

# U.S. MARTIAL ARMS Collector

and *Springfield Research Newsletter*



Number 173 December 2022

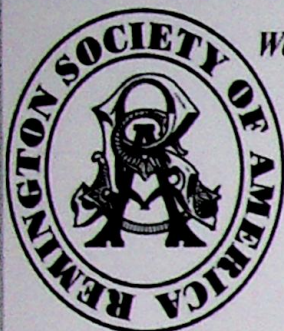
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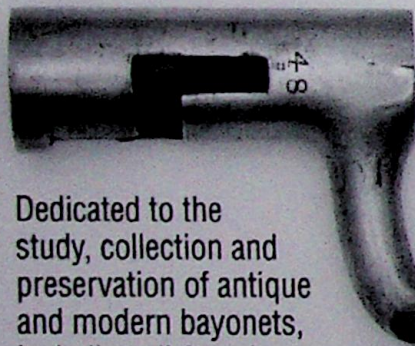
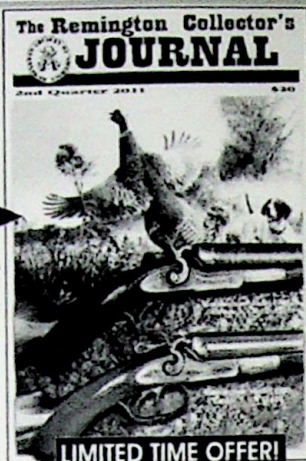
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EDITOR & PUBLISHER

*Wayne P. Gagner*

# U.S. MARTIAL ARMS COLLECTOR

CIRCULATION MANAGER

*Wayne P. Gagner*

*And*  
*Springfield  
Research Service  
Newsletter*

A quarterly publication of U.S. Martial Arms Collector Magazine and Springfield Research Newsletter, P.O. Box 126, Cabin John, MD 20818. Printed in U.S.A. Send changes of addresses and all other material to this address.

Subscription price \$35 per year, including First Class postage. **Foreign Subscriptions** \$55 per year.

E-Mail: [editor@usmartialarmscollector.com](mailto:editor@usmartialarmscollector.com)  
Web site: [usmartialarmscollector.com](http://usmartialarmscollector.com)

ADVERTISING: Collector cards or arms-related business cards: \$ 100 per year. Commercial advertisers, please write for rates.

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Cover: 1840 Pomeroy Flintlock

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**SPRINGFIELD RESEARCH  
SERVICE and U.S. MARTIAL ARMS  
COLLECTOR MAGAZINE.**

Springfield Research service is pleased to confirm receiving renewals for our magazine and requests for research on interesting weapons.

We will still offer free serial number searches and lookups for our subscribers and basic letters can be produced with delays in time to search, verify letter confirmation, and complete letter production.

We are encountering the same inflation, increases U. S. Postal rates and costs that are causing concerns for all U.S. residents.

Springfield Armory sales letters continue to be produced with short delays due to research time and delivery options.

We may need to have some increases in costs that reflect the increases in postal rates, travel,

Detailed research will take longer to verify U.S. Archives data. Many U.S. Archives documents are missing or require detailed knowledge of actual locations in each of several different buildings and cities.

Letters for rare weapons require extended amounts of effort for verification. There are cases where armed guards of U.S. facilities must be used.

Springfield Research Service requires a waiting list to determine the costs if extra time needed to complete a letter production effort.

U.S. Archives data may have been moved from Washington D.C. to other locations and some data is currently missing from government files.

Springfield Research Service personnel were fortunate to have made old copies of some files. They are in poor copied condition or from required government made copies on old technology machines.

A single serial number with model and make is required for each email request. A list is often lost or causes major delays.

Serial number looks-ups are completed as time is available and accomplished second to magazine requirements and deadlines.

Serial number lookups are made using serial numbers with model and other manufacturing data. They require a subscriber to email the serial number and model to:

editor@usmartialarmscollector.com or to mail the inquiry to SRS, Box 126, Cabin John, MD 20818.

Hand-held cell phones are not always dependable for email requests. The best way to communicate with SRS is by email. Audible messages are not acceptable,

We answer emails as soon as possible and visit our U.S. postal box five or more days each week.

Our searching includes an email answer or letter back to a subscriber that shows if we have the requested information.

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A letter can be ordered based on the look-up, and payment by a subscriber. A letter can be produced only if we have the information on that serial specific number.

All subscribers can also mail us at SRS Box 126 Cabin John, MD 20818.

Payment can be made by check to SRS Box 126 Cabin John, MD 20818. PAYPAL may also be used.

Please be careful and check only boxes with PAYPAL payment instructions. Subscribers may or may not want automatic paid renewal status. Multiple emails only take more time and delays in our answers.

We receive many returns of magazines with incorrect addresses or no forwarding addresses. We try to visit our mailbox each day to check on incoming mail.

We have been able to answer most emails on serial number searches and complete our letters.

### **AUCTION HOUSES**

Auction houses are maintaining high-volume sales and record-breaking high-dollar purchases. They all expect this trend to continue.

We would welcome comments on sales markets and other data on rare and more common weapons from our subscribers. There is a wealth of information in collectors' personal data.

### **SPRINGFIELD RESEARCH SERVICE DATA BASE STATUS**

SRS relies on the U.S. Postal Office for all delivery of our products. Please email us if you have any problems. All letters are based on records that we have in our files, but records that are in loose-leaf papers require much more time to produce. These files have been kept as emergency data from older files found at many U.S. Archives locations.

The best way to request a serial number search is by email,  
([editor@usmartialarmscollector.com](mailto:editor@usmartialarmscollector.com)).

### **ADVERTISING**

The magazine will continue publication in March, June, September, and December of each year. We expect first class U.S. mail to be started on the first of each of the months listed. December 2022 issue deadline is November 12, 2022.

We reserve extra copies of each printed issue but cannot keep an unlimited number needed for reserves. Lately, SRS ran out of many contemporary issues. We rely on our current mailing lists for our subscribers.

Please send any changes to SRS Box 126 Cabin John, MD 20818. We always need updated names and addresses. This is a continuing problem.

SRS will continue to show last issue numbers after each subscriber's name.

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This will be reviewed to use the best way to keep subscriptions up to date.

Direct email to  
editor@usmartialarmscollector.com. This is  
the best way for a message.

## **CURRENT ISSUE**

Issue 173 dated December 2022 is the current issue and is set to be mailed the 1<sup>st</sup> of December 2022.

## **2023 SCHEDULE**

March 2023 issue deadline is 11 February.  
June 2023 issue deadline is May 13, 2023.  
September 2023 issue deadline is August 2023.  
December 2023 issue deadline is November 11, 2023.

## **SPRINGFIELD RESEARCH LETTER INFORMATION**

## **COMMENTS AND INPUTS**

Please send to:  
editor@usmartialarmscollector.com.  
An inquiry can also be made by U.S. mail to  
SRS Box 126, Cabin John, MD 20818. The  
response will take an extended time.

## **LETTERS WRITTEN**

Revolver, Colt Double Action 38 Caliber,  
serial number 3028, CMO Sold to New  
York Police officer, May 10, 1895.

Rifle, U.S. Cal. .30, Model 1903, Sporting  
Model, Serial Number 1 357 329. Sold to

R.L. Montag, Butler, PA. January 30, 1931.

Rifle, U.S. Cal. .22, Model M2, parkerized,  
N.R.A., with target. Sold to Mr. James R.  
Ahl. P.O. Box J, Alamo, New Mexico.  
February 15, 1939.

U.S. Springfield Model 1903A1, Caliber 30,  
Serial Number 1 265 872, Service, New.  
Sold to Major E.A. Kindervater, MC.,  
Office of the Quartermaster, Selfridge Field,  
Mich. May 6, 1935.

U.S. Springfield Model 1903 Receiver,  
Caliber .30, Serial Number 1 525 382,  
Service Type. Sold to J.A. Jones, Balboa,  
CZ. (Canal Zone), January 22, 1940.

Rifle, U.S. Cal. .30, Model Style T, serial  
number 1314415. Sold to Claude D. Stock,  
Denver, Colorado. December 16, 1930.

U.S. Colt Model 1911, Serial Number  
96514. Shipped to USS Hannibal AGI  
July 26, 1938. This data was found in U. S.  
Archives Record Group 74, Washington,  
D.C., Naval ship records.

## **MARYLAND ARMS COLLECTORS ASSOCIATION**

The Original Baltimore Antique Arms Show  
State Fairgrounds, 2200 York Road,  
Timonium, MD 21093. The 67th show will  
be held on March 18-19, 2023, it is  
scheduled to have one thousand  
eight feet tables and will be hosted by the

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old-line Maryland Arms Collectors Association.

They can be contacted at Maryland Arms Collectors Association Box 1276 Ranson, WV 25438.  
(MACA@baltimoreshow.com).

## SPRINGFIELD RESEARCH SERVICE

We will continue to publish as many articles as possible with information that is of interest to our readers.

### M1 Garand evolution of rear sights *Courtesy of Larry Babcock*

The M1 Garand rear sight was basically the same through its production with variations. The adjustable peep sight started with the windage and elevation being adjustable. The sight adjustments were designed to lock the setting after the shooters settings. The first was the flush nut lock that was small and if not adjusted correctly could come off. The second variety was a lock bar. The bar was larger and had three changes during its use. Three types evolved. They were identified as Type I, Type II and Type III. The Type I used a smaller 4-40 pinion. The Type II was stronger and has an 8-36 thread pinion with a small hole on the end to allow the bar to be staked on. The bar was rounded in the ends to make the profile smoother. The Type III was like type II but the end of the bar was

square for less machining to allow for faster manufacturing. Winchester made the Type II and Type III with small variations. The lock bar system was easy to come apart the small parts of the system to get separated so at the end of WWII a new design called the T105E was designed. This had assembled parts that did not come apart and a single windage knob assembly was installed as a unit. This Type was used by the four makers of the M1 Garand (Springfield Armory, Winchester IHC and HRA).



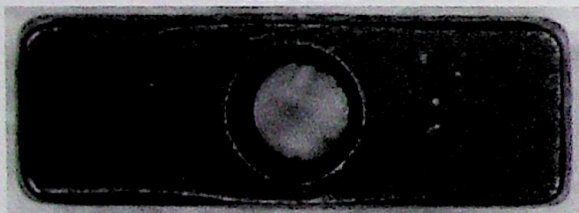
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Flush Nut, Type I Lock Bar, Type II lock Bar and Type III lock Bar.

The bars.



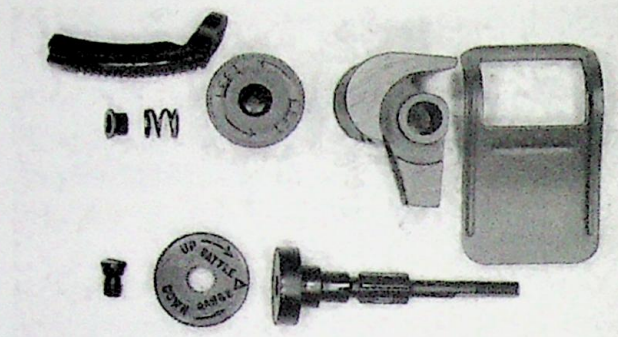
Type III lock bar (square bar) 8-36 NF thread. Observed July 1944 3,000,000 to end of WWII production.



Type II lock bar, larger hole 8-36 NF thread. Observed 1,100,000 to July 1944 3,000,000.



Type I lock bar, smaller hole 6-40 NF thread. Observed on rifles 500,000 March 1942 to 1,100,00 December 1942.



Small parts of a lockbar sight without the bar. (6 parts for the pinion)



T105E pinion parts (two parts for the pinion)

Note: Photos from the M1 Garand Photo Essay book by Larry Babcock

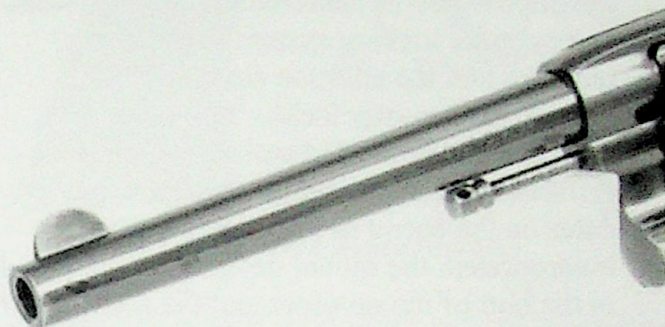
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## COLT MODEL 1894 ARMY REVOLVER

*By Marc Gorelick and Tim Prince*

*Photos by Tim Prince, College Hill Arsenal  
(unless otherwise credited)*



*Colt Model 1894 Army revolver*

In 1889 Colt revolutionized their revolver product line by introducing their first double action, swing-out cylinder revolver, the Model 1889 Navy Double Action Revolver. A number of countries such as France, England and Austria had fielded double action revolvers and the advantage of a handgun that could be rapidly fired by simply pulling the trigger, and used the new smaller smokeless cartridges, was not lost on ordnance officials.

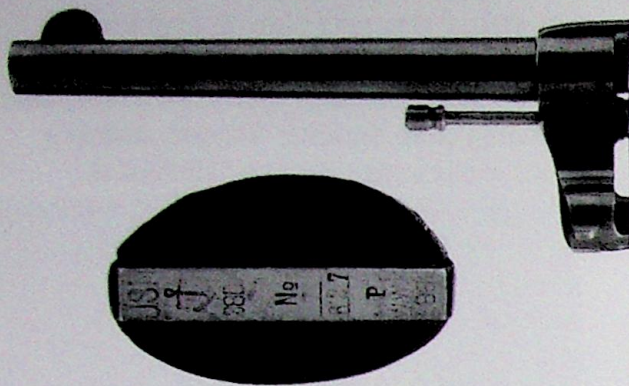
Colt had manufactured double action revolvers before, starting with the Model 1877 "Lightning" and "Thunderer" in .38 and .41 calibers respectively, and a year later, the larger frame Model 1878 "Double Action Frontier" in .45 caliber. However, these and all other Colt large frame cartridge revolvers retained many of the features of the Model 1873 Single Action Army with its fixed cylinder and side loading gate to access the chambers of the cylinder for loading and unloading. While the design was very strong due to the solid frame and

top strap, it was very slow to load and unload. Colt's primary competition in the United States for large frame revolvers came primarily from Smith & Wesson, and to a much lesser extent Merwin, Hulbert & Company. While the Smith & Wesson top-break revolvers offered automatic extraction and quick reloading, they did not have the strength of the solid frame Colt designs. Thus customers had the choice of the stronger Colt design with slower loading and reloading, or a slightly weaker Smith & Wesson design that offered much faster loading and reloading.

Colt worked to develop a double action revolver with a swing out cylinder with simultaneous extraction. The design teams, first led by Colt employees William Mason and later by Carl Ebbets and Horace Lord developed the features that would eventually go into the New Model Army & Navy. At the same time as Colt was working on a new revolver double action revolver with a swing out cylinder and simultaneous extraction, the U.S. Navy, in late 1887, asked Colt to design a pistol with those very features. Colt produced the Model 1889 New Navy Self Cocking Double Action Revolver for the Navy in .38 Long Colt, the first in Colt's line of New Army and Navy Double Action Revolvers. The US Navy was pleased with the design and purchased some 5,000 at \$12 each. Colt's main competitor Smith & Wesson did not come out with its Hand Ejector version of the solid frame, double action, swing-out cylinder revolver until 1896.

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*Unaltered Colt Model 1889 Navy Revolver serial number 627. Photo courtesy of Rock Island Auctions.*

The Model 1889 changed everything, as the swing out cylinder and manual ejector system offered the reloading speed of the Smith & Wesson, but retained the solid frame design of the earlier Colts for strength. The revolver featured a counter-clockwise rotating cylinder, which was opened for loading and ejection by simply pulling back with a thumb on a latch on the left side of the frame. When the latch was pulled the cylinder could be easily pushed out sideways with a finger. Pushing back on an ejector rod activated a star extractor which ejected the empty fired cases. The revolver could then be quickly reloaded and the cylinder clicked back into place.

Although nearly all of the revolvers were eventually modified by Colt to include a more secure cylinder locking system, the revolvers performed well enough for the US Army to look at abandoning its 29 year old Single Action Army revolvers and adopt a modern, double action service revolver. The Army tested the Navy Colt against the Smith & Wesson Hammerless Safety Revolver and chose the Colt. The first model adopted by the Army was the Model 1892 New Army & Navy Revolver, and over the next decade

thousands of the new double action revolvers would be acquired by the US military, with model designations of Models 1892, 1894, 1895, 1896, 1901, 1903, several Navy models and the M-1905 US Marine Corps variant. The differences between the various models were almost impossible to observe from the exterior of the revolver, as the improvements centered on the lock work and cylinder locking system - cylinder redesign and the addition (in 1894) of trigger and hammer locks. The only significant external indications of differences were the addition of new patent dates on the barrel as improvements were incorporated, the model designation stamped in the butt of the revolver and the addition of a lanyard ring starting with the Army Model 1901 revolver.

All of the Army procured revolvers had the same basic features. They were double action revolvers with 6-shot swing-out cylinders and 6" tapered round barrels. The guns were blued and the military contract arms had oil finished walnut grips. While Colt offered the Model 1892 family of revolvers in .41 Long Colt, .38 Long Colt and .32WCF to civilians, only the .38 Long Colt chambered revolvers were procured by the military.

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*Colt Model 1894 Army revolver*



*Colt Model 1894 Army revolver*

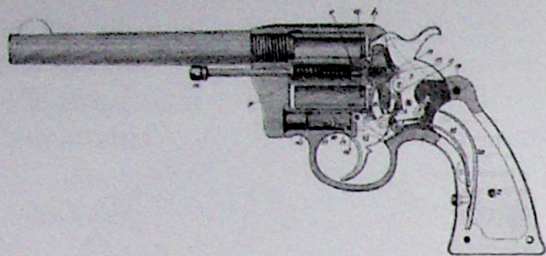
The .38 Long Colt was an inferior cartridge when compared to the other large frame revolver cartridges of the day. It fired a 150-grain lead round nosed bullet with a .361" diameter at about 770 feet/second, resulting in muzzle energy of about 200 foot/lbs. By contrast, the .45 Colt cartridge that the new cartridge was replacing produced around 450 foot/lbs of muzzle energy by firing a nominally 250 grain lead round nosed bullet at around 800 feet/second. That was more than twice the power of the new .38 Colt. The old .45 Colt

had nearly identical ballistics as the .45ACP which would eventually become the standard US military handgun cartridge with the adoption of the M-1911 semi-automatic pistol. The .38 Long Colt was instrumental in the re-adoption of the large bore .45 caliber service handgun, due to numerous "failures to stop" in the field.

The Army's Model 1892 New Army & Navy family of revolvers were the standard handguns for the US military from 1892 through 1909, when the US military returned to a .45 handgun with the adoption of the double action Colt New Service Model 1909 revolver. The Model 1892 New Army & Navy Revolver series saw service in the Spanish American War of 1898, the Philippine Insurrection (the Philippine-American War) from 1899-1902, and numerous "small" military interventions in South and Central America, the Pacific (Samoa and Hawaii), China (including the Boxer Rebellion), Korea, Syria, Abyssinia and Morocco ("*Perdicaris Alive or Raisuli Dead!*"). It was during the war in the Philippines that the stopping power of the .38 Long Colt was seriously questioned. A number of recorded instances exist where multiple hits with .38 Colt bullets failed to stop charging Pilipino warriors. This became an even more serious problem during the Moro Rebellion in the Philippines, where raging Moro tribesmen, fortified with various natural herbs and intoxicants, were seemingly immune to numerous hits from the anemic cartridge. The result was the emergency re-issue of old Colt M-1873 Single Action Army revolvers, and the issue of the Colt Model 1902 "Alaskan," with their man-stopping .45 Colt cartridges.

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*Cross-section diagram of Colt Model 1892 Army Revolver as shown in official U.S. Army description. Annual Report of the Secretary of War for the Year 1893, Volume III Report of the Chief of Ordnance.*

The major mechanical differences between the Model 1892 and the Model 1894 Army revolvers were mostly on the inside. Soon after the Model 1892 was issued the Army discovered a serious flaw. The revolver's hammer could be dropped when the cylinder was not fully swung home and locked into the frame. The Army and Colt introduced a design change that prevented the hammer from falling if the cylinder was not fully latched. The modifications added two new parts: a locking lever and a locking lever screw. Colt modified the frame by milling a vertical slot into the interior of the left side. The new locking lever screw attached the new locking lever in the newly milled slot. The screw protruded through the frame below the cylinder latch on the left side. Another interior change lengthened the mounting pin. The major visible exterior change was to the address marking on the top of the barrel – Colt added a March 5, 1895 patent date with the second contract for the Model 1894 Army starting with serial number 63000. Colt modified most of the 8,000 Model 1892s which they had already delivered to the Army to Model 1894 standard and over the next several years the Army entered into four contracts with Colt for 18,000 Model 1894 Army revolvers.

The Model 1894 Army revolver was succeeded by the Model 1896. This was essentially a Model 1894 with the only internal changes supposedly being in strengthened hand springs and bolt springs. The only real external change is in the butt markings.

The specifications for all the Colt Model 1892 series revolvers, including the Model 1894, are essentially the same. The gun weighs 2 pounds, 1 ounce and is 11.5 inches long. The 6 inch long barrel has 6 rifling grooves with one turn in 16 inches, and the bore is 0.363 inch. (Note: The bore diameter of the Model 1903 Army revolver was reduced to 0.358 inches to enable it to handle the more slightly powerful Smith & Wesson .38 Special cartridge.)

This example of a Colt Model 1894 New Army & Navy Revolver is in excellent condition and retains nearly all of its finish, showing only the most minor finish loss due to handling and light use. It shows just enough wear to know that it was issued, and did not spend its life in an armory never having seen the field at all. The trigger and hammer are niter blued, with the sides of the hammer polished bright. The bore is bright and shiny with very crisp and sharp rifling. The revolver is mechanically excellent and the action still functions perfectly. The cylinder rotates, times, indexes, and locks up exactly as it should. The cylinder swings free smoothly and the cylinder locking catch functions perfectly, releasing crisply and latching securely,

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*The top of the revolver's 6" long barrel is clearly marked in two lines: **COLT'S PT F.A. MFG. CO. HARTFORD CT. U.S.A. / PATENTED AUG. 5, 1884 NOV. 6, 88. MAR. 5, 95.***



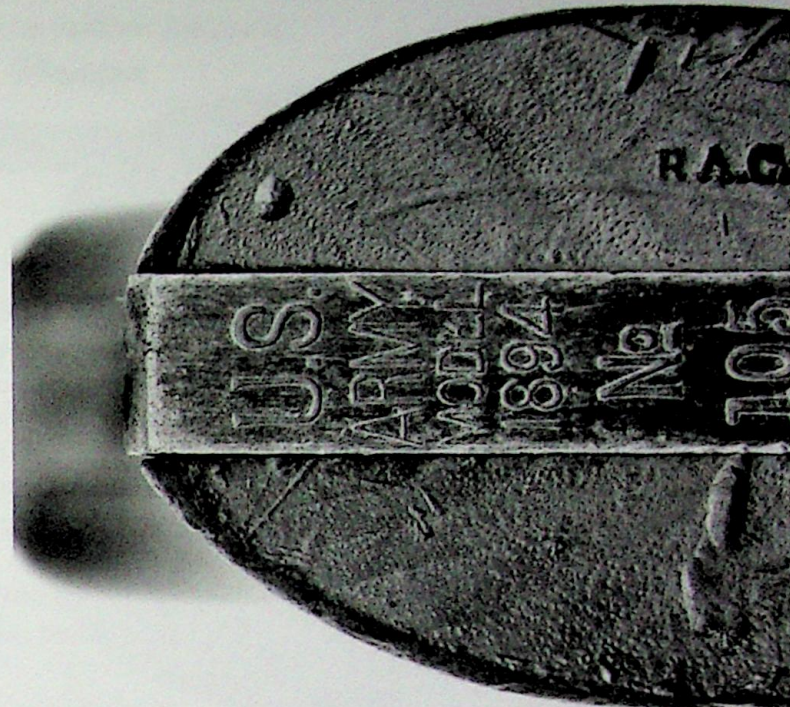
*The left side of the barrel is clearly marked with the caliber of the revolver, **COLT. D.A. 38.***



*Model 1894 revolvers have **P** proof marks stamped on the rear of the cylinder and the bottom of the barrel just forward of the frame.*



Model 1894 revolvers have **P** proof marks stamped on the rear of the cylinder and the bottom of the barrel just forward of the frame.

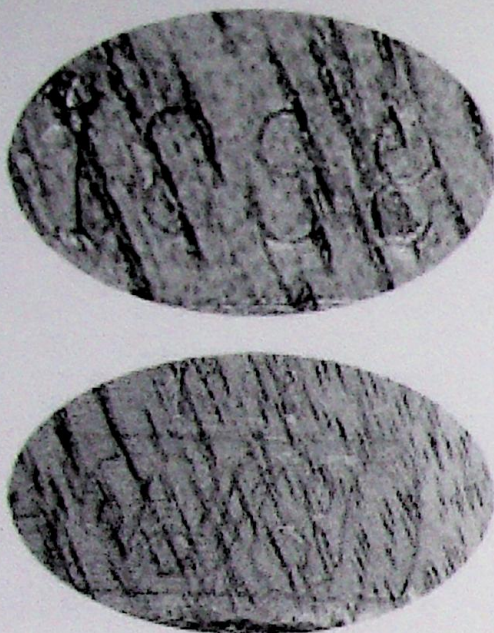


*The bottom of revolver's butt is crisply marked in seven lines: **U.S. / ARMY / MODEL / 1894 / No / 105 / 846.** This revolver never went through the later upgrade of adding a lanyard ring to the bottom of the butt.*

The cylinder release is marked **K** over the number **5846**, which is the last 4 digits of the serial number. The last four digits of the serial number also appear on the inside of the frame where it meets the crane, and on the crane itself. Both grips bear the pencil number **5846** on their interiors as well.

The upper left rear of the frame bears the initials of US Ordnance Sub-Inspector Rinaldo A. Carr and is crisply stamped **R.A.C.**. Carr inspected a wide variety of US small arms, including Colt Model 1873 Single Action Army revolvers and Colt Model 1892 series revolvers, working in that capacity from 1889 to 1909. His inspection initials are also present on the rear of the cylinder.





*Cartouches on Walnut Grips*

The two-piece oiled walnut grips are solid and complete and free of any breaks, cracks, chips or repairs. They show some minor handling marks and light dings from service and use, but absolutely no abuse or damage. The bottom of the right grip panel also bears Carr's script **RAC** inspection cartouche. The left grip panel is marked with the acceptance date **1898** over the script **DMT** acceptance cartouche of Ordnance Department Captain Daniel M. Taylor.

When the .45 Colt, double action Colt Model 1909 New Service Revolver was officially adopted the Model 1892 family of handguns were relegated to secondary service, and with the adoption of the M1911 Pistol, they were eventually removed from service. However, the double action, .38 caliber revolver with the swing out cylinder was now entrenched enough in US military

service that revolvers would continue to see issue and use on a limited, emergency and secondary basis. For example, at the beginning of World War 1 the shortage of modern handguns was so dire that about 25,000 Model 1892, 1894, 1895, 1896, 1901, 1903, and 1905 were taken out of storage and issued as supplementary side arms to rear echelon troops in signal, supply, engineering, transportation and other service units. Many of these pistols were updated/modified Model 1894s. In January 1918, 25,000 New Army model National Guard revolvers were ordered into service and a number of the Model 1892 and Model 1894 revolvers were updated to Model 1901, 1903 and 1905 standard, including the addition of a lanyard ring. About 7,000 of these .38 Long Colt revolvers were issued to the navy. All these .38 Long Colt revolvers in inventory were declared obsolete and discarded after the war.

Although the .38 Long Colt was supplanted by new, more powerful cartridges, the Colt New Army and Navy revolvers had revolutionized the way that the military looked at the service revolver.



*1898 Mills Cartridge Belt with the 1892 holster for the .38 caliber Colt Double Action Revolver. **Army Photo***

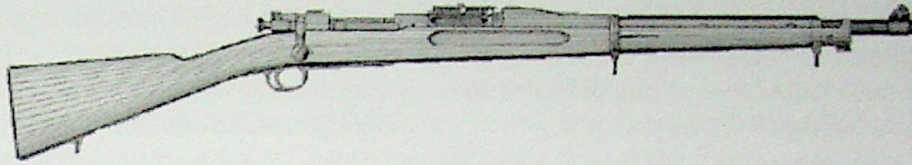
*U.S. Martial Arms Collector 173-12*



# "On Target without a Shot Fired"

*A WWII Story of Remington's Incredible Ingenuity*

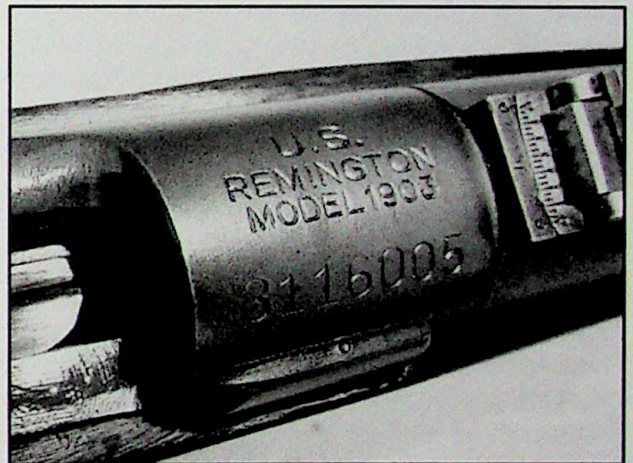
*By William R. Hansen*



**Forward:** There is little debate about the Remington genius coming alive during our nation's World War II (WWII) effort. An entire series could be devoted to a great number of proofs, including the notable development and production of all manner of munitions. But, it also showed up in myriad of other war-time toil having received far less press. This is a story about one of those enterprising behind the scenes quests for which little is known or documented by historians. It's the story of Remington's finding a faster and more cost effective means to attain U.S. War Department approval of M1903 rifles manufactured at their Ilion, NY plant required to meet stringent targeting and accuracy compliance before acceptance into service.

**Introduction:** The story of Remington's WWII contract to reproduce the Springfield, Model 1903 rifle to meet the British government's urgent small arms need has been well documented in previous writings. So, it won't be rehashed in any detail at this time.

Nevertheless, as collectors may recall, things rapidly changed after the Pearl Harbor debacle on December 7, 1941. U.S. entry into the worldwide conflict suddenly and radically changed things at the Remington Arms Company (RAC). With the new semi-automatic Garand not yet available in sufficient numbers to supply our troops, the reliable '03 became necessary in far greater quantity. The original British contract was based on a production rate of 1000 rifles per day using 20 year old tooling mothballed since WWI. However, the changed circumstances with U.S. entry into the war quickly resulted in raising the output requirement to 2000, then to 3000 rifles per day. From an operations and manufacturing standpoint, it changed everything, including making an enormous number of alterations to the rifle. But, the augmentation effort went far beyond rifle production alone.



For example, one of the issues the RAC faced was limited capacity at the Ilion, NY plant firing range facilities to target rifles for final acceptance. The requirements of U.S. Ordnance Department specifications at the time required live fire targeting and accuracy testing at 100 yards pursuant to a rigorous rifle inspection and acceptance process. The Ilion facility simply didn't have the space. So, it didn't take long for alternatives to be proposed.

In a memo from A.E. Buchanan to E. C. Hadley dated March 16, 1942, it was urgently suggested that some sort of **mechanical or optical bore sighting device** "be constructed to supplement range facilities". Between March 21 and 24, the principles of such a device were conceived and presented. What followed becomes a fascinating response for which this article is dedicated.

**U.S. Army Rifle Specifications:** When the order came down from the U.S. Government in February 1942 mandating the RAC increase rifle production up to 2000 units per day, then increasing it to 3000 ... a bit of panic was immediately felt throughout the entire organization. Managers and technicians deep inside the RAC got about the business of examining the operational and manufacturing consequences across the board. They had already concluded that making 1000 rifles a day using the 19<sup>th</sup> Century tooling transferred from the Rock Island Arsenal was only marginally possible, let alone 3 times the amount. But, beyond that... they faced an incredible number of mobilization decisions in other critical areas in order to meet approved rifle



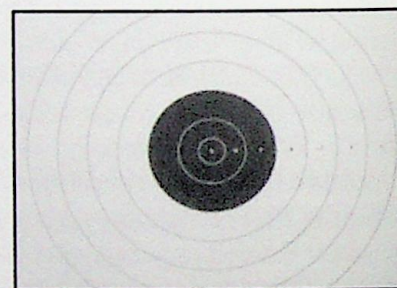
delivery schedules to the warehouse. In getting there, they had to satisfy U.S. Army specifications AXS-619 recently updated on March 13, 1942 (Revision 2) that governed the entire rifle manufacturing process.

As the introduction alludes, this article only targets a small segment dealing with the tail end of the production cycle related to final targeting/accuracy to meet rifle performance standards specifically dealing with the following four categories: (1) Barrel Bedding; (2) Function firing; (3) Targeting; and (4) Rifle accuracy. Each one required compliance with strict standards and procedures under Ordnance final inspection that were both time consuming and expended a lot of ammunition.

In summary, **bedding** of the barrel and receiver within the stock required a clearance of approximately 3/32 inch between the rear end of the receiver tang and the stock, including close tolerance clearances along the barrel and stock axis to assure no bearing or contact. But, it also required "...the barrel rest on the wood at the muzzle end of the stock", i.e. with the pressure required to force the barrel away from the stock not be less than three or more than five pounds. (Note: After further empirical testing, the latter was eventually changed by an update of the AXS specifications series to "...not be less than 3 pounds nor more than 10 pounds").

Secondly, each rifle had to be separately tested for **function** by firing at least five rounds of caliber .30 Ball Ammunition, M2 type, loaded to a velocity of 2740 fps to verify faultless operability between all bolt and receiver parts.

Lastly, every rifle had to then be fired for **targeting** and **accuracy** on a 100 yard range, utilizing standard gallery targeting methods involving a fixed or muzzle and elbow rest. This entailed two sequential sub-tasks. The first was to fire sufficient rounds while moving and adjusting the front and rear sights until proper alignment produced an "on target" center point no further away than 4 inches from the point of aim. This task was commonly known as bringing the sights within "point of aim". Lastly, five rounds of especially prepared caliber .30 Ball, M2 Ammunition ("reference ammo") of known accuracy had to be fired with each shot cutting/grouping within the inside edge of a three inch circle.



The foregoing was an essential requisite for every rifle accepted for delivery to the U.S. Government. The consequences of failure translated into a time delaying rejection and reparations process that could involve an entire lot of 500 rifles having to be re-targeted. So, it didn't take the RAC very long to recognize that meeting these requirements would not only tax their meager range/gallery facilities at the Ilion, NY plant, but likely could never be accomplished considering the impending increase in rifle production to deliver 3000 fully approved units per day. The Ilion, NY targeting facility had a total of 6 firing stations with essentially no expansion possibility. There had to be another way to get the rifles more expediently delivered from the point of final assembly for final Ordnance acceptance and delivery to the warehouse.

**Birth of the "Optical Bore and Sight Aligner":** Upon an order from the headquarters office to "...come up with some ideas about addressing this problem", the RAC's Research Division staff at both Bridgeport and Ilion immediately went to work. Due diligence followed and on March 31, 1942 a concept project was proposed and summarized as follows:

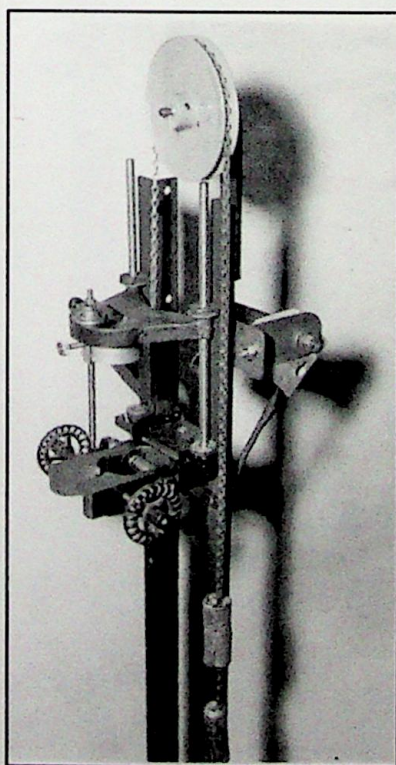
*"The details of the design involve a plug to fit into the barrel at the muzzle. It is planned to have mirrors and lenses attached to this plug, making a projection system for examining the gun sights and their alignment while adjustments are being made."*



A few days later (April 3 and 4), their proposal was presented to the Springfield Armory for review and input, followed up with an Ordnance Department approval for constructing an experimental model for testing purposes. Armed with an approved appropriation request *"in order to reduce the range requirements for testing rifles at Ilion"*, an experimental model nick-named the BSA (***Bore and Sight Aligner***) was fabricated. By the end of June, the first 100 rifles had completed testing followed by an interim report that the optical-mechanical device was making constructive progress and *"found to be satisfactory"*, i.e. all results thus far *"being very encouraging"*. The Research Division's Monthly Progress Report of July 1942 announced readiness to begin *"A large scale plant test on this equipment"*.

The next step was construction of a pilot model for use by the Ilion Military Quality Section to not only refine the apparatus further based on their learning experience to date, but engage a more extensive testing program to determine any limitations of the equipment before final deployment for large scale plant use.

**The BSA Project Reaches Maturity:** Finally, in an August 13, 1942 Memorandum written to G. O. Clifford, Ilion Plant Manager from R. A. Hentschel, Asst. Manager of the Research Division, the BSA was *"...now felt to be ready for use on a semi-works basis"*. His report details that the pilot model constructed for further testing had been reassigned to serve on a regular basis in the military gallery as part of mainline production use. He goes on to state that about 500 guns (Note: actually 527 guns) have been bore sighted with the BSA to date. The results were both very encouraging as well as having by-products that reveal early disclosure of nagging secondary concerns that are not normally learned during a standard targeting/accuracy cycle. An example follows:

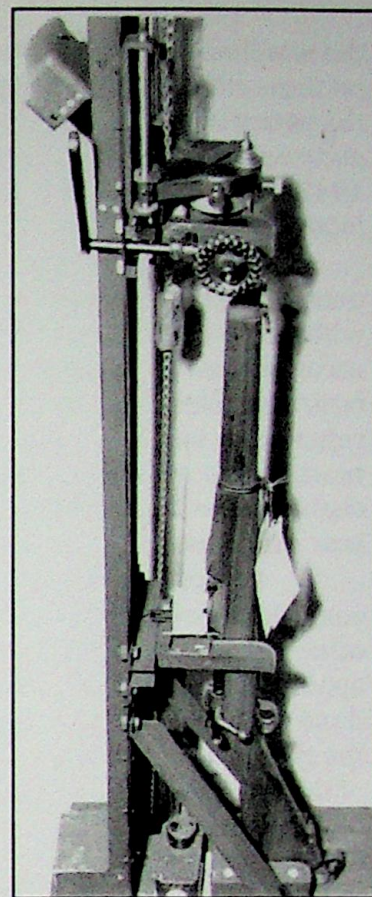


**Photo 2:** BSA Close-up

*"Results indicate that if guns are taken from regular production under the conditions which exist at present, from 5% to 10% will target outside the limits after bore sighting. A careful check on 242 guns gave 16 rejects for this reason and 12 rejects for excessive overhang of the front sight. This test also indicated that a large proportion of guns which fail to target within limits after bore sighting fail because of bedding faults. Of the 16 guns rejected for targeting outside the limits, 11 were found to have bedding faults. After correcting these bedding faults and re-adjusting the sights with the Bore Sighter, these 11 guns came within tolerances."*

The conclusion from this one experience was that the BSA is also capable of forecasting bedding failure issues before unnecessary ammo is expended during a typical targeting/accuracy session. Moreover, it was suspected that too many bedding problems are slipping through prior inspection phases of the rifle assembly process. Indeed, it was further believed that those rifles that do slip through adequate bedding inspection, but also happen to also be favorably corrected through conventional sight adjusting during regular targeting at the gallery range, are unknowingly resulting in hidden problems not heretofore identified. In other words, *"...it is questionable whether they will remain within these standards after continued shooting"*.

Obviously, a major problem relating to sensitive areas to assure proper barreled-receiver bedding within the stock had been exposed since once a rifle is approved after normal fire-targeting; it is shipped to



**Photo 1:** BSA with M1903 Rifle

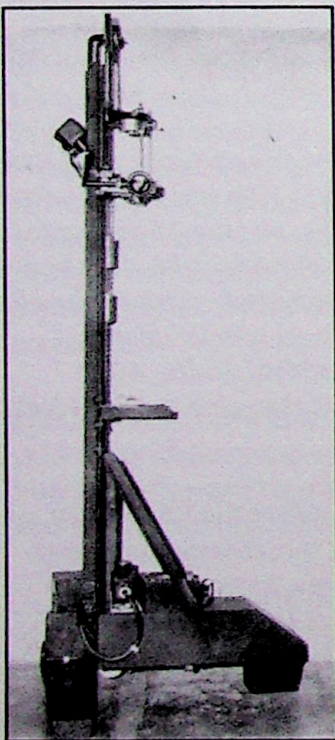


the warehouse to the U.S. Army for issuance. Hentschel's report goes on to suggest that if the bedding issues on these rifles coming to final targeting can be properly addressed when they should have been, the BSA has the potential when finally shot " ...to produce not more than 1% to 4% of guns which will fall outside of the accuracy standards...". However, as later reported in the Research Division's 3<sup>rd</sup> Qtr. Report (September 30, 1942), it was suggested that if such bedding problems aren't corrected, the BSA "...must become an intermediate step in the process of approval just to reveal bedding related issues".

But, this is not where it ended. There was yet another unforeseen by-product revealed by the BSA unit during the pilot-trial phase having to do with "bent barrels". The barrel straightening process (...along with barrel bedding) was considered more an art than a science during this period of history, i.e. entirely accomplished by visual means and left to the discretion of the straighteners and inspectors. While not as large a problem as barrel bedding, the BSA also disclosed the 3<sup>rd</sup> Qtr.- 1942 report that about 0.6 percent of rejects thus far "...were due to bent barrels or front sight bases offset to an extreme". The conclusion was reached that many of the rejects due to excessive sight overhang of the front sight base as well as requiring a change in the front sight blade size were technically attributable to bent barrels and/or misaligned front and rear sight bases.

In closing this section, Henschel also recommended that future trials of the BSA under plant conditions involve two man teams set up with one doing the gun pre-sighting with the BSA device and the other performing the follow-up targeting and accuracy firing. Obviously, he was concluding that the BSA apparatus had earned its way into both the manufacturing and inspection process. He felt strongly that if done this way, the total amount of ammunition shot can be reduced at least 50% and that in excess of 90% of the guns will be found within acceptable accuracy limits when first fired. As related to the latter, he was also of the opinion this percentage will increase substantially over time as bedding problems are minimized; and BSA operators master the learning curve in doing it right the first time. In other words, as the current need for retesting due to initial faulty operation of bore sighting decreases, the 90% average should increase to the 95%-98% range.

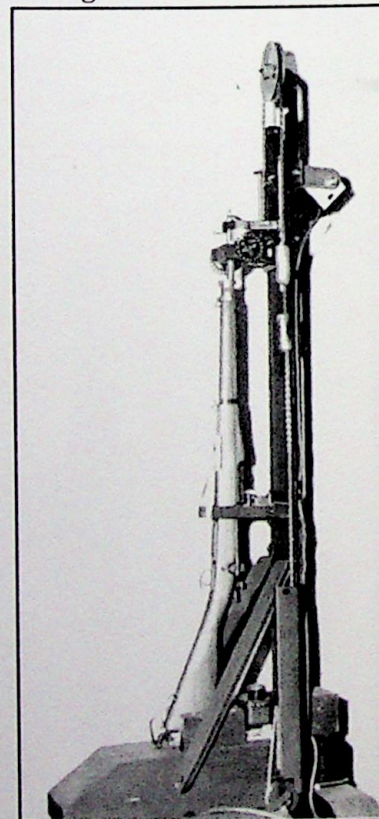
**Operation of the Bore and Sight Aligner:** The basic principles behind the design of the BSA apparatus were summarized previously as initially envisioned by designer P. F. Darby. Nevertheless, before going on ...and at the risk of boring some readers, there are those who might be interested in having a better appreciation of the engineering principles regarding operation of the device. A copy of the first sheet of the original August 13, 1942 plans (Drawing DPD 77) is attached on the on next page with additional photographs of the BSA itself on this page.



**Photo 3: BSA Full Size - Left Side**

As shown on DPD 77 (Figure 1), a special plug was designed to fit into the muzzle of the gun about three inches deep. Contained therein was fitted a compact optical system consisting of lenses and mirrors and whose optic axis was parallel to the sighting axis, but adjustable. In other words, the optical internals could be angle adjusted minutely from its parallel axis according to the range distance for sighting, i.e. 100 yds; 200 yds.; etc. The function of the lenses and mirrors

was to superimpose images of the front and rear sights on a screen as projected from the optical device via strategically placed illumination. Such lighting is shown on the Drawing in front of the rear sight and above the front sight. The screen was placed immediately behind the fully upright rear sight leaf and a reflector placed in front of the front

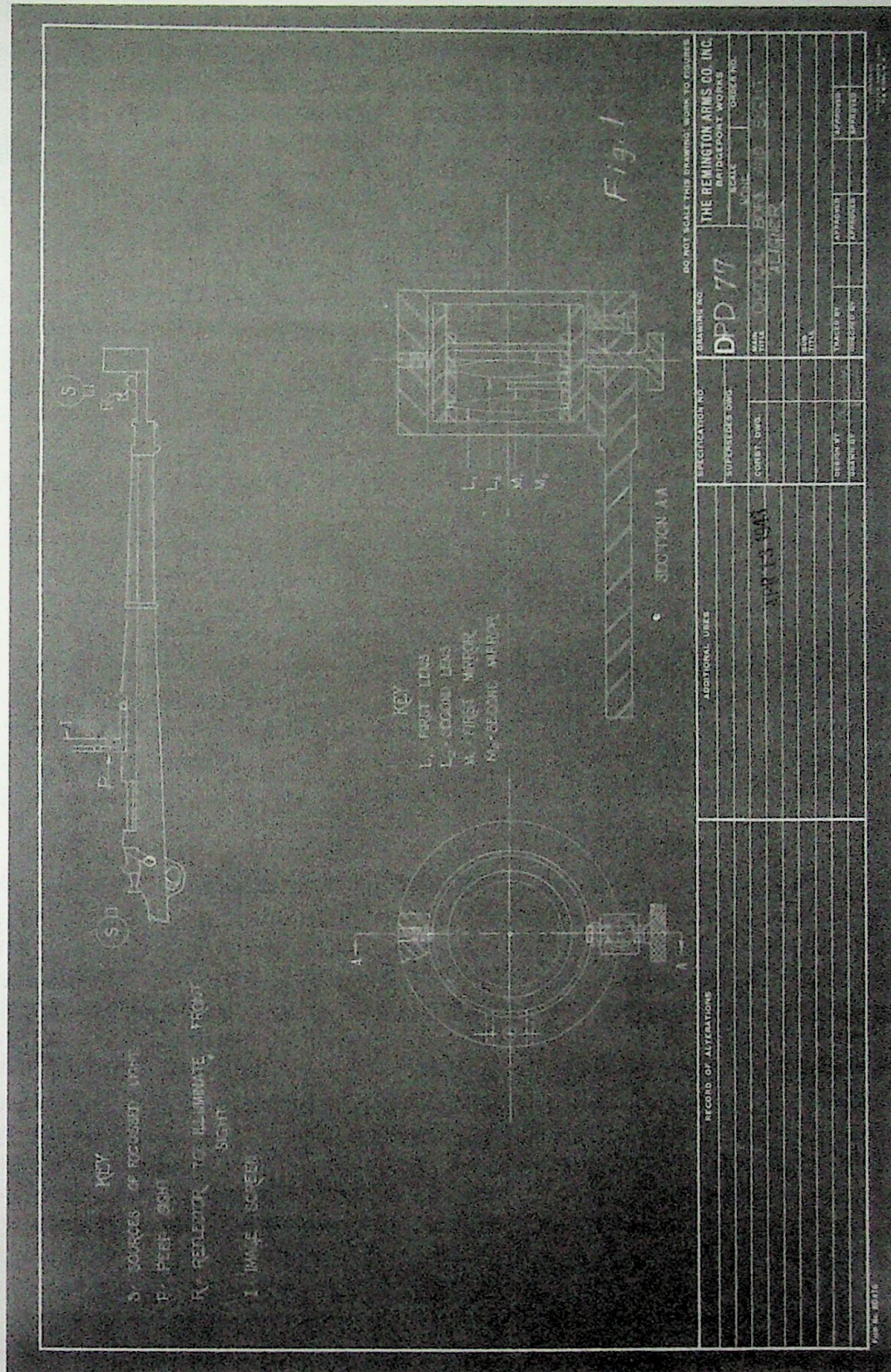


**Photo 4: BSA Full Size - Right Side**



# Optical Bore and Sight Aligner

August 13<sup>th</sup>, 1942

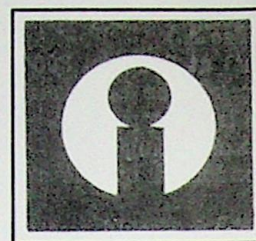


**Figure 1: Plan DPD – 77 “Optical Bore and Sight Aligner”**

sight with the purpose of bringing the sighting axis into proper angle with the bore as projected onto the screen.



The system had the flexibility to adjust each of the two sights independently or not at all, depending on the findings when the gun as held using vise type gripping vertically secured into the BSA apparatus for alignment testing. As stated, precise placement of the dual mirror and lens-sets inside the special bore plug were fixed such that each set functioned independently for the front and rear sights, thus allowing two separate light paths to form its own image on the screen. The two images were then adjusted by physical movement of the sights with the objective of superimposing both screen images onto one another forming a symmetrical pattern, i.e. bringing the sight positions into correct alignment much in the way as viewed by a shooter.



Shooter Sight Picture

**The Bore and Sight Aligner Goes to Work:** Since the original trials model was constructed, a number of improvements were incorporated to adapt the adjusting process to a greater variety of given situations, as well as increase the accuracy of the device. For example the design was altered to adapt optimum lenses and mirror selection for better magnification as well as increasing projection sensitivity to ease adjusting the positions of both the front and rear sights. Also, certain moving parts were hardened to minimize wear and replacement to help general maintenance frequency. In getting ready to deploy the BSA as a regular part of the military program, such improvements and refinements continued through the end of August and September 1942.

It was now recognized that the overall objectives of the program to supplement targeting facility insufficiencies were being well-served. It was not only saving labor and ammunition, but providing diagnostic benefits related to revealing critical operational, manufacturing and rifle assembly issues earlier than normally discovered.

The program continued uninterrupted on a mass basis on behalf of the ongoing M1903 "Modified" program into October when it was expected the M-1903A3 guns would begin coming off the line. The Research Division's Monthly Report for September 1942 recommended the BSA "...be adopted as standard equipment" in lieu of ammo firing to meet the proximate "point of aim" requirements. Indeed, the report goes on to say this "...will give a better check on accuracy than is possible with a firing test alone" along with a considerable savings in ammunition fired.

**A Closer View of the 527 Rifle Test:** About 1700 guns had been bore sighted with the BSA into early October. They were all completed by 3 well trained individuals on the apparatus. Their names were Larry Stopper, Earl Bullard and Andrew Strafel. Each had come through a learning curve that progressively reduced the number rejection incidents caused by operator failure. Two of these individuals (Stopper and Bullard) were eventually to become lead trainers later on as the program matured into the M1903A3 period of manufacture.

Included for sample purposes is a closer examination of the results of one of the initial BSA tests performed by Mr. Larry Stopper. The test entailed the pre-targeting sight alignment of 527 guns between August 28 and October 5, 1942 at the Ilion, NY plant. His efforts helped to form the basis for validating the apparatus up to that time through comprehensive time-study records as well as other key statistical data critical to overall evaluation of the program.

**Note:** Since many collectors often appreciate being able to find one of their collectibles listed in a historical document, A serial number list of all the 527 actual guns are itemized in the Appendix as published in Part 2 of this article in the next SRS edition. The earliest gun in the lot is SN 3078136 and ends with SN 3241632.

The analysis results shown on pages \_\_ and \_\_ is typical of the elements studied throughout Ilion's developmental research in determining feasibility for adopting the BSA apparatus on a permanent basis as extended to manufacture of the M1903A3 as well. Particular attention is drawn to the 6.6 % average of those guns immediately retested after the initial effort found the sights out of alignment. This is a good example of the emphasis placed the operator learning curve needing to improve with more experience in using the device. A review of the statistical results revealed that from August 28 to 30, the percent of guns that had to be re-sighted was 8.8%; then from August 31 to September 3, it gradually reduced to an average of 3.8%. Lastly, from September 4 through 14, the average further dropped down to 2.9%.



In addition, a review of the 21 guns rejected for being out of compliance with the BSA pre-sighting sent back for recheck of suspected bedding problems revealed the following results. It became an important talking point with employees in the "Rifle Assembly" group to appreciate the importance of minimizing resolvable problems before the rifles arrive at the targeting phase.

<b>BSA Test of 527 Guns - 8/28/42 to 10/05/42</b>			
<b>Item</b>	<b>Item Description</b>	<b>Number</b>	<b>% of Total</b>
1	Total Guns Bore Sight Aligned by BSA	527	100
2	Guns <b>OUT OF COMPLIANCE</b> - Initial Test	56	10.6
3	GUNS in No. 2 <b>RETESTED AGAIN</b> - Found in Compliance ( <i>Caused by faulty BSA Operation</i> )	35	6.6
4	Net Total Guns Found to be IN BSA COMPLIANCE	506	96.0
5	Remaining Guns OUT OF COMPLIANCE	21	4.0
6	Guns Sent back for a RIFLE BEDDING CHECK	21	4.0
7	Bedding Corrections Brought INTO COMPLIANCE	18	3.4
8	Net BSA Rejections due to OTHER REASONS, i.e. bent or misaligned barrels, etc.	3	0.6

<b>527 Gun BSA Test - Tabulation of 21 BEDDING FAULTS</b>		
<b>Item No.</b>	<b>Item Description</b>	<b>Number</b>
1	Barrel/Stock Bearing at Forend less than 3 lbs	4
2	Barrel/Stock Bearing at Forend more than 10 lbs	2
3	Receiver/Stock Side Clearance exceed tolerances	4
4	Barrel/Stock Channel Bearing Excessive	3
5	Barrel canted to Right Side in Stock Channel	1
6	Barrel canted to Left Side in Stock Channel	2
7	Other Problems unrelated to Bedding Issues	3
8	Total:	21

In summarizing the BSA testing and trial experience to date, it was observed on average that about 27 guns per hour could be cycled through the equipment per operator. Based on eventually having 6 BSA units (...one per each shooting port) along with a two shift 20 hour day and 360 day year, the plant potential could deliver 3240 rifles per day. In addition to the ammo savings during the *Targeting* phase thus far, the overriding experience indicated that two additional rounds during the *Accuracy* phase could also be saved, thus saving another \$290 per day at 0.05 cents per round. Doing so would pay for the new M1903A3 "...sighting equipment in less than a month". In other words, a study completed by the Methods and Standards Department indicated in lieu of the required 5 rounds fired per rifle, that 3 shots only would be sufficient to duplicate the desired accuracy outcome. The study report went on to conclude on behalf of the future "...to check-shoot only a portion of the rifles" would create an even larger savings.

In spite of the promise thus far, there was one other area that still represented additional corrective work that unfortunately was never fully resolved prior to termination of the RAC contract. As shown on the 527 Gun Test results above, there were still too many rejections due to bent barrels. Such rejections were often signaled by a BSA front sight correction leaving an excessive front sight overhang within its sight base.

At the time, barrel straightness determination was made immediately after the barrel was drilled and before the rifling phase. Acceptance was "...made entirely by visual means and was left to the discretion of the straighteners and subsequent inspection". There was no viable mechanical means available for gauging barrel bore straightness, thus leaving the results "...very uncertain and inconsistent". Moreover, it was not to be taken seriously until the M1903A3 program started producing rifles in December.

This concludes Part 1 of this article. As previously noted, the serial number list of all 527 actual guns is listed in Part 2 of this article's Appendix Section in the next edition. It is interesting that the listing also



validates the time period of the known rifle assembly/production charts for the M1903 "*Modified*" rifle presently relied upon by many collector authorities.

The author hopes the reader is enjoying this historical piece made possible from many enjoyable and productive hours spent by this scribe over the years as a research team member of the Remington Society of America (RSA). Moreover, if learning you are an owner of one of the guns in the serial number listing, you may welcome knowing that it was one of the rifles approved from developing a means of its being "***On Target without a Shot Fired***".

...to be continued

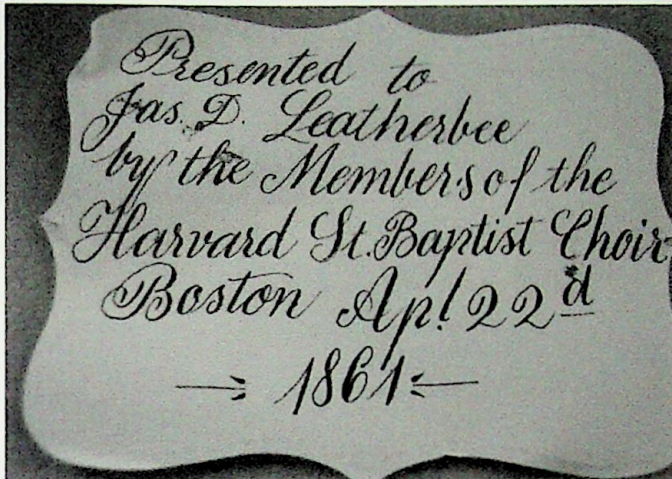
◇ ◇ ◇ ◇ ◇ ◇ ◇ ◇



# CIVIL WAR ALLEN REVOLVER

*Courtesy of Angus MacDonald*

Presented to  
Jas. D. Leatherbee  
by the Members of the  
Harvard St. Baptist Choir  
Boston, Apr. 22  
- 1861-

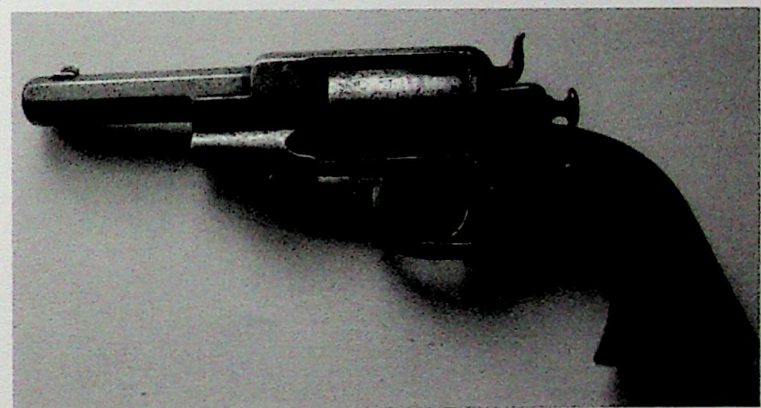


## REVOLVER IDENTIFIED TO A CIVIL WAR SOLDIER

This is an Allen and Wheelock 31 cal. five shot percussion revolver, no finish remains but the "deer in the forest cylinder scene" is still present. It was owned by James D. Leatherbee.

James mustered in, April 25, 1861, with company E of the 1<sup>st</sup> Massachusetts volunteer infantry, when he was 18 years old. He fought with the 1<sup>st</sup> at the first battle of Bull Run. He was slightly wounded at Williamsburg, Va. on May 5, 1862. He went on to fight at Fair Oaks, Seven Pines, White Oak Swamp, Glendale, 2<sup>nd</sup> Bull Run, Fredericksburg, Chancellorsville, Gettysburg, Wilderness, Spotsylvania, Harris Farm and many small engagements in between. He mustered out May 25, 1864.

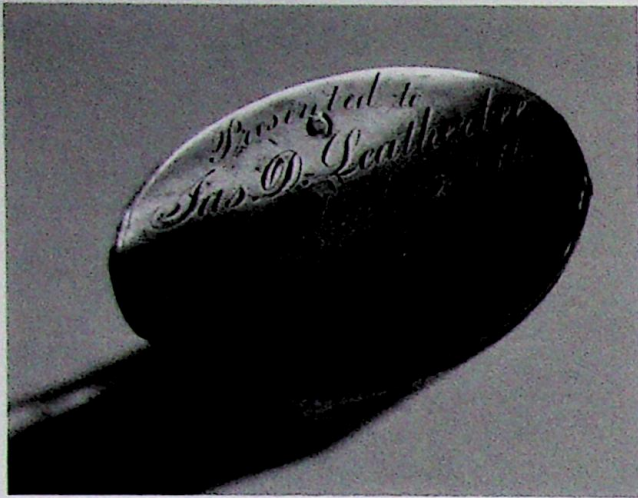
The revolver has a silver plate riveted to the butt which reads....



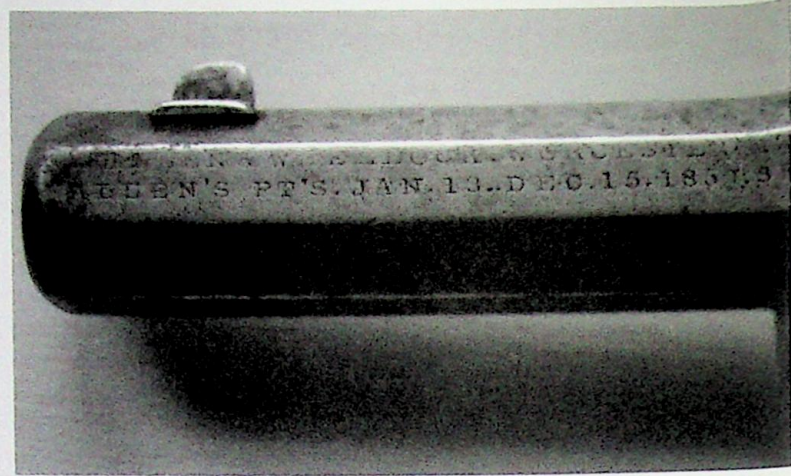
**Above:** Left and right sides of the Allen and Wheelock percussion cap and ball revolver with walnut grips, outside mounted hammer with screw and escutcheon, trigger guard and rammer combination assembly, take down screw on back of frame, caliber .31, and additional frame screw on bottom of frame in back of trigger guard,

***U.S. Martial Arms Collector 173-21***





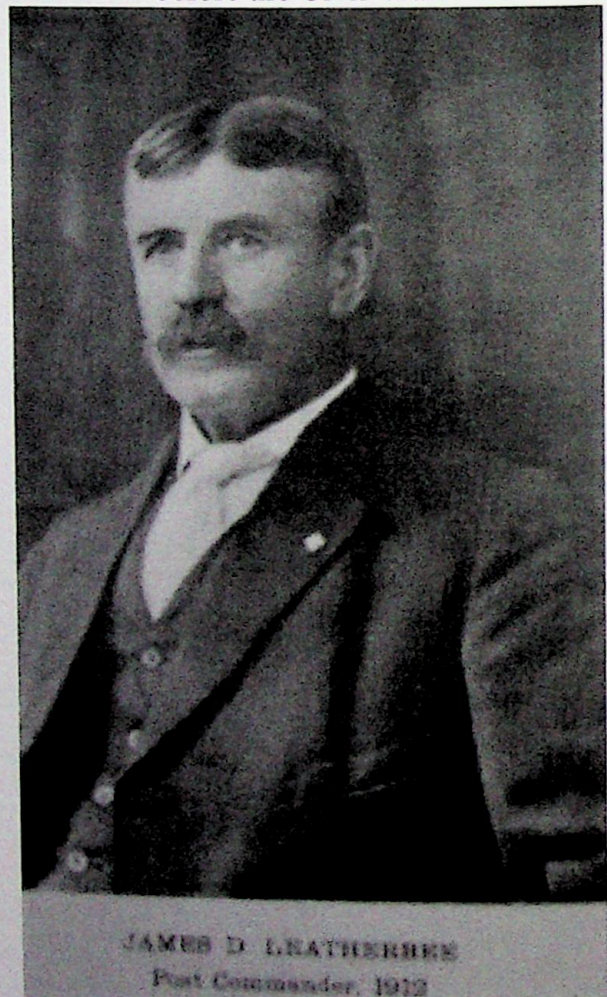
*Above:* Presentation engraving to James D. Leatherbee.



*Above:* Allens markings and patent dates before the Civil War.



*Above:* Exposed hammer and screw on right side of frame.



*U.S. Martial Arms Collector 173-22*



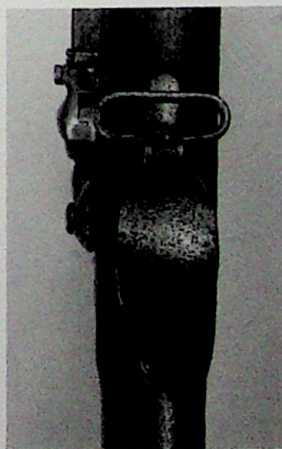
## BARTLETT MODEL 1808 MUSKET

An 1895 pattern Springfield Barnett flintlock musket is shown with Barnett markings in original flintlock condition.



This Musket is one of approximately 1,700 manufactured under a 2,500 gun contract to Asher and Pliny Bartlett of Springfield, Massachusetts, for Springfield "Model 1795" Charleville pattern muskets. Known Model 1808 muskets are rare and very difficult to find in original condition. Muskets are marked "US" over an eagle and shield over "BARTLETT" at the center of the lock. "1813" is marked on the rear tip of the lock. The left breech end of the barrel is marked with "1814:."

*Below:* 1813 marked lock. And bottom of trigger guard

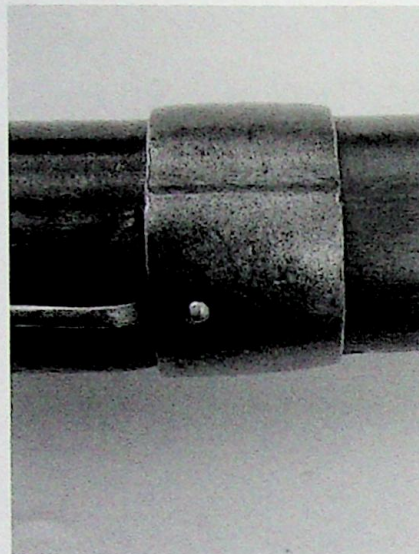




*Below:* Butt plate Marked U.S.



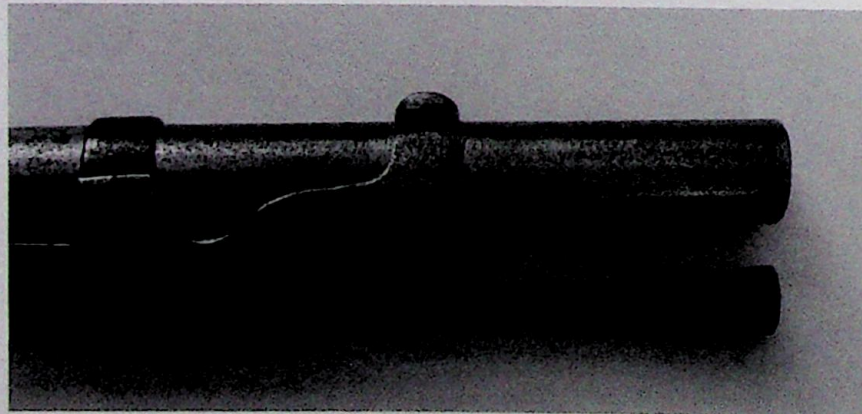
*Below:* Middle band.



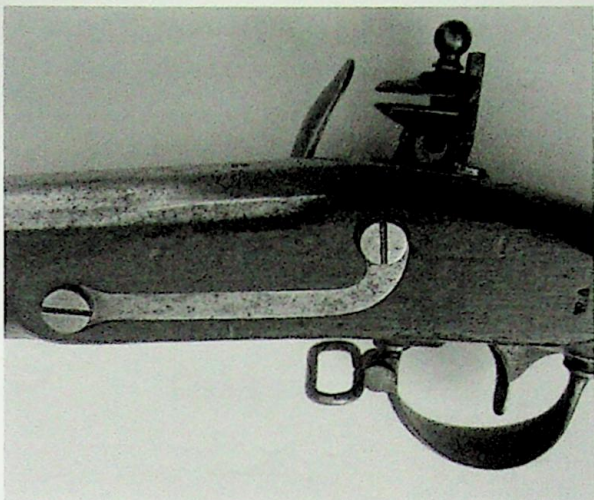
*Above:*

*Below:*

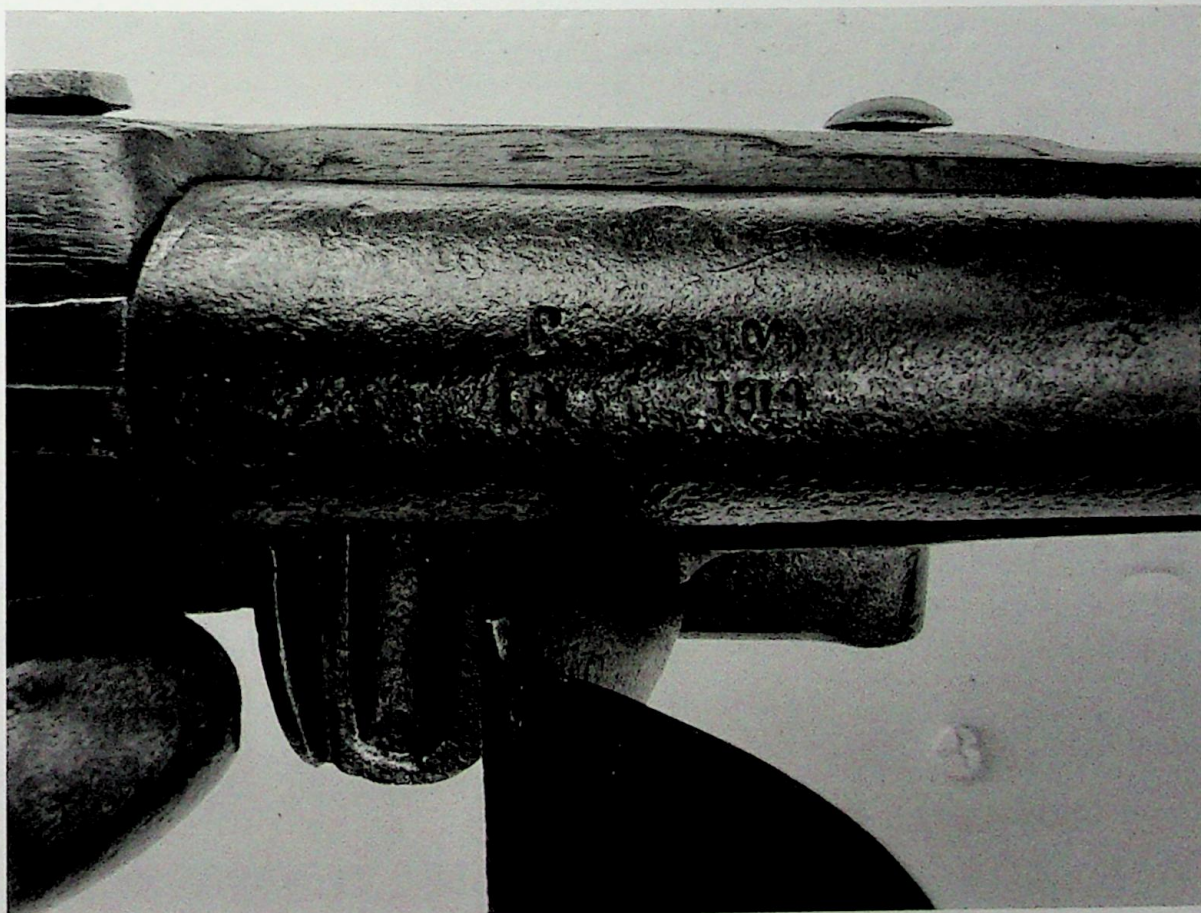
*Below:* Muzzle, ramrod, and upper band with sight





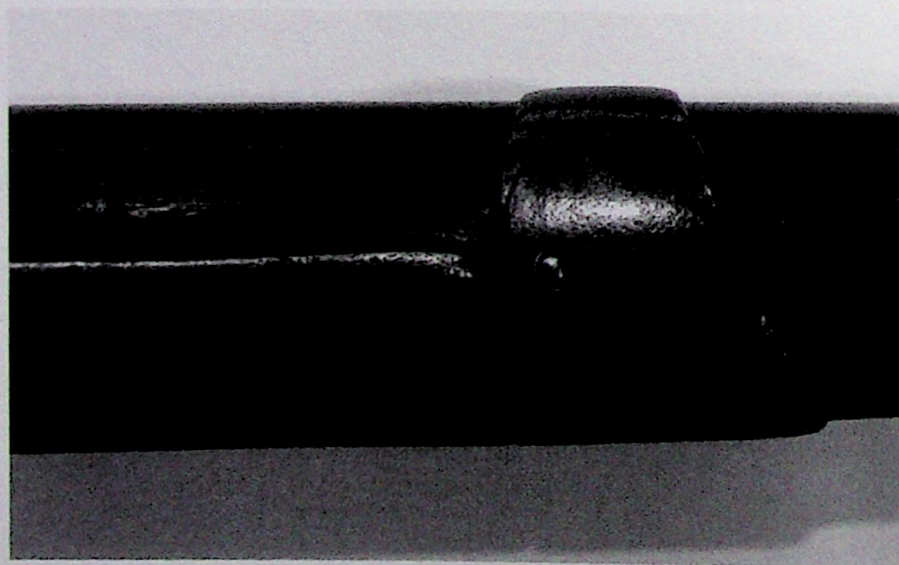


*Left: Left side of stock.*





Butt Stock markings appear to be HES. Tang has no US markings. Top of barrel in marked 1814 with M and a P and unknown marks. Rear of lock Plate marked 1813



*Middle Band and Spring.*



PROMPT ATTENTION  
PLYING REFER TO

WAR DEPARTMENT

OFFICE OF THE CHIEF OF ORDNANCE

WASHINGTON

September 10, 1927.

No. \_\_\_\_\_

ATTENTION OF \_\_\_\_\_

Subject: Gallery Practice Rifle, Cal. .22, M1903.


To:

Commanding Officer,  
Rock Island Arsenal,  
Rock Island, Illinois.

1. The Gallery Practice Rifle, Cal. .22, M1903, having been declared obsolete by authority contained in File AG 470 (1-17-Misc., and having been substituted by the U.S. Rifle, Cal. .22, M1903, will be disposed of as follows:-

All components will be scrapped in accordance with existing regulations and under no condition will be used in the repair of the Rifle, Cal. .30, M1903. As these parts are unsafe for use in the higher caliber weapon, they shall be mutilated to such an extent that they can not be used for replacement purposes.

By order of the Chief of Ordnance:

  
J. Kirk,  
Major, Ord. Dept.,  
Assistant.



## Collectors note 173-2

*Springfield Armory*

*Springfield, Mass.*

December 16, 1899.

The Chief of Ordnance, U.S.A.,

Washington, D.C.

Sir:

Referring to my letter of December 7th last, suggesting the alteration of the first and second patterns of model 1892 rifle to the model 1896, and the re-sighting of the model 1898, which now have the model 1896 rear sight, I have the honor to submit herewith a detailed estimate of the cost of such alterations:

### ALTERING MODEL 1892, 1ST PATTERN, TO MODEL 1896.

Alterations on receiver . . . . .	\$0.0838	
" " sleeve . . . . .	.0257	
" " cocking-piece . . . . .	.0206	
" " extractor . . . . .	.04	
" " side-plate . . . . .	.007	
" " barrel . . . . .	.0135	
" " stock . . . . .	.1338	
" " upper band . . . . .	<u>.0025</u>	\$0.3269

### Parts to be supplied:

Butt-plate, complete . . . . .	.32	
Butt-plate screw, large . . . . .	.03	
Cleaning rod . . . . .	.21	
Front sight . . . . .	.02	
Front sight pin . . . . .	.01	
Main spring . . . . .	.02	
Safety lock, complete . . . . .	.12	
Ejector pin . . . . .	<u>.01</u>	<u>\$0.74</u>

Total, \$1.0669



ROCK ISLAND ARSENAL  
ROCK ISLAND, ILLINOIS

CN/bar

March 16, 1928.

Subject: Modified Krag Rifles.

To: Director of Civilian Marksmanship, War Department,  
Washington, D. C.

1. It is noted that his office is directing shipment of Krag rifles from this arsenal to Benicia to be modified into carbines. This practice, it is believed, should be discontinued owing to the fact that we have in store a limited number of the modified arms which are priced at \$6.50 each.

2. The modified arm is a Krag rifle cut down to carbine length, with modified stock and barrel fitted with M1903 rifle front sight. The stock is equipped with sling swivels. When rifles are modified, they are completely disassembled and re-finished throughout, making a very attractive looking arm. The Arsenal is in a position to handle a limited number of orders for these arms, but does not advocate their general advertisement.

3. Reply by indorsement, stating your views in the matter, will be appreciated.

D. M. King, Col. Ord. Dept., Commanding.

By: *Philip C. Blackmore*  
Philip C. Blackmore, Major, Ord. Dept.,  
Supply Officer.

O. D. C. M.  
WAR DEPT.  
MAR 20 1928  
RECEIVED

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Authority AND 846032

BY YBC NARS, Date 10/11/88





AUCTIONS

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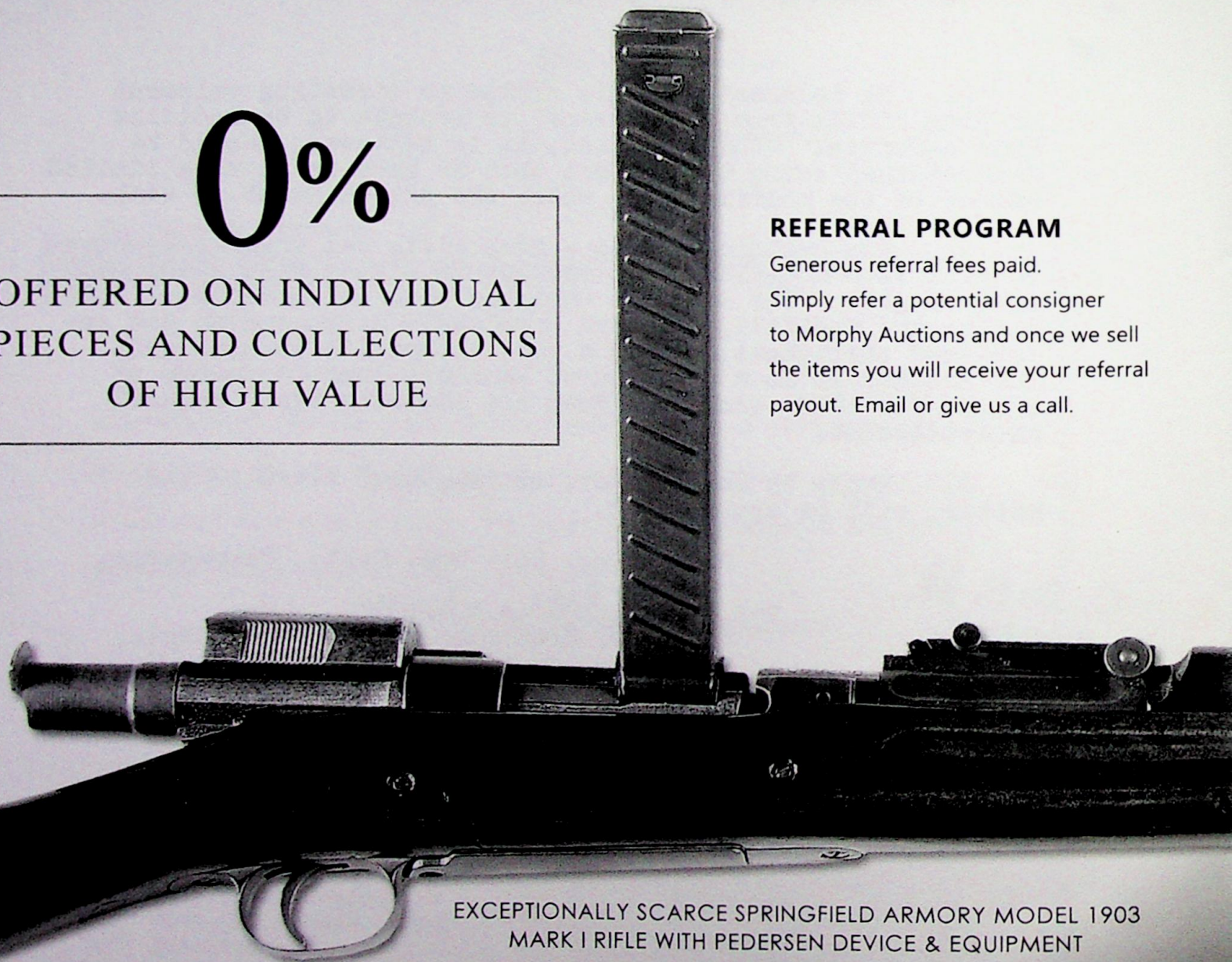
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**2 Day Auction!**  
**1150 Firearms at Auction**  
**Live Bidding -- Absentee -- Webcast**  
**2601 Lake Land Blvd. Mattoon, IL 61938**

**Saturday, December 31<sup>st</sup> -- 9:00am**  
**Sunday, January 1<sup>st</sup> -- 9:00am**

**Great Winchester Levers -- Henry 1860 -- Civil War -- Modern**

**Saturday, December 31<sup>st</sup> -- 9:00am -- 2 Auction Rings:** 400 Handguns inc/ Colt Pythons & Diamond  
Backs -- Outstanding Colt SAA Revolvers 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> Gen. -- Several New Service Revolvers -- U.S.  
1911's -- HI Powers -- Walther's -- Ed Brown -- H&K -- S&W -- Lugers -- Antique Palm Pistols -- Colt  
Ace -- Woodsman MT -- High Standard -- Sigs -- Glocks -- CZ -- Colt & Remington Civil War Revolvers  
-- 400 Long Guns from 2<sup>nd</sup> Auction Ring: Sporting -- Utility -- Hunting -- Collector -- Military Muzzle  
Loaders -- 1866 & 1873 Muskets -- 1876 Carbine .45-75 -- 1886 SRC .40-82 -- 17 Colt Pre 1898 -- Colt  
1855 10ga -- Pair of Pocket Navy Conversions -- Semi Auto MG34 & 1918 BAR -- Kentucky Rifles --  
Harpers Ferry's -- Evan's Muskets -- Deluxe 1873's & 1886's -- Silver Plate 1873

**Sunday, January 1<sup>st</sup> -- 9:00am -- 1 Auction Ring:** 350 Quality & Collector Long Guns inc/ Henry 1860  
.44RF -- 2 -- Win 1866 .44RF & .44CF -- Win 86's .40-65, .45-70, .40-82, .50 Express, .33 -- Win 76's .45-  
60, .50-95 EXP -- Win 73's, 92's, 94's -- Win 1885's -- Civil War Carbines inc/ Starr & Spencer -- Sharps  
1874 .45-70 -- Browning Trombone -- Anschutz -- Parker Shotguns -- Kimber -- Custom Mauser Rifles --  
Win 42's inc/ Solid Rib, Engraved & 2-1/2" -- Win 12's inc/ 28ga & Engraved -- Fine Sporting Shotguns --  
Win 21 12ga -- Winchester 70's -- Richmond Armory Confederate Musket -- Win 23's -- M1 Garands --  
M1 Carbine -- M1 A's -- AR-15's -- .50cal Rifles -- Trap Doors -- Springfield M1D -- Rem 40X -- 2 --  
M1D Garands -- Many Civil War Carbines Rifles & Muskets -- Early 1903 Rifles

**Preview: Friday, December 30<sup>th</sup> from 12:00noon -- 7:00pm at 2601 Lake Land Blvd. Mattoon, IL  
61938.**

- **Doors open Saturday & Sunday at 8:00am for Live Auction at 9:00am!**
- **Guns will NOT be out for view during days of auction**
- **Please plan on attending preview or call w/ questions prior to the auction**

**Live Internet Simulcast Bidding**  
**Complete Catalog & Photos at [bauerauction.com](http://bauerauction.com)**  
**Ron Baker, FFL. (217) 273-5056**



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"Fighting Bob"  
Evans when  
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the Great  
White Fleet

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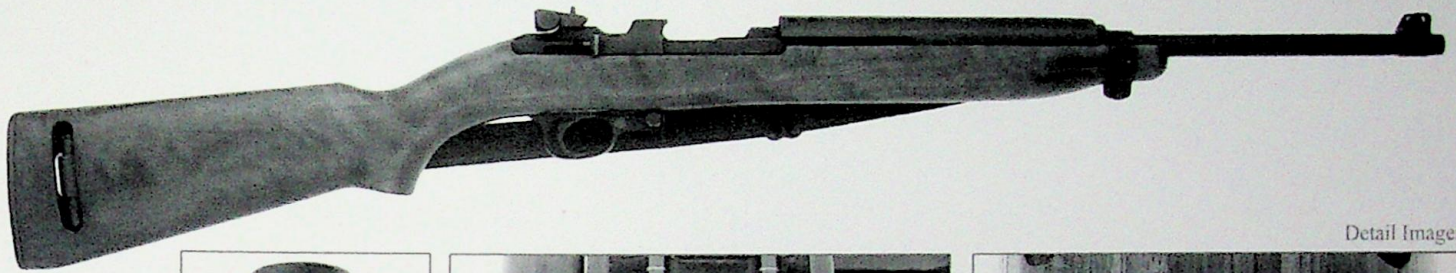
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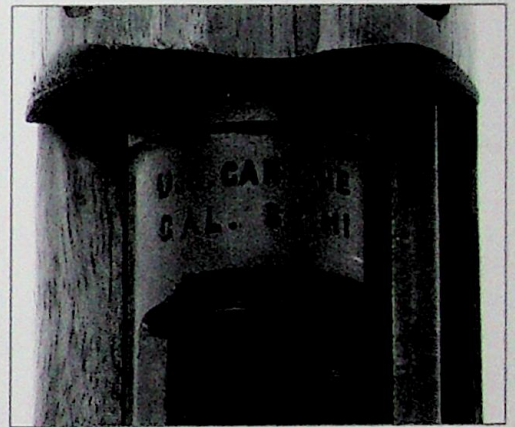
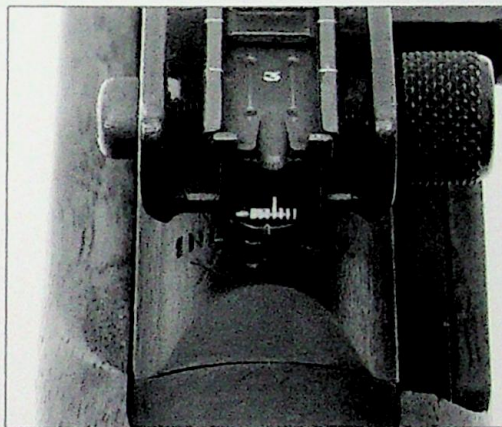


# Lewis & Grant

## AUCTIONS



Detail Images



**A PRESENTATION M1 CARBINE BY INLAND, WITH THE SERIAL NUMBER XC7. THIS RARE FIREARM WILL BE FEATURED IN A 2023 PREMIER AUCTION.**

SCAN THE CODE BELOW FOR OUR HOMEPAGE, AND KEEP UP TO DATE ON AUCTION SCHEDULES.



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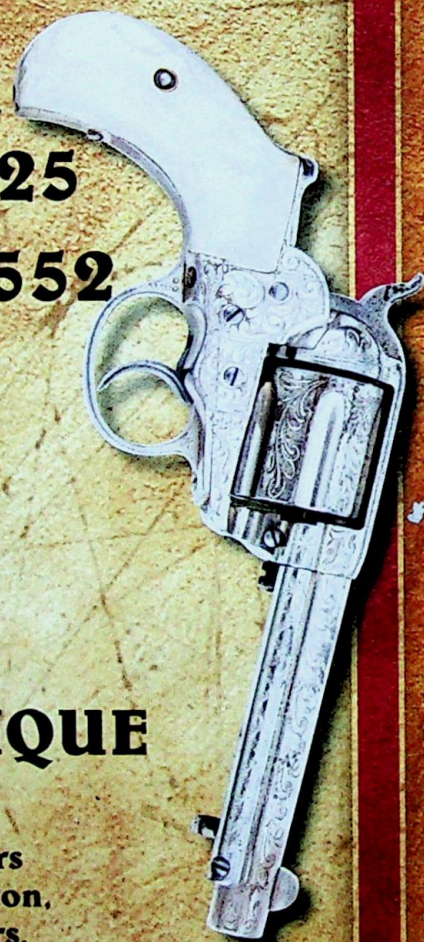


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