Colt factory, or modified as that illustrated.

The experienced eye of an advanced Colt collector can usually recognize non-factory gun work. The factory finishing of all Colt parts has an appearance that is not easily duplicated. But those just entering the fraternity of gun collecting should use extreme caution when con-

sidering the purchase of any Colt factory conversion with a shorter-than-standard barrel length. Most will be found to be non-factory modifications.

On the other hand, there are collectors of Western American memorabilia and Western guns who collect only short barrel Colt revolvers and conversions, because these guns generally are connected with Western history. Many refer to them as "Belly Guns." Western lawmen and law breakers alike traditionally preferred the larger caliber short barrel revolvers that were carried in hip holsters. This fact was substantiated by the large quantity of 4-3/4-inch Colt Single Action Army (Peacemaker) revolvers sold and shipped to the American West.

Barrels on Colt Model 1860 Richards and Richards-Mason conversions have been observed cut to 5-1/8 inches and shorter, with their muzzles just clearing the

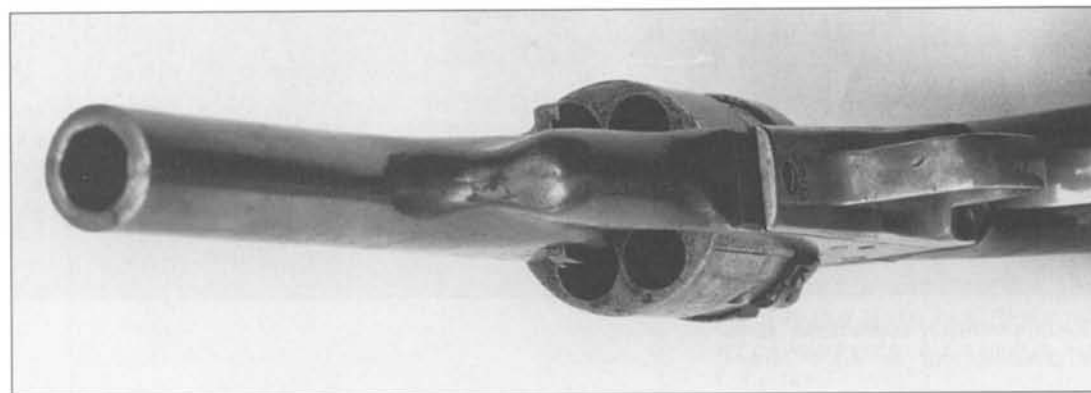


Fig. 9-36 Barrel detail of Colt Model 1860 Richards conversion, serial number 186537. (Author's Collection)



Fig. 9-37 Colt Model 1860 Richards conversion, serial number 2191, with barrel privately cut to 5-1/8 inches. (Author's Collection)

front tips of the ejector housings. Examples of both types are pictured in Figs. 9-37 (5-1/8-inch Richards conversion) and 9-38 (4-3/8-inch Richards-Mason conversion). The barrel of the Richards conversion was cut

professionally, with the front blade sight reseated back from the muzzle and the muzzle nicely crowned. The barrel of the Richards-Mason conversion has its blade sight right at the muzzle, which has a rather crudely cut



Fig. 9-38 Colt Model 1860 Richards-Mason conversion, serial number 6875, with barrel privately cut to 4-3/4 inches. (Author's Collection)



Fig. 9-39 Colt Model 1860 Richards conversion, serial number 190856, with barrel privately cut to 5-1/2 inches. (Author's Collection)

crown. The Richards-Mason specimen was probably shortened by its owner, who had neither the talent or proper tooling to perform such a feat.

The full nickel-plated Richards conversion of Fig. 9-39 has a 5-1/2-inch barrel and is serial numbered 190856. This barrel was professionally cut and crowned, with the front blade sight properly reset and brazed into the barrel 5/16 inch back from the muzzle. The serial numbers

are matching throughout and the Colt assembly number is 6560. The exceptionally fine overall condition of this specimen places its value close to that of excellent condition Richards conversions with uncut barrels.

A Colt Richards-Mason conversion of an 1860 Army revolver with its barrel cut to 5-3/8 inches is shown in Fig. 9-40. The revolver is serial numbered 5975, matching throughout except the cylinder, which is numbered 670.



Fig. 9-40 Colt Model 1860 Richards-Mason conversion with barrel privately cut to 5-3/8 inches. Serial number 5975. (Author's Collection)



Fig. 9-41 Colt Model 1851 Navy conversion, serial number 103, with barrel privately cut to 4-5/8 inches. (Author's Collection)

The Colt assembly number is 428. The barrel of this gun has been professionally cut and crowned, with its blade front sight reset and brazed into the barrel 1/4 inch back from the muzzle. The gunsmith who shortened the barrel was careful not to damage any of the original Colt markings, which remain crisp and clear. This revolver may have exhibited an excessive amount of play to the cylinder, or perhaps the rear barrel extension of the barrel housing was damaged or somewhat shortened. Because of either possibility, the rear of the lower barrel lug was slightly undercut to allow the barrel to fit farther back against the front face of the cylinder. This was also a professional modification, resulting in a nice tight and smoothly operating action.

Figure 9-41 pictures an Original Metallic Cartridge Colt Model 1851 Navy revolver, serial number 103, assembly

number 154. The barrel has been cut to 4-5/8 inches, very slightly crowned and a post front sight positioned 1/4 inch back from the muzzle. Again, the barrel modification was professionally done after the conversion left the Colt factory. It was of early production, with COLTS/PATENT frame marking, internal gate spring and small hammer screw (see Chapter 6). The revolver is full nickel plated, has matching serial numbers including the cylinder and retains well over 95 percent of its original nickel finish. This gun is another excellent condition specimen, all original with the exception of the replaced walnut grips.

An unusual combination is found in Fig. 9-42, where an early Colt Model 1861 Original Metallic Cartridge revolver with full 7-1/2-inch barrel, has a second 4-3/4-inch barrel numbered to the gun. The serial number of the revolver is 1510, while that of the cylinder is 4250. The longer barrel

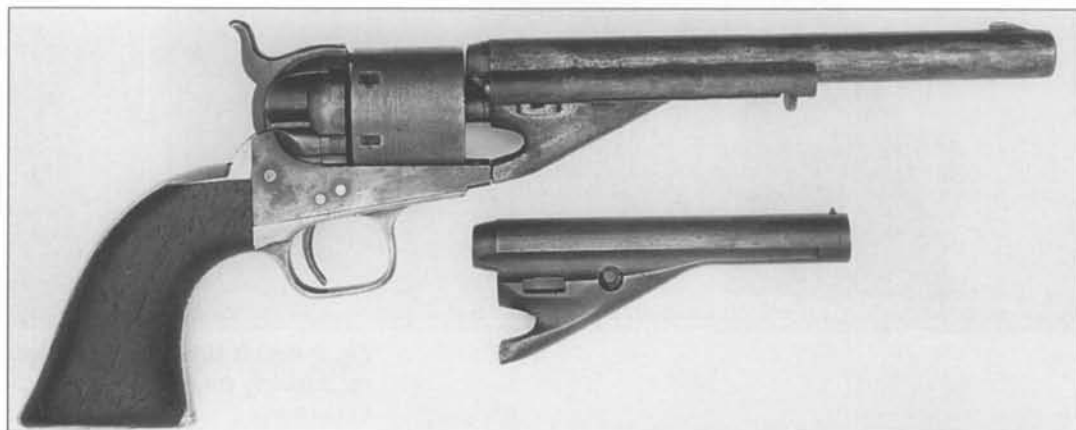


Fig. 9-42 Colt Model 1861 Navy conversion, serial number 1510, with full length barrel and second barrel cut to 4-3/4 inches. (Author's Collection)



Fig. 9-43 Colt Model 1861 Navy conversion, serial number 743/1, with barrel privately cut to 4-3/8-inches. (Author's Collection)

of this original factory Richards-Mason conversion contains the First Type New York City address, while the short barrel has the Second Type New York address. The gun features the early type internal loading gate spring and small hammer screw, but contains the later two-line double July patent dates on the frame, with dashes and the period missing after the 1871. The wedge is the percussion type with spring.

The 4-3/4-inch barrel was obviously from another Model 1861 Colt conversion and was shortened and renumbered by a period gunsmith. It is difficult to imagine why

the Mason-type ejector assembly of the shorter barrel was not retained. When changing from one barrel to the other, the common ejector assembly must also be changed.

When originally acquired, this combination was cased in a much later style case containing both barrels and a cartridge block. The case dated to the mid-20th century, so was therefore of no interest to this study.

Colt Model 1861 Navy conversions have been recorded with barrels measuring only 4-3/8 inches long, their muzzles being about even with the end of the Mason ejector housing. One such gun, an Original Metallic Car-



Fig. 9-44 Colt Model 1861 Navy Conversion with barrel privately cut to 4-13/16-inches. Serial number 1510. (Author's Collection)

tridge model is pictured in Fig. 9-43. The revolver is serial numbered 743/1, with assembly number 1972. All numbers are matching, including that of the cylinder. It is an early production gun with COLTS/PATENT on the frame, an internal gate spring and a small hammer screw. The barrel was cut and crowned professionally, with the brass bead sight set back 1/4 inch from the muzzle. About 50 percent of the original nickel plating remains.

Barrel length was entirely at the discretion of the gun owner. Special order barrel lengths were extremely expensive from the factory, as compared to the cost of hav-

ing a local gunsmith cut a barrel shorter and reposition its front sight. Because of some of the odd barrel lengths encountered, it is obvious that the gun owner simply pointed his finger to a point somewhere along the barrel and told his gunsmith to cut it off "about here." The early Original Metallic Cartridge Colt Model 1861 revolver shown in Fig. 9-44 has a barrel measuring approximately 4-13/16 inches in length. It is serial numbered 1510, with a matching cylinder (510) and has the same early production features as previously listed: small hammer screw, internal loading gate spring, etc.



Fig. 9-45 Colt Model 1861 Navy Conversion with barrel privately cut to 5 inches. Serial number 776/1. (Author's Collection)



Fig. 9-46 Colt Model 1861 Navy conversion with cartridge ejector assembly privately fabricated. Serial number 4927. (Author's Collection)

The full nickel-plated Original Metallic Cartridge Colt Model 1861 Navy revolver shown in Fig. 9-45 has a professionally cut and crowned 5-inch barrel. Serial numbered 776/1, this gun is again from early production; it has the internal gate spring, a small hammer screw and a percussion-style frame marking.

The ejector assembly of the Colt Model 1861 Navy conversion illustrated in Fig. 9-46 is one fabricated by a private gunsmith and is slightly longer than those produced by Colt. Note that the rear of the housing extends back nearly to the front cylinder face.



Fig. 9-47 Colt Model 1860 Mystery conversion, serial number 167740/E. (Courtesy Francis E. "Bud" Firth)

Colt 1860 Army "Mystery" Conversion (1860 Army-Type 1861 Navy Conversion)

SERIAL NUMBER RANGE	Typically 152000-193500
CALIBER	.44 Colt (centerfire)
BARREL LENGTHS	8 inches, flat at muzzle
BARREL ADDRESS	ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA
EJECTOR HOUSING	Large frame Richards-Mason type
EJECTOR ROD TIP	Flat with slightly rounded edges
EJECTOR HEAD	Target pattern (concentric rings)
BARREL WEDGE	Percussion type with spring
CYLINDER	Converted percussion (see text)
CONVERSION RING	Richards Type III (see text)
LOADING GATE SPRING	Internal
FRAME TYPE	Percussion 1860 Army civilian type
FRAME MARKINGS	COLTS/PATENT only
HAMMER SCREW	Small
HAMMER SPUR KNURL	Typically percussion style
STOCK (GRIP)	Varnished walnut or carved ivory
BACKSTRAP	Steel (standard Model 1860 Army)
TRIGGERGUARD	Brass (standard Model 1860 Army)
ASSEMBLY NUMBER	None used
SPECIAL NOTES:	Extremely rare, but not considered to be a Colt Factory conversion. Less than a dozen known to exist

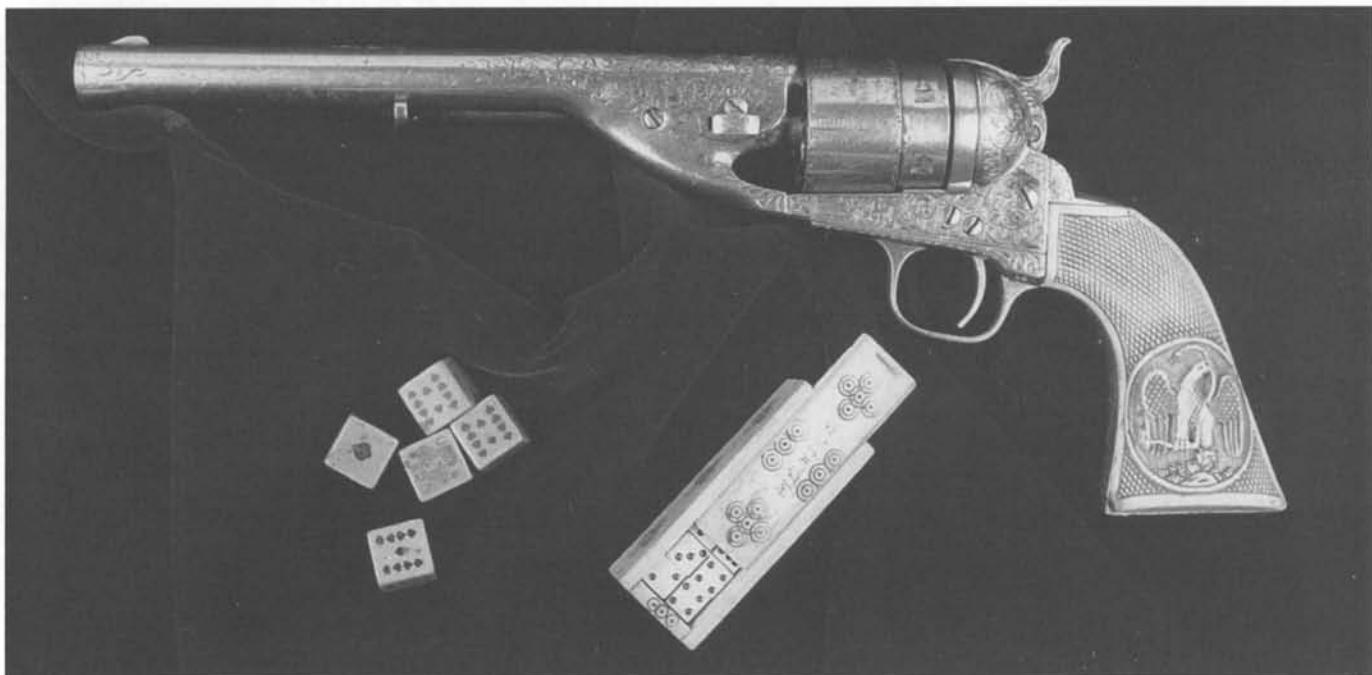


Fig. 9-48 Colt Model 1860 Mystery conversion, serial number 167740/E. (Courtesy Francis E. "Bud" Firth)

The Colt Mystery conversion, as pictured in Figs. 9-47 (right side) and 9-48 (left side), is a Colt Model 1860 Army revolver converted to centerfire metallic cartridge by the Richards-Mason method applied to the Colt Model 1861 Navy conversions.

The percussion 1860 Army barrels had both the loading lever channel and the plunger hole plugged; the barrel lug was then cut and finished, having the same contour at its underside as that of a Colt Model 1861 Navy conversion (see Chapter 6, Figs. 6-84 through 6-91). The dovetail, at the front underside of the barrel, containing the lever latch was also plugged and finished to the round shape of the barrel. The original percussion barrel length, front sight, top barrel address and serial number were retained, unaltered.

A Mason-type cartridge ejector assembly was mounted in a channel provided at the rear right side of the barrel, in the same manner as those of the Richards-Mason Navy conversions already mentioned. It is here that variations start to appear from specimen to specimen. Ejector housings are found to vary in both length and outside diameter, and slight differences are observed in mounting dimensions with respect to the front face of the cylinder. Housing diameters varied from 0.38 inch to 0.42 inch and lengths varied from 4 inches to 4.18 inches. The tip of the ejector rod was usually in close proximity with the breech end of the ejector housing, but in the case of the shortest housing, it extended beyond by about 3/16 inch.

Cylinders for all known Mystery conversions are original percussion cylinders converted to metallic car-

tridge by cutting away the rear portion containing the percussion nipples, and reboring the chambers to the proper size to accept the cartridge case. With reference to Fig. 5-8 (Chapter 5), the average lengths and diameters of converted 1860 Army cylinders for First Model Richards conversions can be compared with those of the Mystery conversion of Figs. 9-47 and 9-48, serial number 167740E. For instance, the chamber length of the converted percussion Richards cylinder is 1.587 inches and that of the converted percussion Mystery conversion cylinder is 1.564 inches. The diameter of the rebated portion of the converted percussion Richards cylinder is 1.533 inches, as compared to 1.537 inches for the rebated section of the Mystery conversion cylinder. Newly fabricated cartridge cylinders—such as those made for the 1860 Richards and Richards-Mason conversions—with a rebated section diameter of 1.568 inches are not interchangeable with those of Mystery conversions.

Some Mystery conversion cylinders have their chambers counter-bored to recess the cartridge flanges. When this is the case, very little space is required between the rear face of the cylinder and the front face of the conversion ring. Conversion rings for Mystery conversions with counter-bored cylinders are about 0.062 inch thicker than those in which the flanges of the cartridges rest upon the rear face of the cylinder.

The conversion rings of Mystery conversions are found in two basic forms. Both are the Type III Richards, made for centerfire ignition (see Fig. 6-35, C and D, Chapter 6) to accommodate the cone-type firing pin of Fig. 6-36 (also Chapter 6). Conversion rings of the Mystery conversions



Fig. 9-48A Colt Mystery conversion with 5-1/2-inch barrel, serial number 173209. (Collection of Michael Leff)

appear to have a flat rear surface, rather than convex as on the Richards-Mason Colt conversions, and in most cases they are attached to the frames' recoil shields by two screws. The cylinder arbor shoulders directly against the recoil shield.

One form of conversion ring has an enlarged section at its base, cut to straddle the frame, while the other form does not. This section of the ring flares out on both sides where it meets the frame, and a screw holds the ring to the frame. Slight variations are found in the thickness of conversion rings, as explained above, but most measure about 0.250 inch.

The loading gates are flush with the outer surface of the conversion rings when closed, and have the general appearance of those of the 1861 Navy conversion, though slightly larger in size. Gate springs of all specimens examined are internal and cartridge loading channels have been milled deeply into the right-hand recoil shield.

On serial number 173209, the position of the ratchet teeth has been advanced, as illustrated in the right hand drawing of Fig. 5-4 (see Chapter 5). Therefore, the original single-fingered hand (rotating arm) of the percussion revolver had to be replaced with the double-finger type incorporated by Colt on all factory conversions. With the cylinders machined slightly shorter than those of the Richards, ratchet shafts were longer.

The left side of Mystery conversion serial number 167740E is pictured in Fig. 9-48. Here the fine scroll engraving of the metal and the carved ivory checkered

grips, with a Mexican Eagle within a raised oval on the left panel, is shown. Most known Mystery conversions are engraved and plated. Those serial numbers followed by an E were no doubt engraved in their percussion state, while those having only numbers could have been engraved after the conversion. Most known engraved specimens have fancy ivory grips, with carving patterns of Mexican influence. One engraved Mystery conversion, serial number 152415/IE, has engraved metal grips featuring a raised Mexican Eagle within a wreath. Anyone lucky enough to find a Mystery conversion for sale will most likely be able to identify at what stage the engraving was applied, if not by the form of serial numbering, certainly by the engraving itself. If some of the engraved pattern is cut through in areas where conversion machining took place, the engraving was undoubtedly applied when the gun was a percussion revolver. No one knows for sure why most Mystery conversion are engraved and plated; perhaps the individuals or organizations doing that type of conversion preferred working with the highest quality percussion revolvers available.

A typical Mexican 5-1/2-inch barrel Mystery conversion is pictured in Fig. 9-48A. The term "Mexican" is used because many of the longer barrel revolvers shipped to Mexico had their barrels cut to 5-1/2 inches, while a good number of those produced in Mexico had 5-1/2-inch barrels from the start.

The short barrel Mystery conversion shown in Fig. 9-48A is serial numbered 173209, is fully engraved, has the 44 CAL stamp on the triggerguard shoulder, the

COLTS/PATENT frame marking and the short conversion ring. Compare the conversion rings of Figs. 9-48 and 9-48A. The first is the saddle type, in that it saddles the frame with short overhangs on each side. The conversion ring in Fig. 9-48A simply sits on top of the frame.

The cylinder has been renumbered to the gun. The original number on the cylinder patent line is 2984, while the last four digits of the revolver's serial number are stamped directly below.

The engraving is the vine scroll with punched dot background style often used by Nimschke. This revolver was originally full nickel plated, but as can be seen, only traces remain.

The plain ivory grip was probably fitted to the Mystery conversion at the time the engraving was applied, or if later, at the time of conversion. In either event, the ivory is in excellent condition, with its age indicated only by the color.

Though not too many correct Mystery conversions exist for comparison purposes, this is the only one known to the author that has a lanyard ring on its buttstrap. This could be a much later addition.

The short barrel Mystery conversion is equally as rare as the full 8-inch barrel length, but not as desirable to the advanced collector because an original barrel has

been cut short. Therefore, the collector's value of the shorter barrel version is somewhat lower than that for an 8-inch model. A tremendous drop in value is experienced when one of these guns turns up with a stretched barrel. A stretched barrel is a cut-short barrel that has been returned to its original full length by welding on a front section of another barrel and adding a rifled liner.

Mystery conversions were chambered for the .44 Colt centerfire cartridge. Of the various dimensions offered in this caliber cartridge during the 1871-1880 period, some are found to chamber properly, while others are not.

Those that chambered properly were the copper-primed .44 Colt cartridge by U.M.C., the brass-primed .44 Colt cartridge by Winchester Repeating Arms Co., the small copper-primed .44 Colt cartridge by U.S.C.Co., and the copper-primed .44 Colt cartridge later made by Remington. Farrington primed U.S.C.Co. cartridges and the Martin cartridges from Frankford Arsenal had slightly larger cases and were therefore tight or impossible to chamber at all.

These so-called Mystery conversions probably came from Mexico sometime in the mid-1870s and were most likely copied from the Colt Model 1861 Richards-Mason design by two or more gunsmiths or gun shops. The rea-



Fig. 9-49 Colt Model 1860 long cylinder Cartridge Revolver. Serial number 46754 Mixed. (Courtesy Francis E. "Bud" Firth)

soning behind the theory of more than a single source is the two styles of conversion rings, two methods of boring chambers, two thicknesses of conversion rings, two basic sizes of ejector housings and the fact that major parts, particularly cylinders, were not interchangeable between specimens.

The work performed on the Mystery conversions was of good quality, but not the superior quality required to meet Colt factory standards. Entirely too much individual hand-fitting was performed during the final assembly of these conversions and no two comparable parts had identical measurements. The fact that most known Mys-

tery conversions are engraved specimens with special grips tends to further support the belief that these revolvers could not have been produced by Colt, even on an experimental or prototype basis. Had the Colt factory or their model shop assembled these Model 1860 Army conversions with a Model 1861 Richards-Mason Navy-type conversion, they would have certainly used plain blued percussion revolvers in the process. Based on the foregoing, the author believes the Mystery conversions were products of Mexico. Until further information becomes available, the origin of the Mystery conversions will simply have to remain a mystery.

Colt Model 1860 Army Long Cylinder Conversions Model 1860 Long Cylinder Revolvers

SERIAL NUMBER RANGE	Typically 5000-140000, usually mixed
CALIBER	.44 rimfire (see text)
BARREL LENGTHS	8 inches, exceptions observed
BARREL ADDRESS	ADDRESS COL.SAML COLT NEW-YORK U.S.AMERICA
EJECTOR HOUSING	None incorporated, exceptions observed
EJECTOR ROD TIP	None incorporated (see text)
EJECTOR HEAD	None incorporated (see text)
BARREL WEDGE	Percussion type with spring
CYLINDER	Converted percussion or newly fabricated
CONVERSION RING	None incorporated, only a hammer stop
LOADING GATE SPRING	None reported to have loading gates
FRAME TYPE	three-screw and four-screw converted percussion
FRAME MARKINGS	COLTS/PATENT
HAMMER SCREW	Small percussion size
HAMMER SPUR KNURL	Percussion-style cross-hatch, no border
STOCK (GRIP)	Single-piece walnut
BACKSTRAP	Iron, 1860 Army size
TRIGGERGUARD	Brass, 1860 Army size
ASSEMBLY NUMBER	On all major parts (see text)
FINISH	Most nickel plated with high tin content
SPECIAL NOTES	Four major types of this model have been observed, with variations found in each type. They will be described and illustrated in the following text.

The Colt Model 1860 long cylinder metallic cartridge revolver was not a conversion, it was assembled from obsolete (possibly rejected or condemned) percussion revolver parts, and in most instances, with a newly fabricated straight round cartridge cylinder.

Basically, the long cylinder revolvers had mixed serial numbers but matching assembly numbers on all major parts. The Colt Model 1860 Army percussion revolver frames used on these long cylinder revolvers were remachined, eliminating the step associated with the rebated cylinder. The top of the hammer channel and the face of the recoil shield were modified by three different methods and cartridge loading channels were cut deeply into the right recoil shield. Some specimens have pro-

visions for loading gates, while others do not. None have been observed with loading gates.

Original percussion hammers were used with their noses remachined, forming an offset rimfire firing pin at the left of the hammer face. Typically, long cylinder revolvers utilized their original percussion barrels, unaltered. Most long cylinder revolvers retain their original percussion loading lever, latch and plunger, though they no longer provided a function. Both three-screw and four-screw frames were used for this series of revolvers. Variations are extensive, and will be discussed in detail with the several specimens illustrated.

The two most commonly encountered Model 1860 long cylinder cartridge revolvers are pictured in Fig. 9-



Fig. 9-50 Two Colt Model 1860 long cylinder cartridge revolvers, serial numbers 78030 mixed and 10348 mixed. (Courtesy Francis E. "Bud" Firth)

50. The upper gun has a three-screw frame serial numbered 78030, with assembly number 56, while the lower has a four-screw frame serial numbered 10348, with assembly number 16. Both revolvers are cut for shoulder stock and both retain the original percussion loading levers, latches and plungers.

It is apparent from the noticeable difference in chamber sizes that these two cylinders were bored for two entirely different rimfire cartridges. Also, the chambers in the cylinder of revolver number 78030 have a tapered bore.

Although the copper casings of .44 caliber Henry cartridges are found to vary in diameter from about 0.438

REVOLVER SERIAL NUMBER	AVERAGE CYLINDER DIAMETER	OVERALL CYLINDER LENGTH	CHAMBER DIAMETER AT FRONT	CHAMBER DIAMETER AT REAR
10348	1.613"	1.824"	0.445"	0.445"
78030	1.625"	1.848"	0.448"	0.465"

The cylinders appear to be newly made, rather than converted percussion cylinders and were found to have slightly different outside measurements, as well as different chamber diameters. These differences are listed in the following chart. Comparison of Cylinder Dimensions and Bores

inch to 0.444 inch depending on which company manufactured them, there is absolutely no doubt that revolver number 10348 is chambered for the .44 Henry. The cartridge intended for revolver number 78030 is not easily identified, as the chamber dimensions do not match any of the .44 caliber rimfire ammunition publicized. The



Fig. 9-51 Colt Model 1860 long cylinder cartridge revolver, serial number 78030 mixed, assembly number 56. (Courtesy Francis E. "Bud" Firth)

centerfire .44-40 cartridge could be an ideal fit, but revolver number 78030 incorporates a rimfire hammer and rimfire hammer-stop or bridge at the top of its recoil shield.

The right side of the long cylinder cartridge revolver, serial number 78030, is pictured in Fig. 9-51. The gun was nickel plated at the time of its assembly, but only slight traces of the original nickel remain. The balance of the gun has a smooth dark brown patina. At one time a rear sight was dovetailed into the top rear of the barrel, but later replaced by a brass plug. The barrel has been re-faced to 7-7/8 inches and is flat at the muzzle. No other modifications were made to the barrel.

Revolver number 78030 is representative of the first major type long cylinder cartridge revolver observed. As already mentioned, the top of the frame base had its step removed to accommodate the larger diameter at the rear of the new straight round cylinder. Further frame modifications included cutting away a small section at the top face of the recoil shield to receive a 0.180-inch-thick by 0.375-inch-deep rimfire hammer-stop (bridge), and cutting a deep loading channel in the right-hand recoil shield. This loading channel was cut in a very crude manner, leaving an irregular and unfinished surface, with a transverse pin or screw to secure the cylinder arbor. The new hammer-stop was soldered to the



Fig. 9-52 Colt Model 1860 long cylinder cartridge revolver, serial number 10348 mixed, assembly number 17. (Courtesy Francis E. "Bud" Firth)

Fig. 9-53 Close-up of Model 1860 long cylinder frame, cartridge channel, hammer, firing pin, hammer-stop and cylinder (side view). Serial number 10348. (Courtesy Francis E. "Bud" Firth)



recoil shield in such a manner that most, in this first major type of revolver, became delaminated.

The face of the percussion hammer was reshaped, resulting in an offset rimfire firing pin at its front left side (see Figs. 9-53 and 9-54).

A small eyebolt (hinge barrel) was installed at the base of the right-hand recoil shield, within that portion cut away for the fork of the detachable shoulder stock, but no gate was provided. There was also no provision for mounting a gate spring, unless one was intended to be provided within the gate, if ever added.

A Model 1860 long cylinder cartridge revolver, serial number 10348, with a four-screw frame is pictured in Fig.

9-52. This revolver is another of the first major type in this series of long cylinder conversion, and while many of its features are identical to revolver number 78030, the quality of the workmanship suggests a second source. The unmodified percussion barrel is a full 8 inches in length and the frame has been remachined, removing the step below the cylinder and providing the space in the recoil shield for the hammer-stop (bridge). The cartridge loading channel in the right side of the recoil shield has been milled and finished in a very professional manner.

No loading gate or gate spring was provided; however, the right side of the recoil shield has been reworked



Fig. 9-54 Close-up of Model 1860 long cylinder frame, hammer face, hammer-stop and cylinder (top view). Serial number 10348. (Courtesy Francis E. "Bud" Firth)



Fig. 9-55 Colt Model 1860 long cylinder cartridge revolver, serial number 138421, assembly number 4. (Courtesy Francis E. "Bud" Firth)

to accept them at any time. A small machine screw has been provided in the cut-out at the bottom of the recoil shield for this purpose.

The close-up photographs of Figs. 9-53 and 9-54 show the rimfire hammer at full cock and the short hammer-stop recessed into the top of the recoil shield. These illustrations further detail the rimfire firing pin and the channel through which it strikes the cartridge head.

Figure 9-54 pictures the top of the hammer-stop, which is starting to delaminate slightly at the right side. Also illustrated is the percussion style of cross-hatch on

the hammer spur and the detail of the firing pin at the face of the hammer.

A second major type of Model 1860 long cylinder cartridge revolver is pictured in Fig. 9-55. This specimen is serial numbered 138421, with assembly number 4 stamped on both gripstraps, barrel, frame and cylinder. Like all other assembly numbers observed on long cylinder models, the size is larger than any Colt numbers and the typeface of the numbering dies differs considerably from any found on the Colt Richards or Richards-Mason conversions.



Fig. 9-56 Colt Model 1860 long cylinder cartridge revolver, serial number 139226. (Courtesy Francis E. "Bud" Firth)

This revolver has an 8-inch barrel with a replaced front blade sight and an added rear sight at the breech end. The hammer has been modified as above, resulting in an offset rimfire firing pin at the left of its face. The three-screw frame has no loading gate, and has not been undercut for any form of hammer-stop or bridge.

The cylinder's stop notches are considerably smaller than those of other Model 1860 long cylinder cartridge revolvers, and the chambers are counter-bored to recess the flanges of the .44 caliber Henry rimfire cartridges.

The entire revolver was nickel plated at the time of its assembly and, like the others examined, the nickel has a high tin content. The rather crude workmanship of this revolver and the lack of any form of hammer-stop or shield between the rear of the cylinder and the hammer leaves little doubt that this specimen came from yet another source, and has no connection with the other long cylinder revolvers previously described.

A third major type of Model 1860 long cylinder cartridge revolver is shown in Fig. 9-56. The gun is serial numbered 139226 and has no assembly number. The unmodified percussion barrel is 8 inches in length and has a cartridge ejector system that was taken from a U.S. Richards conversion, numbered 800.

The straight round cylinder was converted from a percussion cylinder by turning the rear section down to a ratchet stem, adding a ring to build up the area from which the metal was removed, and rebaring the chambers through the entire assembly to the size of the car-

tridge case. It is chambered for the .44 caliber Henry cartridge, and not counter-bored for the cartridge flanges. The large stop slots appear to have been chiseled by hand, resulting in rather uneven surfaces.

The hammer face was cut to a flat surface with a fairly heavy upper lip, as pictured in Fig. 9-57. The absence of a vertical rimfire firing pin and a vertical cut-out through the hammer-stop (see Fig. 9-58) led one owner of this gun to list it as a "Lip-Fire Conversion" in his collection inventory records.

A close examination of Figs. 9-57 and 9-58 reveals that the diameter of the cylinder is greater than that of the recoil shield. Therefore, a chambered rimfire cartridge will have the top of its flange exposed, and well above the hammer-stop when that chamber is in line with the barrel. This being the case, the top lip of the hammer (the firing pin) will strike that exposed upper portion of the cartridge flange and ignite the fulminate. The only difference is a horizontal firing pin rather than the typical vertical type.

The three-screw Model 1860 Army civilian percussion frame was undercut by about 1/8 inch at the top of its recoil shield where a hammer-stop was hard-soldered in place. This hammer-stop had a recessed top ledge for the full width of the hammer channel, to clear the heavy top lip (firing pin) of the hammer. This can best be seen in Fig. 9-58.

A cartridge loading channel was machined through the right recoil shield as seen in both Figs. 9-57 and 9-58.

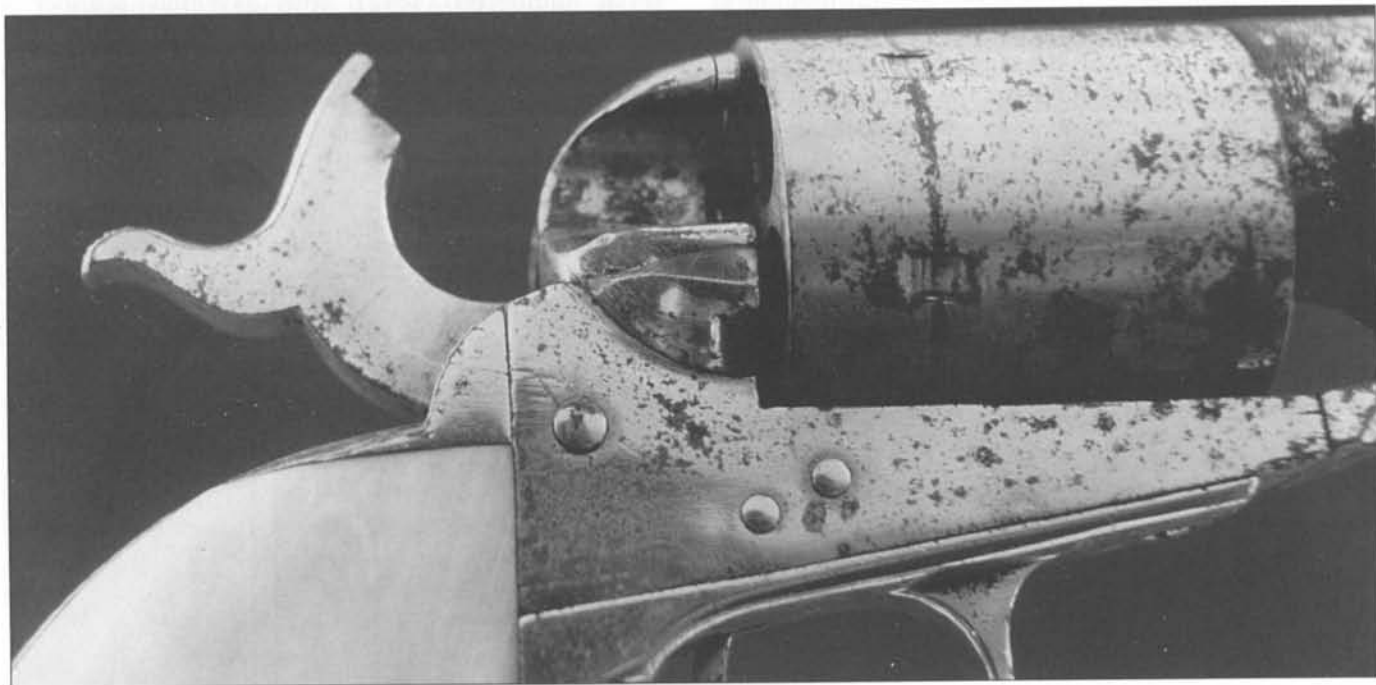


Fig. 9-57 Colt Model 1860 long cylinder cartridge revolver, serial number 139226; close-up of hammer, loading channel modification and cylinder (side view). (Courtesy Francis E. "Bud" Firth)

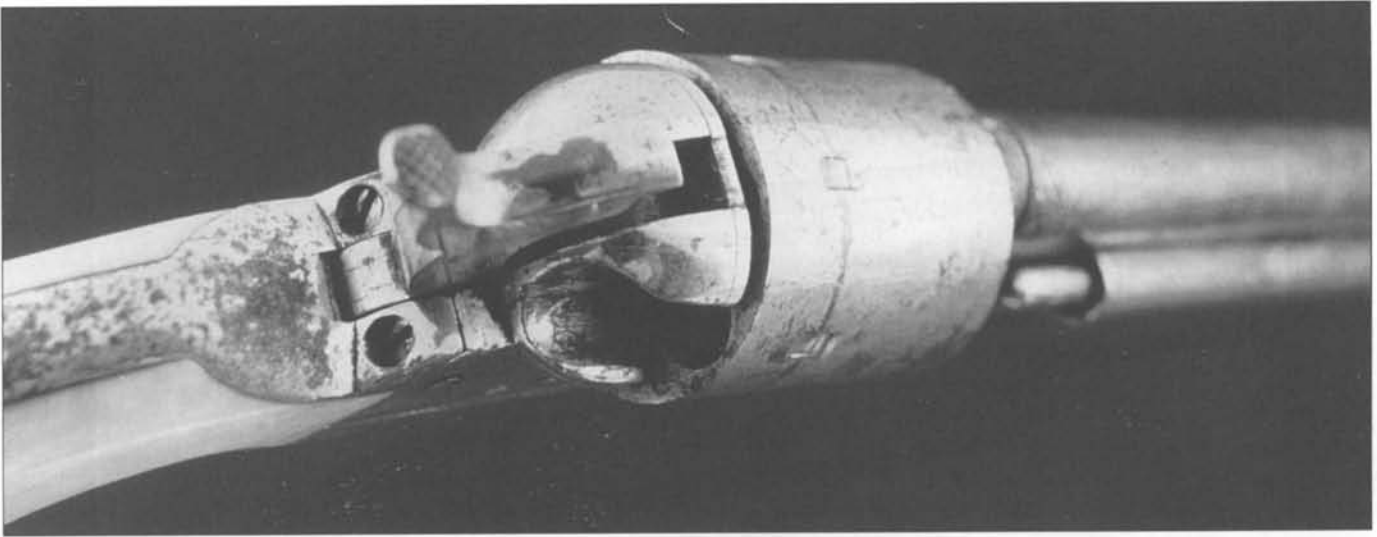


Fig. 9-58 Colt Model 1860 long cylinder cartridge revolver, serial number 139226; close-up of recoil shield, hammer-stop and cylinder (top view). (Courtesy Francis E. "Bud" Firth)

Obviously, the original channel was machined too wide, allowing a cartridge to fall out when the hammer was at full cock and the top chamber was in line with the barrel. This was corrected by building up the bottom of the loading channel with a preformed plate and hard-soldering it in place as shown in Fig. 9-57.

Like all previous types outlined, the Model 1860 long cylinder cartridge revolver serial number 139226 has no loading gate and no provisions for a gate spring.

A fourth major type of the Model 1860 straight cylinder cartridge revolver is pictured in Fig. 9-59. This gun has the typical mixed serial numbers, with the frame

numbered 118000 and the assembly number 2 appearing in eight separate locations. The frame is a three-screw type, cut for shoulder stock. Most major parts contain subinspector marks and the stock has a legible cartouche on both sides, indicating most, if not all, parts came from government-owned percussion revolvers. Serial numbers of major parts were 118000, 142970 and 48757. The wedge was numbered 0751, so there is no way to establish the full number of this revolver.

With a few minor exceptions, the machining and workmanship of this revolver is far superior to any other Model 1860 long cylinder cartridge revolver examined,



Fig. 9-59 Colt Model 1860 long cylinder cartridge revolver, serial number 118000. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)

but the final hand-finishing does not meet the high standards of Colt. As above, the converted parts will be described separately.

The cylinder of the Model 1860 long cylinder cartridge revolver number 118000 was converted from an original percussion cylinder, by the same method used in converting the cylinder of revolver number 139226 (see Figs. 9-56 through 9-58). Very faint traces of the original "Ormsby" cylinder scene remain, and the front face contains a small R, the subinspector's mark from percussion acceptance.

The original percussion ratchet remains, with its teeth positioned at the approximate centers of the chambers. Consequently, the original single-finger rotating arm (hand) was retained for proper cylinder indexing.

This cylinder is reportedly chambered for the .44 rimfire Henry cartridge, while those with newly fabricated cylinders are said to chamber the .44 long rimfire cartridge as was once manufactured by Smith & Wesson or Charles D. Leet. Other than cartridge length, there is very little difference between case diameters of the .44 rimfire Henry and the .44 rimfire long cartridges. However, some owners of these rare long cylinder cartridge revolvers have stated that the Henry cartridge is too large in diameter and will not fit, while the .44 rimfire long cartridge fits nicely.

As Louis Behling, one of America's recognized cartridge experts, points out, there is a group of 44/100 rimfire cartridges of early unknown manufacture that has two-groove bullets and case diameters measuring between 0.437 and 0.441 inch. These are believed to have been made for early revolver conversions, and perhaps would chamber very nicely in the Model 1860 long cylinder revolvers with the smaller bore diameters. Their overall lengths vary from 1.422 to 1.485 inches.

The three-screw percussion frame with its recoil shield cut for shoulder stock was machined to receive the straight round cylinder, and the right-hand recoil shield was milled out to create a cartridge loading channel as pictured in Fig. 9-60. Both machining operations were expertly performed, but the finishing process left some minor file marks in the loading channel.

Also seen in Fig. 9-60 is the reshaped hammer nose with the offset rimfire firing pin at the left side of the hammer face. All Model 1860 long cylinder revolvers examined, with the exception of serial number 139226, were found to have identical hammer configurations.

A close examination of Figs. 9-59 and 9-60 reveals that no provisions were made for the addition of a loading gate



Fig. 9-60 Close-up of hammer, firing pin, and recoil shield with detail of loading channel of serial number 118000. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)

or external gate spring. No machining was performed on the face or sides of the recoil shield, other than the milling of the deep cartridge loading channel already described and illustrated.

Rather than the hammer-stop recessed into the top front of the recoil shield and soldered in place as previously described, a small plate was double pinned within the hammer channel itself, as seen in Fig. 9-61. This plate occupies the entire width of the hammer channel and extends downward, almost to the circular ratchet cut-out of the frame. It is held in position by two pins, one entering from the top as shown, and the other entering from the face of the recoil shield. The plate (hammer-stop) has a channel cut at its left side to clear the rimfire firing pin when the hammer is let down. This method of fabricating and mounting the hammer-stop is the main feature unique to serial number 118000.

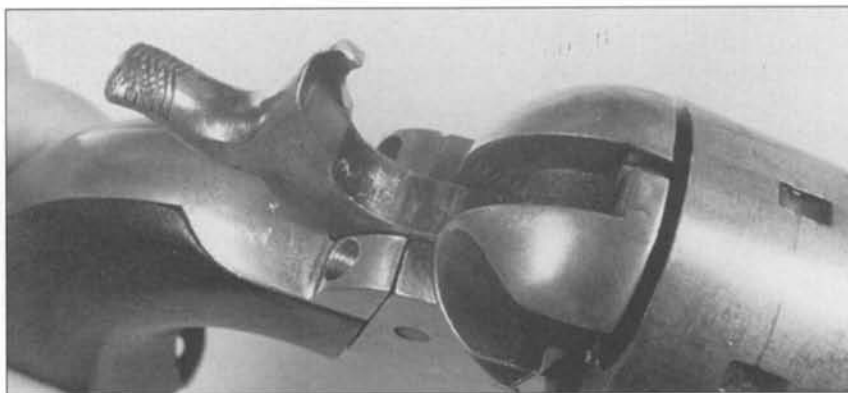


Fig. 9-61 Close-up of hammer knurl, firing pin and hammer-stop pinned within the hammer channel of serial number 118000. (C.D. Terry Collection, photo by C.D. Terry and Francis E. "Bud" Firth)

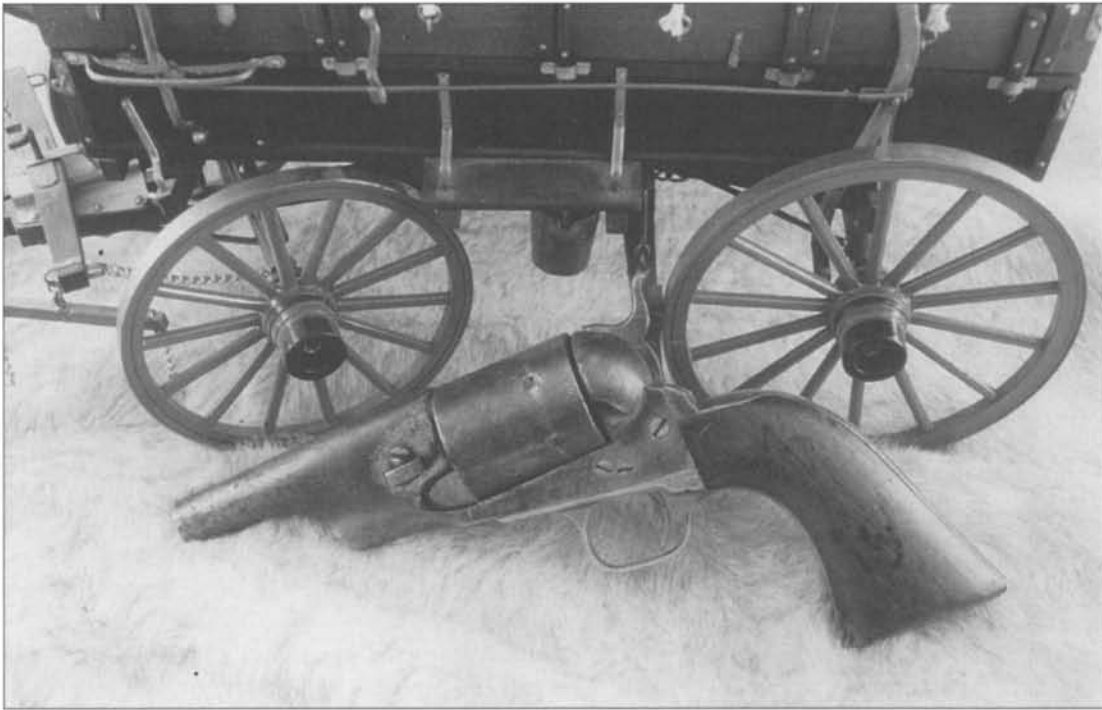


Fig. 9-62 Short barrel Colt Model 1860 long cylinder cartridge revolver marked OVERLAND STAGE L. 17. Serial number 41782. (Courtesy Francis E. "Bud" Firth)

The percussion barrel remains unaltered with all original markings and the original percussion loading lever, lever latch and plunger. For unknown reasons, the assembly number 2 is stamped into the barrel in two separate locations, on its underside just ahead of the lever rack, and on the rear face of the barrel lug to the upper left of the cylinder arbor hole.

The assembly number 2 is also found on the front end of the cylinder arbor, the right rear of the frame, the right front face of the grip, the right side of the triggerguard strap, the side of the cylinder and the right side of the

backstrap. Unlike other revolvers in this class, no assembly number appears on the hammer.

The original blue finish of this Model 1860 long cylinder cartridge revolver was either lost through wear and continuous cleaning or was removed from the individual parts at the time of assembly. No attempt to re-finish the revolver in blue or nickel was made.

A most unusual variation of a Model 1860 long cylinder cartridge revolver was first publicized by a former owner, Mr. D. Keith Kaonis in an article entitled, "A Study of Two Colt Conversions," published in the May, 1979 is-



Fig. 9-63 Buttstrap of Colt Model 1860 long cylinder cartridge revolver, serial number 41782. (Courtesy Francis E. "Bud" Firth)

sue of *The Gun Report*. The revolver was serial numbered 41782, matching throughout, with assembly number 24. This old cartridge revolver has been exposed to tremendous use, but of historical interest is the buttstrap marking. Reading from toe to heel in two lines is OVERLAND/STAGE L., followed by the number 17 stamped sideways (see Fig. 9-63).

Because of the fact that Ben Holladay sold his Overland Stage Line, along with his recently acquired Butterfield Overland Dispatch Line, to Wells Fargo during November 1866, Mr. Kaonis places the date of this short barreled Model 1860 long cylinder cartridge revolver, number 41782, at 1866 or before. Other authors making reference to these long cylinder models place their assembly in the 1868-69 period.

The "Overland Stage" revolver is pictured in Figs. 9-62 (left side) and 9-64 (right side). The barrel was professionally cut to 4 inches and a brass blade sight was properly inset back from the flat muzzle. The complete loading lever and plunger openings were expertly plugged and finished off. The barrel wedge is the percussion type, with spring, and is numbered to the revolver.

The cylinder of the "Overland Stage" revolver was newly fabricated and the ratchet teeth were positioned to engage with the rotating arm (hand) between chambers, as in the Richards and Richards-Mason conversions. Therefore, a rotating arm with two fingers was used, rather than the single-finger rotating arms incorporated with converted percussion cylinders. Those with two fingers were made by welding front extensions to the single finger percussion rotating arms and undercutting the front of the extensions to form the fingers.

The original percussion frame of the "Overland Stage" revolver was modified in the same manner as was that of the Model 1860 long cylinder cartridge revolver, serial number 78030 (see Fig. 9-51). The step corresponding with the rebated percussion cylinder was removed, a cartridge loading channel was milled through the right recoil shield and a hammer-stop was hard-soldered into a section machined at the top of the recoil shield. Provisions were made for a loading gate and an eye-bolt (hinge barrel) was installed, but no gate was attached.

The percussion hammer was originally reshaped at its nose with a rimfire firing pin, and the hammer-stop was shaped to receive that hammer face, as shown in Fig. 9-65. At a later date, when centerfire ammunition became available, the nose of the hammer was again reshaped by cutting away the rimfire firing pin and replacing it with a centerfire cone (see Fig. 9-64). The revolver now takes the .44 S&W American centerfire cartridge.

To properly compare the cylinder of the "Overland Stage" revolver with those of other long cylinder cartridge revolvers, it was necessary to take some accurate measurements. The bores of the chambers were found to be 0.449 inch straight through, the overall length was 1.844 inches and the cylinder diameter varied from 1.607 to 1.615 inches.

Assembly numbers were found on the underside of the frame, rear flat of the barrel lug, right side of the hammer, underside of the wedge, the left sides of the gripstraps and the cylinder. Assembly numbers appear to have been stamped in common locations on those long cylinder revolvers using converted percussion cylin-



Fig. 9-64 Colt Model 1860 long cylinder cartridge revolver with short barrel and marked OVERLAND STAGE L. 17. Serial number 41782. (Courtesy Francis E. "Bud" Firth)

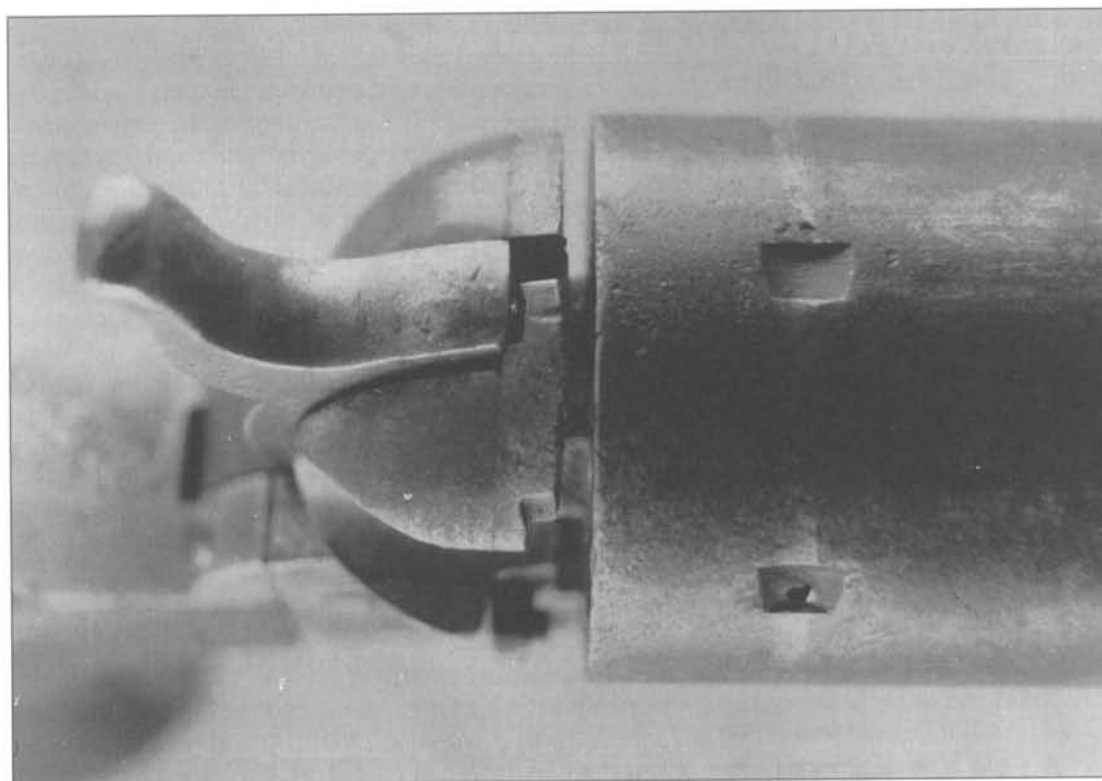


Fig. 9-65 Close-up top view of the Colt Model 1860 long cylinder cartridge revolver, serial number 41782. (Courtesy Francis E. "Bud" Firth)

ders, but in entirely different locations on those with newly fabricated cylinders.

The "Overland Stage" revolver has slight traces of a high tin content nickel plating remaining, but for the most part, the gun has a dark age patina.

There are numerous schools of thought concerning the origin of the Colt Model 1860 long cylinder cartridge revolvers. The first, and perhaps the most popular conclusion is that these guns were produced in limited number by Colt as experimental models during the early development stages of metallic cartridge conversions. Then, there are those who believe that Colt produced a small quantity of these cartridge revolvers to compete with the .44 caliber and .46 caliber Remington conversions licensed by Smith & Wesson. Still others are of the opinion that these revolvers were produced for the U.S. Ordnance Department, either by Colt or directly under Colt's supervision, during the period in which the government was investigating metallic cartridge revolvers for the cavalry.

The basic features indicating Colt origin are: (1) The stamping of like assembly numbers on all major parts; (2) The use of a two-fingered rotating arm (used on one major type only); (3) The high quality machining and professional hand-finishing observed (except for crude workmanship around the cartridge loading channel of the recoil shield); and (4) The final metal finishing and nickel plating applied with all original markings remaining sharp and unobliterated.

Conversely, there are those who believe these long cylinder revolvers were produced in one or more gun

shops or factories that had no association with Colt, possibly in Mexico. If more than one outside shop was responsible, this would account for the two separate placements of assembly numbers and two types of straight round cylinders.

There are many who insist that the Model 1860 long cylinder revolver is strictly experimental, regardless of who assembled them from original and modified Colt percussion parts. If this was the case, it would explain the four basic types encountered and the many minor variations. They were simply improvements as the design approached finalization.

There is still one other opinion that is shared by many. That is the possibility that these long cylinder revolvers were produced by one or more of America's larger houses dealing in arms and military goods. Both B. Kittredge & Co. and Schuyler, Hartley & Graham handled numerous firearms and were capable of machining and gunsmithing. Since they were Colt dealers at the time production ended on the 1860 Army revolver, they could have very well purchased obsolete or surplus parts from Colt and constructed these revolvers. This would place the long cylinder revolver production in the 1873-1874 period, unless these companies purchased rejected civilian parts and condemned military parts for this purpose during the 1860s.

There appears to be no possibility that Colt was involved with the Model 1860 long cylinder revolver, based on the following reasoning. (1) The stamping dies used for assembly numbers are larger and of a different

typeface than those used by Colt on revolvers or conversions; (2) Though double-finger rotating arms are used on some long cylinder specimens (not all specimens), they are welded parts and welding was not practiced by Colt; (3) The crude workmanship found in finishing the loading channels and modifying the recoil shield to accept a loading gate was not of the high quality demanded by Colt standards; (4) Most Colt experimental models were left in the white, while all long cylinder cartridge revolvers examined were finished in either nickel or blue; (5) Two types of Model 1860 long cylinder cartridge revolvers had their hammer-stops hard-soldered to the recoil shield, while another was double pinned. Neither was representative of methods known to be used by Colt; (6) Some specimens examined were crudely modified for future adaptation of a loading gate, though no long cylinder models were located with loading gates. Again, the quality of workmanship was far below Colt standards and of still greater significance, the work was incomplete. Had the work been performed by Colt and provisions made for loading gates, loading gates would have certainly been installed; (7) Finally, the mixing of serial numbers on most, but not all Model 1860 long cylinder cartridge revolvers was not a general practice of Colt. Unmatched serial numbers were only found on the U.S. Richards Conversions because of the rush to complete them for the Ordnance Department, which demonstrated no concern over numbering. Then, replaced cylinders were mismatched on Navy conversions, but more often than not they were renumbered to the guns by a second serial number.

Had Colt produced the Model 1860 long cylinder cartridge revolvers, they would have certainly found the straight round cylinder to be superior to the 1860 Army rebated type-in strength, if nothing else. Why would they not have continued its use in the 1860 Richards and 1860 Richards-Mason conversions? The newly fabricated rebated cylinders were more costly to manufacture because of the extra machining cut, and removing the step at the base of the frame could have been done by the same tooling required for cutting back the face of the recoil shield to seat the Richards conversion ring. The combination of cost cutting and stronger chambers would have certainly appealed to Colt.

Thus, only two possibilities remain:

The first possibility is that all Model 1860 long cylinder conversions were experimental models made up by two or more (possibly four) independent gunsmiths or gun shops for the U.S. Ordnance Department prior to the Thuer or Richards conversions. Little has been publicized regarding the design of cartridge revolvers submitted to the Ordnance Department while the Rollin White Patent on bored-through cylinders was still in effect. If this was the case, the first attempt at a successful military cartridge revolver would be numbered 1 (assembly number 1), and each subsequent improvement would be numbered 2, 3, 4, 5, etc. Because of the fact that several specimens with like characteristics exist in each of four basic types, another possibility exists in the sequence of assembly numbers. If five were made of the first type, they could have been numbered 1 through 5. Then the next seven could have been made as the second type, bearing assembly numbers 6 through 12, and so on.

If these Model 1860 long cylinder cartridge revolvers were, in fact, experimental models for the Ordnance Department, that would explain the subinspector marks and the cartouche on each grip of the long cylinder revolver serial numbered 118000. According to a 1990 unpublished article entitled, "An Experimental .44 Caliber Rim Fire Revolver of The Model 1860 Army" by Francis E. Firth, there were at least three other like revolvers with mixed numbers that were produced in the same lot as serial number 118000. They were numbered 142970, 48757 and 46754.

The second possibility is that these Model 1860 long cylinder cartridge revolvers were made up by two or more small gun shops or gunsmiths, possibly one copying from the other, from rejected parts sold by the Colt factory or condemned Colt parts sold as surplus by the government. This theory is supported by the fact that less than 60 long cylinder cartridge revolvers are believed to have been made, the highest reported assembly number being 56, and of those observed and disassembled all had inferior workmanship in one form or another. The major portion of inferior workmanship is attributed to the absence of proper machinery and the lack of skills of individuals performing hand-finishing operations.

Chapter 10

Other Conversions

European gunmakers were not restricted by Rollin White's American patent on bored-through cylinders. Eugene Gabriel Lefauchaux secured a British patent through his agent, J.H. Johnson, in 1854 for a single action revolver employing a bored-through cylinder. The revolver of British Patent 955/1854 was chambered for the pinfire metallic cartridge invented by his father, Casimir Lefauchaux, in January 1835, with improvements by Houllier, Beringer, Gevelot and many others.

Foreign Conversions

Usable centerfire metallic cartridges were available by mid-1860, as demonstrated by the "Raphael" six-shot double action centerfire revolver shown in Fig. 10-1. This

rare revolver, with its rimless centerfire metallic cartridge was patented in France by Societe Pidault et Cordier of Paris (French Patent No. 45322) in May 1860. During the American Civil War, the U.S. Ordnance Department records state that 978 Raphael 11mm revolvers were purchased at a cost of about \$16.50 each. It was from the importer's name, George Raphael & Co. of Philadelphia, that the Pidault & Cordier revolver became known as the Raphael.

A separate breech-plate, containing the cylinder indexing ratchet, drives the cylinder through a pin connecting the two when the loading gate is closed. When the gate is opened, the pin disengages from the cylinder, permitting free rotation by hand for loading or extract-



*Fig. 10-1 Raphael centerfire revolver, serial number 654.
(Author's Collection)*



Fig. 10-2 Rear of Raphael breech-plate, showing cylinder chamber.

ing cartridges. Extraction is accomplished by means of a lanyard ring ejector, carried in the buttcap.

With the gate open and an empty cylinder chamber aligned for loading, a rimless cartridge is inserted and seats on the lip of the smaller diameter chamber bore seen in Fig. 10-2. With the gate closed, the cartridge is held in place by the breech-plate. The long firing pin enters each of the six tapered holes as the hammer is cocked, the cylinder rotated and the trigger pulled, striking the cartridges at their central rear ignition point.

A portion of the patent drawings for the John Adams British Patent No. 1758 of 1861 is illustrated in Fig. 10-3. This clearly demonstrates that a choice between percussion ignition (FIG. 9.) and centerfire cartridges (FIG. 8.) is possible, simply by the selection of the proper cylinder and separate backing-plate. As with the Raphael revolver of Figs. 10-1 and 10-2, the 1861 Adams centerfire metallic cartridge is rimless.

Under John Adams' 1861 design, both optional percussion/metallic cartridge revolvers, as well as permanent conversions from percussion to metallic cartridge, were soon produced and sold through London and Birmingham houses. It didn't take long for French and Belgian gunmakers to follow suit.

Though poorly illustrated, William Tranter's British Patent No. 1889 of 1865 provided for a separate breech-plate with individual firing pins aligned with each cylinder chamber. "FIG. 9" of the patent drawings and that portion of the patent text relevant to revolving firearms is duplicated in Fig. 10-4. Loading and extracting cartridges from the Adams and Tranter designs required removal of the cylinder from the revolver. John Deane had still another design to offer, which he patented in 1862

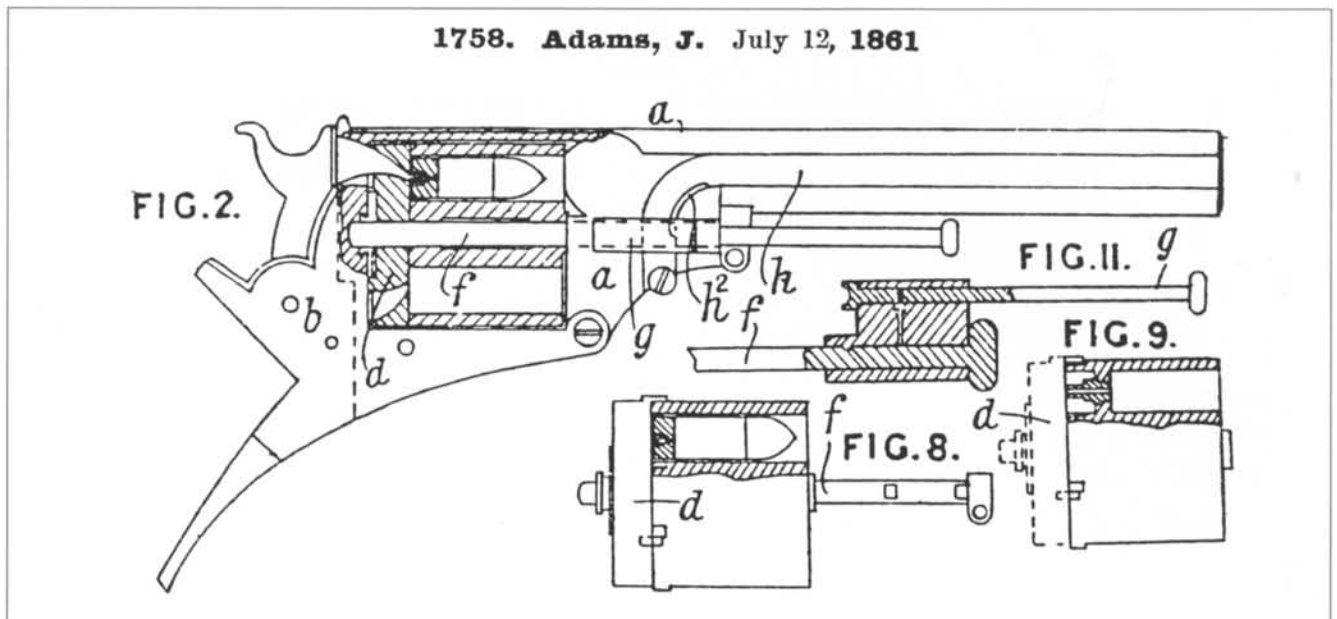
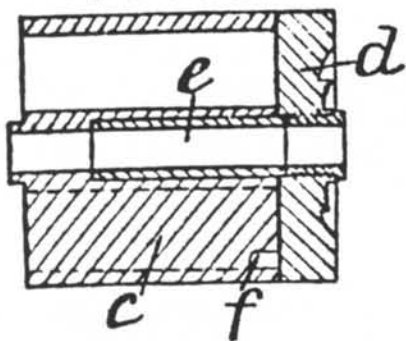
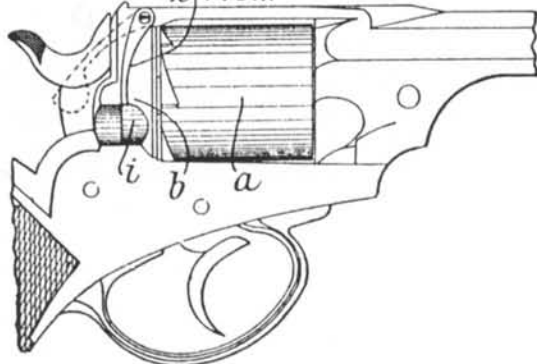


Fig. 10-3 Patent drawings from John Adams' British Patent No. 1758/1861.

FIG. 9.**1889. Tranter, W. July 20. Disclaimer.****1865**

Breech actions, revolving-chamber.—A breech-piece **d**, Fig. 9, provided with flring-pins and formed with a socket **e** mounted on the cylinder axis, is connected to the cylinder **c** by a pin **f** engaging a hole in the cylinder, and is formed with ordinary cylinder-feeding teeth and locking-notches. The cylinder may also be fixed to the breech-piece by a "slide or hinge joint and a "screw at the front."

Fig. 10-4 Portion of drawings from William Tranter's British Patent No. 1889/1865.

FIG. 1.**626. Deane, J. March 8, 1862**

Breech actions, revolving-chamber ; magazines.—The chambers are bored entirely through the cylinder **a**, and their rear ends are closed by the separate plate **b**. The cartridges are inserted through a lateral opening in the plate **b**, which is closed by the block **i** on the end of the pivoted arm **k**.

Fig. 10-5 Portion of drawings from John Deane's British Patent No. 626/1862.

1959. Adams, J. July 28, 1866

Breech actions, revolving-chamber.—The chambers are loaded from the front, the base of each bullet resting against a shoulder in front of which a small annular recess is cut, into which the bullet is expanded by a rammer **a** connected by a link **c** to a lever **b**, which folds up beneath the barrel where it is held between jaws **j** by a spring catch **d**. The chamber in rear of the bullet is slightly conical and terminates in a small hole, through which the flring-pin strikes the cap; if metallic cartridges are employed, the case is ejected by a pin attached to the breech frame, which passes through the hole.

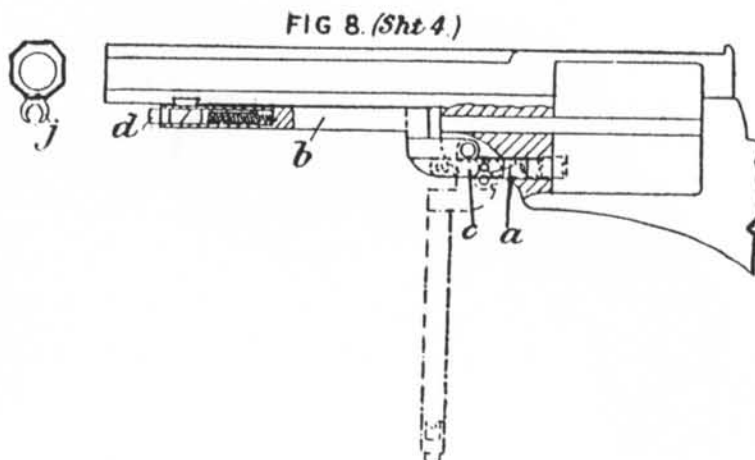


Fig. 10-6 Portion of drawings from John Adams' British Patent No. 1959/1866.

2961. Adams, J. Oct. 22, 1867

Breech actions, revolving-chamber; converting. — Relates to improvements on the invention described in Specification No. 1959, A.D. 1866.

A revolving cylinder with holes or chambers C open at both ends is employed, the rear portion of the chambers being enlarged to receive the cartridge cases. A part of the frame at the back of the cylinder is cut away to allow of the introduction of the cartridges, and this gap is closed by a hinged flap G fixed by a spring bolt. At one side of the pin on which the cylinder revolves is arranged a sliding rod O for ejecting the empty cases from the chambers, and this rod also serves to lock the cylinder, for which purpose it is pushed inwards so that its end enters one of the chambers. The ejector rod O is locked both in its withdrawn position and when it is pushed into the chamber, by means of a transverse bolt U which can be rotated by a thumb-lever V. This bolt fits into notches cut in the ejector rod and in the pin on which the cylinder revolves, thus locking the two together; and it is formed with notches so that by rotating it into one position the ejector rod can be released while the cylinder pin remains locked, and by rotating it into another position the ejector rod remains locked while the cylinder pin is released so that it can be withdrawn when desired. The bolt U is locked in its different positions by a spring catch W. In a modification, the ejector rod and cylinder pin are locked by a sliding spring bolt. In converting muzzle-loading revolver fire-arms into central-fire breech-loading fire-arms the old cylinder is preserved, the portion containing the 'percussioning' cut away, and the vacant space in the frame filled up by inserting a removable breech-piece, which revolves with the cylinder and carries within itself movable strikers communicating with the hammer and the centre of the cartridge.

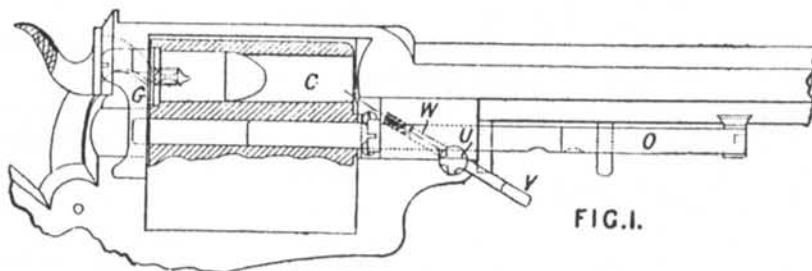


Fig. 10-7 Portion of drawings from John Adams' British Patent No. 2961/1867.



Fig. 10-8 Second Model Deane-Harding converted revolver, serial number 6818. (Author's Collection)

(British Patent No. 626). Here, he offered a bored-through cylinder, recoil shield, cartridge loading channel and a loading gate. That portion of the Deane patent is illustrated in Fig. 10-5.

Still one other addition or improvement was required, and that was introduced by John Adams in his reference to the use of metallic cartridges in British Patent No. 1959 of 1866. With reference to a portion of the patent text reproduced in Fig. 10-6, a cartridge "case is ejected by a pin attached to the breech frame, which passes through the hole [in the cylinder]."

The John Adams British patent of October 22, 1867 (British Patent No. 2961) soon became known as the "John Adams Conversion Patent". This design employed all of the features outlined in the previously mentioned British patents, and was also patented in the United States on December 29, 1868 (U.S. Patent No. 85,350).

Portions of British Patent No. 2961 (drawings and text) are reproduced in Fig. 10-7. The text specifies a bored-through cylinder with the rears of the chambers bored larger to receive the cartridge cases as illustrated in "FIG. 1." of the patent drawings. Without illustrations, the text continues to describe the method of converting the percussion cylinder to a centerfire metallic cartridge cylinder using a breech ring containing individual firing pins and revolving with the cylinder.

These early designs of British inventors become very important in furthering the evolution of American percussion revolver conversions. Sometimes we find them copied, or forming the basis for various improvements patented by others in America.

An extremely rare British conversion is found in the Second Model Deane-Harding revolver pictured in Fig. 10-8. The gun is serial numbered 6818, remains in perfect working order, retains 95 percent of its original bright

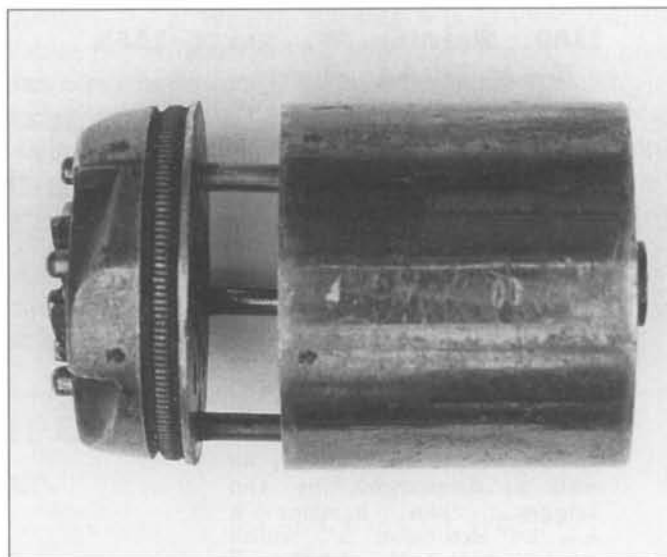


Fig. 10-9 Cylinder from Deane-Harding conversion, serial number 6818.

blue, and has excellent markings. The top strap is engraved W & T. KAVANAUGH DUBLIN, and the right frame side DEANE-HARDENG PATENT NO 6818 L. The serial number is also found on the underside of the .456 caliber barrel.

The two-piece cylinder must be removed and separated for cartridge extraction and loading. The two parts are indexed and connected by the three pins, as shown in Fig. 10-9. The rear cylinder section (breech-plate) contains five rebounding firing pins, one for each chamber, and the ratchet for cylinder rotation.

Figure 10-10 pictures the two-piece cylinder separated, the front portion ready for loading and the rear portion positioned with its rear side up. Here can be seen the three indexing holes on the front portion and the five

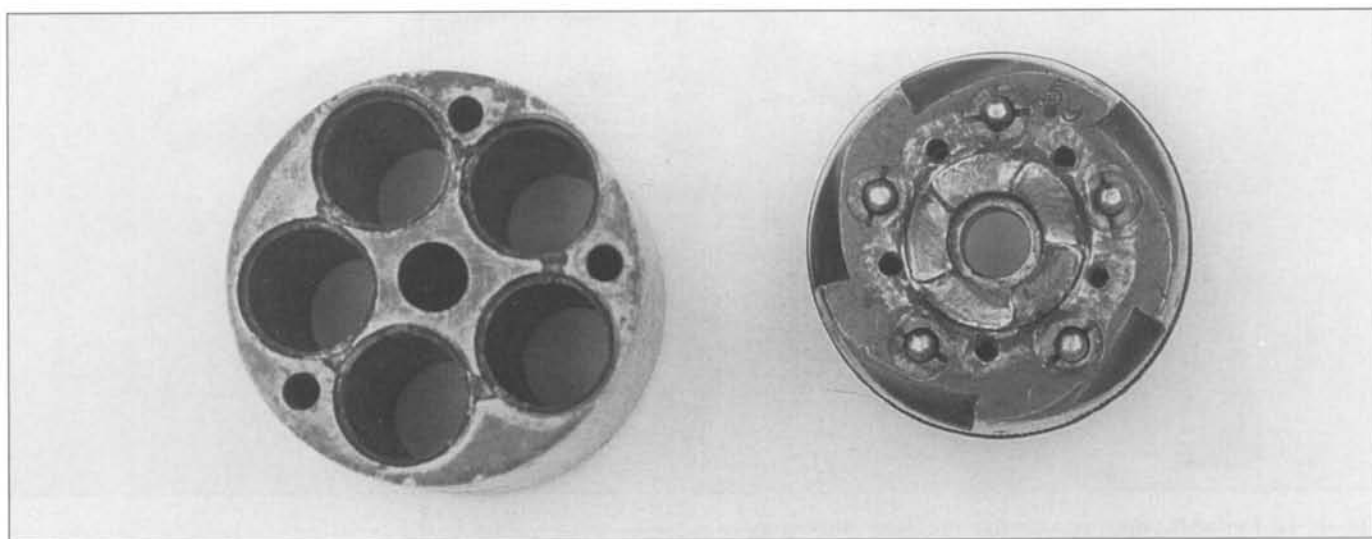
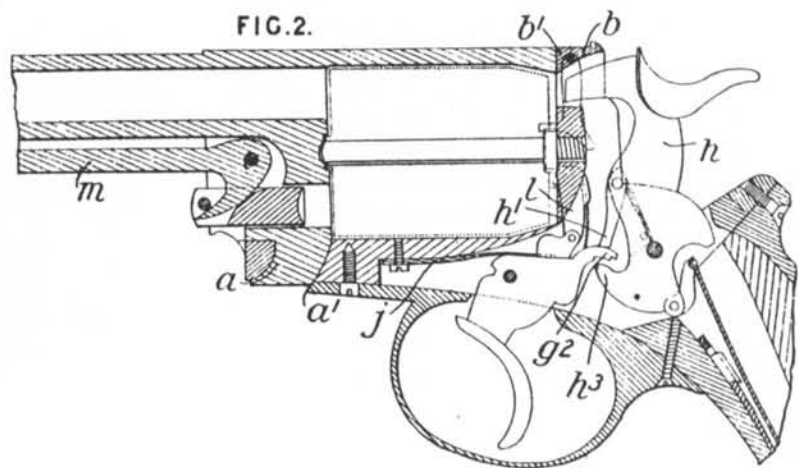


Fig. 10-10 Disassembled cylinder from Deane-Harding conversion, serial number 6818.

1159. Harding, W. May 24, 1858

Breech actions, revolving-chamber; magazines.—The breech frame is made in two parts, one of which is attached to the stock, while the other is in one with the barrel, the two parts being secured together by a projection *a* and a recess *b* on the barrel portion engaging with a recess *a'* and a projection *b'* on the stock portion. The trigger has an extension *g*², which engages with the rule-jointed rod *h*¹ on the hammer when the hammer is to be cocked, as well as discharged, by the trigger. The hammer *h* has an extension *h*³, which engages with half and full cock bolts on the underside of the trigger, when the hammer is cocked by hand. The trigger spring *j* carries a piece for locking the cylinder when the



trigger is pulled, and to this piece the feed-pawl, for rotating the cylinder, is pivoted.

Ramrods.—The ramrod *m* is that described in Specification No. 669, A.D. 1858.

Fig. 10-11 A portion of the patent drawings of William Harding's British Patent No. 1159/1858.



Fig. 10-12 Deane-Harding conversion revolver, broken open with cylinder removed.

individual rebounding firing pins of the breech section. Generally, when individual firing pins are used with two-piece conversion cylinders, the breech ring containing the firing pins is made in two separate pieces, allowing separation for installing or removing the pins. That of the Deane-Harding revolver illustrated is a single piece, with the firing pins and their associated coil springs installed through the rear of the plate and maintained in position by slotted ring-screws.

One additional British patent applies to the Deane-Harding revolver described and illustrated in Figs. 10-8

through 10-12. William Harding was granted British Patent No. 1159 in 1858 for a two-part frame. The rear part contains the action parts of the revolver, which operates in both single action and double action modes, while the front part is the barrel, barrel lug and top strap. The bottom of the barrel lug hooks into a socket at the lower front of the frame and hinges closed, as shown in "FIG. 2." of the patent drawing. The two pieces are then locked closed by a flat-sided transverse pin that is rotated by a lever mounted on the right side of the top strap.

J. M. COOPER. Revolver.

No. 27,526.

Patented March 20, 1860.

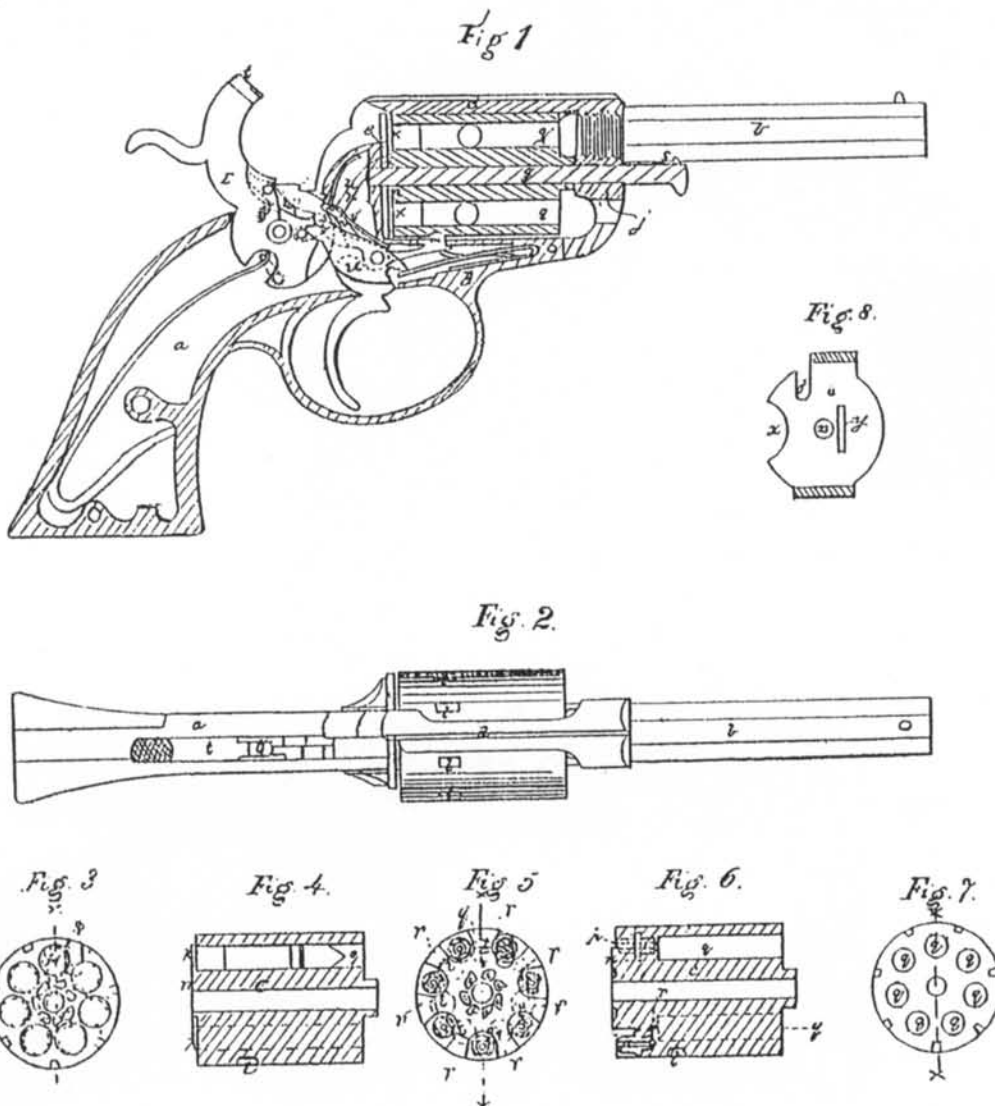


Fig. 10-13 Patent drawings of J.M. Cooper's U.S. Patent No. 27,526.

This is the method by which the Deane-Harding conversion, serial number 6818, is assembled. As illustrated in Fig. 10-12, the barrel assembly can be released and hinged down to remove the cylinder, or it can be completely detached from the frame at will. The lever visible at the end of the top strap is what rotates the flat-sided pin for locking the frame closed, once assembled.

The Cooper Conversion

James Maslin Cooper, an American gunmaker from Pittsburgh, Pennsylvania, was granted three U.S. patents for revolvers and another for a cartridge. Although best known for his 1863 design of the Cooper double action pocket revolver (U.S. Patent No. 40,021), his U.S. Patent

No. 27,526 is more significant to this study. This patent was granted on March 20, 1860, and its basic claims were for a single revolving-breech firearm capable of discharging loose powder, cap and ball loaded into the front end of the breech, or fixed ammunition loaded from the rear. This required using two or more cylinders of different constructions. Patent drawings are duplicated in Fig. 10-13.

Though a somewhat different mechanical arrangement, the metallic cartridge conversion of a J.M. Cooper Second Model, Second Variation double action percussion pocket revolver is pictured in Figs. 10-14 and 10-15, with cylinder details illustrated in Figs. 10-16 through 10-18.

The Cooper conversion is serial numbered 501, matching throughout, has a five-shot cylinder, convert-



Fig. 10-14 Right side view of Cooper conversion revolver, serial number 501. (Author's Collection)



Fig. 10-15 Left side view of Cooper conversion revolver, serial number 501, hammer cocked.

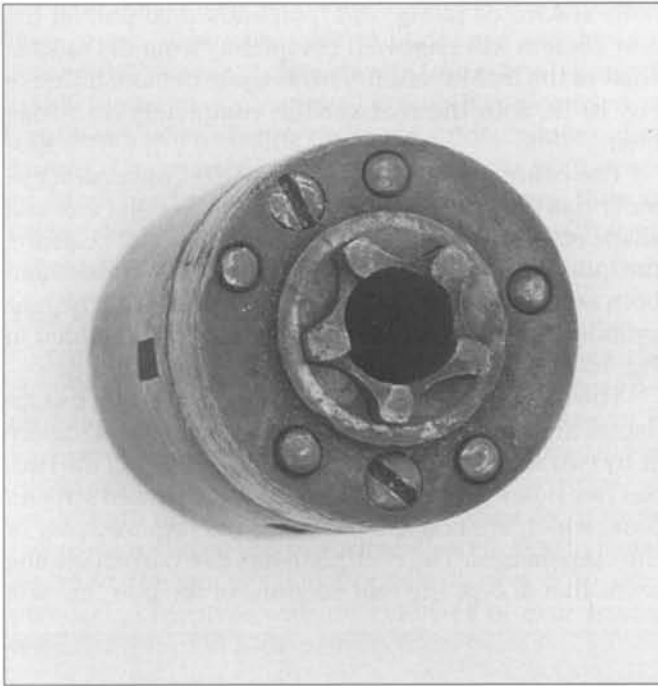


Fig. 10-16 Assembled cylinder from Cooper conversion revolver.

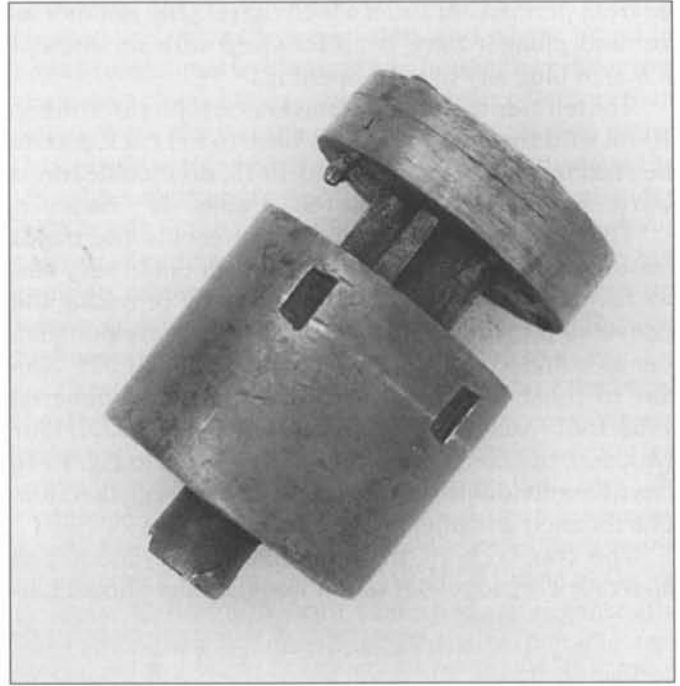


Fig. 10-17 Partially disassembled cylinder from Cooper conversion revolver.

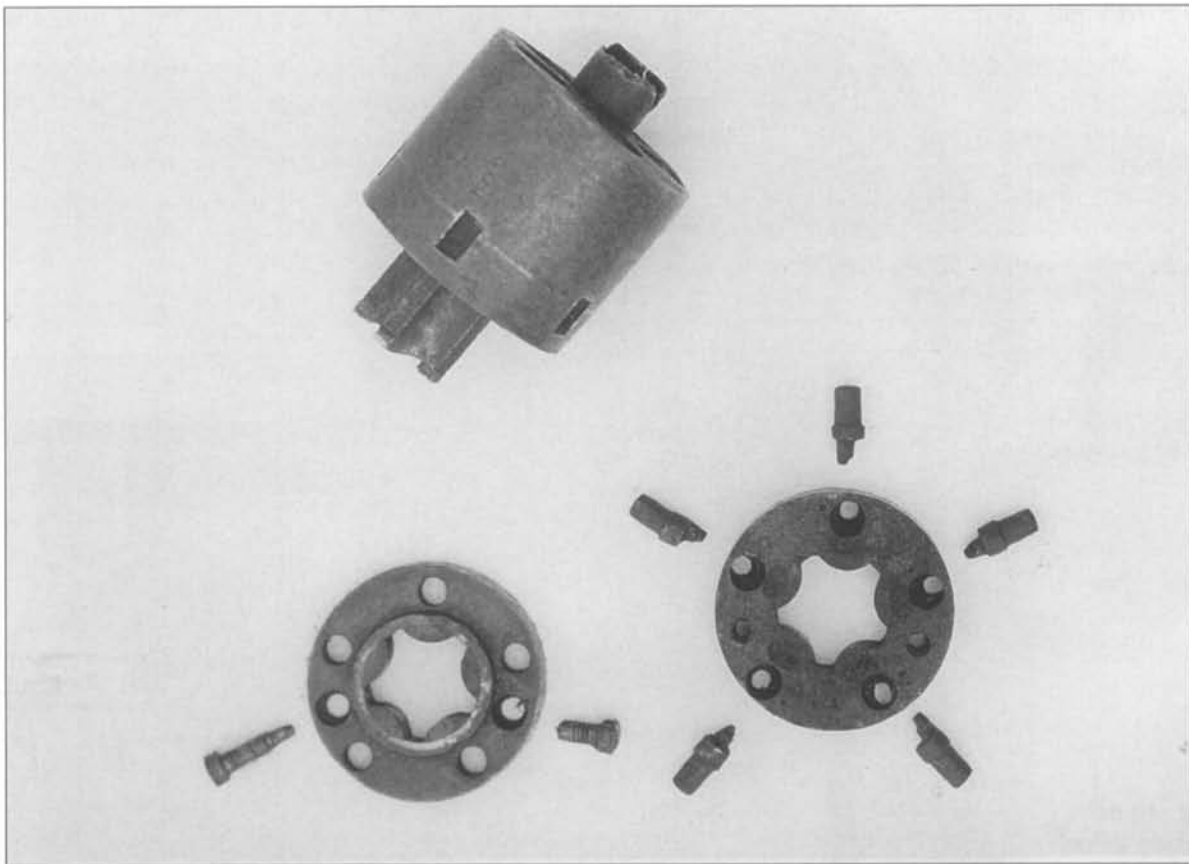


Fig. 10-18 Completely disassembled cylinder from Cooper conversion revolver.

ed from percussion and a 4-inch barrel. The rammer lever and plunger have been removed with no attempt made to plug any of their openings.

The left side of the same conversion is pictured in Fig. 10-15, with the hammer drawn back to full cock. As can be seen in both Figs. 10-14 and 10-15, no modifications were made to the barrel, frame or hammer.

The double-section cylinder represents the major feature of this conversion. The revolver could very easily revert back to percussion, simply by replacing the conversion cylinder with an original percussion cylinder as outlined in J.M. Cooper's Patent No. 27,526. Similar to those described in British patents numbered 1758/1861 (Adams), 1889/1865 (Tranter) and 2961/1967 (Adams), the conversion cylinder pictured in Fig. 10-16 has five individual firing pins in its rear (breech) section, one for each chamber.

The two sections of the conversion cylinder pull apart for cartridge extraction and loading. Shown par-

tially separated in Fig. 10-17, an additional pull on the rear section will remove it completely from the ratchet shaft of the front section. This is again demonstrated in Fig. 10-18, with the rear section completely disassembled.

The center of the rear section of the conversion cylinder has the guide hole broached to the exact size and shape of the ratchet shaft of the front section. Therefore, the individual firing pins line up with the chambers and both sections of the cylinder revolve together. The rear cylinder section has been completely disassembled in Fig. 10-18 to illustrate construction and operation.

The five firing pins, each with an offset pin and stop-flange, are sandwiched between two plates held together by two screws. The front plate, the thicker of the two, has five holes through which the small pointed strikers pass, which are counter-bored for the required play of the stop-flanges. The rear plate has five corresponding holes that accept the rear sections of the pins, but will



Fig. 10-19 Rogers & Spencer conversion revolver, serial number 1406. (Author's Collection)



Fig. 10-20 Austin T. Freeman Army model conversion revolver, serial number 930. (Author's Collection)

not pass the flanges. When the firing pins are placed in their proper positions, the two plates are attached together with the two screws shown. One screw is considerably longer than the other because it is also used as a guide-pin when closing the two-section cylinder after loading. The chambers of the front cylinder section are counter-bored to recess the cartridge flanges, thus allowing the two cylinder sections to fit flush with each other when loaded,

The Rogers & Spencer Conversion

Still another early conversion exists in which the choice between percussion and metallic cartridge is determined by the type of cylinder used. The Rogers & Spencer revolver, serial number 1406, is pictured in Fig. 10-19 with its conversion ring and metallic cartridge cylinder (both numbered to the gun) in place. With these two parts removed and the original percussion cylinder returned, the gun is again a regular Rogers & Spencer percussion revolver with no evidence of ever having been converted to a metallic cartridge gun.

As can be seen from the illustration, the conversion ring is equipped with a loading gate possessing an internal gate spring. The conversion cylinder is chambered for the .44 Henry rimfire cartridge. On this particular conversion, the percussion loading lever, plunger and lever latch stud have been retained.

Several Rogers & Spencer conversions have been inspected and still others reported, and all are found to have professional workmanship, though they differ mechanically. Some have somewhat shorter cylinders than others, with thick conversion rings and loading gates. Others utilize thin backing-plates similar to those of the .46 caliber Remington Army revolvers converted under license with Smith & Wesson (see Chapter 3). Some have converted percussion cylinders with the same ratchet position, while others have newly made cylinders with advanced ratchet teeth such as those used with the Colt Richards conversions (see Chapter 5).

These, and other minor variations support the belief that the Rogers & Spencer conversions were experimental factory products, with later specimens exhibiting improvements. The other possibility is that the U.S. Ordnance Department sold its 5,000 Rogers & Spencer percussion revolvers to one of the larger military goods or importing houses, such as Austin Baldwin & Co. or Schuyler, Hartley & Graham, which had ample gunsmithing capabilities for converting them to metallic cartridge. Conversions are found in both .44 and .45 caliber, suggesting more than a single supplier.

An extremely interesting conversion is found with the predecessor of the Rogers & Spencer. An Austin T. Freeman Army Model percussion revolver, serial number 930, has been converted to rimfire metallic cartridge and is



Fig. 10-21 Right side view of frame, cylinder, hammer, backing plate and thumbcatch of the Austin T. Freeman conversion.

pictured in Fig. 10-20. Again, the conversion lies mainly in the cylinder and its backing-plate, and can very easily be taken back to percussion by a change of cylinders.

The percussion cylinder was slightly faced off at the rear and the six chambers were bored completely through and reamed to accept a rimfire .44 caliber Henry cartridge. With this conversion, a cylinder backing-plate is required, similar to those of the Remington Pocket and Police conversions (see Chapter 3).

Figure 10-21 shows a close-up of the frame, cylinder, backing-plate and hammer. The cylinder chambers are not counter-bored for the cartridge flanges. As can be seen in Figs. 10-21 and 10-22, they are sandwiched be-

tween the rear cylinder face and the backing-plate. The long hammer nose is slightly tapered to strike the cartridge rims through the slots of the backing-plate.

A similar close-up of the opposite side is pictured in Fig. 10-22. Of interest in both illustrations is the thumb-catch (Fig. 10-21) and its associated spring (Fig. 10-22) for releasing the cylinder and cylinder-arbor to extract and load cartridges. The thumb-catch is pushed forward, disengaging the hook (Fig. 10-23) from the frame, allowing the entire cylinder assembly to be removed from the right side of the revolver. The backing-plate is then removed and the cylinder is ready for loading. Rather than using assembly or conversion numbers, the se-



Fig. 10-22 Left side view of frame, cylinder, hammer, backing plate and thumbcatch spring of the Austin T. Freeman conversion.

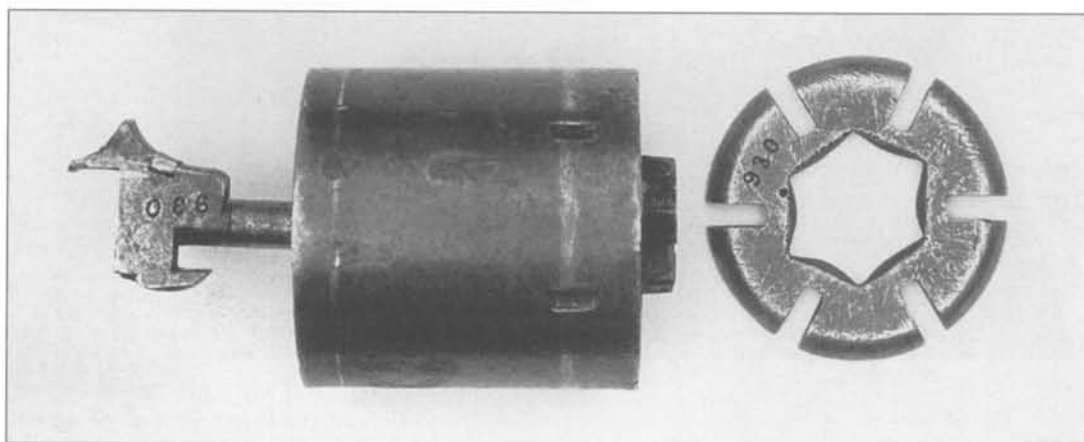


Fig. 10-23 Disassembled cylinder of the Austin T. Freeman conversion.

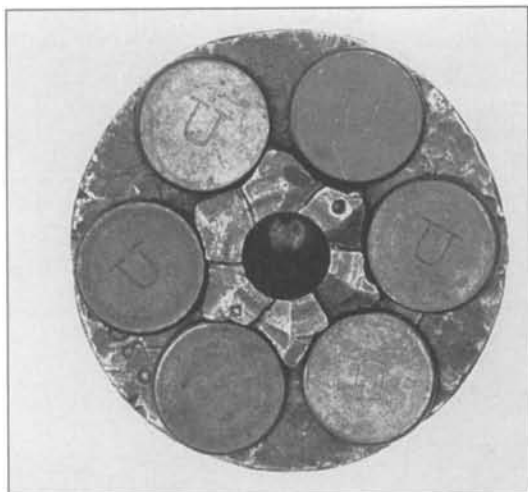


Fig. 10-24 Rear of Austin T. Freeman conversion cylinder without backing plate.

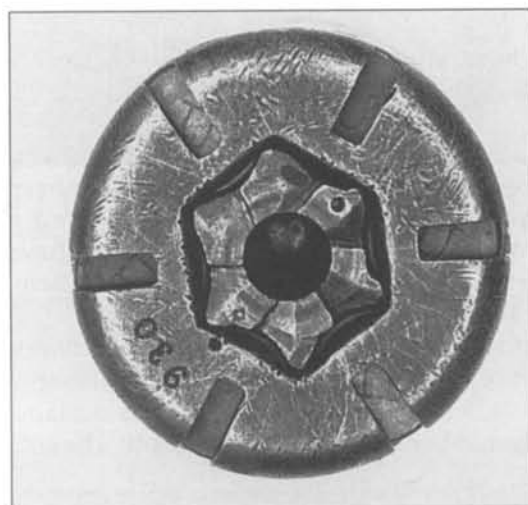


Fig. 10-25 Rear of Austin T. Freeman conversion cylinder with backing plate in place.

rial number of the revolver is stamped on all conversion parts.

As pictured in Fig. 10-24, the original percussion ratchet position has been maintained, with sufficient metal remaining after counter-boring for the cartridge heads.

The shape of the indexing hole at the center of the backing-plate has been broached to conform to that of the counter-bored ratchet shaft, as shown in Figs. 10-23 and 10-25. The rear of the loaded and assembled cylinder is pictured in Fig. 10-25, ready to be placed back into the frame of the revolver.

Whitney Conversions

Eli Whitney was granted U.S. Patent No. 51,985 on January 9, 1866, for a metallic car-

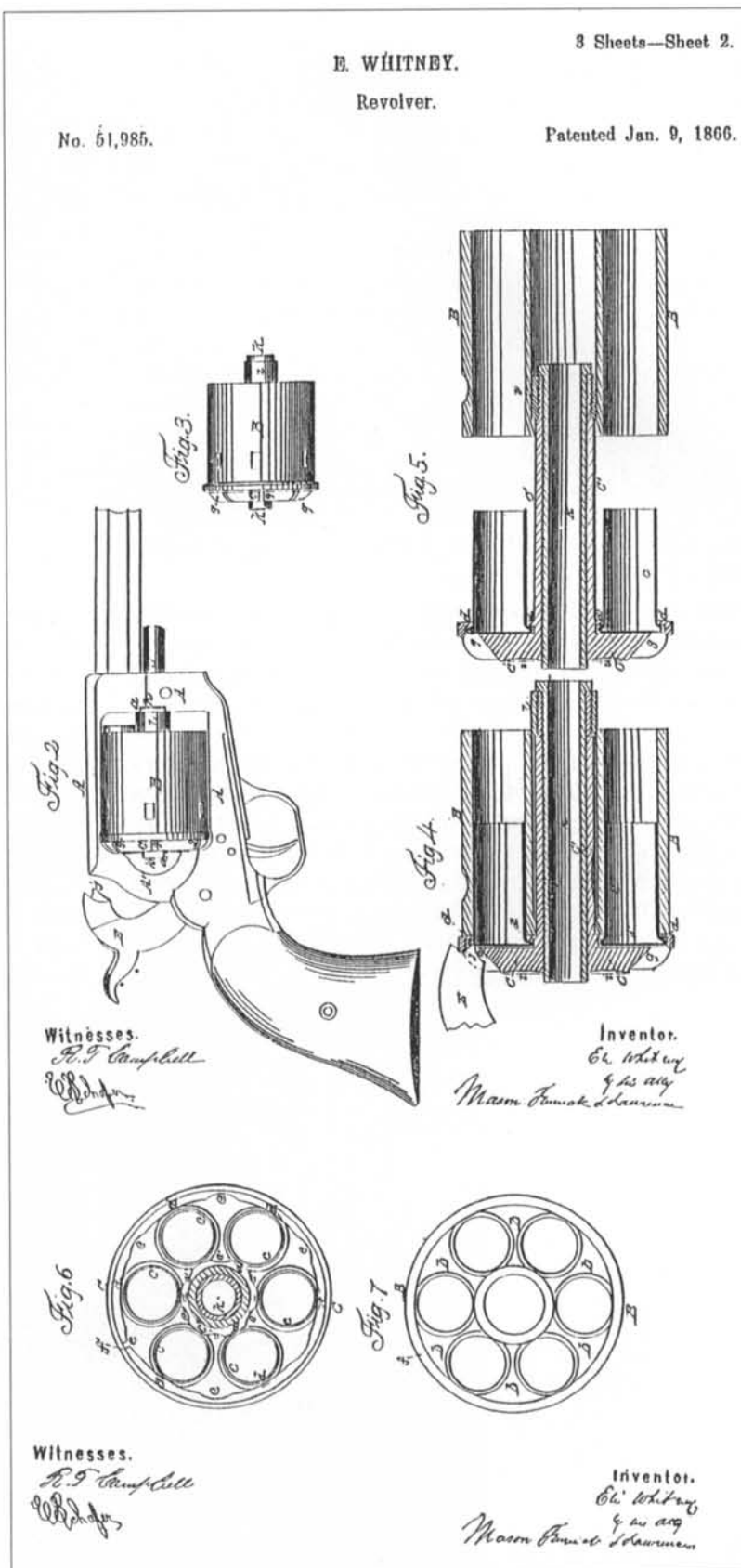


Fig. 10-26 Eli Whitney's two-piece cylinder patent drawings. U.S. Patent No. 51,985.



Fig. 10-27 Converted Whitney Navy revolver, serial number 19422. (Author's Collection).

tridge revolver incorporating a cylinder cap that also acted as a cartridge extractor by gripping the metallic cartridge flanges. Though not stated in the claims, this arrangement could also be incorporated in cartridge conversions.

A portion of the patent drawings has been reproduced in Fig. 10-26. "Fig. 3" of the patent drawings is a side view of the cylinder with its end cap, which the inventor calls a recoil shield. "Fig. 6" of the patent drawings illustrates the front face of this recoil shield and demonstrates how cartridge flanges are locked in place by a 30 degree turn of the cap. "Fig. 4" is a cut section of the closed cylinder assembly, and "Fig. 5" is another

cut section illustrating the extraction of cartridges by separating the recoil shield from the bored-through cylinder.

Though a novel concept, it is doubtful that Whitney ever produced such a revolver or conversion. None have been observed or reported to date; however, there are numerous Whitney Navy Model revolvers that have been converted by the same basic method as the Remington New Model Army revolver conversions.

A full nickel-plated Whitney Navy revolver, converted to .38 rimfire is pictured in Fig. 10-27. The gun is serial numbered 19422 (matching throughout) and contains the assembly number (conversion number) 49. The con-



Fig. 10-28 Frame, cylinder, backing plate and hammer of the Whitney Navy revolver conversion.



Fig. 10-29 Cylinder cut-out in frame of Whitney Navy conversion, serial number 19422, showing backing plate detail.

version consists of machining the percussion cylinder, adding a cylinder extension, cutting the frame to accept a backing-plate, milling a loading channel through the right-hand recoil shield and slightly reshaping the nose of the hammer. These operations are almost identical to those performed on the Remington New Model Army revolvers that were converted to both five-shot .46 caliber rimfire and six-shot .44 caliber rimfire (see Chapter 3).

Figure 10-28 is a close-up of the frame, cylinder, backing-plate, loading channel and hammer nose. Because the cylinder-arbor and percussion loading lever hinge are one and the same, no attempt to remove the lever was made. Besides, with the plunger pressing between two chambers, the lever was a handy device for removing a sticking arbor.

As can be seen by the line around the cylinder just to the rear of the stop notches, the metallic cartridge cylinder was made from two separate pieces. The front section was made from the original percussion cylinder by cutting down the percussion portion to the ratchet shaft. Then the rear section was machined in the form of a ring with a central hole the size of the ratchet shaft. The two pieces were brazed together and all six chambers were bored completely through, reamed to the size of the cartridge casing, and then counter-bored for the cartridge flanges. The result was the cylinder pictured to the right of Figs. 10-32 and 10-33.



Fig. 10-30 Second type of Whitney Navy model conversion, serial number 25539. (Author's Collection)



Fig. 10-31 Frame, cylinder and hammer details of Whitney Navy conversion, serial number 25539.



Fig. 10-32 Side views of both Whitney Navy conversion cylinders, serial numbers 25539 (left) and 19422 (right).

A backing-plate 0.085 inch thick was dovetailed into the frame, just to the front of the recoil shield as pictured in Figs. 10-28 and 10-29. This plate is held in the proper position by a single screw. Also visible in Figs. 10-28 and 10-29 are the loading channel milled through the right recoil shield, and the reshaped nose of the hammer.

The Whitney Navy revolver conversion, serial number 19422, pictured in Figs. 10-27 through 10-29 is the type most commonly encountered, and believed by many experts to be a factory conversion. The similarity of many known specimens, the use of assembly or conversion numbers and the highly professional workmanship are not characteristic of the average gunsmith.

Still other types of Whitney conversions can be found, such as the Whitney Navy revolver conversion shown in Fig. 10-30. This gun is serial numbered 25539, has no assembly number, and differs from serial number 19422 only in cylinder construction, hammer nose shape and it lacks a cylinder backing-plate.

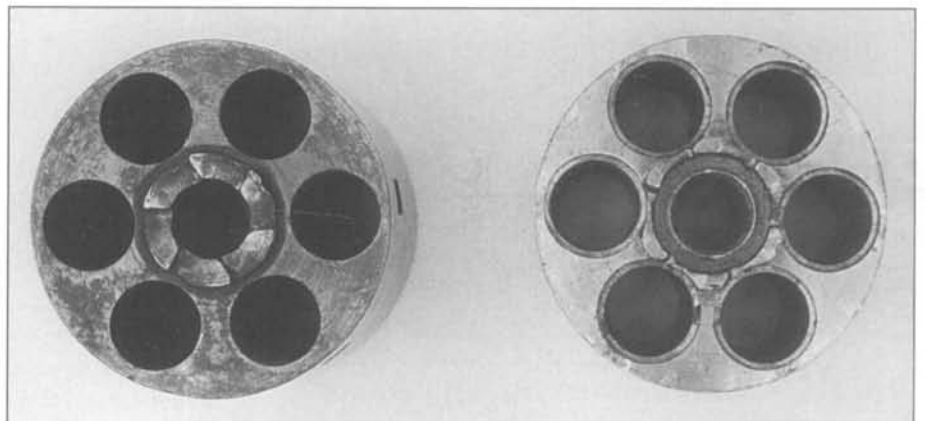


Fig. 10-33 Ratchet ends of both Whitney Navy conversion cylinders, serial numbers 25539 (left) and 19422 (right).

The cylinder was also converted from the original percussion cylinder, and in the same manner as outlined above. It differs in that the chambers are not counter-bored for recessed cartridge flanges, and the chambers are slightly longer.

Greater detail can be seen in the close-up photograph of Fig. 10-31. The ratchet extends less from the rear face of the cylinder, the cylinder opening of the frame is cut square at its rear, but not dovetailed to accept a backing-plate, and the nose of the hammer has a double step with the center cut to a wedge. It almost appears that a front section had also been added to the cylinder, but the scratch around the front perimeter was caused by an improper trigger-guard screw rubbing against it during rotation.

The two cylinders are compared in Figs. 10-32 (side view) and 10-33 (end view) with serial number 25539 at the left and serial number 19422 at the right of each illustration.

In comparing the two cylinders, one can see the overall lengths are equal (1.756 inches), but the chamber lengths differ (1.7 inches for serial number 25539 and 1.627 inches for serial number 19422). The reason for the difference in the chamber lengths is that the frame containing a cylinder backing-plate requires a shorter cylinder.

Figure 10-33 pictures the end views of both cylinders, showing the ratchets and chambers. The cylinder at the right (serial number 19422) is counter-bored for cartridge flanges, while the other is not.

Starr Conversions

Eben Starr, founder of the Starr Arms Co. of Yonkers, New York (1858-1867), produced two basic models of percussion revolvers based on his U.S. Patent 14,118, granted on January 15, 1856. Both the Starr Double Action Model 1858 (.36 caliber Navy and .44 caliber Army) and the Starr Single Action Model 1863 (.44 caliber Army) revolvers have been observed converted from percussion to metallic cartridge.

Eben Starr first became interested in metallic cartridges during the latter part of 1865, as evidenced by his U.S. Patent 51,628, granted on December 19 of that year.

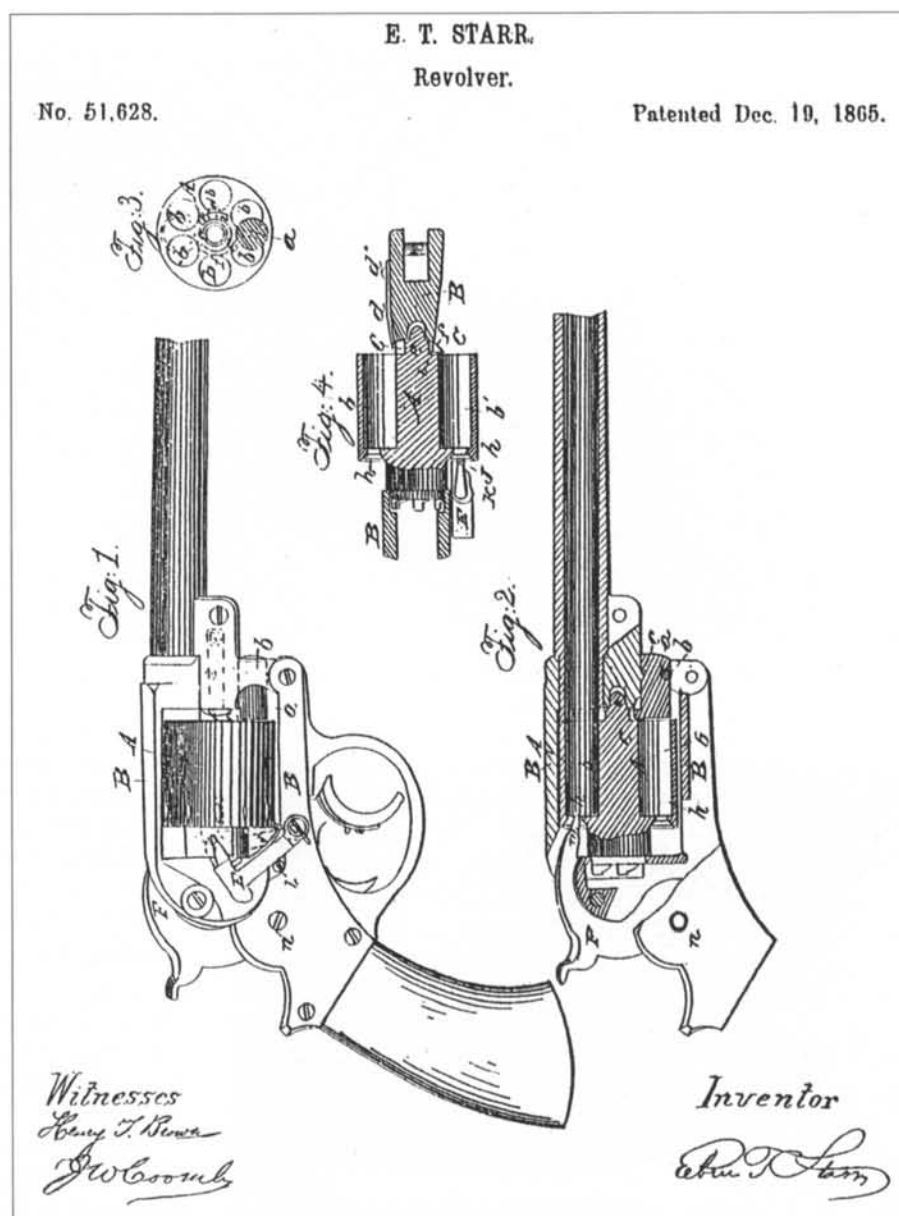


Fig. 10-34 Patent drawings of Eben Starr's revolver conversion U.S. Patent No. 51,628.

This patent covered the conversion of a Starr (or other) percussion revolver to a front loaded centerfire metallic cartridge. It is interesting to note that the patent drawings, duplicated in Fig. 10-34, incorporate a Starr Double Action model in the illustrations.

The claims of Patent No. 51,628 are for a cartridge guard [C] to be placed in front of the cylinder to keep cartridges from moving forward or falling out, and an ejector [E] operating from the rear of the cylinder to eject spent casings.

Conversions of this particular design have neither been observed or reported; however, rather substantial quantities of both single action and double action Starr



Fig. 10-35 Converted Model 1858 Starr Army revolver, serial number 13898. (Author's Collection).



Fig. 10-36 Comparison of Starr Model 1858 Army percussion and converted revolvers.

conversions are known to exist. Of fifty-three specimens examined by the author, two methods of conversion were observed without variations.

All were converted for centerfire metallic cartridges of .44 and .45 caliber, placing the date of conversions after 1870. This does not mean that the Starr percussion revolvers were not earlier converted to rimfire or some European centerfire cartridges before the .44 Martin or the .45 Benet primed Colt or Schofield cartridges were made available. Other such conversions could very easily have been made, but none have come to the attention of the author.

Conversion of the Starr Double Action Model 1858 Army revolvers, from percussion to .45 caliber Benet primed centerfire metallic cartridges consisted of fabricating an entirely new cartridge cylinder having five bored-through chambers, adding a backing-plate to the face of the recoil shield and reshaping the nose of the hammer.

A converted Starr Model 1858 Army revolver is pictured in Fig. 10-35. The gun is serial numbered 13898, and both the frame and cylinder are stamped with the assembly number 2. The five-shot cylinder is chambered for the .45 caliber Benet primed centerfire cartridge, and the chambers are counter-bored so the cartridge flanges seat even with the rear cylinder face.

A backing-plate, with its shape conforming to that of the recoil shield, is fastened to the face of the recoil shield by four machine screws. A guide slot has been cut through this new plate for the rotating arm to act upon the cylinder ratchet, and a small hole drilled at the top to clear the firing pin. Figure 10-36 compares the cylinder



Fig. 10-37 Converted Model 1863 Starr Single Action revolver. (Author's Collection)

and frame of a Starr Model 1858 Army revolver in its percussion state (top) with those of another that has been converted (bottom). Here, the reshaping of the hammer nose from flat to a long cone-shaped centerfire firing pin, the added thickness of the recoil shield and the increase in the length of the cylinder are visible.

It is also evident that the new cartridge cylinder has only five stop notches (one for each chamber), while the percussion cylinder has twelve (six for chambers and six safety positions). Directly to the rear of each cartridge cylinder stop notch is a deeper notch to provide positive cylinder locking when the trigger is pulled fully to the rear.

A second type of centerfire metallic cartridge conversion is found on the Starr Single Action Model 1863 revolver pictured in Fig. 10-37. This conversion incorporates a shorter cylinder than that of the Model 1858 described previously. This shorter cylinder possibly could have been converted from an original percussion cylinder by boring out the nipple threads to the size of the chambers and facing it off at the rear. However, the six stop notches rather than the usual twelve suggests that a new cylinder was fabricated for the conversion.

A rather thick conversion ring was used on this model, which was secured to the recoil shield by machine screws. The center of the ring is bored out to clear the ratchet shaft of the cylinder, which remained after facing off the rear of the cylinder. The upper portion of the conversion ring contains a rebounding firing pin, so the nose of the hammer was faced flat as pictured in Fig. 10-38.

The close-up photograph of Fig. 10-38 shows the hammer at full cock, the frame, cylinder and conversion ring. Unlike the Model 1858 conversion described previously,

the chambers were not counter-bored for the cartridge flanges, so ample spacing was left between the rear face of the cylinder and the conversion ring to accommodate the flanges.

Unlike the Model 1858 conversion described previously, the capping cut-out of the recoil shield was not continued through the conversion ring of the Model 1863. With both methods of conversion, it is necessary to break-open the frame and remove the cylinders for extracting or loading cartridges.

The Model 1863 conversion of Figs. 10-37 and 10-38 is chambered for the .44 caliber Martin primed Colt & Remington centerfire cartridge and the cartridge cylinder contains the same six chambers as did the percussion.

Hopkins & Allen "Dictator" Conversions

A substantial quantity of Hopkins & Allen "Dictator" model revolvers was converted to .38 rimfire metallic cartridge, following the expiration of the Rollin White Patent. The gun was originally a percussion product of the Bacon Manufacturing Co. until 1867, when Hopkins & Allen took over production.

More than 5,000 of the Dictator model were factory converted to rimfire metallic cartridge. Note the similarity between the Hopkins & Allen conversion of Fig. 10-39 and the Colt 3-1/2-inch Round (Made-As) Cartridge Barrel revolver of Figs. 8-79 and 8-85 of Chapter 8. Both models have thick conversion rings, deep cartridge loading channels through the right recoil shields, no loading gates and no cartridge ejector systems.

Approximately 1,000 Dictator models were produced in .36 caliber percussion. Most of the .38 caliber rimfire



Fig. 10-38 Frame, conversion ring, cylinder and hammer detail of Starr Model 1863 conversion.

conversions were produced from percussion inventory parts.

Allen & Wheelock Conversions

One of the most substantial handgun designs of the 1860s was the Allen & Wheelock center hammer lipfire revolver. It was made in two large sizes: The .36 caliber Navy Model with full octagon barrel of various lengths;

and the .44 caliber Army Model with half round, half octagonal 7-1/2-inch barrel. Both models had a straight round six-shot cylinder with stop notches at the front and small slots cut into each chamber at the rear to accommodate the lips of the cartridges. A .36 caliber Navy Model is pictured in Fig. 10-40.

Ethan Allen was granted U.S. Patent No. 30,109 on September 25, 1860, for his lipfire cartridge. As can be

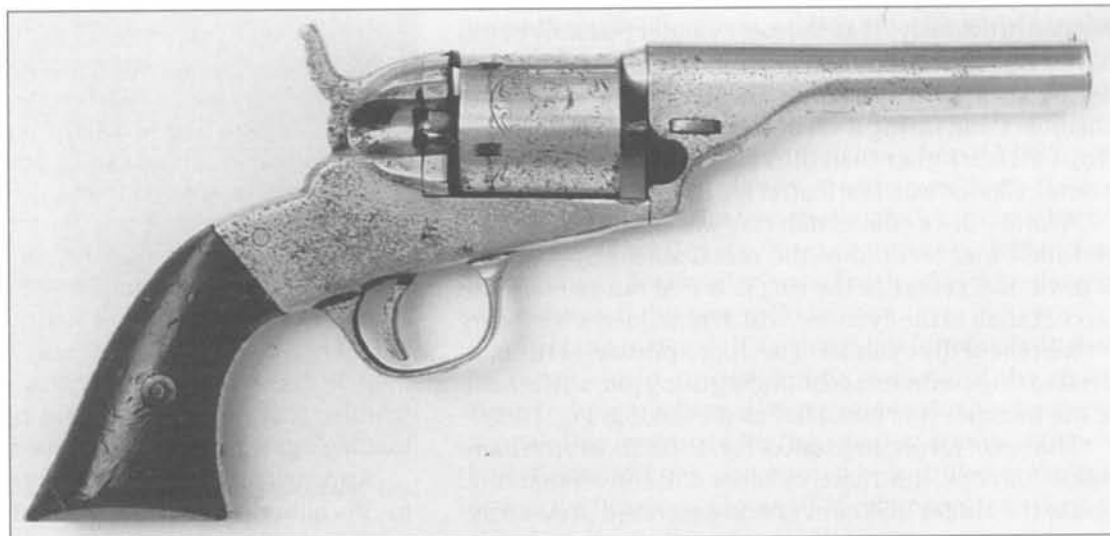


Fig. 10-39 Typical Hopkins & Allen "Dictator" revolver conversion. (Author's Collection)



Fig. 10-40 Allen & Wheelock .36 caliber lipfire Navy revolver, serial number 35. (Author's Collection)

seen from the patent drawings duplicated in Fig. 10-41, these cartridges had no flanges, only a small lip [C]. Therefore, the entire cartridge rested within the chamber of the cylinder, with only the lip [C] extending outward through the slot, in position to be struck by the hammer.

Allen & Wheelock started manufacturing both the lipfire cartridges and the revolvers to shoot them late in 1860. But, in November 1863, the company was forced to cease all production of revolvers having bored-through cylinders because of an injunction secured by Smith & Wesson. For this reason, less than 1,000 of the center hammer lipfire revolvers were ever manufactured.

With lipfire revolver production discontinued, it is likely that the production of lipfire cartridges diminished considerably, and may have halted completely. Without ammunition, the lipfire Allen & Wheelock revolvers were worthless. Numerous small rimfire cartridge revolvers were available from Smith & Wesson and many other sources at the time, but larger calibers were continually in demand. What better solution to unavailable ammunition than to convert the revolvers for metallic cartridges that were readily available? Never was there a revolver more easily converted to rimfire metallic cartridges than the Allen & Wheelock center hammer lipfire models.

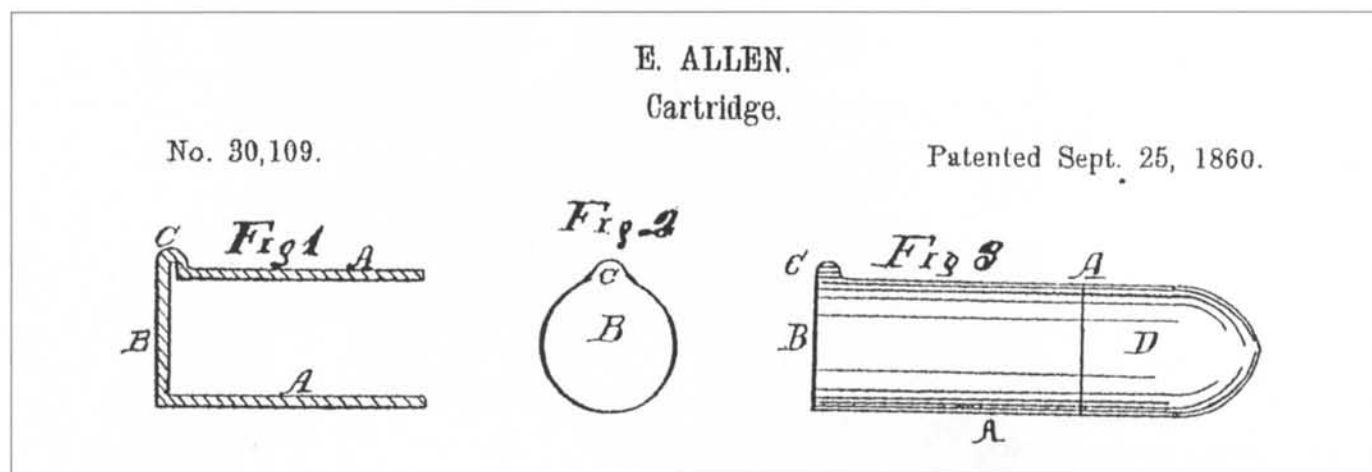


Fig. 10-41 Patent drawings of lipfire cartridge from Ethan Allen's U.S. Patent 30,109.

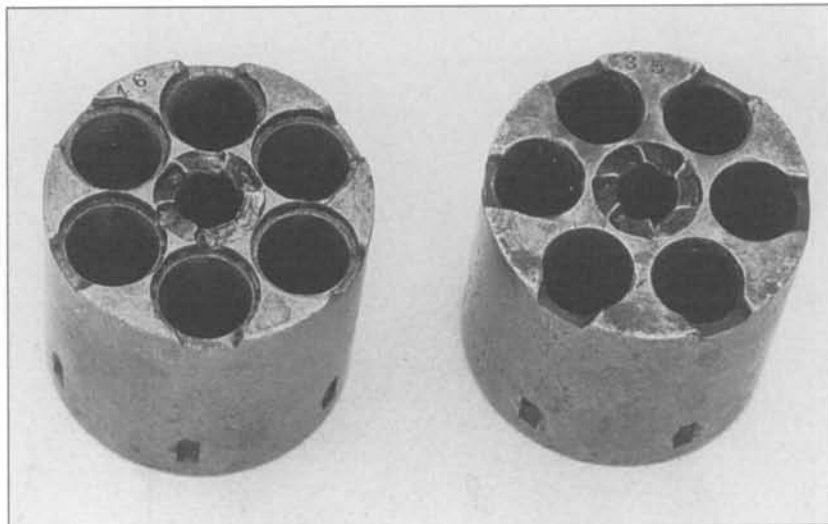


Fig. 10-42 Comparison of rimfire conversion cylinder (left) with unaltered lipfire cylinder (right).

A great number of the .36 caliber Navy and .44 caliber Army lipfire revolvers converted to .38 rimfire and .44 rimfire metallic cartridge are still believed to be in their original lipfire configuration. This is because the rear of the cylinders were not faced off, eliminating the lip slots. The chambers of these cylinders were simply counter-bored to accommodate the rimfire cartridge flanges, and in the case of the .36 caliber Navy models, the chambers were reamed to the .38 caliber cartridge dimensions.

Allen & Wheelock center hammer lipfire revolver cylinders were flat-faced at the rear, except for the lip

cut-out. An easy way to identify a cylinder which has been converted to rimfire or centerfire is by the counter-bores at the rear of the chambers, as pictured in Fig. 10-42 (left). An unaltered lipfire cylinder is also shown in Fig. 10-42 (right). Other conversion cylinders have about 0.065 to 0.068 inch faced off from the rear, eliminating the lip cut-outs for the lipfire cartridges entirely (see Fig. 10-48, right).

Following is a chart listing average measurements taken from Allen & Wheelock center hammer revolver cylinders and the various cartridges applicable to those cylinders and their conversions:

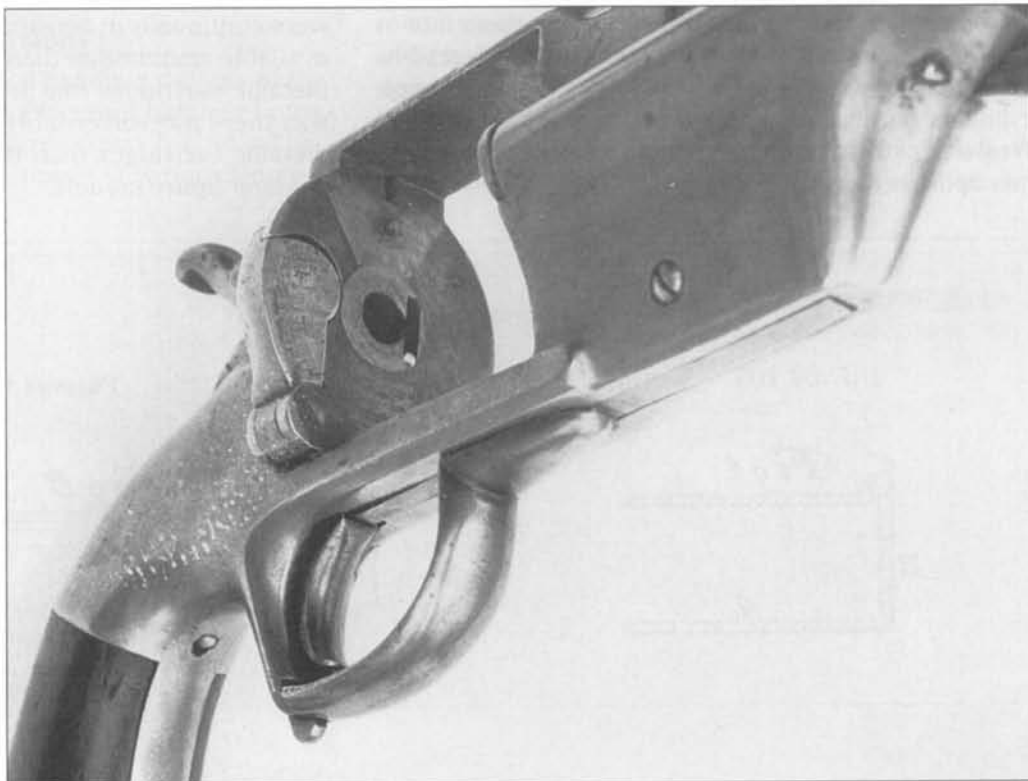


Fig. 10-43 Cylinder opening of Allen & Wheelock frame, showing enlarged loading channel of conversion (see text).

CYLINDER	OVERALL LENGTH	CHAMBER LENGTH	REAR BORE DIAMETER	FRONT BORE DIAMETER	COUNTER-BORE DIAMETER	LIP DEPTH
.44 Lipfire	1.568"	1.522"			None	
.44 Rimfire	1.563"	1.520"	0.451"	0.451"	0.5275"	0.65"
.44 Centerfire	1.563"	1.520"	0.455"	0.452"	0.5275"	0.65"
.36 Lipfire	1.315"	1.270"	0.375"	0.371"	None	0.65"
.38 Rimfire	1.313"	1.273"	0.390"	0.372"	0.461"	0.65"

CARTRIDGE	OVERALL LENGTH	CASE LENGTH	HEAD DIAMETER	MOUTH DIAMETER	FLANGE* DIAMETER	BULLET DIAMETER
Short Case						
.44 Lipfire	1.332"	0.798"	0.447"	0.447"	0.482"	0.445"
Long Case						
.44 Lipfire	1.472"	0.864"	0.446"	0.446"	0.484"	0.446"
.44 Rimfire						
Long	1.492"	0.954"	0.435"	0.435"	0.513"	0.435"
.44 Rimfire						
Short	1.186"	0.675"	0.440"	0.440"	0.503"	0.438"
.44 Henry						
Pointed	1.430"	0.878"	0.442"	0.442"	0.512"	0.440"
44 Henry						
Flat	1.245"	0.904"	0.442"	0.442"	0.515"	0.432"
.36 Lipfire	1.250"	0.788"	0.369"	0.369"	0.398"	0.367"
.38 Rimfire						
Short	1.240"	0.729"	0.376"	0.376"	0.438"	0.377"

(*) Lipfire flange measured from one side flat to tip of opposite side lip.



Fig. 10-44 Allen & Wheelock center-hammer Navy revolver, serial number 46, converted to rimfire cartridge. (Author's Collection)

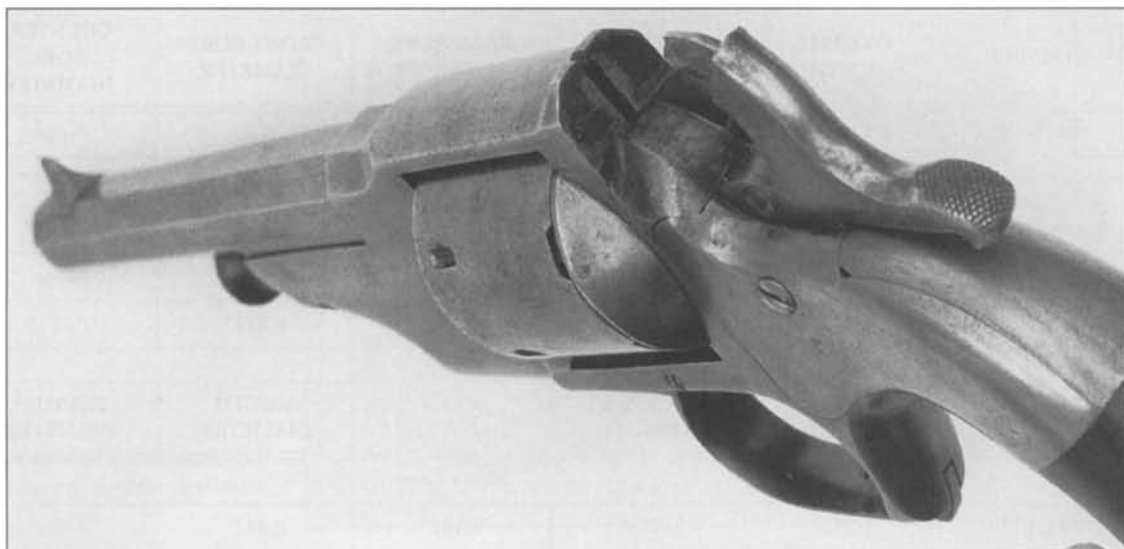


Fig. 10-45 Hammer-slot and rimfire firing pin of Allen & Wheelock Navy revolver conversion.

Another indication of a rimfire (or centerfire) conversion is found with an enlarged loading channel through the right rear frame and recoil shield. This is not easily detected from the outside, but a close examination of the fit between the closed loading gate and the loading channel will establish whether or not the channel has been slightly enlarged. If the loading channel has not been enlarged, this fit will be tight and symmetrical. Enlarged channels result in an uneven fit at this point, however so slight (see Figs. 10-43 and 10-49).

An Allen & Wheelock center hammer Navy revolver, converted from .36 caliber lipfire to .38 caliber rimfire metallic cartridge is pictured in Fig. 10-44. The cylinder of this conversion has not been faced off at its rear. Each chamber has been counter-bored for the flanges of the

rimfire cartridges and reamed to the proper diameter. The revolver is serial numbered 46.

Some center hammer rimfire conversions have their firing pins slightly reshaped, while others retain the lipfire firing pins (see Figs. 10-44 and 10-45). In either event, the hammer slot at the rear of the frame remains unaltered as pictured in Fig. 10-45.

It would appear that the .36 caliber lipfire to .38 caliber rimfire conversion would not have proven too satisfactory as the bore of the .36 caliber lipfire revolver measures only 0.363 inch (groove-to-groove) and the bullet diameter of the .38 rimfire short cartridge is 0.377 inch (average). Nonetheless, these conversions do exist and with no modification to the bores of the barrels.

The Allen & Wheelock center hammer Army Model lipfire revolvers were also converted to .44 caliber rim-



Fig. 10-46 Allen & Wheelock center hammer Army revolver, serial number 175, converted to rimfire with counter-bored cylinder. (Author's Collection)



Fig. 10-47 Frame, cylinder, gate and hammer details of Allen & Wheelock Army Conversion, serial number 175.

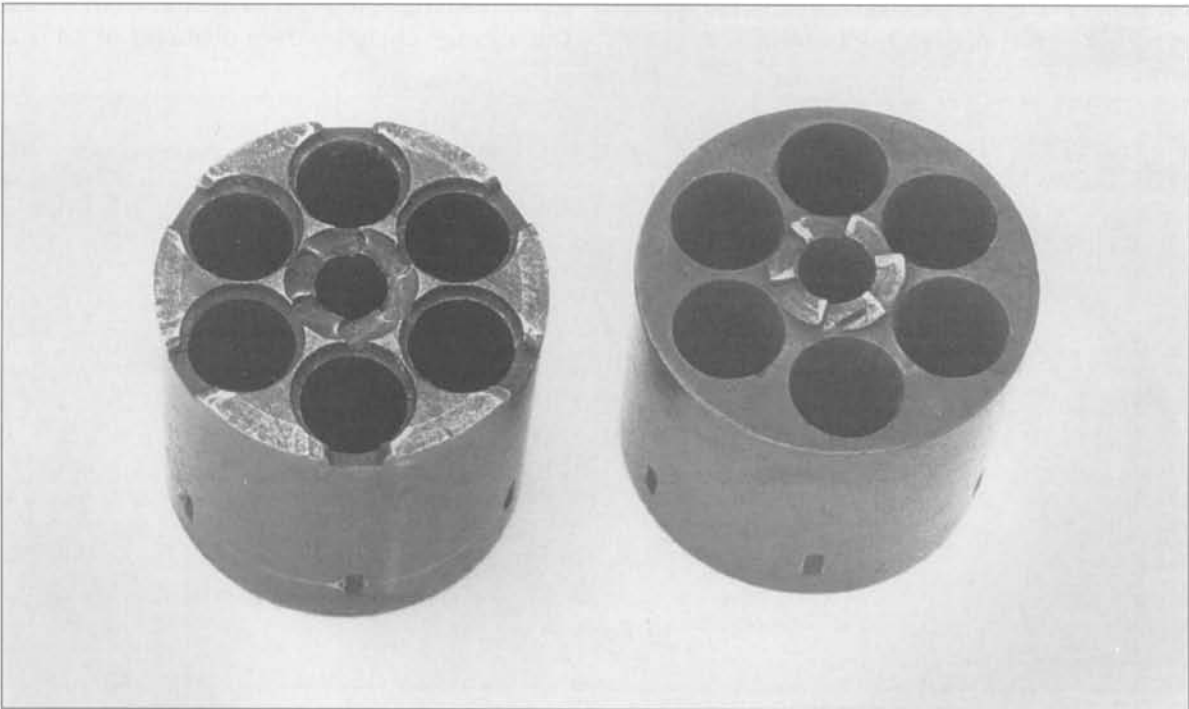


Fig. 10-48 Comparison of Allen & Wheelock Army model converted cylinders, counter-bored (left) and refaced (right).



Fig. 10-49 Enlarged loading channel of Allen & Wheelock Army conversion caused misfit of gate to frame.

fire metallic cartridges by two methods. The cylinder of that shown in Figs. 10-46 and 10-47, has counter-bored chambers to accommodate the rimfire cartridge heads (see Fig. 10-48, left), and the loading channel of the rear frame has been enlarged, as pictured in Fig. 10-49. The other method of conversion is to face off the rear of the

cylinder, eliminating the cut-outs for the lips of the lipfire cartridges (see Fig. 10-48, right).

Regardless of the method of converting the cylinders, the chambers of the Army revolvers did not require reaming to a larger diameter. Of those measured, the average chamber bore diameter of 0.451 inch was



Fig. 10-50 Allen & Wheelock center hammer Army revolver, serial number 96, converted to centerfire S&W Russian cartridge. (Author's Collection)



Fig. 10-51 Frame, cylinder and hammer detail of Allen & Wheelock Army centerfire conversion, serial number 96.



Fig. 10-52 Altered hammer position of Allen & Wheelock Army centerfire conversion, serial number 96.

more than sufficient to chamber the .44 rimfire Henry cartridge.

The barrel bores of the .44 caliber Army lipfire revolvers averaged 0.4452 inch (groove-to-groove), which was satisfactory for most Henry cartridges available during the 1860-72 period.

Figure 10-50 illustrates an extremely rare Allen & Wheelock center hammer Army Model lipfire revolver, which has been converted to centerfire metallic cartridge. The cylinder chambers have been counter-bored to accept the flanges of Smith & Wesson Russian .44 caliber centerfire cartridges, and the loading channel through the right rear of the frame has been enlarged, as pictured in Fig. 10-49. This revolver is serial numbered 96.

This centerfire conversion incorporates a flat hammer face and a rebounding firing pin, as pictured in Fig. 10-51. Rather than the usual coil spring associated with rebounding firing pins, this conversion has a flat leaf spring mounted within the frame slot originally intended to pass the lipfire firing pin.

The original lipfire hammer was modified as shown in Figs. 10-51 and 10-52. The hammer neck was heated and bent downward so the center of its face would strike the new firing pin. No attempt was made to remove the hammer marks or to finish the hammer after the necessary modifications were made. It is interesting to compare Fig. 10-52 (flat centerfire hammer) with Fig. 10-47 (lipfire and rimfire hammer) and their respective positions as compared to the cylinders and frames.

Figure 10-53 pictures an Allen & Wheelock center hammer Army revolver that has been converted from .44 caliber lipfire to .44 Smith & Wesson Russian centerfire. The gun is serial numbered 181 and has a pointed firing pin hard-soldered between two thin sideplates that have been added to the throat of the hammer (see Figs. 10-53 and 10-54).

This conversion incorporates the cylinder modification in which 0.069 inch has been machined off its rear face to allow ample space between the cylinder and recoil shield for the heads of the cartridges to be used. Though not as common as the counter-bored chamber conversions, the shortened cylinder can always be recognized as a conversion.

A close-up of the frame, cylinder and hammer is pictured in Fig. 10-54. The unusual centerfire firing pin, one of the sideplates and a slight modification to the hammer spur are clearly illustrated, as is the spacing between the rear of the cylinder and the recoil shield. Also, the loading gate can be seen with its thumb release. Note that the loading gate is hinged at the bottom, while earlier designs had the hinge at the top.

Because of the many variations found in Allen & Wheelock conversions and the injunction secured by Smith & Wesson in 1863, it appears virtually impossible that any rimfire or centerfire conversions could have been factory produced. All are believed to be private conversions by non-factory gunsmiths.

In reviewing numerous percussion revolvers converted to metallic cartridge, the question remains as to where they all came from. We know from published re-



Fig. 10-53 Allen & Wheelock center-hammer Army revolver, serial number 181, converted to .44 Smith & Wesson Russian centerfire cartridge by refacing cylinder (see text). (Courtesy Martin D. Jessen)



Fig. 10-54 Frame, cylinder, hammer and firing pin details of Allen & Wheelock Army conversion, serial number 181.

ports entitled, "Sales of Arms by Ordnance Department" that many percussion revolvers were sold by public auction. Examples of auction notices (listing only the revolvers offered) are as follows:

**GOVERNMENT SALE OF SMALL-ARMS AND
OTHER PUBLIC PROPERTY**

By authority of the War Department, will be sold at Leavenworth arsenal, Kansas, by public auction, the following ordnance and ordnance stores: 19,551 small-arms, comprising the following kinds:

**Adam's pistols Lefauchaux pistols Savage's pistols
Starr's pistols Whitney's pistols**

Sale to commence at 10 o'clock on Monday, 25th of November, 1867.

The Government reserves the right to refuse bids

**UNITED STATES ORDNANCE AGENCY,
CORNER HOUSTON AND GREENE STREETS,
(ENTRANCE ON GREENE ST.) P. O. BOX No. 1811
New York, November 22, 1869**

Sealed proposals (in duplicate) will be received at this office until the hour of 2 p.m. on the 22d day of December, 1869, for purchasing from the United States the following ordnance stores, to wit:

15,000 Starr's army pistols, Cal. .44, new.

Proposals for sale of ordnance and ordnance stores.

**ORDNANCE OFFICE, WAR DEPARTMENT,
Washington, D. C., October 17, 1870**

Sealed proposals will be received at this office until 2 o'clock p.m. on Saturday, the 29th day of October, 1870, for the purchase of the following ordnance and ordnance stores, viz:

20,000 Starr's revolvers, caliber .44, with ammunition.

5,000 Rogers's & Spencer's revolvers, caliber .44, with ammunition.

10,000 Remington army revolvers, caliber .44, with ammunition.

It was reported in a subsequent memorandum of sales of ordnance and ordnance stores by Ordnance Department that Austin Baldwin & Co. (presumably, the gun dealer and importer of New Orleans, Louisiana) had taken delivery of the above offered 10,000 Remington army revolvers and 20,000 Starr's revolvers on December 13, 1870.

It is impossible to determine whether these Government surplus revolvers were resold in their percussion state, or if they were converted to metallic cartridge arms. Several double action Starr conversions, all having very professional workmanship and identical mechanical features, have been observed with Belgian proof marks. This offers still another possibility for armory conversions of American percussion firearms.

APPENDIX

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

The following entries were taken from one of the Colt factory Day Journals, and are those pertaining to work performed or products sold to the customers underlined. This important infor-

mation is contained to substantiate dates of shipments and periods of manufacture of various models. Definitions of abbreviations are as follows:

N.M.A.	New Model Army
N.M.	New Model
B.L.	Breech Loading
M&W	Unknown (possibly mild & white, meaning no case hardening or finish. This is the way guns were shipped if they were to be engraved.)
O.M. Navy	Old Model (Model 1851 Navy)
N.M. Navy	New Model (Model 1861 Navy)
C.F.	Centerfire
M.C.	Metallic Cartridge

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

Page 25 - July 31, 1871 - F.W. Cady

1000 N.M.A. Cylinder Ratchets squared	\$ 10.00	
347 N.M.A. Cylinders Chambered	27.76	
230 N.M.A. Cylinders Counterbored	4.60	
1000 N.M.A. Cylinders Alt hole cut	7.50	\$ 49.86

Page 33 - August 10, 1871 - Col. D.M.Clun

1 4½ in. Police Breech Loading Pistol	\$ 11.75	
100 38/Cal Cartridges	1.75	\$ 13.50

Page 37 - August 16, 1871 - Mr. Galloway

1 4½ in. Police Breech Loading Revolver	\$ 11.75	
50 Cartridges	.87	\$ 12.62

Page 43 - August 29, 1871 - C.K.Beach

1 N.M.Army Breech Loading Revolver	\$ 16.00	
Discount 10%	- 1.60	\$ 14.40
100 " " " " " Cartridges		17.00
1 " " " Mahogany Case		1.50
		<u>\$ 32.90</u>

Page 52 - September 1, 1871 - Francis DeGress

20 N.M.Army Breech Loading Revolvers	\$ 16.00	\$ 320.00
6 5½" Police Breech Loading Revolvers	12.15	72.90
		<u>392.90</u>
Discount 10%		- 39.29
		353.61
Discount 5%		- 17.68
		<u>\$ 335.93</u>
500 N.M. Breech Loading Cartridges	\$ 1.70/C	8.50
20 Ivory stocks for above pistols	3.75	75.00
		<u>\$ 419.43</u>

Page 58 - September 14, 1871 - Joshawa Baker

2 N.M.Army Breech Loading Revolvers	\$ 16.00	\$ 32.00
200 " " " Cartridges	1.70/C	3.40
2 " " " Holsters	3.00	6.00
200 " " " Bullets	.375/C	.75
		<u>\$ 42.15</u>

Page 60 - September 19, 1871 - Francis DeGress

20 N.M.Army Pistols mac (Made as C'tg?)	\$ 16.00	\$ 320.00
6 N.M.Army Pistols Ivory Mac	16.00	96.00
6 N.M.Navy Pistols Mac	15.00	90.00
3 N.M.Navy Pistols Ivory Mac	15.00	45.00
6 3½" N.M.Pocket Pistols Mac	11.50	69.00
12 6½" N.M.Police Pistols Mac	12.50	150.00
2 6½" N.M.Police Pistols Ivory Mac	12.50	25.00
12 5½" N.M.Police Pistols Mac	12.15	145.80
2 5½" N.M.Police Pistols Ivory Mac	12.15	24.30
6 4½" N.M.Police Pistols Mac	11.75	70.50
2 4½" N.M.Police Pistols Ivory Mac	11.75	23.50
3 Pcs Colt Deringers Ebony Nickel	10.00	30.00
		<u>\$ 1089.10</u>
Discount 10%		- 108.91
		<u>\$ 980.19</u>

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

	Discount 5%	-	49.00
		\$	931.19
6 Ivory Stocks for N.M.Army Pistols	3.75		22.50
3 Ivory Stocks for N.M.Navy Pistols	3.50		10.50
6 Ivory Stocks for N.M.Police Pistols	2.75		16.50
		\$	980.69
Page 67 - September 25, 1871 - L.N.Beach			
1 4½ in Police Breech Loading Revolver	\$ 11.75		
Discount 10%	- 1.17	\$	10.58
50 Police Breech Loading Cartridges			.77
		\$	11.35
Page 71 - September 28, 1871 - PRESENTATION - E. Remington & Sons			
1 4½ in Police Breech Loading Revolver	\$ 11.75		
Discount 10%	- 1.17	\$	10.58
1 " " " Mahogany Case			1.25
50 38/C Cartridges			.87
		\$	12.70
Page 85 - October 7, 1871 - U.S. Government			
Altering 1000 N.M.Army Revolvers to B.L.	\$ 3.50	\$	3500.00
Cleaning 950 N.M.Army Revolvers	.10		95.00
		\$	3595.00

PARTS FURNISHED TO COMPLETE THE ABOVE

95 N.M.A. Frames	\$2.50	\$ 237.50	
239 " Barrels	4.60	1099.40	
49 " Guards	.98	48.02	
49 " Straps	.86	42.14	
8400 " Screws Ass'td 1.20/C		100.80	
150 " Triggers	.11	16.50	
61 " Hammers	.37	22.57	
37 " Mainsprings .	.20	7.40	
550 " Searsprings .	.04	22.00	
178 " Bolts	.14	24.92	
950 " Keys	.14	133.00	
950 " Stocks	.86	817.00	
950 " Cylinders ...	2.62	2489.00	\$5060.25

EXTRA PARTS FURNISHED WITH THE ABOVE

100 N.M.A. Double Hands \$	.13	\$ 13.00	
100 " Ejector Rod Springs	.05	5.00	
200 " Firing Pins	.045	9.00	
200 " Firing Pin Nuts .	.04	8.00	
200 " Firing Pin Springs	.07	14.00	
100 " Latch Catches ...	.006	.60	
1000 " Screw Drivers ...	.22	220.00	
50 " Mainsprings	.20	10.00	
50 " Trigger & Bolt Spgs 1.20/C		.60	
20 Packing Boxes	4.37	87.40	\$ 367.60
			\$9022.85

Page 84 - October 6, 1871 - Geo.M.May & Co.

1 4½ in. Police Breech Loading Revolver	\$ 11.75	
1 House Pistol Nickel Engraved	11.00	
1 7 Shot Pistol (.22 Cal)	8.00	
	\$ 30.75	

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

	Discount 10%	- 3.07	\$ 27.68
Page 95 - October 20, 1871 - James Rae			
1	4½ in. Police Breech Loading Revolver	\$ 11.75	
50	" " " Cartridges	.75	\$ 12.50
Page 97 - October 23, 1871 - London Agency			
10	N.M.Army Breech Loading Revolvers	\$ 16.00	\$ 160.00
1	4½ in. Police " " "		11.75
20	House Pistols Plain	9.00	180.00
20	House Pistols Engraved	11.00	220.00
20	House Pistols Nickel	10.00	200.00
10	House Pistols Nickel Engraved	12.00	120.00
30	7 Shot Pistols Plain	8.00	240.00
200	N.M.A. Cartridge Shells, Primed	1.00/C	2.00
205	N.M.A. " Bullets	.32/C	.65
			\$1134.40
	Discount 10%		- 113.44
			\$1020.96
	Discount 5%		- 51.04
			\$ 969.72
Page 98 - October 24, 1871 - Stevens Rogers			
1	4½ in. Police Breech Loading Revolver	\$ 11.75	
50	38/C Cartridges Long	.87	
1	Mahogany Case	1.25	\$ 13.87
Page 99 - October 24, 1871 - Josiah Howe			
	Altering 1 Police Pistol to Breech Loader		\$ 4.00
Page 99 - October 24, 1871 - K.W. Jacobs			
	Altering 1 Police Pistol to Breech Loader		\$ 4.00
Page 99 - October 24, 1871 - H.T. Newhart			
1	4½" Police B.L.Rev. Engr. Nickel	\$ 16.75	
50	38/C Cartridges Long	.87	\$ 17.62
Page 101 - October 27, 1871 - PRESENTATION			
1	4½ in. Police Breech Loading Revolver	\$ 11.75	
	Discounts	- 1.90	\$ 9.85
50	38/C Cartridges		.55
			\$ 10.40
Page 101 - October 27, 1871 - H.L. Pace			
1	5 in. Police Pistol M&W		\$ 12.15
Page 102 - October 28, 1871 - C.M. Hamilton			
1	N.M.Army Breech Loading Revolver	\$ 16.00	
200	N.M.Army Breech Loading Cartridges	3.40	\$ 19.40
Page 102 - October 39, 1871 - Robert Norflert			
1	6/inch Police Pistol M&W	\$ 12.50	
1	" Flask	.40	\$ 12.90
Page 119 - November 9, 1871 - B. Trimuchi			
1	4½ in. Police Breech Loading Revolver		\$ 11.75

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

Page 133 - November 25, 1871 - James A. Barton Co.

2 5/in. Police Pistols M&W	\$ 12.15	\$ 24.30
----------------------------	----------	----------

Page 149 - December 4, 1871 - U.S. Government

Alter 126 N.M.A. Pistols to Breech Loaders	\$ 3.50	\$ 441.00
--	---------	-----------

SPARE PARTS FOR THE ABOVE

35 N.M.Army Lock Frames	\$ 2.50	\$ 87.50	
51 N.M.Army Barrels	4.60	234.60	
10 N.M.Army Guards	.98	9.80	
10 N.M.Army Straps	.86	8.60	
126 N.M.Army Keys	.14	17.64	
126 N.M.Army Cylinders	2.62	330.12	
126 N.M.Army Stocks	.86	108.36	
1 Large Pkg Box for Pistols.		5.00	
1 Small Pkg Box for Pistols		.50	
10 Small Pkg Box for old parts	.30	3.00	\$ 832.84
			<u>\$1273.84</u>

Page 154 - December 14, 1871 - Samuel C. Colt

1 4½ in. Police Breech Loading Revolver	(#209)	\$ 11.75
100 38/C. Cartridges Short		1.75
		<u>\$ 13.50</u>

Page 159 - December 20, 1871 - C.N. Beach

2 4½ in. Police Breech Loading Revolvers			
(#114) and (#218)	\$ 11.75	\$ 23.50	
2 Mahogany Cases	1.25	2.50	
100 38/C. Cartridges		1.75	
		<u>\$ 27.75</u>	
		- 2.52	
		<u>25.23</u>	

Discount 10% of \$25.25

Page 162 - December 28, 1871 - John I. Palmer

Altering 1 N.M.Navy Pistol to Breech Loader	\$ 5.00
100 38/C. Cartridges, Long	1.75
	<u>\$ 6.75</u>

Page 202 - January 8, 1872 - London Agency

25 O.M.Navy B.L. Revolvers C.F.	\$ 350.00	
3 N.M. " " " " "	45.00	
11 6½ in. Police B.L. Revolvers C.F.	137.50	
15 5½ in. " " " " "	182.25	
10 4½ in. " " " " "	117.50	
5 6½ in. " " " " R.F.	62.50	
5 5½ in. " " " " "	60.75	
5 4½ in. " " " " "	58.75	
Lot Miscellaneous parts for House Pistols,		
7-shot Pistols & Colt Deringers	61.69	
Lot of Cartridge shells	21.50	\$1098.44
		- 159.27
		<u>\$ 939.17</u>

Discounts 10% & 5%

Page 210 - January 29, 1872 - PRESENTATION

1 N.M.Navy B.L. Revolver Engraved		
and Nickel Plated		\$ 21.50

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

100	38/cal. Cartridges, Short	1.70
1	Black Walnut Case	20.00
	Delivered to Lewis Sheldon, 29th.	\$ 43.20

Page 220 - February 10, 1872 - Francis DeGress

25	N.M.Army Pistols, M.& W.	\$ 16.00	\$ 400.00
10	N.M.Army Pistols, Ivory	16.00	160.00
15	N.M.Navy Pistols, .	15.00	225.00
7	N.M.Navy Pistols, Ivory	15.00	105.00
5	6½ in. Police Pistols,	12.50	75.00
5	5½ in. Police Pistols, "	12.15	60.75
6	4½ in. Police Pistols, "	11.75	70.50
4	4½ in. Police Pistols, Ivory	11.75	47.00
5	5½ in. Police Pistols, Ivory	12.15	60.75
4	6½ in. Police Pistols, Ivory	12.50	50.00
10	4½ in. N.M.Pocket Pistols,	12.00	120.00
3	House Pistols	9.00	27.00
4	Pair Colt Deringer Pistols	8.00	32.00
			\$1433.00
	Discount 10%		- 143.30
			\$1289.70
	Discount 5%		- 64.48
			\$1225.22
10	Ivory Stocks for N.M.Army	3.75	37.50
7	Ivory Stocks for N.M.Navy	3.50	24.50
13	Ivory Stocks for Police	2.75	35.75
			\$1322.97

Page 238 - March 12, 1872 - Francis DeGress

6	N.M.Army Breech Loading Revolvers	\$ 96.00
8	4½ in. Police Breech Loading Revolvers	94.00
12	5½ in. Police Breech Loading Revolvers	145.80
*	1 Army Breech Loading Revolver for Winchester Cartridge	16.00
3	Pair National Deringer Pistols #2	28.50
		\$ 380.30
	Discount 10% & 5%	- 55.14
		\$ 325.16

Page 260 - April 16, 1872 - Samuel C. Colt

2	N.M.Navy Breech Loading Revolvers	\$ 30.00
100	38/Cal. Cartridges	1.75
		\$ 31.75

Page 279 - May 3, 1872 - W.B. Franklin

1	5½ in. Police Breech Loading Revolver	\$ 12.15
50	38/Cal. Short Cartridges	.85
1	Mahogany Case	1.25
		14.25

Page 279 - May 7, 1872 - Samuel C. Colt

6	N.Mo.Navy Breech Loading Revolvers	\$ 90.00
1500	38/Cal. Short Cartridges	25.50
		\$ 115.50

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873**Page 285 - May 23, 1872 - London Agency**

40 N.M.Army Breech Loading Gates Altered	\$	32.00	
26 N.M.Navy Breech Loading Gates C.F.		20.80	
12 4½ in. Police B.L. Gates C.F.		8.40	
2 5½ in. Police B.L. Gates C.F.		1.40	
1 6½ in. Police B.L. Gate C.F.		.70	
20 Pair National Deringer Pistols #2		190.00	
20 Pair National Deringer Pistols #1		190.00	
5 N.M.Army Breech Loading Hammers		4.50	
3 N.M.Navy Breech Loading Hammers		2.70	
33 N.M.Army Firing Pins		1.98	
10 N.M.Army Firing Pin Springs		.30	
10 N.M.Army Firing Pin Bushings		.40	
25 N.M.Army Double Hands		8.75	
10 N.M.Army Bolts		2.20	
25 N.M.Army Ejector Springs		1.50	
12 N.M.Army Ejector Pins		.96	
12 N.M.Army Ejector Heads		3.60	
50 Colt Deringer Extractor Springs		1.50	\$ 471.69
Discount 10% & 5%			- 68.40
			\$ 403.29

Page 287 - May 28, 1872 - PRESENTATION

1 N.M.Army B.L.Revolver, Nickel	\$	16.95	
100 " " " " Cartridges		2.10	
275 " " " " Primers		.62	
1 " " " Mahogany Case		1.50	\$ 21.17

Presented to Henry A. Mott, New York

Page 298 - June 4, 1872 - Ro. W.H. Jarvis

1 4½ in. Police Breech Loading Revolver	\$	11.75	
50 38/Cal. Cartridges, Short		.85	
1 Mahogany Case		1.25	\$ 13.85

Page 306 - June 13, 1872 - W.B. Franklin

1 N.M. 42/Cal. B.L. Rev., C.F. #51	Samples - Europe
1 " " 44/Cal. " " " " Skeleton Frame	
100 Smith & Wesson 42/Cal. Cartridges	
100 N.M.Army Breech Loading Cartridges	

Page 309 - June 20, 1872 - London Agency

200 Pair Colt Deringer Pistols	\$1600.00	
25 " " " " Nickel	200.00	
100 Pair National Deringer Pistols	950.00	
25 " " " " Nickel	237.50	
10 N.M.Army Breech Loading Revolvers with attached Breech Stocks	\$ 235.00	\$3222.50
Discount 10% & 5%		- 467.26
		\$2755.24

Page 312 - June 27, 1872 - Samuel Walker

1 5½ in. N.M.Police B.L.Revolver #6 with C.F.Carved Stock, Nickel	\$	15.15	
1 Mahogany Case		1.50	
112 38/Cal. Orcutt Cartridges		1.62	\$ 18.27

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

Page 324 - July 1, 1872 - <u>S. Pomeroy Colt</u>			
1 4½ in. Police B.L. Revolver	\$	11.75	
1 " " " " " Case		1.75	
72 38/Cal. Cartridges, Short		1.22	
Marking Pistol "Seth Paul" xc		1.00	\$ 15.72
Page 325 - July 3, 1872 - <u>London Agency</u>			
50 N.M.Army Breech Loading Revolvers	\$	800.00	
Discount 10% & 5%	-	116.00	\$ 684.00
Page 328 - July 13, 1872 - <u>Francis DeGress</u>			
4 3½ in. N.M.Pocket Pistols	\$	46.00	
4 4 in. Police Pistols		47.00	
10 N.M.Army Revolvers-Stetson Ctge		160.00	\$ 216.32
Discount 10% & 5%			- 36.68
			\$ 216.32
Page 354 - August 15, 1872 - <u>PRESENTATIN</u>			
1 4½ in. Police Breech Loading Revolver	\$	11.75	
Ebony Grip		.50	
Nickel Plated		.65	
104 38/Cal. Cartridges, Short		1.77	
1 Mahogany Case		2.00	\$ 16.67
Marked J.A. Tibbits, New London, Conn.			
Page 355 - August 14, 1872 - <u>L. Pomeroy Colt</u>			
1 4½ in. Breech Loading Rev., Police	\$	11.75	
1 5½ in. Mahogany Case drilled for Ctgs		2.00	
111 38/Cal. Cartridges, Short		1.89	\$ 15.64
Pistol Engraved "N.S. Burnham"			
Page 362 - August 27, 1872 - <u>Samuel Walker</u>			
6 42/Cal. Breech Loading Army Revolvers	\$	96.00	
1 House Pistol, Nickel		9.58	
1 7-Shot Pistol, Nickel		8.58	
1 Pair National Deringers #2, Nickel		10.08	
1200 42/Cal. Cartridges		25.20	
250 41/Cal. Cartridges		3.75	
100 22/Cal. Cartridges		.60	\$ 155.79
Discount 10% on 122.50			- 12.25
			\$ 141.54
Page 362 - August 28, 1872 - <u>Francis DeGress</u>			
20 42/Cal. Breech Loading Revolvers	\$	320.00	
6 4½ in. Breech Loading Police Revolvers		70.50	
6 5½ in. Breech Loading Police Revolvers		72.90	
6 6½ in. Breech Loading Police Revolvers		75.00	\$ 538.40
Discount 10% & 5%			- 78.07
			\$ 460.33
Page 380 - September 11, 1872 - <u>Francis DeGress</u>			
75 42/Cal N.M.Army B.L. Revolvers	\$	1200.00	
6 N.M.Navy Breech Loading Revolvers		90.00	
6 6½ in. Police B.L. Revolvers		75.00	
6 5½ in. Police " " "		72.90	
6 4½ in. Police " " "		70.50	\$1508.40

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

Discount 10% & 5%			- 218.72
			<u>\$1289.68</u>
Page 382 - September 16, 1872 - <u>London Agency</u>			
50 House Pistols	\$	450.00	
20 House Pistols, Nickel		180.00	
50 Pair National Deringer #1		475.00	
30 4½ in. Police B.L. Revolvers, C.F.		352.50	
30 5½ in. Police B.L. Revolvers, C.F.		364.50	
10 6½ in. Police B.L. Revolvers, C.F.		125.00	\$1947.00
Discount 10% & 5%			- 282.31
			<u>\$1664.69</u>
Extra Charge for Nickel on 20 House Pistols			11.60
			<u>\$1676.29</u>
Page 384 - September 19, 1872 - <u>S. Pomeroy Colt</u>			
1 4½ in. Police B. L. Revolver rel'd	\$	11.75	
110 38/Cal. Cartridges, Short		1.87	
1 Mahogany Case		2.00	\$ 15.64
Page 402 - October 8, 1872 - <u>PRESENTATION</u>			
1 House Pistol, Nickel	\$	11.25	
Nickel Plating		.58	
50 41/Cal. Cartridges		.75	
Marked Gen. Henry Prince, New York			
1 5½ in. Police Breech Loading Revolver		15.00	
50 38/Cal. Cartridges, Short		.85	
Marked Thos. Franklin, Engineer, N.Y.			\$ 28.43
Page 410 - October 21, 1872 - <u>London Agency</u>			
40 N.M.Army Breech Loading Revolvers	\$	640.00	
26 N.M.Navy Breech Loading Revolvers C.F.		390.00	
12 4½ in. Police B.L. Revolvers C.F.		141.00	
2 5½ in. " " " " C.F.		24.30	
1 6½ in. " " " " C.F.		12.50	\$1207.80
* Less 40 Army Gates Alt. - \$ 32.00			
* Less 26 Navy Gates Alt. - 20.80			
* Less 15 Police Gates Alt. - 10.50			- 63.30
			<u>\$1144.50</u>
Discount 10% & 5%			- 165.94
			<u>\$ 978.56</u>
* Above entry made to correct error of May 23rd, 1872			
Page 410 - October 22, 1872 - <u>Francis & Co.</u>			
1 N.M.Navy Pistol	\$	15.00	
1000 N.M.Navy Cartridges		12.00	\$ 27.00
Discount 10% & 5%			- 3.60
			<u>\$ 23.40</u>
Page 434 - November 13, 1872 - <u>Francis DeGress</u>			
100 42/Cal. Army Breech Loading Revolvers			\$2000.00
Discount 20 & 10%			- 560.00
			<u>\$1440.00</u>
Page 454 - December 6, 1872 - <u>Francis DeGress</u>			
6 4½ in. Police Breech Loading Revolvers	\$	70.50	

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

6 5½ in. Police Breech Loading Revolvers	72.90	
6 House Pistols	54.00	\$ 197.40
Discount 10% & 5%		- 28.62
		\$ 168.78
 Page 459 - December 20, 1872 - <u>Harace Lord</u>		
1 5½ in. Police B.L. Rev. Nickel	\$ 15.65	
111 " " " Cartridges	1.70	
1 Mahogany Case	1.25	\$ 18.60
Discount 20 % 10% on 15.00		- 4.20
		\$ 14.40
 Page 461 - December 24, 1872 - <u>Francis DeGress</u>		
10 4½ in. Police Breech Loading Revolvers	\$ 117.50	
6 5½ in. " " "	72.90	
3 6½ in " " "	37.50	
6 Police Ivory Stocks Brow'd	16.50	\$ 244.40
Discount 10 & 5% of 227.90		- 33.04
		\$ 211.36
1 N.M.Army B.L. Bbl no ch. (no charge)		
 Page 492 - January 9, 1873 - <u>Prov. Nick. Plat. Works</u>		
2 N.M.Navy Breech Loading Revolvers	\$ 34.00	
50 38/Cal Cartridges - No Charge	-----	\$ 34.00
Discount 10%		- 3.40
		\$ 30.60
 Page 502 - January 31, 1873 - <u>Francis DeGress</u>		
6 42/Cal Army Breech Loading Revolvers	\$ 96.00	
6 5½ in. Police B.L. Revolvers	72.90	
12 N.M.Army Pistols	192.00	
4 N.M.Army Pistols, Ivory (15.00 extra)	64.00	
5 6½ in. Police Pistols	62.50	
3 6½ in. Police Pistols, Ivory (8.25 ex)	37.50	
4 5½ in. Police Pistols	48.60	
3 5½ in. Police Pistols, Ivory (8.25 ex)	36.45	
7 4½ in. Police Pistols	82.25	\$ 692.20
Discount 10 & 5%		- 100.36
		\$ 591.84
Extra for above Ivory Stocks		31.50
		\$ 623.34
 Page 517 - February 8, 1873 - <u>Francis & Co.</u>		
4 N.M.Navy Breech Loading Revolvers	68.00	
1000 38/Cal. Cartridges	17.50	\$ 83.50
Discount 20 & 5%		- 20.52
		\$ 64.98
 Page 521 - February 18, 1873 - <u>PRESENTATION</u>		
1 6½ in. Police Breech Loading Revolver		\$ 15.50
Marked B. Kittridge & Co., Cincinnati, O.		
 Page 526 - February 27, 1873 - <u>Francis DeGress</u>		
18 42/Cal Army Breech Loading Revolvers	\$ 288.00	
4 5½ in. Police Breech Loading Revolvers	48.60	

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

6 42/Cal. Army Stocks, Ivory	22.50	
10 Police Stocks, Ivory	27.50	
4 Police Stocks, Ivory, Checkered	11.00	
24 Police Latch Springs	2.40	\$ 400.00
Discount 10 & 5% on Rev's & Grips		- 49.15
		\$ 350.85

Page 540 - March 8, 1873 - S. Pomeroy Colt

1 4½ in. New Pocket Breech Loading Revolver		
Marked "Fred B. Perkins"	\$ 11.50	
95 38/Cal. Cartridges, Short	.90	
1 Mahogany Case	2.00	\$ 14.40
Discount 20 & 10% of 11.50		- 3.22
		\$ 11.18

Page 546 - March 17, 1873 - LONDON AGENCY on Memorandum (Vienna Exposition)

2 N.M.Army 42/Cal. Breech Loading Revolvers, Ivory, Plain	
1 N.M.Navy Breech Loading Revolver, Ivory, Plain	
2 6½ in. Police Breech Loading Revolvers, Ivory, Plain	
2 5½ in. Police Breech Loading Revolvers, Ebony, Silver Plated	
2 4½ in. Police Breech Loading Revolvers, Ebony, Gold Plated	
2 House Pistols, Ebony, Silver Plated	
2 House Pistols, Ebony, Gold Plated	
2 Colt Deringer Pistols, Ebony, Gold Plated	
2 Colt Deringer Pistols, Ebony, Silver Plated	
2 Colt Deringer Pistols, Ivory, Gold Plated	
2 Colt Deringer Pistols, Walnut, Gold Plated	
2 Colt Deringer Pistols, Walnut, Plain	
2 National Deringer Pistols #1, Silver Plated all over	
2 National Deringer Pistols #1, Gold Plated all over	
2 National Deringer Pistols #2, Walnut, Gold Plated	
2 National Deringer Pistols #2, Walnut, Plain	

Page 547 - March 17, 1873 - London Agency

10 N.M.Army Breech Loading Revolvers	\$ 160.00	
with attached Breech Stocks	120.00	\$ 280.00
Discount 10 & 5%		- 40.60
		\$ 239.40

Above pistols included with those sent for the
Vienna Exposition. See Page 546

Page 550 - March 22, 1873 - London Agency - On Memorandum

1 N.M.Navy Breech Loading Revolver, C.G., Ivory, Plain

Page 587 - May 5, 1873 - London Agency - On Memorandum

1 N.M..44/Cal. Breech Loading Army Revolver (M 1872)	
100 " " " " " "	Cartridge Shells, Primed
100 " " " " " "	Bullets
100 " " " " " "	Lubricators
1 " " " " " "	Loading Fixture

Page 590 - May 12, 1873 - Francis DeGress

30 42/Cal. Breech Loading Army Revolvers	\$ 600.00	
8 6½ in. Breech Loading Police Revolvers	124.00	
8 5½ in. " " " "	120.00	
2 4½ in. " " " "	29.00	
3 Pair Colt Deringer Pistols	30.00	\$ 903.00

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

Discount 20 & 10%			- 252.84
			<u>\$ 650.16</u>
12 N.M.Army Pistols	\$ 192.00		
4 6½ in. Police Pistols	50.00		
4 5½ in. " "	48.60		
4 4½ in. " "	47.00		
500 Small Cones, Short	22.00		\$ 359.60
Discount 10% & 10%			- 68.32
			<u>\$ 291.28</u>
4 Army Stocks, Ivory	\$ 15.00		
10 Police Stocks, Ivory	27.50		\$ 42.50
Total			<u>\$ 983.94</u>
Page 592 - May 15, 1873 - London Agency			
30 4½ in. Police Breech Loading Revolvers	\$ 352.50		
30 5½ in. " " " "	364.50		
20 6½ in. " " " "	250.00		
50 House Pistols, Nickel (450 + 29)	479.00		\$1446.00
Discount 10 & 5% on 1417.00			- 205.46
			<u>\$1240.54</u>
Page 598 - May 27, 1873 - Cooper, Harris & Hodgkins			
2 Colt's Police M.C. @ 14.50	\$ 29.00		
Discount 20 & 10%		- 8.12	\$ 20.88
2 Colt's Police Cylinders	5.48		
Discount 10 & 10%		\$ 1.03	4.45
			<u>\$ 25.33</u>
Page 599 - May 28, 1873 - Jas. P. Taylor			
1 N.M.Navy Breech Loading Revolver	\$ 17.00		
Nickel Plated		.85	
1 House Pistol	11.25		
Nickel Plated		.60	
300 41/Cal Cartridges	4.50		
300 38/Cal. Cartridges, Long	5.25		\$ 39.45
Discount 20% on 28.25			- 5.65
			<u>\$ 33.80</u>
Marked Nat. W. Taylor, Carter Depot, E. Tenn.			
Page 611 - June 4, 1873 - S. Pomeroy Colt			
1 New Pocket B. L. Revolver 4½ in.	\$ 11.50		
1 7-Shot Pistol, Ivory (9 + 2)	11.00		
75 38/Cal. Cartridges	1.28		
100 22/Cal. Cartridges	.60		
1 Mahogany Case, New Pocket	1.75		\$ 26.13
Discount 20 & 10% of 22.38			- 6.26
			<u>\$ 19.87</u>
Page 612 - June 6, 1873 - Francis DeGress			
10 42/Cal. Army Breech Loading Revolvers	\$ 200.00		
5 N.M.Navy Breech Loading Revolvers	85.00		
10 6½ in. Police Breech Loading Revolvers	155.00		
10 5½ in. Police Breech Loading Revolvers	150.00		
10 4½ in. Police Breech Loading Revolvers	145.00		
4 N.M.Army Pistols M & W	64.00		
6 N.M.Army Pistols M & W, Ivory (22.50ex)	118.50		

EXCERPTS FROM COLT DAY JOURNAL 7/1/1871 - 7/28/1873

2 5½ in. Police Pistols M & W, Ivory (5.50ex)	29.80	\$ 947.30
Discount 20 & 10% on 735.00		- 205.80
		\$ 741.50
Discount 10 & 10% 184.30		- 35.01
		\$ 706.49

Page 621 - June 23, 1873 - London Agency (Memo. - Samples)

1 Remington Rifle		
2 45/Cal. Army "A" Pistols		
200 45/Cal. Army "A" Pistol Cartridge Shells, Primed		
200 45/Cal. Army "A" Pistol Bullets		
2 45/Cal. Army "A" Reloading Fixtures		

Page 644 - July 22, 1873 - R.W.H. Jarvis

1 32/Cal. Breech Loading Pistol	\$ 9.00	
50 32/Cal Cartridges, Long	.68	\$ 9.68
Discount 50% on .68		- .34
		\$ 9.34

Page 644 - July 22, 1873 - C. Nichols Beach

1 32/Cal. Breech Loading Pistol	\$ 9.00	
50 32/Cal. Cartridges, Long	.68	\$ 9.68
Discount 50% on .68		- .34
		\$ 9.34

Page 647 - July 28, 1873 - London Agency

50 N.M.Navy Breech Loading Revolvers C.F.	\$ 750.00	
12 Pair Colt Deringers (1 Eng. Patent in box)	96.00	\$ 846.00
Discount 10 & 5%		- 122.67
		\$ 723.33

Bibliography

Books

William A. Albaugh, III, Hugh Benet, Jr. and Edward N. Simmone. *Confederate Handguns*. Philadelphia: Riling & Lentz. 1963.

Gordon Bruce and Christian Reinhart. *Webley Revolvers*. Zurich: Verlag Stocker-Schmid AG Dietikon. 1988.

W.H.J. Chamberlain and A.W.F. Taylerson. *Adams' Revolvers*. London: Barrie & Lenkins Limited. 1976.

William Chipchase Dowell. *The Webley Story*. Kirkland, Wash.: Commonwealth Heritage Foundation. 1987.

Norm Flayderman. *Illustrated Catalog of Arms & Military Goods*. New Milford, Conn.: N. Flayderman & Co. 1967. Originally printed by Schuyler, Hartley & Graham, New York in 1864. Reprinted 1961 and 1967 by N. Flayderman & Co.

E. Norm Flayderman. *Flayderman's Guide to American Antique Firearms* 5th Edition. Northbrook, Ill.: DBI Books. 1980.

Claud E. Fuller. *The Whitney Firearms*. Huntington, W.V.: Standard Publications, Inc. 1946.

Louis A. Garavaglia and Charles G. Worman. *Firearms of The American West 1866-1894*. Albuquerque: University of New Mexico Press. 1985.

Ron Graham, John A. Kopec and C. Kenneth Moore. *A Study of the Colt Single Action Army Revolver*. Dallas: Taylor Publishing Company. 1976.

Charles T. Haven & Frank A. Belden. *A History of the Colt Revolver*. New York: Bonanza Books. 1940.

George A. Hoyem. *Patents For Inventions, Abridgements of Specifications, (Class 119, Small Arms), British Patents-Period A.D. 1855-1866, British Patents-Period A.D. 1867-1876*. Oceanside, Calif.: Armory Publications. 1993. Originally published in 1905 at the Patent Office, Chancery Lane, London.

Roy G. Jinks. *History of Smith & Wesson*. North Hollywood, Calif. Beilfeld Publishing, Inc. 1977.

Charles Lee Kerr, Jr. and Carroll Robbins Karr. *Remington Handguns*. New York: Bonanza Books. 1947.

E. Dixon Larson. *Colt Tips*. Union City, Tenn.: Pioneer Press. 1972.

John D. McAulay. *Civil War Pistols: A survey of the handguns of the American Civil War*. Lincoln, R.I.: Andrew Mowbray Inc./Publishers.

Harold R. Mouillesseaux. *Ethan Allen, Gunmaker*. Ottawa: Museum Restoration Service. 1973.

C. Kenneth Moore. *Revolvers and the U.S. Navy 1865 to 1889*. Bryn Mawr, Pa.: Dorance & Company. 1987.

Robert J. Neal and Roy G. Jinks. *Smith & Wesson 1857-1945* (Revised Edition). Cranbury, N.J.: A.S. Barnes & Co. 1975..

Waldo E. Nutter. *Manhattan Firearms*. Harrisburg, Pa.: The Stackpole Company. 1958.

John E. Parsons. *The Peacemaker and its Rivals*. New York: William Morrow & Company. New York. 1950.

John E. Parsons. *Smith & Wesson Revolvers*. Toronto: George J. McLeod Limited; and New York: H. Wolff. 1957.

James E. Serven. *Colt Firearms From 1836*. La Habra, Calif.: The Foundation Press Publications. 1954.

Richard C. Rattenbury. *Packing Iron*. Millwood, N.Y.: Zon International Publishing Company. 1993.

Frank M. Sellers. *The William M. Locke Collection*. Dallas: Taylor Publishing Company. 1973.

Gene P. Smith and Chris C. Curtis. *The Pinfire System*. San Francisco: Bushman-Brashaw Publishing Co. 1983.

R.Q. Sutherland and R.L. Wilson. *The Book of Colt Firearms*. Kansas City, Mo.: Robert Q. Sutherland. 1971.

Charles R. Suydam. *U.S. Cartridges and Their Handguns 1795-1977*. North Hollywood, Calif.: Beinfeld Publishing, Inc. 1979.

Nathan L. Swayze. *U.S. Colt Navies*. Yazoo City, Miss.: Gun Hill Publishing Company. 1967.

H.H. Thomas. *The Story of Allen & Wheelock Firearms*. Cincinnati: The C.J. Krehbiel Company. 1965.

Bill West. *Remington Arms & History*. Azusa, Calif.: Bill West. 1970.

R.L. Wilson. *The Book of Colt Engraving*. Los Angeles: Wallace Beinfeld Publications. 1974.

Auction Catalogs

Richard A. Bourne Co., Inc. Sale of October 29, 1980. "The Karl F. Moldenhauer Collection of Remington Arms."

Butterfield & Butterfield. Sale 5310A, February 7, 1993. "The Press Collection of Highly Important Antique American & European Firearms, Part I."

Butterfield & Butterfield. Sale 5425A, April 20, 1993. "Antique & Modern Firearms featuring the Estate of Kenneth C. Moran."

Butterfield & Butterfield. Sale 6036A, May 30-31, 1994. "Antique & Collectible Firearms, Edged Weapons & Militaria featuring the Estate of Joseph W. Shields, Jr."

Butterfield & Butterfield. Sale 6051A, May 31-June 1, 1994. "Harolds Club World Famous Gun Collection."

Periodicals

The Gun Report, P.O.Box 38, 110 S. College Ave., Aledo, IL 61231.

October 1955. (Page 22) "Round Barrel '49s and '51s" by G. Charter Harrison, Jr.

August 1958. (Page 44) "Colt Conversions & Alterations" by R.H. Taylor.

October 1959. (Page 24) "The Iron-Strapped '51 Navy" by Jack J. Benson & Ed Tinney.

February 1960. (Page 14) "An Unusual Allen & Wheelock Revolver" by Frank Wheeler.

May 1960. (Page 22) "A Rebuttal to [An Unusual Allen & Wheelock Revolver]" by Philip F. Van Cleave.

August 1960. (Page 6) "The Raphael Revolver" by Charles R. Suydam.

March 1961. (Page 23) "More on The Iron-Strapped '51 Navy" by Jack J. Benson and Ed Tinney.

August 1961. (Page 12) "A Remington-Mason Conversion" by John W. Evans

October 1961. (Page 16) "Colt Navy Conversions" by Paul S. Lederer.

March 1962. (Page 6) "A Rogers & Spencer Conversion" by Graham Burnside. (Page 24) "Conversions of the 1860 Army [For The Novice Conversion Collector]" by Dix Larson.

August 1962. (Page 26) "Some Notes Concerning The Conversion of The Rogers & Spencer" by John L. Barry Jr.

December 1962. (Page 6) "Colt 'Mystery Conversion' 1860 Army Type 1861 Navy" by Clare F. Short.

February 1964. (Page 10) "The 1851 Colt Navy Cartridge Arms" by Fred Powers.

April 1966. (Page 6) "Sidelights of the Slocum" by Carl L. Rosner.

February 1968. (Page 30) "Rollin White Patent" by Kenneth L. Cope.

April 1970. (Page 14) "Colt Whitneyville-Walker Conversions" by Tom Seymour.

April 1971. (Page 24) "E.A. Prescott., Well-Known Manufacturer of Little-Known Revolvers" by Richard R. Wagner.

February 1973. (Page 51) "[Gun of the Month] A Colt Third Model Dragon Conversion" by Arnold Marcus Sharnoff.

October 1975 (Page 14) ".32 Teat Fire Revolvers" by Jerald T. Teesdale.

July 1977. (Page 64) "The 'No. 1' Army Revolver in American History" by Peter R. Zucco.

March 1979. (Page 26) "An English .44 Calibre Lip-Fire Revolver" by C.R. Suydam.

August 1979. (Page 26) "A Colt 1860 Thuer Conversion" by Ronald A. Ogan.

November 1979. (Page 52) "A Supplement to Article [A Colt 1860 Thuer Conversion]" by Ronald A. Ogan.

May 1980. (Page 54) "[Gun of the Month] A Deluxe 1861 Thuer Conversion" by Ronald A. Ogan.

July 1980. (Page 14) "Confederate Pin-Fire Revolvers [C.S. Navy Lefauchaux]" by Gene R. Rourke. (Page 22) "A Rarity - Colt Paterson Conversion to Cartridge" by Frank Russell.

August 1980. (Page 60) "A Very Rare .42 Cal. Plant Revolver" by Charles C. Sweet.

September 1980. (Page 18) "Evolution of the Model Colt Frontier Six Shooter" by Ronald A. Ogan.

November 1980. (Page 12) "Bringing Home The Bacon" by Frank A. Bacon, Jr.

May 1983. (Page 48) "Eagle Arms Co. Six Shooter [The Best Metallic Cartridge Revolver]" by C.R. Suydam.

November 1984 (Page 16) "A Colt Navy-Army-Navy Conversion" by Sam Pachanian.

February 1990. (Page 78) "An 1861-61 Navy-Navy Conversion" by Wm. A. Boyer.

December 1991 (Page 50) "The Remington-Rollin White Conversion" by Paul S. Lederer.

August 1992. (Page 34) "Whitney Rimfire Pocket Revolvers" by Konrad F. Schreier Jr.

October 1992. (Page 33) "The Whitney Navy Revolver" by Konrad F. Schreier Jr.

March 1993. (Page 42) "Le-Mat Revolvers [From the Collections of The Museum of Applied Arts and Sciences, Sydney, New South Wales]" by Zoe McKenzie-Smith.

July 1993. (Page 59) "Remington vs. Dardick" by Slim Kohler.

November 1993. (Page 20) "A Rarity, The Thomas Revolver" by Don Carroll.

Arms Collecting Society Publications

Newsletter, Remington Society of America (3rd Quarter 1991). "The Rare Remington Beals Pocket Model Cartridge Revolver" by Jay Huber.

Bulletin, The American Society of Arms Collectors, at Fort Worth, Texas, September 4-8, 1991 (Bulletin Number 65). "U.S. Navy markings & their variations on Colt 1851 & 1861 Navy model revolvers, percussion & conversion" by Sam Pachanian.

Newsletter, Colt Collectors Association (Vol. 6, No. 2, June 1987). "Patent Dates and Loading Gates" by Sam Pachanian.

The Texas Gun Collector, Official Publication of the Texas Gun Collector's Association (Fall 1995 Issue). "If Only It Could Talk (Sometimes with luck you can give it voice)" by John H. Thillmann.

Government and Museum Documents

Connecticut State Library (Manuscript Division), Hartford, Conn. "Major General William B. Franklin, Aide-Memoire [November 15, 1865 to January 1, 1868]." Records of the Colt's Patent Fire Arms Manufacturing Company, RG 103, Box 54.

Ordnance and Ordnance Stores. "Statement Submitted by Mr. Butler of Massachusetts in reference to Ordnance and Ordnance Stores on hand-June 23, 1868." Misc. Document No. 152, 40th Congress, 2nd Session, House of Representatives. (See Serial Set No. 1350, Library of Congress).

Sale of Arms by Ordnance Department "Testimony Taken by the Committee." Washington, March 7, 1872 [Exhibit No. 2].

In The Senate of The United States "All Sales of Ordnance Stores Made by the Government of the United States During the Fiscal Year Ending June 30, 1871." Report No. 183, 42nd Congress, 2nd Session, Senate, May 11, 1872. (See Serial Set Nos. 1497 and 1511, Library of Congress).

The Case of Rollin White "Statement of Fact and Brief for Mr. White," by Geo. W. Dyer of Counsel, Washington, D.C., Gibson Brothers, Printers, 1874. (See Serial Set No. 1405, Library of Congress).

Message of the President of the United States "Returning Bill S. No. 273, Entitled 'An act for the relief of Rollin White,' With His Objections." Executive Document No. 23, 41st Congress, 2nd Session, Senate, January 11, 1870.

Rollin White "Report: To Accompany Bill H.R.4056." Report No. 84, 42nd Congress, 3rd Session, House of Representatives, February 28, 1873.

Documents from the National Archives

September 10, 1873 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 48, #311.

March 16, 1875 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 51, #131.

March 13, 1873 letter from General Franklin to Admiral Case. Record Group 74, Entry 22, Volume 47, #267.

July 16, 1873 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 48, #230.

September 15, 1873 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 48, #317.

July 10, 1873 letter from Captain Jeffers to General Franklin. Record Group 74, Entry 5, Volume 18, Page 299.

August 12, 1873 letter from Captain Jeffers to Colt's. Record Group 74, Entry 5, Volume 18, Pages 318 & 319.

October 28, 1874 letter from Captain Jeffers to Colt's. Record Group 74, Entry 5, Volume 19, Page 269.

November 18, 1874 letter from Captain Jeffers to Colt's. Record Group 74, Entry 5, Volume 19, Page 284.

November 30, 1874 letter from Captain Jeffers to Colt's. Record Group 74, Entry 5, Volume 19, Page 295.

January 22, 1875 letter from Captain Jeffers to Colt's. Record Group 74, Entry 5, Volume 19, Page 340.

Bibliography

January 31, 1876 letter from Captain Jeffers to Colt's. Record Group 74, Entry 5, Volume 20, Page 152.

June 13, 1876 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 53, #204.

July 30, 1873 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 48, #250.

February 3, 1876 letter from General Franklin to Captain Jeffers. Record Group 74, Entry 22, Volume 53, #42.

January 31, 1871 letter/order from A.B. Dyer (Chief of ordnance) to General W.B. Franklin (V.P. Colt Arms Co.) for conversion of 1,000 1860 Army revolvers. Miscellaneous Letters Sent, Volume 71, #186.

April 21, 1871 letter from A.B. Dyer (Chief of Ordnance) to Commanding Officer, Springfield Armory. Miscellaneous Letters Sent, Volume 71, #129.

Army and Navy Journals

March 16, 1867 [Correspondence] "Breech Loaders Again" by R.A.

September 25, 1869 [No Title] Article concerning the need for breech-loading arms starting "Officers of cavalry regiments stationed in the Indian country . . ."

July 23, 1870 [Small Arms And Accoutrements] "Report of the St. Louis Board, Office Board on Tactics, Small Arms, &c., St. Louis, Mo., June 10, 1870." See House Executive Document 152, 43rd Congress, 2nd Session (Serial Set No. 1648).

July 30, 1870 (Small Arms And Accoutrements) "The St. Louis Board," list of rifles, carbines, pistols, bayonets, miscellaneous and accoutrements and equipment submitted to the Board, programme of experiments adopted, and tests and results for rifles.

Reports of the Chief of Ordnance

Ordnance Office, War Department, Washington, D.C.

Appendix A. Statement of principal articles procured by fabrication at the Arsenals and by purchase, during the year ending June 30, _____. Class VI (Small Arms) and Class VIII (Small Arms Ammunition).

Appendix B. Statement of Ordnance, Ordnance stores, &c., issued to the military establishment (except Militia) during the year ending June 30, _____. Class VI (Small Arms) and Class VIII (Small Arms Ammunition).

Appendix D. Statement of Ordnance, Ordnance stores, &c., distributed to Militia from July 1, _____ to June 30, _____. Class VI (Small Arms) and Class VIII (Small Arms Ammunition).

Appendix E. Statement of Ordnance, Ordnance stores, &c., distributed to colleges and universities from July 1, _____ to June 30, _____. Class VI (Small Arms) and Class VIII (Small Arms Ammunition).

Appendix F. Statement of Ordnance stores, &c., distributed to Territories and States bordering thereon from July 1, to June 30, _____.

Note: The above format is that most commonly used by the Chief of Ordnance in his yearly reports; however, it is found to vary somewhat. Each fiscal year, these reports are contained in bound book form and made part of the *Report of the Secretary of War*, becoming part of the message and documents communicated to the two houses of Congress.

Serial Sets containing portions of the reports of the Chief of Ordnance and Secretary of War are found in the Law Library, Library of Congress, Washington, D.C., and in the Government Document sections of larger public and university libraries as follows:

Fiscal Year 1866-1867 (Serial Set No. 1324). House Executive Document 1, 40th Congress, 2nd Session.

Fiscal Year 1867-1868 (Serial Set No. 1367). House Executive Document 1, 40th Congress, 3rd Session.

Fiscal Year 1868-1869 (Serial Set No. 1412). House Executive Document 1, Part 2, 41st Congress, 2nd Session.

Fiscal Year 1869-1870 (Serial Set No. 1446). House Executive Document 1, Part 2, 41st Congress, 3rd Session.

Fiscal Year 1870-1871 (Serial Set No. 1503). House Executive Document 1, Part 2, 42nd Congress, 2nd Session.

Fiscal Year 1871-1872 (Serial Set No. 1558). House Executive Document 1, Part 2, 42nd Congress, 3rd Session.

Fiscal Year 1872-1873 (Serial Set No. 1599). House Executive Document 1, Part 2, 43rd Congress, 1st Session.

Fiscal Year 1873-1874 (Serial Set No. 1635). House Executive Document 1, Part 2, 43rd Congress, 2nd Session.

Libraries and Private Collections

Herbert G. Houze Collection. "Colt's Patent Fire Arms Manufacturing Company Journal B" (1863-1869).

Connecticut State Library. Colt Archives, RG 103, Box 11, Folder January-March, 1873-January 14, 1873. Letter from Sgt. James Hill (5th Cavalry, Camp Verde, Arizona Territory) to Colt's Patent Fire Arm Mafct, Hartford, Conn.