

No. 837,072.

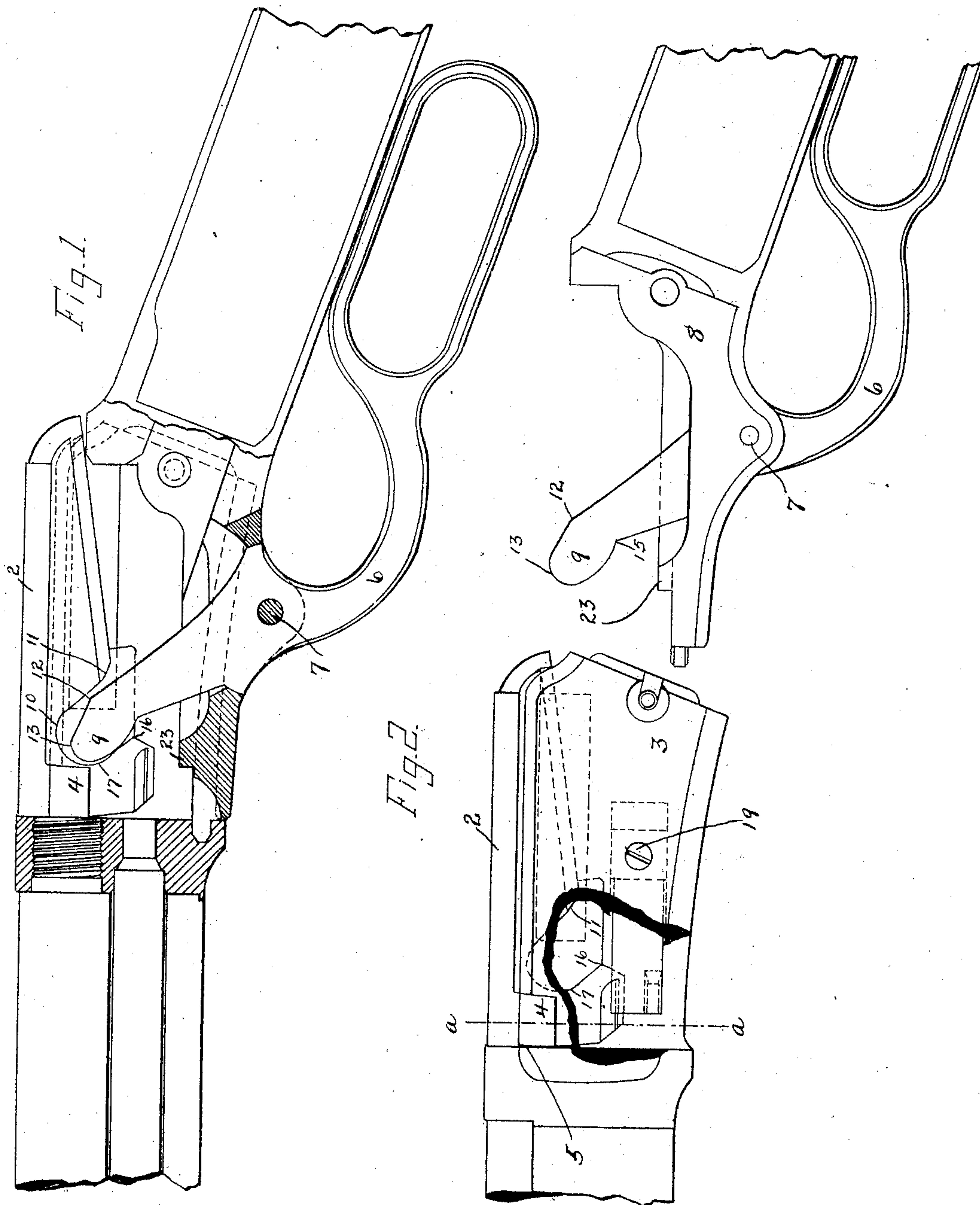
PATENTED NOV. 27, 1906.

T. C. JOHNSON.

FIREARM.

APPLICATION FILED APR. 21, 1906.

8 SHEETS—SHEET 1.



Witnesses
J. F. Shumway.
C. L. Reed.

Thomas C. Johnson
Inventor
by Seymour T. Carr
Att'y

No. 837,072.

PATENTED NOV. 27, 1906.

T. C. JOHNSON.
FIREARM.

APPLICATION FILED APR. 21, 1906.

3 SHEETS—SHEET 2.

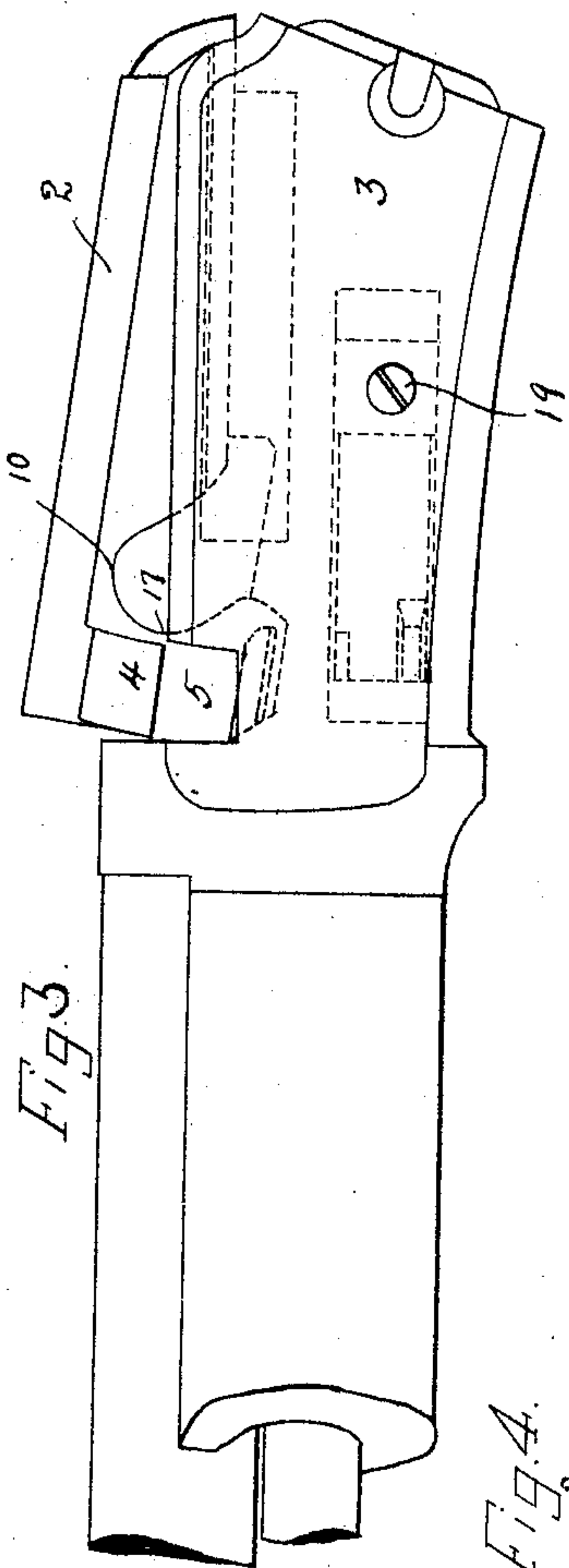


Fig. 3.

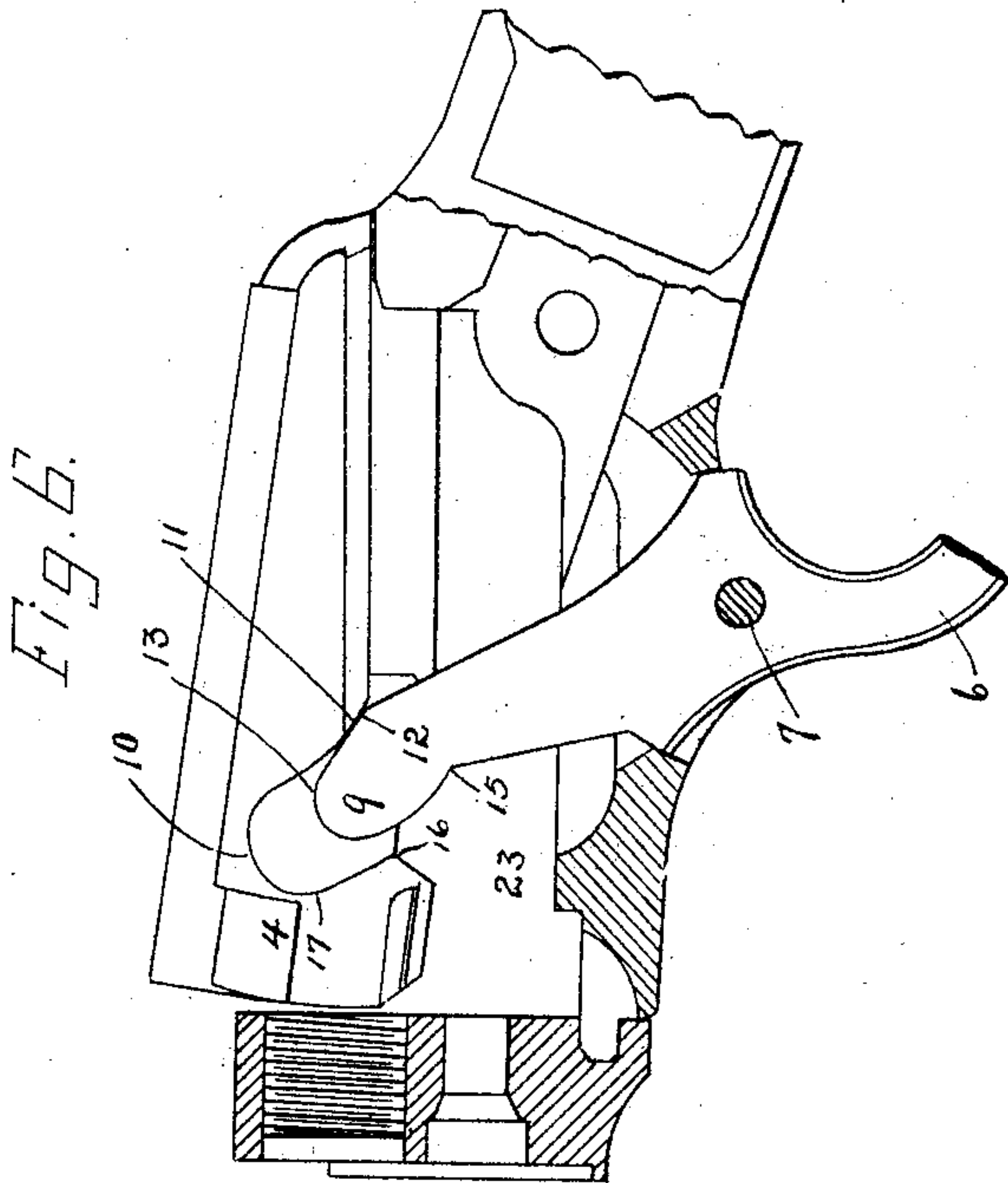


Fig. 6.

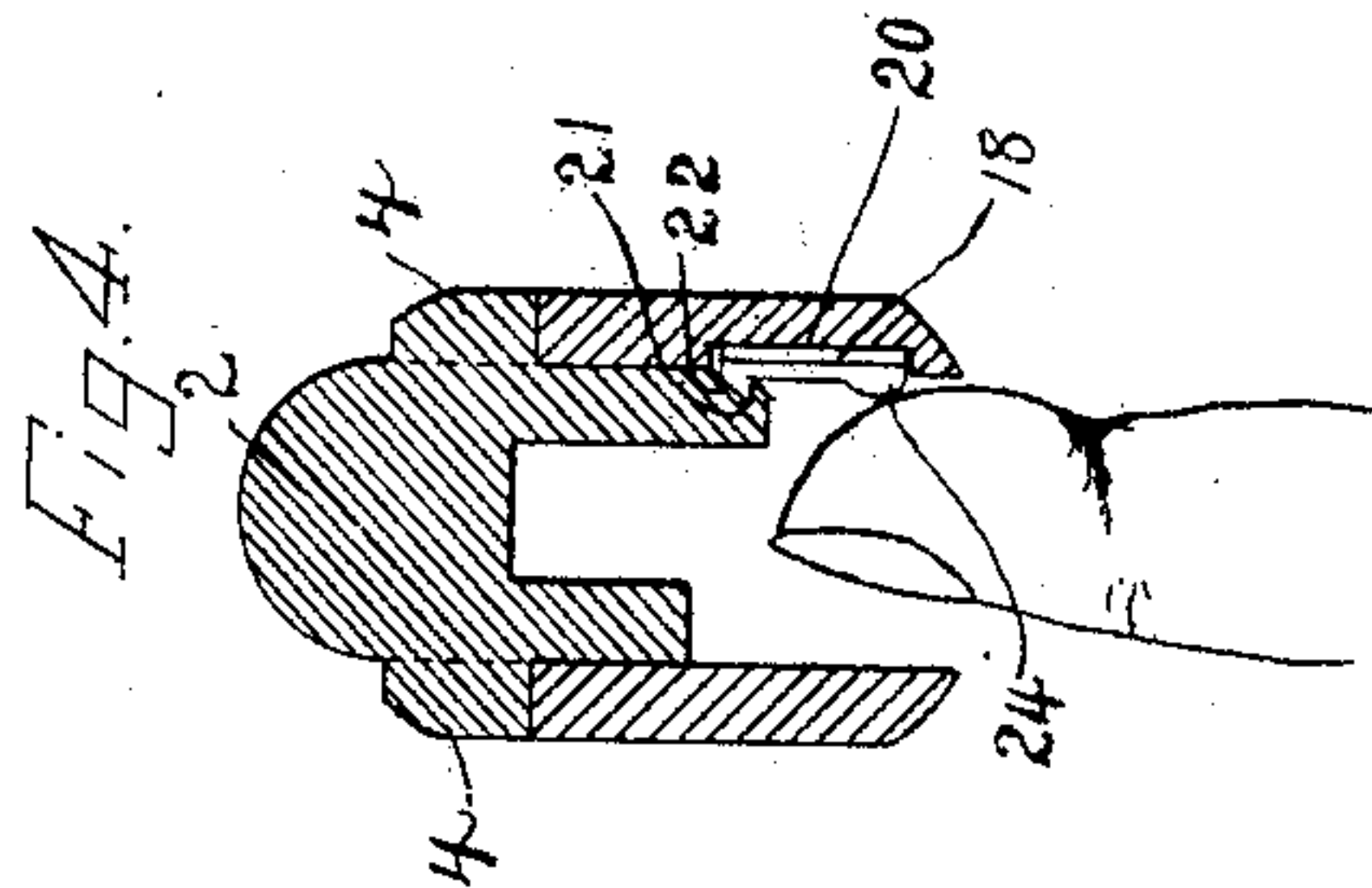


Fig. 4.

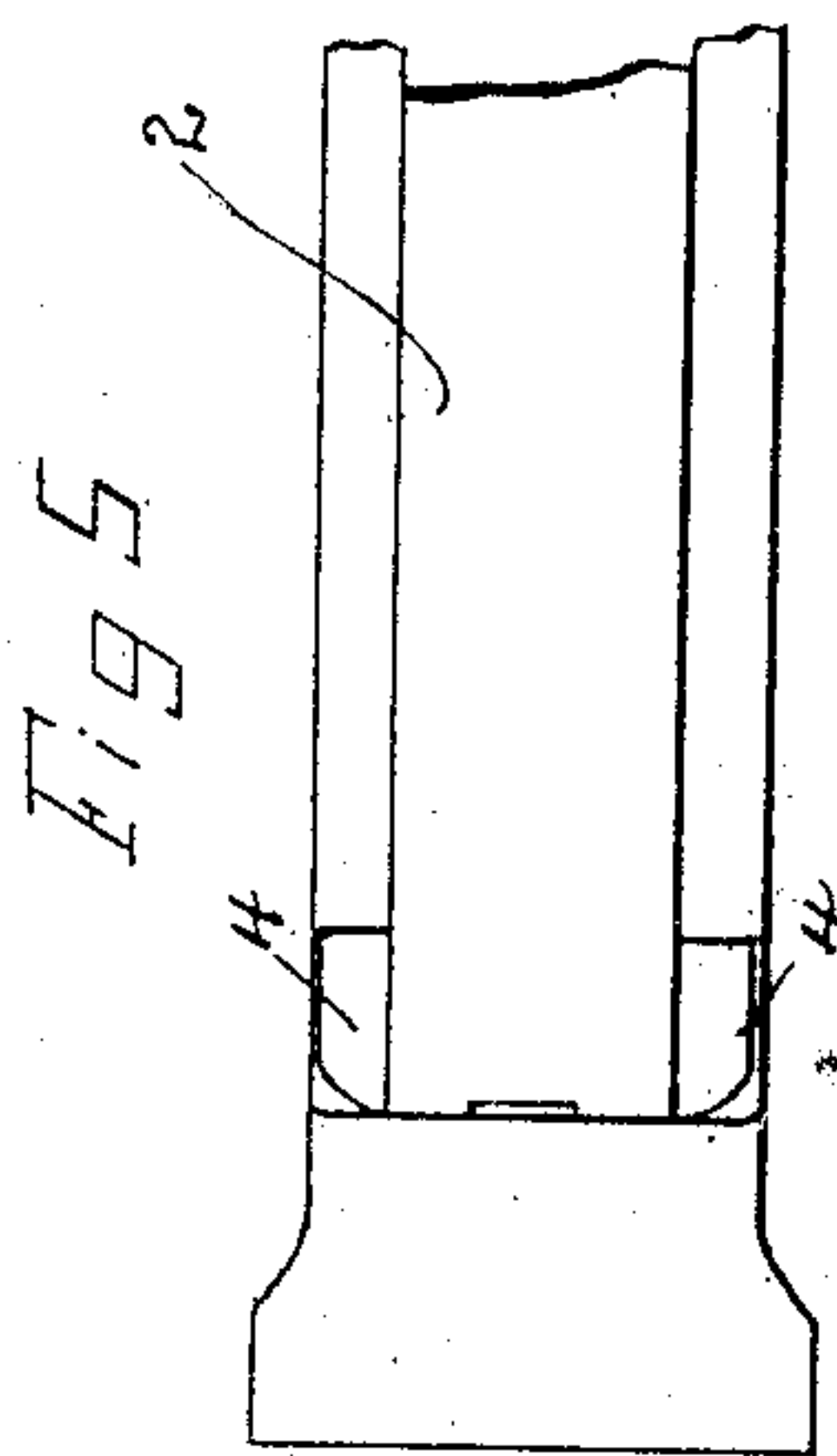


Fig. 5.

Witnesses.
J. F. Shumway.
C. L. Reed.

Thomas C. Johnson
Inventor
by Seymour Pearce
Atty.

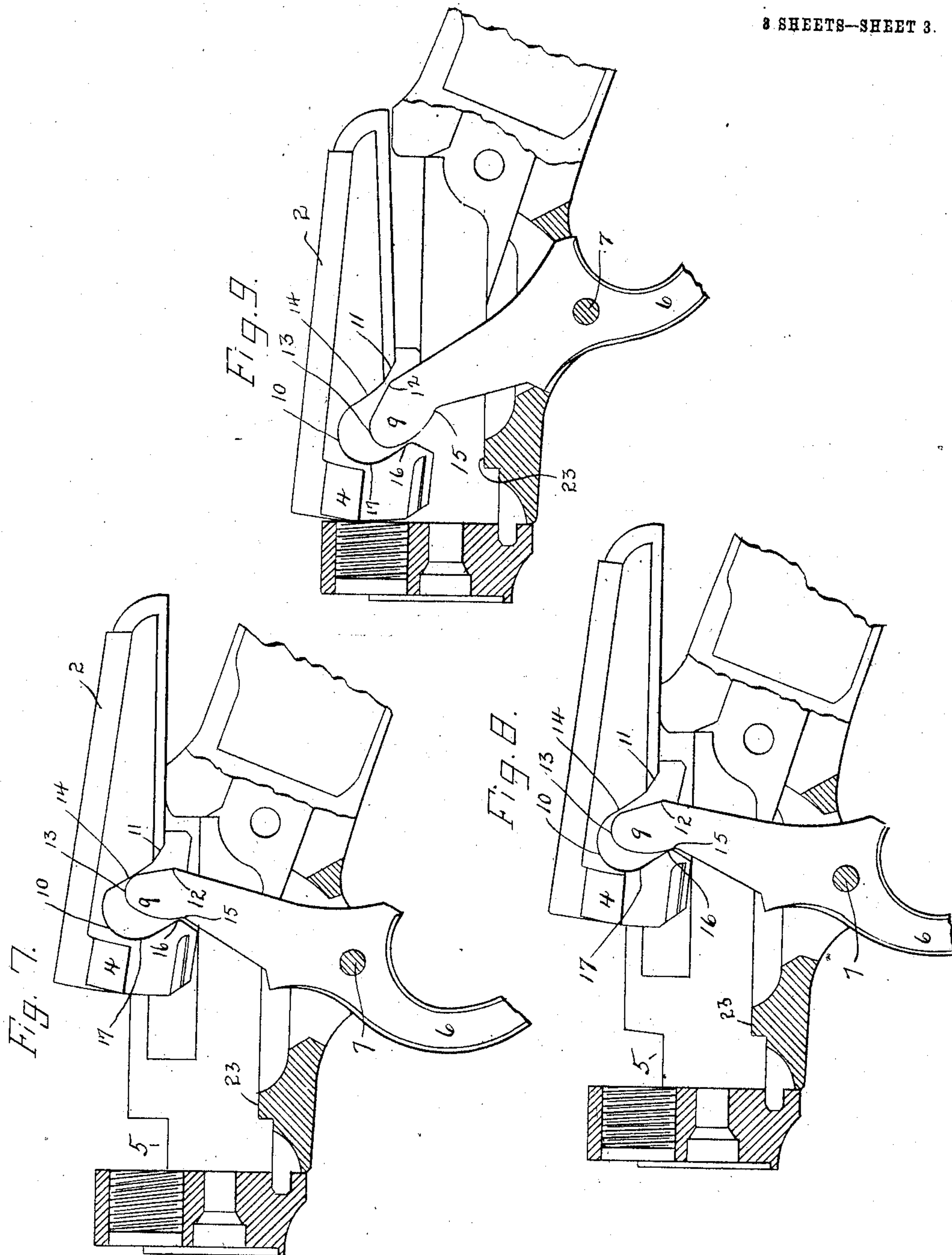
No. 837,072.

PATENTED NOV. 27, 1906.

T. C. JOHNSON.
FIREARM.

APPLICATION FILED APR. 21, 1906.

3 SHEETS—SHEET 3.



Witnesses
J. F. Shumway
C. L. Reed.

Thomas C. Johnson
Inventor
by Seymour Pearce
Attys.

UNITED STATES PATENT OFFICE.

THOMAS C. JOHNSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO
WINCHESTER REPEATING ARMS CO., OF NEW HAVEN, CONNECTI-
CUT, A CORPORATION.

FIREARM.

No. 837,072.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed April 21, 1906. Serial No. 313,010.

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 numerals 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, in left-hand side elevation, of a gun constructed in accordance with my invention shown as closed and stripped of its breech mechanism barring its breech-block and finger-lever; Fig. 2, a broken view of the gun in side elevation as "taken down;" Fig. 3, a broken view, in side elevation, of the receiver shown as taken down and the breech-block as lifted preparatory to its removal; Fig. 4, a view of the receiver in transverse section on the line *a a* of Fig. 2, showing the lateral locking-lugs at the forward end of the breech-block and the operation of the breech-block retainer preparatory to detaching the breech-block from the receiver when the gun is taken down; Fig. 5, a broken plan view showing the breech-block locked into the receiver; Fig. 6, a broken view, in side elevation, showing the breech-block as being elevated by the lever preparatory to its retraction thereby; Fig. 7, a similar view showing the block partly retracted by the lever; Fig. 8, a similar view showing the block partly moved forward by the lever; Fig. 9, a view showing the block moved forward to the limit of its forward extension and partly drawn down into its locked position.

My invention relates to an improvement in that class of firearms in which the breech closure or block has a compound movement—i. e., back and forth and up and down—the object being to provide a simple, convenient, and effective gun constructed with particular reference to increasing the locking-surfaces to the maximum size and to ease and convenience of manufacture.

With these ends in view my invention consists in the construction to be hereinafter described, and pointed out in the claims.

In carrying out my invention as herein shown I employ a breech closure or block 2,

having what is known as a "compound movement," in that it moves not only back and forth in order to open and close the breech, but also up and down in order to be unlocked and locked into the gun frame or receiver 3. For the purpose of locking this block in its closed position it is furnished at its forward end with a pair of laterally-projecting complementary locking-lugs 4, which enter locking-slots 5 in the forward ends of the side walls of the said gun frame or receiver 3, the said slots 5 being cut entirely through the said side walls and the locking-lugs 4 extending outward through the said slots, so as to have their outer faces flush with the outer faces of the said side walls. In this way the locking-surfaces of the gun are made of the maximum size, and I am enabled to use a larger cartridge than it has heretofore been possible to use in a gun of a given size. Heretofore in guns of this kind the locking-slots have not been extended clear through the side walls of the gun-frame, and the locking-lugs on the breech-block have been correspondingly shorter. The size of the cartridge that may be used in a gun depends upon the size of the shoulders available in the gun-frame for taking the recoil. The area of the recoil-shoulders or "locking-shoulders," as they are more often called, depends upon the thickness of the side walls of the frame. If therefore the locking-slots extend only partly through the said walls, the frame must be increased in weight beyond reasonable limits in order to secure shoulders large enough in area to adapt it to take the recoil of heavy cartridges. Under my improvement I avail myself of the full thickness of the frame for the purpose of taking the recoil, and hence keep the weight of the frame down to the minimum and precisely adjusted to the size of the cartridge, whereas in guns of the prior art only a portion of the weight of the frame, so to speak, has been utilized in taking the recoil. Moreover, under my improved construction there is a great gain in ease of manufacture as the frame may be milled directly across by a simple cut from the outside.

As herein shown, though not necessarily, the breech-block is operated by means of a finger-lever 6, hung on a pin 7 in the lower tang 8. The extreme upper end of this lever is bent forward to form a cam-finger 9, which

enters a forwardly-inclined cam-slot 10, formed in the left-hand side wall of the breech-block and having its walls featured or contoured with particular reference to lifting, retracting, projecting, and depressing the block. The several surfaces which coact with the finger 9 to secure this result of necessity merge into each other; but for convenience of description they will be described as though they were clearly differentiated isolated surfaces. Thus the lower rear corner of the slot 10 is beveled to form a lifting-surface 11, which coacts with the cam-finger 9 at about the point 12 thereof to lift the forward end of the block from its locked to its unlocked position, as clearly shown by Fig. 6. The said finger 9 now engages at about the point 13 on its rear edge with the retracting-surface 14 of the slot 10, this surface 14 being swung more into the vertical than the lifting-surface 11, which might be described as more acutely placed with reference to the horizontal than the retracting-surface 14, on which the point 13 may be said to roll, as shown in Fig. 7, during the rearward movement of the breech-block until the same reaches the limit of its rearward excursion. As soon as the finger-lever is operated for moving the breech-block forward the point 15 on the cam-finger 9 engages with the lower forward corner 16 of the slot 10, as shown by Fig. 8, whereby the breech-block is moved forward to the limit of its forward excursion without any downward pull. During the forward movement of the block the convex front edge of the finger 9 rolls, as it were, on the lower wall of the slot 10 into position to exert a downward pull upon the retracting-surface 17, which is located about midway the length of the lower wall of the slot, whereby the bolt is pulled down or depressed into its locked position, its locking-lugs 4 being at this time drawn into the locking-slots 5 of the gun-frame. This cycle is repeated every time the gun is opened and closed. It will thus be seen that the irregular though carefully-plotted forwardly-inclined cam-finger at the upper end of the finger-lever rolls, as it were, directly upon the irregular equally carefully plotted walls of the forwardly-inclined slot in the breech-block to effect the described compound movement thereof without any binding action and without the use of any cam-rollers.

In order to effect the retention of the breech-block 2 in the gun-frame 3 when the gun is taken down, I employ a spring-lock 18, held by a screw 19 in a shallow recess 20 in the inner face of the left-hand side wall of the gun-frame, this spring-lock having at its forward end a locking-tooth 21 to snap into a locking-notch 22 in the outer face of the left-

hand wall of the breech-block, so that when the block is depressed the tooth snaps into the notch and locks the breech-block in its depressed position. When the gun is put together, the lock 18 is retired by being pushed outward, so that its tooth 21 cannot enter the notch 22, by a projection 23 near the forward end of the lower tang 8. When the gun is taken down and the lower tang removed, the spring of the spring-lock asserts itself and throws the tooth 21 into the notch 22. If it is desired to remove the breech-block from the gun-frame, the user inserts his finger up through the open bottom of the same and pushes the spring-lock 18 back and at the same time lifts the breech-block, the spring-lock being provided for this purpose with a projecting cam-surface 24, which is also engaged by the projection 23 of the tang when the gun is assembled, as already described.

I claim—

1. In a firearm, the combination with a gun-frame having locking-slots cut clear through the forward ends of its side walls, of a compound-movement breech-block provided at its forward end with complementary locking-lugs extending through the said slot, whereby the full thickness of the side walls of the frame is made available for the taking of the shock of recoil, and the employment of a frame of the maximum lightness made possible.

2. In a firearm, the combination with a gun-frame, of a compound-movement breech-block provided with a forwardly-inclined slot, and a finger-lever having at its upper end a cam-finger, the surfaces of the finger and slot being irregular in shape but adapted to roll upon each other to effect the lifting, retraction, forward projection and depression of the bolt in the order specified, whereby the block is directly operated by the finger-lever without binding.

3. In a take-down gun, the combination with a gun-frame having a recess in the inner face of one of its side walls, of a spring-lock located in the said recess, a compound-movement breech-block adapted to be engaged, when in its closed position, by the said spring-lock, and means for retiring the said lock when the gun is put together, the said lock being adapted to be manually operated for releasing the block when the gun is taken down.

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

THOMAS C. JOHNSON.

Witnesses:

ARTHUR W. EARLE,
HERBERT F. BEEBE.