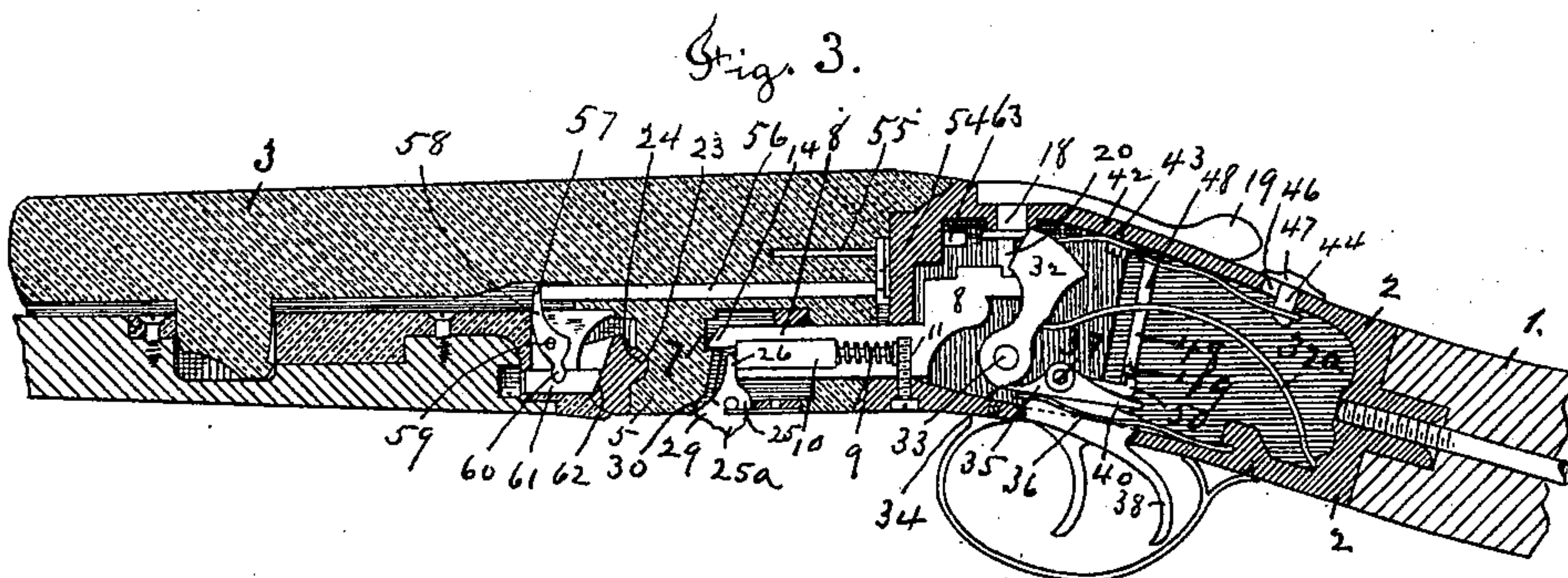
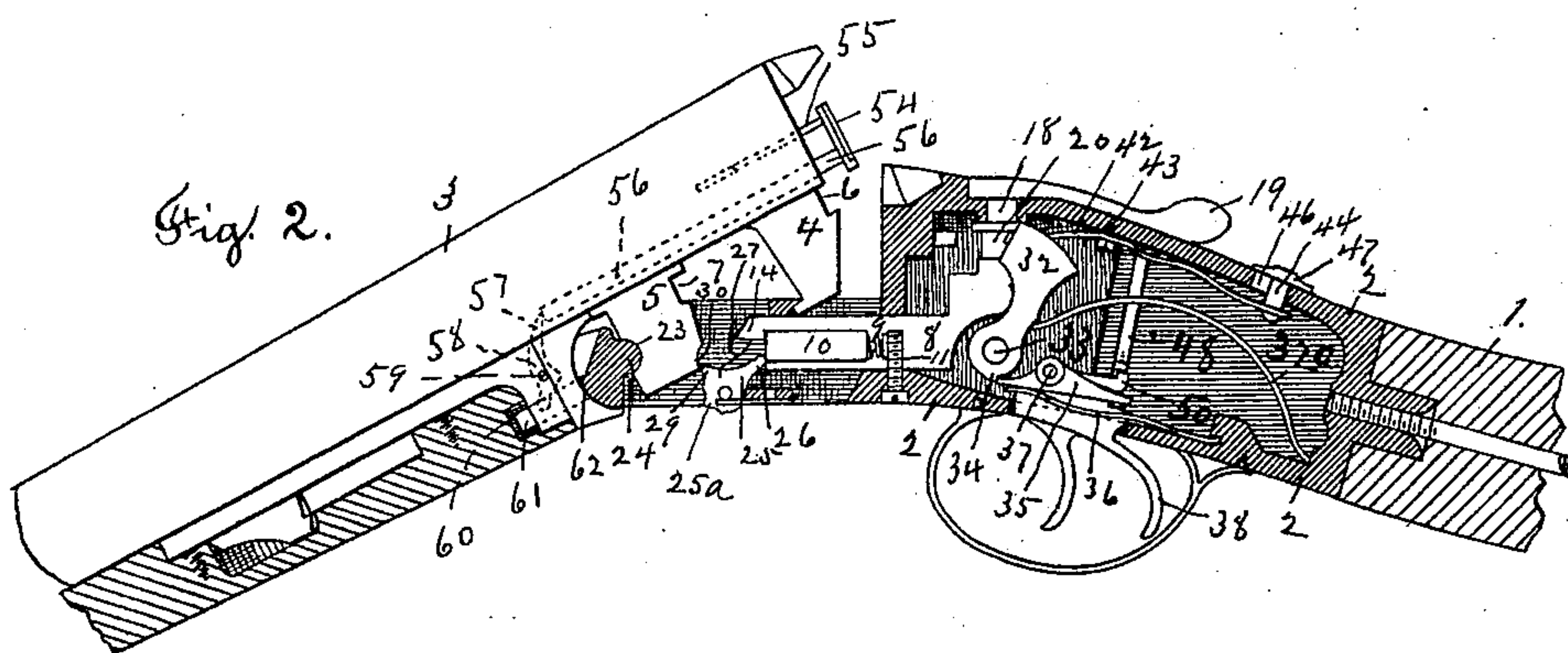
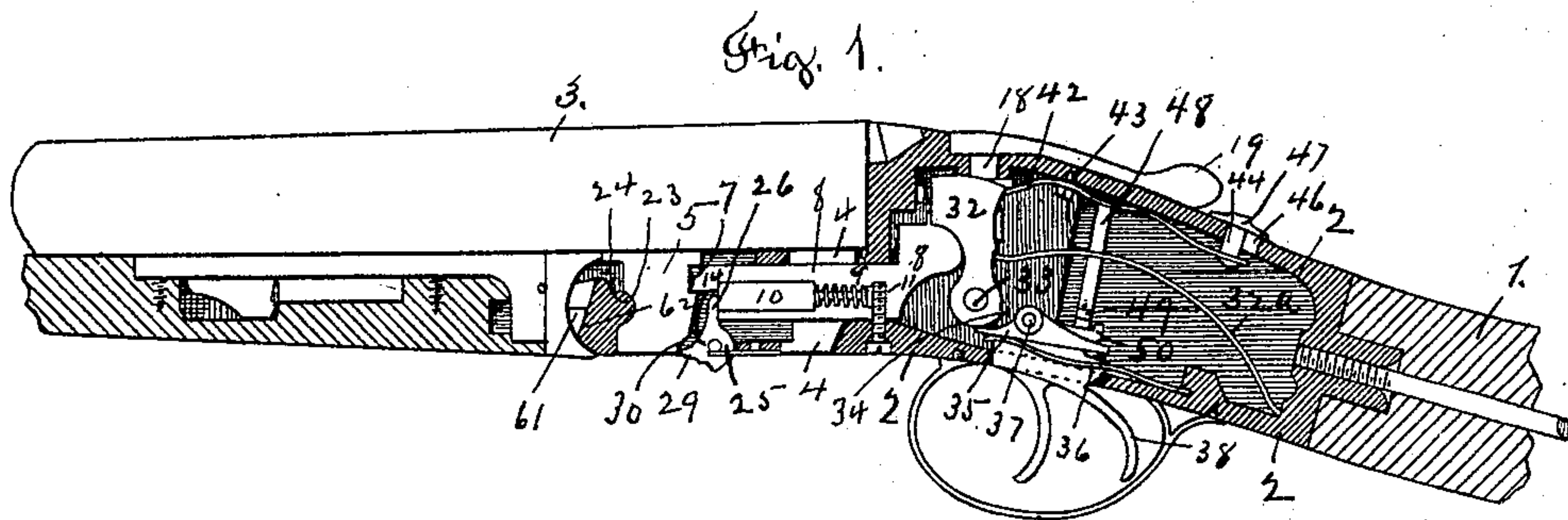


A. FYRBERG.
BREAKDOWN FIREARM.

No. 574,409.

Patented Jan. 5, 1897.



Witnesses
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Inventor
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By his Attorney
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(No Model.)

2 Sheets—Sheet 2.

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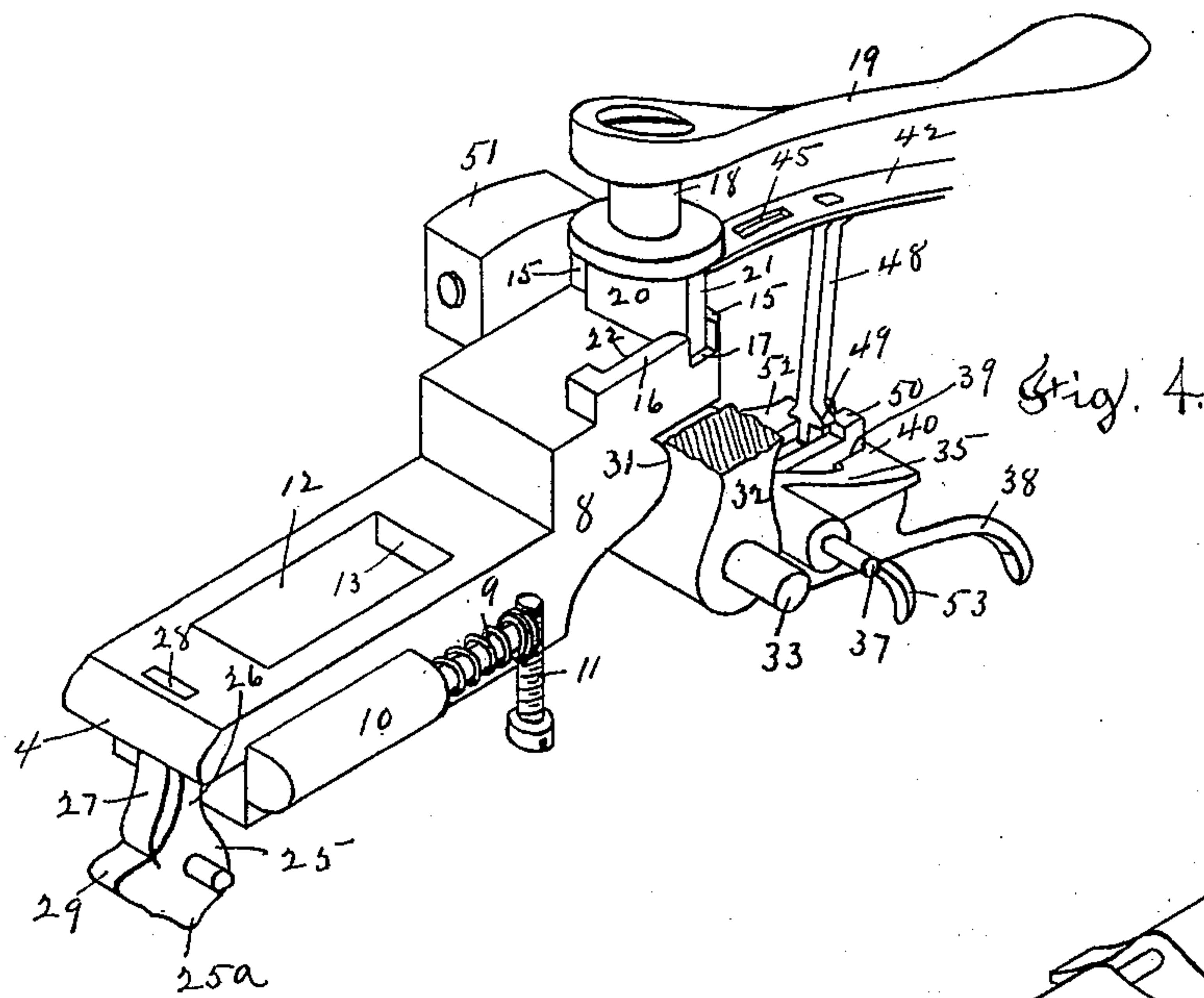


Fig. 5

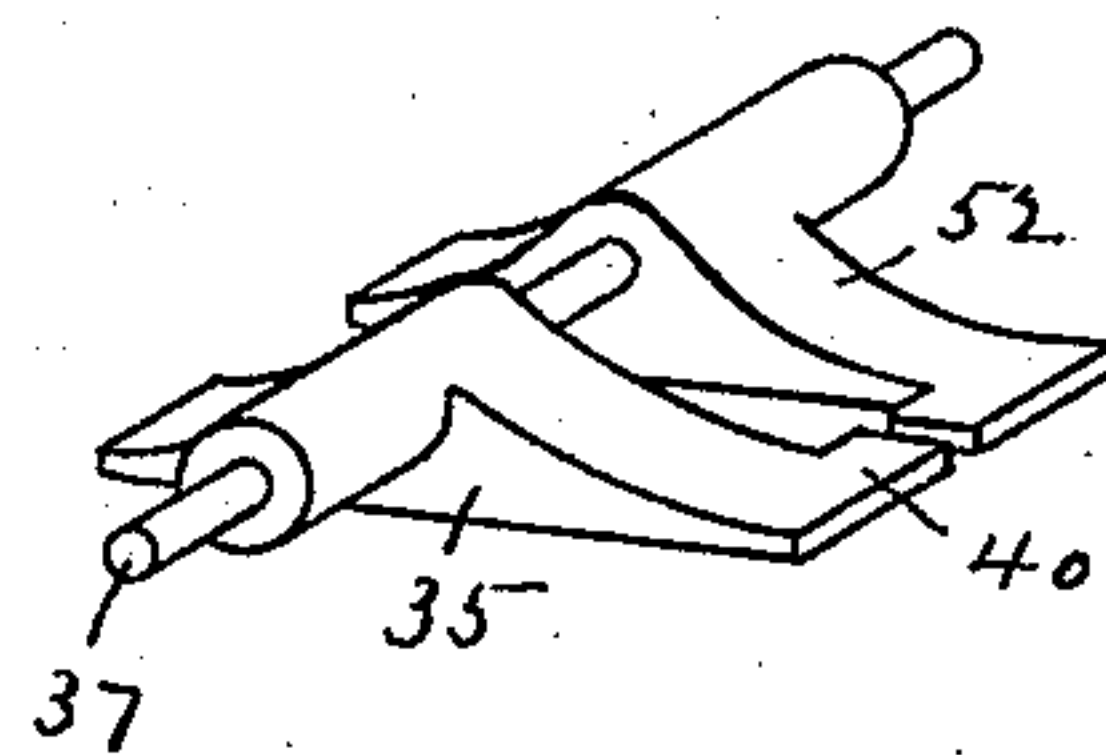
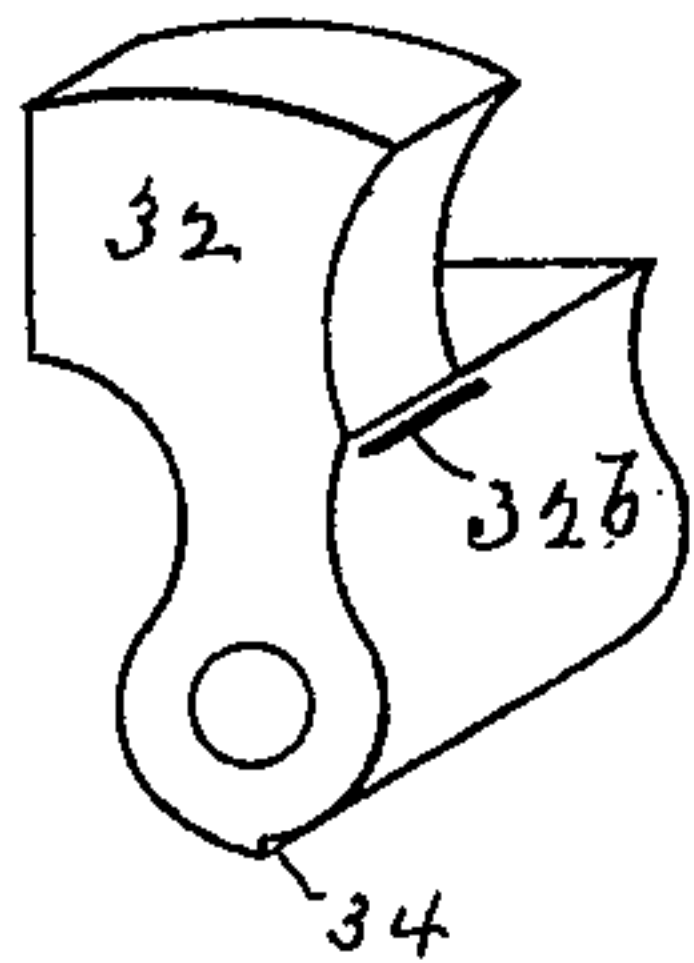


Fig. 6.

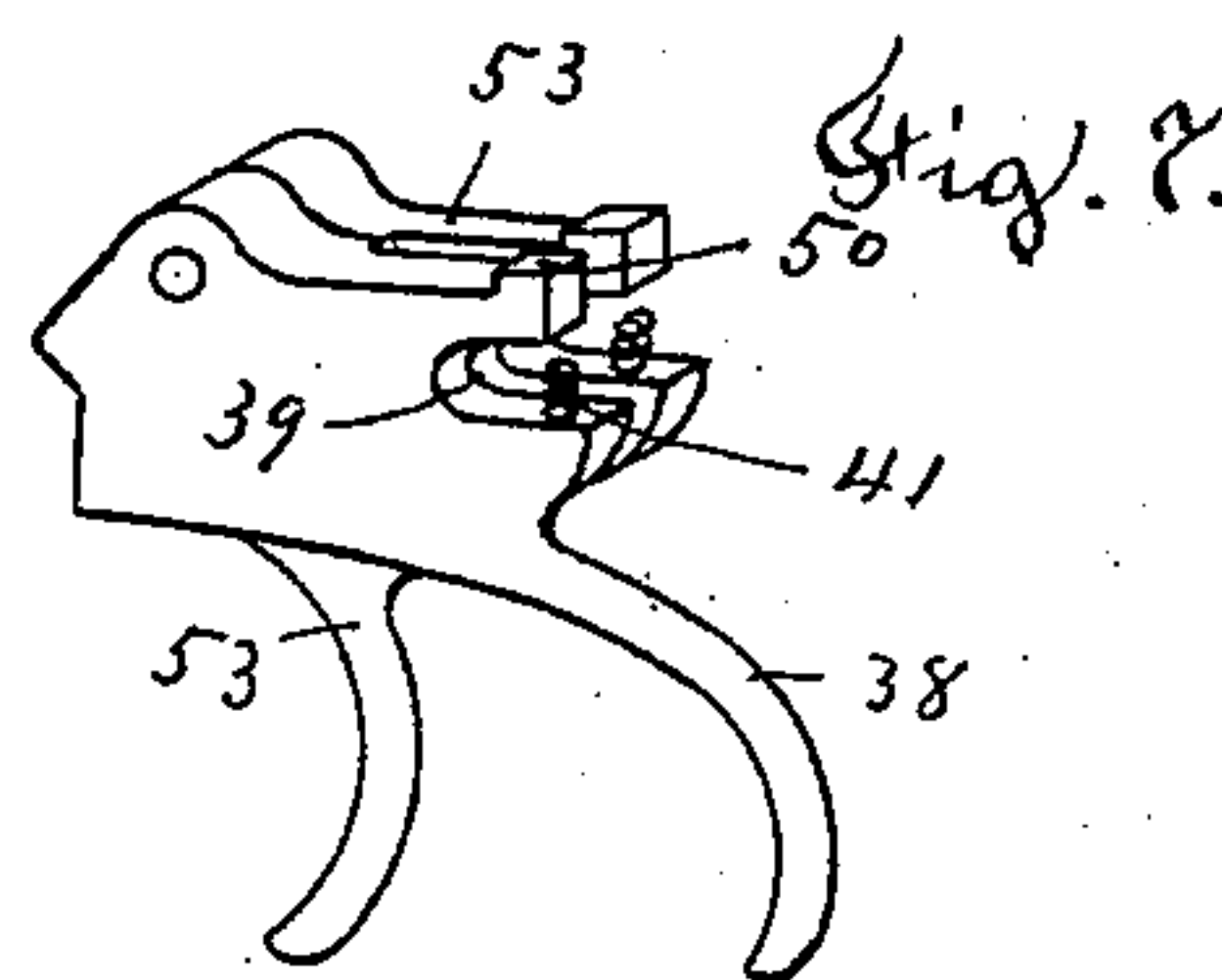


Fig. 7.

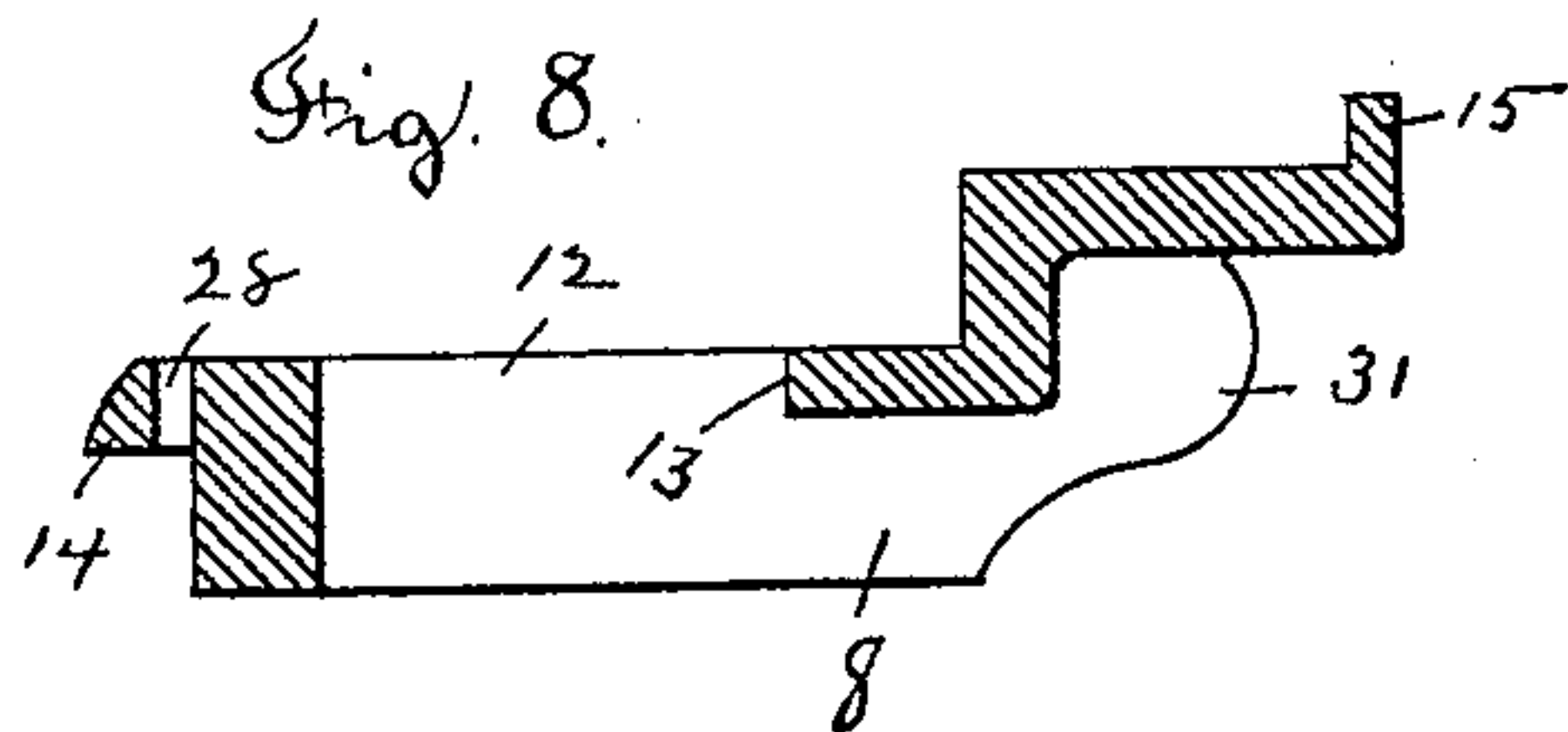


Fig. 8.

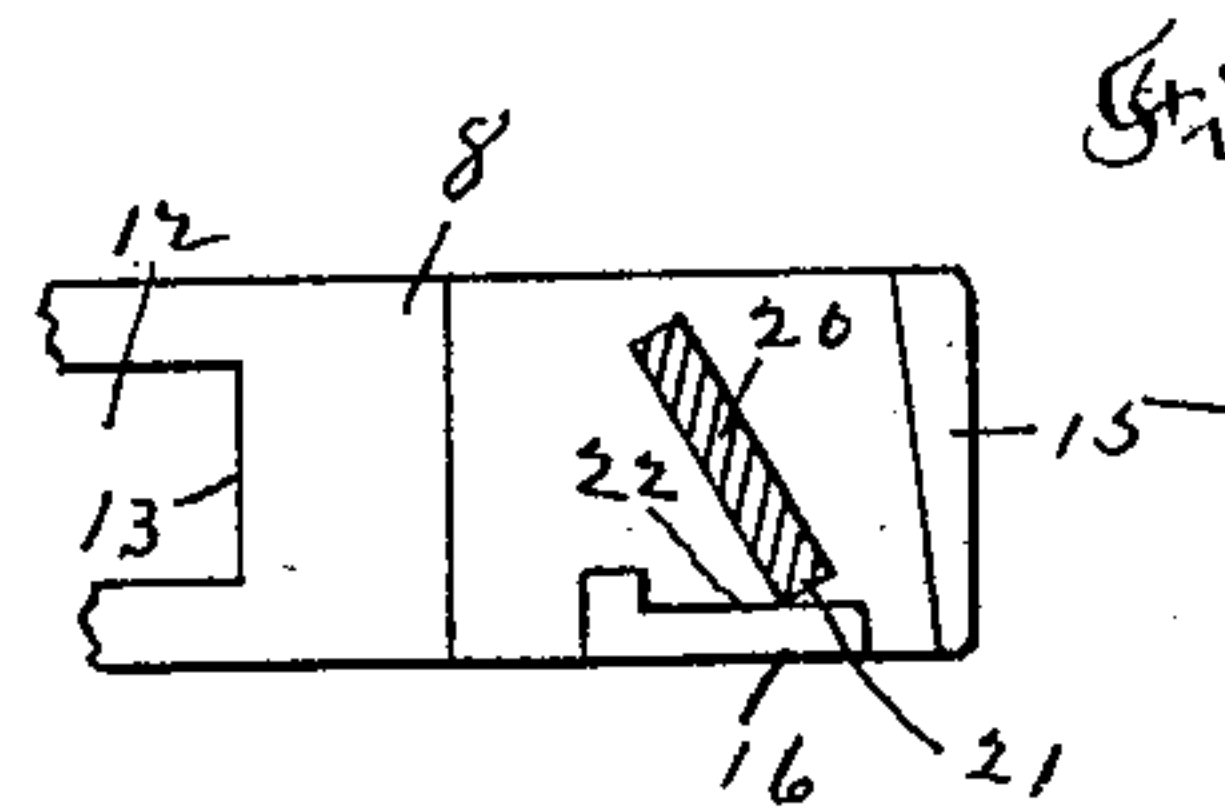


Fig. 9.

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UNITED STATES PATENT OFFICE.

ANDREW FYRBERG, OF WORCESTER, MASSACHUSETTS.

BREAKDOWN FIREARM.

SPECIFICATION forming part of Letters Patent No. 574,409, dated January 5, 1897.

Application filed May 13, 1895. Serial No. 549,180. (No model.)

To all whom it may concern:

Be it known that I, ANDREW FYRBERG, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Firearms, of which the following is a specification, reference being had to the accompanying drawings, forming a part of the same and representing my invention as applied to a double-barreled gun.

In the drawings, Figure 1 represents a side view of so much of a firearm as is necessary to illustrate my present invention, the framework of the lock and so much of the stock as represented in said figure being shown in sectional view in order to disclose the mechanism of the lock and the latching mechanism by which the barrels are held in position. In Fig. 1 the barrels are represented as locked in position for firing by the latching mechanism and the hammer in its normal position. Fig. 2 represents the same view as that shown in Fig. 1, but with the latching mechanism withdrawn in order to release the barrels, which are shown in a tipped position and with the hammer raised in position for firing. Fig. 3 represents a vertical central sectional view taken between the two barrels of the firearm in order to disclose mechanism for removing the cartridge-shells from the barrels, with the hammer in position for firing, but with the triggers locked to prevent the accidental release of the hammer. Fig. 4 represents the sliding latch by which the barrels are locked in position and the lock mechanism shown in perspective view, one of the hammers being broken away in order to disclose the oscillating blade by which the barrel-latch is withdrawn. Fig. 5 is a perspective view of one of the hammers. Fig. 6 is a perspective view of the two sears by which the hammers are held at full-cock. Fig. 7 is a perspective view of the triggers. Fig. 8 is a longitudinal sectional view, shown in central vertical section, of the sliding latch by which the barrels are locked in position; and Fig. 9 represents a top view of a portion of the sliding latch, with the oscillating blade by which the latch is withdrawn shown in sectional view.

Similar figures of reference refer to like parts in the different views.

My present invention relates to the lock mechanism, to the latching mechanism by which the barrels are held in position for firing, and to the mechanism for withdrawing the cartridge-shells from the barrels; and it consists in the several features of construction and arrangement of parts, as hereinafter described, and specifically pointed out in the annexed claims.

Referring to the drawings, 1 denotes a portion of the gun-stock, 2 the metal frame inclosing the lock mechanism, and 3 the barrels, represented in Figs. 1 and 3 in position for firing and in Fig. 2 as tipped, or with the rear ends of the barrels raised to allow the cartridge-shells to be removed and the gun to be reloaded.

Projecting downward from the under side of the barrels are lugs 4 and 5, provided with notches 6 and 7, which are engaged by the sliding latch-plate 8 when the barrels are in position for firing, as shown in Figs. 1 and 3.

The latch-plate 8 slides in ways formed in the frame 2 and is pushed forward by a spiral spring 9, having one end inclosed in a barrel 10 at the side of the latch-plate and its opposite end bearing against a fixed screw 11, held in frame 2. The latch-plate 8 is provided with a mortise 12 to receive the lug 4, and when the latch-plate is moved by the action of the spiral spring 9 the rear wall 13 of the mortise is carried into the notch 6 and the forward end 14 into the notch 7, thereby locking the barrels in position. The rear end of the sliding latch-plate 8 is provided on its upper surface with a transverse rib 15 and a longitudinal rib 16, with a notch 17 between the transverse rib and the end of the longitudinal rib.

Journaled in the frame 2 is a spindle 18, having a lever-handle 19 attached to its upper end and a flat blade 20 formed upon the lower end of the spindle and extending downward in front of the transverse rib 15 on the sliding latch-plate 8, with the edge 21 extending into the notch 17 between the ribs 15 and 16.

In order to release the barrels and allow them to be raised into the position shown in Fig. 2, an oscillating motion is given to the blade 20 by means of the lever-handle 19, carrying the edge 21 against the transverse rib

15, thereby moving the latch-plate back against the tension of the spiral spring 9 a sufficient distance to withdraw the latch-plate from the notches 6 and 7, allowing the barrel 5 to be tipped from the position shown in Fig. 1 to that shown in Fig. 2.

The oscillating movement of the blade 20, as actuated by the lever-handle 19, is just sufficient to withdraw the latch-plate 8 from 10 the notches 6 and 7 and also to bring the edge 21 of the blade within the line of the inner edge 22 of the longitudinal rib.

The lug 5 is provided upon its front edge with a semicircular recess 23 to receive a 15 semicylindrical projection 24, formed in the frame 2, about which the barrels are rocked when tipped from the position shown in Fig. 1 to that shown in Fig. 2.

The tipping motion of the barrels is made 20 to actuate the lock mechanism for the purpose of cocking the hammers as follows: Pivoted on the frame 2 is a rocking plate 25, having an arm 26 bearing against the forward end of the sliding latch-plate 8. Attached to 25 the plate 25 is a blade-spring 27, which extends upward and enters a mortise 28 in the latch-plate 8. The rocking plate 25 is provided with a projecting corner 29, extending toward the corner of the lug 5, which is provided with a hook 30. When the sliding 30 latch-plate 8 is moved by the oscillating motion of the blade 20 far enough to withdraw the latch-plate from the notches 6 and 7, the plate 25 will be rocked upon its pivot by 35 means of the connecting blade-spring 27 engaging the sliding plate, so as to raise the corner 29 and bring it within the path of the hook 30 as the barrels are tipped into the position shown in Fig. 2, causing the hook 30 to 40 engage the corner 29 of the rocking plate and rotate it about its pivot, as shown in Fig. 2. The rotation of the plate 25 by means of the lug 5 will carry the arm 26 against the end of the sliding latch-plate 8, pushing the latch- 45 plate 8 rearward, and carry the longitudinal rib 16 past the edge 21 of the oscillating blade 20, with the edge 22 bearing against the edge 21, thereby locking the blade 20 and lever-handle 19.

50 The sliding latch-plate 8 is provided with a shoulder 31, which is carried against an offset of the hammer 32 as the latch-plate 8 is moved back by the rocking motion of the plate 25, already described, rocking the hammer 32 about the pin 33, held in the frame 2, 55 and carrying the hammer from the position shown in Fig. 1 to that shown in Fig. 2.

The hammer 33 is provided with a notch 34, which is engaged by a sear 35, which is held 60 against the hammer by a sear-spring 36. The sear 35 is pivoted upon the pin 37, held in the frame 2, and upon the same pin is pivoted a trigger 38, provided with a notch 39 to receive the rear end 40 of the sear, which projects at 65 right angles to the body of the sear to enter between the upper and lower walls of the

notch 39. The notch 39 is wide enough to allow a slight rocking movement of the sear to permit it to engage the notch 34 as the hammer 32 is raised, and a small spiral spring 41 70 is inserted between the rear end 40 of the sear and the lower wall of the notch 39, in order to press the trigger downward and hold the upper wall of the notch 39 in contact with the sear and prevent the rattling of the trigger. 75

When the latch-plate is withdrawn from engagement with the notches 6 and 7, so as to release the barrels, it locks the trigger 38 against rocking movement, which would release the sear 35 and allow the gun to be accidentally 80 fired by means of a safety-latch, which consists of a plate 42, held to slide against the inner side of the frame 2 by means of a screw 43 and stud 44. The screw 43 passes through a slot 45, Fig. 4, in the plate 42 and enters 85 the frame 2, and the stud 44 is attached to the plate 42 and passes through a slot 46 in the frame 42 and terminates in a thumb-piece 47. The forward end of the plate 42 rests against the side of the oscillating blade 20, so 90 that when the blade 20 is rocked by means of the lever-handle 19, so as to withdraw the latch-plate 8 from the notches 6 and 7, as already described, the plate 42 will be pushed back. Attached to the plate 42 is a post 48, 95 which extends downward from the plate and is provided on each side with a shoulder 49. The trigger 38 is provided with a raised lug 50, and as the plate 42 and post 48 are pushed back by the oscillation of the blade 20 the 100 shoulder 49 is brought over the lug 50, so as to lock the trigger against rocking movement, which would raise the rear end of the sear and release the hammer, causing the trigger to be securely locked and preventing the discharge of the firearm until the plate 42 and 105 post 48 have been pushed forward by means of the thumb-piece 47, carrying the shoulder 49 off the lug 50 and releasing the trigger. The hammer 32 is actuated by a hammer- 110 spring 32^a, consisting of a bent blade-spring having one end bearing against the frame 2 and the opposite end entering the slit 32^b, Fig. 5, in the rear side of the hammer.

I have described the operation of unlocking 115 the barrels, cocking the hammer, and locking the trigger with reference to the lock mechanism connected with one of the barrels only, but the lock mechanism connected with the other barrel, comprising the hammer 51, sear 120 52, and trigger 53, are duplicates of those already described. The rocking plate 25 projects at 25^a below the frame to enable it to be held from rotation when the latch-plate 8 is withdrawn by the oscillating movement of the 125 blade 20, thereby preventing the corner 29 from being raised and carried into the path of the hook 30, and when the plate 25 is so held the spring 27 yields to allow the latch-plate 8 to be withdrawn. 130

The object of holding the plate 25 against rotation, as above described, is for the pur-

pose of allowing the barrels to be tipped into the position shown in Fig. 2 without causing the hammer to be raised.

Referring to Figs. 2 and 3, 54 denotes a curved and flanged plate adapted to engage the flange of the cartridge-shell and withdraw the cartridge when the plate 54 is raised in the position shown in Fig. 2. The plate 54 is attached to sliding pins 55 and 56, and the construction and operation of this part of the mechanism are in common use and well known and therefore require no detailed illustration. The forward end of the sliding pin 56 is engaged by an arm 57 of a lever 58, pivoted at 59 and having an arm 60 entering a notch in a sliding pin 61, having its rear end bearing against a cam-surface 62, formed on the frame 2, so that when the barrels are rocked from the position shown in Fig. 3 to that shown in Fig. 2 the sliding pin 61 will be carried over the cam-surface 62, causing it to be pushed forward, thereby imparting a rocking movement to the lever 58 and causing the sliding pin 56 and connected plate 54 to be pushed back, carrying the plate 54 from the position shown in Fig. 3 to that shown in Fig. 2, and by the engagement of the plate 54 with the flange of the cartridge-shell causing the shell to be withdrawn from the barrel in the usual and well-known manner.

When the hammers are released in the operation of firing the gun, they are carried against firing-pins of the usual and well-known form of construction by the tension of the hammer-springs, the firing-pin for the hammer 32 being represented at 63.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with the frame of a fire-arm, of a barrel, a notched lug projecting from said barrel, a sliding latch-plate held in said frame, a spring by which said latch-plate is carried into engagement with said notched lug, a transverse rib on said latch-plate, an oscillating blade pivoted in said frame and acting against said rib to withdraw said latch to release the barrel and means for locking said oscillating blade against movement when said latch-plate is withdrawn, substantially as described.

2. The combination with the frame of a fire-arm, of a barrel, a notched lug projecting from said barrel, a sliding latch-plate held in said frame, a spring by which said latch-plate is carried into engagement with said notched lug, a transverse rib on said latch-plate, an oscillating blade pivoted in said

frame and acting against said transverse rib, to withdraw said latch-plate, to release the barrel and a longitudinal rib on said latch-plate adapted to be brought against said blade and hold the same against reverse movement, substantially as described.

3. The combination with the frame of a fire-arm of a barrel, a notched lug projecting from said barrel, a sliding latch-plate held in said frame, a spring by which said latch-plate is carried into engagement with said notched lug, means for withdrawing said latch-plate, a rocking plate pivoted on said frame, a yielding connection between said rocking plate and said sliding latch-plate, by which said rocking plate is rocked to bring it into the path of a hooked lug on said barrel, whereby said rocking plate can be held from engagement with said hooked lug, a hooked lug projecting from said barrel arranged to engage said rocking plate, when said barrel is raised, and an arm on said rocking plate bearing against said sliding latch-plate, substantially as described.

4. The combination with the frame of a fire-arm, of a barrel, a lug projecting from said barrel and provided with a hooked end, a rocking plate arranged to be engaged by said hooked lug as the barrel is tipped, an arm projecting from said rocking plate, a sliding plate held in said frame and in contact with said arm, a shoulder on said sliding plate adapted to strike a pivoted hammer, a pivoted hammer, a hammer-spring, and means for locking said hammer when raised by said sliding plate, and a yielding connection between said rocking plate and said sliding plate by which the movement of said sliding plate will bring said rocking plate into engagement with said hooked lug, substantially as described.

5. The combination with the frame, of a fire-arm provided with a fixed cam-surface, as at 62, of a barrel capable of being tipped, a sliding pin 61 carried by the barrel, with its end in contact with said fixed cam-surface, a pivoted lever 58 having an arm 60 engaged by said sliding pin, and an arm 57 bearing against a sliding pin 56, a sliding pin 56 and a plate 54 adapted to engage the flanged head of a cartridge-shell, substantially as described.

Dated this 9th day of May, 1895.

ANDREW FYRBERG.

Witnesses:

GUSTAF FYRBERG,
RUFUS B. FOWLER.