

# A Brief Anthology of the Pistol; 16<sup>th</sup> through 19<sup>th</sup> Centuries

By Walt Kirst

The development of firearms in general and handguns in particular, has been one of innovation and experimentation. The first handguns were nothing more than long guns reduced in size to be more easily held in one hand. Early handguns were simply abbreviated stocks that were similar to the wrist of a rifle. As time progressed the general shape of handguns curved like the head of a cane and took on a shape that is still with us today, that of a “pistol grip.”

Handguns remained single barrel for the most part like their long gun parents. While some multi-barrel guns showed up (both long guns and handguns) they remained similar in design and featured one shot per barrel. The idea of multi shots per barrel was the stuff that fired the creative genius of gun makers.

Samuel Colt brought about a departure from the long gun theme with his invention of the “revolving gun.” Colt was 21 years old when he was granted his patent number 9430X on February 25, 1836. Colt started his Patent Arms Manufacturing Co. in Patterson, New Jersey in 1836. The Paterson revolvers were introduced and gone was the single shot per barrel and now there were multi shots for the barrel. Colt even tried to expand his revolving gun design to rifles and had some success with them in later years.

Technological advances helped Colt so that his Paterson gun was viable. In the 1820’s the percussion cap was developed. While the actual inventor is debated the ability to do away with the flintlock allowed for a much more compact firing method for all guns. This reduced size worked well for Colt in his development of the “revolving gun” and without the percussion cap it could be argued that Colt’s design would not have worked. In hind sight we see that firearms were in their infancy with changes that were rapid and several new designs happened within a few years of each other.

First patented in 1831, the rimfire cartridge was the next technological step that was an outcropping from the percussion cap. The first rimfires were not much more than a percussion cap seated onto the base of a bullet. Horace Smith and Daniel B. Wesson formed a partnership in 1852 to develop and market a lever action pistol and these used ammunition that was of this design. Besides working on the lever action pistol and rifle, Smith & Wesson also developed and in 1854 were issue patent number 11,496 for “Improvement in Cartridges.” This resulted in their developing the .22 Rimfire Short cartridge a bit of ammunition that is still with us today. They needed financing and in 1855 one of the men who signed on to help was Oliver Winchester and thus was formed the Volcanic Repeating Arms Company. Winchester purchased the rights to the Volcanic pistol, rifle, and ammunition in 1856 moving the company to New Haven Connecticut and reorganized the company as the New Haven Arms Company. Here Winchester hired B. Tyler Henry as plant supervisor and the Henry rifle was born.

Rollin White was working as a gunsmith for Colt in Harford Connecticut at this time and on April 3, 1854 was issued patent number 12,648 for “Repeating Firearm.” The patent was the bases for bored through chambers in a revolvers cylinders but at the time White was unable to make a functioning revolver. He lacked the self-contained cartridge to prevent the simultaneous ignition of all chambers of the revolver. Samuel Colt is supposed to have rejected the patent, looking at it as a more of a novelty and not having practical applications. Without self contained ammunition Colt was correct, but

with it who knows where Colt and his company would have gone. Imagine for a minute what the firearms industry would be like if Colt held the patent from 1855 onward.

This is idle speculation as Colt did not capture the patent and White, as a contract gunsmith for Colt, did not have loyalty to the company. White assigned the patent to Smith & Wesson in November of 1856 who promptly started producing small caliber revolvers in .22 and .32 rim fire. They were kept so busy that they did not have the time or resources to develop a badly needed large caliber cartridge revolver. Finally in 1869 they produced their #3 American revolver in .44 Henry rimfire.

The period from 1861 to 1865 saw the American Civil War raging. Many firearm designs came out during the war and it was soon proven that the metallic cartridge was viable and would replace the loose cap and ball arrangement that had dominated up to that point. The war saw such firearms as the Henry and the Spencer, which featured rim fire cartridges, dominate the battlefield when used to their advantage. Of course after the war surplus firearms were plentiful. Auctions, government surplus sales and sales to mustering out military personnel saw thousands of percussion revolvers disposed after the war. The US Ordnance Department begun cartridge conversion experiments at the Springfield Arsenal and these designs were as early as 1866. These projects were kept closely guarded because the government did not wish to pay royalty fees.

In 1867 a wholesale and retail firearms dealer from Cincinnati, Ohio by the name of Benjamin Kittredge contacted Smith & Wesson about converting Remington percussion revolvers to .44 caliber rimfire. Smith & Wesson was not in the conversion business and they in turn contact E. Remington & Sons about performing the conversions. For this conversion Smith & Wesson were paid a royalty of \$1.00 each and White made \$0.25 each. From September 1868 through April 1869 E Remington & Sons converted 4,574 surplus percussion Remington Army revolvers. These converted firearms featured five shot cylinders as there was not enough material to re-manufacture the six shot percussion cylinders. Other features of these converted revolvers included a thin breech plate installed on the breech face, the percussion hammer was modified to ignite the rim fire cartridges, a loading port was machined into the right recoil shield and there was no ejector installed on any of them. These revolvers became know as Remington/Smith & Wesson conversion, or the Type 1 Remington Conversion.

Many manufactures sought to bypass the patent for the bored through cylinder and some private individuals and businesses ignored it entirely. It was up to White to enforce the patent and a substantial amount of his royalty went to this end. Colt tried to come up with an alternative to the bored through cylinder design and in September, 1868 F. Alexander Thurer was granted a patent number 98,528. This design required a modified cylinder and a conversion ring. No permanent changes were performed on the base revolver and a percussion cylinder could still be used along with the Thurer conversion cylinder. The individual cartridges were loaded and ejected from the front of the cylinder and were reloadable. Each revolver came with the tools for reloading the cartridges. The reloading was performed by removing the cylinder and using the revolver with the supplied tools to perform the operations. The revolvers loading lever acted as the ram for the reloading steps. It was a very elaborate setup and Colt made the Thurer adapter for their Pocket, Army, Navy Models and the Dragoon revolver. Unfortunately it was not a commercial success for Colt but it was not long until the White patent was due to expire.

On April 3, 1869 Rollin White's patent expires. White tried to get a patent extension but it was denied so he turned to congress for relief. White argued that he made \$71,000 but Smith & Wesson made over \$1 million during the same time and most of White's funds have been tied up defending the patent. Congress agreed with him and passed a bill to grant him another hearing on the application for the patent extension. In January 1870, President Grant returns the bill unsigned. Grant cited comments by Chief of Ordinance Alexander Dryer that the extension of the patent would be against the best interests of the government.

Smith & Wesson and Rollin White continued to try to obtain patent extensions, delaying the patent from becoming public domain until 1872. This delay caused much uncertainty in the United States arms industry. But starting in 1871 Colt and Remington, with large inventories of percussion revolvers and parts on hand, begun to refurbish and convert these pistols as cartridge. They even produced new firearms that are classed as conversions but were from all new parts. Rollin White continued alone to have relief bills introduced in congress until 1877 without avail.

Charles B. Richards was a prominent inventor and expert mechanic among Colt employees and in 1871 C. B. Richards was granted patent number 117,461 for "Improvements in Revolvers." This patent was assigned to Colt's Latent Firearms Manufacturing Co. The patent was "...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." These Richards conversions featured a breech plate (or conversion ring) with an integral rear sight and a spring loaded gate to close the loading channel. They also featured an elaborate cartridge rod ejector assembly that filled the openings for the loading lever and plunger. Initially the Richards conversion rings featured a rebounding firing pin but later this was changed to a hammer mounted firing pin. This made possible a hammer design that could be adapted to either center fire or rim fire metallic cartridges as more and more ammunition was being produced in center fire. These new Richards conversion are classified as Type II or Transition conversion; this version did not have a rear sight on the ring.

William Mason was a talented firearms designer and spent one year with Colt from 1861 to 1862. He returned to Colt in 1866 as superintendent of the armory and maintained that position until mid 1882 when he went to work for Winchester.

In July of 1872 Mason was granted patent number 128,644 for "Improvement in Revolving Firearms." This patent was assigned to Colt as Richards patent had been. Masons' patent called for a much simplified ejector assembly to be mounted to the barrel of conversion revolvers. The combination of the design features of Richards patent and Masons' patent resulted in the final design being known as the Richards-Mason conversion.

From 1871 to 1873 Colt was simultaneously building the following conversions

- 1860 Richards 1<sup>st</sup> Type
- 1860 2<sup>nd</sup> Type or Transition Model
- 1860 Richards – Mason (Colt was out of percussion barrels and had to make new ones for this model)
- 1851 Navy Model
- 1861 Navy Model

1862 Police Model  
Pocket Model of Navy Caliber (1862 Navy Model)  
1871-1872 Open Top Cartridge Model  
1873 Model P (Single Action Army revolver).

Of these Colt conversions Uberti has been producing copies of the 1860 Richards 2<sup>nd</sup> Type, 1860 Richards-Mason Model, 1851 Navy Model and the 1871-1872 Open Top and many companies are currently producing copies of the 1873 Model P.

During this time and throughout the 1870's Remington was hard at work on their own conversion revolvers using up the percussion parts in their inventory. Remington produced their Old and New Model Army and Navy resolvers with conversion cylinders. These revolvers featured a fixed breech plate installed on the breech face of the frame and used new made cylinders.

The smaller, .36 caliber and under, percussion models were converted with a split cylinder. A new made cartridge cylinder was fitted with a removable breech plate that was attached to the cylinder and rotated with it. These conversion cylinders and breech plates were the same dimensions as the percussion cylinders so they had the added benefit of being able to interchange with the percussion cylinder and a number of revolvers were shipped with both cylinders.

During the 1870's through the 1880's arms manufacturers, armories, private & government gunsmiths, blacksmith and even individuals produced a variety of percussion revolver cartridge conversions. The design and quality was as varied as the makers. The Rollin White Patent prevented the utilization of bored-through cylinders produced for resale; however, owners of percussion revolvers faced no restrictions in converting them to metallic cartridges. On the frontier fixed ammunition was not as common so many percussion revolvers remained percussion to take advantage of the more easily available loose powder and ball.

Once the patent for bored-through cylinders had expired and percussion revolver parts were no longer available new made cartridge revolvers dominated the market. 1873 saw the introduction of the Colt Single Action Army in .45 Colt, followed in 1875 by Remington's 1875 Army in .44 Remington, and the 1875 Smith & Wesson Schofield in .45 Schofield. In 1877 Colt introduced their double action revolvers in both .38 Long Colt and .41 Long Colt. More and more manufacturers were introducing new cartridge firearms through the years along with new designs in cartridges.

Now we have an opportunity to produce our own cartridge conversions and we don't have to be a blacksmith to do so. In the 1990's Walt Kirst introduced his cartridge conversions and has expanded his selection providing shooters with many new and unique options to replicate the guns of the 1870's and 1880's. Today there are a variety of options allowing the conversion of Colt Walker, Dragoon, Army and Navy revolvers plus Remington Army and Navy revolvers and even the Ruger Old Army revolver. There are even .22 rimfire conversions for several different cap and ball revolvers. Using a Kirst Konverter and a Kirst ejector housing will provide you with a very close replica of an original conversion from the 1870's and 1880's. The Old West rides again.