

SHARP CRACKS *of a* RIFLE



John C. Garand and his (and Uncle Sam's) new semi-automatic rifle—virtually a machine gun at the doughboy's shoulder

THE sharp crack of a rifle rang out, and another redskin bit the dust."

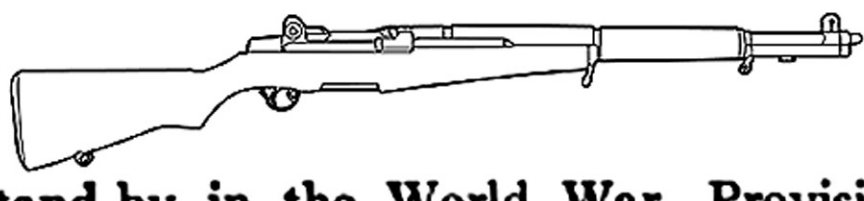
It was, if you remember your dime novels, none other than Dead-Shot Dick, the intrepid frontiersman. Surrounded and assailed on all sides by savages, renegades, and assorted varmints, he stood at bay. Again and again he fired until the bodies of his enemies were heaped high about him. Then he strode off, lovingly patting the still warm barrel of his trusty long rifle which, though a flintlock, had performed like a machine gun.

Now I'll tell one, and this one is truth and stranger than fiction.

The sharp crack of a rifle rings out and keeps on ringing until it has rung out thirty times in one minute. This, mind you, is a rifle, a shoulder arm, not a machine gun. It is being fired by an average rifleman; an expert can fire as high as 80 rounds a minute. These are aimed shots, too, and no indiscriminate stream of lead. Each round is fired by a squeeze of the trigger. The gun's gas-operated mechanism ejects, reloads and cocks. No longer must a hand leave stock and trigger to pull back the bolt. The rifleman pauses only to slip an eight-round clip into the magazine, open in readiness after the firing of the last shot.

That, ex-soldiers (of the Legion) is our Army's new semi-automatic rifle, officially designated U. S. Rifle, Calibre .30, M-1; called the Garand rifle after its inventor, and indicated by severe field tests to be a combat weapon par excellence.

The new rifle, manufactured at Springfield Armory, already has been issued to certain units. Eventually it will replace the 1903 Model Springfield which was our



stand-by in the World War. Provision for mass production of the semi-automatic, in the event of an emergency, is being made. Under the Educational Orders Program of the Industrial Mobilization Plan, approved by Congress, the Ordnance Department may arrange with civilian manufacturers to make the tools, dies, jigs, and fixtures which, along with regular plant equipment, will permit the production of military supplies; small quantities may be turned out at these plants as training for the filling of war orders. Assistant Secretary of War Louis A. Johnson, National Commander of the Legion in 1932-33, has placed the new rifle first on the list of items to be manufactured on the program. Production of the rifle continues under a regular schedule at Springfield Armory.

What a gun it is! Its nine-pound weight swings easily through the manual of arms. The eight-round clip—three more shots than we used to have in the locker—slips in easily and the breech clicks closed. The old range scale slide has vanished; range and windage adjustments are made simply by turning two knobs. The rear sight of the aperture type and the front sight (blade) are superior to the old Springfield's. You draw a bead on the target, and eight shots crash into it with a rapidity limited only by your remembrance that you had better squeeze that trigger, not pull it, or hear plenty from



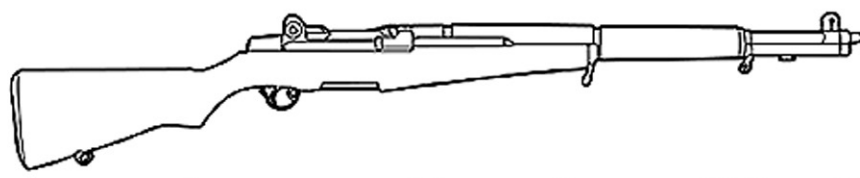
the sergeant. You cease firing with a feeling of utter amazement. You are still on the target. The upward jerk of the muzzle was small. And where was the mule-kick of the old Springfield? Recoil checked by the

action of gases on the mechanism, your shoulder isn't even faintly sore. The barrel can be cleaned without disassembling the gun. When the rifle is disassembled for cleaning moving parts, it is a simple job in which no tools are required. Only a small screw driver is necessary when the rifle is completely taken down.

The new semi-automatic means, among other things, that the fire power of troops armed with it has been increased at least two and a half times over the old Springfield. For the low-flying aviator, bound for a grand strafe, it is a keep-off-the-grass sign with heavy penalties attached. Now if a plane swoops toward infantry on the road, troops are trained to scatter and kneel on the right leg with the left extending straight out to the front. No set-up machine gun could swing onto the target as quickly as these riflemen do. They do not aim directly at the plane but "lead" it as a hunter does a duck. Then they fire a clip from their semi-automatics as fast as they can pull the trigger. A plane which passes through such a sheaf of converging fire without being pretty badly riddled will be lucky.

It marks a new epoch for the rifleman, does this remarkable gun. The man behind it knows the same sense of superior power over a soldier with a bolt-action rifle as percussion-fire displayed over the old flintlock, as the breech-loader demonstrated over the muzzle-loader, as the single-shooter yielded to the repeating rifle.

For thirty years the Ordnance Department had been striving to obtain a satisfactory semi-automatic rifle. Specifications demanded that it must fire the



.30 service cartridge, be self-loading, weigh not over $9\frac{1}{2}$ pounds, be well-balanced and adapted to shoulder firing; that its magazine be fed from a clip; that it be impossible to fire more than one shot with each squeeze of the trigger; that it be simple, strong, compact and easy to manufacture; that it be able to meet such combat conditions as being dragged along while a doughboy squirmed on his belly through the mud. Outside of those trifling requirements the Ordnance asked practically nothing.

Various models, domestic and foreign, were submitted, tested and found wanting in one important essential or another. Keen-minded designers vainly tackled this tough problem. Rejection followed on rejection. The Ordnance had an efficient, accurate rifle in the 1903 Springfield and was sticking to it until convinced that something better could be made.

The brain which would find the answer to this long-unsolvable problem belongs to a former French Canadian who in 1900 when he was twelve years old, crossed mechanisms whenever he got the chance, seeking always to embody in them human intelligence and dexterity and not infrequently succeeding.

Came the World War, and it struck John Garand that machine guns were playing a large part in the hostilities. Whereupon he designed one. The Navy Board thought well enough of it to turn him over to the Bureau of Standards which gave him facilities for making a model. Then the Ordnance Department asked for him, not to go on with machine

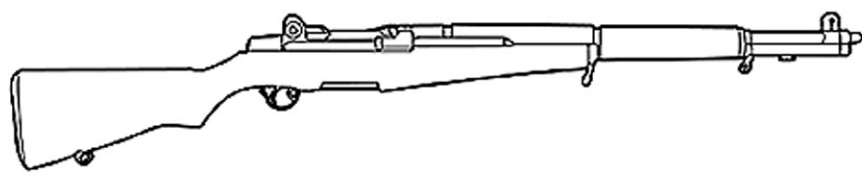


Springfield Armory became familiar with his short but sturdy figure, his face alight with intelligence, his French-Canadian accent which never has been completely naturalized as he has been. His family saw him now and then and he took some exercise by figure-skating (once he flooded a room in his house to make himself a handy rink), but most of his time was devoted to the shops. For eighteen years his waking hours were rife with rifles, and to get to sleep at night he must have counted sheep jumping, not over a fence, but over a stand of semi-automatics.

Inevitably, there was many a failure and disappointment, although the models Garand made showed steady progress. Then some requirement or difficulty, which had not been thought of before, would crop up, and the inventor would have to go back and start over. The Ordnance is a skeptical and exacting outfit, as indeed it has to be, but it gave Garand a break for those eighteen years in spite of doubts and a can't-be-done chorus.

Problems of stress and of function under high temperatures were solved.

At last Garand had it. His latest model was approved and a quantity ordered for test by troops in the field.



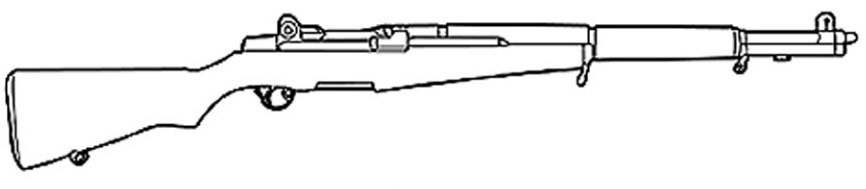
It was a historic moment when Garand's great invention began to be manufactured at famous old Springfield Armory. One can imagine the shadowy presence on that occasion of many figures from out of the past. General Henry Knox, who in 1777 suggested the establishment of the Armory, and General George Washington, who approved and so ordered. All the officers who have served at the Armory, and the long line of gunsmiths and armorers who wrought there with skill and craftsmanship. Soldiers of all our wars, there armed and accoutred. Surely all these must have been present or accounted for in the spirit, as drills whirred through barrels and mighty hammers crashed, stamping out parts down in the Water Shops; as lathes shaped the walnut stocks in the Hill Shops; as the rifles took form in the assembly room, and as the din of battle rose in the testing room where ninety-six rounds were fired from each weapon before it was passed. That day the semi-automatic took its place in a long succession of muskets, carbines, and rifles—stands of arms which inspired Longfellow's poem:

This is the arsenal. From floor to ceiling
Like a huge organ, rise the burnished
arms

Here was a gun that seemed to have everything. But it had still to face its field tests. Before it was accepted, it must succeed in feats ranging from passing the Infantry Board to winning the personal approval of buck privates.

For one test, two groups of ten recruits were chosen. Just to be sure the test was no set-up, the details were made from men who had enlisted in the field artillery. None ever had handled a rifle and probably none expected to, but then you get lots of surprises in the Army. These innocents were turned over for three and one-half days' training to two officers with less than one year's service. One group was armed with the 1903 Springfield, the other with the semi-automatic. Each fired first at 1,000 inches and the next day at 200, 300, and 500 yards. At the first range, the Springfields made 66 percent hits; the semi-automatics, 87 percent. At the longer ranges, the former scored 80 percent and the latter 91 percent. The third day each group fired a combat problem involving fire for one minute, twenty seconds at each of three ranges—200, 300, and 500 yards. The semi-automatic group chalked up an 83 percent against the other's 67 percent. In either case, that was extraordinarily good for barely-trained rookies. Perhaps when they found field artillerymen who could shoot as well as that with rifles, they shifted them to the infantry. You have to be careful about showing what you can do in the Army.

Equally noteworthy was another infantry school test using three groups of riflemen. The first group fired 1903 Calibre .30 Springfields. After sixty consecutive shots, the accuracy of their fire deteriorated rapidly. After 150 rounds, every shot was in line of unpleasant duty. When 300 recoils had bruised and battered shoulders, "cease firing" had to be blown, for the troops were virtually out of action. Next day when it was planned to go on with the test, the group more in sorrow than in insubordination announced that their destination should rather be the hospital than the firing line. Clearly they were capable of shooting no more for some time.



Group No. 2, firing the M-1922 Calibre .22 rifle, were in almost as bad condition after 300 rounds. Shoulders were actually raw, not from the recoil but from the turning of the butt plate against them during the manipulation of the bolt. The men of this group said they were willing to try to fire the next day but doubted their ability to hit a barn door, considering the shape their shoulders were in.

Group No. 3 let fly with 300 rounds from semi-automatics. After 150, accuracy decreased somewhat because, the men said, their left arms got tired; they made no other complaint. Next day they stepped out on the firing line and performed as well as they had the day before. Stiffness of left arms from tight sling-straps was reported, but there was no mention of sore shoulders. One man fired 700 consecutive rounds at 25 rounds a minute with the butt of the semi-automatic against his bare shoulder. The only effect from that heavy, rapid firing was that the skin of the rifleman's shoulder was slightly marked by the checkering of the butt plate.

These and other tests have proved that men using the semi-automatic will consistently outshoot men armed with the Springfield or that, with considerably less training they will equal the marksmanship of those using the older weapon. Because of the new gun's light recoil, an inexperienced firer flinches but little and is able to concentrate on aim and trigger squeeze.

The training is speeded up. Not only does the new gun make possible a greater volume of fire per minute per man, but it is more accurate fire. How great an improvement is the lessened fatigue is emphasized when you recall that even three minutes of rapid fire with the old Springfield, taking the jolt and working the bolt on a hot day, was always pretty wearing.

The new gun can be fired faster than the old even when some malfunction of its automatic mechanism occurs and you must pull back the operating rod by hand for each shot.

No wonder the verdict on the Garand rifle has been that it has more than justified expectations after a thorough workout and that it is "a great advance, on all counts, in the basic shoulder weapon of the infantryman."

SUCH is the latest development of that traditional American weapon, the rifle. These days there is considerable that is reassuring in the fact that this splendid arm is American and that it seems likely to remain so for some time.

Sooner or later foreign powers will obtain specimens of our semi-automatic which is, so far as we know, far superior to any gun of its type in the hands of any of the other armies.

Yet it may be found to be no easier to copy than were the French .75's, captured soon after the start of the World War by the Germans. U. S. Rifle, Calibre .30, M-1 is, like other great inventions, simple in design and function, but its materials, their treatment, details of manufacture, and the machinery for mass production are all closely-guarded secrets. And nowadays Uncle Sam is rapidly losing his patience with the nose.

