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MARTIAL ARMS
Collector

and *Springfield Research Newsletter* 

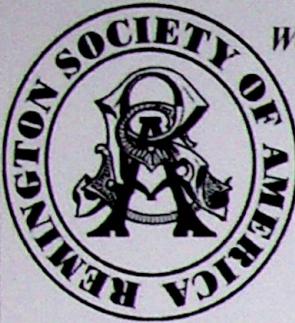
Number 175 June 2023

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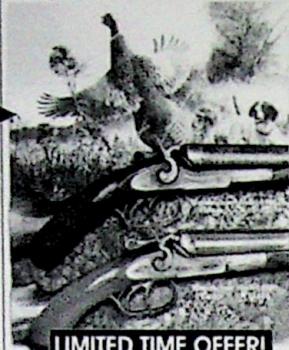
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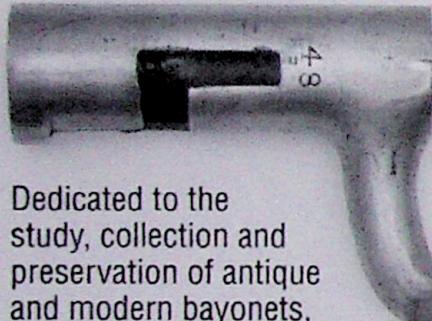
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The Remington Collector's
JOURNAL

2nd Quarter 2011



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Wayne P. Gagner

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Cover: Springfield Musket California, Oregon

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Newsletter

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

The US Martial Arms Collector magazine relies on information from the United States Archives in Washington D.C. and College Park, Maryland. There are several other locations that are available in Pennsylvania and Massachusetts. Duplicate data is not available at all locations.

Many changes have been made when visiting both centers and there are many issues that slow down searching for documents.

This is a result of Covid problems and loss of Archive data. It is very difficult to organize data in an easy-to-use format with the ability to search in a quick manner.

The new Archives operations require new identification cards that have lengthy rules for making appointments and setting up visits to Archive facilities.

The US MARTIAL ARMS COLLECTOR designed and invested many hours and funds to have a system that retains serial numbers and other information from many different sources. Our system allows us to publish the magazine and to write letters on many U.S. weapons.

Costs are skyrocketing and we will need to increase the price of letters and travel to locate data and information.

Funding is received from annual subscriptions and letters. We will try to maintain the annual cost of a subscription, but letters and magazine ads will increase.

U. S. military sources, Congressional Records, and other sources also provide some critical data for our data bases.

Our magazine subscribers receive no-charge searches for serial numbers. If a search provides information that confirms information for a letter, subscriber may order a basic letter, extended research letter, or other letters on sales of weapons and disposition of U. S. military arms.

The serial number lookups are completed as time is available and accomplished second to magazine requirements and deadlines.

Serial number lookups are made by using serial numbers with model and other manufacturing data. A subscriber may email the serial number and model to: editor@usmartialarmscollector.com or mail the inquiry to SRS, Box 126, Cabin John, MD 20818.

Hand-held cell phone voice mails may not be used.

We answer emails as soon as possible and work with a single email serial number request at a time. A list requires an extended time to research and may be lost.

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

Please be careful when using PAYPAL and only check boxes with payment instructions.

Subscribers may or may not want automatic paid renewal status. We use data that is provided by a subscriber to PAYPAL.

Multiple emails on the same subject only take more time and delays in our answers.

Returns of magazines with incorrect addresses or no forwarding addresses are a continuing problem. This includes incoming delays of mail, long lines, longer lines to mail out magazines and deliverables. 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 research letters.

AUCTION HOUSES

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

SPRINGFIELD RESEARCH SERVICE DATA BASE STATUS

SRS relies on the U.S. Postal Office for all our products. Please email us if you have any problems. We continue our efforts to provide letters but can only provide limited detailed letters. Standard letters and sales letters have a short delay but can be ordered. All letters are based on records that we have in our files. Records are in loose paper form and require much more time to evaluate and produce.

The best way to request a serial number search is by email,
(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. Deadlines for advertisers are three weeks before our June, September, December and March issue dates.

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

Direct email to editor@usmartialarmscollector.com is the only way to make sure that a message or photo is received.

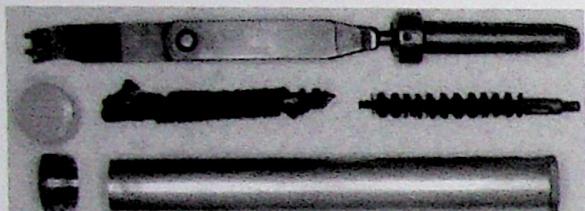
CURRENT ISSUE

Issue 175 dated JUNE 2023 is the current issue and is set to be mailed the 1st of June 2023. There have been some delays in deliveries and the Post Office is trying to correct any problems. Postal costs are rising and need to be considered when planning future issues.

RESEARCH NOTE 175-1

Information on M1 Garand

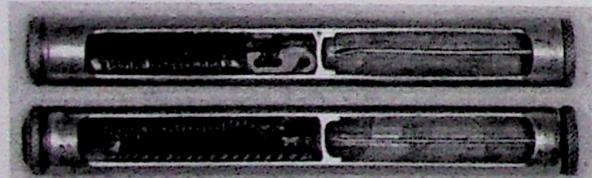
Cleaning gear. There are various cleaning kits that were placed in the butt stock.



Items in stock kit; Used in Springfield 03, 1917 and WWII M1 Garand with steel pull-through bristle brush, white grease, and flat edge oiler end and multi-tool M3. The brush and pull-square end of tube was the earlier made tube and was seen until the plastic tube started.

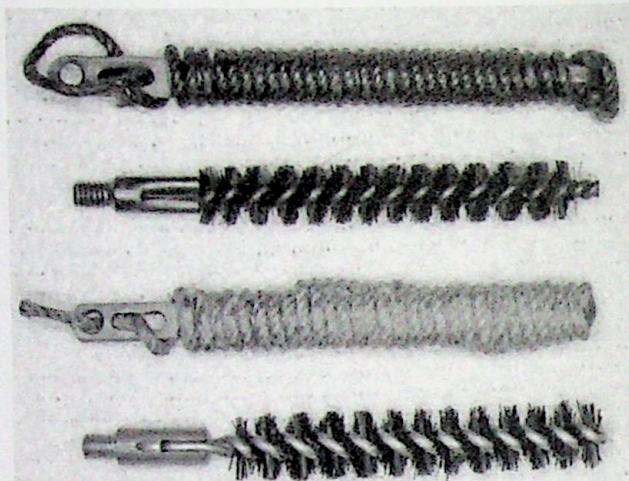


WWII storage tube with round edge oiler end. These were not made until WWII so would not be used in the earlier rifles listed above.



Cutaway. Top is the earlier with brass tools and bottom WWII with steel tools.

Data and photos courtesy of Larry Babcock author and publisher of Garand documents and literature.

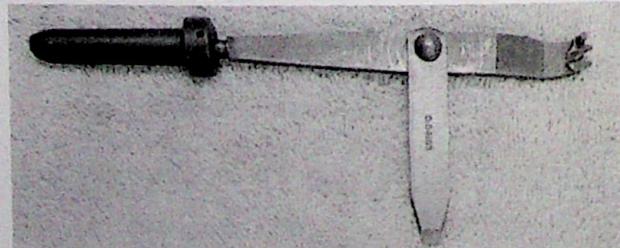


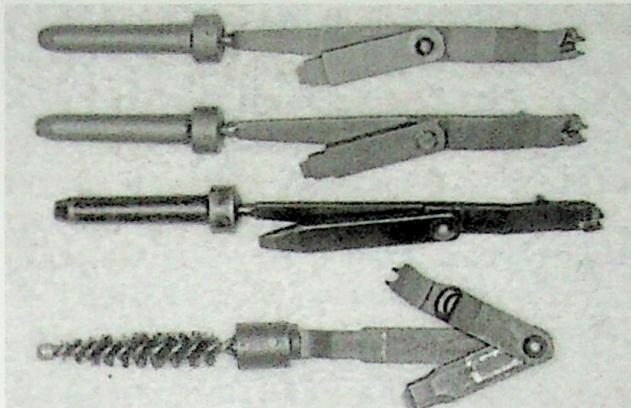
There were two types of pull-through thongs and brushes. They were steel in WWII (top) because the brass was needed for ordnance production. Brass (bottom) was used in WWI and early WWII.

Plastic cases were used later to reduce weight and new plastics were developed.

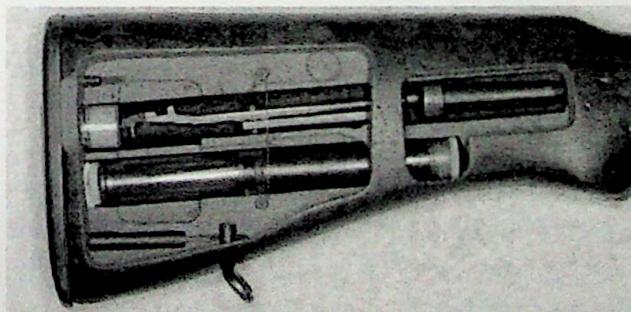


Case, Thong and Brush. These were known as the plastic oiler and produced 1945 and after. These were complete with the actual WWII produced short brush with brass bristles and a brass thong assy. Plastic oiler used late WWII.

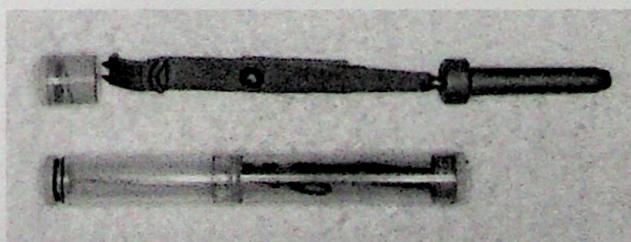




Multi-Tools M3. The first ones had drawing number C-64167, the second longer tapered screwdriver without numbers, the third square screwdriver with beveled edges which had heat lot markings, and the fourth replaced square tipped screwdriver. They were made from 1938 to 1944. Later brush type M3A1 was approved in 1944 and made by various manufactures, some marked and some not. These were also produced after WWII. Note this brush type is marked with letter S.



Cutaway showing a late WWII cleaning kit installed.



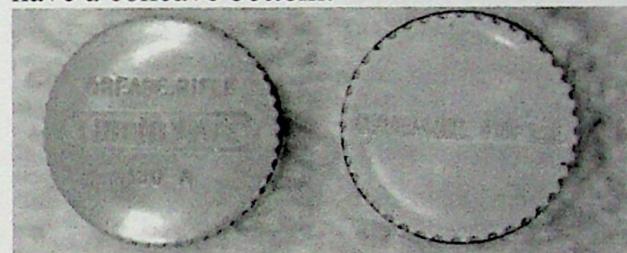
Cleaning kit from the cutaway stock, late

WWII.

Grease Pots with white grease were marked "Lubriplate" in WWII.

After WWII the pots were filed with white grease early and dark grease later and marked "Grease, Rifle". WWII pots have a flat bottom and later ones have a concave bottom.

Grease Pots with white grease were marked "Lubriplate" in WWII. After WWII the pots were filed with white grease early and dark grease later and marked "Grease, Rifle". WWII pots have a flat bottom and later ones have a concave bottom.



LETTER INFORMATION

The basic letters are \$60.00 to \$100; sales letters with a document are \$90.00; and research letters run from \$175.00 and up.

COMMENTS AND INPUTS

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

GUNSHOWS

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GUNS LETTERED

U.S. Springfield Model 1903, Caliber .30, Serial Number 1 266 956. Sold to R.E. Corey. Sewanee, TN. February 16, 1926. This data was found in U. S. Springfield Arsenal Sales Records, Springfield, Massachusetts.

Rifle, U.S. Cal. 22, Model 20459 M1 NRA Browned, Sold to A. H. Means C/O W. F. Main Gunsmith West 2nd South Street, Salt lake City, Utah March 22, 1934.

Rifle, U.S. Cal. 30, Model National Match, Pistol Grip Stocks. Serial number 1 273 730. Sold to U. S. Ford, Wenatchee, Wash. April 24, 1929. This data was found in U. S. Springfield Armory Sales Records, Springfield, Massachusetts. Copy attached.

Rifle, U.S. Cal. .30, Model 1903, TYPE T, Serial Number 1 314 439. Sold to James Noonan, Cordova, Alaska, by Springfield Armory. February 10, 1930. This data was found in U. S. Springfield

Armory Sales Records, Springfield, Massachusetts.

Armory Sales Records, Springfield, Massachusetts. Copy attached.

U.S. Springfield Model 1884, caliber 45/70, Serial Number 384666. Issued to Company I, 2nd Oregon Volunteer Infantry for the Spanish American War in 1898. Complete with Private's name and combat information.

U.S. Springfield Model 1884, caliber 45/70, Serial Number 84136. Issued to Company D, 6th California Volunteer Infantry for the Spanish American War in 1898. Complete with Private's name and combat information.

U.S. Sharps Carbine Serial Number 9049C. Shipped from Sharps Factory, Hartford, Connecticut to U.S. Army, Springfield, Armory, Springfield, Massachusetts. September 11, 1863.

This data was found in U. S. Archives 74, U.S. Army records, Washington, D.C.

LETTERS WRITTEN ON INFORMATION FROM U.S. ARCHIVES SOURCES

We have resumed our efforts to make appointments for research at local Archive facilities. It takes an undetermined amount of time needed to travel to any Archive location and more detailed time to schedule an appointment.

We will continue each effort but cannot plan exact details needed to complete each trip.

"The Smith-Corona Connection"

The Ordnance supplement to the WWII Remington M1903 contract

By

William R. Hansen

Introduction: This presentation begins with an overview of the circumstances faced by the Smith-Corona Typewriter Company (S-C) from their contractual get-go to manufacture M1903 style rifles during WWII.

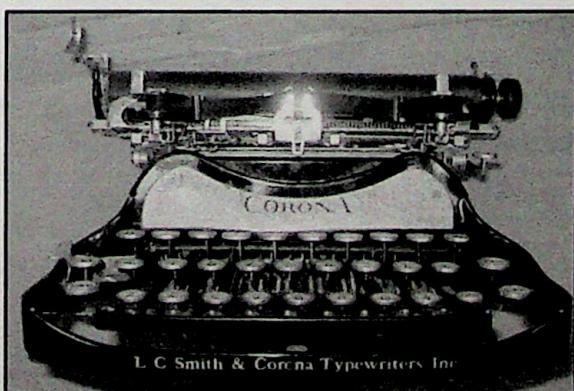
In February 1942, S-C started curtailing typewriter production as orchestrated through an industry-wide U. S. government decree for decreasing all normal commercial operations after the Pearl Harbor catastrophe of December 7, 1941. Even so, S-C had already recognized the national need to be available to participate in production of war material. Unfortunately, the strength of their skills and facilities at the home plant in Syracuse wasn't a particularly good match for a wide range of defense contract offerings early on.



The U.S. Ordnance Department (OD) was aware long before the Pearl Harbor incident that the Army faced a dire shortage of small arms inventory, particularly after the President's Lend-Lease program to foreign nations was instituted. In 1940-1941, about 1.75 million rifles in the U.S. reserve leftover from WWI were sent to the United Kingdom (UK). The replacement M1 Garand production from the Springfield Armory was behind schedule, and the Winchester contract to augment it was not yet up to speed. Even so, small arms manufacture didn't have a competitive priority at the time in comparison with artillery, ships, aircraft and tanks.

A pre-existing contract with the Remington Arms Co. (RAC) to manufacture the M1903A1 rifle for the British had recently been taken over by the War Department in September 1941 in anticipation of war coming to America. However, production volume was severely curtailed by what ultimately proved to be an ill-conceived decision to resurrect 20 year old moth-balled M1903 tooling designed

for the previous century. It was barely capable of producing 1000 rifles per day under ideal conditions. Moreover, after agreeing to use it, the RAC quickly learned it was worn and couldn't hold tolerance limitations...as well as having little mass production potential. Also, the M1903 drawings and specifications were out of date. With emphasis redirected to the new M1 semi-auto rifle, maintenance attention had become lax even though many changes meeting "03A1" current standards had been made since WWI. Also, Springfield Armory (SA) staff reductions and the "...lack of peacetime



A Period Corona Portable by S-C at Groton Plant

funds for maintenance and repair" for a rifle destined to the museum of history didn't help matters.

To worsen the situation, production and inspection gauges were no longer compatible or useable...if any longer available. All of this combined to force far too many emergency changes in the rifle for manufacturing normalcy to prevail. The result was unacceptable off-spec production and delay. The RAC soon found itself driven to find solutions to these problems, including approval from the Ordnance Department (OD) to simplify and transform its manufacture into essentially a new rifle (M1903A3). Meanwhile, the OD needed an insurance policy on behalf of a greatly expanding demand for small arms for both the Army and the Allied Lend-Lease program.

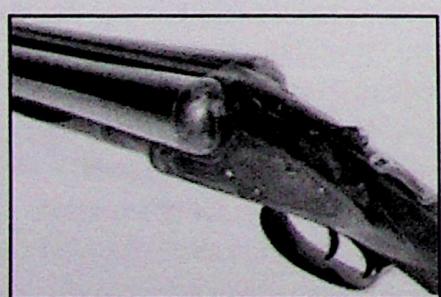
Upon funding becoming available after *Pearl Harbor*, the solution was to seek out additional rifle manufacturing sources for making the M1903A1. Of the three company's initially targeted to back up the RAC, the final selection was the High Standard Manufacturing Co. (HSM) of New Haven, CT because of their experience in arms manufacture.

After being approached, the HSM agreed and were issued a letter Purchase Order (PO) W-478-Ord-1508 for 100,000 Springfield M1903A1 rifles on February 4, 1942. However, due to the extensive contracts HSM already had, they needed subcontracting help. As it turned out, HSM executive George Lewis was a good friend of H.W. Smith, President of S-C and asked him if would be "...interested in manufacturing some of the parts and assembling the rifle." But, before a contract could be consummated, the Chief of Ordnance in Washington D.C. "...questioned the wisdom of having this contract executed so close to the Atlantic coast". The War Department's policy at the time was that critical contracts should be moved inland if at all possible by at least 200 miles away from any enemy coastal threat. To make a longer story short, S-C and HSM agreed to switch their respective roles, whereby Syracuse plant of S-C would take over the role as primary contractor with HSM the subcontractor for barrel manufacture. So, on February 25th, S-C presented the OD with a required bid for 100,000 rifles.



H. W. Smith, President & CEO of Smith-Corona Inc.

When S-C President Hurlbut W. Smith agreed to become principal contractor in lieu of the HSM to manufacture the M1903A1, he did so knowing they possessed zero recent experience with any kind of firearm manufacture. It had been 50 years since the L. C. Smith Co. had quit making side-by-side shotguns. Moreover, their technical orientation had little appreciation for the close machine tolerance requirements for bolt rifle component fit and function.



Understandably, the transition from making typewriters to rifles had to be especially orchestrated. Consequently, their start-up operation was not absent of considerable disorder. Moreover, the Syracuse plant had only 210,000 sq. ft. on 8 floors that couldn't be entirely be emptied. Also, they learned early-on of the need to place their key engineering & technical staff in-house in charge of this particular government contract to get it up

and running in a timely fashion. But, that wasn't nearly sufficient. So, they hired the Dixwell Corporation an affiliate of HSM to provide engineering services. While Dixwell had a basic familiarity with rifle manufacture, they also proved inadequate as will become more evident as follows.

In retrospect, it is important to realize at this juncture that the Remington Arms Company (RAC) was essentially being groomed to take over the entire spectrum of design, engineering and manufacture of the M1903A1 rifle as it had already been heavily "modified". Additionally, as hinted above, the situation was greatly compounded by the fact at the time of S-C's contract execution; the rifle was in the midst of being completely revamped into what was soon to become a new rifle (M1903A3). By the way, that included an increase of the RAC contract deliverables up to 3000 per day.

Another significant factor influencing the M1903 contract transfer from High-Standard to S-C was an obvious realization that Syracuse was far closer to Remington's Ilion plant than was New Haven, CT. inasmuch as both organizations would then have their contract oversight within the same Ordnance District, i.e. the Rochester Ord. District (ROD). It is also true that Ordnance had preceded the contract transfer decision with securing conditional assurances from Remington to provide all necessary engineering and technical support to S-C. In his post war memoirs, RAC's Director of Manufacturing, Donald Carpenter probably said it best. Upon the contract being awarded to S-C, "...it is with the understanding that we would furnish them with all know-how and assistance. We were glad to do this rather than to take on more ourselves".



Donald F. Carpenter, V. P. and
Director of Manufacturing
Remington Arms Co.

The REMINGTON-SMITH/CORONA Connection

In the Beginning: On February 25th S-C submitted their bid to the OD to manufacture the 100,000 "03A1" rifle version. (...later increased by 824 rifles under Supplement #2). The agreement required manufacture to begin after a 6 month startup period with delivery of 2000 rifles the first month and increasing to 1000 rifles per day after the 9th month. This was followed up officially on March 12, 1942 with a new PO from the Rochester Ordnance District (ROD) W-740-Ord-2259 for the 100,824 "03A1" rifles.

In order to get started, S-C had already initiated arrangements with Ordnance for receipt of new machine tooling along with the plans and specifications for manufacture of the "A1". But, they soon became aware through interaction with the RAC that the production drawings supplied from the WW1 period were "... unsuited to current manufacturing methods". Many changes had to be

made in these drawings and much time was wasted trying to make use of them". As a consequence of further aggravation by a critical tooling shortage being experienced nationally, some of the tooling

Smith - Corona M1903A3 Production Summary				
Contract Number	Date	Rifles Authorized	Rifles Manufactured	Spare Parts
W-740-ORD-2259	12 Mar. 42	100,824	100,824	1,562,000
W-740-ORD-2412	20 Jul. 42	280,600	133,756	2,089,956
Totals:		381,424	234,580	3,651,956

for the first contract (2259) wasn't received until "...the contract was half completed". But, the disruptions were just beginning.

After a month of plant space planning & mobilization involving machine tool installation and a myriad of other tactical preparations, S-C was formally notified that the M1903A1 was being discontinued, thereby superseded by the M1903A3. Understandably, this was not only untimely, but it delayed receipt of the first set of component drawings for the 'A3 to April 22, 1942, not including miscellaneous tentative drawings of parts that were still being redesigned by the RAC and not yet approved by Ordnance. Indeed, the final approved brown-line drawings created anew by the RAC weren't received until July 1st. To antagonize the situation further, the following July 20, 1942 the SC was constrained to accept another contract under W-740-Ord -2412 for 280,600 more M1903A3 rifles + extra parts. The latter presented logistical challenges for relocating storage of their remaining typewriter operation off the 8th floor.

Needless to say, S-C's inauguration to rifle-making manufacturing didn't get off to a good start. There became an unavoidable need to redesign many of the existing tooling & fixtures already installed to date, plus new tooling requirements, personnel retraining, along with revamping process and procedure, etc. In many cases, new tools became necessary rather than trying to salvage the old. But, the delay issues were further exacerbated by uncontrollable challenges involving critical materials supply along with adapting to Remington's cost-savings model mandating the use of competent subcontractors to speed up production.

S-C initially had many problems finding subcontractors locally who weren't already overwhelmed with work or unqualified for performing it. Faced with using inexperienced firms, many of them overestimated their production capability and/or capacity because of problems with meeting required "close tolerances". This resulted in a high mortality rate of rejected/scrapped parts failing to meet the specifications, thus failure to meet delivery schedules. The chaos required termination and reallocation of subcontracts multiple times. In numerous cases, the work was handed off to their in-house Groton plant located about 50 miles south of Syracuse, which ended up performing a disproportionate volume of much work related to the rifle's component manufacture over the life of the S-C contracts.

Training & Tutelage: With a strong impetus coming from the War Department, the RAC soon found themselves up to their armpits as a principal consultant to the S-C operation at Syracuse...in addition to their existing huge commitment to ammunition manufacture, and many other government contracts. On April 30, 1942, the RAC was persuaded by the OD to provide chairmanship representation from private industry to both the **Small Arms Industry Integration Committee** (Works Manager, G. O. Clifford) plus Special Assistant to the Works Manager Chairman (A. L. Lowe) to chair the **Rifle Industry Integration Committee**. In short, Remington ended up furnishing part-time services of 46 executive and engineering personnel to the War Department on behalf of an "*effective means of exchanging information, attacking common problems and, in general, coordinating all efforts in order that maximum production might be obtained in the shortest time*".



G. O. Clifford, RAC Works Mgr.

Due to the Springfield Armory (SA) being totally preoccupied with M1-Garand manufacture, it was no longer business as usual at the SA. Indeed, in a letter dated 20 May, 1942, the Chief of Ordnance formally notified the Springfield Armory (SA) of the transfer to the RAC of all matters related to rifle M1903 rifle manufacture, "...since Remington Arms Company has had the most intimate knowledge of these revisions and is at present the chief producer of the weapon in question, it is the desire of the Ordnance Office that detail work that may be required be performed at that Plant". He goes on to also include keeping the OD Gage Division at the RAC plant at Ilion "for all the final inspection gages". Moreover, he further advised that "...most of the drawings have already been prepared by the Remington Arms Company who is now preparing master file drawings, heat treatment and material specification charts, additional assembly drawings, such as required to make a complete set of prints for this newly adopted weapon. It is further desired that distribution of prints be made from the Remington Arms Plant." Among other matters, he closes by saying that all SA contacts should be directed to the RAC plant and not the Rochester Ordnance District (ROD) "...since these are technical matters that do not come under the jurisdiction of procurement districts".

Unquestionably, this was a significant game-changer undermining any anticipated S-C independence for direct accountability only to the War Department, Ordnance or the Rochester Ordnance District without significant collateral engagement, direction and support coming from Ilion, NY as well as the home office in Bridgeport, CT. Essentially all technical questions, coordination & training issues had been handed off to the RAC for resolution. Yes, S-C had been thrown a curve early on affecting most everything within their critical decisions process.

There was simply no way S-C could successfully deliver on their manufacturing contract commitment to the Ordnance Department without a close working relationship with the Remington Arms Co. for a rifle that had not yet been fully designed, let alone produced beyond pilot models. The truth is that while S-C may have been an independent contractor separate and apart from the RAC, they had unwittingly stepped into unavoidable linkage and dependency on the RAC that would last for the duration of their contract. This would affect everything they were contracted to perform as well as much of the logistics, operations and managerial planning leading thereto. Bottomline: You can rest assured, much fuel and rubber was burned up on the 70 mile road system separating Ilion, NY from Syracuse over the following two years.

It didn't take S-C long to decide to follow the entire operations model established by the RAC for rifle manufacture and assembly. Indeed, a maximum of sub-contracting component parts would become essential to meet contract delivery schedules. Even though S-C was able to stage downsizing of their typewriter manufacture at the Syracuse plant fairly consistent with phasing in rifle production, floor space planning issues didn't go away. Not anticipating a second contract, the fact is it added to their responsibility to provide adequate additional space for rifle assembly. Yes, this would require relocating all existing typewriter operation in storage on the 8th floor to an offsite warehouse.

All this finally lead to a decision to limit their in-house manufacturing involvement to the final machine milling operations required upon receipt of forgings subcontracted to Brewer-Tichener Corporation for both the bolt and receiver plus final rifle assembly. (NOTE: For the record, it is noted that S-C did receive 10,000 finished bolts and extractors from the Springfield Armory's unused inventory for each of their two government contracts). In effect, the S-C operation essentially became more an assembly plant and

S-C Subcontractors
1. High Standard Mfg. Co.
2. R.F. Sedgley, Inc.
3. Marble Arms & Mfg. Co.
4. S-C Groton Plant
5. Syracuse Spring Co.
6. Remington-Rand, Inc.
7. Engleberg-Huller Co.
8. Cuyohoga Spring Co.
9. Springfield Armory
10. J. L. Judd Co.
11. Moore & Steele Co.
12. Hulse Mfg. Co.
13. American Bowling & Billiard, Inc.
14. Continental Screw Co.
15. Reed & Prince Mfg. Co.
16. Sheldon Tubular Rivet Co.
17. Horrocks-Ibbotson Co.
18. The Washburn Co.
19. H. P. Snyder Mfg. Co.
20. American Steel & Wire Co.
21. Peck Spring Co.
22. Brewer Titchener

subsidiary to RAC than an independent rifle-maker. They used 22 different subcontractors to manufacture 55 of the 89 components making up the M1903A3, including parts containing multiple subparts (See list hereon). At one point, they had as many as 50 such vendors, but many proved unsatisfactory and had to be terminated.

Subcontracting consumed 36% of the entire value of their two contracts totaling 234,580 rifles plus spare parts. Among those subcontractors, as previously cited, would be their own Groton, NY plant which S-C management would eventually realize possessed sufficient expertise not available in most small companies in nearby Syracuse. They were also equipped with much of the tooling already in place to more quickly get up to speed for small parts manufacture. Groton made such critical parts as the **front sight**, **front sight base**, **cutoff**, **ejector**, **trigger**, **bolt sleeve**, **butt plate assembly**, and the entire **trigger guard assembly**. Without doubt, they had become an in-house anchor to the S-C rifle assembly operation at Syracuse. However, the largest contract was with the American Bowling and Billiard Co. who manufactured their stocks.

S-C's unquestioned dependency on the RAC began with employee training almost immediately. It wasn't easy to avoid job layoffs which were an important post-war consideration. Nevertheless, most retained employees required complete war-time retraining.

The Remington Arms Co. had become a key partner with the War Production Board (WPB) in developing reciprocity training for hundreds of companies having no prior experience in war production. This included technical and engineering support along with "...various patented products or processes to the Government on a royalty-free basis". In fact, the RAC was widely honored for its contribution in this area by the War Department at the close of the war (see Army certificate, next page). Needless to say, as essentially mandated by the OD, the RAC consented to providing all assistance needed by S-C under the terms of an agreement reached via their Contract Supplement # 5 approved on June 4, 1942 to oversee the entire hurry-up '03 "design simplification" program.

None of this was anticipated by either company in the beginning. But, S-C was "...completely inexperienced in such factory work, let alone the manufacture of rifles". Mass produced rifle manufacture and assembly at the time was very sequentially oriented requiring especially trained personnel. To accelerate the training process, the War Department offered S-C full access to their "Job Instruction Training" (JIT) program that enabled key shop personnel managers and operators from both

HOW TO GET READY TO INSTRUCT

Have a Time Table—
how much skill you expect him to have, and how soon.

Break Down the Job—
list principal steps.
pick out the key points.

Have Everything Ready—
the right equipment, materials, and supplies.

Have the Work Place Properly Arranged—
just as the worker will be expected to keep it.

Job Instructor Training
TRAINING WITHIN INDUSTRY
War Production

KEEP THIS CARD HANDY

16-28793-3 GPO

the Syracuse and Groton plants to become Production Management Trainers. The Remington plant at Ilion, NY understandably became the center of hands-on training. Upon completion of the JIT, "...these men took selected groups of experienced operators and showed them how to impart their knowledge to green help..." In turn, the new trainees "assumed the duty of breaking in new employees". However, training machine operators was not as difficult a problem as "...training help on rifle assembly operations....". Rifle assembly was regarded the most critical area in the entire manufacturing process, thus required a more comprehensive approach, i.e. a rifle NOT assembled correctly often failed to pass final acceptance testing.

A cadre of mainline managers were sent to RAC's Ilion plant to study their "...entire assembly routine" under a similar JIT program as for machine operators. They not only studied specific jobs in terms of manpower requirements to assure a paced continuum flow of parts to each assembly work

station, but "prepared instruction cards for all operations, including inspections...". Once again, that was followed up with training the trainers who in turn became instructors to break in new operators.

It is not surprising that S-C followed the RAC line-assembly operation model in setting up the parts consolidation/rifle assembly phase as well. It became folly to reinvent this wheel. It required approximately 1000 different operations to bring the total of M1903A3's 85 parts to this stage (89 when counting the 4 differing sized front sights). The overall *modis-operendi* called for breaking down the entire 85 component parts list into 16 base subassemblies constituting the initial assembly stage. These subassemblies were then subsequently consolidated into 8 major assemblies prerequisite to final rifle installation and bedding as follows: (1) **Barrel and receiver**; (2) **bolt, bolt sleeve, firing pin, cocking piece** and **safety lock**; (3) **stock, butt-plate, and butt swivel**; (4)

Barrel guard; (5) **Middle band**; (6) **Stacking swivel**; (7) **Trigger guard - magazine**; and (8) **Follower**.

The last steps were installation of the **rear sight** & **front sight blade** before final inspection and range testing for government acceptance. In closing this section, it should be noted that the S-C operation eventually succeeded in mastering the assembly-line model very well. However, the journey in getting there was not an easy one.

From Rejects to Salvage: The most disconcerting part of the S-C experience was the complete absence of traditional normalcy, i.e. the seemingly endless "fog of war" issues and problems. It had become an unavoidable part of their inherited co-lateral relationship with the Remington Arms Co. to increase rifle manufacturing with no time to waste. Indeed, such normalcy NEVER occurred over the life of these two rifle contracts....for either S-C or Remington.

As earlier informed, the pressure of resuscitating the U. S. war machine with small arms had gotten off to a bad start. By the time the RAC had manufactured the first 225,000 M1903 "modified" rifles, any resemblance of a traditional business approach had literally been turned upside down! The rifle being manufactured had already been so highly "modified" that it became essentially



unrecognizable by original M1903 plans, specifications or inspection protocol. Unfortunately, this included the Army Inspection process becoming a contributor to the problem before it was to end. Upon the eve of conversion to the new 'A3 rifle, there was no time permitted to test and validate all component fit and function before entering the manufacturing stage. From there, the dilemma became worse before it got better. Remington's Director of Manufacturing, Donald Carpenter addressed the foundational causation as well as anyone in his memoirs, as follows:

"When a new rifle is designed, it is customary to put it through endless tests under all conceivable conditions of heat and cold, dust and mud, expert firing and rooky practice, rapid and slow fire, low and high pressure cartridges, extreme care and severe abuse, firing in snow and rain and every conceivable circumstance. These tests are invariably followed by redesign to correct the defects disclosed, then new models are made and checked again as thoroughly. That is exactly what should have been done to this new rifle design of ours, but once again there wasn't time; we and the Ordnance Department just had to give it what tests we could, freeze the design and tool up hoping for the best."

By the time S-C entered into a business relationship with the Ordnance Department (OD), the M1903 rifle's customary manufacturing practices and process had become irreversibly altered. As Don Carpenter alluded in his *Memoirs*, the rifle had to literally be re-engineered on the run. Thousands of changes had already been made and approved by the OD on an accelerated basis and more were coming daily. Indeed, Philip B. Sharpe in his well-researched book (*"The Rifle in America"*) estimated somewhere between 4 and 5,000 changes were ultimately made over the relatively short WWII resurrected-life experience of the M1903...including the new 'A3.

As Carpenter implied above "...hoping for the best" is not the way to avoid trouble! But, when any artificially imposed impetus demands taking short cuts, there's going to be a price to be paid. Untested changes made to rifle components in material selection, manufacturing methods & dimensional tolerance control became a precursor for forced corrective action "*on the run*" ...and that's exactly what happened! Not being updated since WWI, the M1903 drawings for many component parts no longer conformed to the machinery, tools, equipment, jigs, fixtures and gauges of record. Also the Master Brown-line drawings had not been updated either, therefore didn't contain numerous "*refinements of general design to improve functioning*", nor "*reflected in either government specifications or productive equipment supplied by the Government*".

Also, the RAC soon learned the Army's historically used Inspection protocol was no longer applicable. Army inspection practices had been updated, whereby the OD "...does not inspect work in process, but depends entirely upon the contractors", thus "*small arms inspection is limited to the inspection of completed parts and completed assemblies*".

The original manufacturing gauges were not only unusable, but such gauges were not adaptable for final inspection use, i.e. final inspection gauges are differentiated from process gauges by purpose and design. There were few inspection gauges available for untrained Army Ordnance Inspectors for the M1903 "*Modified*" or 'A3, and essentially none for the new simplification parts. Without adequate gauges, arms urgency left no alternative except for the OD to agree that "...*original guns be accepted solely on a basis of functioning plus frequent interchangeability tests*" against pre-existing guns borrowed from the SA. "*These conditions resulted in the establishment of a precedent for the Ordnance Department's accepting components not manufactured in strict accordance with the drawings*". Also, as a result of an essential transfer of responsibility for manufacturing the new

rifle ('A3) to Remington, component manufacture relied solely on "...a set of RAC marked prints approved by the Office of the Chief of Ordnance, rather than to the official drawings of the rifle".

It should come as no surprise that the burden of proof for government inspection largely landed in the lap of an increasing number of inadequately trained or experienced Army Inspection personnel having to go by the manufacture's component drawings that were subject to ongoing further changes. Moreover, the tolerance settings for such components were expectedly tight in the beginning consistent with idealistic new model design objectives that old, worn machine tooling could not any longer accommodate.

By the time production got rolling for the new M1903A3 rifle, the RAC had already experienced a critical learning curve. It was now S-C's turn. The issues being faced by both agencies were multifaceted inasmuch as many problems had to be overcome relative to faulty parts production; constant engineering refinements; tooling deficiencies & shortage; parts incompatibility; rifle bedding sensitivity causing bottlenecks; and inadequate inspection gauges. To top it off, the unintended, but poor judgement manifested by inept or overzealous inspection didn't help any. Naturally, the effects would result in an inordinate volume of parts rejections and associated work stoppage, thus bringing Don Carpenter's admonition into reality. A significant example follows...

In mid - September 1942...and with fingers crossed, it was hoped the 'A3 was essentially ready for delivery to Ordnance stores based on preliminary test firing of the prototypes. Indeed, by the end of October, 1942, S-C had succeeded assembling 864 of their edition of the rifle with OD acceptance when the RAC dropped a significant redesign-change bomb.

Ongoing test firing protocol had discovered a flaw in the rear sight design that was considered fatal to acceptable targeting results at all required sight settings. The disruption necessitated significant redesign along with changes in tooling and manufacture of new parts; disassembly of finished rifles and reassembly of the new rear sight components. Resolution and final approval delayed release of the 'A3 to December as indicated by the "**Production Table and Serial Number Table**" on the next page. Obviously, all 'A3 rifles in the approval and acceptance pipeline at both agencies were suspended for the next two months. Meanwhile, Remington just continued making the M1903 "Modified" version while S-C had little option but to altogether suspend rifle assembly. Nonetheless, the result produced an improved rear sight containing stronger parts, less friction and more accurate setting capability... but the valuable time lost could not be recovered. However, such problems didn't end there. By the way, the author is reminded of an old saying that reads ... "*There is never enough time to do things right the first time, but always enough time to do it over*".

Being the new kid on the block, it would be an understatement to deny that "...rejected parts ran very high" for the S-C operation, especially in the beginning. In fact the problem was so severe, even after 3 months into the job, the accumulation became intolerable enough that they appealed to Ordnance for "...immediate steps taken to reclaim as high a percentage as possible" through salvage. The "...inventory of rejected parts included 30,121 receivers, 19,934 bolts and other components in proportion". The process as initially executed simply wasn't working for them.

Fortunately, the RAC had already begun addressing such overall problems in December since it effected their operation as well, including important spare parts delivery. Between January 20 and February 19, 1943, Remington's "*Research Division*" headed up by Asst. Manager L. Ray Crittenden

L. C. Smith and Corona Typewriters, Inc
PRODUCTION AND SERIAL NUMBER TABLE
 For the
US Rifle Cal. .30, Model 1903A3

(A) Calendar Year and Month	(B) Actual * ₁ Rifle Production	(C) Serial * ₂ Number Adjustments	(D) Calculated End-Month Serial No. * ₃
1942			
October	—	—	—
November	—	—	—
December	5540 * ₄	175	3,613,714
1943			
January	9560	304	3,623,578
February	10,030	319	3,633,927
March	13,560	431	3,647,918
April	17,366	552	3,665,836
May	18,100	575	3,684,511
June	16,880	536	3,701,927
July	20,420 (5885) (4071) * ₅ (10,467) * ₆	187 129 * ₅ 333 * ₆	3,707,999 (end of 1 st Blk.) C 3,712,199 * ₅ 4,718,800 * ₆
August	22,762	723	4,742,285
September	22,780	723	4,765,788
October	22,500	714	4,789,022
November	20,250	642	4,809,894
December	15,750	499	4,826,143
1944			
January	13,500	429	4,840,072
February	5,000 + 582 * ₇	177	4,845,831 * ₈
Totals:	234,580 *₉	7,448	

Notes and Assumptions:

Contract Rifle Authorization and Serial Number Assignments:

<u>Authorized Rifles</u>	<u>Description</u>
100,000	Initial letter Purchase Order (P.O.) issued 25 February 1942 became Contract No. W-740-ORD-2259 awarded 12 March 1942. First Block serial numbers assigned to S-C were from SN 3,608,000 to 3,707,999.
280,000	Second Letter Purchase Order (P.O.) issued 10 July 1942 under rifle Contract No. W-740-ORD-2412. A total of 284,000 serial numbers were assigned from SN 4,708,000 to 4,992,000.
600	Supplement No. 1 issued 25 October 1942, among other approval actions, increased rifle authorization.
824	Supplement No. 2 issued 8 January 1943, among other approval actions, further increased rifle authorization.

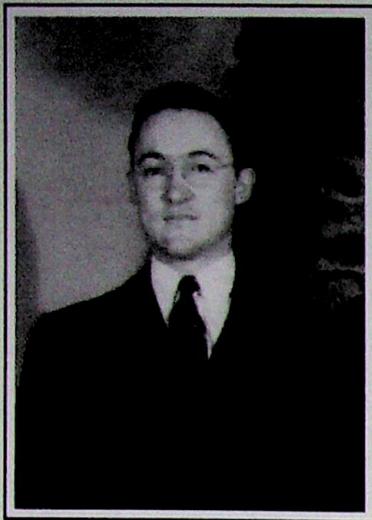
381,424

Total M1903A3 rifles authorized under the S-C contract

Notes and Assumptions (Continued):

- *1 Actual production each month reflects the number of complete rifles certifiably accepted by the Ordnance Department after final inspection and approval for payment. The data came from an Official "**Production - World War II**" report dated 10 March 1944 prepared by the Rochester Ordnance District (ROD), Small Arms Branch - Industrial Service.
- *2 These are the number of serial numbers added to actual accredited production to account for "gaps". By definition, a SN "gap" is created when a SN is lost and/or unavailable for counting towards actual production. For example, a defective receiver scrapped after being serially stamped is lost to the accounting process, resulting in a "gap" in the serial number sequence since it never resulted in a final accepted rifle. Consequently, there are more SN's assigned and used than accredited rifles produced. This total is statistically estimated to be about 3.18 percent of the total S-C production (7448 total serially stamped receivers), and in the interests of simplicity, proportionately distributed each month throughout manufacture.
- *3 The end-month serial numbers are calculated, therefore represent a hypothetical estimate of what possibly could have been, but never was. Since rifle production did not occur in serial number order, no such records were ever required or maintained by either Ordnance or the manufacturer.
- *4 While Remington along with S-C actually assembled M1903A3 rifles beginning October 1942, all approvals were rescinded, resulting in suspension of S-C "fully assembled" rifles pending major redesign of the rear peep sight by Remington. Reportedly, S-C had 864 such rifles initially approved by the end of October 1942. However, resumption of completed rifle assembly, inspection and approvals were not reinstated containing the new rear sight until December. Therefore, this production total includes the initial accumulation held in suspense that had begun with SN **3,608,000 and containing September 1942 dated barrels.**
- *5 S-C inadvertently overran its initial (1st) serial number block into the 2nd M1903A3 Remington block beginning with SN 3,708,000. Based on extant evidence of such S-C overruns as high as SN 3,712,199, it is estimated that as many as 4200 such S-C rifles were serially stamped, then ordered prefixed by Ordnance with a hand stamped "C" in order to avoid duplicate serial numbers.
- *6 The 2nd Block of S-C assigned serial numbers beginning with 4,708,000 was inaugurated after resolution of the "overrun" snafu.
- *7 While the actual approved production of February 1944 was 5000 rifles, a post contract audit of S-C over-run production resulted in "reinstatement" of 582 rifles on 4 May 1944. For reasons of simplicity and convenience, this adjustment addition is attributed to the last month of production since all normal contract production terminated on 19 February 1944.
- *8 SN 4,845,831 is a known quantity appearing on the last S-C contract production rifle.
- *9 While 234,580 rifles were approved and accepted by Ordnance under the formal S-C contract, it is estimated about 28,000 additional receivers (approximated) were allowed to be serially stamped and retained in Ordnance stores. SN 4,873,338 is an example of a known "high number" sighting, with numbers as high as 4,882,XXX also reported. Such receivers were likely used in post war rifle assembly for defense aid to foreign government purposes and are **not** considered S-C contract production rifles.

§



L. Ray Crittenden, Asst. Mgr.,
Research Division

had vigorously launched a “**Salvage Limit Survey**”...with the cooperation of the Inspection Department”. Their critical objective was to “...liberalize the limits on the model dimensions without affecting the function of the parts”, i.e. determine the maximum tolerance limits for acceptable component performance upon final rifle assembly to meet “full function and interchangeability tests”. In his March 24, 1943 report, Crittenden announced this effort would be ongoing, but more effectively handled through the A. L. Lowe’s chairmanship of the **Rifle Integration Sub-Committee** as opposed to directly submitted through Ordnance protocol. Yes, it was a command decision to accelerate a very much needed process through a managed, better coordinated and efficient effort for salvaging an accumulation of thousands of component parts already rejected by Army Ordnance Inspectors.

The strategy had the OD’s unqualified support in terms of an urgent response to overcoming manufacturing delay; and unquestionably had approval of all **Rifle Integration Committee** members, including S-C engineer (E. C. Mosier) and Roy C. Burley, Army Inspector of Ordnance stationed at Remington’s Ilion plant.

In an April 9, 1943 internal memo, Crittenden reported in a comprehensive report 61 different component parts and assemblies found “... to be causing interferences have been changed to eliminate such conditions”. It is interesting to note that the list was broken down to reflect everything from a single part containing a single feature, thus a single operation tolerance limit change... to very complex components with multiple features requiring multiple operations and changes. An example of the former was a one piece **Trigger, Pin**. An example of the latter was the **Receiver**, which targeted 55 different Features requiring 137 different tooling operations and tolerance limit changes. Of the 61 parts, there were a grand total of 266 features and 665 operations subject to tolerance limit changes. It was noted in his report that 9 other components were permitted to have no allowed tolerance limit changes; with all remaining unlisted rifle parts being mostly pins and screws having no particular threat to rifle function.

This intensive study would end up taxing the RAC Research Division resources “more time for making layouts, a model maker, two gun designers, and approximately 50 percent of the writer’s time (Crittenden) during the next two months”. All of this represented another facet of the RAC contribution to the War effort that has never been formally acknowledged until now. Yes, the U. S. government and Smith/Corona became primary beneficiaries of an unceasing RAC toil and commitment. Indeed, in S-C’s final report to Rochester Ordnance District (ROD) dated May 14, 1945, they were able recover “...approximately 75% of all rejected receivers, 70% of rejected bolts, and an average of 70% of all other rejected components...”.

It turned out to become a very successful program. By the end of June, a revised set of “...dimensional specifications by components with complete layouts covering the functional and fitting points and with detailed reasons for each change request” was completed and submitted to Ordnance by Remington. Notably, it resulted in blanket approval from Ordnance in July. Eventually,

it would become the basis used for Remington's post war manufacture of two "end buy" parts contracts (Change Order #39) plus a rifle repair contract.

Even the inspection process was liberalized as the rejection volume was reduced and confidence restored. Also, the trend from using mechanical final-inspection gauges became superseded by "...dial-indicator type along with the use of comparators...", thus substantially increasing the speed and accuracy of gauging. Also, the effects of fewer rejections translated into easing inspection frequency, whereupon gradually giving way to more spot checking based on "a statistical sampling plan of inspection" enabled under Ordnance quality control discretion.

Another contributing factor on behalf of troubleshooting the rejects/salvage issue came from the RAC's "Field Representative Response Program" inaugurated due to requests from military units already issued rifles for training. During the spring of 1943, various RAC engineers and technicians, including executives visited Fort Dix, Camp Kilmer, Camp Millard and other military stations as necessary to investigate complaints regarding alleged defects. This became a very educational period resulting in making further refinements "... on the run" ...even after the rifle contracts were terminated in late 1943. Yes, it brought them field access up close and personal to make heads-up decisions about further revisions, as well as alerting all representatives of the **Rifle Integration Committee**. Also, the interaction became an important service to Ordnance for "...acquainting troops and repair personnel with the new features of design of the M1903A3 Rifle and at the same time keep the factory informed of any deficiencies which may require further study". In doing so, they also learned that many armory maintenance staffs at remote locations were either unfamiliar or not following instruction bulletins developed by the RAC, whereas the 'A3 could not always be treated as an original Springfield '03. Examples were the **Middle Band** and **Stacking Swivel Band** assemblies whose screws were NOT to be removed lest the threads be violated; another was substituting 29 coil **Main Springs** on-hand at local base Armories in lieu of the new current standard of 35; etc.

PRODUCTION RECORD				
U. S. SMITH-CORONA RIFLE M1903A3				
Month	Ordnance Schedule	Original Ordnance Acceptance	Adjusted Rifle Total*	Final Ordnance Acceptance
Sept. 1942	0	0	0	0
October	800	0	0	0
November	5,000	0	0	0
December	12,000	5540	+49	5,589
Jan. 1943	23,000	9560	-15	9,545
February	30,000	10,030	-34	9,996
March	29,000	13,560	0	13,560
April	1,024	17,366	0	17,366
May	0	18,100	0	18,100
June	0	16,880	+584	17,464
July	15,832	20,420	+80	20,500
August	22,500	22,762	+198	22,960
September	22,500	22,780	-280	22,500
October	22,500	22,500	0	22,500
November	20,250	20,250	0	20,250
December	15,750	15,750	0	15,750
Jan. 1944	13,500	13,500	0	13,500
February	5,000	5,000	0	5,000
Totals:	238,656	233,998	+582	234,580

* Adjusted Rifle Total on 5/4/1944 after Ordnance audit

Even though requests for changes continued, by the end of August 1943 the critical issues of the component reject/salvage problem had essentially been satisfactorily overcome for both contractors. It was then subsequently announced at an August 24-25 meeting at the Springfield Armory that of 87 RAC marked prints showing all the accumulated proposed changes thus far, 80% had received final approval. However, clearance on the balance was to be withheld for the time

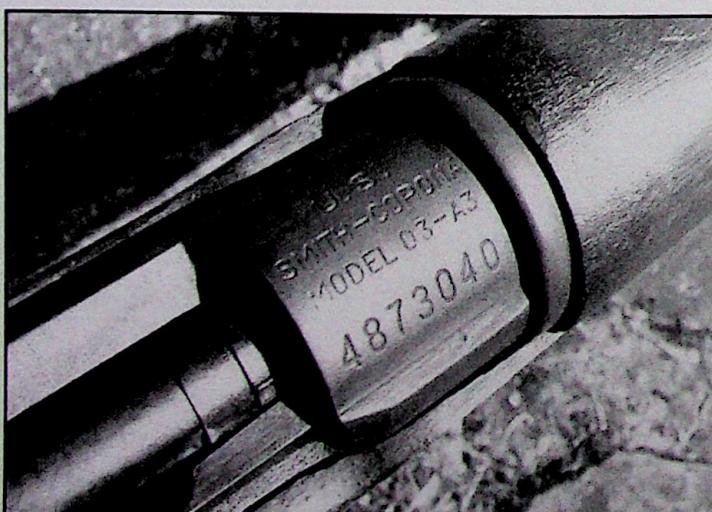
being. Why? The rifle production rate for S-C had become very acceptable...with their highest month of approved rifle production occurring in August 1943 (22,960). (See S-C production record on the previous page). Also, rumors had already been leaked of a pending a decision to suspend further M1903 rifle production altogether.

An exciting time in WWII small arms history was about to come to a conclusion. Nevertheless, it can be truthfully concluded the M1903A3 rifle remained a work in process right up to the Ordnance notice of termination of both the S-C and RAC rifle contracts the following November 11, 1943. As late as Oct 11, 1943 another change order had been presented mandating changes to 19 components and optional ones on 43 more. Fortuitously, the termination order issued on Dec. 4, 1943 foreclosed making any of the October changes.

EPILOGUE

Records/references in the author's possession don't reveal much detail regarding direct parts/components sharing that may have occurred between RAC and S-C other than mutually contracting with common vendors in the interests of sensible efficacy. The War Department had strict rules in place regarding collusion and price fixing, so joint use of common vendors was discreetly observed. However, there are compelling hints that both companies engaged taking a lead role in subcontracting "...numerous accommodation jobs for fellow manufacturers that involved each other". That makes sense, of course? If a particular vendor already had a proven record, why waste time that neither had in finding new ones since all components were required to be interchangeable between both manufacturers based on final engineering decisions coming exclusively from Remington.

While regular direct parts hardware support between the two companies was likely minimal because of close coordination, there are a few exceptions worth noting. In other words, we know that during critical or untimely shortages resulting in delayed rifle approval, delivery or shipment, they followed the wisdom of Ordnance counsel who crucially stepped in as needed. For example, numerous times throughout the packing and shipping operation, S-C ran short of materials that complied with changing packaging/shipping specifications. Often, the timing of ordering such materials couldn't be coordinated with the S-C shipping schedule of approved rifles. In such cases,



One of the very last Smith-Corona rifles assembled (new condition)

the record shows that S-C "...was able to borrow from Remington arms enough materials to tide them over." These materials most often involved oil-proof paper wrap and the heavy weathered solid fiberboard used for packing containers inside a waterproof envelope encased in a wooden box.

In closing, the Smith-Corona typewriter Co. at Syracuse deservedly earned the high regard of the War Department for its role in supplementing the RAC contract for M1903 rifle production. While they weren't a recipient of the

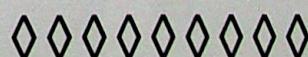
coveted "E" for Excellence award as was the Remington organization, they were very much appreciated in the closing days of their contract to receive a congratulatory "well done" thank you from Lt. General Levin H. Campbell, Chief of Ordnance. Moreover, it's an interesting statistic to note that it took the Rock Island Arsenal 9.5 years (May 4, 1904 to November 17, 1913) to produce 234,830 rifles, only 250 more than the Smith-Corona's 234,580 rifles made in 16 months midst many interruptions.

The record shows that S-C's two rifle and six spare parts contracts totaled over 5.7 million parts, both rifles & components. However, that was not the extent of the total war production coming out of their Syracuse Plant. In addition to the M1903A3 rifle contracts, they also delivered over 64 million other war related parts that weren't typewriter related. These contracts involved 41 different private companies, 12 of which were for rifle, carbine and machine gun parts. Curiously enough, the record also shows that one of those contracts was a Remington Arms Co. subcontract for "rifle parts" totaling 1,956,300 parts. At this point, the author knows not what those rifle parts were or whether any of them were for the Remington made M1903A3. As many know, Remington made a number of other guns for the War Department in WWII, including 85,200 Cal .22 Caliber training rifles (Model 513T) along with the Model 11 shotgun. However, the most likely explanation relates to the common use of vendors for subcontracted parts, for which one of the two companies served as administrator.

It is also not surprising that that the M1903 rifle contract contributed greatly to the Smith-Corona return to a civilian life making typewriters. The S-C final report of May 1945 declared a number of favorable outcomes that would guide their return to domestic/commercial production (typewriter reconversion) even before the War ended. Examples follow: S-C was able to modernize its reconversion through buying about half the "government machines in its Syracuse plant, including the Parkerizing process and furnaces for heat-treating" ...all at favorable pricing. They even retained the rifle range built at government expense and converted it to into a cafeteria for the work force.

But, the Remington technical contribution for modernizing their operation also played a significant role. For example: (1) The S-C final report also noted that "We learned what precision manufacture really is and what it costs", including engineering, tooling and the employee training readiness that precedes it; (2) "...after using new, high speed machine tools", it was essentially impossible to go back to the old slow overhead shaft driven machines; and (3) the post-war reconversion program for placement of all like machines at the same floor location was retired in favor of a "...line production plan in a logical sequence of operations without regard to their similarity".

Clearly, their rifle-making experience had opened the door to a profoundly energized post-war future for Smith-Corona. With that, the S-C deservedly earned the nation's praise for being available at a critical time in history alongside the Remington Arms Company.



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A TALE OF TWO SPANISH AMERICAN WAR 1884 TRAPDOOR MUSKETS

The following 45/70 rifled trapdoors were issued in 1898. One was issued to the State of California and the other to the State of Oregon Volunteer Infantries.

SERIAL 384666. BARREL 32 5/8". CALIBER 45-70. Springfield Research shows this rifle was shipped in 1898 to Company L, Oregon Volunteer Infantry for A.J. Cooper. The Oregon Volunteers participated in the occupation of Spanish Manila and in the brutal land war against Filipino nationalists that followed.

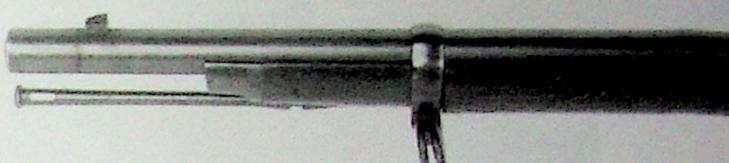
The Oregon Volunteers reached the Philippines in June. Standard 1884 Trapdoor with a full-length walnut stock with crisp SWP Sam Porter 1887 cartouche. Block is dated 1884. Rifle has a Buffington rear sight, two bands, sling swivels, US butt plate.

Condition. Rifle is in fine condition. Stock has a few dings and impressions but still superb and the P wrist stamp along with Porter are sharp as new. Barrel retains 90% blue with some thinning, light freckles, and some patina bleeding through. The block still has some dull colors. Legends are sharp. Most of the blue still remains on bolts, bands, springs and nose cap. Bore is bright. High condition rifle with documented history of the American Expansion.

Below: Top view of serial number, block and action



Below: Front sight, ramrod, front band, muzzle and nose cap



Below: Rear sight, middle band, and mid barrel.



Above: Buttstock



Above: Right side with lock, trigger guard and stock

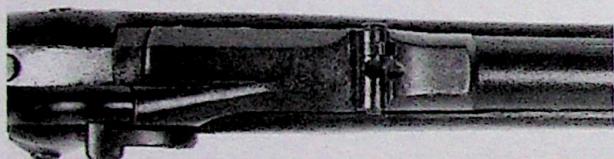


Above: Right side with rear sight. Middle band and stock

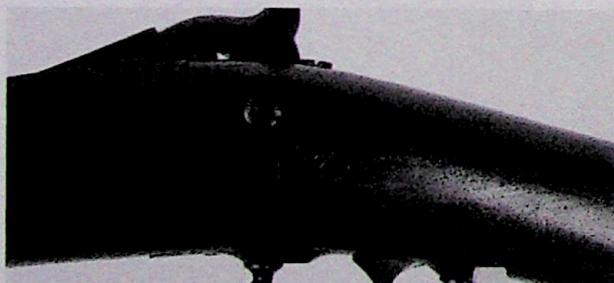


Above: Right side with lock and trigger guard

Below: Top view of serial number, block and action



Below: Right side cartouche



SERIAL 84136. BARREL 32 5/8". CALIBER 45-70. Springfield Research shows this rifle was shipped in 1898 to Company D, 6TH California volunteer infantry for Martin, Hugh.. There is a book on Amazon listing roster of troop. As the call went out for volunteers after the sinking of the Maine, the California National Guard responded by sending a pair of 12-company regiments – the First and Seventh California Volunteer infantries, an eight-company regiment (Sixth California Volunteers), and a signal unit that consisted of nearly two dozen enlisted and officers. It also sent the four batteries that comprised the First Battalion of Heavy Artillery.

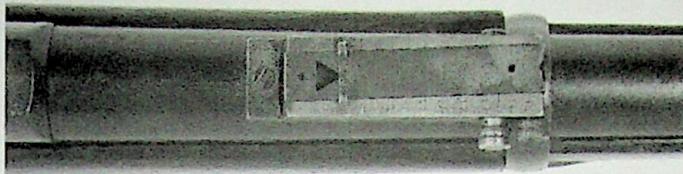
The units took part in actions on July 31, 1898 (near Malate) and in the capture of Manila on August 13, 1898.

Standard 1884 Trapdoor with a full length walnut stock with crisp SWP Sam Porter 1887 cartouche. Block is dated 1884. Rifle has a Buffington rear sight, two bands, sling swivels, US butt plate.

Condition. Rifle is in fine condition. Stock has a few dings and impressions but still superb and the P wrist stamp along with Porter are sharp as new. Barrel retains a blue brown patina mix with some thinning, light freckles. The block is dark. Legends are sharp. Bore is strong but has some residue. Nice original condition rifle with documented history of the American Expansion.



High condition rifle with documented history of the American Expansion.



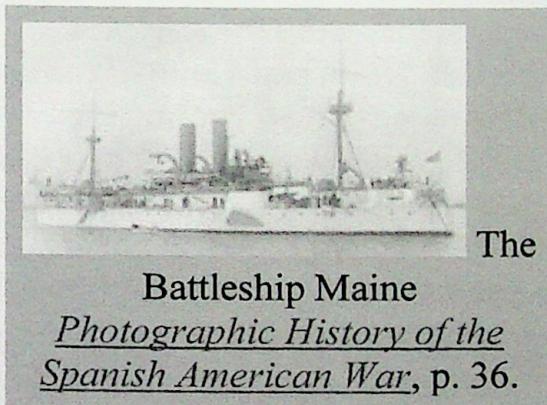
Above: Model 1884 Rifle sight

Hispanic Reading Room > World of 1898

The World of 1898: The Spanish-American War

[1898 HOME](#) > Introduction

Introduction



The
Battleship Maine
*Photographic History of the
Spanish American War*, p. 36.

On April 25, 1898 the United States declared war on Spain following the sinking of the Battleship Maine in Havana harbor on February 15, 1898. The war ended with the signing of the Treaty of Paris on December 10, 1898. As a result Spain lost its control over the remains of its overseas empire -- Cuba, Puerto Rico, the Philippines Islands, Guam, and other islands.

Background

Beginning in 1492, Spain was the first European nation to sail westward across the Atlantic Ocean, explore, and

colonize the Amerindian nations. At its greatest extent, the empire that resulted from this exploration extended from Virginia on the eastern coast of the United States south to Tierra del Fuego at the tip of South America excluding Brazil and westward to California and Alaska. Across the Pacific, it included the Philippines. By 1825 much of this empire had fallen into other hands and in that year, Spain acknowledged the independence of its possessions in the present-day United States and south to the tip of South America. The only remnants that remained in the empire in the Western Hemisphere were Cuba and Puerto Rico and across the Pacific in Philippines Islands, and the Carolina, Marshall, and Mariana Islands (including Guam) in Micronesia.

Cuba

Following the *grito de Baire*, the call to arms on February 24, 1895, Martí returned to Cuba and participated in the first weeks of armed struggle when he was killed on May 19, 1895.

The Philippines Islands

Leaders were arrested and executed on May 10, 1897. A negotiated a deal with the Spaniards and some exiled to Hong Kong with 400,000 pesos subsequently used to buy weapons.

Puerto Rico

During the 1880s and 1890s, Puerto Rico became a U.S. *Martial Arms Collector* 175-25

Ricans developed independence and Spain proclaimed the autonomy of Puerto Rico on November 25, 1897, and a new government established on February 12, 1898.

United States

President Grover Cleveland's proclamation of neutrality on June 12, 1895. placed the entire country under martial law. in February President William McKinley was elected. On April 21 President McKinley orders a blockade of Cuba and four days later the U.S. declares war.

The War

Following its declaration of war against Spain issued on April 25, 1898. United States President Grover Cleveland's proclamation of neutrality on June 12, 1895. But sentiment to enter the conflict grew in the United States when General Valeriano Weyler began implementing a policy of Reconcentration President William McKinley, inaugurated on March 4, 1897, was even more anxious to become involved, particularly after the. On March 9, Congress passed a law allocating fifty million dollars to build up military strength. On March 28, the U.S. Naval Court of Inquiry finds that a mine blew up the Maine. On April 21 President McKinley orders a blockade of Cuba and four days later the U.S. declares war.

Lt. Col. Theodore Roosevelt went up against Kettle Hill while the forces led

by Brigadier General Jacob Kent charged up San Juan Hill and pushed Spanish troops further inland while inflicting 1,700 casualties. While U.S. commanders were deciding on a further course of action, Admiral Cervera left port only to be defeated by Schley. On July 16, the Spaniards agreed to the unconditional surrender of the 23,500 troops around the city. A few days later, Major General Nelson Miles sailed from Guantánamo to Puerto Rico. His forces landed near Ponce and marched to San Juan.

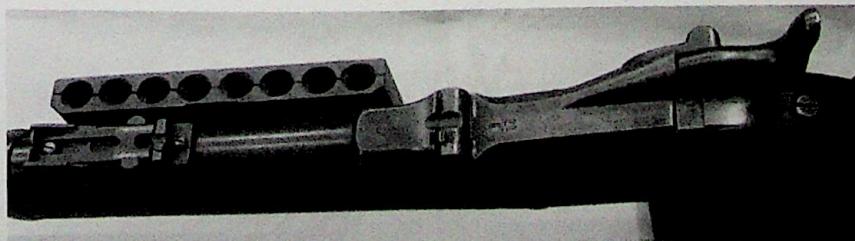
U.S. troops attacked the San Juan heights on July 1, 1898. Dismounted troopers, including the African-American Ninth and Tenth cavalries and the Rough Riders commanded by Lt. Col. Theodore Roosevelt went up against Kettle Hill while the forces led by Brigadier General Jacob Kent charged up San Juan Hill and pushed Spanish troops further inland while inflicting 1,700 casualties. A few days later, Major General Nelson Miles sailed from Guantánamo to Puerto Rico. His forces landed near Ponce and marched to San Juan with virtually no opposition.

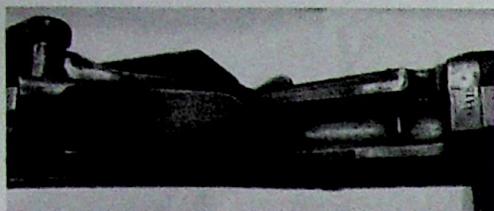
Representatives of Spain and the United States signed a peace treaty in Paris on December 10, 1898, which established the independence of Cuba, ceded Puerto Rico and Guam to the United States

METCCAIFE TRAPDOOR AND ACCESSORIES

The Metcalfe device was invented by Ordnance Department officer Henry Metcalfe and patented in 1875. The blocks were issued pre-loaded and carried on the belt.. The Model 1873 examples appear to have never been issued and are assumed to have been nearly entirely disposed of via disassembly or sales. The rifle also has the other standard Model 1873 markings and features, including an "ESA" cartouche.

Ordnance Department officer Henry Metcalfe invented the Metcalfe device which was then patented in 1875. The idea was that troops could carry these pre-loaded wooden cartridge blocks with them, which could then be attached to the side of their rifle making for quicker and easier access to cartridges when reloading. Only 1,008 Model 1873 rifles were fitted with these devices and were never issued. Most of them are believed to have been privately sold or disassembled for parts, making this very fine example e. The rifle shows standard Model 1873 markings and features including standard Springfield markings on the trapdoor and lock plate, both of which are dates "1873", "US" marked buttplate, circle "P" cartouche, and "ESA" cartouche on the left of the stock.





Open action with serial number



Cartridge box attached.

Below P proof mark



Photos: Courtesy of Ronald Ouimette



Bottom of cartridge box

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