

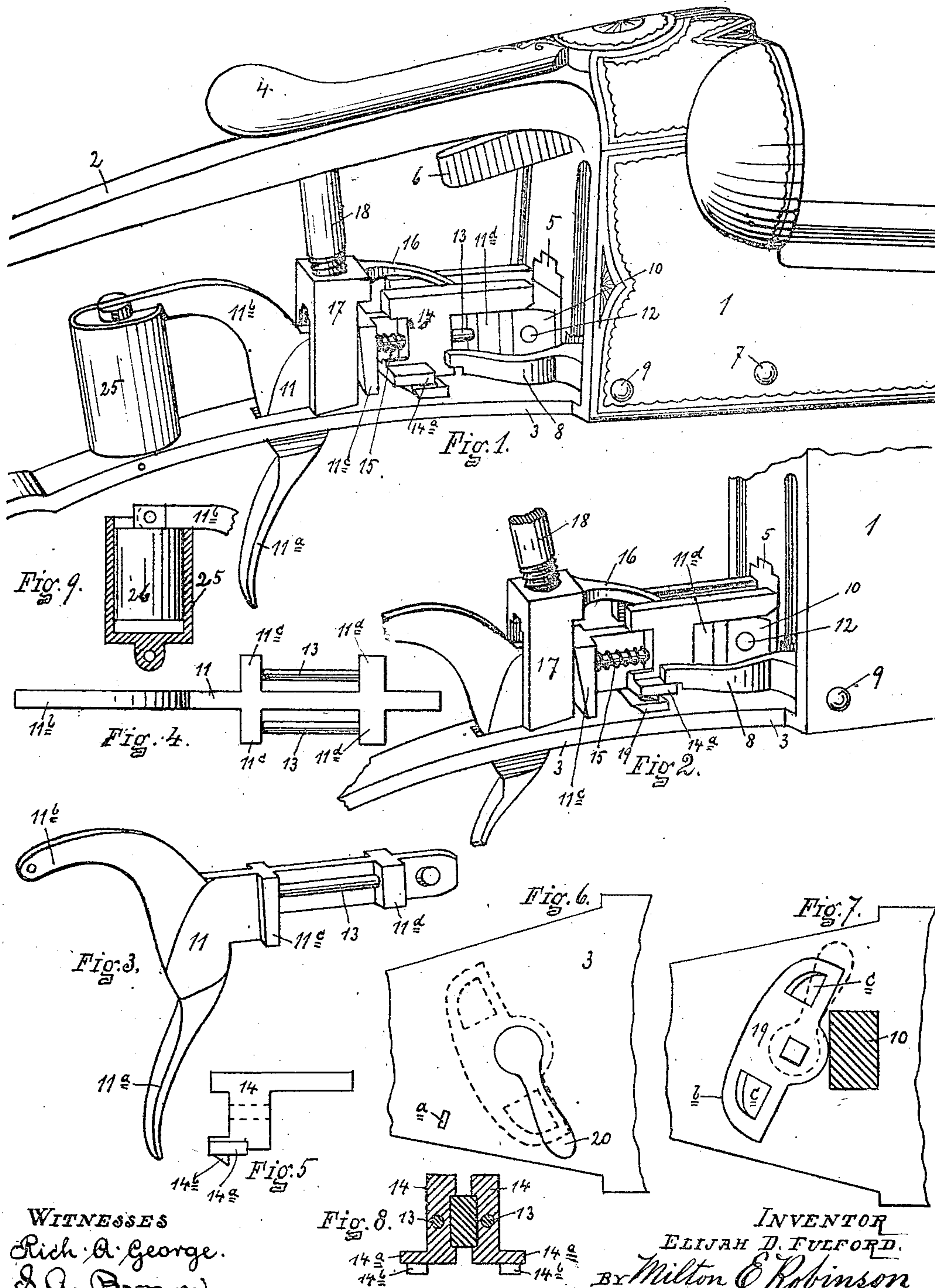
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E. D. FULFORD.
SINGLE TRIGGER MECHANISM FOR FIREARMS.

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NO MODEL.



WITNESSES
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SINGLE-TRIGGER MECHANISM FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 749,687, dated January 12, 1904.

Application filed April 16, 1902. Serial No. 103,118. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH D. FULFORD, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Single-Trigger Mechanisms for Firearms; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 letters of reference marked thereon, which form part of this specification.

The object of my invention is to provide a single-trigger mechanism for firearms which is simple and compact in its construction, adapted for introduction into arms not previously constructed particularly for its use, and which is effective particularly in overcoming the involuntary-pull difficulties.

In the drawings, Figure 1 shows a perspective view of the frame portion of a firearm including my single-trigger mechanism. The parts shown in this figure are in the set position, ready for firing and set to fire the left-hand barrel of the double-barreled arm first. Fig. 2 shows a perspective view similar to Fig. 1 after firing the left-hand barrel and ready to fire the right-hand barrel of the arm. After both barrels are fired the position of parts is hardly perceptibly different from that shown in this figure. Fig. 3 shows in perspective the trigger-piece. Fig. 4 shows a plan view of the same. Fig. 5 shows in side elevation the right-hand movable catch. Fig. 6 shows a bottom view of a portion of the trigger-plate with the shifting-lever mounted thereon. Fig. 7 shows a plan view of the trigger-plate with the shifting mechanism mounted thereon. Fig. 8 shows a cross-section through the trigger part and sliding catches. Fig. 9 shows a section of the cushioning mechanism.

Referring to the reference letters and figures in a more particular description of the device, 1 indicates the usual frame of a double-barrel gun provided with the upper tang 2 and the separable trigger-plate 3 in the form and nature of an under tang. There is also

provided the usual top lever 4, which operates the bolt 5, locking the barrels in closed position, and which top lever 4 and the bolt 5 are operated by the spring 6 in returning to their normal positions. The hammers are of the ordinary inclosed form, pivoted on a transverse pin 7 in the frame. With the hammers engage the sears 8, which are pivoted on transverse pin 9 in the usual manner. There is provided on the trigger-plate 3, adjacent to the rear wall of the frame, a post 10, in which the trigger part 11 is pivoted at 12. The trigger part 11 is provided with a finger portion 11^a, the regulating-arm 11^b, and transversely outwardly projecting portions 11^c and 11^d, between which there is arranged and supported a bar 13. Mounted to slide on the bar 13 and also supported in part on the top of the trigger part is a sliding catch 14, having particularly the sear-catch shoulder 14^a. The spiral spring 15 is provided interposed between the rear wall of the part 14 and the shoulder portion 11^c of the trigger part and tensioned to force the catch part 14 forward. The shoulder 14^a is adapted to engage with the sear 8. Similar catches and mechanism are provided on each side of the trigger part. The trigger-spring 16 is supported on the upper end of the post 17, which post is mounted on the trigger-plate, is recessed to receive the trigger part, and receives at its upper end also the usual upper tang-screw 18. The forward end of the spring 16 rests on the top of the trigger part quite close to the pivot 12. On the under side of each of the movable catch parts 14 there is provided the tooth 14^b. This tooth is adapted to engage when the trigger is in its lower position with the rear wall of the swinging shifter-plate 19, mounted on the trigger-plate. The shifter-plate 19 is mounted on a pivot passing through the trigger-plate, and the same is provided on the under side with a lever-handle 20, whereby the same is operated, and which lever-handle has a catch on its upper side adapted to engage in one of two holes or indentations in the under side of the trigger-plate, one of which is indicated by *a* in Fig. 6. When the shifter-plate 19 is in the position shown in Fig. 7, the point

at which the tooth 14^b would engage therewith is indicated by *b*. There are also provided in the shifter-plate 19 openings *c*. The opening *c* receives the tooth 14^b when the trigger part is in its lower position and after the catch has been released from the point *b*. The rear side of the opening *c* is inclined to cooperate with the rear inclined side of the tooth 14^b in resetting the parts.

It will be understood that only one end of the shifter-plate 19 is in operation at a time, the other end swinging out of position, so as to not engage with the tooth 14^b of the catch on that side of the firearm.

Mounted on the trigger-plate 3 to the rear of the trigger is a cylinder 25, which receives a plunger 26, fitting the cylinder somewhat loosely and allowing the passage of the air between the surface of the plunger and the interior wall of the cylinder to some extent, which clearance is regulated, as hereinafter mentioned. The plunger 26 is attached to the arm 11^b of the trigger part.

In order to get at the load in the gun or to load the same, it has to be broken down in the usual manner of this class of guns, and to do this the top lever 4 must be operated. In operating this lever the locking-bolt 5 moves to the rear and engages with the forward ends of both of the catch-pieces 14, moving them to the rear. When moved to the rear, one or the other of the catch-pieces 14 is caught on the rear side of the shifter-plate 19, while the other catch-piece 14 moves forward when the bolt 5 is retracted. The catch part that moves forward at this time brings its shoulders 14^a under the rear end of its sear, and when the trigger is operated the said sear is operated and the charge of the barrel connected with this firing mechanism is exploded. As shown in Fig. 1 of the drawings, this would occur with the left-hand barrel. When the trigger part 11 is moved to its upper position in the first operation, the tooth 14^b is carried upward until it becomes released from the point *b* on the rear side of the shifter-plate 19, and the catch part 14 is then impelled forward by the spring 15 until the catch-shoulder 14^a engages with the rear end of the sear 8, where it is temporarily stopped. The trigger is prevented from instantly returning to its lower position under the influence of the spring 16 by the cushioning effect of the cylinder 25 and the piston 26. The speed with which the trigger will return to its lower or starting position under the influence of the spring 16 is regulated by the fit of the piston 26 in the cylinder. Of course an opening might be provided in the cylinder 25 below the piston to allow the passage of the air into and out of the cylinder and the movement regulated in this manner; but I prefer the way first suggested. When the involuntary pull on the trigger occurs, it takes place immediately following the discharge of the first barrel and, in case of this firing mechanism

at the time that the shoulder 14^a is abutting against the rear end of the sear. There may be a slight movement of the trigger at this time; but the extent of the walls at the end of the sear and on the shoulder 14^a are sufficient to take care of any play of the trigger at this time which the regulating mechanism will permit. When released and after the involuntary pull, the trigger part 11 returns to lower position, the tooth 14^b passing into the opening *c* in the shifter-plate, and when the shoulder 14^a passes below the plane of the shoulder on the sear the catch part moves forward, so as to engage the shoulder 14^a under the sear. When the trigger is again operated, this sear is operated and in connection therewith the firing mechanism of that particular barrel. The order of the firing of the barrels can be quickly and easily changed by swinging the lever 20, and with it the catch-plate 19.

The hammers are made full or flush where they engage the catch end of the sears when the hammer is in its down or fired position, whereby the rear ends of the sears are cammed upward somewhat, so that the trigger never has to be operated against the tension of more than one sear-spring at a time.

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

1. In a firing mechanism, the combination of two sears, a single trigger, an independent automatic movable catch for each sear mounted on the trigger, adapted to successively engage the sears, a manually-manipulated device for securing one only at a time of said catches in its set or retracted position out of engagement with the sear, means for resetting said catches and means for regulating the movement of the trigger, substantially as set forth.

2. The combination in a firing mechanism of the two sears, a trigger, means for regulating the movement of the trigger, catches on the trigger for successively engaging with said sears and means for resetting both, and means for temporarily securing one of said sear-catches out of engagement with its sear and releasing same upon operation of trigger, substantially as set forth.

3. The combination in a firing mechanism of the sears, the trigger, the two movable sear-catches mounted on the trigger each having a dependent tooth adapted to temporarily secure said catches in retracted position, a shifter consisting of a pivoted or swinging plate mounted on the trigger-plate in position to engage with said tooth or projection and means arranged on the outer side of the trigger-plate for operating said shifter, substantially as set forth.

4. The combination in a firing mechanism of the sears, the trigger part having the ways 13 arranged on either side thereof, the movable catches 14 mounted on said ways, springs im-

5 pelling them toward a forward position, means
for resetting the same, catches for temporarily
securing one or the other of said sear-catches
in its retracted position and means attached
directly to the trigger for regulating the
movement of the trigger, substantially as set
forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 26th day of March, 1902.

ELIJAH D. FULFORD.

Witnesses:

E. WILLARD JONES,
S. A. BROWN.