

A. BURGESS.

MAGAZINE FIRE ARM.

No. 290,529.

Patented Dec. 18, 1883.

FIG. 1.

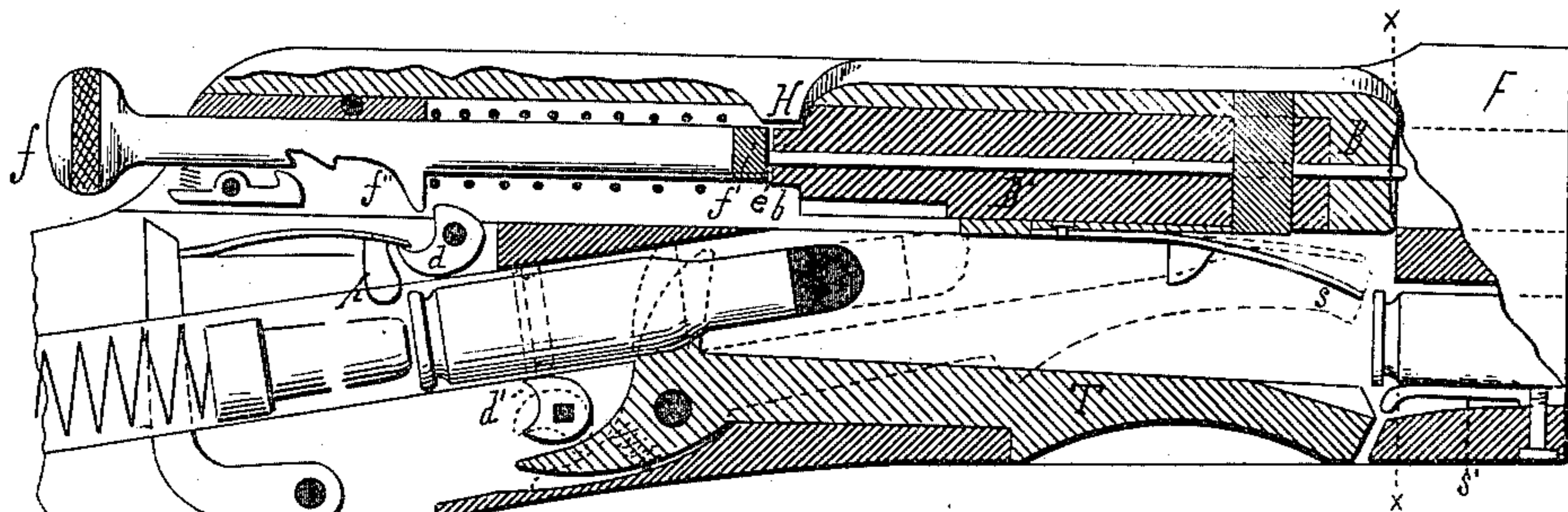


FIG. 2.

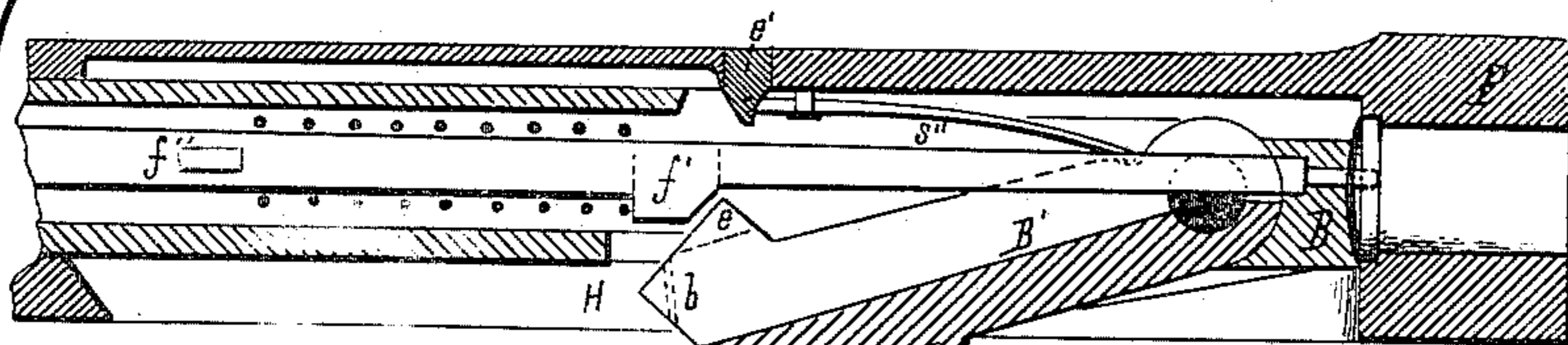


FIG. 4.

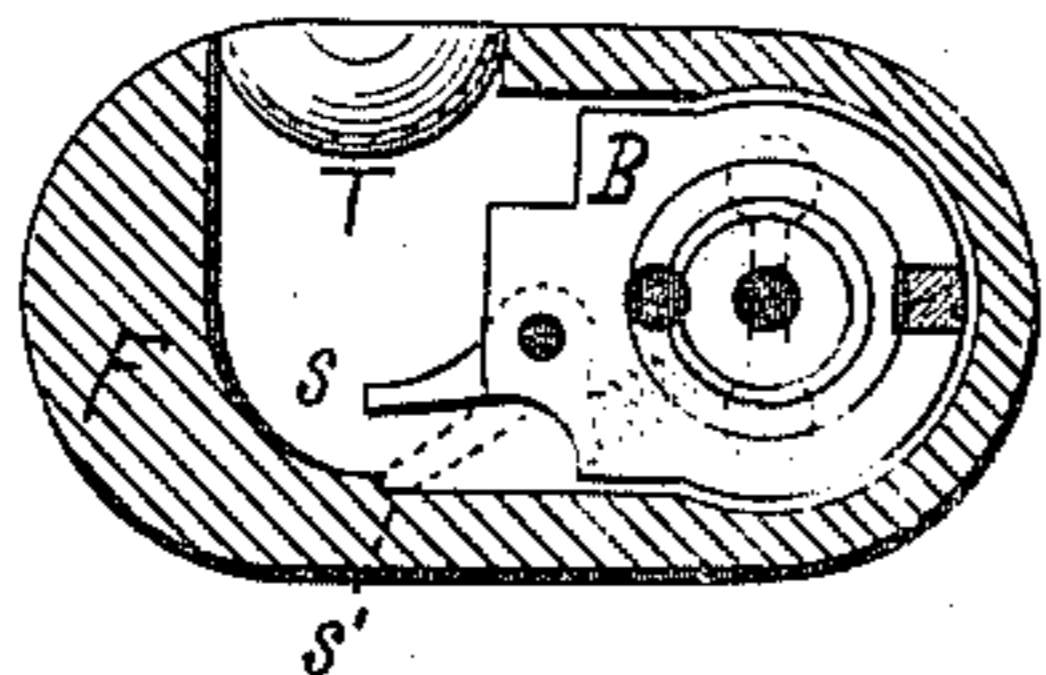
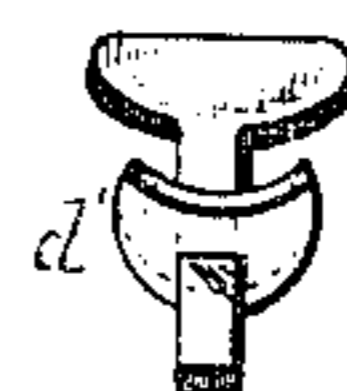


FIG. 3.



WITNESSES.

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Fig. 5.

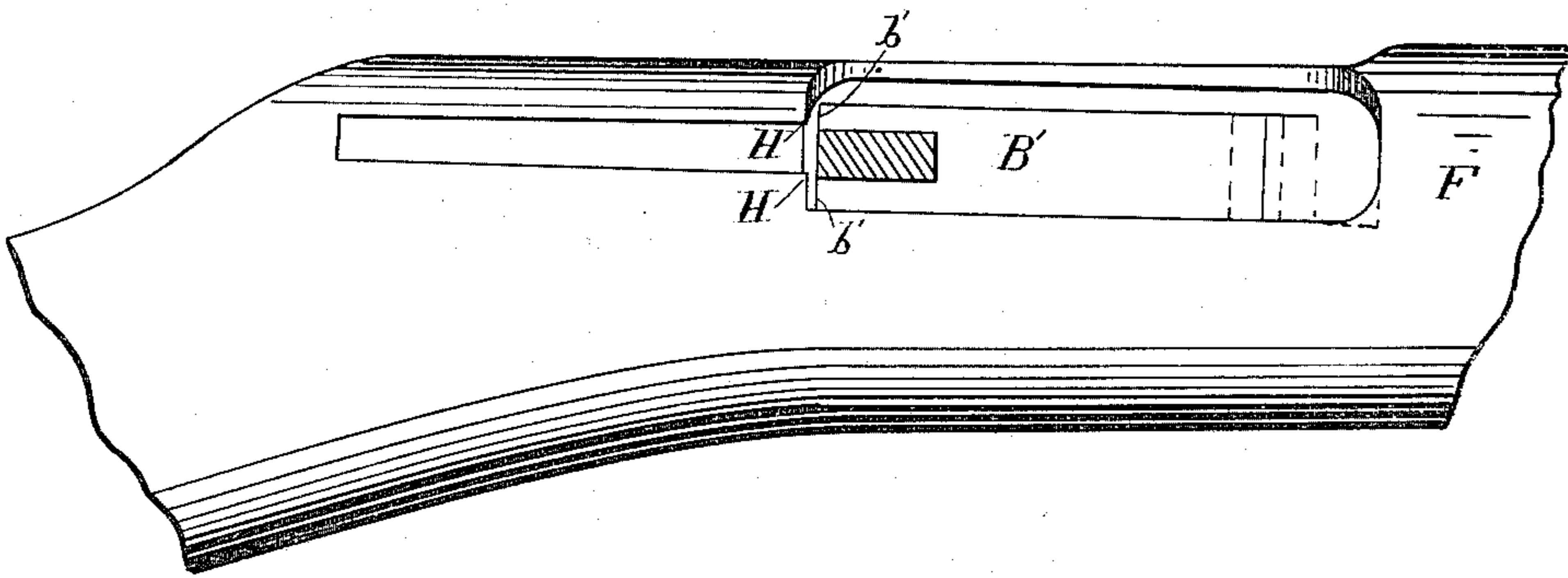
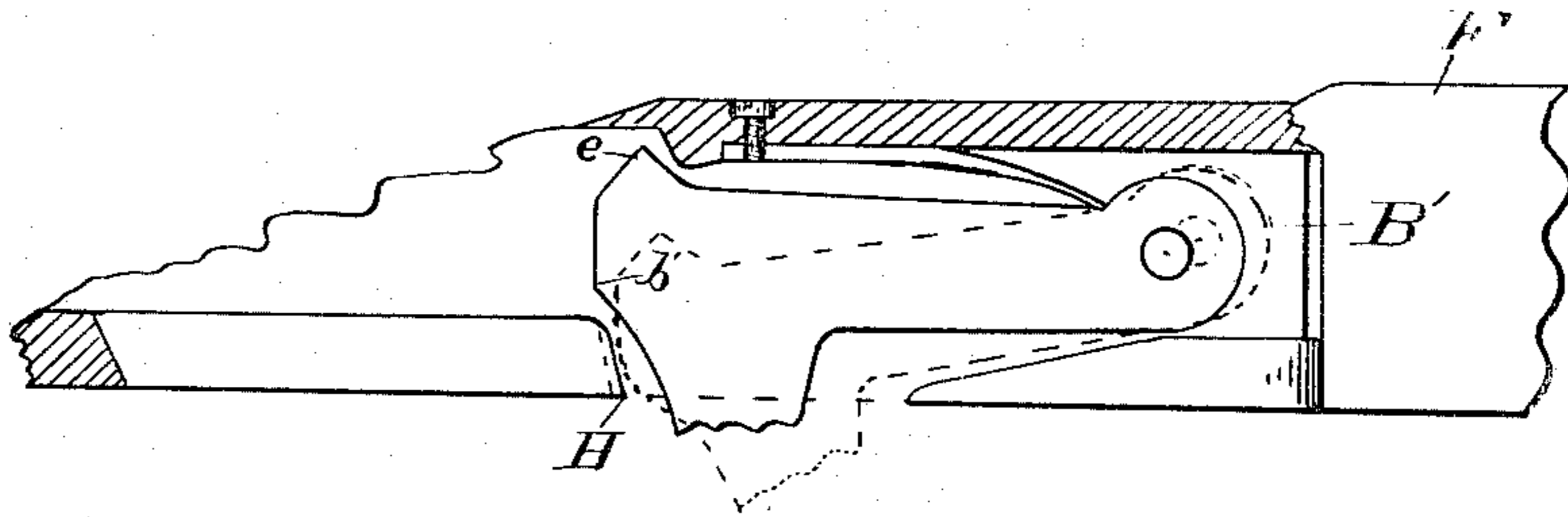


Fig. 6.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK.

## MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 290,529, dated December 18, 1883.

Application filed January 22, 1880.

To all whom it may concern:

Be it known that I, ANDREW BURGESS, of Owego, county of Tioga, State of New York, have invented a new and useful Improvement in Magazine Fire-Arms, of which the following, in connection with the accompanying drawings, is a specification.

This invention relates to magazine or breech-loading fire-arms; and it consists in modifications of the reciprocating breech and locking device, together with other combinations of magazines and parts, hereinafter more fully set forth and described.

Similar letters of reference indicate corresponding parts.

Figure 1 represents a sectional side elevation of the arm. Fig. 2 is a sectional plan view from the top; Fig. 3, the magazine and carrier stop detached; and Fig. 4, a section through the frame, showing the face of the breech-bolt and modification of loading device, the arm being turned on its side in position for loading. Fig. 5 represents a side elevation of a portion of this arm, showing the locking-shoulders H H and the slot extending back from between them. Fig. 6 is a plan view, partly sectioned, showing the top of the locking-brace and its shoulders  $b' b'$  in the unlocked position, and in dotted lines the position brace B' takes as it locks the breech and cams forward the bolt.

F is the frame of the arm; B, the breech piece or bolt; B', the locking-block;  $f$ , the firing-bolt, and T the loading trap or gate. This gate, as shown in Fig. 1, also serves as a carrier. A hollow bolt, B, is fitted to reciprocate in the frame F. A swinging block, B', hollowed to receive the firing-pin, having a handle, by which to move the bolt, is fitted into said bolt, and pivoted near its forward end, and said block B' has a locking-shoulder,  $b$ , to engage corresponding locking-shoulders, H H, in the frame. It has also an inclined part,  $b'$ , at its rear, near its handle, and a double-inclined projection,  $e$ , opposite. The firing-pin, having the usual spiral spring, is provided with projections  $f'$  and  $f''$ , and the ejecting-stud  $e'$  is inclined at its rear, as shown in Fig. 2. This arm, as shown in Fig. 1, is provided with two magazines—one under the barrel and one in the rear; but either or both can be omitted without material change in the

bolt system above described. The rear magazine is provided with a detent,  $d$ , which is turned to engage and stop the cartridge by a spring, said spring being controlled by a projecting stud,  $p$ , to prevent said detent from engaging the forward part of the cartridge. This detent is turned back to disengage and release the cartridge by the projection  $f''$  of the firing-pin. The double-cam stop  $d'$  locks the cartridges to hold them firmly in the magazine, as shown in Fig. 1, or releases them when turned back, as shown in dotted lines in same figure, and then also locks the carrier up to position, also shown by dotted lines.

The bolt B is provided with a spring, S, to prevent the cartridge in the forward magazine from entering upon the carrier until the breech is drawn open. A modification of said spring S is shown as a spring-stud in Fig. 4, and a depression is made in the frame at S' to permit said stud S to be depressed by the gate or trap T, which is here placed on the side of the arm.

As cartridges of different manufacture vary in the thickness of their heads, those with copper shells and inner primer especially being thinner in the center than those made of brass, and having primers inserted from the outside, much trouble has been caused by using these various kinds in the same arm, as the thinner heads swell, and sometimes burst at edge when the breech is made free enough to admit the thicker-headed cartridges. To avoid this and permit the use of these various kinds with safety, I dish out the face of the breech-piece, making a concavity to admit the rounder or raised center of the thicker-headed cartridges, so that only the outer edges of the breech close tightly on the thin-headed ones, there being little or no danger of their bursting toward the center, while their swelling in the center is unimportant, this kind not being reloaded, and the thick shells are fully supported by the breech, the thin edges of the head allowing the breech to closely support them toward their center.

In operating this arm to charge the forward magazine, press in the trap T until it compresses the spring S so far as to admit the cartridges, when said spring will prevent their return. Charge rear magazine by forcing the cartridge back of detent  $d$  when the breech is

open, the carrier being held upward by stop  $d'$ , as shown in dotted lines, Fig. 1. A cartridge may then be placed in the barrel, the breech closed, and the cartridge fired in the usual manner; but when the firing-pin strikes forward, its projection  $f''$  strikes the top of detent  $d$ , turning it to release a cartridge in the rear magazine, which will spring forward against the bottom of the bolt, as shown in dotted lines in Fig. 1, so that when the breech is again opened the impetus given by the next cartridge or the follower will throw it forward up the incline formed by the raised carrier into the barrel, or so far that the closing of the breech-bolt will drive it "home;" or, to use the charges from the forward magazine, turn the stop  $d'$ , which will allow the carrier to fall, and the upper arm of said top will grasp and hold the cartridge of the rear magazine so it cannot feed forward. Then as the breech-bolt is drawn back, the cartridge of the forward magazine will follow it back against the spring  $S$  until the breech is opened so far that the carrier will be raised by a stud on the bolt and raise the cartridge to a position for entering the chamber.

In Fig. 2 the bolt is shown locked by its locking-block  $B'$ . This is effected by the straightforward movement of pushing forward the bolt by the handle of block  $B'$ , whose inclined portion  $b$ , reaching outward against the shoulders  $H H$  in the frame, carries the bolt forward, (the force of pushing on the handle outside of the axis of block  $B'$  giving said block a tendency to swing outward,) and forces the bolt to a fully-closed position as the shoulders  $b$  of said block engage the shoulders  $H H$  of the frame.

The breech is opened by simply pulling back on the handle of block  $B'$ . This swings said block inward, and as its shoulder  $b$  leaves the shoulder  $H$  of the frame, unlocking the bolt, the projection  $e$  cocks the firing-pin by bearing against projection  $f'$  of said pin, and the forward part of projection  $e$  striking the rear of ejecting-stud  $e'$ , said stud serves as a fulcrum to start the breech back, and in the backward movement of the bolt the base of the handle passes through a slot in the right side of the frame, and a groove in the opposite side of frame admits the projection  $e$ .

The bolt  $B$  may be made square or round. When made round, I prefer to also round the inner part of block  $B'$  and form its front end hemispherically, making a kind of ball-and-socket joint, but pivoted to the bolt to make said joint. The center of bolt is first drilled out and finished, where joint is to be, by the round end of drill or reamer.

It is obvious that the block  $B'$  may swing downward; the handle projecting from the bottom of arm, lock at the bottom instead of placing the locking-shoulders inside of frame, by a mere change of the location of the parts.

Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. The combination of a tubular magazine in the rear stock, a cartridge-detent pivoted so as to have movement into said magazine, as described, and a firing-pin in the breech mechanism, having a projection, as described, adapted by its movement to engage with and operate said detent, substantially as set forth.

2. A reciprocating breech-bolt, a locking-brace pivoted to said bolt, having an operating-handle projecting therefrom at a point behind the pivot, an incline on said locking-brace, and an incline on the locking-shoulder of the frame, all arranged in combination, substantially as stated, so that the forward and outward movement of the locking-brace presses the bolt forward and locks it with a cam movement.

3. A reciprocating breech-bolt, a locking-brace pivoted to said bolt, so as to move thereby and to lock the bolt by direct engagement with an abutment in the frame, an incline on said locking-brace, and a firing-pin carried by the bolt, having an incline thereon adapted to be engaged by the incline on the locking-brace, so as to be moved back thereby, all the recited elements in combination, substantially as stated.

4. A hollow breech-bolt, a hollow locking-brace pivoted within the recess of said bolt, so that the locking portion may swing entirely into said recess, and a firing-pin in the bolt passing through the recess in the brace, all combined substantially as described.

5. The combination, with a reciprocating breech-bolt, of a locking-brace pivoted thereto, and a spring arranged to bear on said brace so as to press it outward toward its locking position, and a fixed abutment in the frame, against which said brace is to bear, substantially as set forth.

6. A reciprocating breech-piece, and a spring attached to and moving with said breech-piece and stopping the delivery end of the magazine, in combination with a swinging trap or gate, which presses down said spring to admit cartridges into the magazine, all arranged and operating substantially as specified.

7. A reciprocating breech-bolt, a locking-brace pivoted to said bolt, and having a projection therefrom by which said brace is operated, a split locking-shoulder in the frame, against which said brace engages in locking the bolt, and a slot extending backward from between said locking-shoulders, through which said projection travels to move the bolt, all in combination, substantially as set forth.

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Witnesses:

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