

Manhattan Firearms Manufacturing Co.

by Waldo E. Nutter



The coming of the year 1857 was an important event for the arms makers of the United States and was viewed with reactions which ranged from concern to eagerness. For Colt's Patent Firearms Mfg. Co., 1857 meant the end of the period of protection afforded by Samuel Colt's original patent of 1836, a period of twenty-one years during which the Colt Company exercised a virtual monopoly in the field of revolving, multi-chambered handguns.

The monopoly had been established and maintained by the soundness of the patent, by the excellence of Colt's products and by the aggressiveness of Samuel Colt in the development and expansion of his business.

Colt's aggressiveness was evidenced in his two attempts to have the life of his valuable patent extended. His first effort for an extension, in 1850, was successful and he was granted an extension of seven years. The second application for an extension was made in 1857 and, although unsuccessful, the negation of this effort was not to become clear until 1858. Thus, the approaching termination of its monopolizing position in the arms field must have been regarded with appropriate concern by the Colt Company. Any similar feeling must have been conspicuously absent among Colt's competitors and competitors-to-be. For several years, the outstanding success of the Colt Company had overshadowed their efforts to circumvent the Colt patent and gain any substantial portion of the widening market for handguns.

Only one of Colt's competitors, Massachusetts Arms Company, had dared to challenge the validity of Colt's patent and had received a thorough defeat in a court action. This important patent case came to trial on June 30, 1851, and probably held the deep interest of most of the arms makers of that time. The decision of the court, for the Colt Co., served to restrict completely the activities of any other would-be infringers during the remainder of the life of the patent. Thus, the coming of the year of 1857 was

awaited with much eagerness by a group of competitors-to-be and, while their entry into significant competition with Colt was to be delayed for almost a year, plans were laid with much enthusiasm and hope. Included in this group of planners was one of the newcomers to the field of arms making, The Manhattan Firearms Manufacturing Company of New York.

Manhattan Firearms Manufacturing Company was not destined to become a really important factor in the production and distribution of handguns. Although the Company was well into production of its .36 caliber revolvers by the time the war between the States flared into awesome proportions, creating an immediate demand for satisfactory sidearms of almost any type, Manhattan Firearms was not the recipient of any contracts for government small arms. Instead, Manhattan became a supplier of the civilian market, either by choice or by necessity.

Despite the small stature of the Manhattan Company as a producer of firearms, we believe the story of its beginning, its progress and its eventual termination to be worthy of the telling, both as a contemporary of Colt, Remington, Whitney, Smith & Wesson, et al, and as a business venture in one of the most interesting periods of American industry.

I. NEW YORK

"Manhattan Fire Arms Manufacturing Company" was formed in New York City, New York, on the 26th day of May, 1855, by a group of business men from the cities of New York and Newark, N. J., (three from New York and fifteen from Newark, New Jersey). The articles of incorporation stated that: "(1) The Company shall continue in existence for the term of twenty years; (2) The capital stock of said Company shall be forty thousand dollars, divided into four hundred shares of one hundred dollars each; (3) The object and purpose of the Company is to manufacture and deal in fire arms, ammunition, and other articles pertaining to the fire arms business; also to secure improvements in fire arms and machinery for manufacturing the same." Frederick H. Smith, of Newark, New Jersey and owner of 40 shares, was elected President of the Company and Albert Beach (a non-stock holder) became Secretary.

The 1855-56 edition of Trow's N. Y. City Directory lists the Company's address as "205 Broadway"; in the 1856-57 edition, the address is given as "163 Fulton Street"; in the 1857-58 edition the address is given as "17 Maiden Lane." This latter listing terminated the listings for Manhattan in Trow's New York City Directories. However, from another source, The New York State Directory for 1859, under Gun & Pistol Makers, we found "Manhattan Fire Arms Mfg. Co., 50 Cliff Street." This is a significant address inasmuch as it was also the address of Herman Boker

& Co: "Importers of Guns & Pistols." The significance of the common address and the implied connection between Manhattan and Herman Boker & Company will be set forth in a later section.

II. NORWICH

In Ray Riling's "GUNS & SHOOTING" we found the following citation.

Manhattan Firearms Mfg. Co.

vs

Thomas K. Bacon

New London County Supreme Court of Errors

The document contains considerable material relating to the early years of Manhattan's existence, the first of which relates to a reduction in the capital account of the Company on April 29, 1857, when, by action of the stock holders, the capital of the Company was diminished from \$40,000 to \$20,000, indicating the conservative policies of the Company. As of this date, Albert Beach is identified as Secretary of the Company and Beach was to play an important role in the Company's affairs in the following 16 years.

II. NORWICH (The Early Arms)

At this point, in the details of the lawsuit of Manhattan Firearms Mfg. Co. vs Thomas K. Bacon, some interesting facts relating to the Manhattan Company are as follows: "That on the 1st day of September, 1857, and for some time prior thereto, they had been engaged in the manufacture of fire arms of various kinds, particularly pistols, at said Norwich; that prior to said first day of September, 1857, one Thomas K. Bacon, of said Norwich, had been making arrangements to engage in the same line of business, and had contracted sundry liabilities thereto, and that, wishing to extricate himself from said liabilities, and to engage in business in the employ of the petitioners, on said first day of September 1857, he entered into an agreement with the petitioners that: "I (Bacon) hereby covenant and agree to and with said Company, that I will not engage, or be in any way concerned, in the manufacture or sale, or in any way connected with dealing in firearms of any kind whatever, during twenty years from this date, provided said company allows, as another consideration, to make for them, at the prices annexed, all that they use of the following parts of pistols:

Barrels for 2" single pistols	5 cents each
Barrels for 3" single pistols	6½ cents each
Barrels for 4" single pistols	8½ cents each

(See Figure 1)

Barrels for 5" single pistols	10½ cents each
Barrels for 6" single pistols	12½ cents each

(See Figure 2)

Barrels for 3 bbl. revolvers	17 cents each
Barrels for 5 bbl. revolvers	23 cents each
Barrels for 3" – 6 bbl. revolvers	25 cents each

(See Figure 3)

Barrels for 4" – 6 bbl. revolvers	30 cents each
Barrels for 5" – 6 bbl. revolvers	40 cents each

(See Figure 4)

The 3" – 6 bbl. revolver in Figure 3 may not have been made by Bacon, a/c crude engraving and stamping between flutes of barrel instead of on hammer.

The Contract continues:

"If at any time I relinquish the making of the parts of pistols at the prices annexed, as heretofore mentioned, then the Manhattan Fire Arms Mfg. Co. may employ any others to make such parts without being liable to me in any damages therefor, but in such case I shall then and therefor be prohibited, as heretofore mentioned, from engaging in making or selling fire arms. It is understood that if the company cannot supply me with work sufficient to employ my time and that of three boys, in making the kinds of barrels mentioned, then I shall have the preference, over any one else, at same price, in making barrels or cylinders for any other kinds of pistols the company may then require.

It is understood that the foregoing obligations are binding upon T. K. Bacon only so long as the Manhattan Fire Arms Manufacturing Company, or its successor, remains in business."

Bacon was in the process of forming Bacon Manufacturing Company (in which he held only 10% of the stock) as of November 9, 1858. Thus, Bacon was associated with Manhattan Firearms Manufacturing Company for, perhaps 14 months. The company's plant was located at 6 Central Wharf Street and Bacon is shown as "Superintendent, 6 Central Wharf Street" – this information being shown in Boyd's Norwich, Conn. Directory for 1857.

Undoubtedly, Thomas Bacon made a substantial contribution to the development and manufacture of Manhattan's Early Arms and to the early development of their .31 cal. sideplate pistol. It is regrettable that the clash of personalities and other reasons, prevented a longer tenure for Bacon in the manufacture of Manhattan's products.

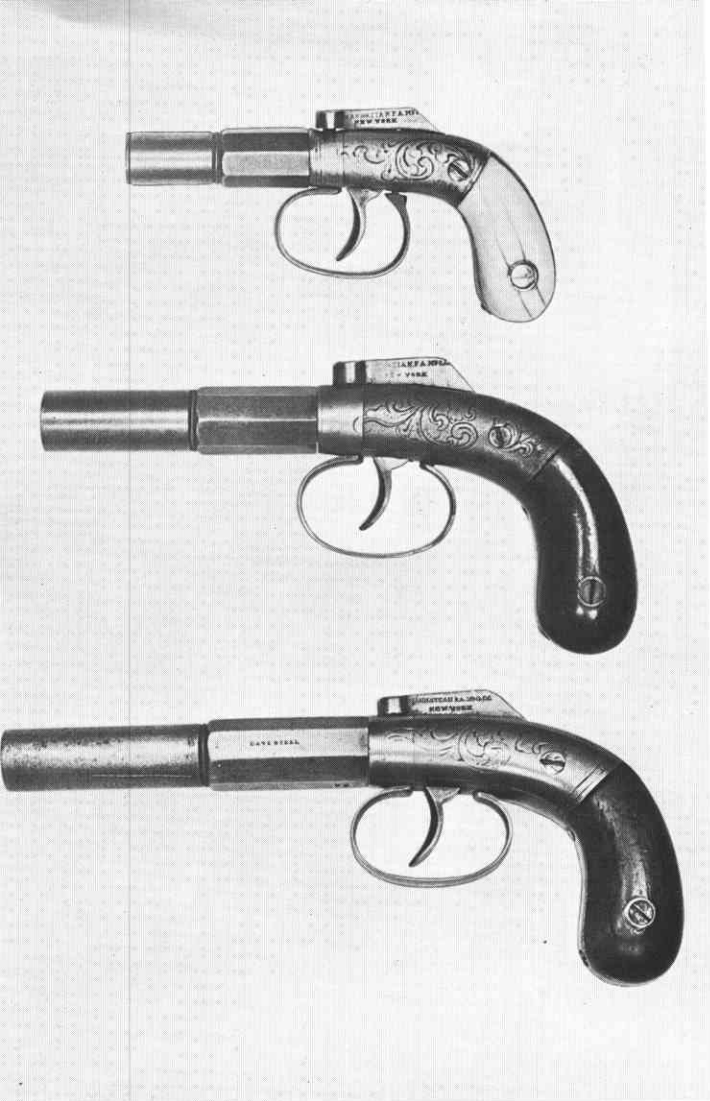


Figure 1
Early Norwich Pistols in .31, .34,
and .36 Calibers



Figure 3
Pepperboxes, 6, 5, and 3 shot types

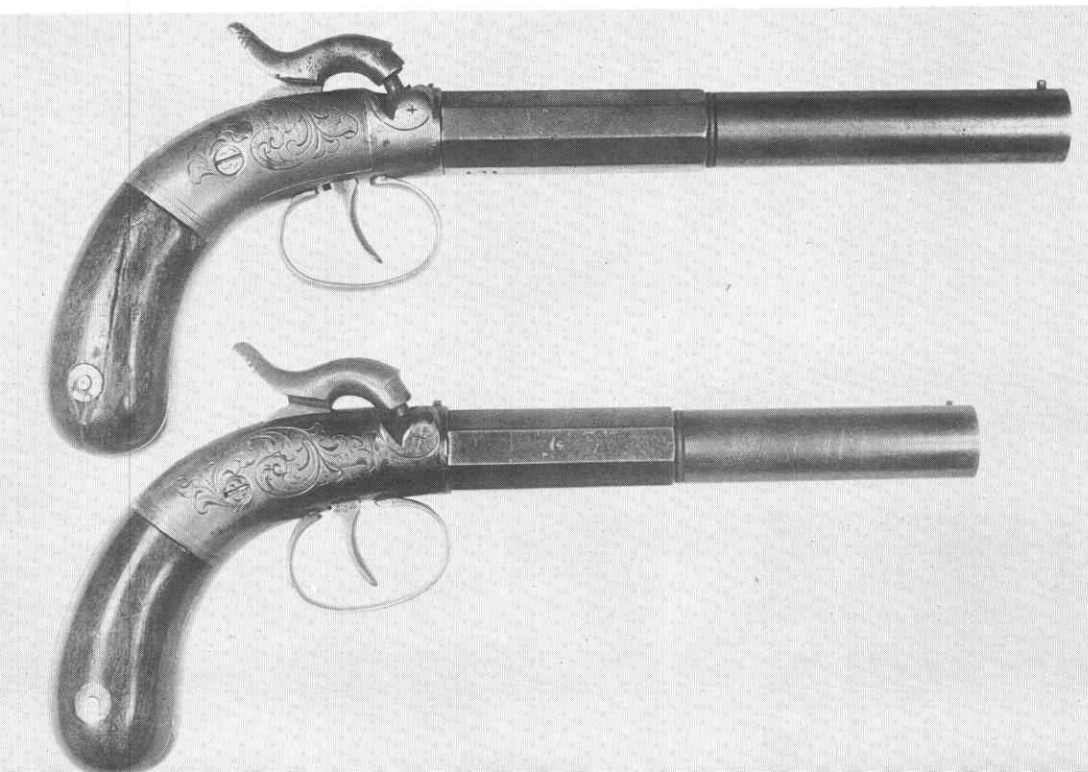


Figure 2
.36 Caliber Pistols

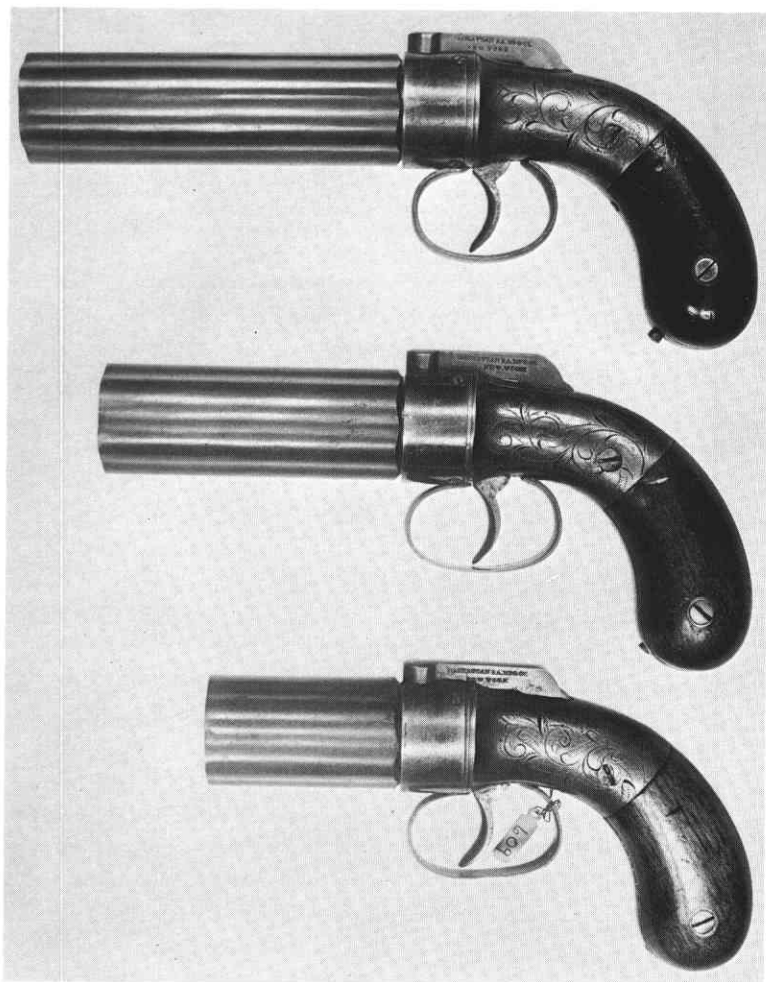


Figure 6
Rebety Patent

A. REBETÉY.
Manufacture of Fire Arms.
No. 23,944. Patented May 10, 1859.

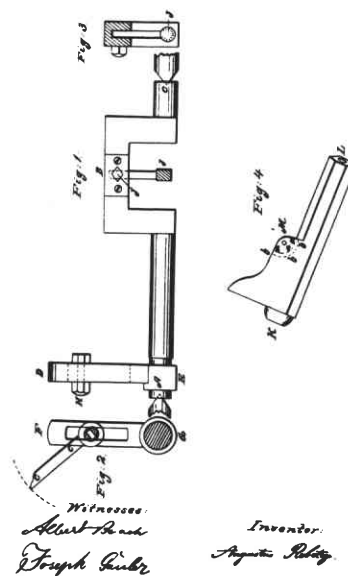


Figure 5
(Above) Rebety Patent

Figure 4
(Left) .31 Caliber Pepperboxes

A. REBETÉY.
Tools for Manufacturing Pistols.
No. 23,990. Patented May 10, 1859.

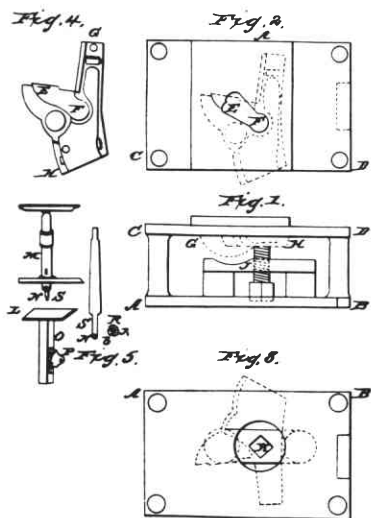
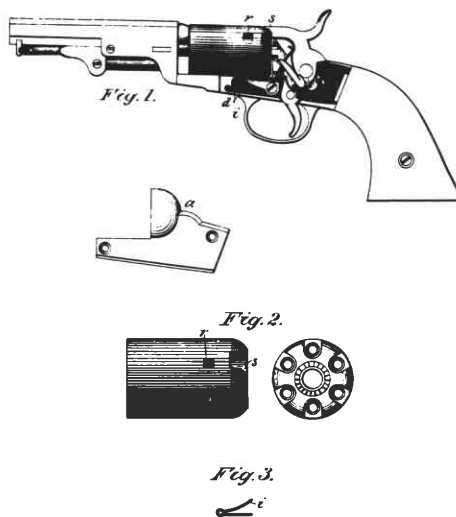


Figure 7
Gruler Patent

J. GRULER & A. REBETÉY.
REVOLVING FIRE ARM.
No. 26,641. Patented Dec. 27, 1859.



Witnesses.

Inventor.



Figure 8
Experimental .31 Caliber 5 shot, 6-inch barrel



III. THE MANHATTAN PATENTS

It is deemed advisable to set out the information relating to the Manhattan Patents at this point, in order that we may clear the way for a better understanding of the development and manufacture of Manhattan's products which came after the manufacture of the Early Arms in Norwich.

There are three patentable developments which were evolved in their plant in Norwich, Connecticut.

The first two patents related to machine tools and machining operations, as follows:

Figure 5: Augustus Rebetey dated May 10, 1859, for "Tool for Manufacture of Firearms" and related to cutting "an eccentric shaped slot in the barrel of a pistol" specifically in the barrel lug and at the hinge point of the loading lever; and

Figure 6: Augustus Rebetey, also dated May 10, 1859 for "Tools for Manufacturing Pistols" and related to machining operations on the side plate of Manhattan's .31 caliber revolvers. (Rebetey was an employee of Manhattan and his abilities were reflected in each of the three patentable developments mentioned herein);

Figure 9
Kittredge Patent

B. KITTREDGE.
Revolver.

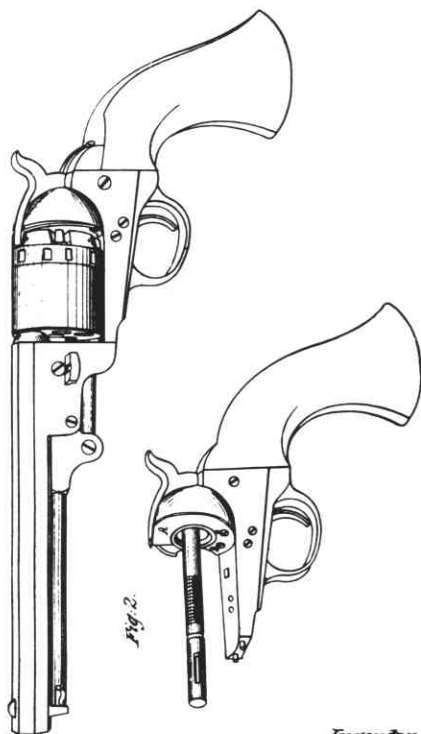
No. 41,848.

Patented Mar. 8, 1864.

Figure 7: Joseph Gruler and Augustus Rebetey, dated December 27, 1859. (Gruler, like Rebetey, was also an employee of Manhattan's Mechanical Department) and related to the intermediate cylinder stops located on the outside of the cylinders of Manhattan's revolvers, for the purpose of holding a loaded cylinder in a safe position at any one of the chambers of the cylinder.

This third patent was a very sound and useful development and was, in my opinion, one of the best patents of the period as they related to firearms. However, the Company had a difficult time in convincing the Patent Office that the innovation could or should be patented. The filing date of the original application was on March 14, 1859, and included a claim relating to Manhattan's side-plate type of construction (Figure 5) for revolvers (which was ultimately denied) and the claim for the use of intermediary cylinder stops for purposes of safety. The patent was cleared for issuance, on the basis of the latter claim, after a hearing before the full Board of the Patent Examiners, on November 16, 1859 and the patent was finally issued on December 27, 1859. Thus a period of nine months elapsed between filing and issuance.

Two other items of interest came out of this period while the patent application was being held up by the Patent Office, Manhattan moved its operations from Norwich, Conn., to Newark, New Jersey on or about March 29, 1859. Manhattan did not hold up



Witnesses
A. J. Summit
Richard F. Adams

Inventor:
B. Kittredge

production of its .31 caliber and .36 caliber revolvers while waiting for the patent to be issued; instead of waiting, Manhattan produced approximately 1000 of its .31 caliber revolvers and approximately 4200 of its .36 caliber revolvers, during this period.

In addition to the three patents which have been discussed, Manhattan had the use of a fourth patent issued to Ben Kittredge on March 8, 1864. Kittredge's patent related to a metal shield, or plate which was fastened to the front of the recoil shield of a revolver and extended upward and around the recoil shield to a point about 1/16" beyond the opening for the hammer, at the rear of the recoil shield, so as to completely cover the opening for the fall of the hammer. The single claim made for the patent was: "A metal shield constructed substantially as described and placed between the cock and nipple to throw the fire laterally from the nipple." Usage of Kittredge's patent was confined to Manhattan's .36-cal. revolvers but was not used on all guns in this category.

IV. NORWICH & NEWARK: .31 CAL. MANHATTAN REVOLVERS

Although Manhattan did not file for the patent claims relating to their removable side-plate revolver (this type of construction was to be limited to the .31 caliber model) until March of 1859, it is clearly evident that development of this model was started no later than 1858 and, possibly, was begun during the latter months of 1857. A reference to a possible starting of the work during the latter part of 1857 is found in the Manhattan-Bacon contract, dated September 1, 1857, as follows:

"then I (Bacon) shall have the preference, over anyone else, at the same price, in making barrels or cylinders for any other kinds of pistols the company may then require."

Certainly, this language may be construed to mean that Manhattan and Bacon were looking forward to the manufacture of *pistols with cylinders* as early as September 1, 1857.

In view of the available facts, I estimate that the development work was begun in the early part of 1858; further, that development of the new revolver was well advanced by September 11, 1858, when Bacon disavowed his agreement with Manhattan. Substantiation of this point is found in the details of the lawsuit as follows: "This corporation (Bacon Mfg. Co.) before the 4th day of November, 1858, commenced the manufacture of the same kind of pistols that the petitioners (Manhattan Firearms Mfg. Co.) were making at the time the respondent (Bacon) was in their employment, and continue to manufacture and sell such pistols." We have not seen any pepper boxes or single-shot pistols made by Bacon Mfg. Co. We are positive that Bacon Mfg. Co. did make a .31 caliber revolver with removable side plate which resembles closely the .31 caliber Manhattan revolver. Therefore, the reference to "the same kind of pistols"

must have meant Manhattan's .31 caliber revolvers and the manufacturing processes must have been well underway when Bacon took his leave on September 11, 1858.

The information introduced thus far indicates that credit for the development of Manhattan's .31 caliber revolver must be divided between Thomas K. Bacon, Joseph Gruler and Augustus Rebetey. While the known records do not credit Bacon with any part in this development, consideration must be given to the fact that Bacon was associated with the Company during the period of development and he was too competent in the making of arms to have failed in contributing to the new revolver, even though the extent of his contribution must remain a matter of conjecture. Gruler's contribution is given some measure through the filing of a caveat for the removable side-plate in October, 1858. Rebetey's contribution is definitely measurable in the development of tools for the new revolver plus his indicated invention of the principle of the intermediate cylinder stops. Thus, we may assume that at some time or other during 1858, Bacon, Gruler and Rebetey were working on the development of Manhattan's .31-caliber revolver, although not necessarily on a team basis. There is some evidence that Bacon's ideas for certain details of the revolver may have differed from Gruler's and Rebetey's; at least, there is evidence of two separate lines of thought in these details.

In the several photos we see examples of early specimens of Manhattan's Series I, .31-caliber revolvers, some photographic comparisons of Bacon and Nepperhan revolvers with Manhattan's revolvers and an interesting study: "Case of the Wandering Engraving Die"

COMPARISON OF MANHATTAN AND BACON .31 CALIBER REVOLVERS (Figure 10)

Upper: MANHATTAN: 5-SHOT, 4" Barrel #44
Lower: BACON: 5 SHOT, 4" Barrel #178

Illustrating the close resemblance of the copy made by Bacon Manufacturing Co. to the original by Manhattan, including the style of engraving on the frames. The pattern of engraving on Manhattan revolvers was usually more ornate than was applied to Bacon revolvers. It is to be noted that the principal difference between these two guns is that Manhattan's loading lever used a catch and latch combination, while Bacon used a ball-type loading lever latch.

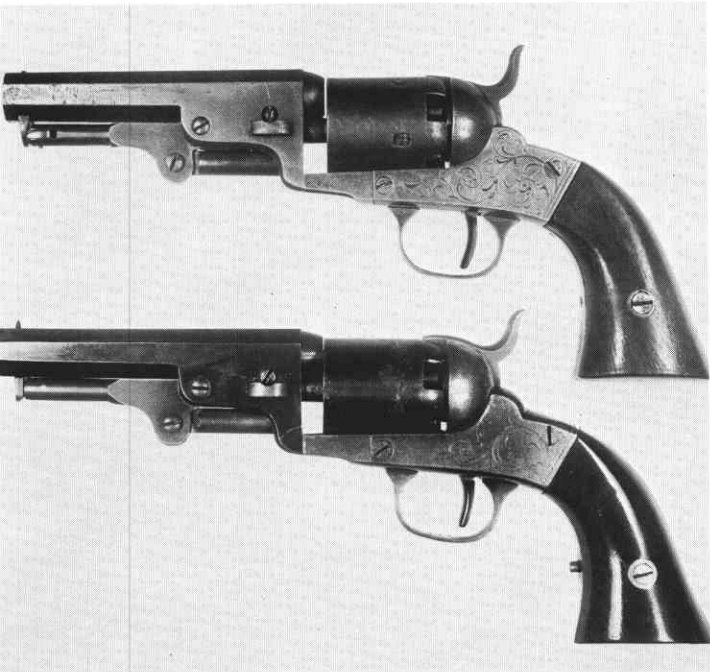


Figure 10
Manhattan and Bacon. Comparison of
.31 Caliber revolvers.



Figure 11
.31 Caliber Manhattan Development Models



Figure 12
.31 Caliber Manhattan Revolvers, Series I

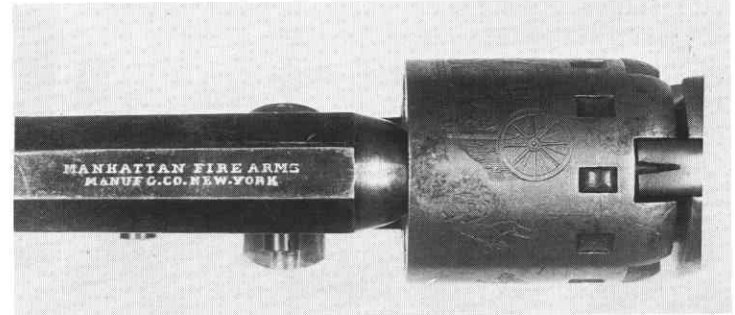
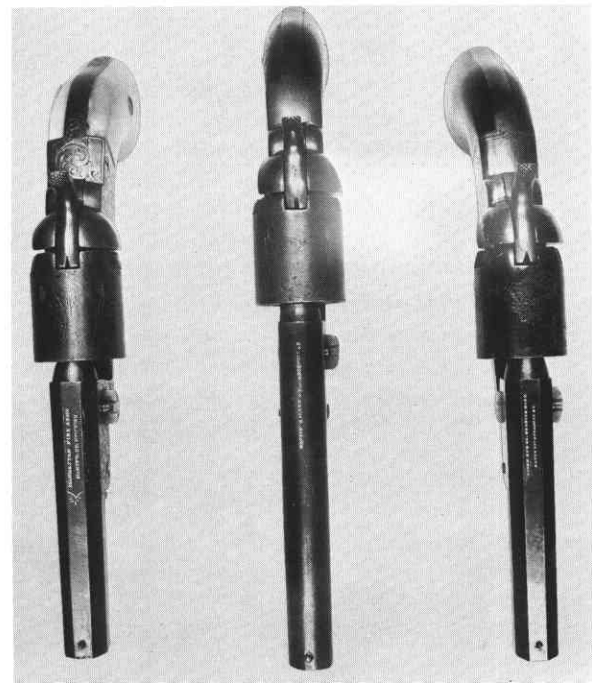


Figure 13
.31 Caliber Manhattan Series I barrel signing

Figure 14
Same cylinder engraving
on three brands



DEVELOPMENT MODELS .31 CALIBER
MANHATTAN REVOLVER (Figure 11)

Upper: 5-SHOT, 4" Barrel, #37 (10) STOPS
PLAIN CYLINDER
Lower: 5-SHOT, 4" Barrel, #117
Cylinder: 5 Panels of engraving,
(5) stops, Ball-type loading lever latch

Manhattan made liberal use of engraving and ivory grips in ornamenting the early examples in their line of .31 caliber revolvers. Despite the higher serial number, the gun shown in the middle of Figure 12 may have been made up before #37 and, due to its indicated connection with Bacon, is considered to be a definite rarity.

SERIES I .31 CALIBER MANHATTAN REVOLVERS
(Figures 12 & 13)

Top: 5-SHOT, 6" BARREL, #50
Middle: 5-SHOT, 5" BARREL, #23
Lower: 5-SHOT, 4" BARREL, #411

The first of three models of revolvers manufactured by the company, approximately 900 to 1000 of the Series I .31 caliber revolvers were produced during 1858-59. The gun shown at the top of Figure 12 is an example of one of several variations in this series; frame, back-strap and trigger-guard lack the usual ornamentation of engraving and grips were enlarged by means of an extension attached to the butt. The enlarged grip became a standard feature of the Series II .31 caliber revolvers.

NOTE: Cylinder of each gun has (10) stops
Cylinders of the middle and lower pistols
have stagecoach holdup scene

"The mode of the barrel signing is one of the distinguishing features of the revolvers in this series. The signing is unlike any other used in identifying Manhattan's arms—and is the rarest to be found in the revolver categories."

"THE CASE OF THE WANDERING ENGRAVING DIE"
(Figure 14)

Top: MANHATTAN: 5-SHOT, 4" BARREL #117
Middle: HOPKINS & ALLEN: 5-SHOT, 5" BARREL
#796 (From the collection of Sam E. Smith)
Lower: BACON: 5-SHOT, 4" BARREL, #178

Depicting a rare circumstance, this figure shows application of the same engraving die to the cylinders of revolvers produced by three different arms makers. Progressive usage appears to have been: (1) Manhattan Fire Arms Mfg. Co., (2) Bacon Manufacturing Co. and (3) Hopkins & Allen Mfg. Co. Signing on the barrel of the Bacon revolver "Bacon Mfg. Co. Norwich, Conn.—Depot 297 Broadway N. Y." may be quite rare. Usual signing for this model is "Bacon Mfg. Co.—Norwich, Conn." in two lines.

Produced in Yonkers, N.Y., the Nepperhan revolver

featured side-plate construction and a lock mechanism similar to Manhattan's .31 caliber revolver. Dissimilar features are non-integral trigger-guard of brass, bearing-wheel on hammer and location of rear side-plate screw. (Figure 15—5 Shot 4¼" Barrel, Serial #4356)

Summing up on the Series I .31 caliber Manhattan revolvers, the features which are found on the guns in this series are as follows:

1. Five-shot cylinder, with ten cylinder stops.
2. Brass post-type front sight. Rear sight, a V notch filed in top of hammer.
3. Small trigger guard
4. Small-size grips (same dimensions as found on the experimental model)
5. Two-line New York address
6. No Patent date on frame

Based upon our survey of serial numbers in Series I, we estimate that the quantity produced in Series I ranged between 900 and 1000 guns, beginning with Serial #1. Further, that all of the revolvers in Series I were produced prior to January 30, 1860.

The Series II, .31-caliber Manhattan revolvers followed immediately after completion of the Series I .31-caliber revolvers and it is my opinion that most of the Series II guns, if not all of them, were produced after January 1, 1860, in the Manhattan Company's plant in Newark, N.J.

The characteristics of the .31-caliber SERIES II, revolvers are these:

1. Six-shot cylinder, with twelve cylinder stops.
2. Blade-type front sight of German silver; rear sight a V-notch filed in top of hammer
3. Enlarged trigger guard
4. Larger size grips
5. One-line New York address on barrel
6. Patent date stamping (Dec. 27, 1859) located on bottom of frame, forward of trigger-guard.

Three examples of the .31-caliber Series II revolvers are shown in Figure 16:

Top: SIX-SHOT, SIX-INCH BARREL, #1824
Middle: SIX-SHOT, FIVE-INCH BARREL, #1175
Bottom: SIX-SHOT, FOUR-INCH BARREL, #3808

The one-line New York address is shown in Figure 17.

The one-line New York signing appeared on 3600 to 3800 .31-caliber revolvers in SERIES II and may have set the pattern for a similar signing used on the Series I and Series II .36-Caliber revolvers.

The design and production of the .31-caliber revolver represented the whole of Manhattan's contribution to the field of arms invention. It was also a strong and successful effort by Manhattan to gain entrance to a very competitive market. This good and graceful arm served an important purpose in enhancing the company's position in the arms making market and without it, the story of Manhattan would not have been worth the telling.

Figure 15
Nepperhan Copy of Manhattan



Figure 17
Manhattan Series II Signing

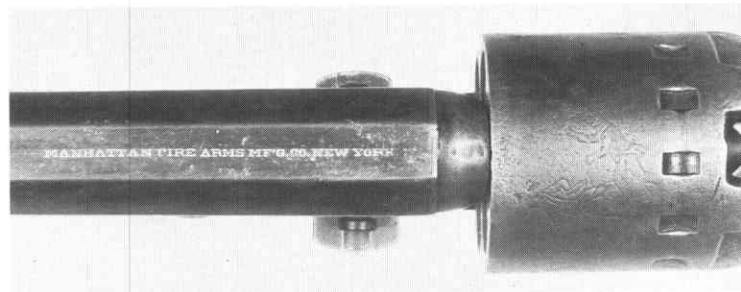


Figure 18
London Pistol Co. Signing

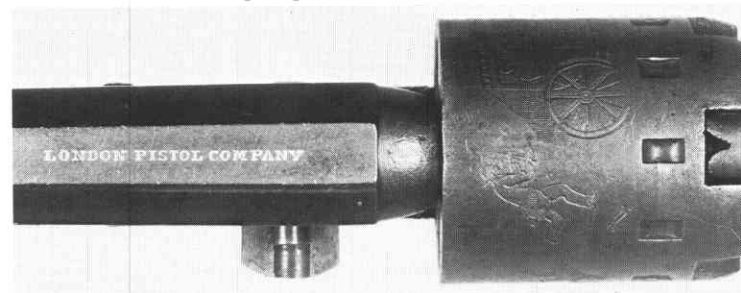


Figure 19
London Pistol Co., .31 Caliber



Figure 16
Series II Manhattan .31 Caliber

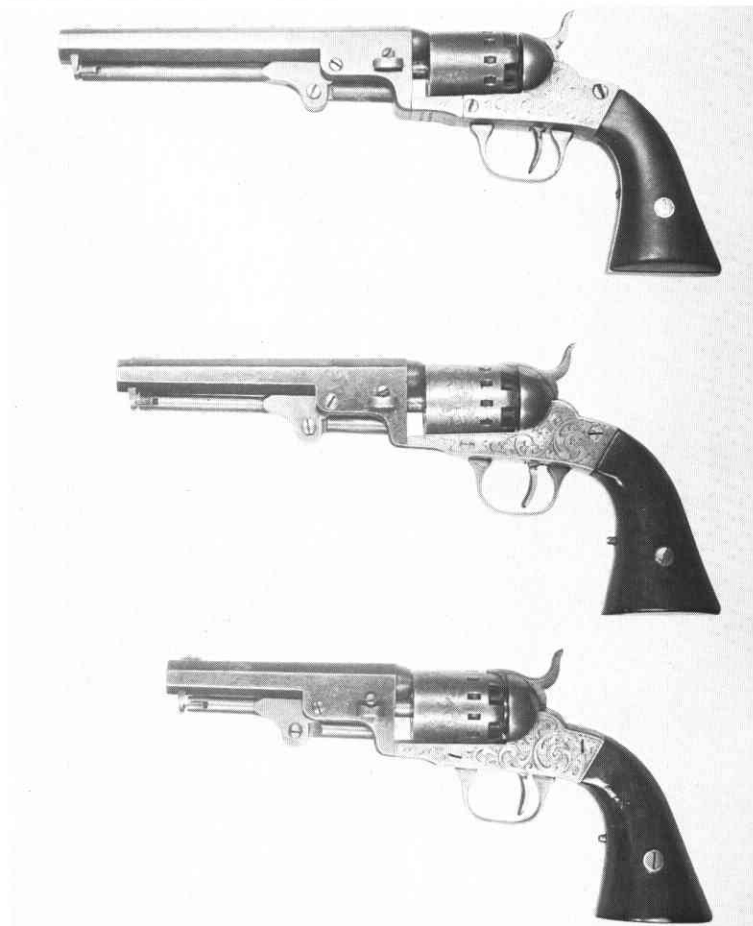
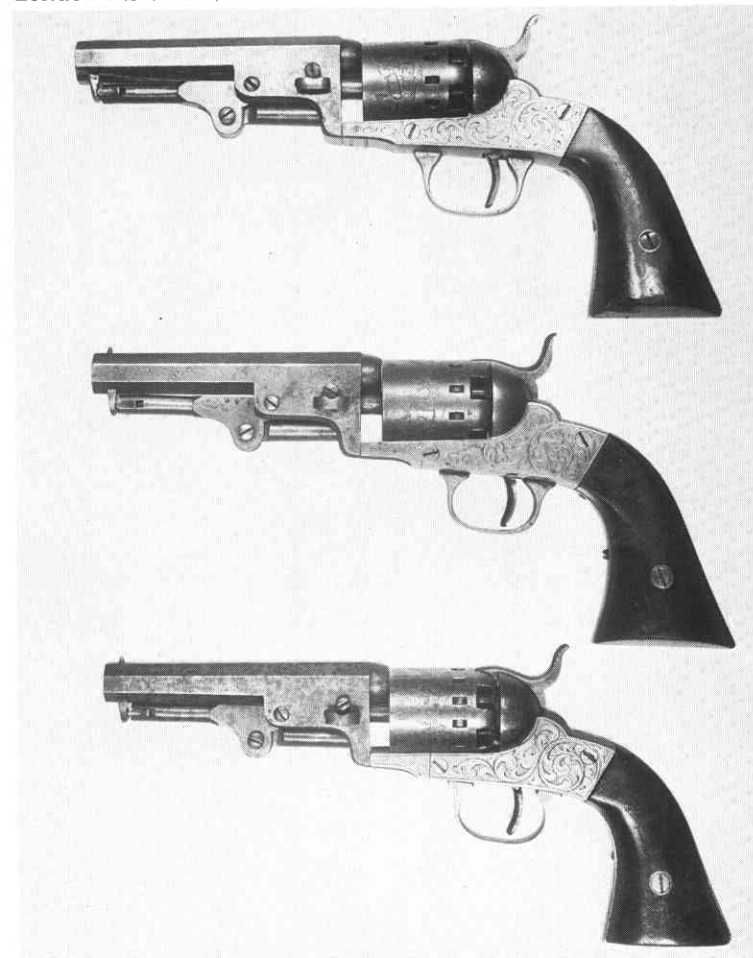


Figure 20
London Pistol Co., .31 Caliber



V. LONDON PISTOL CO. REVOLVERS

The opinions generally prevalent among gun collectors concerning the origin of percussion revolvers bearing the name "LONDON PISTOL COMPANY" have been, in some cases, without objective conclusions. However, we are certain that many discerning collectors have noted that the characteristics of these revolvers are quite similar to the characteristics of Manhattan's .31-caliber revolvers. The essential difference, apart from the barrel signing, is that the Manhattan revolvers have well-defined attributes which permit classification within two series while the London Pistol Company revolvers possess these features in combinations that are sometimes perplexing. Existence of the London Pistol Company revolvers gives rise to the compound question: "For whom, or for what reason, were these revolvers made?" We have searched diligently for the answer and it may be that a completely factual answer is not available. However, like the chap who was "sometimes in error but never in doubt" we have an opinion for later disclosure.

The subject of LONDON PISTOL CO. revolvers was not a totally unexplored one, as had been the case with Manhattan arms. In carrying out our research on London Pistol Company, we had ready access to an article written by our fellow-member and past president, Sam E. Smith of Markesan, Wis., and printed in the GUN COLLECTORS LETTER, Issue #5, December 25, 1946, or about twenty-five years ago. This will indicate how difficult it is to be "first" in researching and writing about any segment of the wide spectrum of firearms history.

In his article in the Gun Collectors Letter, Sam Smith sets out the fact that as far back as 1927 collectors and dealers alike assumed that the percussion revolvers with barrels stamped "London Pistol Company" were products of the London Pistol Company which succeeded Col. Colt's factory in London, England, in 1857. In other words, that these guns were made in England, although none had English proof-marks on barrels and cylinders in accordance with English law.

In his analysis, Sam Smith used Manhattan's Patent #26,441 (previously discussed) and the similarity existing between pistols marked "Manhattan Firearms Co." and pistols marked "London Pistol Co." to identify the latter as products manufactured by Manhattan. We agree with the final part of the last sentence of his article: "since it is apparent that there are not enough specimens of the London Pistol Company revolver to go around."

We have two photos relating to London Pistol Company revolvers which will be shown at this time (See Figure 18 for barrel signing):

Figure 19: LONDON PISTOL COMPANY

.31-CALIBER REVOLVERS

Top: FIVE-SHOT, 6" BARREL, #40
Middle: FIVE-SHOT, 5" BARREL, #180
Lower: FIVE-SHOT, 4" BARREL, #190

Figure 20:

Top: SIX-SHOT, 4" BARREL, #1721
Middle: FIVE-SHOT, 4" BARREL, #440
Lower: SIX-SHOT, 4" BARREL, #883
(BRASS TRIGGER GUARD)

Since it has already been established that the .31 caliber Manhattan revolvers in Series I were produced prior to December 27, 1859, and since all of the London Pistol Company revolvers we have examined bear the patent stamping of that date, it would seem a certainty that Manhattan revolvers preceded, rather than followed, the London Pistol Company revolvers. Although it would appear that this fact is well founded, we hold the opinion that such was not the case. In our opinion, the London Pistol Company revolvers were produced concurrently with the production of the Manhattan .31-caliber revolvers, both Series I and Series II.

We believe that the total answer to the enigma of the London Pistol Company revolvers is to be found in this statement:—These revolvers were "second quality" Manhattan revolvers, the greater number being produced during the period of the Series I .31-caliber Manhattans (with serial numbers below 900). It appears plausible that these second-quality guns were held in stock in a partially completed state of manufacture until sometime after January, 1860, at which time the frames were stamped with the December 27, 1859 patent date, the barrels were stamped with the London Pistol Company name and the remainder of the manufacturing operations were completed.

Referring back to Figure 18 which showed the barrel signing found on London Pistol Company revolvers, we do not believe that such a company existed as a corporate entity. It would seem that London Pistol Company was a trade name devised for the purpose of selling the second-quality product under a name other than Manhattan Firearms Company, or it may have been a brand name for the exclusive use of a distributor of Manhattan arms.

Because of the evidence indicating concurrent production of London Pistol Company and Manhattan .31-caliber revolvers, it is our opinion that no separate series of serial numbers was provided for the London Pistol Company revolvers. If this conclusion is logical and accurate, there remains no way to estimate the total number of guns which were stamped with the London Pistol Company barrel signing. The usual method of estimating production of arms,

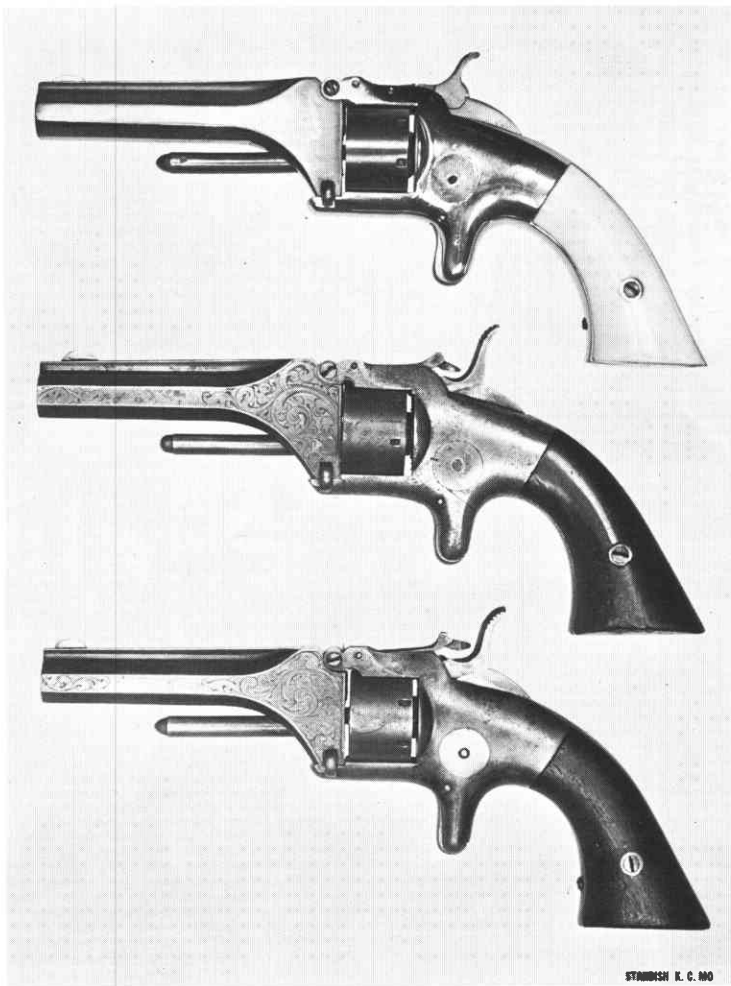


Figure 21
Manhattan First Model .22 Caliber

through a study of serial numbers, does not apply in this case since the total number of London Pistol Company revolvers must necessarily be included in the total of 4800 guns estimated for both series of Manhattan's .31-caliber model.

We agree with Sam Smith's original conclusion that less than one thousand revolvers appeared with the London Pistol Company marking, although we have reached this conclusion by means of a more circuitous route than he used; we would qualify the quantity further with an estimate that only a very few hundred guns were so marked.

Despite the fact that London Pistol Company revolvers may have been considered as second-quality arms by the Manhattan company, this does not make the guns less desirable, from the collector's viewpoint. Instead, the London Pistol arms could be more interesting and more desirable because of its rarity.

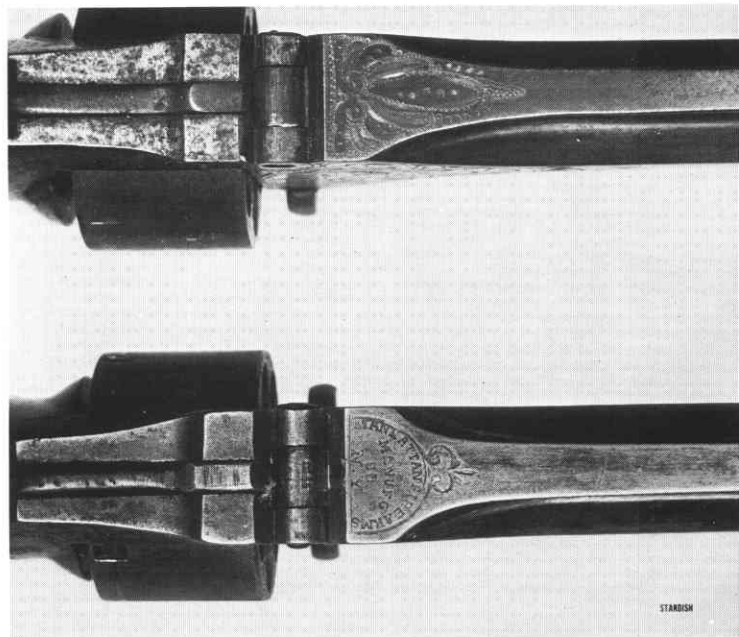


Figure 22
.22 Caliber Manhattan Revolvers

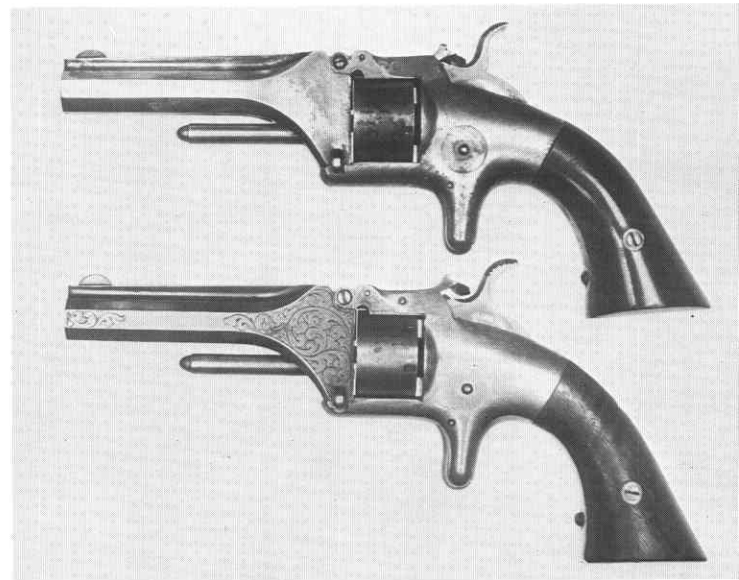


Figure 23
The third variation of the .22 Revolver

VI. NEWARK: .22-CALIBER MANHATTAN REVOLVERS

In the early months of 1858, a new model of revolver made its appearance in the arms emporiums of New York, Boston, and other eastern cities of the United States. The product met with immediate success and it was destined, with its successor models, to sound the death knell of percussion firearms in America and elsewhere. The new firearm was Smith & Wesson's First Model, First Issue, .22-caliber Single Action Cartridge revolver.

Infringers and imitators followed in its wake as a natural consequence and, although probably not the

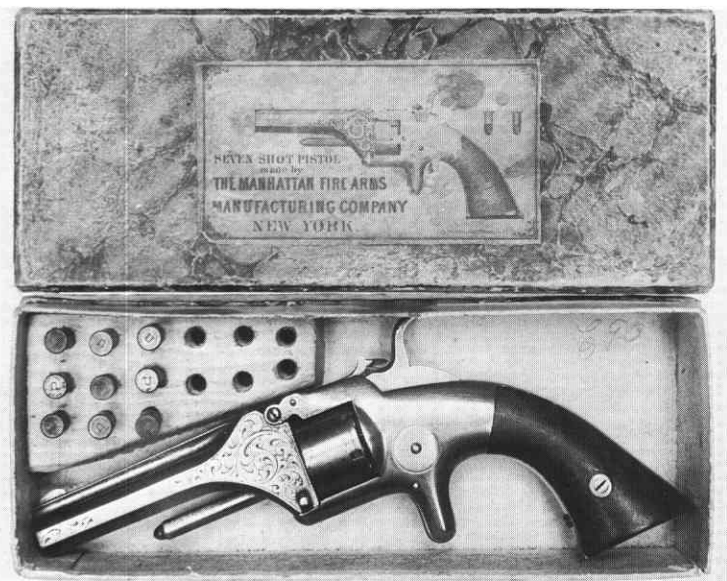


Figure 24
First Model, fourth variation

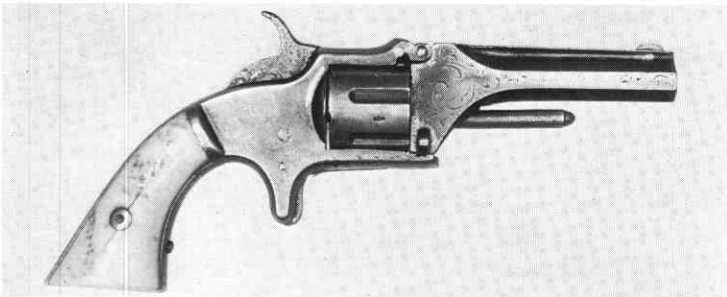


Figure 26
Second Model Experimental in .22 Lipfire, Serial #111



Figure 28
Second Model Barrel Signing

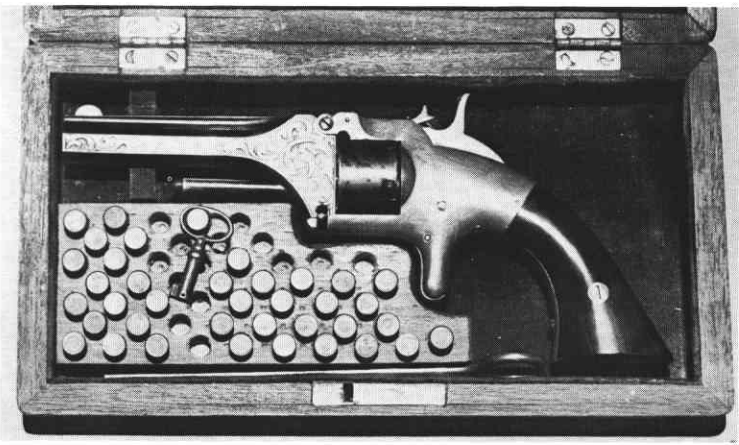


Figure 25
First Model

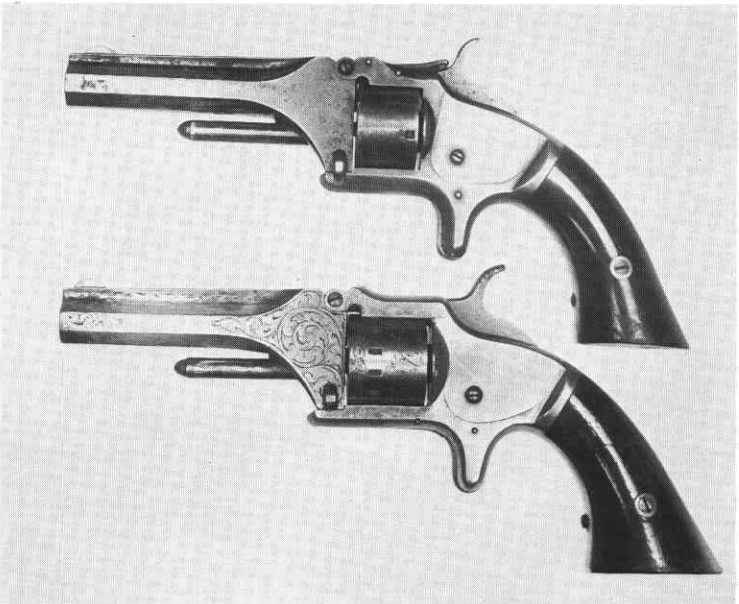


Figure 27
Second Model S&W and Manhattan compared

first company to offer a competitive model, Manhattan's copies of Smith & Wesson's First Model revolver were on the market early in 1860. This action placed Manhattan in the company of several arms makers who were ultimately judged to be infringers of Rollin White's patent of April 3, 1855, and assigned to Smith & Wesson on November 17, 1856. Manhattan managed to achieve some distinction within the group of infringers as its first model .22-caliber revolver appears to have been the only copy which resembles closely the original by Smith & Wesson; also, Manhattan Firearms Company was an INDIRECT party in the second of several legal actions brought by Rollin White in seeking enforcement of his patent rights; finally, the copies manufactured by the Manhattan Company apparently escaped the ignominy of being restamped "made for Smith & Wesson."

The phenomenal success of Smith & Wesson's First Model revolver undoubtedly governed Manhattan's

decision to make a .22-caliber cartridge revolver, although the move was probably influenced by two other considerations. The validity of White's patent must have been questionable in the views of Manhattan's legal counsel, as the same opinion seems to have been held by several gun makers, and the Manhattan Company was on the march to expand its position in the firearms field. Already engaged in the production of their .31-caliber and .36-caliber percussion revolvers, Manhattan was represented in New York City by an aggressive dealer in firearms and related products, Herman Boker & Company. Without question, Boker & Company played an important part in this phase of Manhattan's operations and we suspect that Boker was influential in the initial decision to manufacture the .22-caliber revolvers.

Proceeding to some pictorial illustrations of Manhattan's .22-caliber revolvers, we find the following data on (Figure 21):

MANHATTAN FIRST MODEL
.22-CALIBER REVOLVERS

Top: SMITH & WESSON (5th VARIATION) #5750
Middle: MANHATTAN (1st VARIATION) #1551
Lower: MANHATTAN (2nd VARIATION) #2835

This study shows a general comparison of Smith & Wesson's First Model, First Issue revolver with two copies by Manhattan. It is believed that Manhattan's .22-caliber revolver stemmed, or came from, the sixth variation of the Smith & Wesson, although the vertical hammer spur was a characteristic of the latter's very early revolvers. Manhattan used a one-piece hammer (note that S & W revolver has a two-piece hammer) in conjunction with an ingenious cylinder release which also served as the rear sight."

TWO EXAMPLES OF BARREL SIGNING FOR
FIRST MODEL .22-CALIBER MANHATTAN
REVOLVER ARE (Figure 22):

Top: UNMARKED, #1551
Lower: SEMICIRCULAR STAMPING, #2835

Unmarked Manhattan revolvers, as typified by top photo are quite scarce. In this example, engraved ornamentation replaced the usual semi-circular stamping. At the time of publication of "Manhattan Firearms" we did not have an answer to this puzzling point. On a much later occasion we were able to get three such specimens together at one time and found that a small numeral (2) was stamped on the inner face of the barrel lug of each gun, indicating the examples were of second quality.

The usual semi-circular stamping appears on the barrel of Figure 22. The stamping itself was entirely plain and was outlined by engraving to conform with the ornamentation on the sides of the barrels. This stamping was also used by Manhattan on their .36-

caliber bullet molds, but the stamping was not outlined by engraving.

Other variations of the Manhattan first models are shown in Figure 23:

MANHATTAN FIRST MODEL
.22-CALIBER REVOLVERS

Top: THIRD VARIATION (PLAIN BARREL) #4842
Lower: THIRD VARIATION (PRESENTATION) #6657

The example shown as Figure 23 top is a departure from the usual Manhattan First Model .22, as it has a silver plated barrel (blued finish was standard) that was not engraved. The frame of the presentation revolver, Figure 27, lower has an unusually heavy application of silver plating, much of which has been retained.

Note on both examples, the sides of the barrel latch extended over the joint of the barrel and frame in a manner similar to the Smith & Wesson revolvers dating from September, 1858. This feature was covered by patent No. 30990 issued to Smith & Wesson on December 18, 1860. It is our opinion that the greater number of Manhattan .22-caliber revolvers with the latch extending down over the joint of the barrel and frame were manufactured during 1860 and that all of their revolvers with the sides of the barrel latch located above the frame and barrel joint were manufactured in 1861.

The fourth variation in the First Model of Manhattan's .22-caliber revolver is illustrated in Figure 24 in an original cardboard box.

The gun bears serial #7716, is representative of the fourth variation and was manufactured about April or May of 1861.

On this example, the sides of the barrel latch are located above the barrel joint and frame in the manner previously described under Figure 23. In addition, a small pin was eliminated from the top of the frame. The purpose of the pin had been to limit the amount of upward movement of the arm of the cylinder release.

We call your attention to the delineation of the cartridges for the revolver. The cartridges were .22 CAL SHORT, identified by Manhattan as their No. 1 cartridge; their 22-CAL. LONG was identified by the company as their No. 2 cartridge.

Figure 25 shows a cased Manhattan First Model .22-CAL REVOLVER, Serial #289. This is the only casing of its type, of which we have any knowledge. The casing includes a cartridge board, a cleaning rod and a key for the lock of the case.

In concluding our discussion of Manhattan's First Model .22-caliber revolver, we make the observation that it was an excellent arm and was, by no means, inferior to the original from which it was copied; there was an insurmountable "difference" between the original and the copy, however, and that was furnished by White's patent.

Based upon a study of serial numbers, it is estimated that Manhattan manufactured 9000 or more of their First Model .22's, beginning with Serial #1, and that the period of production extended from the early part of 1860 until June, 1861.

It would seem that Manhattan began preparations for production of their Second Model .22-caliber revolver no later than March, 1861. The Manhattan Second Model .22-caliber revolver resembled the Smith & Wesson First Model, Second Issue, .22-caliber revolver in a general way and specifically with regard to the larger, removable side plate which provided improved accessibility to the parts of the lock. However, Manhattan incorporated several changes in the design of its Second Model .22-caliber revolver which may have made it superior to the corresponding model by Smith & Wesson. The principal design change consisted of the contemplated use of a new and more powerful cartridge; the .22-caliber LONG. The Smith & Wesson First Model, in all three Issues, was designed to use the .22-caliber short rimfire cartridge.

There is some evidence that Manhattan considered the use of, or experimented with, .22-caliber long lipfire cartridges in an early example of their Second Model revolver as indicated in Figure 26. The frame and grips of this revolver are somewhat smaller than similar parts of later examples of the Second Model. The unusual cylinder justifies "experimental classification" as it is brass with six chambers, instead of the usual seven, and appears to have been made for .22-caliber long lipfire cartridges.

Flutes in cylinder and location of cylinder stops are additional features of unusual nature. Cylinder locking-bolt is located in bottom of frame.

We do not consider it to be within the scope of this work to delve into a study of the early .22-caliber cartridges or to determine the source of the first .22-caliber cartridges of the long size. There is some evidence that Manhattan made their own .22-caliber short cartridges, which they identified as their Number 1 cartridge; it is possible, even probable, that Manhattan made their own .22-caliber long cartridge which they identified as their Number 2 cartridge. Until evidence to the contrary is available, it is our opinion that Manhattan's Second Model .22-caliber revolver was the first such revolver to use the long size cartridge (Figure 27).

In addition to the long-size cartridge, the other design changes found in Manhattan's Second Model were: (1) the adaptation of the safety provisions of their patent of December 27, 1859 to the cylinders of their .22-caliber revolvers; (2) the relocation of the cylinder-stop mechanism from a position on top of the frame to a position within the bottom of the frame, the cylinder-bolt being actuated by cocking the hammer and the bolt engaging the stops located near

the front end of the cylinder, and (3) the addition of a cylinder pin to the frame assembly, which was an obvious improvement.

The silver-plated revolver (Serial #6257) displayed as Figure 27 is representative of guns in the higher serial number ranges of the Second Model and possesses other changes made in this model. The changed features were: (1) flat brass frame; (2) rear sight, a slot filed in top of frame; (3) an engraved (roller die) scene on the cylinder, depicting hand-to-hand combat between Settlers and Indians; (4) a revised barrel signing, as shown in Figure 28; (5) the stamping of the 1859 patent date on the bottom flat of the barrel and, (6) the slightly enlarged grips. The other characteristics of engraving the barrels, types of finish of the parts, mode of marking serial numbers on the parts, etc. were the same on the Second Model as have been described for the First Model.

Serial numbers of the Second Model began with Serial #1; it is estimated that more than 8000 Second Model .22-caliber revolvers were produced between June, 1861 and October, 1862.

Cessation of production of their Second Model .22-caliber revolver by Manhattan, was not caused by the lack of a market for the guns, but by the filing of a lawsuit against their New York agent, Herman Boker & Company, by attorneys for Rollin White and Smith & Wesson, probably during the latter part of November, 1861. In this case, legal action was taken against the seller, Boker & Co., rather than against the maker, Manhattan Firearms Co. The suit was finally adjudicated on October 25, 1862, and a permanent stop order against Boker & Co. was issued on October 31, 1862.

A certain consequence of the outcome of the case was that Manhattan ceased production of their .22-caliber revolvers during the life of Rollin White's patent. There is some evidence that the Manhattan Company manufactured a quantity of unmarked .22-caliber revolvers during the period of transition connecting Manhattan with American Standard Tool Company, and this point will be discussed later.

VII. NORWICH & NEWARK: .36 CAL. REVOLVERS

In Section III, "THE MANHATTAN PATENTS," it was established that Manhattan Firearms Manufacturing Company moved its manufactory from Norwich, Conn., to Newark, N. J. on or about March 29, 1859. Further, in Section IV, ".31 CALIBER MANHATTAN REVOLVERS," an estimate was given that 900 to 1000 of these revolvers were produced prior to January 30, 1860. Since production of their .22 caliber revolvers did not begin until early in 1860, the combination of these facts raises the question: how could the Manhattan Company have sustained its operations during all of 1859 on the very small production of 900 to 1000 .31 caliber revolvers? The answer to this

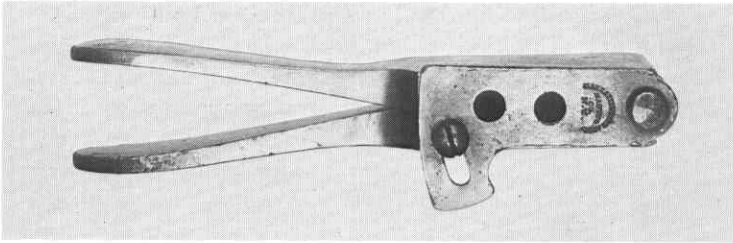


Figure 33
A .36 Caliber Manhattan bullet mold

Figure 31
Series I, .36 Caliber

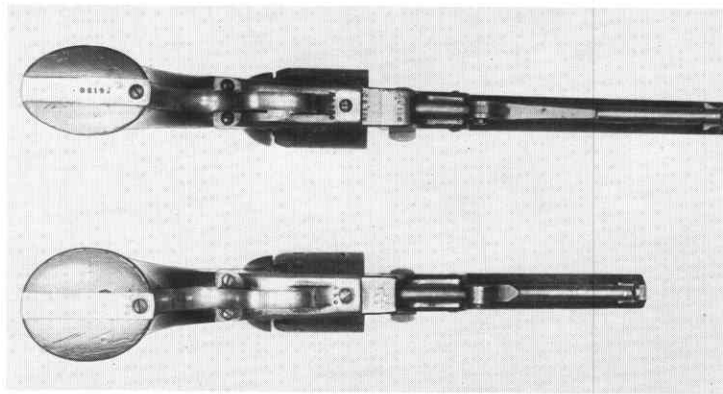
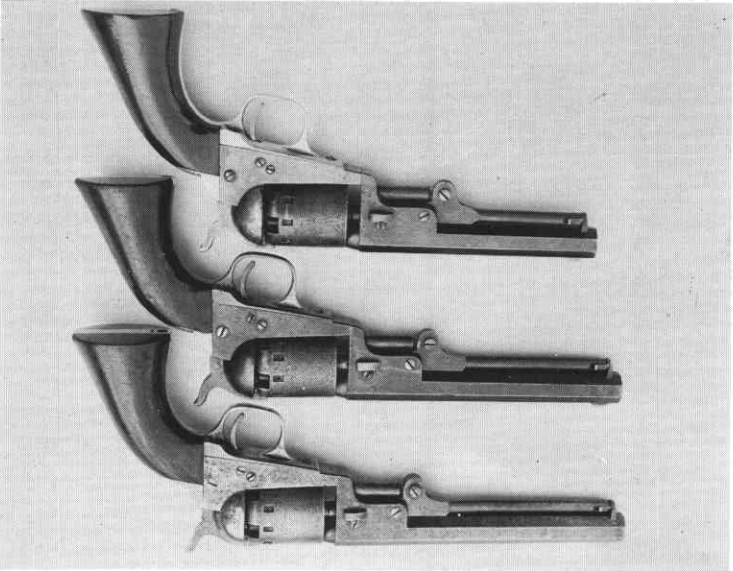


Figure 32
and slim grips

Figure 30
Series I, .36 Caliber, early type

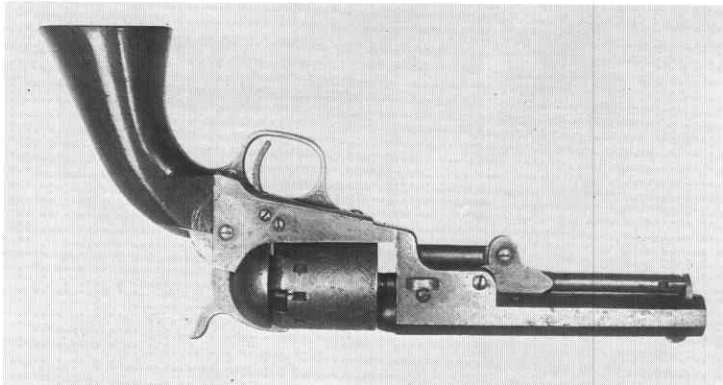
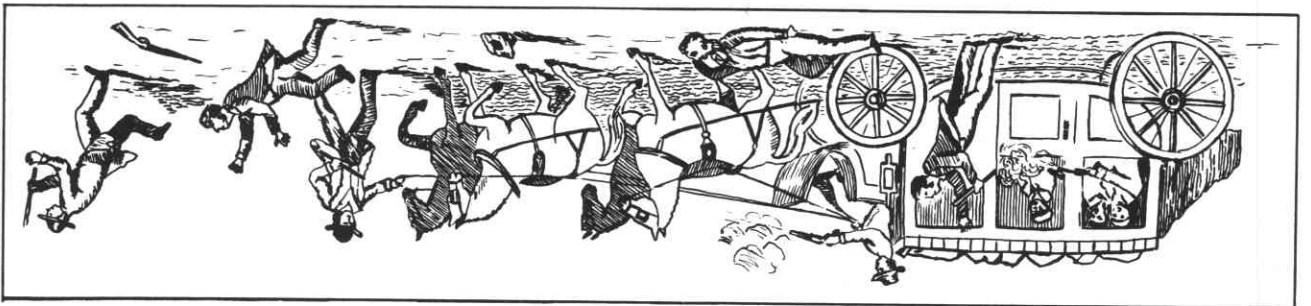


Figure 29
.36 Caliber revolver cylinder engraving



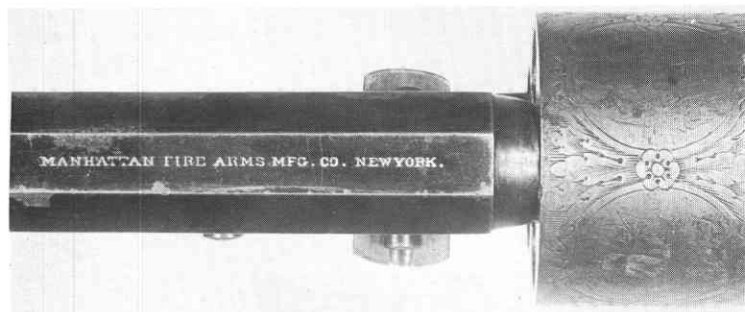


Figure 34
Series I and II barrel signing

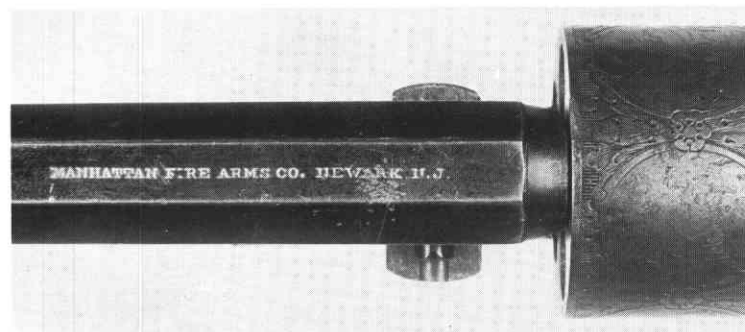


Figure 36
Series III barrel signing

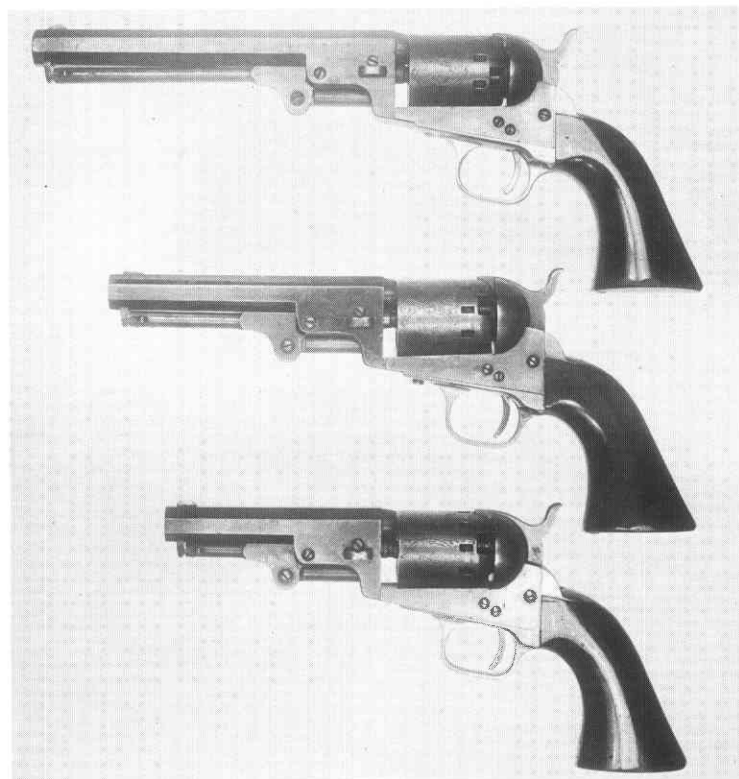


Figure 35
Series II, .36 Caliber



Figure 37
Series III, .36 Caliber



Figure 36A
Spring plate Series III



Figure 37A
Spring plate exposed

question is found in the existence of the model that became the mainstay of their arms production, the .36 caliber percussion revolver. This model not only sustained the company's operations during 1859, when approximately 4000 of these arms were manufactured, it also became Manhattan's "bread and butter" product and was responsible for maintaining the company's position in the field of firearms manufacturing until the end of 1868. It is estimated that 78,000 of the .36 caliber revolvers were produced during the years of 1859 through 1868, inclusive, and the model probably accounted for 75% of the company's total output of firearms.

The Manhattan .36 caliber percussion revolver was a copy of the overall design of two models of Colt revolvers, the 1851 Navy and the 1849 Pocket Models, but it was not, in the least degree, an infringement. Development of Manhattan's .36 caliber revolver may have been started while the company was operating in Norwich. Our research and study relating to the development of this model leads us to the opinion that there was no period of development which paralleled that of the .31 caliber model. The talents of A. R. Arnold may have been responsible for the shortened period of development of the .36 caliber revolvers. It is indicated that Manhattan established the basic standards of design for this model during production of the first 1000 revolvers. With the basic standards thus established, they were retained during the entire period of production of the model with only minor modifications. There was a quality of orderliness exhibited in the entire line of Manhattan arms and this characteristic permits the classification of all of the production of the .36 caliber revolvers into five distinct categories. In most cases, the distinction is slight, but, nevertheless, quite clear. These categories will be discussed and illustrated, separately, under the titles of Series I, Series II, Series III, Series IV and Series V.

NORWICH & NEWARK: .36 CALIBER MANHATTAN REVOLVERS

SERIES I .36 CALIBER REVOLVERS

The distinguishing characteristics of the Series I .36 caliber revolvers are these:

1. Five-shot cylinder
2. Barrel signed with New York address
3. Absence of 1859 patent date on the cylinder
4. Estimated range of serial numbers: 1 to 4200

A distinctive feature of all the .36 caliber revolvers is found in the type of engraving which decorated the cylinders. While Manhattan probably rejected a five-panel engraving for its .31 caliber revolvers, a five-panel engraving was developed for and applied to the cylinders of the .36 caliber model. The name of the original engraver is unknown but the quality of the design, in our opinion, was not excelled during the period of roller-die engraving (Figure 29).

It appears that Manhattan made an initial production-run of about 1000 .36 caliber revolvers, in Series I, with certain features which are not present in the guns produced in the latter part of this series.

The first of these characteristics is represented by the cylinder-stops of unusual shape which are found on the cylinders of examples in the first few hundred guns manufactured (See Figure 30). These stops are trapezoidal in shape, as differentiated from the rectangular stops of the later guns.

Cylinder stops of trapezoidal shape are occasionally found on cylinders of .36 caliber Manhattan revolvers of early manufacture. Intended use of the unusual shape may have been for the purpose of improved engagement of the stop by the locking bolt. Application of this feature has not been observed on guns with serial numbers above 800.

A second distinguishing feature is exemplified by the larger or "fat" grips of the revolvers with serial numbers below 1000. The "fat" grip is an interesting characteristic of the revolver pictured in Figure 30 (Five-shot, Five-Inch barrel, "FAT" Grip, #250)

This is a well-preserved specimen which incorporates two features of the .36 caliber revolvers of early vintage; the fully-rounded or "fat" grip and cylinder stops of unusual shape. Figure 31 shows:

Top: 6½" BBL #586

Middle: 6" " #681

Lower: 5" " #551

A comparison of the butt of gun #250 with the butt of a gun made at a later date is shown in Figure 32.

Illustrating the progression from the fully-rounded grip-butt of an early example in Series I to the "Slim Jim" grip-butt found in the Series IV revolvers. Also shown are the two methods of serially marking the butt-straps; numbers of four digits, or less, were stamped across the shorter dimension while numbers comprised of five digits were stamped parallel with the long dimension.

The third feature associated with the guns of early manufacture is found in the barrel length of 6". The usual barrel lengths of Manhattan's .36 caliber revolvers were 4", 5" and 6½". The 6" barrel length is a peculiarity of the guns with serial numbers below 1000 and it is probable that less than half of this group (or 500 guns) had 6" barrels.

In most of the revolvers manufactured in Series I the rifling consisted of three lands and three grooves of about equal widths and of right twist. Thereafter, rifling of the barrels in succeeding series was five lands and five grooves, of right twist.

We consider the .36 caliber Manhattan bullet molds to have been directly connected with the .36 caliber revolvers manufactured in Series I. It may have been that many of the early .36 caliber revolvers were sold in cardboard boxes which included the marked Manhattan molds. Manhattan .36-caliber molds are shown in Figure 33.

It is our view that the semicircular stamping die was developed initially for the .36-caliber bullet molds and was used later for marking the barrels of the .22 caliber revolvers, although the application may have become concurrent during 1860.

Manufactured prior to January of 1860, the Series I revolvers are the scarcer examples of regular production in the .36 caliber model. Standard features of the model were established early in the period of this series and were maintained, with only a few modifications, until production ceased in 1868. It is estimated that 4200 guns were produced in this series.

In concluding our discussion of the SERIES I .36 caliber revolvers, we show the barrel signing in Figure 34. The one-line New York address appeared on the barrels of slightly more than 14,000 .36 caliber revolvers, being used on both Series I and Series II of this model. The signing is similar to the one used on the barrels of the Series II .31 caliber revolvers although minor differences are present.

SERIES II .36-CALIBER REVOLVERS

The distinguishing characteristics of the SERIES II .36-caliber revolvers are these:

1. Five-shot cylinder
2. Barrel signed with New York address
3. Cylinder stamped with 1859 patent date
4. Estimated range of serial numbers: 4200 to 14,500.

Beginning with the SERIES II .36 Caliber revolvers, the stamping of the cylinders with the 1859 patent date became a standard feature of the model. The legend "PATENTED DEC. 27, 1859" was stamped in very small characters at the extreme rear edge of the flat portion of the cylinder, between the cylinder stops and the curvature of the rear of the cylinder. The word "PATENTED" was stamped on one projection and "Dec. 27, 1859" was stamped on the adjoining projection at the right. Thus, the stamping appeared on about 74,000 guns of the .36 caliber model.

The Manhattan in-plant inspection markings made their appearance on the .36 caliber revolvers somewhere between the later production in SERIES I and the early production in SERIES II. These markings were stamped on the bottom flats of the barrels of the SERIES I, SERIES II and SERIES III revolvers. The markings consisted of a "v," a single dot, two dots, the letter K, the letter E within a circle, and, occasionally, a *miniature pair of spectacles*; the latter stamping is a prime example of American humor in industry.

The standard examples of the SERIES II .36-CALIBER MANHATTAN REVOLVERS are shown in Figure 35:

Top: FIVE-SHOT, SIX-AND-A-HALF INCH BARREL #11,121
Middle: FIVE-SHOT, FIVE INCH BARREL, #7,795
Lower: FIVE-SHOT, FOUR INCH BARREL, #7,432
Approximately 10,000 guns were produced in between the approximate dates of January 30, 1860 and September 1, 1861.

SERIES III, .36-CALIBER REVOLVERS

The distinguishing characteristics of the SERIES III .36-caliber revolvers are these:

1. Five-shot cylinder
2. Barrel signed with one-line Newark address
3. Cylinder stamped with 1859 patent date
4. Estimated range of serial numbers: 14,500 to 45,200

An example of the one-line Newark address, used in signing the barrels of the .36 caliber revolvers manufactured in Series III, is shown in Figure 36.

The one-line Newark address accounted for the principal difference between the guns produced in Series II and those of Series III. It is to be noted that the abbreviation for the word "Manufacturing" was discontinued in the one-line Newark address, after having been a part of the company's identification on all of its products until this change was made. The change was, in fact, indicative of the re-chartering of the Manhattan Company in New Jersey. It will be remembered that the Manhattan Company was originally chartered in New York in 1857. The company operated under the original charter until Aug. 19, 1863 when an application for a charter in New Jersey was filed under the style of: "Manhattan Fire Arms Co. Newark, N.J."; the new charter was issued by the State of New Jersey on January 9, 1864.

As will be seen in the estimated range of serial numbers for SERIES III, a total of about 30,000 arms were manufactured within this series with the result that these are the most common of Manhattan's .36 caliber revolvers. The standard barrel lengths continue to be 4", 5" and 6½", as represented in Figure 37.

Approximately 30,000 of the SERIES III revolvers were made between Sept. 1, 1861 and April 1, 1864. It is probable that production of the .36-caliber model reached a peak of 1000 per month during that period. A new innovation, the spring plate, made its appearance on a limited quantity of Series III revolvers, beginning in the 15,000 serial number range. It is to be noted that guns shown in the middle and lower, in Figure 37, are equipped with spring plates. We date the initial application of the spring plates about September or October, 1861, two and one-half years before the covering patent application was granted. It is our opinion that attachment of the spring plates to the revolvers in Series III was limited to the first few thousand in the series, as we have observed

none with serial numbers above 21,000 that were fitted with the device. The reason for discontinuing usage of the spring plate on revolvers with serial numbers between 21,000 and 45,000 is unknown and its existence on the guns in Series III must be regarded as somewhat experimental in nature.

Two views of a revolver produced within Series III, and equipped with a spring plate, are shown in Figure 36A and 37A.

It is believed that the gun shown was one of about one hundred similar revolvers which were produced on a pilot-model basis, given a special series of serial numbers beginning with #1 and issued to show the advantages of the operation of the spring plate. Purpose of the plate was to deflect laterally the fire from the nipple, thus reducing the possibility of multiple discharge of other loaded chambers.

A definite pattern of engraving appears to have been established for Manhattan's arms and only minor differences have been found on a number of engraved guns which have been observed.

In Figure 38, one of the most illustrious of the Manhattan arms was presented to General U. S. Grant.

Illustrating one of the most valuable Manhattan revolvers of record, the casing is from the collection of William M. Locke. The revolver was produced within Series III, was silver plated and is serially marked #43; like gun #23 (Figure 36), none of the serial number stampings is externally visible and the Grant revolver was equipped, originally, with a spring plate.

In concluding our discussion of the spring-plate, and the Series III guns, we show the Patent Office drawing relating to the spring-plate and note that the patent was issued to Ben. Kittredge of Cincinnati, Ohio, on March 8, 1864. Kittredge was an agent for

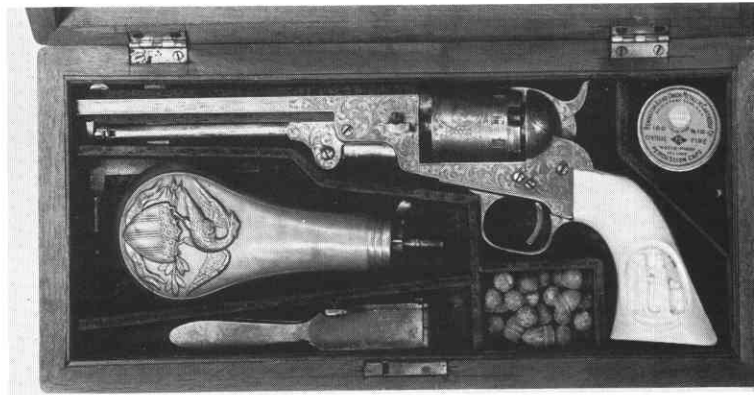


Figure 38
Series III presentation

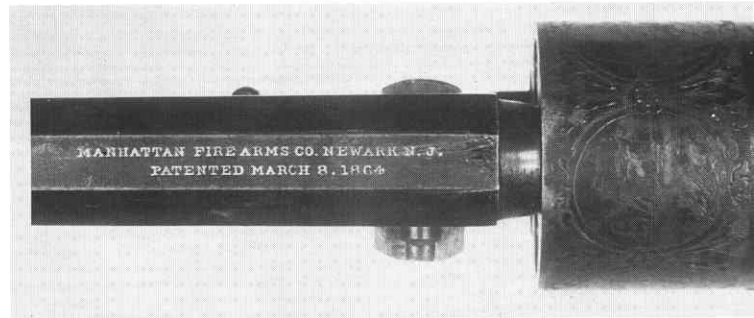


Figure 39
Barrel Signing, Series IV, V



Figure 41
Series V, .36 Caliber

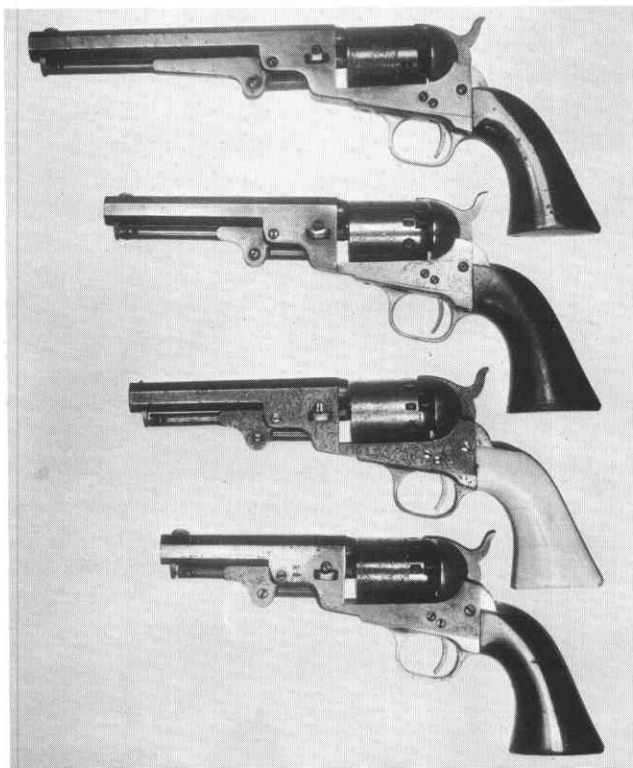


Figure 40
Series IV, .36 Caliber

the sale of Manhattan guns for several years and examples are occasionally found with the Kittredge stamp on the sides of the barrels.

The estimated period of production of the .36 caliber revolvers in Series III was from September 1, 1861 until April 1, 1864 and approximately 31,000 guns were manufactured during this period.

After manufacturing approximately 41,000 .36 caliber revolvers with little change in the basic standards of the model, Manhattan introduced several changes during the period of manufacture in the Series IV revolvers.

SERIES IV .36-CALIBER REVOLVERS

The distinguishing characteristics of the Series IV .36 Caliber revolvers are these:

1. Five-shot cylinder
2. Barrel signed with two-line Newark address
3. Cylinder stamped with 1859 patent date
4. Estimated range of serial numbers: 45,200 to 69,200

The first of the several changes just mentioned is the barrel signing. The above signing represents the third and last mode of identification applied to the barrels of Manhattan's .36-caliber revolvers and appeared on approximately 33,000 guns. In this signing, the one-line Newark address was supplemented with the legend "PATENTED MARCH 8, 1864" which referred to Patent #41,848, granted to Ben. Kittredge, and covered the usage of the spring plate.

The second of the changes instituted on the SERIES IV revolvers consisted of the addition of another barrel length to the lengths of 4", 5" and 6½" which had been established as basic standards early in the production of SERIES I revolvers. The added barrel length was 4½" and was coupled with a change in the front sight. While the silver (or white brass) blade-type front sight was standard on the 4", 5", 6" and 6½" lengths, the 4½" barrel length was made with a brass post-type front sight. Figure 40 shows examples:

SERIES IV, .36-CALIBER MANHATTAN REVOLVERS

Top: FIVE SHOT, SIX-AND-A-HALF INCH
BARREL #56,180

Middle: FIVE SHOT, FIVE-INCH BARREL, #48,321

Lower: FIVE-SHOT, FOUR-AND-A-HALF-INCH
BARREL, #46,414

Bottom: FIVE-SHOT, FOUR-INCH BARREL, #68,822;
Marked with London proof marks

Other changes which occurred during the period of manufacture of the Series IV revolvers were: (1) a change in the design of the loading lever from a round to a tapered configuration, and (2) a definite slimming of the grips to a "Slim Jim" shape; these changes appear to have been made coincidentally and in the range of serial numbers close to #50,000. An

additional change, made in the later period of Series IV, involved the shapes of the heads of the frame screws, the wedge screw and the screws for the loading lever and the plunger.

The estimated period of production of the .36-caliber revolvers in Series IV was from April 1, 1864 until June 30, 1867.

SERIES V .36-CALIBER REVOLVERS

The distinguishing characteristics of the Series V .36-caliber revolvers are these:

1. Six-shot cylinder
2. Barrel signed with two-line Newark address
3. Cylinder stamped with 1859 patent date
4. Estimated range of serial numbers: 1 to 9000

The Series V .36-caliber revolvers have been designated occasionally by other sources as the 1864 model Manhattan revolvers. We are certain that this designation is a misnomer. It will be seen that the estimated period of manufacture of the Series IV revolvers extended well into 1867. The Series V revolvers did incorporate several changes which serve to differentiate them from guns of the preceding series, but these changes did not occur until much later than 1864. However, it is apparent that Manhattan must have regarded the Series V .36-caliber revolver as a new model as evidenced by the assignment of a new range of serial numbers to this series, beginning with Serial #1.

The principal and distinct change effected in the SERIES V revolvers was the change from a five-shot cylinder to a six-shot cylinder. This change is noteworthy because it was made without increasing the diameter of the cylinder and thereby making possible the continued use of the five-panel engraving die. The centers of the chambers of the five-shot cylinders were located within the 1⅞" diameter in such a manner as to provide a considerable thickness of metal between the walls of the individual chambers. The additional chamber of the six-shot cylinder was supplied by utilizing a portion of the excess metal which was available between the chambers of the five-shot cylinder. The features of two cylinder-stops per chamber was used on the six-shot cylinders, with the locking stops having lead-in slots and the safety stops having no slots. The change was a very useful improvement and one may reasonably question why it was not made much earlier.

The Series V revolvers were further distinguished by a change in the design of the loading levers. The length of the taper was reduced and all four sides of the tapered portion were beveled to produce a graceful appearance. As differentiated from the SERIES IV revolvers, in which only the 6½" barrel length was made with a tapered lever, it appears that the tapered loading lever was applied to each barrel length above 4" in the SERIES V revolvers. Examples of the SE-

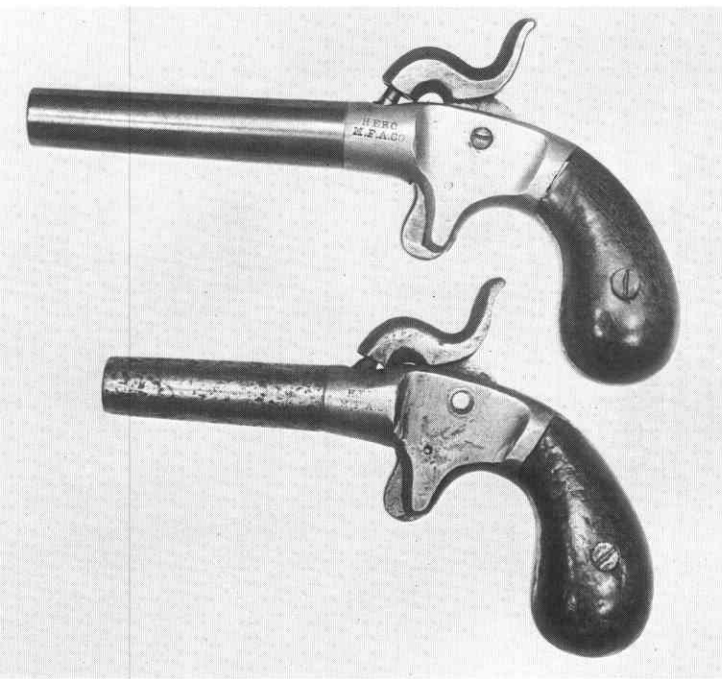


Figure 42
Manhattan Hero Pistols

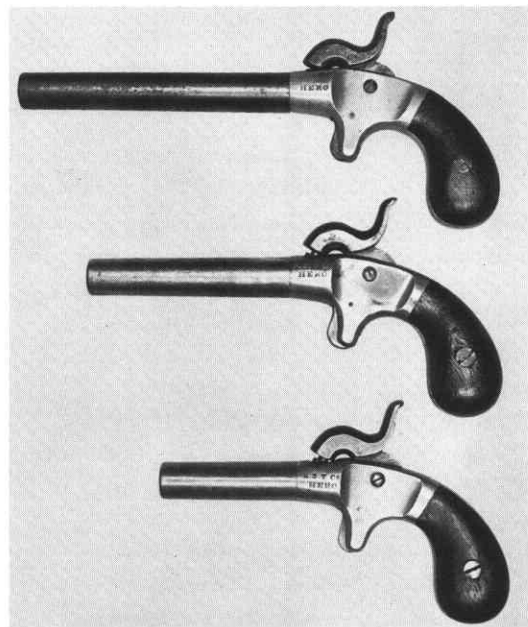


Figure 43
A. S. T. Co. Hero Pistols

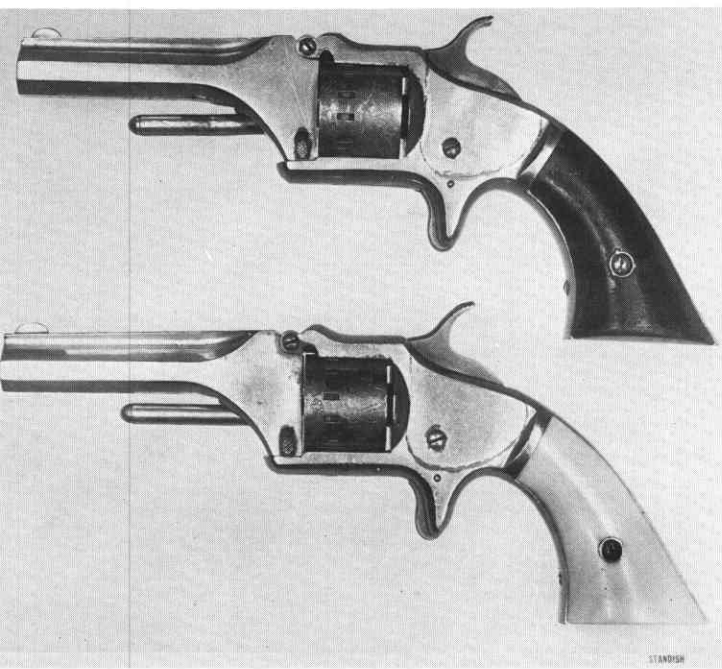


Figure 45
Top view of pistols in Figure 44

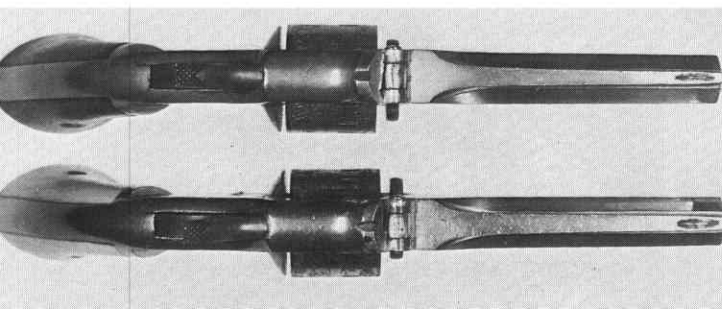
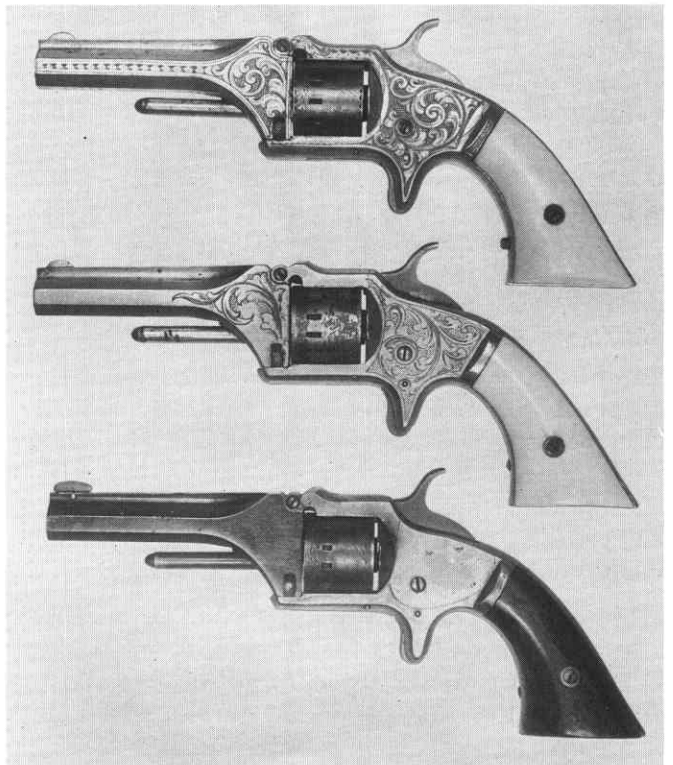


Figure 44
Unsigned Manhattan Second Model .22 revolvers,
Serials 28F and 311



RIES V revolvers are shown in Figure 41:

- Top: SIX-SHOT, SIX-AND-A-HALF-INCH BARREL, #5197
- Middle: SIX-SHOT, FOUR-AND-A-HALF-INCH BARREL, #5302
- Lower: SIX-SHOT, FOUR-INCH BARREL, #842

A specimen with a 5" barrel is conspicuous by its absence from this group. This does not mean that the 5" barrel length was not produced within the SERIES V revolvers, but only that we were unable to locate this variation. Considerably more difficulty was experienced in locating examples in SERIES V than was the case in SERIES I (4200 guns), with the exception of the 4" length. It is possible the major portion of the arms produced in SERIES V had 4" barrels. It will be noted that the 4½" barrel length, with the brass post-type front sight, continued to be made in SERIES V and application of the tapered loading lever served to improve the appearance of this scarce variation.

VIII. TRANSITION: AMERICAN STANDARD TOOL CO.

The successor company to MANHATTAN FIRE ARMS COMPANY was AMERICAN STANDARD TOOL COMPANY, WHICH WAS ORGANIZED IN Newark, N. J. on 23 November 1868. The company was capitalized at \$120,000; the stockholders were the same, and the successor company's address was the same as for Manhattan Fire Arms Company. However, the manufacture of firearms and ammunition by the successor company was over-shadowed by (1) Tools and Machinery and (2) Foundry and Jobbing objectives.

American Standard Tool Company did continue the manufacture and sales of two models of firearms previously manufactured by Manhattan Fire Arms Company. These models were (1) the "HERO" single-shot percussion pistol and (2) Manhattan's Second Model .22 caliber revolver.

The "HERO" pistol was a poor man's derringer. It was the last model of firearm manufactured by Manhattan and was probably brought out in the latter part of 1868. The pistol was undoubtedly one of the cheapest percussion firearms ever produced and was sold for a very moderate price. The "HERO" pistol was well made and the design was simple but sufficient for its intended use. The basic design may have been originated by Manhattan although similar single-shot pistols were produced by other makers.

Two examples of Manhattan "HERO" pistols are shown in Figure 42 with three- and two-inch barrels.

The screw-off barrels were not rifled. The forged brass frames were stamped "HERO" over "M.F.A.Co.". None of the MFA "HERO" pistols, that we have examined, were serially marked; this characteristic precludes any estimate of the quantity produced. A four-inch barrel was also produced.

Three examples of American Standard Tool "HERO" pistols are shown in Figure 43. The "HERO" pistols manufactured by American Standard Tool Company were similar to the counterparts made by Manhattan except for the stamping on the frames which was "A.S.T.CO." above "HERO." Additionally, the A.S.T. "HERO" pistols were serially marked and it is our opinion that the quantity manufactured may have been in excess of 30,000 pistols.

AMERICAN STANDARD TOOL CO. .22 CAL. REVOLVERS

Rollin White's patent covering the bored-through cylinder expired on April 3, 1869. It is evident that either Manhattan Fire Arms Company or American Standard Tool Company anticipated the date of expiration by producing a few hundred unsigned .22 caliber revolvers. These guns may have been made by either of the two companies, but we are inclined to credit its manufacture to the parent company. Two examples are shown in Figures 44 and 45.

The above examples are believed to be among the rarest of the .22 caliber revolvers manufactured by Manhattan or its successor, American Standard Tool Company. Possessing all of the principal features of Manhattan's Second Model .22 caliber revolvers, the barrels are unsigned as to manufacturer or patent date and lack the engraving usually found on Manhattan's products. As will be seen, the highest serial number of the displayed specimens is #311; the lowest serial number observed on a marked A.S.T. Company .22 caliber revolver has been #429. If there was no separate series of numbers for the unmarked .22 caliber revolvers, and the series extended into the products of American Standard Tool Company, it is possible that less than 400 unmarked revolvers were manufactured.

American Standard Tool Company's .22 caliber revolvers resembled Manhattan's Second Model .22 caliber revolver in all details, apart from the barrel signing, with these exceptions: (1) hand engraving of the barrels was discontinued, except for fully engraved guns, and (2) the 1859 patent date stamping was not applied to the barrels of A.S.T. Company's revolvers. Elimination of hand-engraving was, of course, done for the purpose of reducing the cost of the product, but the change detracted considerably from the appearance of the guns.

American Standard Tool Company continued to use full application of hand engraving on a substantial quantity of their revolvers and two such examples are depicted in Figure 46. Continuing with substantially the same model developed by the Manhattan Company in 1861, A.S.T. Company's .22 revolver was the principal item of its arms production between April of 1869 and February of 1873. Upwards of 40,000 guns of this model were manufactured during this period.

As has been noted, American Standard Tool Company managed to sustain and justify its existence throughout four difficult business years which in-

cluded the infamous "Black Friday" of September 24, 1869. Nonetheless, it would appear that after reviewing the company's accomplishments for 1872 and, perhaps, foreseeing with remarkable acuity the coming events of the latter part of 1873, the Board of Directors decided that it was "advisable and most for the benefit of the Company that the same should be dissolved." The decision for dissolution was made at a meeting of the Directors on January 11, 1873, and the concurrence and consent to the action was given by the stockholders on February 20, 1873. It may be assumed that if the operations of the company had not ceased by this date, they were closed out immediately thereafter. The reasons for the action were probably found in the generally worsening conditions of business and, perhaps, the lack of success in certain of the company's endeavors, especially those in the fields of merchandising of articles other than firearms.

One wonders if the rise and fall of the successor to Manhattan Fire Arms Company may not have been a case of the shoemaker moving too far away from his last.

Exhibits

New England Underhammers



Award Winner Eldon J. Owens

