

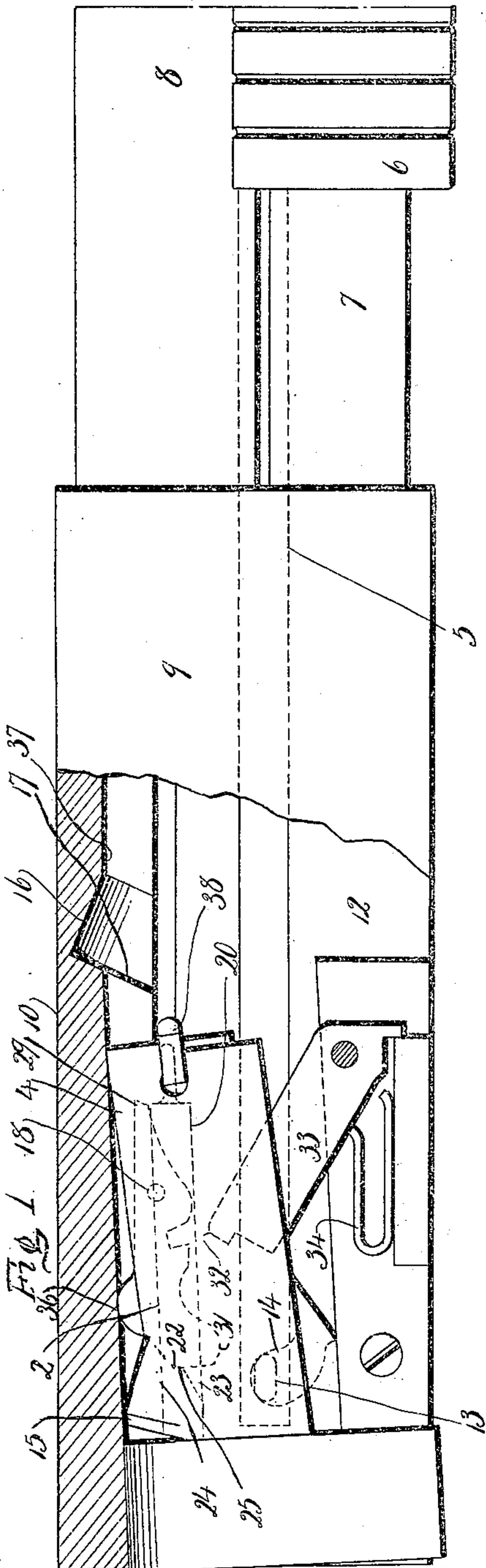
T. C. JOHNSON.
FIREARM.

APPLICATION FILED NOV. 20, 1909.

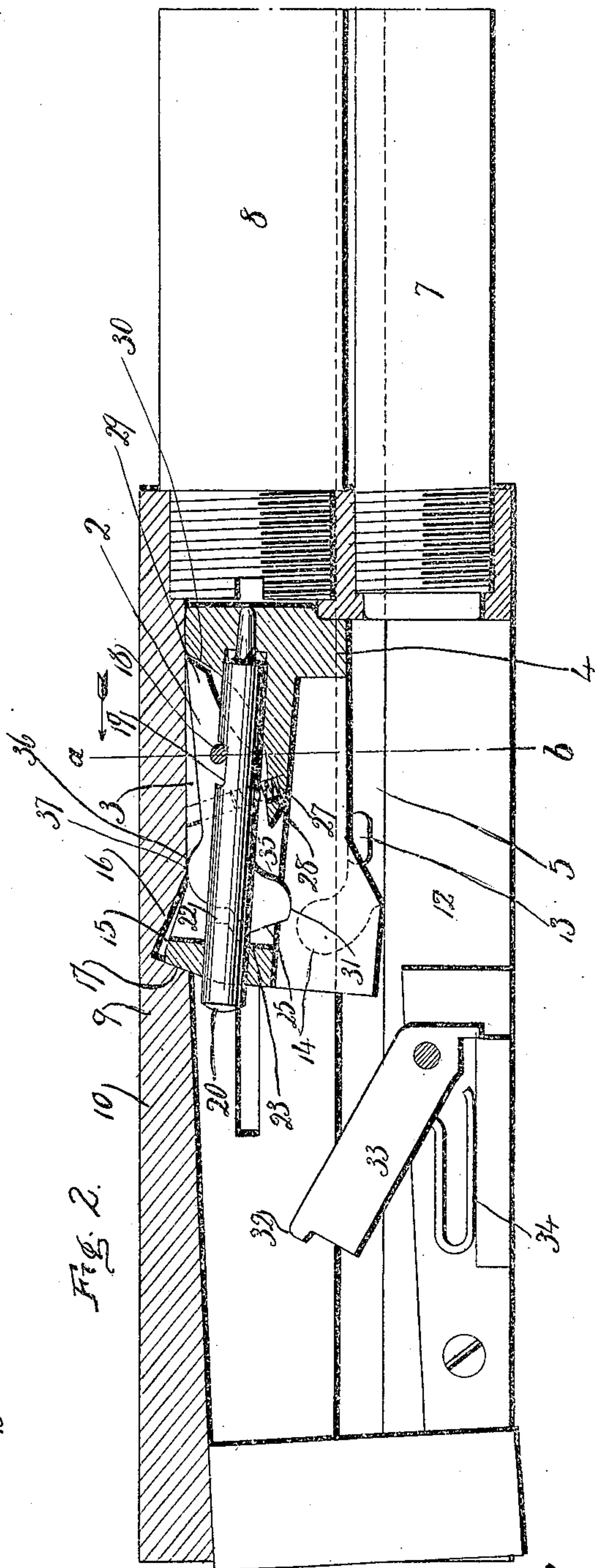
959,942.

Patented May 31, 1910.

2 SHEETS—SHEET 1.



Witnesses
C. J. Reed.
C. L. Weed



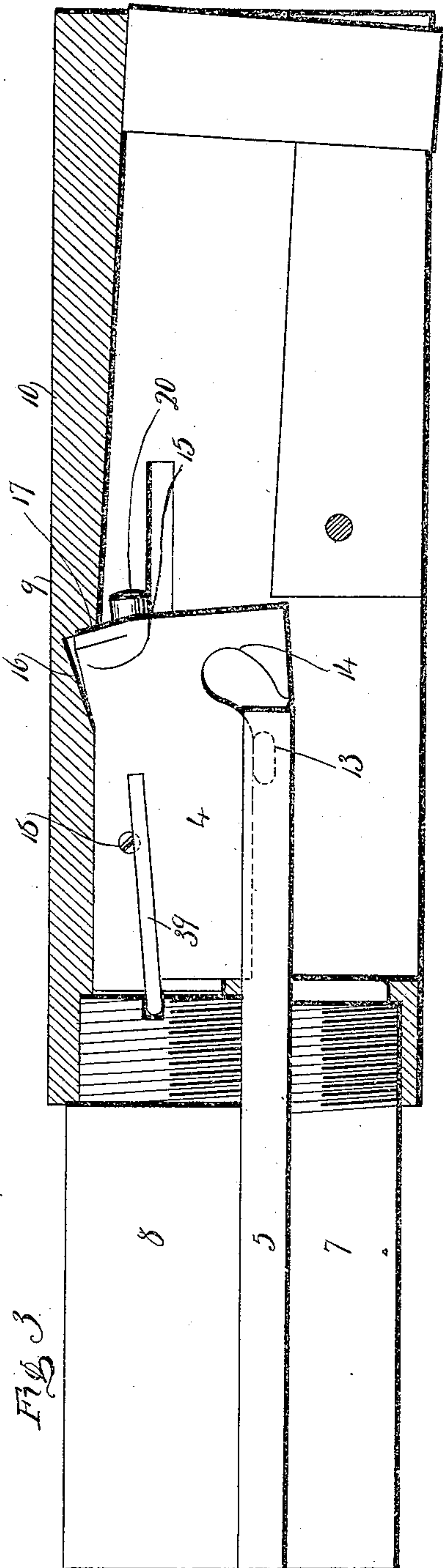
Thomas C. Johnson
by Seymour Pearce
Att'y

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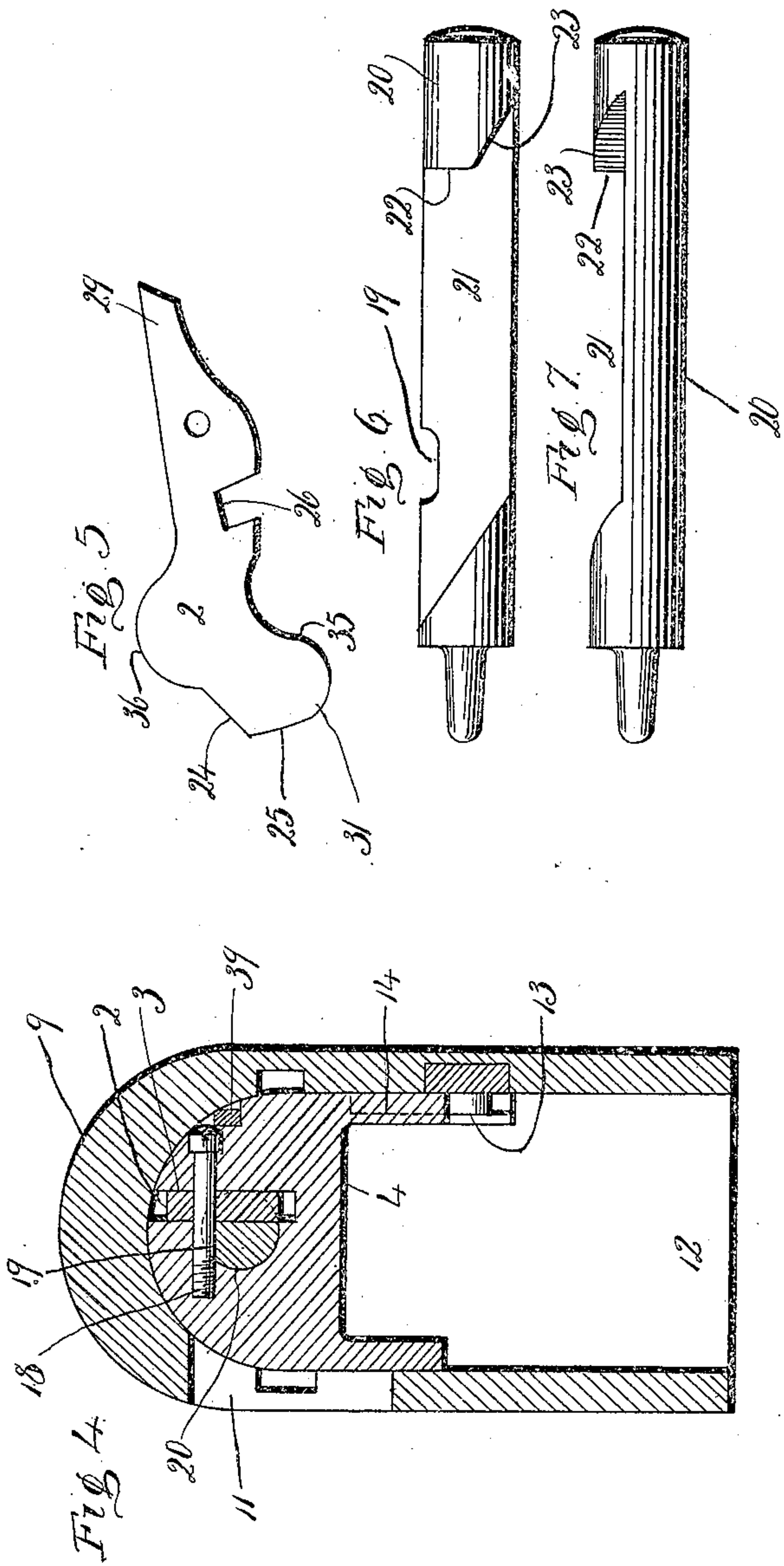
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

THOMAS C. JOHNSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO WINCHESTER
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FIREARM.

959,942.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed November 20, 1909. Serial No. 529,103.

To all whom it may concern:

Be it known that I, THOMAS C. JOHNSON, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Firearms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a broken view partly in side elevation and partly in vertical longitudinal section of a gun constructed in accordance with my invention, the breech-block being shown at the limit of its rearward movement with the combined retracting and locking lever of the firing-pin in its elevated or locking position. Fig. 2 a view of the gun in vertical longitudinal section showing the breech-block in its closed and locked position with the combined retracting and locking lever of the firing-pin in its depressed or unlocked position. Fig. 3 a broken view of the gun partly in side elevation and partly in vertical longitudinal section, with the breech-block in its forward and locked position, and looking from left to right to show the connection between the breech-block and action-bar, whereby the block is operated back and forth and moved up and down. Fig. 4 a view of the gun in vertical transverse section on the line *a—b* of Fig. 2 and looking from front to rear. Fig. 5 a detached view in side elevation of the combined firing-pin retracting and locking lever of the firing-pin. Fig. 6 a detached view of the firing-pin in side elevation. Fig. 7 a reverse plan view thereof.

My invention relates to an improvement in that class of shot guns the mechanism of which is operated by a sliding forearm, the object being to provide simple, durable and reliable means for positively retracting the firing-pin and positively locking it in its retracted position, as well as for positively unlocking it after the breech-block has been moved into its recoil-taking position and locked therein.

With these ends in view my invention consists in a firearm having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I employ a combined firing-pin retracting and locking lever 2 which I locate in an upwardly opening vertical recess 3 in a compound movement breech-block 4 of the type which moves back and forth in a right line and at the limit of its forward movement is swung up and down at its rear end to lock it and unlock it, by means of an action-bar 5 connected at its forward end to a handle 6 sliding upon a tubular magazine 7 located under a barrel 8, the said magazine and gun-barrel being mounted in the forward end of the gun-frame or receiver 9 the rounded top of which is solid as at 10 and the right hand wall of which is formed with an ejection-opening 11 and the bottom of which is formed with a feeding-opening 12. The rear end of the said action-bar 5 is provided with an inwardly projecting operating-lug 13 entering a cam-path 14 in the left hand side wall of the breech-block 4, the said cam-path 14 being given the curvature required for lifting the rear end of the breech-block 4 into its recoil-taking position after it has reached the limit of its forward movement, whereby the locking-nose 15 at the rear upper corner of the block is entered into a locking-notch 16 in the under face of the solid top 10 of the frame 9. The rear wall 17 of the notch 16 then forms the recoil-abutment for the breech-block. Conversely, as the handle 6 is moved rearward the coaction of the lug 13 and lower wall of the upwardly turned rear end of the cam-path 14 draws the breech-block 4 down so as to unlock it preparatory to its rearward movement. When the breech-block is being thus swung up and down to lock it and unlock it, it turns upon its forward lower corner as upon a center.

The combined firing-pin retracting and locking-lever 2 is hung so as to swing in a vertical plane in the recess 3 in the breech-block 4, upon a horizontally arranged screw pivot 18 entering the left hand side of the breech-block and passing through a stop-notch 19 formed in the upper face of the firing-pin 20 the rearward movement of which is limited by the engagement of the front end wall of the said notch 19 with the forward face of the screw-pivot 18. The pivot 18 thus has the double function of a pivot for the lever 2 and a stop for the firing-pin 20. For the reception of the lever 2 the left hand side of the firing-pin 20 is

cut away to form a recess 21 terminating at its rear end in a vertical locking-shoulder 22 and a rearwardly inclined cam-face 23 located below the said shoulder 22. At its rear end the lever 2 is formed with an inclined retracting-face 24 coacting with the cam-face 23 aforesaid for positively retracting the firing-pin, and with a locking-face 25 which, after the firing-pin has been retracted, moves up into engagement with the locking-shoulder 22 of the firing-pin for positively holding the same in its retracted position.

About midway between its ends, the lever 2 is formed in its lower edge with a notch 26 for the reception of the upper end of a light helical spring 27 the lower end of which enters a socket 28 leading out of the bottom of the recess 3 in the breech-block 4. This spring, which is located to the rear of the screw-pivot 18, exerts a constant effort to lift the rear end of the lever 2 into its locking position.

The forward end of the lever 2 is tapered to form a stop 29 for limiting the swinging movement of the lever up or down on the screw-pivot 18, the downward movement of the rear end of the lever being stopped by the engagement of the nose 29 with the under face of the closed top 10 of the frame 9 and the upward movement of the rear end of the lever 2 being limited by the engagement of the under face of the nose 29 with the forward end wall 30 of the recess 3 in the breech-block.

To provide for positively moving the lever 2 so as to insure the positive retraction of the firing-pin 20 and to also insure the positive locking of the firing-pin in such retracted position, the lever 2 is formed at its rear end with a rounded cam-like surface 31 which, as the breech-block 4 is moved rearward, engages with and rides over the forward upper corner 32 of the hammer 33 when the same is in its cocked position into which it has been pushed by the rearward movement of the breech-block as shown in Fig. 2, against the tension of the hammer-spring 34. As the breech-block 4 moves rearward the cam-face 31 of the lever 2 collides with the corner 32 of the hammer 33 and rides over the same, whereby the face 24 of the lever 2 engages with the face 23 of the firing-pin 20 and forces the same rearward to the limit of its retracted position. The continued rearward movement of the breech-block 4 causes the lever 2 to be lifted still higher by the corner 32 of the hammer so as to bring the face 25 of the lever in front of the shoulder 22 of the pin as shown in Fig. 1, whereby the pin is positively locked in its retracted position. The rear end of the lever once elevated as described, by the coaction of its cam face 31 with the corner 32 of the hammer 33, will be held in

its elevated position by the spring 27. In case, however, that the spring 27 should fail for any reason to perform this office, or the rear end of the lever 2 should be jarred down from the position in which it locks the firing-pin in its retracted position by the shock of bringing the breech-block rearward, the forward part of the cam-face 31 at about the point 35 (Fig. 5) will be engaged as the breech-block again moves forward, with the corner 32 of the hammer and the lever again positively lifted into the position in which it locks the firing-pin, whereby I provide for positively locking the firing-pin in its retracted position during the forward movement of the breech-block even though the lever should have been jarred out of its locking engagement with the firing-pin during the opening of the gun and after the initial retraction of the firing-pin.

To provide for positively unlocking the firing-pin after the breech-block has been moved forward and lifted into its locked and therefore recoil-taking position, I form the upper edge of the rear end of the lever 2 with an unlocking-cam 36 which as the block is raised at its rear end for the entrance of its nose 15 into the locking-notch 16, engages with the under face of the solid top 10 of the frame at about the point 37, (Fig. 1) whereby as the rear end of the block is raised the lever 2 is pushed down so as to gradually clear the face 25 at the rear end of the lever 2 from the shoulder 22 of the firing-pin 20. The described action of the lever 2 in unlocking the firing-pin 20 is timed, however, so that the firing-pin is not unlocked until after the rear end of the breech-block has been lifted into its recoil-taking position, whereby it becomes impossible for the firing-pin 20 to be moved forward to explode a cartridge in the gun-barrel until the bolt is locked in the position in which it is prepared to take the recoil of the explosion of the cartridge.

It will be understood from the foregoing that the lever 2 is alternately projected above and below the upper and lower faces, respectively, of the breech-block for the coaction, on the one hand, of the lever with the frame or receiver and, on the other hand, with the hammer.

In the gun shown the breech-block 4 is provided with a right-hand extractor 38 and a left-hand extractor 39, both of ordinary construction and operation, and as usual sliding in grooves in the frame to support the forward end of the breech-block.

I claim:—

1. In a firearm, the combination with a frame or receiver having a solid top the under face of which is formed with a locking-notch, of a reciprocating breech-block the rear end of which is raised and lowered into and out of the said notch, a firing-pin

mounted in the said breech-block, a combined firing-pin retracting and locking lever mounted in the breech-block and coacting with the firing-pin, and means positively operating the said lever in opposite directions for positively retracting the firing-pin and locking it in its retracted position and for positively unlocking the firing pin after the breech-block has been lifted into its locked position.

2. In a firearm, the combination with a frame or receiver having a solid top, the under face of which is formed with a locking-notch, of a breech-block the rear end of which is raised and lowered into and out of the said notch, a firing-pin mounted in the breech-block, and a combined firing-pin retracting and locking-lever also carried by the breech-block and engaged when the breech-block is raised, with the under face of the solid top of the frame for unlocking the firing-pin after the block has been moved into its locked position.

3. In a firearm, the combination with a frame or receiver having a solid top the under face of which is formed with a locking-notch, of a longitudinally movable breech-block the rear end of which is raised and lowered into and out of the said locking-notch after the block has reached the limit of its forward movement, a firing-pin, a hammer, and a firing-pin retracting and locking lever positively operated by engagement with the under face of the solid top of the frame for unlocking the firing-pin and positively operated by engagement with the hammer for retracting the firing-pin and locking it in its retracted position.

4. In a firearm, the combination with a frame or receiver having a solid top the under face of which contains a locking-notch, of a longitudinally movable breech-block the rear end of which is moved into and out of the said notch after the block is at the limit of its forward movement, a firing-pin mounted in the breech-block, a combined firing-pin retracting and locking lever carried by the breech-block, and a hammer, the said lever being constructed at its rear end to engage with the hammer as the block is moved longitudinally back and forth to insure the positive retraction and locking of the pin, and the said lever being adapted to engage

with the under face of the solid top of the frame or receiver after the block has reached the limit of its forward movement to insure the positive unlocking of the pin.

5. In a firearm, the combination with a frame or receiver having a solid top the under face of which contains a locking-notch, of a reciprocating and vertically moving breech-block the rear end of which is raised and lowered into and out of the said notch after the block is at the limit of its forward movement, a longitudinally reciprocating action-bar connected at its rear end with the said block for reciprocating and vertically moving the same, a firing-pin mounted in the breech-block, a combined firing-pin retracting and locking lever pivotally mounted in the breech-block, and a hammer, the said lever engaging with the under face of the solid top of the frame or receiver for unlocking the firing-pin and engaging with the said hammer during the rearward movement of the block, for the positive retraction and locking of the firing-pin.

6. In a firearm, the combination with a frame or receiver having a solid top the under face of which contains a locking-notch, of a reciprocating and vertically moving breech-block the rear end of which is raised and lowered into and out of the said locking-notch after the block has reached the limit of its forward movement, a longitudinally movable action-bar connected at its rear end with the said breech-block for operating the same, a firing-pin mounted in the breech-block and formed with a stop-notch, a combined firing-pin retracting and locking lever mounted in the breech-block and projecting alternately above and below the upper and lower faces thereof, and a pivot mounted in the breech-block and passing through the stop-notch in the firing-pin and through the said lever which rocks upon it, whereby the said pivot performs the two-fold function of supporting the lever and limiting the rearward movement of the pin.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

THOMAS C. JOHNSON.

Witnesses:

CLIFFORD J. REED,
DANIEL H. VEADER.