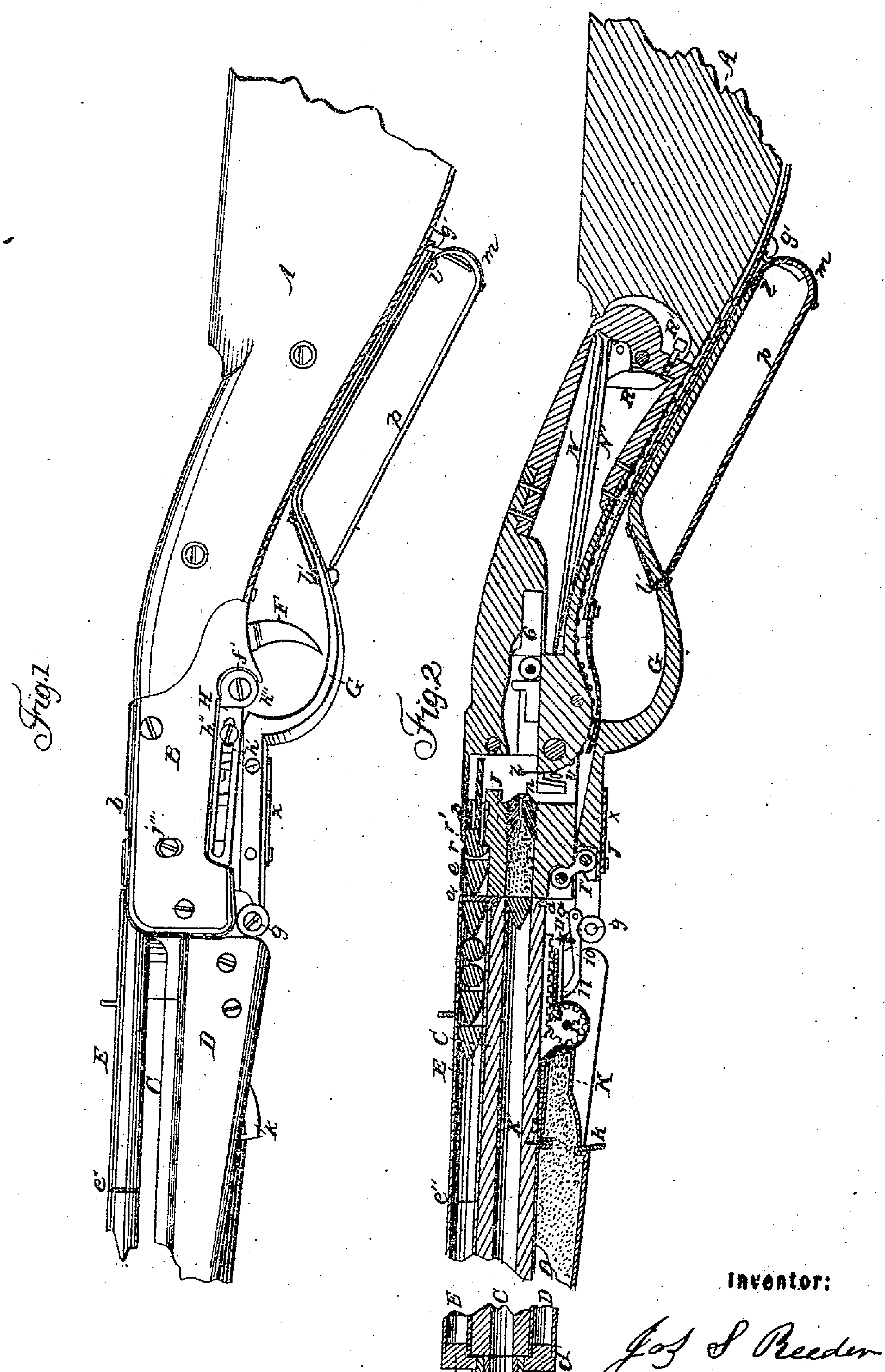
No. 30,760. PATENTED NOV. 27, 1860.

J. S. REEDER.

BREECH LOADING AND MAGAZINE FIREARM.

2 SHEETS—SHEET 1



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By his Atty
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2 SHEETS—SHEET 2.

Fig. 3

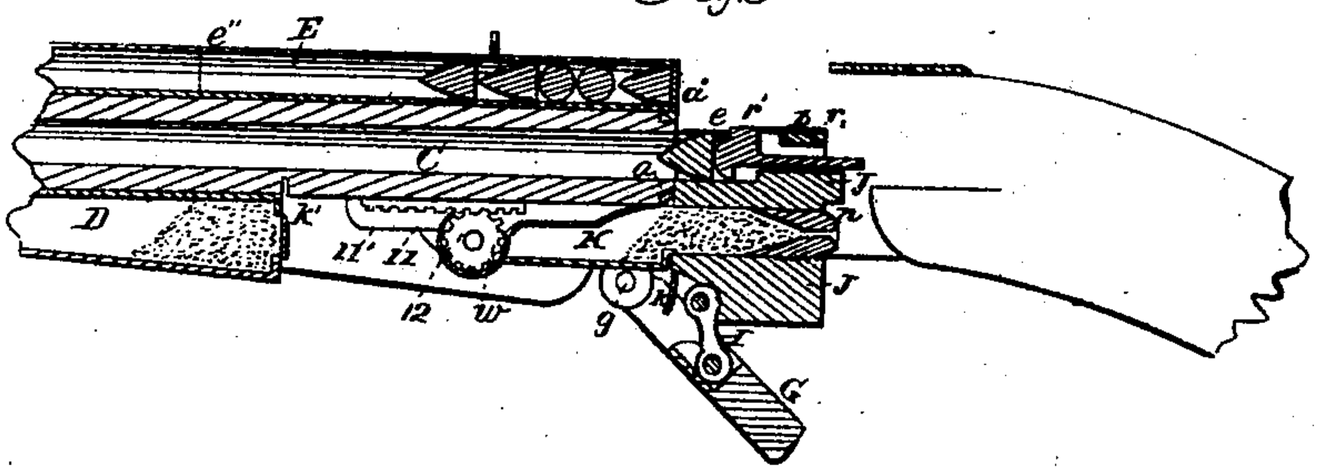


Fig 4

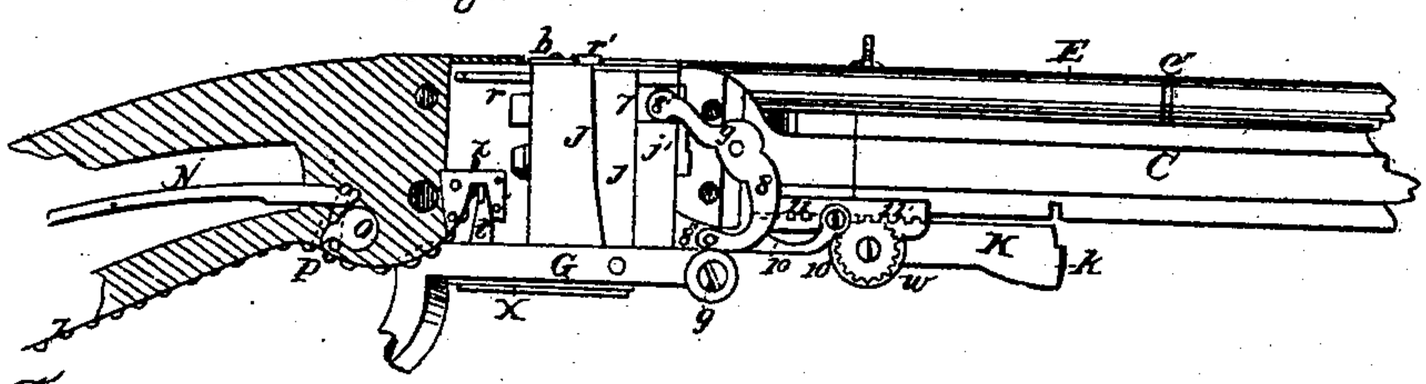


Fig. 5

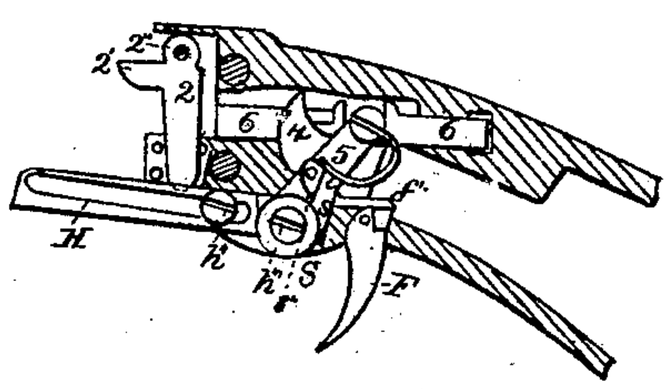


Fig 8

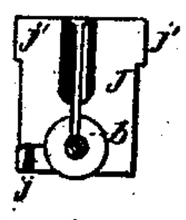


Fig 9

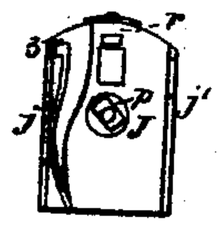


Fig. 6

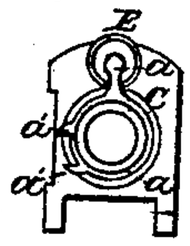


Fig. 7

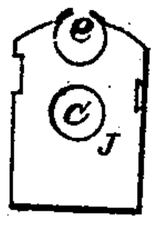
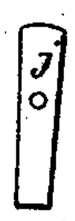


Fig 10

Fig. 11



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH S. REEDER, OF CANTON, OHIO.

IMPROVEMENT IN BREECH-LOADING AND MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **30,760**, dated November 27, 1860.

To all whom it may concern:

Be it known that I, JOS. S. REEDER, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Fire-Arms; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of my gun in full position for firing. Fig. 2 is a longitudinal section through the center in position as above. Fig. 3 is a central longitudinal section, showing the chamber *e* in the act of receiving the charge of powder from the charger K, and the ball in the act of being pushed into the barrel by piston *r*. Fig. 4 is a side view of the gun with the right side plate removed, showing in projection a key, *j*, the chambered breech J, and the means through which the charger K is actuated. Fig. 5 shows portions of the lock in position to fire. Fig. 6 is a detached view of the back end of the barrel, showing position of cut-off. Fig. 7 is a detached view of the front of breech J. Fig. 8 is a detached view of the top of breech J. Fig. 9 is a detached view of the back end of breech J. Figs. 10 and 11 show the keys, hereinafter to be mentioned.

Similar letters of reference represent like parts in each of the several figures.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the stock of the gun; B, the side plate; C, the barrel; D, the powder-magazine; E, the magazine for ball or shot; F, the trigger; G, the trigger-protector; H, the lever actuated by the trigger-protector; *h* the hand-guard, a part of the trigger-protector, which can be taken off from the main portion thereof and used as a screw-driver. A slot in the end of the guard allows a pin to be inserted at *b*, which when turned around serves to clasp the guard and hold them firmly together. The other end is then slipped under the spring *b'*, and it is in position as shown.

The protector is held up against the stock of the gun by means of a spring, *m*, pressing against a catch, *g'*, as shown.

J is the chambered breech. *j j* are keys secured to the inside of each side plate, as shown at *j'''*, the side plates being slotted for the purpose of wedging the breech close against the back end of the barrel. *a* is the vibrating cut-off, revolving in a groove cut in the end of the barrel C, actuated by a projection on the front end of the chambered breech fitting into the recess between the lugs *a' a'* of the cut-off to keep the balls in the magazine from dropping out when the breech is lowered, which is always done in loading.

b is a plate, slotted as shown, to regulate the depth of the chamber *e* to suit either long or short balls, or to regulate the charge of shot. When a longer or minie ball is used, or a larger charge of shot, the slotted part of the plate is turned, as is shown in Fig. 8, to allow the wing *r'* of the piston *r* to slide up to the head of the screw. When smaller or round balls are used, or small charge of shot, the plate *b* will be turned so as to allow it to present its periphery to the pressure of the wing *r'* of the piston *r*. The charge of powder is regulated by the screwing in or out of the nipple *n*, according to the greater or less quantity of powder desired.

The operation is as follows: On lowering the trigger-protector G, hinged at *g* and held in position by spring-catch *g'*, the chambered breech J—which has projections *j' j'* on its sides, and which projections *j' j'*, acted on by the keys or wedges *j j*, screwed to the side plates of the gun, (one of which is seen at *j'''*,) serve to force the breech up close against the back end of the barrel—is pulled down by the action of the small link 1, which is hinged as shown, until it nearly reaches its lowermost point, when projection 2' of lever 2, pivoted at 2'', Fig. 5, which has been confined under the point of spring 3, Fig. 9, is released, whereby the curved projection 4 of lever 5, which has been thrown back by the lower end of lever 2, is allowed to fly forward and force the hammer 6 against the piston *r*, which drives the ball, now in the chamber *e*, and which chamber is now opposite the barrel, into said barrel, as shown in Fig. 3. The lever H is attached to and actuated by the trigger-protector G through the means of a projecting plate, *h'*, into which the screw *h''* is inserted. When the trigger-protector is drawn down in the act

of loading, the screw h'' will slide in the slot in the lever H (which lever has its center at h''') and turn that lever until the notch s' in said lever comes opposite the notch in the catch s, which has been thrown off by the pulling of the trigger in firing the gun. The reverse movement of the trigger-protector brings the catch s, and through it the other portions of the lock, back into position for firing. The coming forward of the hammer 6 brings the catch s, which is pivoted to lever 5 at s'' and held down by a spring, as in Fig. 5, forward into its place in the notch s' in the rear end of the lever H, out of which it has been pushed by the lever 2. On reversing the movement of the trigger-protector, the catch having, as before mentioned, fallen into its position, the hammer and all the parts will be again brought into position for striking the cap, as in Fig. 5.

In the meantime the action on the vibrating charger K is going on, and is as follows: The right-side projection j' of the chambered breech J is provided with a slot or groove, 7, in which works the end 8′ of a lever, 8, pivoted at 9 to the barrel of the gun, while lever 10 is attached to lever 8 at 8″, and at 10′ to a plate, 11′, which plate is attached to the side of the rack 11 and actuates the cog-wheel 12, fastened to the vibrating charger, both revolving on a common journal, w.

The rack 11, being actuated as above shown and described, would by the lowering of the trigger-protector change the position of the charger and bring it around to where the chamber c of the movable breech is in waiting for the charge of powder. The reversion of these movements would bring the parts around again in position.

When the charger leaves the magazine D, loaded, the apertures in the ends of the charger and magazine are severally covered by plates actuated by springs—the charger by plate k, which covers it on its way to its chamber, c, and there is held, as shown in Fig. 3, until its return. The plate k', while the charger is being filled, is pushed up into a space cut for its reception in the barrel, and as soon as the charger has left the magazine it springs back and covers the end of the magazine D, as in Fig. 3. The magazine E, for balls, is made in sections e'', as shown, in order that should any part become injured it may more readily be repaired.

A pawl, t, attached to a spring, x, on the protector, on coming up is made to pass around a rigid pin, v, and will push one cap on the primer z up in front of the nipple, as seen in Fig. 2.

The axes of motion of the hook O and levers 5 and H are the same, the latter turning loosely upon the journal, and the two former rigidly secured thereto.

The power of the spring N may be adjusted by means of hinged piece R and screw R′, acting on auxiliary spring N′, as in Fig. 2.

The piece is now ready for firing, which is done by pulling the trigger F, so as to raise up the rear end, f', of the spring-catch s, thus lifting the latter out of the notch s', when lever 5 and hammer 6 are thrown suddenly forward by the combined action of spring N, hook O, and link P.

The muzzles of the magazines D and E are covered by stoppers d' and e', fastened to screw-plate y, which is screwed on a thread cut on the end of barrel C, as shown in Fig. 2.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Broadly, the vibrating charger K, for the purpose of carrying powder to the chambered breech J.

2. The cut-offs k and k', or their equivalents, for the purpose of retaining the powder in the vibrating charger and in the magazine while the powder is being carried to the chambered breech.

3. The combination of pinion 12 and rack 11 with levers 10 and 8, for transmitting motion to the vibrating charger K, for the purpose stated.

4. The magazine D, in combination with the vibrating charger K, for the purpose stated.

5. Plate b, in combination with piston r, as and for the purposes stated.

6. The combination of hammer 6 with chambered breech J, as and for the purposes stated.

7. The combination of chambered breech J with barrel C and vibrating charger K, as and for the purposes described.

8. The vibrating cut-off a, or its equivalent, in combination with chambered breech J and ball-magazine E, as and for the purposes stated.

9. The combination of lever 2, projection 2′, with spring-catch j and curved projection 4, as and for the purposes herein described.

10. The combination of trigger-protector G with chambered breech J, as and for the purposes described.

11. The combination of keys jj with the side plates, B, and chambered breech J, as and for the purposes described.

12. The combination of the removable hand-guard with the trigger-protector G, as stated.

In witness whereof I hereunto subscribe my name.

J. S. REEDER.

In presence of—

IMPERTUS MARTIN,
DANIEL GOTSHALL.