Springfield Research Newsletter

ISSUE NUMBER 18
July - Sept., 1981

GENERAL NOTES

Research reported in this issue is largely from the records of Springfield Armory for the period 1949 - 1959, with some data and comments based on earlier records.

The post-WW II records of Springfield repose at the National Personnel Records Center in St. Louis, Mo., but they are scheduled to be moved to the Federal Records Center in Suitland, Md. The records consist of the general administrative files plus R&D project and industrial & applied engineering case files. Some of these files are still classified, but the unclassified portion contains much data of interest to collectors of Springfield M1 and M14 rifles and other postwar martial arms. As recently as 1970, this collection also contained records on earlier Springfield developments, such as bolo bayonets and M1903 National Match rifles; unfortunately, all prewar records were destroyed at that time because they were "of historical interest only".

SPRINGFIELD M1865 AND M1866 2-BAND MUSKETS

We have had several requests for information on the 2-band variation of the M1865 and M1866 cal. .50 muskets, and we are trying to find some documentation on them. They have been described by Randy Graham as having a 36-in. barrel; the stock is identical in appearance to an M1868 stock with the middle band removed, the band spring slot filled with a walnut strip, and the upper band modified to take a swivel in a new location. The wood between the lower band and nosecap has been reshaped and is proportionally correct. While the stock usually bears the ESA cartouche normal for these models, it may also have an SWP cartouche (for S. W. Porter). Such muskets are listed in Flayderman's Guide to Antique American Firearms and other reference works.

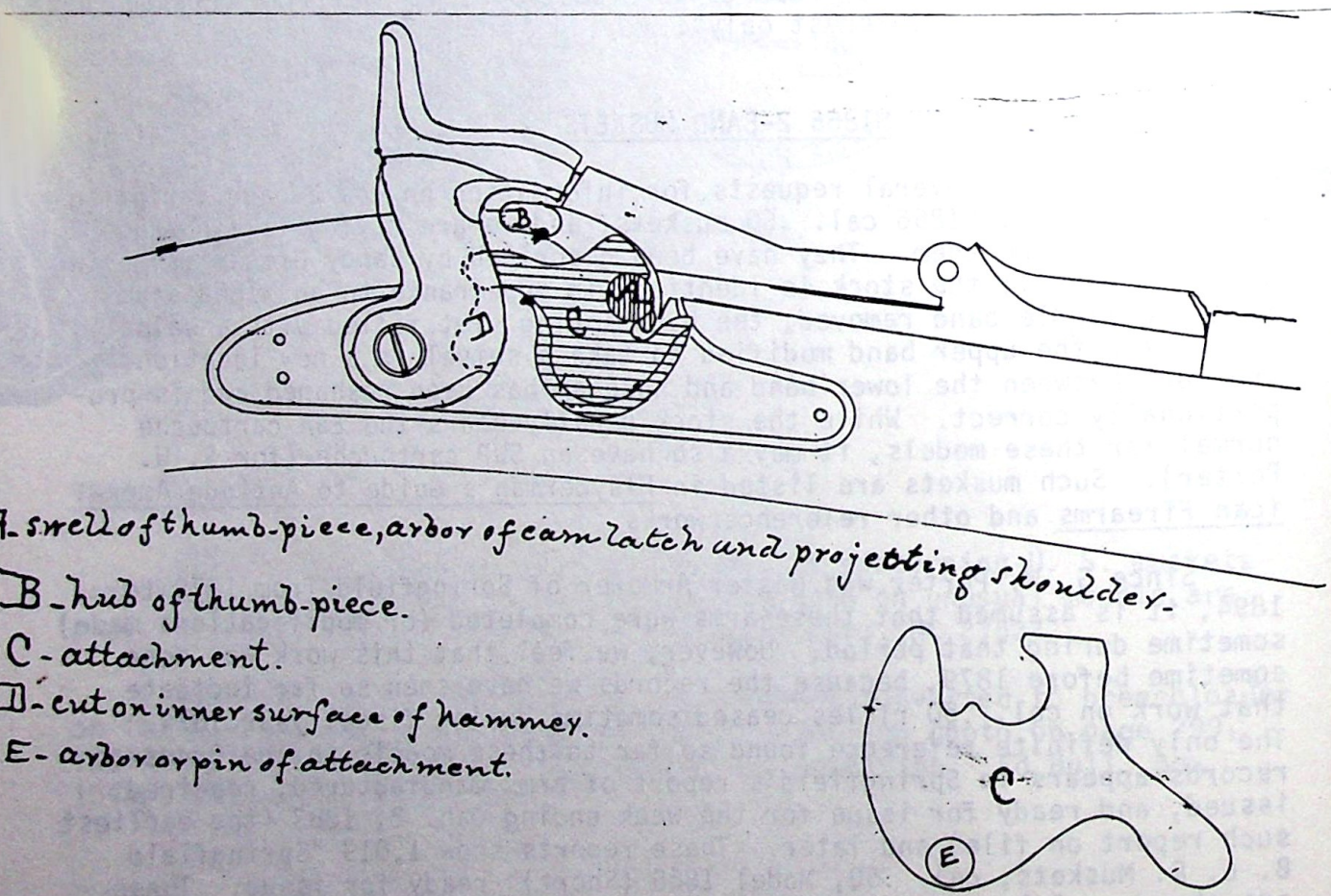
Since S. W. Porter was Master Armorer of Springfield from 1879 to 1894, it is assumed that these arms were completed (or modifications made) sometime during that period. However, we feel that this work was done sometime before 1879, because the records we have seen so far indicate that work on cal. .50 rifles ceased sometime during fiscal year 1874. The only definite reference found so far to these models in the Ordnance records appears in Springfield's report of arms manufactured, repaired, issued, and ready for issue for the week ending Jan. 2, 1883 (the earliest such report on file) and later. These reports show 1,019 "Springfield B. L. R. Muskets, cal. .50, Model 1866 (Short)" ready for issue. These are shown as "cleaned and repaired", which indicates that they must have been completed, issued, returned to the Armory, and refurbished before 1883. The Hill-Frasca trapdoor book shows a later issue of this report.

A quarterly publication of SPRINGFIELD RESEARCH SERVICE, P.O. Box 4181, Silver Spring, Maryland 20904. Subscription price $7.50 per year in the U.S., $15 per year elsewhere.

By the early 1870's, Porter was already a senior employee at Springfield. His job title was Master Machinist, and he was an inside contractor having several employees of his own. He served on the board for testing various improvements to Armory products, such as Freund's improvement to the breech mechanism (see illustration below). Although he did not become Master Armorer until 1879, it is entirely possible that he could have been delegated to inspect arms before then.

Our theory is that the 2-band M1866 muskets were made at Springfield for trial use sometime before 1871. This theory of trial use is based on the quantity shown in the 1883 inventory (1,019), which is consistent with the number of M1870 muskets (1,021) made for trial against Remington and Sharps muskets in fiscal year 1871 (see Springfield Research Newsletter number 16).

Any further information on these arms will be reported in future issues of this newsletter.



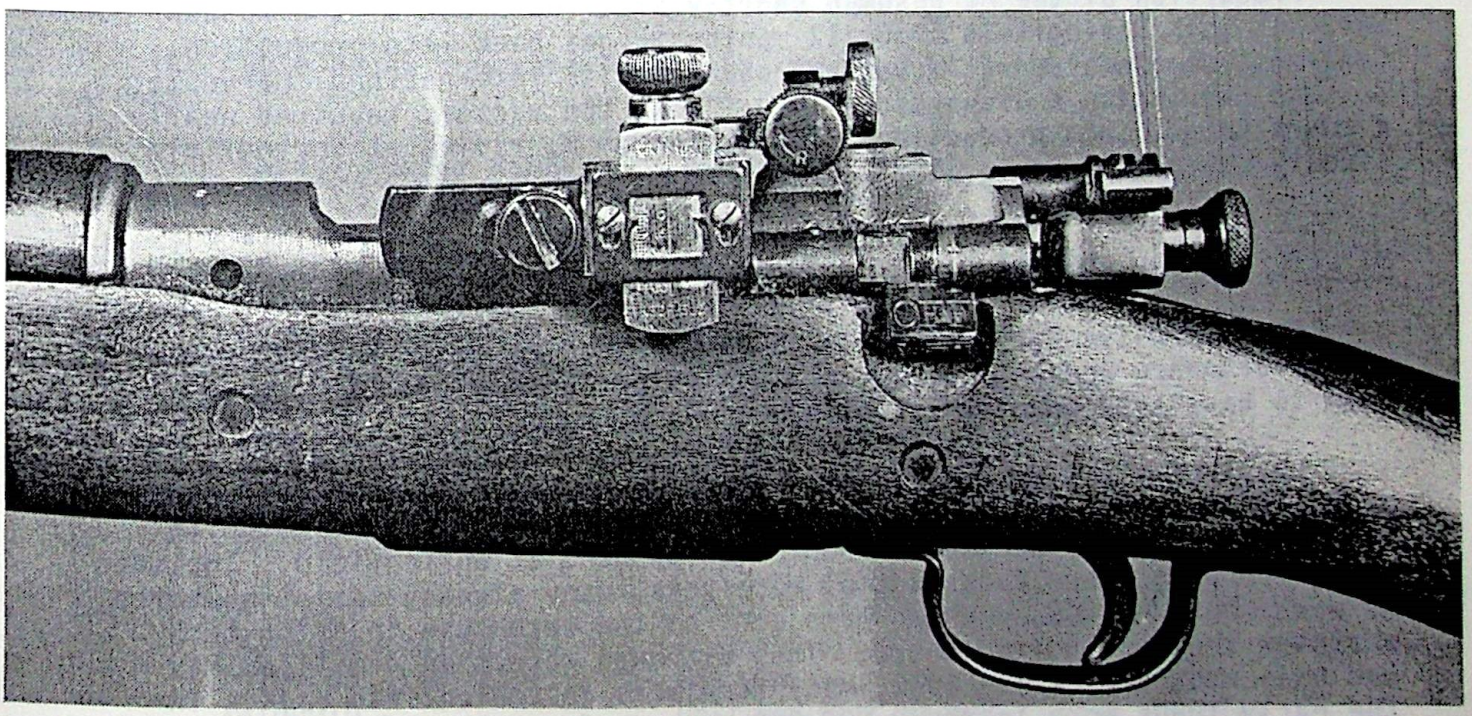
Freund improvement to trapdoor rifle consisted of plate which attached to lock plate and blocked hammer until breechblock was completely closed.

M1903A3 NATIONAL MATCH RIFLE

The National Match version of the M1903A3 rifle was an otherwise standard Remington of Smith-Corona '03 selected for accuracy and fitted with Redfield Olympic rear and globe front sights (see illustration below). The exact rationale for this rifle is not stated in the Ordnance records, but it can be surmised that they were made for use in "bolt gun" matches, where it was felt that they would offer accuracy superior to that of the M1 rifle, particularly at long ranges.

The records show that 140 of these rifles were made up in 1954 and 7 were shipped to Ft. Mason, Calif., for use by the US Army Pacific Rifle and Pistol Team. Upon inspection it was found that when the Redfield sights were mounted in the forward position the clip slot is covered, making it impossible to be cliploaded (thus useless in rapid fire match stages); when the sights were mounted in the rear position, they did not seat properly and the bolt would not function. It is not known what disposition was made of the balance of these rifles, but it appears that they were not offered for sale at the Matches.

Although the records indicate that the initial intention was to use Redfield Olympic front sights on these rifles, it is believed that the simpler Redfield No. 66 Globe front sight, mounted in the standard Springfield barrel band, was used instead.



Redfield Olympic sight is shown on M1903A3 National Match Rifle in forward mounting position (specimen courtesy W. P. Fyberg)

M1 RIFLE PRODUCTION

While the overall production records and serial number data on M1 rifles continue to elude us, we were able to obtain a wealth of information on post-WW II development.

In terms of production data, it appears that not even Springfield had accurate figures. When queried in 1955, Maj. Ed Dooley of Springfield responded with the following information on production orders:

22 March 1934	1,500
1934 - 1938	16,365
1939	151,849
1940	300,919
1941	731,679
1942	755,459
1943	1,013,046
1944	373,701
	3,344,518

The above figures do not include orders placed in late 1944 and early 1945 but later cancelled. They also appear not to include rifles produced by Winchester, because production through 1945 was stated elsewhere to have been in excess of 4,040,000 rifles.

Production of the M1 resumed shortly after outbreak of the Korean War. It took Springfield about 12 months to get back into production. Contracts were awarded at about the same time to International Harvester Co. and Harrington & Richardson, Inc. These contractors required nearly 2 years to get into production. Production of M1 rifles at Springfield finally stopped in Feb., 1957.

M1 RIFLE SERIAL NUMBERS

The extensive Springfield serial number records were turned over to the Ordnance Weapons Command at Rock Island Arsenal in 1955; they seem to have subsequently vanished without a trace.

Many anomalies will be found in postwar M1 serial numbering. When production restarted in 1950, there was a huge, disorganized stockpile of parts in various stages of completion on hand at Springfield. Included among the parts were thousands of receivers, many already serial numbered. As parts were needed, workmen were sent to the warehouse to bring back whatever they could find there. Thus although more than 4 million M1s had been produced before 1945, many receivers assembled into rifles in the early 1950s were in the 3,000,000 range and even lower. Examples are receivers number 3740869, 3740872, and 3740880, which were reported as being ready for initial heat treatment in March, 1952. The evidence strongly suggests that, as in the case of Krags and M1903s, Springfield made no effort to assemble M1 rifles in serial number order.

Another confusion factor was introduced when Springfield began sharing its stockpile of parts with IHC and H&R in order to help them get into production sooner. As part of this assist effort, Springfield supplied 16,000 completed receivers to IHC in 1954.

Also, it appears that duplication of serial numbers was rampant at Springfield as well as the contractors. For example, the first 1,706 receivers made by Springfield starting with serial number 6000000 were found to have duplicate serial numbers; and the Marines reported that they had been issued 19 IHC rifles with duplicate numbers. In some cases when duplicate numbers were found, the number on one of the receivers was obliterated and a new number, prefixed by "X", was inscribed on the receiver; in other cases (such as the 1,706 mentioned above), the old numbers were retained and an "X" was inscribed ahead of one of them.

It should also be noted that many receivers were spoiled in the final stages of manufacture, after serial numbers had been applied, and it was Springfield's practice not to reuse such numbers. When assigning blocks of serial numbers for use by IHC and H&R, it was standard practice to assign more serial numbers than rifles to be produced, in order to allow for such spoilage. This factor alone makes it impossible to extrapolate from production totals to serial number ranges.

From the above discussion, it should be clear that it is not possible to associate the serial number of any M1 rifle and date of manufacture with any degree of certainty. The situation with M1s, in fact, appears even worse in this respect than it is with Krags and M1903s.

The table below summarizes what is known of M1 serial number allocations.

Serial Number Range	Manufacturer
1 - 100000	Springfield
100001 - 165500	Winchester
165501 - 1200000	Springfield
1200001 - 1357473	Winchester
1357474 - 1599999	Springfield
1600000 - 1601149	Voluntary Contribution
1601150 - 2305849	Springfield
2305850 - 2655982	Winchester
X2655983 -X2656184	Unknown
2656185 - 4100000	Unknown (3000000 range known to be Springfield)
X4100001	Unknown (for Marine Corps, 5/20/52)
X4100002 -X4100004	Unknown (11/24/53)
X4100005 -X4100009	Unknown
X4100010	Unknown (for Marine Corps, 3/4/54)
X4100011 -X4100029	IHC (for Marine Corps, 3/18/54)
X4100030 -X4200000	Unknown (reserved for Field Service Depots)
4200001 - 4440000	Springfield
4440000 - 4660000	IHC (1953)
4660001 - 4800000	H&R
5000501 - 5278245	IHC
5278246 - 5488246	Springfield
5488247 - 5793847	H&R
5793848 - End	Springfield

M1 RIFLE SERIAL DATA

Attached are listings of serial numbers for M1 rifles gleaned from the Springfield Armory records for the 1949 - 1959 period. They include National Match rifles issued to the US Army Advanced Marksmanship Unit (USA AMU) in 1957, plus a quantity of serial numbers of miscellaneous rifles. The miscellaneous listing includes numbers of many rifles used in experiments and as prototypes in development of the M14 rifle.

M1C AND M1D SNIPER'S RIFLES

These are M1 rifles selected for accuracy and fitted with M84 telescopic sight, cheek pad, and flash hider. These rifles, together with the M1903A4 and the USMC M1903A1 Sniper's rifle, were used throughout the Korean War. Even after the introduction of the M1D, which was simpler to manufacture, the M1C remained the standard US Army Sniper's rifle: the M1D was officially the Substitute Standard, while the '03A3 was a Limited Standard. Production of the M1D evidently started in early 1951, and 17,146 had been requisitioned by the end of that year. The M1D may have originated in the USMC, where an M1 rifle mounted with Stith-Kollmorgen model 4XD telescopic sight was designated MC Model M1952. It appears that M1D rifles were produced at Raritan Arsenal as well as at Springfield.

We do not know when the M1C was originally developed, but it is assumed that this took place near the end of WW II. The list of miscellaneous M1 serial numbers in this issue includes 3 M1Cs shown as being in an exhibit of weapons in 1948, and it is believed that development was complete by that time. The first military specification for the M1 and M1C (MIL-R-3285) was dated 8 Sept 1950. It is believed that volume production of M1C rifles started somewhat before M1D production, in late 1950 or early 1951.

Many collectors believe that the M1C was a conversion of the standard service rifle, whereas the M1D was especially manufactured as a Sniper's rifle; however, the Ordnance records reveal that <u>both</u> the M1C and M1D were conversions of the service rifle. Note also that after both M1C and M1D rifles had been brought into production, there were still some M1903A4 Sniper's rifles being produced (as late as 1954).

A. G. Spalding & Bros. made cheek pads for the M1 Sniper's rifles, while M84 'scopes were made by a number of firms, including the following: Leupold & Stevens, Libby-Owens-Ford, Lyman, and Rudolf Wendel. In 1953, a new flash hider (designated T37) was introduced for both M1C and M1D as a replacement for the M2 unit used up to that time.

NATIONAL MATCH M1 RIFLES

A very large amount of information on M1NM rifles was obtained from the postwar Springfield records. Much of it deals with technical details of experiments conducted, modifications made, etc. As interesting as it is, we will omit the technical details of National Match rifle development and focus our attention on markings and other elements of more interest to the average collector.

The first batch of M1NM rifles consisted of 800 service rifles selected in 1953 from new production and targeted to obtain the most accurate weapons. Of the total produced, 100 were issued to the US Army Rifle Squad and 700 were furnished for issue at the 1953 National Matches. The letters "NM" were stamped on the barrels of these rifles; otherwise, except for the fact that those sent to Ft. Benning had forged trigger guards and were equipped with M1907 slings (and 10 had chrome-lined bores), they were identical to regular service rifles. These rifles were referred to as "National Match quality" rifles inasmuch as the nomenclature "National Match M1 Rifle" had not yet been authorized.

Starting in 1954, additional M1NM rifles were produced by rebuilding M1NM rifles still on hand from previous Matches, adding new service-grade rifles to the program as needed to meet the requirements for total number of rifles to meet requisitions. As development proceeded, higher and higher standards were applied, resulting in extensive modifications and the introduction of several unique parts. Annual conferences were held at Springfield to discuss changes proposed by various teams and other service elements. Following are some of the changes made to these rifles that will be most apparent to collectors:

1956 - a. Bolt with marking O-16 no longer used.
b. A star marking was applied to some barrels to differentiate those rifles targeted by the 3 - 10-shot group method from those targeted by the earlier 5-shot method.
c. Letters "SA" stamped on left side of stock between hand grip and butt plate on all rifles that were rebuilt.
d. Special rear sight apertures marked "NM 520" and "NM 595" were supplied.

1957 - a. Barrels made by Line Material Co., Birmingham, Ala., were used for some rifles.
b. Star marking on barrel discontinued 22 Oct 1957.
c. Front sight base marked "NM".
d. First National Match Trophy rifle produced.

1958 - a. "NM" on barrel inscribed rather than stamped.
b. "NM" stamped on flat tang to rear of stacking swivel hole.
c. 12 National Match Trophy rifles produced

1959 - a. Rear sight base marked "NM".

1959 - b. Rear sight windage knob marked "NM".
c. Hooded rear aperture adopted.
d. Special mark applied to barrel to identify year in which rifle was prepared (see attached drawing).
e. F7790134 barrel drawing.

1960 - a. Glass bedding of stock initiated by Springfield.
b. Last 4 digits of rifle serial number inscribed inside trigger housing.

Unknown - Root of operating rod handle marked "NM".

M1NM RIFLE PRODUCTION

As in the case of M1 service rifle production, confusion reigns in M1NM rifle data. Rifles were scheduled to be produced in lots to meet requisitions; but the size of lots were sometimes changed, or additional lots were added, to meet changing requirements. Also, the quantity of NM rifles available and useable from prior years' production was never known in advance with any degree of accuracy. The publication National Match Rifles, produced by the Army Materiel Command for distribution at Camp Perry, furnishes a tabulation of rifles produced; however, some of its figures are definitely erroneous (the figure for 1954, for example, was stated to be the same as for 1957, while actually it was much lower). Note that the only signifacant total production figure is the one for new rifles, which if accurate would show the total number of M1 NM rifles that were created. This figure of 18,575 is somewhat short of the figure of 20,804 which the Department of the Army reports having disposition records on. The Army also reports that in 1974, 3,564 M1NM rifles were disassembled and 5,677 were free issued to Greece.

M1 NATIONAL MATCH RIFLE PRODUCTION

YEAR	NEW	REBUILT
1953	800	0
1954	1700	800
1955	3003	314
1956	5050	550
1957	4184	499
1958	1295	731
1959	2546	5873
1960		8663
1961		1410
1962		4500
1963		3630
TOTAL	18575	

M1 INSPECTION AND PROOF MARKING

While there is a great deal of information in the records on procedures for inspection, targeting, and proofing of M1 rifles, there is very little on the actual markings applied. Therefore, much of the following information is based on observation of specimens and data obtained from secondary sources, and its accuracy is not guaranteed.

In the early 1950s, the 150 year old practice of marking each U. S. military rifle with the initials of a Government inspector was abandoned, to be replaced by uniform stamping with the DoD acceptance mark (a square cartouche enclosing 3 stars over an eagle clutching 3 crossed arrows). Following are some of the inspection marks applied to M1 rifles prior to that time, together with their presumed meaning:

GHD	Guy H. Drewry (1930 - 1957)
JLG	James L. Guion (1951)
SPG	Unknown
EMcF	Earl McFarland
SHM	Unknown
NFR	Unknown
GHS	Unknown
GAW	George A. Woody (1941 - 1942)

Proof marks were applied to the barrel, bolt, receiver, and stock. Bolts and receivers were marked with a punch, whereas the barrel and stock were stamped with the letter "P". Proof marks were pretty uniform, except that IHC rifles first manufactured had a plain 3/16-in. "P" stamped on the flat portion of the pistol grip rather than the required 5/16-in. "P" in a 1/2-in. circle approximately 1-in. to rear of the trigger guard.

Many M1 rifle parts were made by subcontractors, and major parts bear the symbol assigned to such manufacturers.

Barrels were marked with the manufacturer's code, month and year of manufacture, and drawing number, in addition to proof and inspection marks. Reconditioned barrels were marked with an "O" below and in close proximaty to month and year of manufacture. As stated previously, National Match rifle barrels were marked with a Greek cross in 1959 and (presumably) different marks in later years; none of the latter are known to us.

More information on markings can be obtained from M1 Garand Research, 221 21st Ave. N., Texas City, TX 77590.

TRADING POST

FOR SALE: WW I Springfield collection which includes a Pederson device with can but no magazine. POR. Dr. H. D. Bolefahr, P. O. Box 710, Huntington Beach, CA 92647

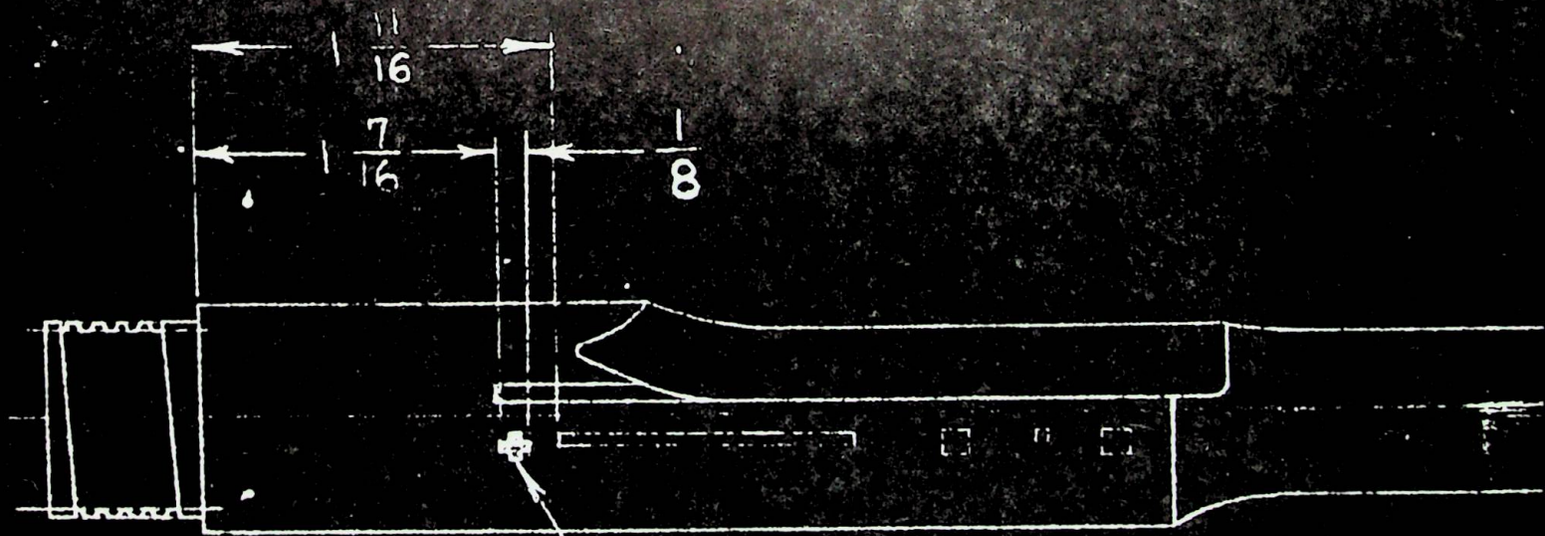
FOR SALE: M1868 .50-70 Trapdoor rifle. Lock dated 1863. Mech. exc., mkgs exc., with darkening case colors. Barrel still in the white with a freckling of brown. Bore shiny, exc. Early ser. no. of 3886. Stock fine with a slight rounding of corners but with 4 light cartouches. Right sights, rod, R. I. A. single claw sling. $340. With a matching exc. bayonet, $375. Randy Graham, Box 254, Marcellus, MI 49067.

WANTED: Krag Constabulary rifle. Dr. H. D. Bolefahr, P. O. Box 710, Huntington Beach, CA 92647.

WANTED: Extra fine to mint M1866 Springfield full length barreled action only. Hank Habenicht, 12162 E. Hawaii Dr., Aurora, CO 80012, call (303) 695-7796.

WANTED: Original Mark I Springfield stock with cut out for ejection prot. Tom Batha, 33 Montgomery St., Rouses Point, NY 12979. Call (518) 297-6159.

WANTED: 1836 pistol lock or lockplate, 1819 pistol lock or lock piece. Please describe and price. Randy Graham, Box 254, Marcellus, MI 49067.



STAMP IDENTIFICATION SYMBOL
STEEL SYMBOL STAMP, TYPE #20
PROCURED FROM THE NOBLE AN
BROOK MANUFACTURING CO., ES
ST., EAST HARTFORD 8, CONNECTI

NOTE: CODE IDENTIFICATION TO BE APPLIED TO BARRELS OF ALL 1959 NATIONAL MATCH RIFLES AFTER FINAL ACCEPTANCE.

BARREL - E7790134