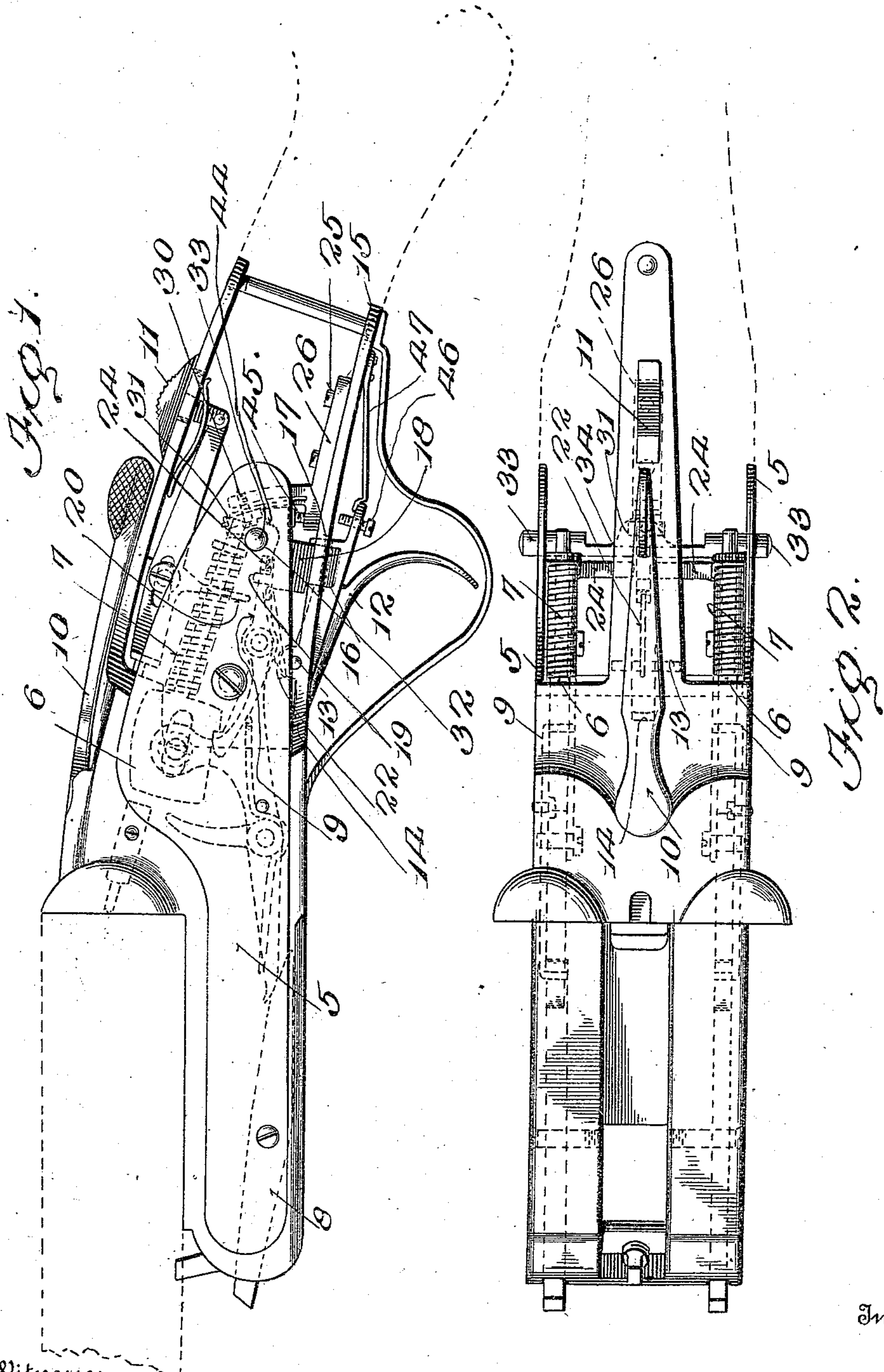


F. C. LEFLER.
 SINGLE TRIGGER MECHANISM FOR DOUBLE BARREL GUNS.
 APPLICATION FILED OCT. 26, 1909.

955,275.

Patented Apr. 19, 1910.

2 SHEETS—SHEET 1.



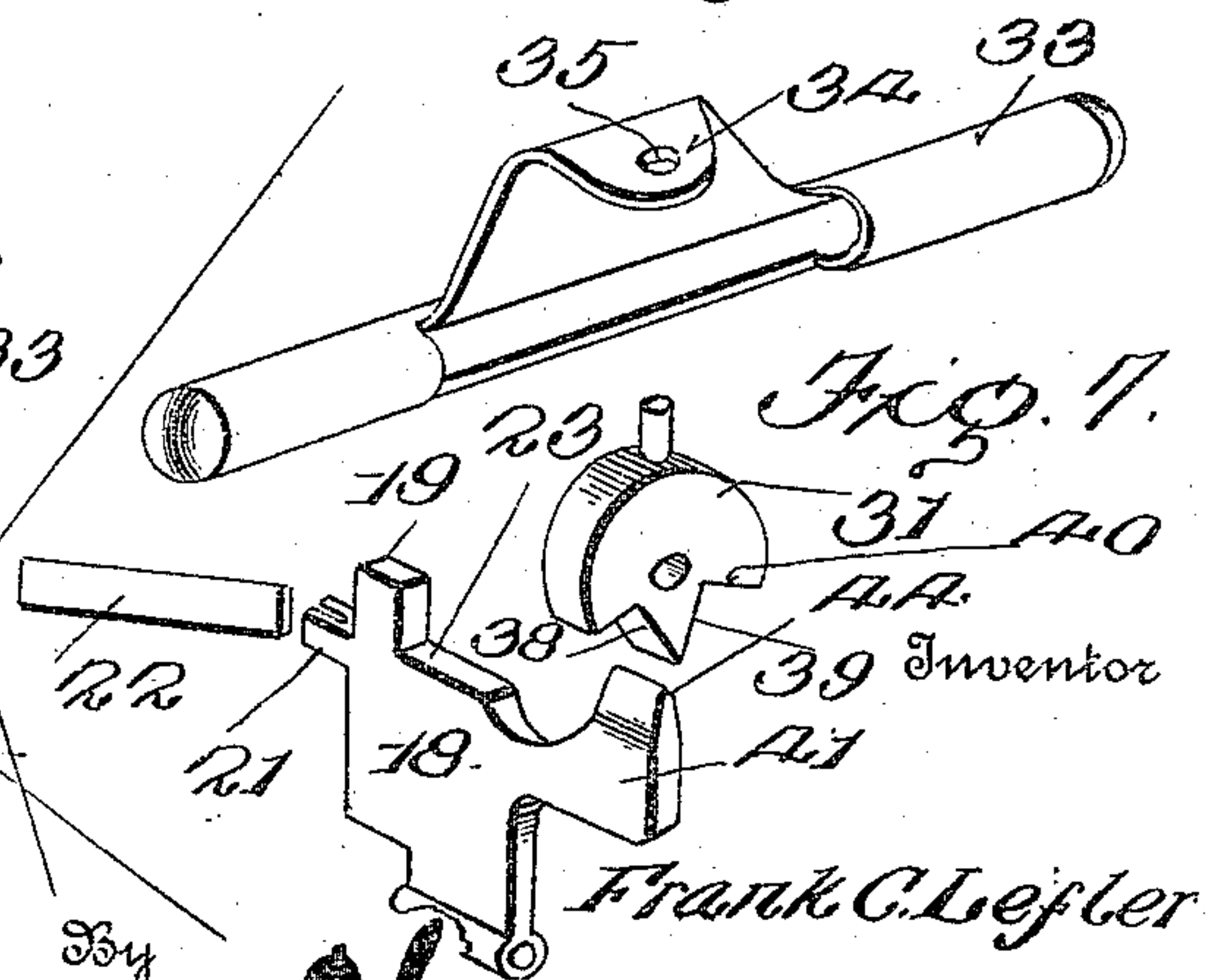
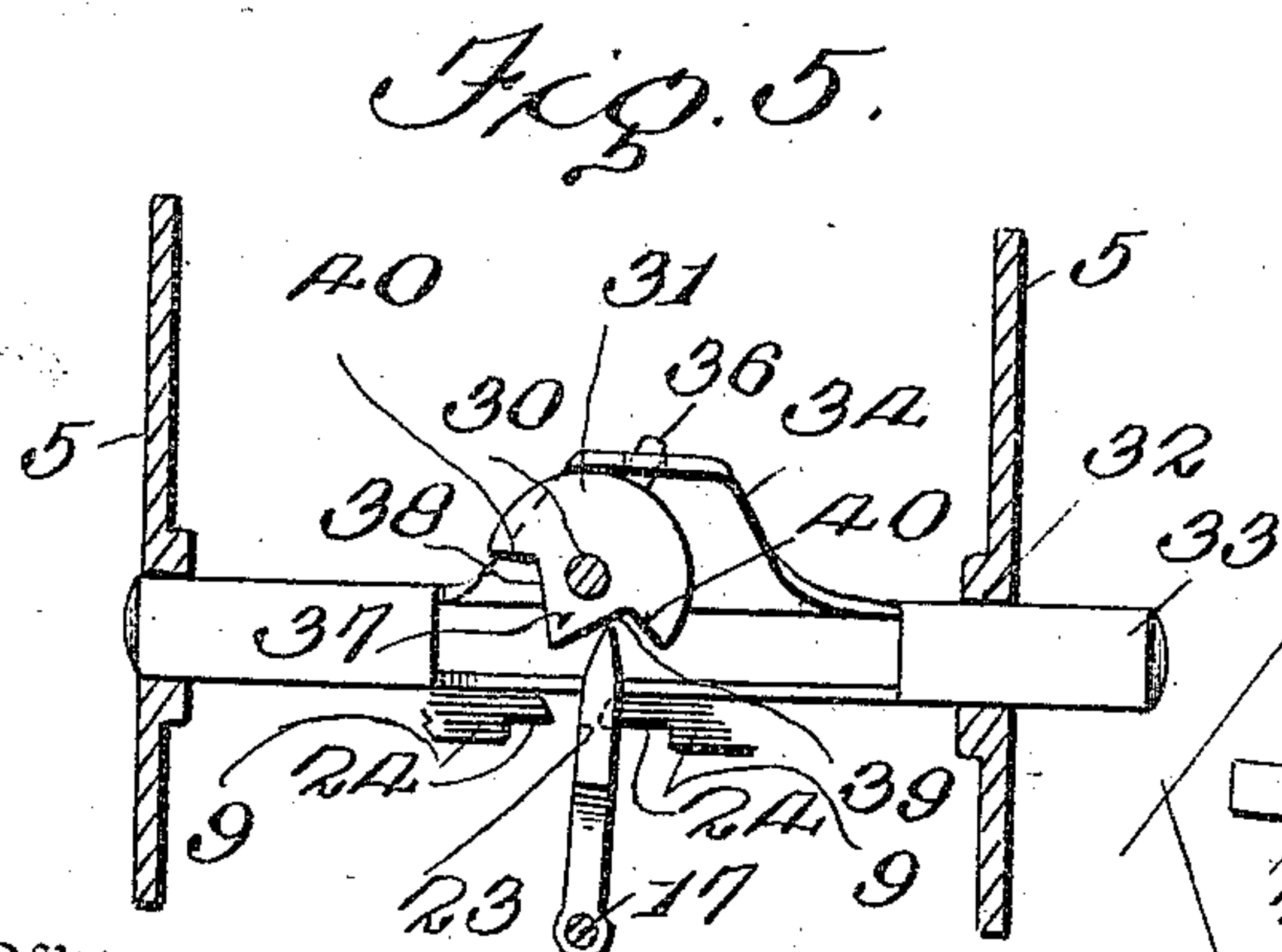
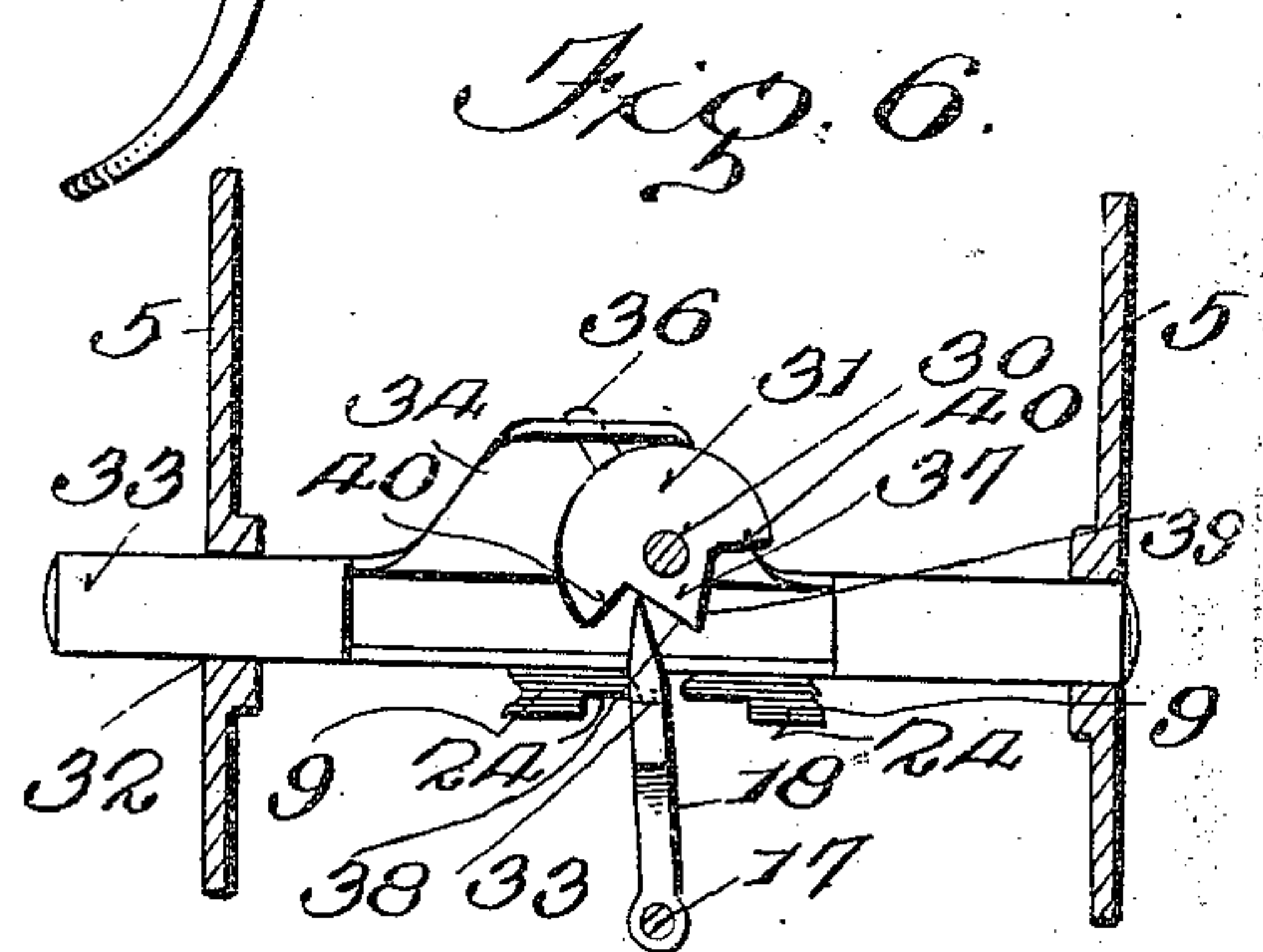
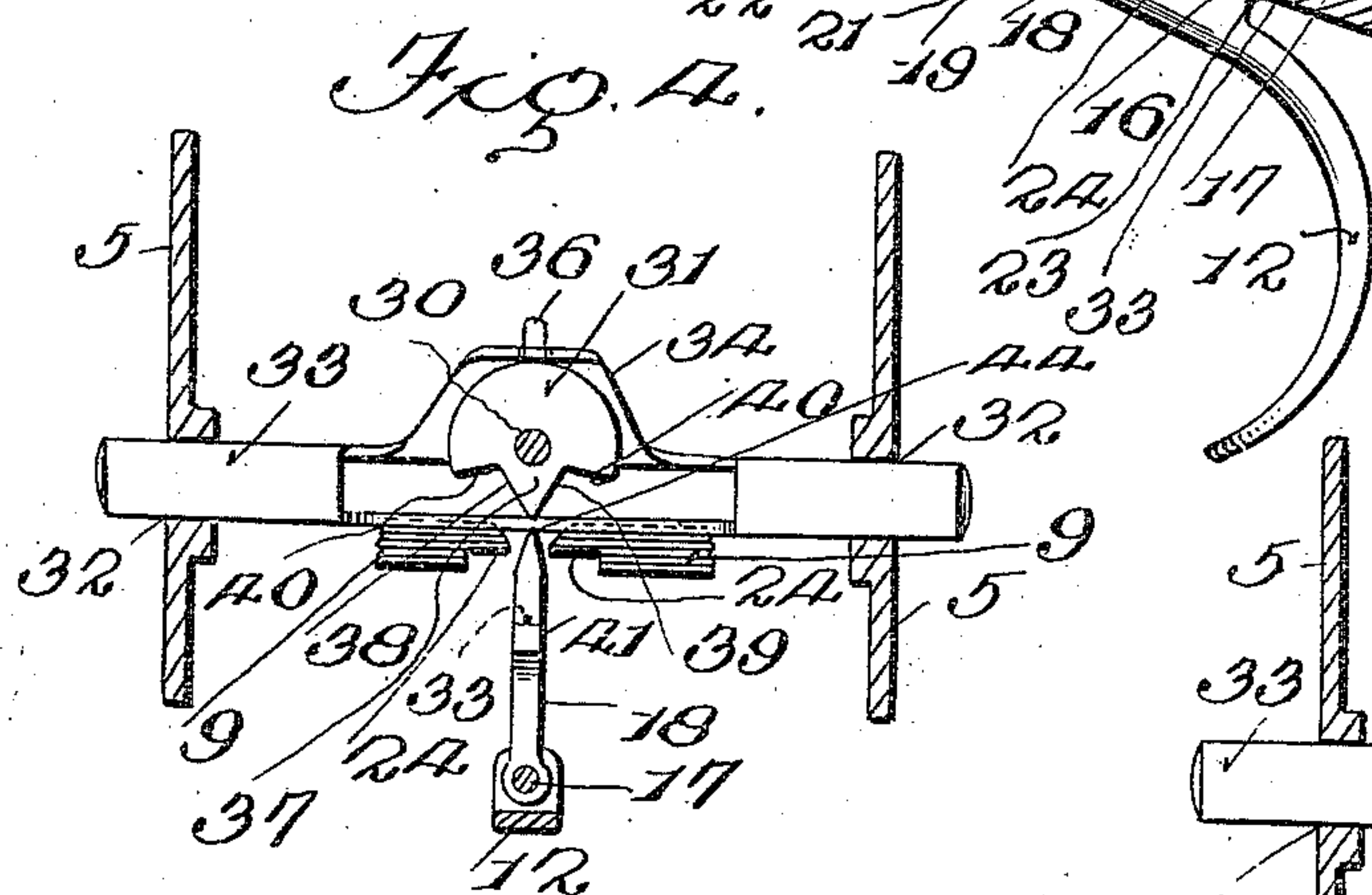
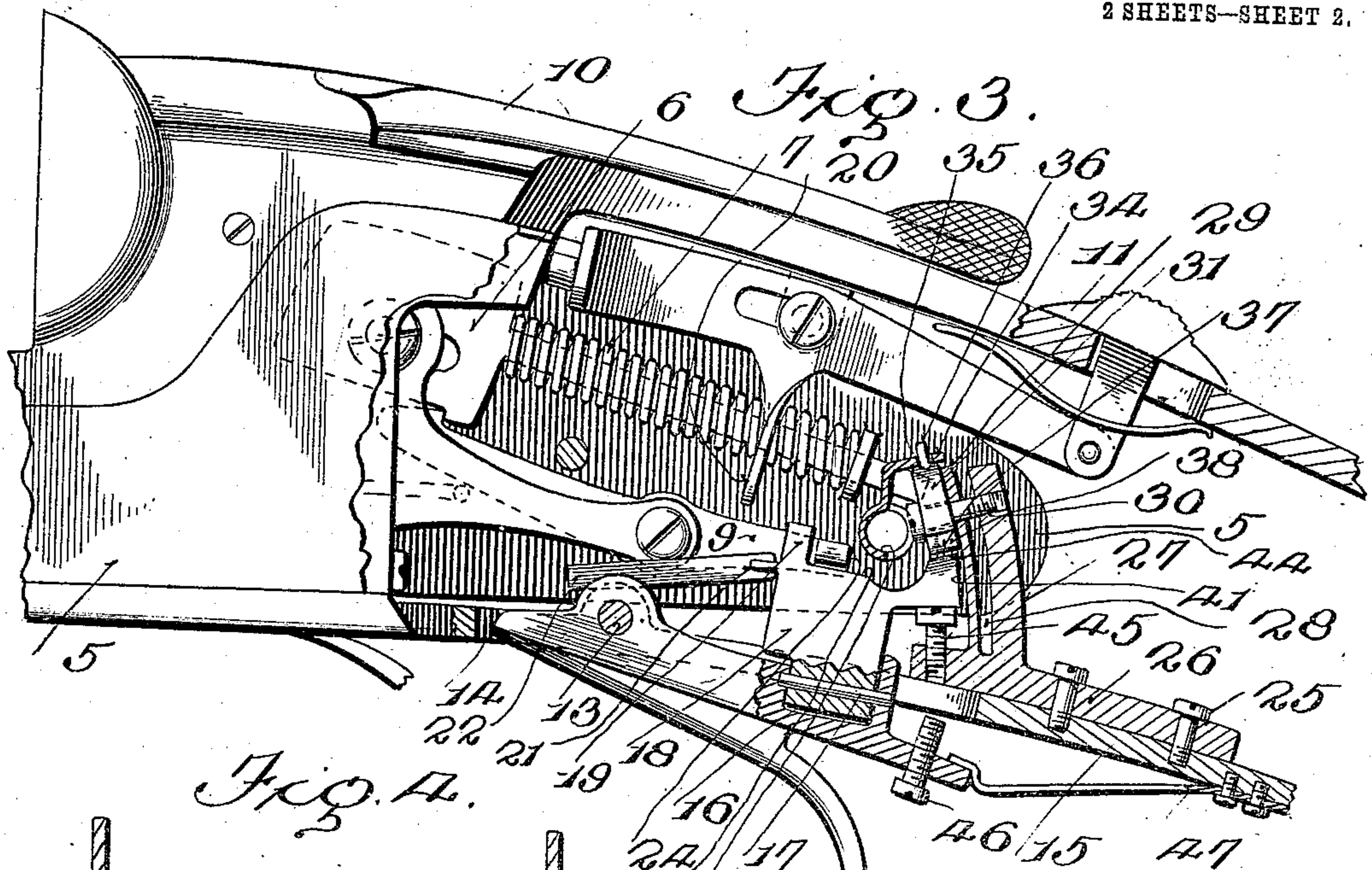
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2 SHEETS--SHEET 2.



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UNITED STATES PATENT OFFICE.

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SINGLE-TRIGGER MECHANISM FOR DOUBLE-BARREL GUNS.

955,275.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed October 26, 1909. Serial No. 524,614.

To all whom it may concern:

Be it known that I, FRANK C. LEFLER, citizen of the United States, residing at Ulysses, in the county of Potter and State of Pennsylvania, have invented certain new and useful Improvements in Single-Trigger Mechanism for Double-Barrel Guns, of which the following is a specification.

This invention relates to fire arms and more particularly to single trigger mechanism for double barrel guns.

The object of the invention is to provide means whereby both barrels of a gun may be discharged successively, either alternately from right to left or from left to right, or either barrel discharged repeatedly to the exclusion of the other by the operation of a single trigger.

A further object is to provide mechanism of the class described by means of which the inconvenience and danger of discharging the wrong barrel or actuating the firing pin of an empty barrel, is effectually avoided, and liability of simultaneously discharging both barrels, positively eliminated.

A further object is to provide means for indicating which barrel was last fired, said indicating means also serving to change the order of firing when desired.

A still further object is to provide single trigger mechanism for multi-barrel guns which is simple and durable in construction, positive in action and which may be applied to any style of double barrel gun now in use without readjustment of its safety mechanism.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a double barrel gun provided with single trigger mechanism constructed in accordance with my invention, one of the side plates being removed to partially expose the interior operating mechanism. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation

with a portion of the lock plate broken away and showing the relative position of the movable member or cam and oscillating firing block. Fig. 4 is a detail transverse sectional view of the mechanism employed for changing the order of firing, the movable member or cam being shown in normal or neutral position. Fig. 5 is a similar view showing the position assumed by the firing block when the latter is in engagement with one of the sears and before the sear is actuated to effect the discharge of one of the barrels of the gun. Fig. 6 is a similar view showing the position of the firing block when discharging the other barrel. Fig. 7 is a detail perspective view showing the push rod, firing block, oscillating cam and actuating spring detached.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved single trigger mechanism forming the subject matter of the present invention may be applied to any of the well known types of double barrel guns now in use and by way of illustration is shown in connection with a breech loading gun, in which 5 designates the lock case, 6 the hammer, 7 the hammer spring, 8 the cocking lever, 9 the sears, 10 the top lever, and 11 the safety slide for locking the trigger to prevent accidental discharge of the gun.

The above enumerated elements are of the usual construction and form no part of the present invention, the novelty of which resides in the mechanism employed for tripping the sears to effect the discharge of the gun barrels alternately from right to left or from left to right, or either barrel repeatedly to the exclusion of the other.

The trigger 12 is pivotally mounted at 13 in a longitudinal slot 14 formed in the trigger tang 15 so as to permit vertical movement of the trigger within the lock case. The free end of the trigger 12 is provided with a recess 16 in which is pivotally mounted at 17 an oscillating firing block 18. One end of the firing block 18 is provided with a vertical lug 19 which when engaged by the depending finger 20 of the safety slide 11, serves to lock the trigger against tilting movement and thus effectually prevent premature discharge of either barrel. That portion of the firing block 18 immediately

beneath the stop lug 19 is formed with spaced ears 21 between which is seated one end of a flat leaf spring 22, the opposite end of which is seated in a kerf or recess formed in the pivoted end of the trigger 12, said spring serving to automatically return the firing block 18 to normal or vertical position after either has been fired.

The upper longitudinal edge of the firing block 18 is provided with a flat bearing surface or shoulder 23 adapted to be moved alternately into engagement with the inwardly extending portions 24 of the sears when the trigger is pulled thus to trip said sears and effect the firing of the barrels; as will be more fully explained hereinafter.

Secured to the inner face of the trigger tang 15 by screws or similar fastening devices 25, is a bracket 26 having a vertically disposed post 27 formed integral therewith and split longitudinally at 28 to form a tension member 29.

A tension screw 30 passes through the member 29 and the adjacent portion of the post and forms a support for a rocking member or cam 31, the inherent resilient properties of the member 29 serving to yieldably support the head of the screw in engagement with the adjacent face of the rocking member or cam 31 and thus hold the same in any position to which it may be adjusted.

The lock plates 5 are formed with transversely alined openings 32 in which is slidably mounted for longitudinal movement a push rod 33, the latter being preferably hollow and having the metal at the intermediate portion thereof cut or severed and thence bent upwardly and laterally to form an overhanging lip 34 having an aperture 35 therein which receives a pin 36 projecting upwardly from the top of the movable member or cam 31. The pin 36, by engagement with the walls of the recess 35, forms in effect a pivotal connection between the push rod 33 and cam 31 so that when either end of the rod 33 is pressed in the direction of the adjacent plate 5, a corresponding movement of the cam 31 on its pivotal axis 30, will ensue.

The lower portion of the movable member 31 is provided with a depending V-shaped extension 37, the opposite inclined faces 38 and 39 of which extend from the apex of said extension to suitable shoulders 40 disposed on opposite sides of the extension 37, as shown, the inclined faces 38 and 39 forming in effect a cam for engagement with the firing block 18. The rear end of the firing block 18 is provided with a rearward extension 41, the upper edge of which projects vertically above the flat bearing surface or shoulder 23 and is inclined or beveled in opposite directions at 44 for engagement with the inclined faces 38 and 39 of the movable

member 31, the inclined faces 38 and 39, by engagement with the active end of the extension 41, serving positively to direct the firing block into engagement with one or the other of the sears.

An adjusting screw 45 is threaded in the bracket 26 at the front of the post 27 for engagement with the lower face of the extension 41 thus to limit the downward tilting movement of the trigger 12. An adjusting screw 46 is also preferably threaded in the free end of the trigger for engagement with the base of the bracket or the lower end of the screw 45 for limiting the upward tilting movement of the trigger 12, there being a flat spring 47 having one end thereof secured to the tang 15, and its other end bearing against the free end of said trigger for the purpose of returning the latter to normal position after the firing of either barrel has been effected.

The operation of the device is as follows: When the movable member 31 is in the neutral position illustrated in Fig. 4 of the drawings, that is to say, with the apex of the extension 37 in alinement with the firing block 18, and the trigger 12 is pulled, the rounded portion 44 of the firing block will pass to one side of the extension 37 and into engagement with either the inclined face 38 or the inclined face 39, thus to trip one or the other of the sears 9 and effect the firing of one of the barrels of the gun. If, when the trigger is pulled, the firing block engages the inclined face 39 of the movable member, said firing block will be positively directed laterally into engagement with the sear on the right hand side of the gun to fire the right hand barrel, and when a further upward movement is imparted to the firing block 18, the curved face 44 of the firing block will engage the adjacent shoulder 40 on the movable member and move said movable member together with the push pin 33 from the position shown in Fig. 5 of the drawings to the position shown in Fig. 6, that is to say, with the movable member or cam 31 in position to direct the firing block on the left hand side of the gun to effect the discharge of the left hand barrel. In order to change the order of firing, it is merely necessary to press inwardly on either end of the push rod 33 when the gun may be made to fire from right to left or from left to right, and when it is desired to cause the repeated firing of one barrel to the exclusion of the other, it is merely necessary to press inwardly on the same end of the push rod after each discharge of said barrel.

Attention is here called to the fact that the initial upward movement of the trigger 12 causes the curved face 44 to engage one of the cam faces of the movable member 31 to direct the firing block into engagement with one of the sears, and a further move-

ment of said trigger causes the curved face 44 to engage the adjacent shoulder 40 on the movable member and effect the reversal of said movable member and push rod so that when the trigger is again operated, the opposite barrel may be discharged, thus positively eliminating liability of discharging both barrels at the same time or causing the hammer to engage the firing pin of an empty barrel. It will also be noted that the spring 22 serves to automatically return the firing block to normal or vertical position after each time the trigger is pulled, the pivotal movement of the cam or member 31 being such as not to interfere with the extension 41 of the firing block when the push rod 33 is actuated. Thus it will be seen that there is provided mechanism by means of which the position of the firing block is automatically changed after the discharge of either barrel, said mechanism also permitting the operator to change the order of firing when desired.

An important feature of the invention resides in the fact that the operator, by merely glancing at the opposite sides of the gun case, may determine by the position of the adjacent ends of the push rod which barrel was last fired, the movement of the push rod being due to the shifting of the rocking member 31 by the firing block each time the trigger is pulled to effect the discharge of the barrel of the gun, as before stated.

Having thus described the invention, what is claimed as new is:

1. A double barrel gun including a lock case and a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, and a push rod extending transversely through the lock case and provided with means for moving the firing block into engagement with the sears to effect the discharge of either barrel.

2. A double barrel gun including a lock case and a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, and a push rod extending transversely through the lock case above the sears and provided with means for moving the firing block into the path of either sear to effect the discharge of either barrel.

3. A double barrel gun including a lock case having transversely aligned openings in the opposite sides thereof, a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, a push rod slidably mounted in said openings and provided with means for moving the firing block into the path of the sears to effect the discharge of either of said barrels, the opposite ends of the push rod serving to indicate the order of firing said barrels.

4. A double barrel gun including a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, a push rod,

and a cam operatively connected with the push rod and movable into the path of the firing block to cause said firing block to engage either sear and effect the discharge of one of the barrels when the trigger is pulled.

5. A double barrel gun including a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, a push rod, a cam operatively connected with the push rod and movable into the path of the firing block to cause said firing block to engage either sear and effect the discharge of one of the barrels when the trigger is pulled, and means for automatically returning the firing block to normal position after the discharge of either barrel.

6. A double barrel gun including a plurality of sears, a trigger, a push rod, a pivoted cam operatively connected with the push rod, and a firing block pivotally mounted on the trigger and movable into engagement with one of the sears by contact with said cam to effect the discharge of one of the barrels, said firing block being timed to first engage the sear and subsequently effect the reversal of said cam.

7. A double barrel gun including a plurality of sears, a trigger, a push rod, a rocking member operatively connected with the push rod and provided with inclined faces, and a firing block pivotally mounted on the trigger and movable alternately into engagement with the sears by contact with said inclined faces to successively discharge the barrels when the trigger is pulled, said firing block serving to reverse the position of the movable member after the discharge of each barrel.

8. A double barrel gun having a lock case and including a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, means extending transversely through the lock case and operatively connected with the firing block for moving said firing block into the path of either sear, and means for automatically returning the firing block to normal position after the discharge of either barrel has been effected.

9. A double barrel gun including a plurality of sears, a trigger, a firing block pivotally mounted on the trigger, a post, a cam pivotally mounted on the post and provided with a pin, and a push rod having an aperture therein for the reception of the pin, said firing block being directed by contact with the cam into engagement with either sear when the trigger is pulled.

10. A double barrel gun including a plurality of sears, a post having a longitudinally split portion, a cam pivotally mounted on the post, a tension screw extending through the cam and split portion of said post, a push rod operatively connected with the cam for effecting the reversal of the latter, a trigger, and a firing block pivotally

mounted on the trigger and movable into engagement with either sear by contact with the cam.

11. A double barrel gun including a plurality of sears, a trigger having a seating recess formed therein, a firing block having a reduced extension pivotally mounted in the recess of the trigger, means for moving the firing block into the path of either sear when the trigger is pulled to effect the discharge of one of the barrels, and a spring forming a connection between the firing block and trigger for automatically returning the firing block to normal position after the discharge of either barrel.

12. A double barrel gun including a plurality of sears, a pivoted trigger, an oscillating firing block pivotally mounted on the trigger and normally and yieldably held in vertical position, a push rod, and a cam operatively connected with the push rod and serving by engagement with the firing block to positively direct the firing block into engagement with either sear.

13. A double barrel gun including a lock case and a plurality of sears, a trigger, an oscillating firing block pivotally mounted on the trigger, a push rod extending transversely across the lock case and slidably mounted therein, said push rod being provided with an overhanging lip, a post, a cam pivotally mounted on the post and operatively connected with the lip of the push rod, said firing block being directed by the cam into engagement with either sear, and a spring connected with the oscillating firing block for automatically returning the latter to normal position.

14. A double barrel gun including a lock case and a plurality of sears, a pivoted trigger having a seating recess formed therein, an oscillating firing block having a reduced extension pivotally mounted in said recess and having one end thereof provided with a cam face and its other end formed with lat-

erally extending ears, there being a kerf formed in the pivoted end of the trigger, a spring seated in said kerf and disposed between the ears of the firing block, a longitudinally split post, a tension screw engaging the post, a cam mounted for oscillation on the screw and provided with a pin, and a push rod extending transversely through the lock case and having an overhanging perforated lip adapted to receive the pin of the cam, said firing block being positively directed by contact with the cam into engagement with either sear when the trigger is pulled.

15. A double barrel gun including a lock case and a plurality of sears, a pivoted trigger, an oscillating firing block pivotally mounted on the trigger, a spring connecting the trigger and firing block, a bracket having a longitudinally split post, a tension screw engaging the post, a cam mounted for oscillation on the tension screw and provided with a pin, a push rod extending transversely through the lock case and having an overhanging perforated lip adapted to receive the pin of the cam, said firing block being provided with an extension having a curved face for contact with the cam for directing the firing block into engagement with either sear, an adjusting screw carried by the bracket and adapted to bear against the extension of the firing block for limiting the downward movement of the trigger, a spring operatively connected with the trigger for returning the latter to normal position after the trigger is released, and an adjusting screw carried by said trigger for limiting the upward movement thereof.

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

FRANK C. LEFLER. [L. s.]

Witnesses:

ANNA C. REIDY,
JOHN F. STONE.