

(No Model.)

2 Sheets—Sheet 1.

A. BURGESS.
MAGAZINE FIREARM.

No. 478,221.

Patented July 5, 1892.

Fig: 1.

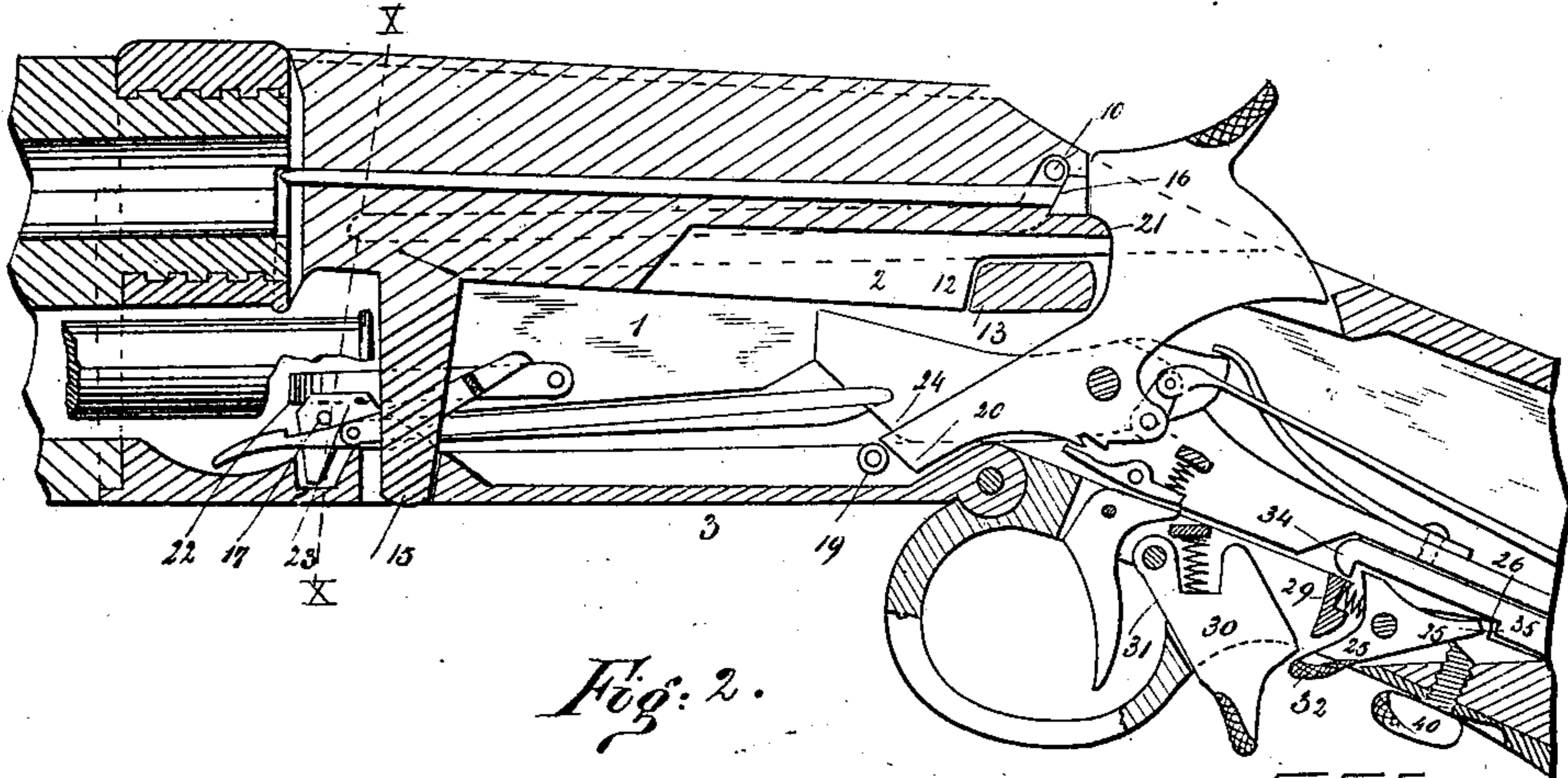


Fig: 2.

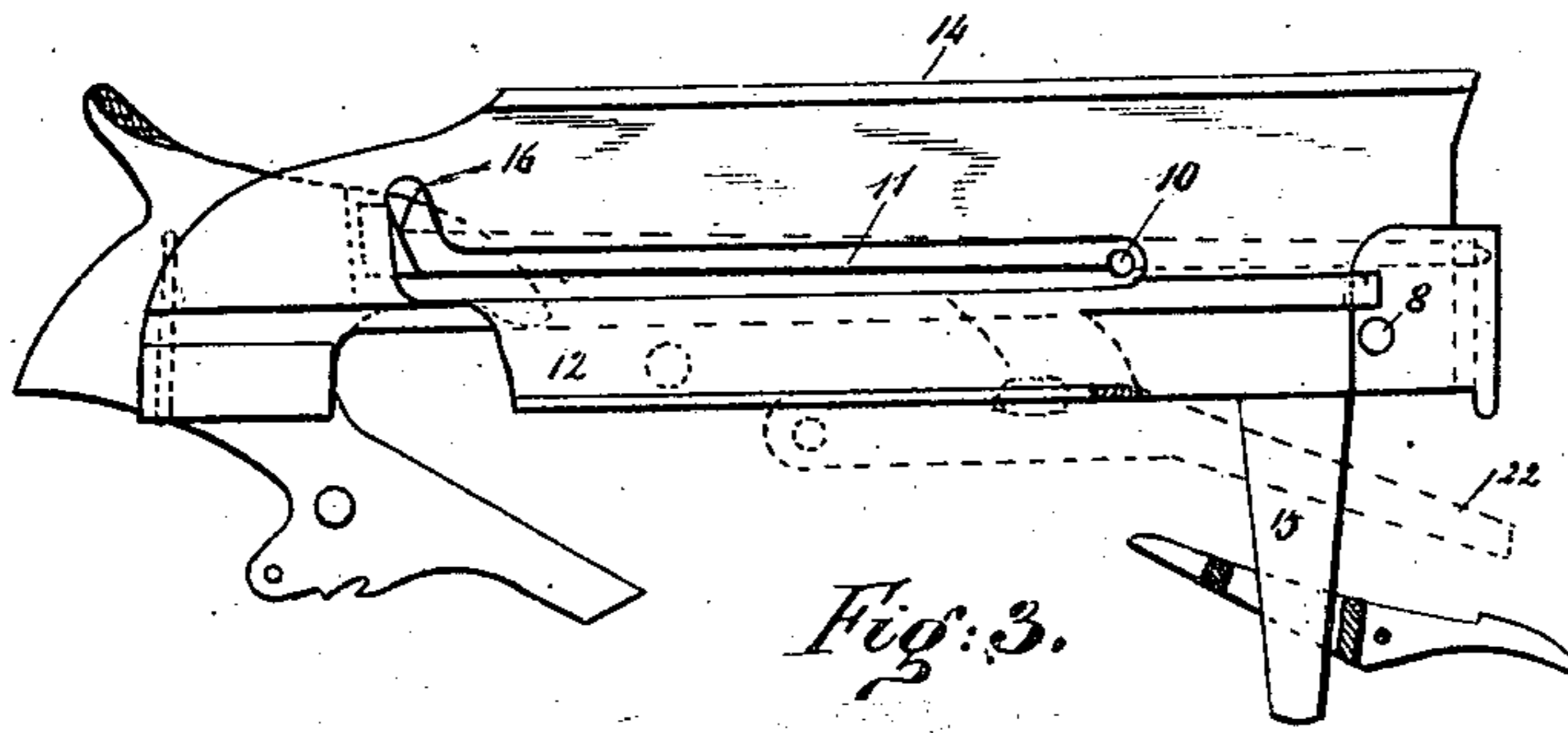
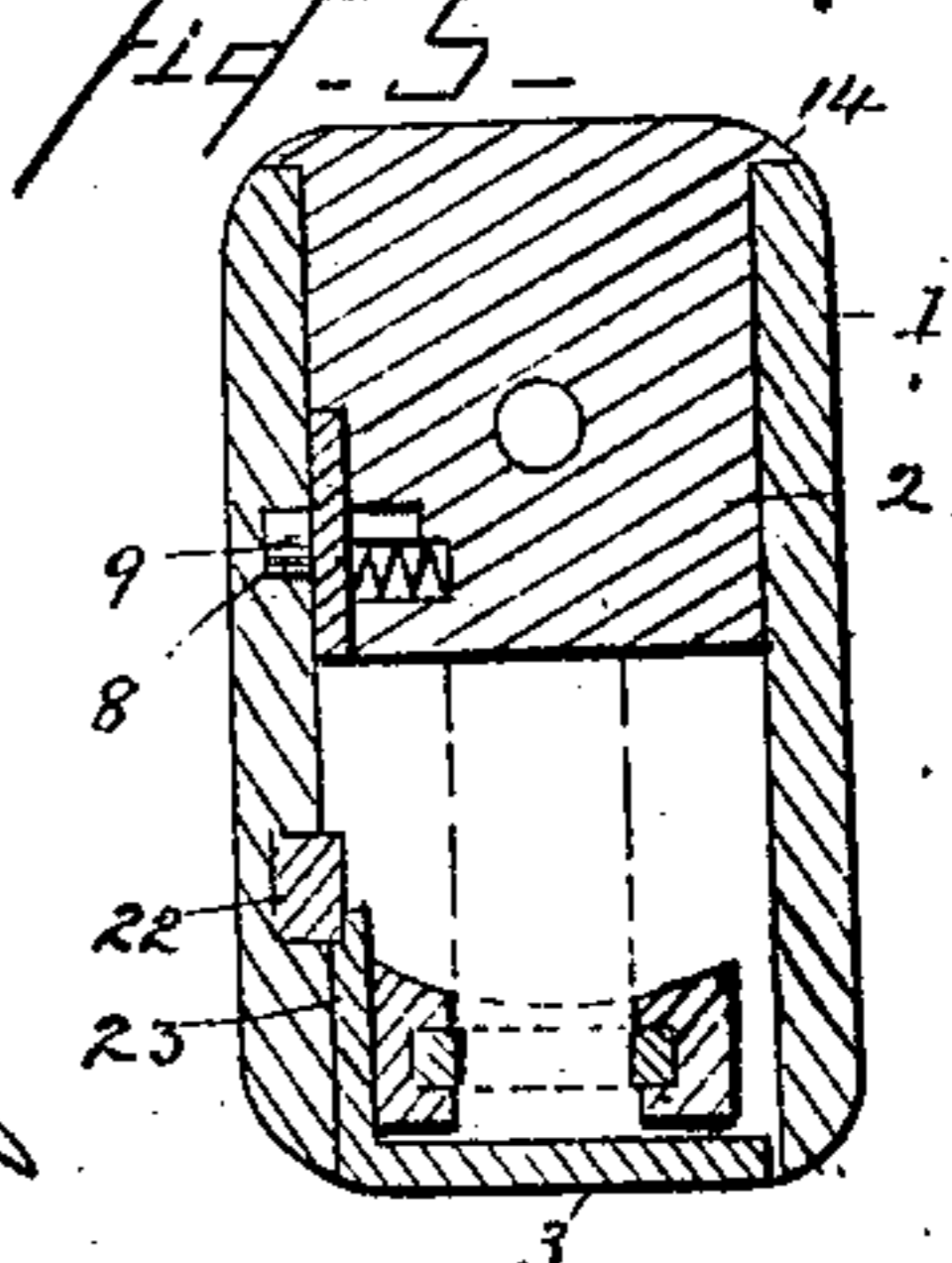
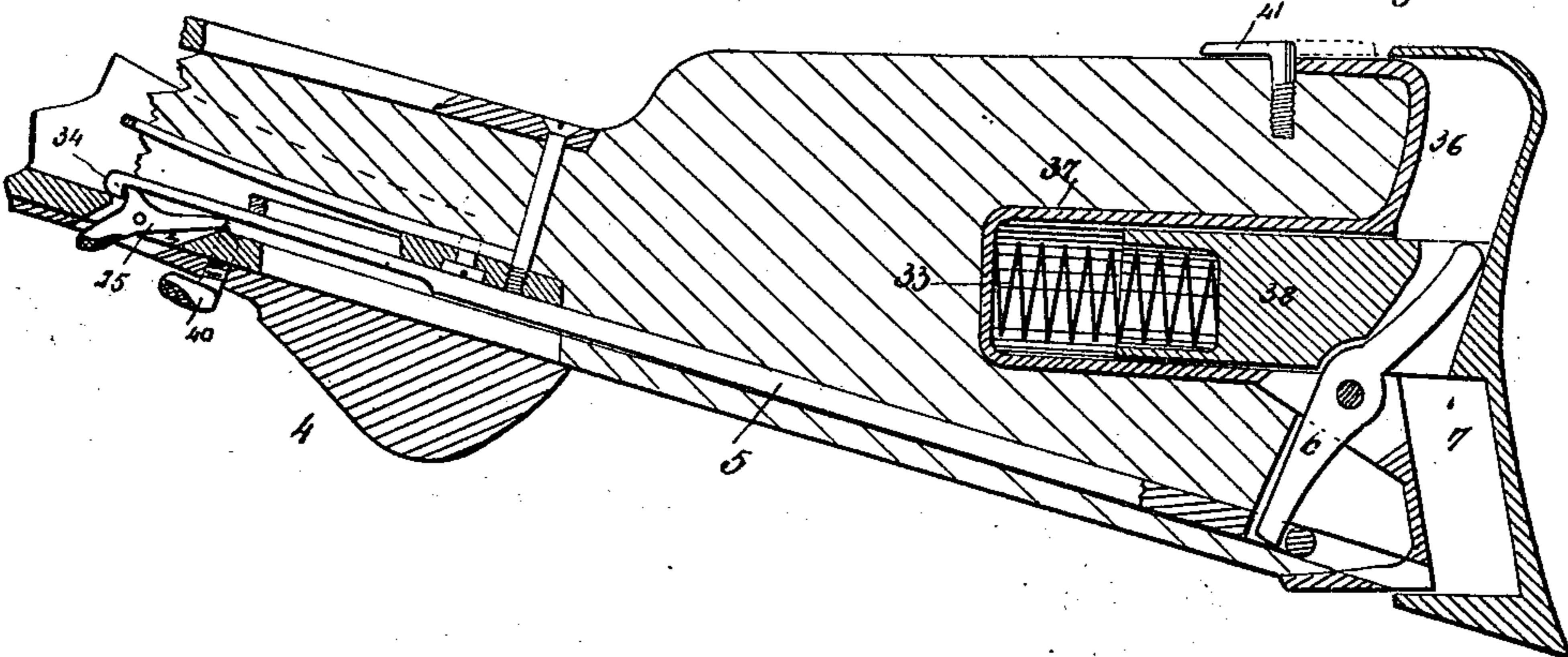


Fig: 3.



WITNESSES:

Chas. Viala
H. A. West.

INVENTOR

Andrew Burgess

(No Model.)

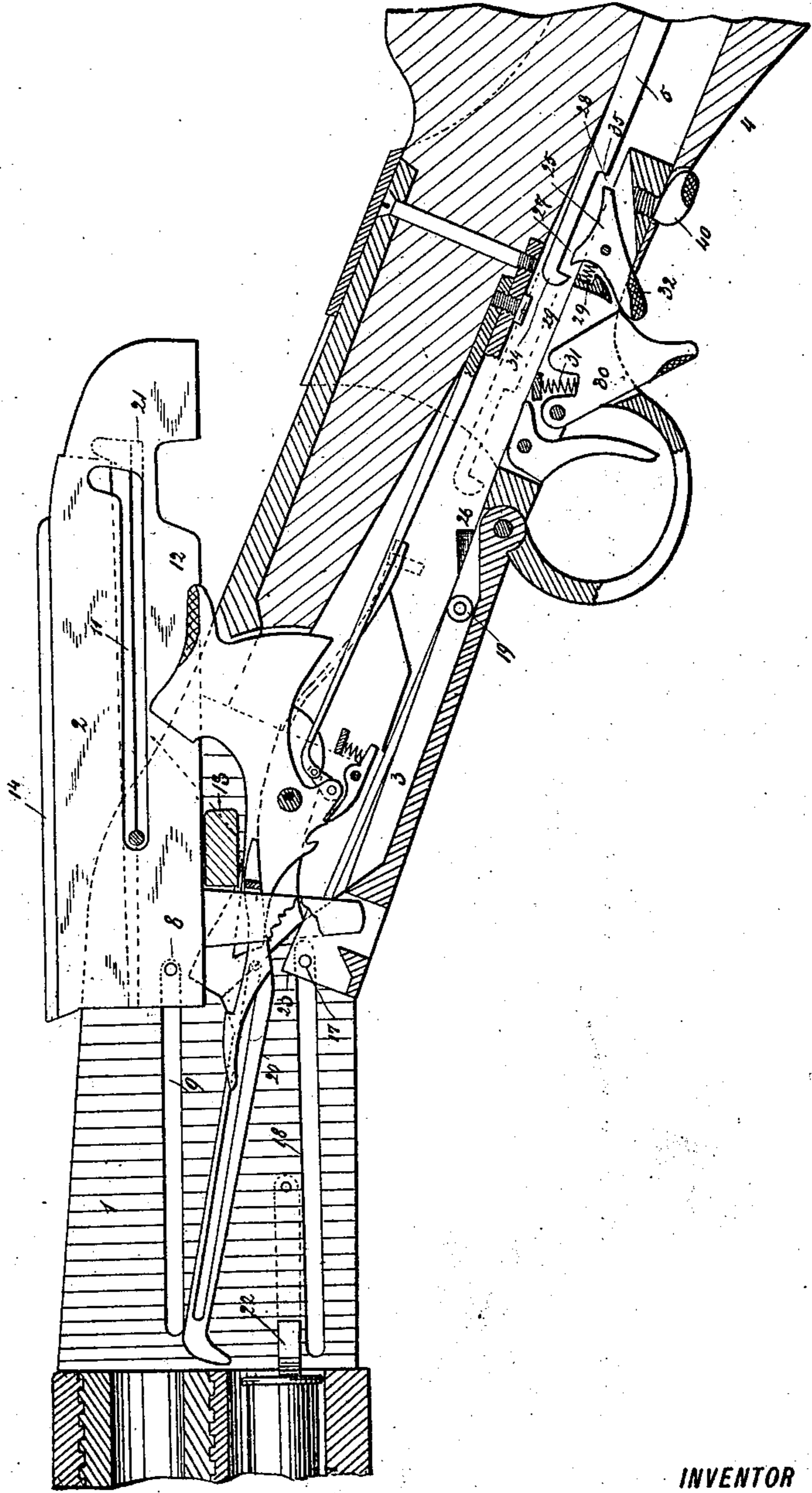
2 Sheets—Sheet 2.

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Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 478,221, dated July 5, 1892.

Application filed September 6, 1887. Serial No. 248,987. (No model.)

To all whom it may concern:

Be it known that I, ANDREW BURGESS, a citizen of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Magazine-Firearms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to breech-loading and magazine firearms, having for its object safety and ease of manipulation; and it consists of various arrangements of breech and breech-operating mechanism and combinations of parts hereinafter more fully illustrated and described.

In the drawings, Figure 1 shows a longitudinal section in elevation of the breech of this arm. Fig. 2 is a side view of the breech-piece. Fig. 3 is a longitudinal section of the butt, showing arrangement of the automatic breech-operating device. Fig. 4 is a sectional longitudinal elevation of the breech mechanism with the breech open. Fig. 5 is a cross-section on the line $x x$ of Fig. 1.

Figure of reference 1 is the frame; 2, the bolt; 3, a sliding connection piece to couple the bolt and handle 4, and the rod 5 connects the breech mechanism with the butt-plate 7 by intermediate lever 6.

The reciprocating bolt 2 carries a pin or trunnion 8 near its front end, which, projecting into a longitudinal groove or slot 9 in the frame, serves to guide and hold the forward end of the bolt in the frame, and another pin 10 projects from the inside of the frame into a groove or slot 11 of the bolt to guide the rear end thereof. The slot 11 is cut longitudinally in the bolt to its rear, where it is carried upward to permit the rear part of the bolt to fall when reaching its closed position, as shown in Fig. 1, so that its shoulder 12 may drop forward of the abutment 13 in the frame, and thereby lock the said bolt in its closed position, and the projecting top 14 of the bolt, overhanging the flat sides thereof, falls on top of the inner edges of the frame to form a tight cover to its vertical mortise.

A bolt arranged as above may be operated by any oblique force which may be brought to bear upon it to turn its rear end from the locking-abutment, and said force, continuing, will move back the bolt to open the breech and its reversal will close it. I show a method of applying the oblique force described by projecting an arm 15 downward from the forward end of the bolt and engaging the lower end of the said arm by a reciprocating rod or sliding piece 3, to which is connected a handle to impart a reciprocating movement thereto. The backward movement of the piece 3 turns the rear end of the bolt upward to disengage its locking-shoulder, the pin 8 serving as a trunnion or fulcrum to hold the forward end of the bolt down, and then forces back the bolt to open the breech, as shown in Fig. 4, and the forward movement of said piece 3 forces the bolt forward to or nearly to a closed position, when its force, acting obliquely on the bolt through its projection 15, turns the rear of the bolt down to lock it, as described, the upward offset of groove 11 receiving the pin 10. The rear of the firing-pin has a projection 16, with front face inclining down and forward into the slot 11, so that when the rear of the bolt rises it raises the face of said incline against the pin 10 (which is fixed in the frame) to cam and start back the firing-pin by the unlocking movement of the bolt.

The connecting-slide 3 is guided rearward by the operating-handle and a pin 17, which enters a longitudinal groove 18 inside the frame. An abutment, which I here show as a roller 19, is carried by the slide 3, and a projection 20 of the hammer is extended into position, as shown in Fig. 1, to be engaged by the backward movement of said roller, which then serves as a cam to turn back the hammer from its position over the ledge 21 in the rear of the bolt, so that the bolt may then be moved back to open the breech. The mortise in the slide 3 is elongated forward of the bolt extension 15 to permit a slight lost motion for the above operation.

It will be seen that the nose of the hammer cannot reach the firing-pin until the rear of the bolt falls to its locked position, as the ledge 21 obstructs the path of movement of the striking-nose of the hammer at all other times, and when the bolt is in locked position

and the hammer down, as in Fig. 1, the hammer-nose projects over the top of ledge 21 to hold the bolt more securely locked.

A spring cartridge-stop 22 projects inside the mouth of the magazine, and an ear 23 of the slide 3 is extended upward to engage and press the spring-stop outward at the extreme closing of the breech, as seen in Fig. 1, so that the cartridge will be released from the position in which one is shown, Fig. 4, in the magazine to that shown in Fig. 1, where it is free to follow back the opening breech-piece. The side of the carrier at its forward part is cut away to allow the rearward movement of the raised ear 23 of the slide; but a shoulder 24 is formed on the carrier to be engaged by the latter part of the rear movement of said ear 23 and be raised thereby to raise the carrier, as shown in Fig. 4.

A handle sliding on the small of the stock is shown to operate this gun; but any other known form of handle may be substituted without essential change in this invention.

A catch 25 is hung in the operating-handle, having a point 28 to be sprung into the notch 26 in the guard-strap or any fixed part of the gun to lock the handle when the breech is closed, and thereby confine the breech-piece in its locked position, as in Fig. 1. The catch 25 is here shown provided with a light spring 29, pressing the catch to turn it in the reverse or unlocking direction; but a stronger spring 31 turns the starting-lever 30 (which is hung in the sliding handle) downward against the projecting arm 32 of the catch to spring said catch into the notch 26 to lock the handle aforesaid. By this arrangement the catch may be released by pressing in on its projecting arm 32 or by pressure on the projecting finger-piece of the starting-lever 30, as in the act of using said lever in starting open the breech, (it having a little lost motion for this purpose of releasing the catch,) when the spring 29 will turn said catch out of the notch 26; but if the handle should be under strong backward pressure the friction of engagement of the point 28 in the notch 26 would be too great to be overcome by the spring 29 and the catch would remain in its locking position until released by other means. A starting-rod 5, connected to the sliding handle, extends backward through the stock and is engaged at its rear by one end of lever 6, which is hung on a pivot fixed in the stock, and the telescoping butt-plate 7 engages the other end of the lever 6, so that when the butt-plate moves forward relatively to the stock it vibrates the lever to force the rod 5 backward and thereby start open the breech-piece by its connection therewith or with the mechanism for moving it, and a spring 33 presses the butt-plate, when released, in the opposite direction.

I here show the rod 5 connected to the breech-moving mechanism by having a shoulder 34 formed to engage the projection 27 on

the catch 25 above its pivot, so the first part of the backward movement of the rod 5 vibrates the catch to turn its point 28 out of its locking-notch 26, that the breech or handle may then be free to be moved back by the continued backward movement of the rod. Another shoulder 35 is shown in Figs. 1 and 4, which on the return (forward) movement of rod 5 engages the point 28 of the catch to close or assist to close the breech by force of spring 33; but where the movement of the rod is not made so great as to enable it to move the whole distance necessary to open and close the breech the rear shoulder 35 is omitted, as in Fig. 3, and the rod 5 then serves merely to unlock and start open the breech.

In Fig. 3 the peculiar features of the butt and its parts are shown. A socket-piece 36 incloses the rear end of the stock and has an inner socket 37 to enter the stock and contain the spring 33 and also receive and guide the cylinder 38 of the butt-plate to hold the butt-plate in position to move easily with but slight friction on the outside of the socket-piece 36. A stop, as 40, consisting of an obliquely-pointed pin or screw, may be used to confine the catch in its locking position when required. Another stop 41 is shown in Fig. 3 arranged to turn back and render the butt-plate rigid when desired, when the gun may be operated by the handle and the catch 25 turned to unlock the handle by direct engagement or the lever 30 be pressed out of contact with the catch by the hand that pulls back on the handle, and when the discharge then takes place the recoil will counteract the pull on the handle, giving a backward impulse to the body of the gun so quickly that the pull on the handle will cease for an instant, (in fact, will generally be reversed,) so that the catch 25 can then be disengaged by spring 29. The interruption to the backward pull on the handle is so short as to be hardly noticeable, except by its effect in unlocking the handle, and a continued pull backward on the handle and lever unlocks and opens the breech.

To use the butt-plate mechanism, the stop 41 is turned forward, as in Fig. 3, and the gun fired from the shoulder in the usual manner, when the recoil, forcing back the body of the gun against the resisting butt-plate, compresses the stiff spring 33 and forces the lever 6 against said plate to turn it and force back the rod 5 (which engages the catch 25) to release and pull back the handle and start back the breech by its connection therewith.

I claim—

1. In a breech-loading firearm, a reciprocating breech having a locking-shoulder thereon, a lateral projection near the front end of said breech-piece, and a groove from its rear end forward, said groove being offset at its rear, substantially as described, in combination with a frame provided with a longitudinal groove to guide the front of the breech-piece, and a lateral projection extending into the

groove in the breech-piece to guide the rear of said breech-piece, and an abutment in the frame against which the breech-piece locks.

2. In a breech-loading gun, the frame having the longitudinal groove 9, a breech-piece carrying the projection 8 to move in said groove and thereby guide the front end of the breech-piece, the projection 11 in the frame to guide the rear of the breech-piece by bearing in a longitudinal groove in said breech-piece, and an operating-handle connected to the breech-piece, all in combination.

3. In a breech-loading gun, a frame open at the top, in combination with a breech-piece having a substantially longitudinal movement in said frame and a swinging movement to lock the same, said breech-piece having side extensions at its upper part which overhang the frame.

4. In a breech-loading firearm, a frame open at the top a breech-piece guided to move longitudinally therein, a locking-shoulder at the rear of the breech-piece, and an abutment for its engagement in the frame, a projection extending downward from the front of the breech-piece and below it, and a slide-piece which connects with the operating-handle and engages said projection, all in combination.

5. In a breech-loading firearm, a breech-piece whose rear end swings vertically in one direction to lock it and in the reverse direction to unlock, and a firing-pin housed in said breech-piece having a projection on its rear with an inclined front face, in combination with a fixed projection in the frame, arranged to engage the incline on the firing-pin through an opening in the breech-piece, substantially as described, to start back the firing-pin in the unlocking movement of the breech-piece.

6. In a magazine-gun, the combination of the magazine having a spring-stop at its mouth, a reciprocating breech-operating handle and slide, and a raised ear connected to the slide and engaging the magazine-stop to operate the same as the slide reciprocates, substantially as described.

7. In a firearm, the frame, a breech-piece moving therein and swinging to locked position, a vibrating hammer in position to engage the breech-piece and lock the same, a breech-operating lever, and slot and abutment connections from the lever to the breech-piece, whereby a lost motion is permitted, all combined substantially as described.

8. In a breech-loading firearm, a frame, a sliding handle, a catch to lock said handle in the frame in its breech-closing position, and a light spring engaging said catch to throw the catch out of its locking engagement, in combination with a stronger spring arranged to throw the catch into locking engagement by overpowering the light spring and outside

connection with the stronger spring, by which it may be compressed to allow the light spring to release the catch.

9. A reciprocating rod connected at its rear with the movable butt-plate to operate it, a reciprocating handle operatively connected to the breech-piece, and a spring-catch to lock said handle into breech-closing position, the rod engaging the catch to release it and engaging the operating-handle to start open the breech by movement of the butt-plate, the specified elements in combination in a breech-loading firearm, substantially as described.

10. In a breech-loading firearm, a movable butt-plate, a spring interposed between the butt plate and stock, a lever hung to the stock and having an arm in position to be actuated by the butt-plate, a rod engaging the other arm of said lever, and the breech-operating handle having operative engagement with said rod, the parts in combination, substantially as described.

11. In a breech-loading firearm, a butt-plate pressed back by a spring from the butt-stock, a lever pivoted in the butt-stock, having one arm in contact with the butt-plate, a reciprocating rod engaged by the other end of said lever, a reciprocating operating-handle, and its locking-catch in position to be engaged by said rod, all combined, substantially as described, so that the recoil of the gun backward against the resistance of the butt-plate moves the rod rearward, and thereby unlocks the catch and handle and moves the handle to start open the breech.

12. In the butt of a gun, a socket-piece inclosing the rear of the stock and having the inner socket 37, the spring 33 to press back the butt-plate, a reversing-lever pivoted in the socket-piece, a telescoping butt-plate having the projection 38 to enter the socket 37 and guide the butt-plate, and rod 5, engaged by said lever, all in combination, substantially as described.

13. In the butt of a gun, a socket-piece inclosing the rear of the stock and having the inner socket 37, the spring 33 to press back the butt-plate, a reversing-lever pivoted in the socket-piece, and a telescoping butt-plate having the projection 38 to enter the socket 37 and guide the butt-plate, and a movable stop for said butt-plate, all in combination with the rod 5, for operation substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW BURGESS.

Witnesses:

T. B. OAKLEY,
GEORGE F. ANDREWS.