

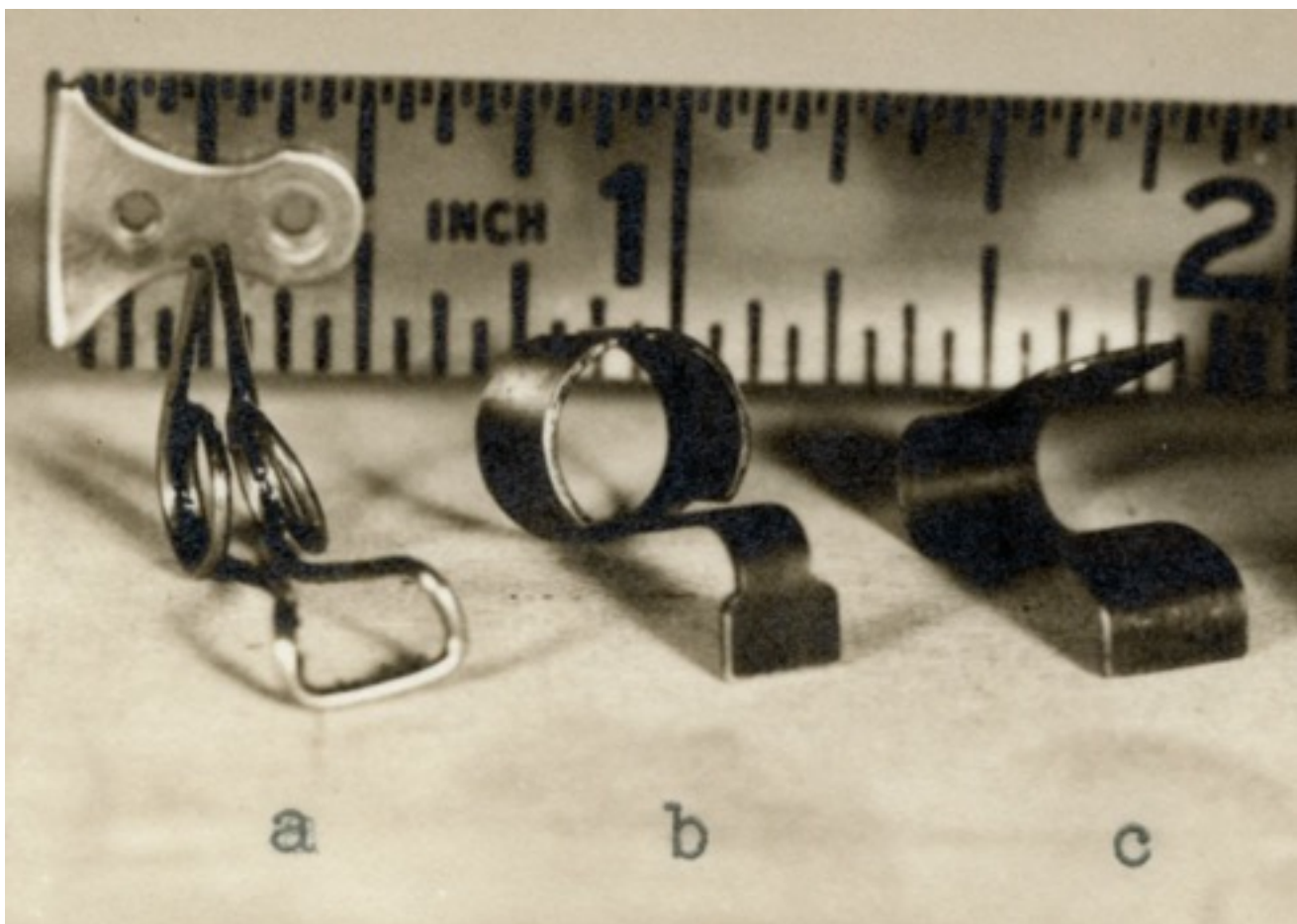
**REPORT OF THE INFANTRY BOARD #1628, MODIFICATION OF TRIGGER SPRING,
CARBINE, CALIBER .30, M1 FORT BENNING, GEORGIA 10 JUNE 1944**

“The Department of Weapons of The Cavalry School, Fort Riley, Kansas, had experienced considerable difficulty with the trigger spring (No. A-196459) Carbine, Caliber .30, M1, due to the weakening of the spring from fatigue, and the spring slipping back out of position in the trigger housing, thereby causing it to remain in the closed position. When either condition arises, the spring no longer acts to force the trigger forward and malfunctions occur. Malfunctions of the Carbine were so prevalent from these conditions that the Cavalry School considered that the trigger spring design was a weakness inherent in all carbines, and sought to correct it. The outcome of this study was the two (new) trigger springs under consideration.

One was designed by Staff Sgt. Charles P. Brooks of The Department of Weapons, The Cavalry School, Fort Riley, Kansas and the other by the Ordnance Department. The one designed by Staff Sgt. Brooks is made in the form of a leaf of spring steel, 1/32” thick by 1/2” long by 3/16” wide with a bend on the end which rests on the trigger...supported by a sleeve designed to fit snugly into the aperture of the trigger housing.

The Ordnance Department trigger spring is similar in function to the Cavalry School spring, but simpler of fabrication. It consists of flat spring steel of elliptic design to fit the aperture of the trigger housing.

The two (2) types of subject trigger springs for the Carbine, Caliber .30, M1, were tested to determine the advantage either type offered over the present trigger spring, and if the subject springs increased the trigger pull over that now prevalent in the modified M1 Carbine.”



a. Standard Carbine Trigger Spring. b. Cavalry School Trigger Spring c. Ordnance Trigger Spring

Nine test samples of the Cavalry spring were fabricated by Springfield Armory (with some modification by S.A.) and shipped to Fort Benning. An Armory letter dated 17 April 1944 that accompanied the springs stated "Exact duplication of the model submitted was not considered advisable by the Armory, as tests with this model gave trigger pull far in excess of specification limits. There are also enclosed herewith, two models of another design of spring which is believed similar in function, but simpler of fabrication." (This is the Ordnance trigger spring.)

The testing involved six Inland carbines. "Standard M1" were serial numbers 310243, 250532, 73701. "M1 Modified," presumed to mean having "straight" hammers designed to give a lighter trigger pull, were serial numbers 834285, 886722, 883909.

"Three carbines each of M1 and M1 (Modified) were drawn and checked for trigger pull as received with standard trigger springs. No record of the length of time these trigger springs had been used was available... Extra standard trigger springs were drawn, and one each of the M1 Carbines and M1 Carbines (Modified) were equipped with the standard, the Cavalry, and the Ordnance trigger spring. Trigger pulls was again measured and recorded. With the springs installed, the carbines were submitted to a test of having the trigger pulled 50,000 times. The bolt was not actuated each time. One hundred rounds were fired through each weapon after the first 25,000 trigger pulls. New springs were replaced in the weapon as failures occurred, and a new count started. Trigger pulls were measured on the guns having good trigger springs at the end of the test.

Summary of the Results of Tests:

1. The subject trigger springs do not appreciably affect the trigger pull on the M1 Carbine and the M1 Carbine (Modified).
2. Neither of the subject springs is as rugged as the present standard spring.
3. None of the Cavalry type (Sgt. Brooks) trigger springs lasted through the abusive test. Four broke on the M1 Carbine after an average of 5800 trigger actuations, per spring, and four broke on the M1 Carbine (Modified) after an average of 3300 trigger actuations per spring.
4. One of the Ordnance springs lasted 44,031 actuations and the other 50,000 (only two were received for test).
5. The present standard springs operated efficiently during the test.
6. The Infantry School has had very little trouble with Carbine trigger springs. Carbines that have had weak springs develop have been used for instruction in disassembly and assembly. The remainder of the original group has been used for class firing for approximately two years without replacement of the trigger springs.

Recommendation: The Infantry Board recommends that the two types of subject springs be considered as unsatisfactory for purpose designed, and that no further consideration be given to their development."

Editor's conclusion: So, why did the Cavalry have such trouble with their trigger springs, whereas the Infantry didn't? The reasons are unknown. Further, there has been no documentation found, that any other using service experienced problems with carbine trigger springs. Perhaps the Cavalry had a very early batch of carbines with improperly tempered springs. Or perhaps the Cavalry's armorers damaged the trigger springs on their carbines with improper disassembly/reassembly or the use of improper tools. The only way a trigger spring can "slip back out of position" is if it is installed upside down.

Marty Black