

A. BURGESS.
Magazine Fire-Arm.

No. 222,008.

Patented Nov. 25, 1879.

Fig. 1.

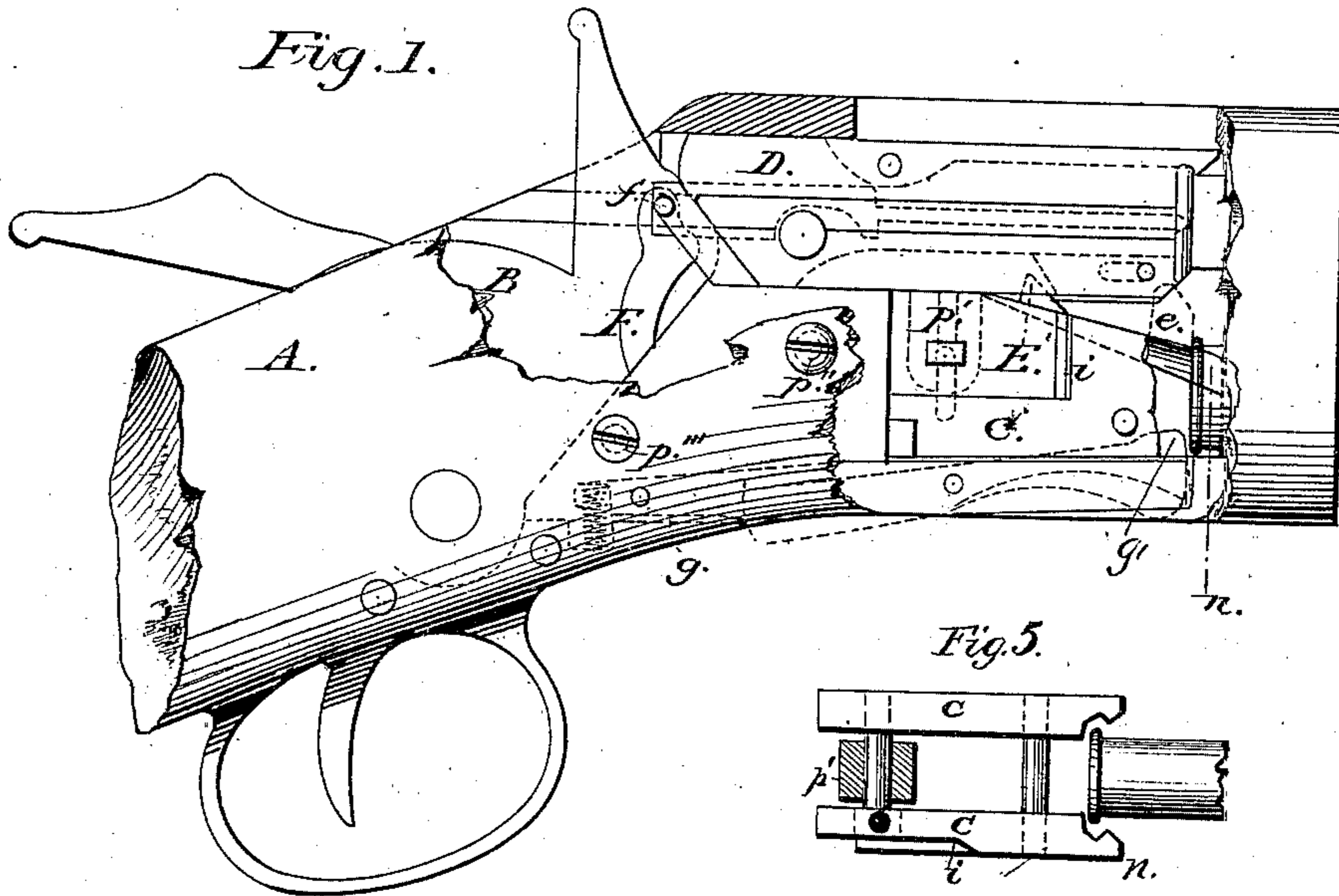


Fig. 5.

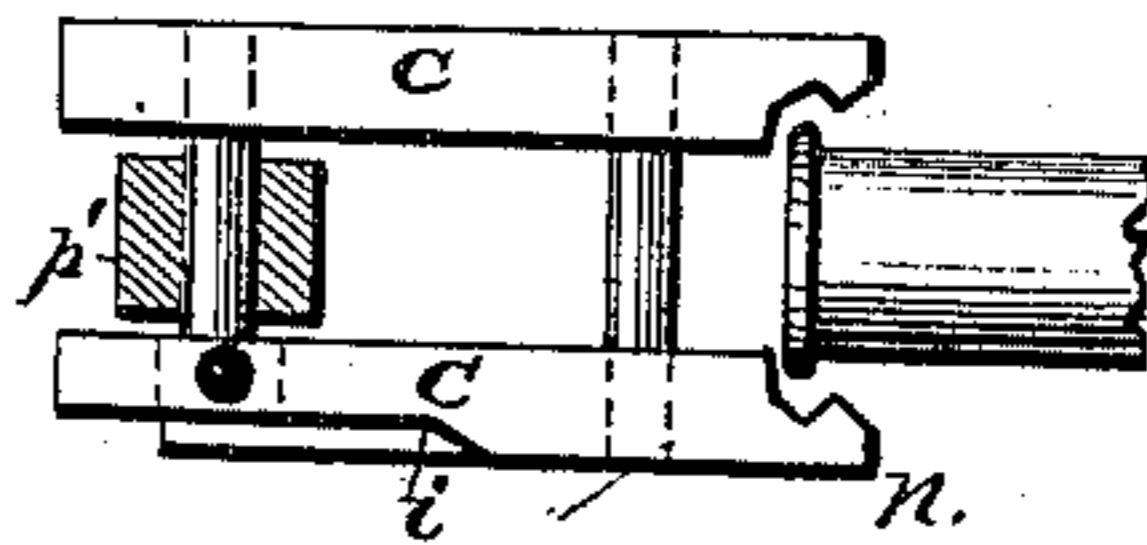


Fig. 2.

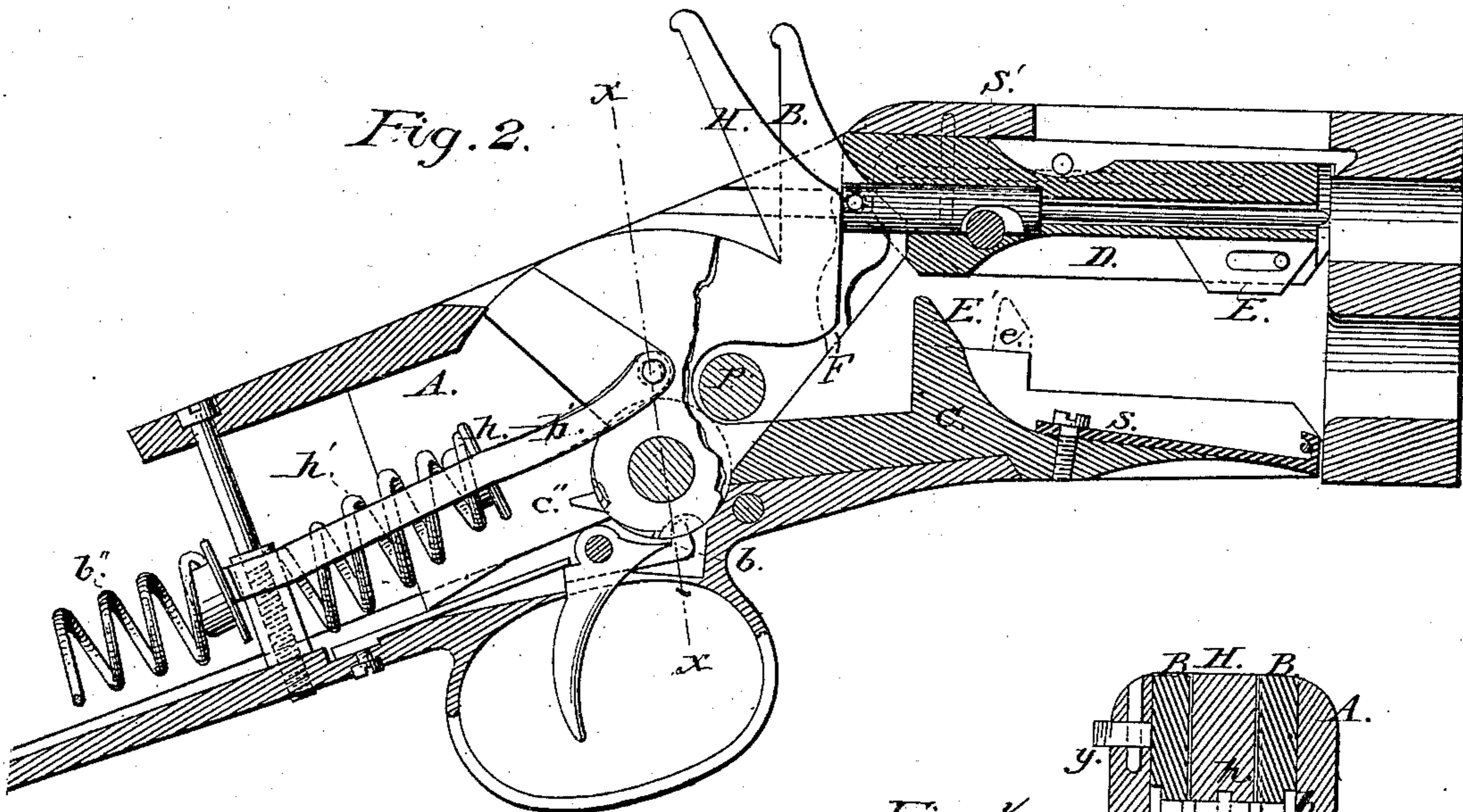


Fig. 4.

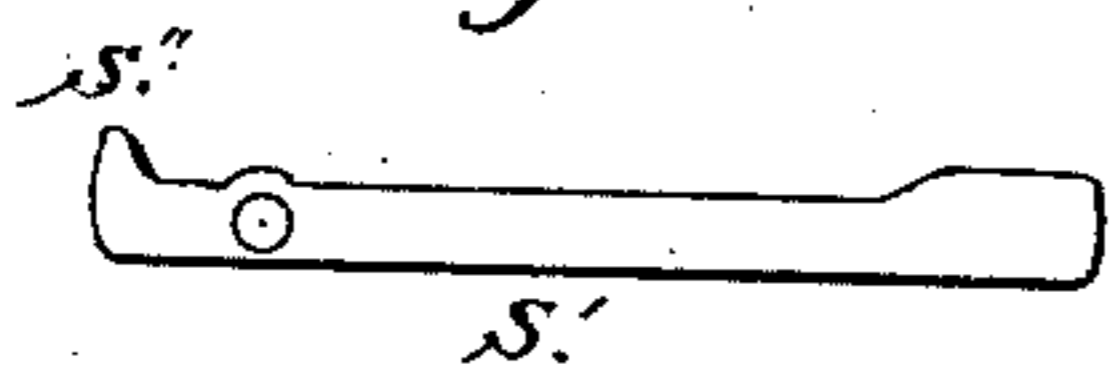
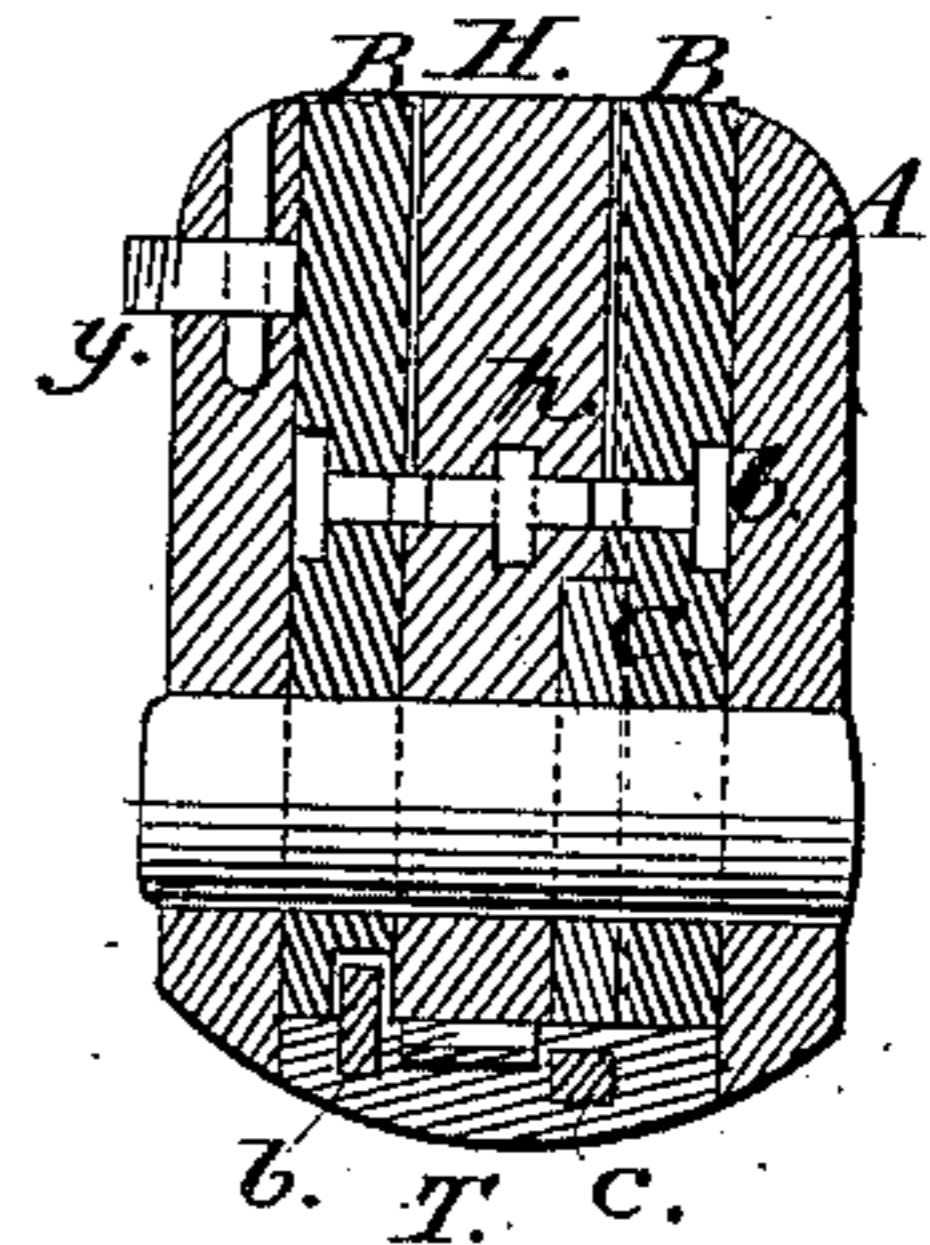
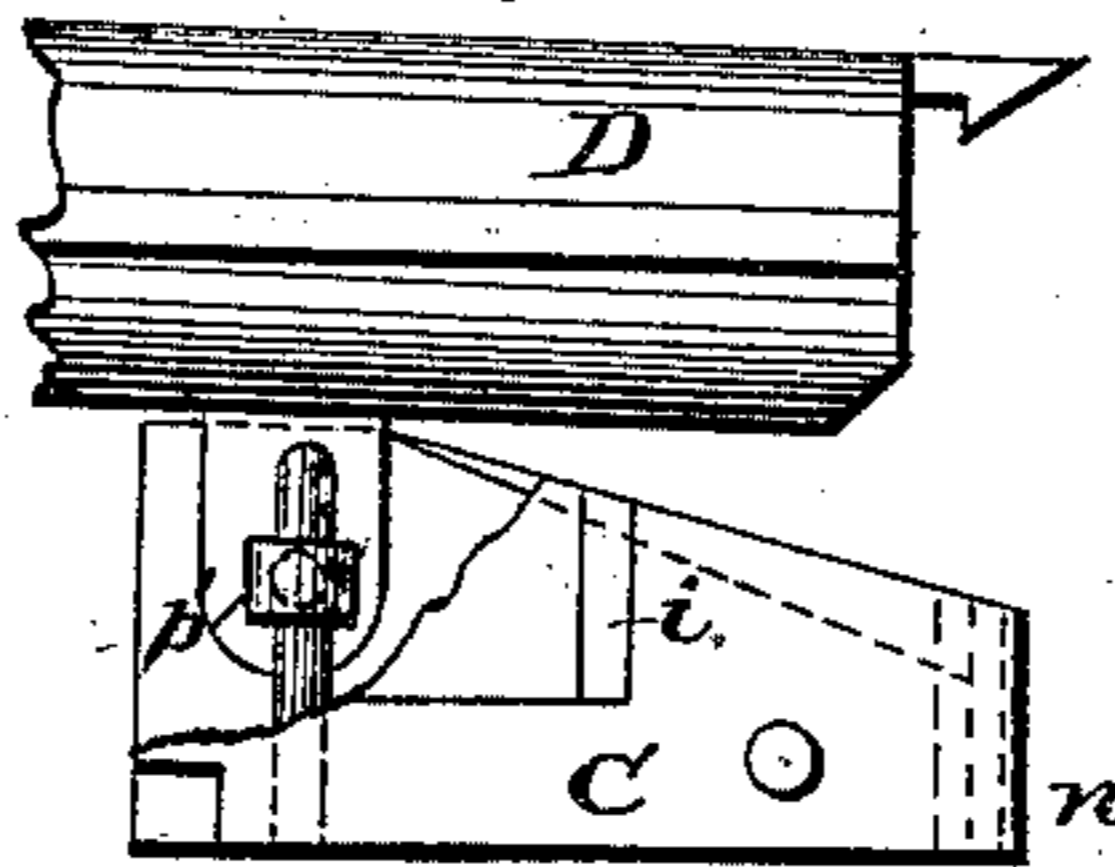


Fig 6 Fig. 3.



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IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. 222,008, dated November 25, 1879; application filed November 24, 1877.

To all whom it may concern:

Be it known that I, ANDREW BURGESS, of Owego, in the county of Tioga and State of New York, have invented a new and useful Improvement in Magazine Fire-Arms, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The improvement in this arm consists, principally, in the method of operating and locking the breech, the method of applying the springs to hammer and breech-block, the construction of the carrier and loading device, the finger to prevent the feeding cartridge from flying out of the frame, together with the general arrangement and combination of parts, hereinafter more fully set forth and described.

In the accompanying drawings, Figure 1 represents a side elevation of the arm with part of the frame broken off. Fig. 2 is a sectional side view, showing an ordinary carrier. Fig. 3 is a cross-section on the line *x x*. Fig. 4 is the retaining finger or catch. Fig. 5 is a top, and Fig. 6 a side, view of the new carrier of Fig. 1.

Similar letters of reference indicate corresponding parts.

The receiver A contains a breech-bolt, D, which is operated by the hammer-shaped brace B. The pivot on which the brace B rotates also pivots the hammer H. The breech-bolt D is provided with an incline that the brace B locks under when in its closed position. The bolt has a pin, *f*, which enters the curved slot F. This slot is open at the bottom to facilitate the putting together of the parts.

The pin *f* may be attached to the firing-pin, and the slot F so inclined downward, as shown in dotted lines in Fig. 1, that the first backward movement of the brace B shall withdraw the firing-pin; or the pin *f* may be fixed in the breech-block itself, or in brace B, and slot cut in breech-block.

The hammer and breech-brace are here provided with spiral springs *h'* and *b''*, and these springs convey their pressure to the hammer and brace through the stirrups or plungers *h* and *b'*, the stirrup *b'* spreading in two parts to allow *h* and *h'* to work between. As the hammer has a motion of about eighty degrees, the

ordinary devices for mainsprings are inapplicable.

The pivoted carrier-block has an upward-projecting point, *E'*, that, when the carrier rises, enters a groove in the bolt D as that bolt is withdrawn, and the incline *E'*, rising against the rear incline on the ejecting-slide E, not only acts as a stop to it, but starts it forward, so that while ejecting the discharged shell it also starts forward the feeding cartridge while it is yet rising to enter its point into the chamber.

The slide E may be omitted and the point *E'* moved forward, as shown in dotted lines at *e*, Figs. 1 and 2, when point *E'* will itself strike the head of shell and eject it.

The finger *S'*, Fig. 4, is pivoted in a longitudinal slot in the frame, as shown in Fig. 2. The short arm *S''* of this finger projects into the shoe of the frame, and the bolt D has a groove extending from its rear to near its front end. When its termination, on the withdrawal of the bolt, strikes the point *S''*, it closes the long arm over the feeding cartridge, to prevent the possibility of its flying out at the top of the frame.

The sear-spring in Figs. 2 and 3 is very wide, and split into three points. The point on one side presses the dog *b* against the brace B and into depressions in its circumference when it is closed or open. On the other side the spring presses the dog *c* against the carrier, and thereby prevents it from falling until the bolt shall force it down.

The bottom of the forward part of the carrier (shown in Fig. 2) is hollowed out, and that hollow partly filled by a spring, S, to permit the cartridges to be fed into the magazine when the carrier is raised, which is effected by rotating the shoulder of the breech-brace against the rear point, *e''*, of the carrier, or by forcibly pressing up the carrier from the bottom.

This form of carrier is well known, and not claimed as new.

My improved cartridge-lifter is shown in Figs. 1, 5, and 6, where C represents a pair of plates pivoted to the breech-block at *p'*, so as to allow these plates or nippers to rotate upward against the breech-block. The pivot is

also the joint that attaches the plates C together, allowing their forward ends to approach each other, to nip and hold the head of the cartridge.

The side toward the rear of one or both the nipper-plates is partly cut away, leaving an incline at *i*, that, when the block is pulled back, strikes the pin *p''*, which projects into the hollow of the receiver, and another pin, *p'''*, arrests the nipper-plate below its pivot to raise the forward end of carrier, which, tightly nipping the cartridge-head, raises the cartridge until its point reaches the level of the chamber. This allows the follower or another cartridge to spring in from the magazine under the one held by the nippers until driven back by the closing breech, which also starts the cartridge held by the nippers into the barrel, and the nippers loosen on its head as soon as incline *i* leaves pin *p''*, so as to allow the head to rise as it is pushed forward by the breech.

For facility of construction, the brace B is made in two parts, and united by the pin *p*, which prevents the hammer from falling so far as to strike the firing-pin until the breech is securely locked.

To operate this arm the magazine is charged by pressing up the carrier and inserting the cartridges into the magazine, the spring S preventing their return. The thumb-piece B is then pulled back. This carries the hammer with it by the pin *p* on the breech-brace, and the bolt D is withdrawn by the pin *f* setting loosely in the groove F. When the rear shoulder of brace B depresses the point *c''*, the carrier, turning on its fulcrum, raises the cartridge lying on its forward end to a line with the bore of the barrel, and the long arm of finger S' at the same movement closing over prevents its flying out; then letting go the thumb-piece B, the breech springs forward and closes, driving the cartridge home and locking itself by the brace B turning under the incline on the rear of the breech-bolt; but the hammer, by the engagement of the sear, remains at full-cock, and the arm is discharged by pulling the trigger; then, by repeating the operation, the shell is extracted, and as the carrier rises, bringing up another cartridge, the incline E', striking the rear incline of the slide E, trips out the extracted shell, and at the same time the forward incline of E strikes forward the rising cartridge; then the breech is closed and the operation proceeded with as before.

When my improved carrier, as shown in Fig. 1, is used, the front end of stop *g'* is turned up and the breech pulled back, as above, and locked there by the stop *y*, while the magazine is being charged, which is effected by pressing up the trap *g* by the cartridges as they are inserted. The breech is then closed and stop *g'* turned back. Then opening the breech, the cartridge-head continues in the nippers *n* by

the force of the magazine-spring until they are closed by incline *i* and pin *p''*, and they tightly hold it while pin *p'''* raises the carrier, which holds the cartridge by its nippers *n*, and the closing of the breech forces the cartridge before it into the barrel, its head being released by the nippers as soon as incline *i* leaves the pin *p''*.

The hammer can be cocked without moving the breech-brace, and it is obvious that by fastening the block, brace, and hammer together, the cartridge will both be driven home and exploded by pulling the trigger.

It is also obvious that the breech-brace spring can be dispensed with and the breech be closed by hand, or that the breech can extend in and be operated by a lever below instead of a thumb-piece above.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a breech-loading fire-arm, the combination of a longitudinally-reciprocating breech-bolt provided at its rear end with an inclined locking-shoulder, and with a projection in rear of said shoulder, carrying a cross-pin, *f*, with a double locking-brace, D, provided with grooves F for engagement with said pin *f*, said grooves being open at the bottom to permit the ready assembling and disconnection of the parts, in the manner substantially as shown and described.

2. The combination of the bolt D, the firing-pin provided with cross-pin *f* at its rear end, and the locking-brace provided with groove or slot F, to engage the pin *f*, all as and for the purpose set forth.

3. The hammer H, the breech-brace B, stirrup *b'*, and spring *b''*, in combination, substantially as described.

4. A cartridge-carrier pivoted to and partaking of the reciprocating movement of the breech-block, and capable of a rocking motion on its pivot, in combination with a fixed abutment, which tilts up the forward end of the carrier to raise the cartridge, substantially as described.

5. A carrier pivoted to the breech-bolt and moving with the same, provided with clamping-jaws *c c*, to receive and hold the head of the cartridge, in combination with the frame of the arm, the parts being constructed substantially as described, so as to clamp the jaws by the backward movement of the carrier, all as set forth and described.

6. A projection on a vibrating carrier, in combination with a slotted breech-bolt, and through which slot the projection on the carrier strikes the extracted shell and ejects it, substantially as described.

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