

TIP-UP TALES

by Bob Adams

Smith & Wesson

In 1854, Horace Smith and Daniel B. Wesson unsuccessfully explored the firearms market with lever action Volcanic rifles and pistols firing a self-contained "Rocket Ball" caseless cartridge. Although not a financial success, the Volcanic evolved into the Henry repeating rifle and ultimately into the famous Winchester Model 1866 rifle. Smith & Wesson joined with Joshua Stevens to form the Massachusetts Arms Company in 1850 where they gained experience manufacturing the Wesson and Levitt tip-up percussion revolver and the Maynard brass cartridge. Just before Colt's 1836 revolving cylinder patent expired in 1857, Smith & Wesson organized a new company to manufacture an improvement of the tip-up revolver design into a cartridge revolver using a new self-contained .22 caliber short rimfire cartridge. This innovative combination revolutionized firearms technology in the United States and became the foundation of the famed Smith & Wesson Company of Springfield, Massachusetts.

Even though similar cartridges had been developed in Europe as early as 1845, Smith & Wesson introduced their .22 Short cartridge in a 7-shot No. 1 tip-up revolver in 1857 under the Rollin White patent acquired in 1856. This patent covered bored-through cylinders and gave Smith & Wesson a near-monopoly on most cartridge revolvers until 1869. This became the first commercially successful revolver in the United States to use a self-contained rimfire cartridge, although the monopoly was challenged many times by other companies.

Smith and Wesson made continuous improvements throughout production. In 1860, it was restyled as a 2nd Issue with a flat frame rather than the early rounded frame (Figure 2). In 1868, it was again restyled as a 3rd Issue with a fluted cylinder and round barrel rather than the earlier octagon design. Although the .22 Short cartridge was woefully underpowered, it was convenient, quick and easy to reload, and shortly became extremely popular for self-protection during the Civil War and on the western frontier. Produc-

**SMITH & WESSON'S
PATENT REVOLVER.**



**The above is a full size drawing of the No. 1 Pistol.
It is the lightest Revolver in the world, and shoots with as
much force as any other arm. Weight only 10 oz.**

The cartridge for this arm consists of a copper cap having its closed end enlarged, which enlarged end forms a receptacle for the percussion priming. The remainder of the cap being filled with powder, the ball is firmly inserted in its open end, thus enclosing the powder and priming in a perfectly water-proof case.

Some of the advantages of an arm constructed on this plan are:—

- The convenience and safety with which both the arm and ammunition may be carried;
- The facility with which it may be charged, (it requiring no ramrod, powder-flask, or percussion-caps);
- Certainty of fire in damp weather;
- That no injury is caused to the arm or ammunition by allowing it to remain charged any length of time

DIRECTIONS FOR USE.

By pressing the knobs, A, towards the top of the pistol, the barrel will be allowed to turn back to a right angle with its present position. Place the thumb lightly upon the hammer, and with the other hand remove the cylinder. Place your charges in the chamber of the cylinder, at the rear end. Replace the cylinder, turning it to the left, until it becomes locked. Return the barrel to its place, (being sure it is down,) and the arm is ready for use. After having been discharged, the refuse caps are removed from the cylinder by means of the rod 3 shown in the drawing.

While carrying the arm, allow the hammer to rest between two of the caps to avoid accident.

**J. W. STORRS, Sole Ag't,
121 Chambers Street, [up stairs,] New-York.**

**N. B.—These Cartridges are sure fire in this Pistol, but are not warranted in
other kinds of Pistols.**

WALKER'S Patent 100 Walker Street, N. Y.

Figure 1. Smith & Wesson No. 1, .22 caliber tip-up revolver advertisement.

Figure 2. Smith & Wesson No. 1
2nd Issue c. 1860.



tion was discontinued in 1882 with total of about 253,000. The larger and more powerful .32 rimfire No. 2 Army belt revolver was introduced in 1861 and discontinued in 1874 with total production around 77,000. Both were extensively used in the Civil War. An additional No. 1 ½ was introduced in 1865 and was also chambered in .32 rimfire which was discontinued in 1892 with total production of over 223,000. The tip-up revolver design was highly successful with over a half million produced by Smith & Wesson. As a result, many imitators appeared – both in America and Europe.

The Manhattan Firearms Manufacturing Company

The Manhattan Firearms Manufacturing Company was also founded in 1856 to take advantage of Colt's expiring revolver patent. They manufactured percussion pepperbox and single-shot pistols as well as Colt-style percussion revolvers. About 1858, Manhattan introduced a rounded-frame tip-up revolver similar to the early Smith & Wesson (Figure 3). About 9,000 were produced.



Figure 3. Manhattan 1st Model copy of the Smith & Wesson No. 1 pistol.

In 1859, Manhattan Firearms patented an extra set of cylinder stop notches which allowed the hammer to rest between cylinders as a safety device. About 1861, that feature was incorporated into their new Second Model copy of the Smith & Wesson No. 1, 2nd Issue with a similar flat frame and octagon barrel. About 8,000 were produced (Figure 3). Interestingly, the Manhattan Firearms Second Model was fitted with a longer cylinder to chamber their proprietary long.22 cartridge version about ten years prior to the introduction of the .22 Long cartridge. The cylinder stop was moved

below the cylinder rather than above as was used earlier. Smith & Wesson continued with a top-mounted cylinder stop.

The Manhattan Second Model was similar, but not identical, to the popular Smith & Wesson, but still infringed on the Rollin White Patent. As with several other makers, Rollin White and Smith & Wesson took legal action. However, Manhattan was not sued directly for patent infringement, but their prosperous distributor Herman Boker of New-York, was sued. A court “stop order” against Boker was issued on October 31, 1862.¹ Although not directly binding on Manhattan, they wisely ceased official production of the .22 tip-up revolver while they openly continued production of percussion Colt copies. However, up to four hundred unmarked tip-up revolvers may have been produced in secret after the 1862 court order.

American Standard Tool Company

In an unexpected move, Manhattan Firearms Manufacturing Company went out of business on November 23rd 1868, but reopened (with the same stockholders) just around the corner as the American Standard Tool Company, and began to market the Manhattan Second Model .22 revolvers and inexpensive “Hero” percussion derringers (Figure 5). Based on serial numbers, and with only a change in marking of the company name, American Standard Tool Company may have produced up to 40,000 tip-up revolvers and about 37,000 Hero pistols.

With the expiration of the Rollin White patent on April 3, 1869, the Smith & Wesson monopoly in the United States on bored through chambers firing rimfire and centerfire cartridges came to an end. American Standard Tool Company was then free to market their cartridge revolvers (Figure 6).

Strangely, American Standard Tool Company made only a single configuration of their tip-up revolver during the life of the company. Many variations of grips, finish and engraving are found, but no long or short barrels are known nor any cartridge other than the Manhattan .22 Long. No experimental or prototype versions have been reported. American Standard Tool Company was only in business about four years (from December 1868 until February 1873). The company survived chaotic economic conditions following the Black Friday gold panic of September 24, 1869, but

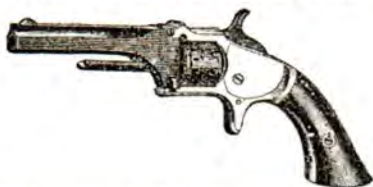


Figure 4 Manhattan Second Model tip-up in .22 Long cartridge, c. 1861.



Figure 5. American Standard Tool Co. "Hero" percussion pistol.

STANDARD REVOLVER, 7 SHOOTER.
Same as the old model Smith & Wesson.



This revolver is a superior weapon, in the following respects:
 The cylinder is longer than of any other 22 caliber revolver, permitting the use, if desired, of the 22 long cartridge, which renders it the most effective 22 caliber revolver made; weighs 12 ounces; 3½ inch barrel. The stop, and the stop spring, are under the cylinder, and are not likely to get out of order. The center-pin extends through the cylinder, so that the cylinder revolves with ease and steadiness.
 If desired, the stop holds the cylinder firmly, with the hammer resting between the cartridges, rendering it safe for the pocket.
 The weight is as light as is consistent with perfect safety, durability and steadiness of aim.

| | |
|---|--------|
| | Price. |
| Plated frame, blue barrel and cylinder, | \$7 50 |
| Full nickel-silver plated, with 100 cartridges..... | 8 50 |

Figure 6 Great Western Gun Works Catalog, 1871. The American Standard Tool Co. Second Model revolver is clearly described and called a "STANDARD" revolver.

surprisingly, in January, 1873, the directors voted to dissolve the company. Less than a month later in February, the stockholders met, voted in agreement, and American Standard Tool Company closed their doors for good. No explanation for the sudden closure of Manhattan Firearms Company or the later closure of The American Standard Tool Company has been found - until now. Recently, by happenstance, this author stumbled upon an archive of original American Standard Tool Company documents located in the New Bedford Whaling Museum in New Bedford, Massachusetts which may now unravel this mystery. To do so, we must return to 1861.

Morse Twist Drill and Machine Company

In October, 1861, Stephen Ambrose Morse (Figure 7) invented the twist drill and began manufacture in his small shop. Until then, holes were drilled with less accurate flat blade drills. He patented his invention in 1863 and incorporated Morse Twist Drill and Machine Company in 1864. Remarkably, the company is still in business nearly 160 years later! Also in 1864, Andrew R. Arnold, superintendent of Manhattan Firearms and formerly of Colt Firearms, invented and patented a machine to manufacture twist drills. His patent was assigned to Manhattan Firearms Company and was later transferred to American Standard Tool Company. Both companies successfully manufactured twist drills and the machines to make them along with other tools and machines. It appears this

was a very profitable effort for both companies.



Figure 7 Stephen A. Morse (1827-1899).

In September 1868, Morse resigned as superintendent from his company citing differences with his Board. In January, 1869, he went to work for the American Standard Tool Company which made a clear change in focus away from firearms and toward the more profitable manufacture of twist drills and related machinery (Figure 8). Certainly, by April, 1869, Morse was officially superintendent of American Standard Tool Co. and the word “firearms” had begun to disappear from the company letterhead and return address (Figure 9).

An 1869 *Scientific American* mentioned “*American Standard Tool Co. show[ed] a case of beautiful Twist Drills, arranged on a revolving platform. These drills are so well and favorably known that they need no praise from us. Any mechanic, who examines them, will pronounce them excellent.*”²

On February 1st, 1870, American Standard Tool Company sued Morse Twist Drill and Machine Co. in the U.S. Circuit Court, District of Massachusetts for patent infringement over Andrew Arnold’s machine to manufacture twist drills (Figure 10). Extensive (and certainly expensive) litigation followed, and on June 29th, Morse Twist Drill and Machine Co. agreed to settle the suit by purchasing the entire tool business (including machines, raw material and inventory) from American Standard Tool Company. By July 1870, Stephen Morse was no longer employed by American Standard Tool Company, yet Morse Twist Drill and Machine Co. filed suit against him. By June 13, 1871, American Standard Tool Company had delivered their entire drill, socket and chuck manufacturing business to Morse Twist Drill and Machine Co. and was out of the profitable tool business.

No mention of the firearms manufacturing business was noted in the archive and must have been dealt with separately. Since the American Standard Tool Company would go out of business about 18 months later, what happened? We need to examine John Marlin’s role in this drama.

American Standard Tool COMPANY,

MANUFACTURERS OF

TWIST DRILLS & SEVEN SHOT REVOLVERS,

(SMITH & WESSON PATTERN IMPROVED.)

and Dealers in

DRILL CHUCKS, &c.,

COR. HIGH & ORANGE STREETS,

NEWARK, N. J.

S. C. MOREHOUSE, Sec’y.

F. H. SMITH, Pres’t.



Having purchased the machinery, patents, and entire business of the late Manhattan Fire Arms Co., are manufacturing Twist Drills, varying in sizes by 32nds from 3-100 of an inch to 3 inches in diameter, with sockets to match; and having secured the services of S. A. Morse, late Superintendent of the Morse Twist Drill Company, and workmen of well known skill in the line, we are assured that, with the combined experience of the only two establishments in the country for the manufacture of the above tools, our products will be of superior quality.

The steel used in the manufacture of our tools is from the best English makers, made especially for the purpose and fully warranted, which will enable us to guarantee satisfaction in all cases to our customers.

We are also manufacturing the

Smith & Wesson Seven Shot Revolver,

(IMPROVED.)

similar to those formerly manufactured by the Manhattan Fire Arms Co.

Circulars showing sizes and prices sent on application.

Figure 8 American Standard Tool Co. advertisement ca. 1870.



Figure 9 American Standard Tool Company letterhead and return address on an envelope, April 1869.

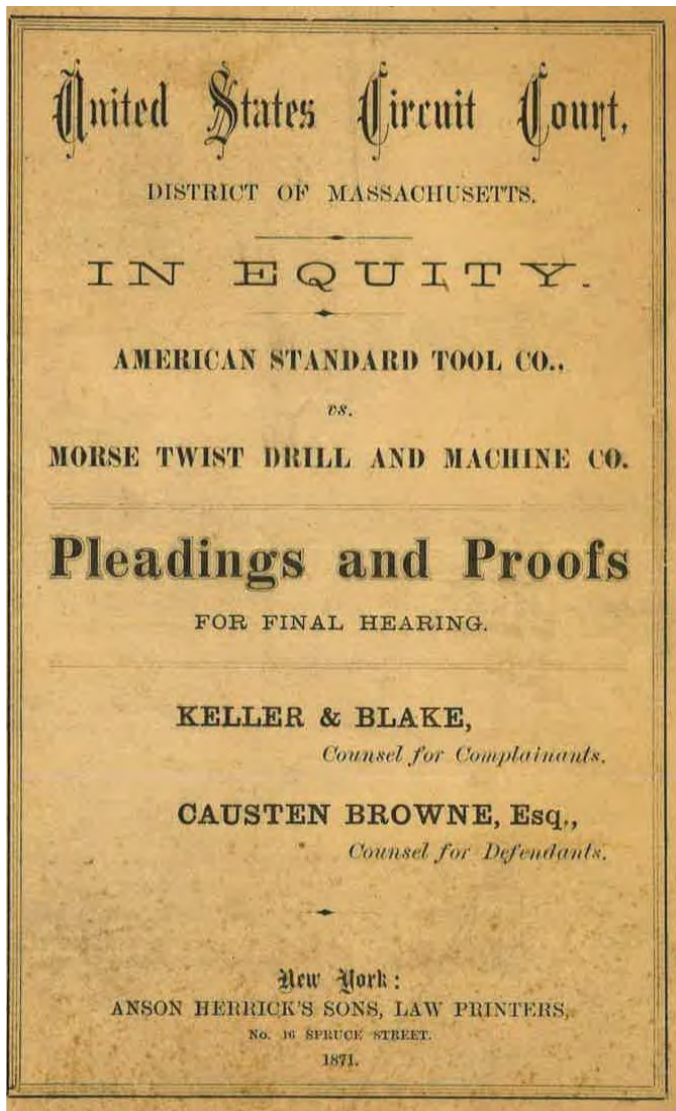
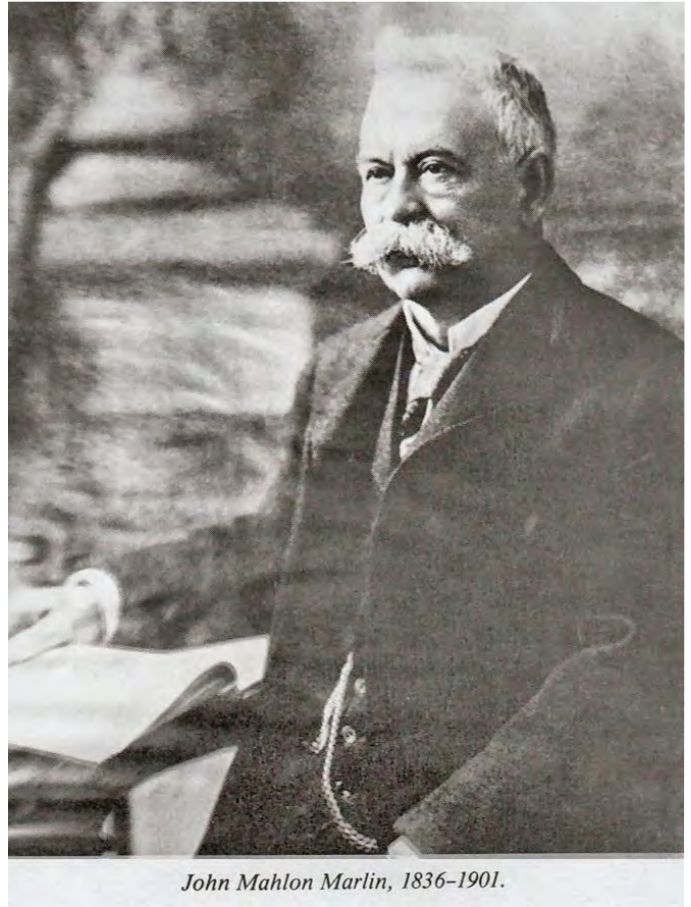


Figure 10. American Standard Tool Company vs. Morse Twist Drill and Machine Co., 1871.

Enter John M. Marlin

John M. Marlin began manufacturing handguns as early as 1863 and is listed as a “Pistol Maker” in city business directories during the 1860s. He began with a single-shot vest pocket derringer and continued with later derringer models called the “O.K.,” “Stone-

wall,” “Never Miss” and “Victor”. A line of solid frame revolvers was introduced in 1870 called the “O.K.” and “Little Joker”.



John Mahlon Marlin, 1836-1901.

Figure 11. John Mahlon Marlin.

AETNA ARMS CO.

Author John Laidaker seemed certain that Marlin had worked for (or very closely with) Manhattan Firearms and American Standard Tool. After Manhattan halted tip-up revolver production, another²² tip-up appeared on the market which was marked “AETNA ARMS CO. NEW YORK” (Figure 12). It is very similar to the Manhattan/American Standard Tool Company revolver and closely resembles the early Marlin design. It differs from the Manhattan by having Marlin characteristics with only seven cylinder stops, a



Figure 12. AETNA ARMS CO. similar to the Manhattan Second Model and Marlin Tip-Up revolvers. A possible Marlin product.



Figure 13. American Standard Tool .22 revolver with 14 stops. Nearly identical to the Manhattan Second Model.

bird-head grip frame and a simple round grip screw escutcheon. The .22 Short cylinder wasn't a feature of Manhattan or Marlin. Researchers have estimated manufacture in the 1860s, but no company by this name has been located and speculate it could be an unmarked Marlin product with a spurious name to deflect Rollin White and Smith & Wesson attention.

John Marlin and The American Standard Tool Company.

In his book, Marlin Historian Bill Brophy speculated that shortly before American Standard Tool Company went out of business, Marlin acquired the rights and machinery for the revolver.³ Mr. Brophy also noted that American Standard Tool Company parts and Marlin parts were so nearly interchangeable, that it could not be explained by mere coincidence. Based on dimensions, it's interesting to note that if leftover parts were used, an American Standard Tool Company .22 barrel could have been bored out to .30 caliber and installed on a XXX STANDARD 1872 frame with a five-shot .30 caliber cylinder. Marlin .22 and .30 frames appear identical.

The document archive of Morse Twist Drill and Machine Company contains hundreds of pages of well-preserved, high-quality documents which form a fantastic historic resource.⁴ By contrast, no documents or factory records have been located from this time period which mention Marlin's connection to Manhattan Firearms Manufacturing Company or American Standard Tool Company and no document mentions the disposal of American Standard Tool Co.'s firearm business. As a result, we must rely on hints, clues and scant empirical evidence to reconstruct these events which took place some 150 years ago.

In 1872, John Marlin suddenly introduced a new revolver design which was a radical departure from his previous designs. This new (for him) tip-up design was nearly identical to the Manhattan / American Standard Tool Company design, except for a few details. The Marlin was configured with a bird-head grip frame, half as many cylinder stops, a different grip escutcheon shape, larger (.30 rimfire) caliber, narrower barrel latch and a small round sideplate which only later included the Marlin Patent lock work mechanism.

The American Standard Tool Company revolver was previously advertised as a "Standard Revolver" (Figure 6). Marlin advertised his new revolvers as the "NEW STANDARD Revolver" which implies a connection between the two. After years of names such as "OK", "NEVER MISS" and "Little Joker", Marlin abruptly changed how his handgun models were named. The new model names were "XXX STANDARD 1872" (.30 rimfire) and "XX STANDARD 1873" (.22 rimfire), followed by "No 32 STANDARD 1875" (.32 rimfire) and "38 Standard 1878" (.38 centerfire)

American Standard Tool Company and J. M. Marlin Transition Revolver

Recently, the author acquired a unique transition revolver marked "XX STANDARD 1873" (Marlin's model designation) with no maker marks but made in the American Standard Tool Company configuration with some Marlin details (Figure 14). No other examples have been reported to date. Note the oval American Standard Tool Company sideplate shape and square grip frame but with Marlin's single cylinder stop per cylinder, different grip escutcheon and model designation. No other Marlin tip-up revolver is known with a square grip. This anomalous "Missing Link" certainly appears to be a Marlin product fabricated from American Standard



Figure 14. "XX STANDARD 1873" (Marlin Model designation) A "Missing Link" transition revolver in .22 Long with no maker marks. Serial number 273 under the grips. Top of the barrel marking.

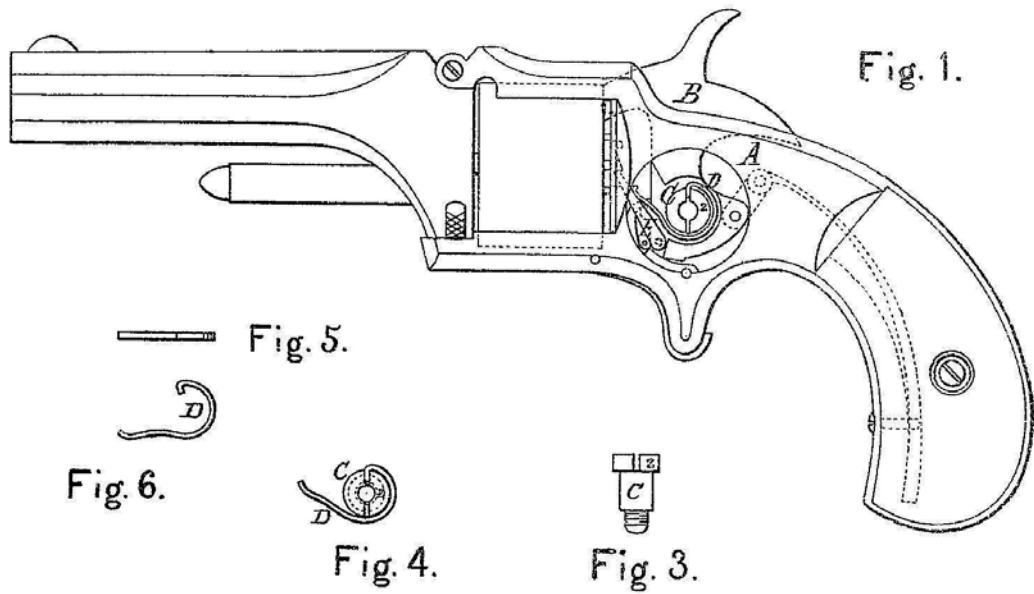


Figure 15. Marlin patent number 140,516 for internal mechanism with round sideplate, applied on May 10, 1873 and granted on July 1, 1873. Note the barrel/cylinder is identical to The American Standard Tool Company revolver.

Tool Company parts. It now seems conclusive that Marlin acquired and used the rights, parts and machinery for their revolvers shortly before (or just after) American Standard Tool Company went out of business

Although Marlin designated his first model tip-up with the year 1872, he didn't apply for a patent on his new internal lock work mechanism until May 10, 1873. Even so, in his patent drawing,

he chose to illustrate the obsolescent Manhattan/American Standard Tool Company barrel/cylinder design but with a new bird-head grip frame to illustrate his new mechanism rather than a more modern design with a round barrel as was being produced by Smith & Wesson (Figure 15).



Figure 16. Marlin XXX STANDARD 1872. Early First Variation. Note seven cylinder stops, round grip escutcheon and small round sideplate.



Figure 17. Marlin XXX Standard (.30 rimfire) Third Variation. Round barrel with fluted cylinder.



Figure 18. Smith & Wesson No. 1, 3rd Issue. Round barrel with fluted cylinder

Marlin's first variation revolvers were produced with an octagon barrel and unfluted cylinder, essentially identical to the American Standard Tool Company barrel/cylinder configuration and also to the patent drawing (Figure 16). This may well be explained by the use of leftover parts acquired from the American Standard Tool Company. Soon, however, production changed to a round barrel second variation, followed by a third variation with a fluted cylinder and round barrel (Figure 17) which more closely resembled

the popular Smith & Wesson No. 1, 3rd Issue round-barrel design introduced in 1868 (Figure 18).

Just as Marlin began production and sale of his "New Standard" revolvers, American Standard Tool Company ceased operations, dissolved their corporation and permanently went out of business in 1873. The rest is history. Marlin permanently discontinued handgun production in 1899.

General References

- Brophy, William S. *Marlin Firearms: a History of the Guns and the Company That Made Them*. Harrisburg, PA, Stackpole Books, 1989.
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- Nutter, Waldo E. *Manhattan Firearms*. Harrisburg, PA, Stackpole Co., 1958.
- Nutter, Waldo E. "Manhattan Firearms Manufacturing Company", *American Society of Arms Collectors, Bulletin* Number 26 (Fall, 1972)

Endnotes

- ¹ Nutter, Waldo E. *Manhattan Firearms*. Harrisburg, PA, Stackpole Co., 1958. page 141
- ² "The Exhibition of the American Institute" in *Scientific American* 21, 17, 265-266 (October 1869)
- ³ Brophy, William S. *Marlin Firearms: a History of the Guns and the Company That Made Them*. Harrisburg, PA, Stackpole Books, 1989., pages 105-118.
- ⁴ American Standard Tool Co. legal documents, Morse Twist Drill and Machine Company Document Archive, New Bedford Whaling Museum, New Bedford, Massachusetts, 02740

