

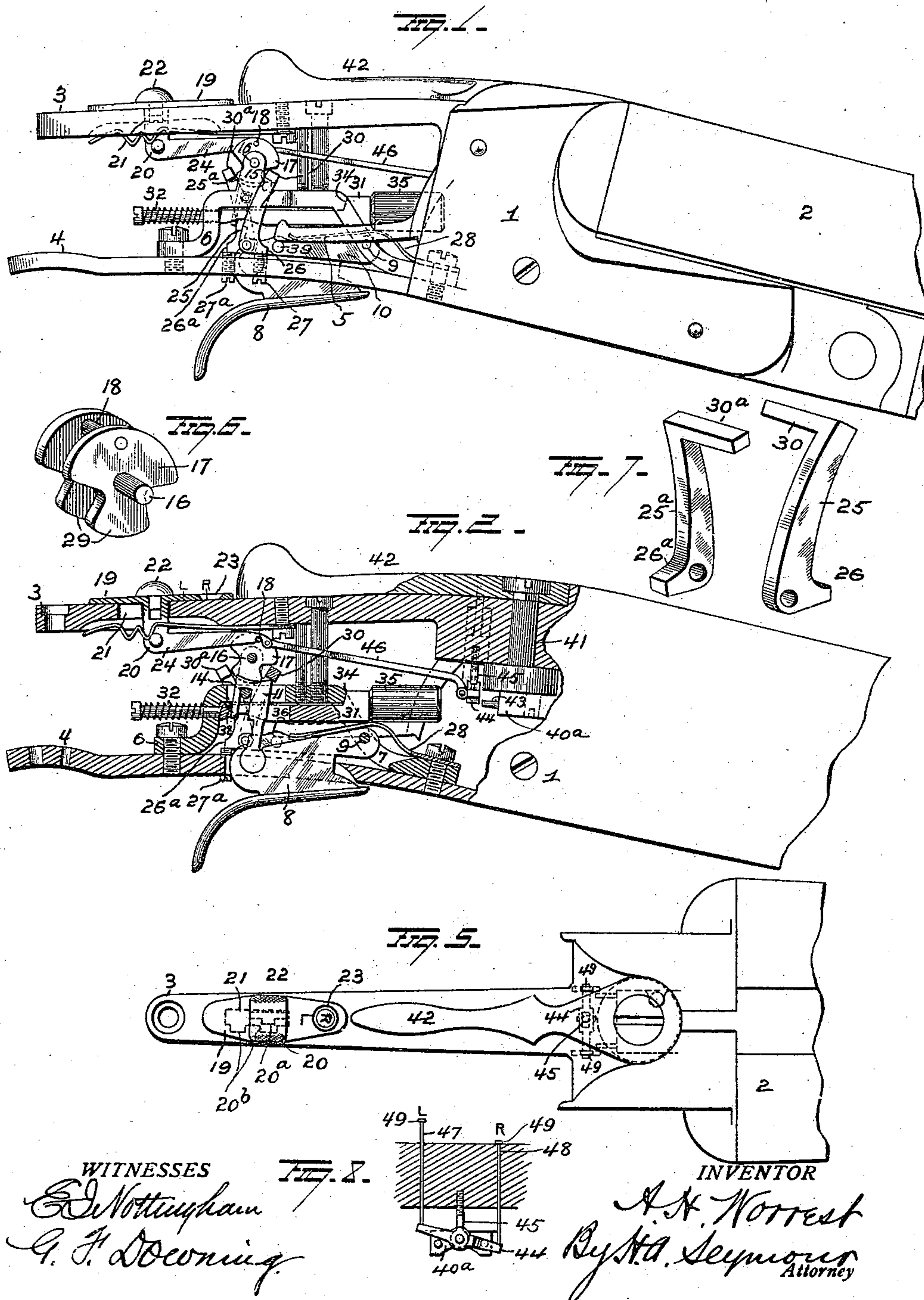
No. 871,550.

PATENTED NOV. 19, 1907.

A. H. WORREST.
FIREARM.

APPLICATION FILED AUG. 10, 1906.

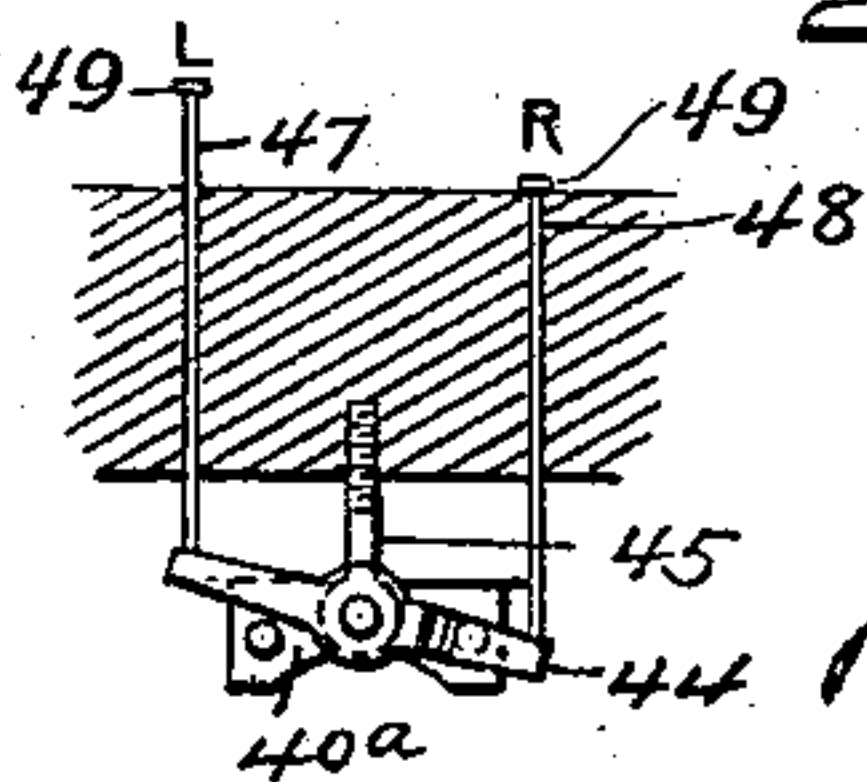
3 SHEETS—SHEET 1.



WITNESSES

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Fig. 8.



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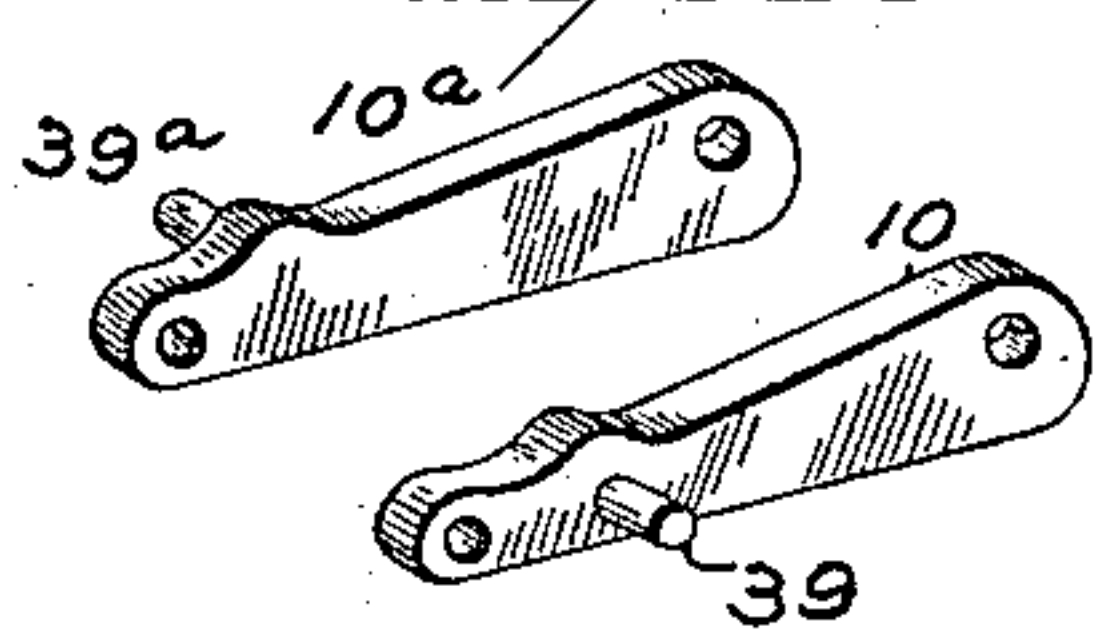
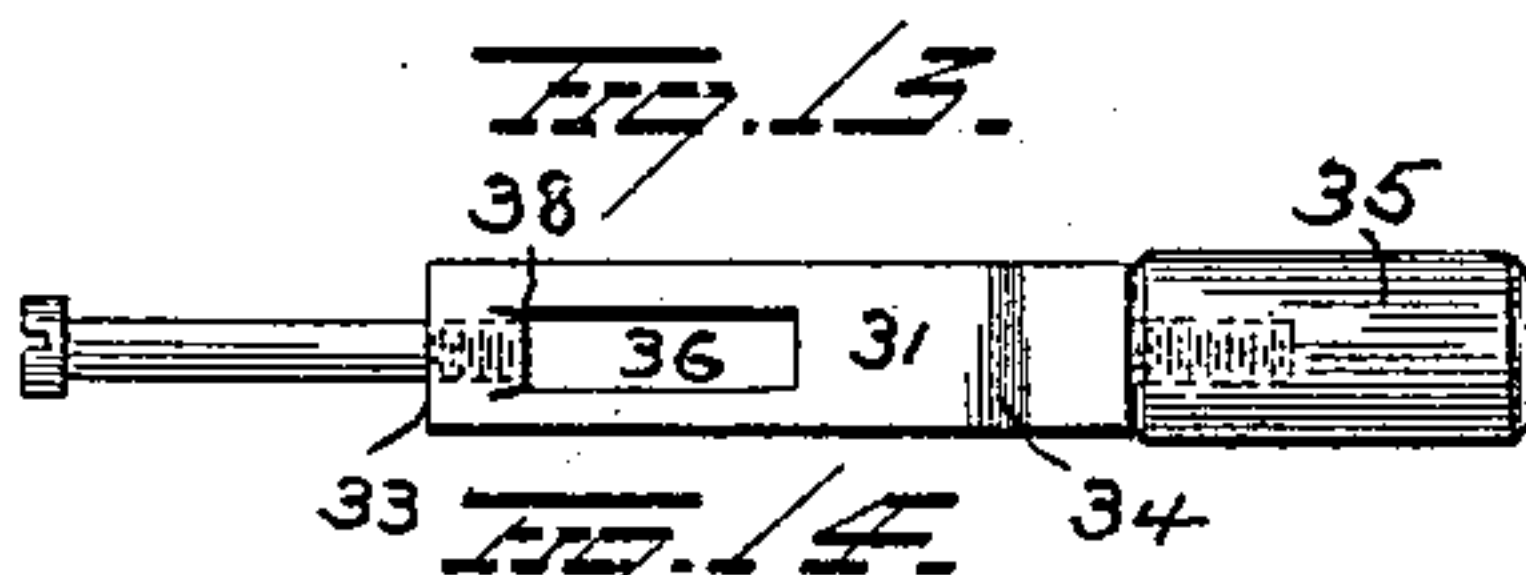
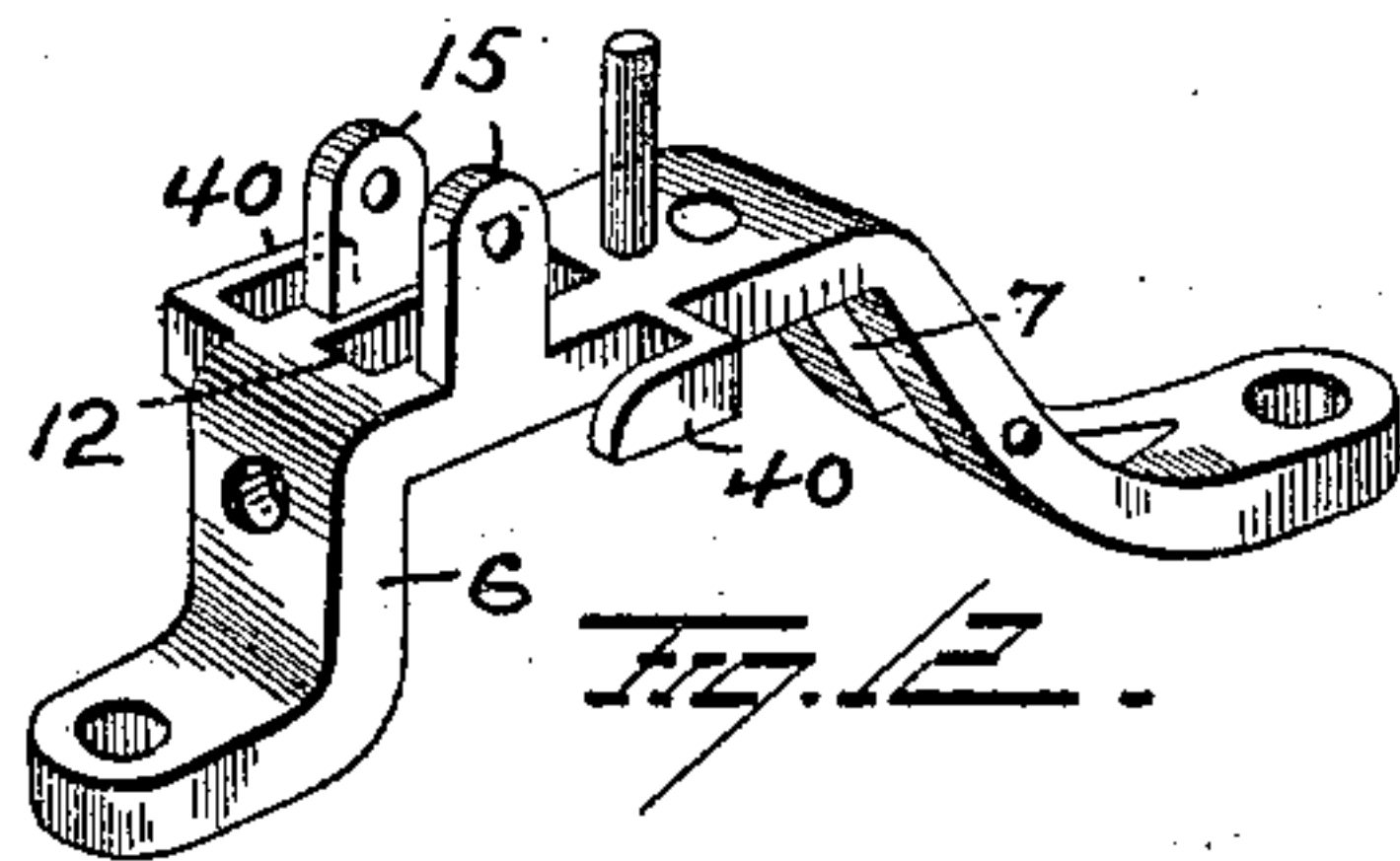
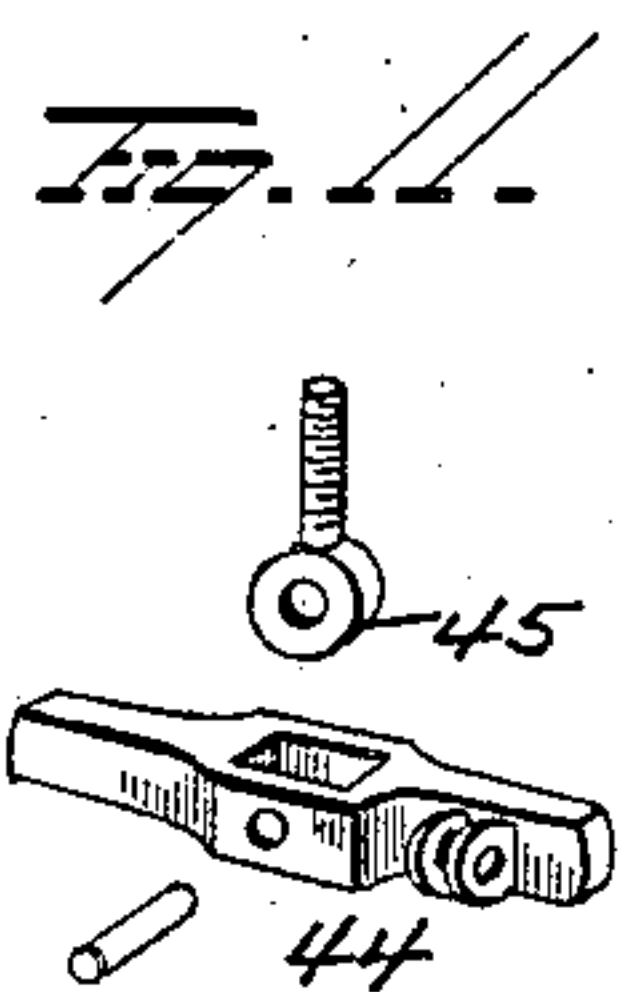
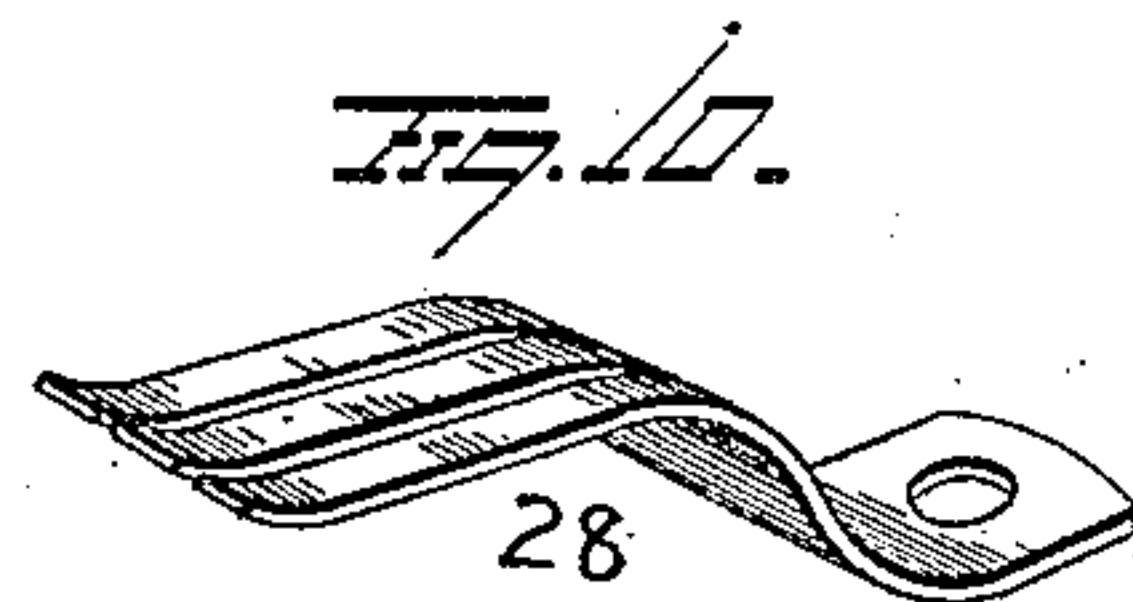
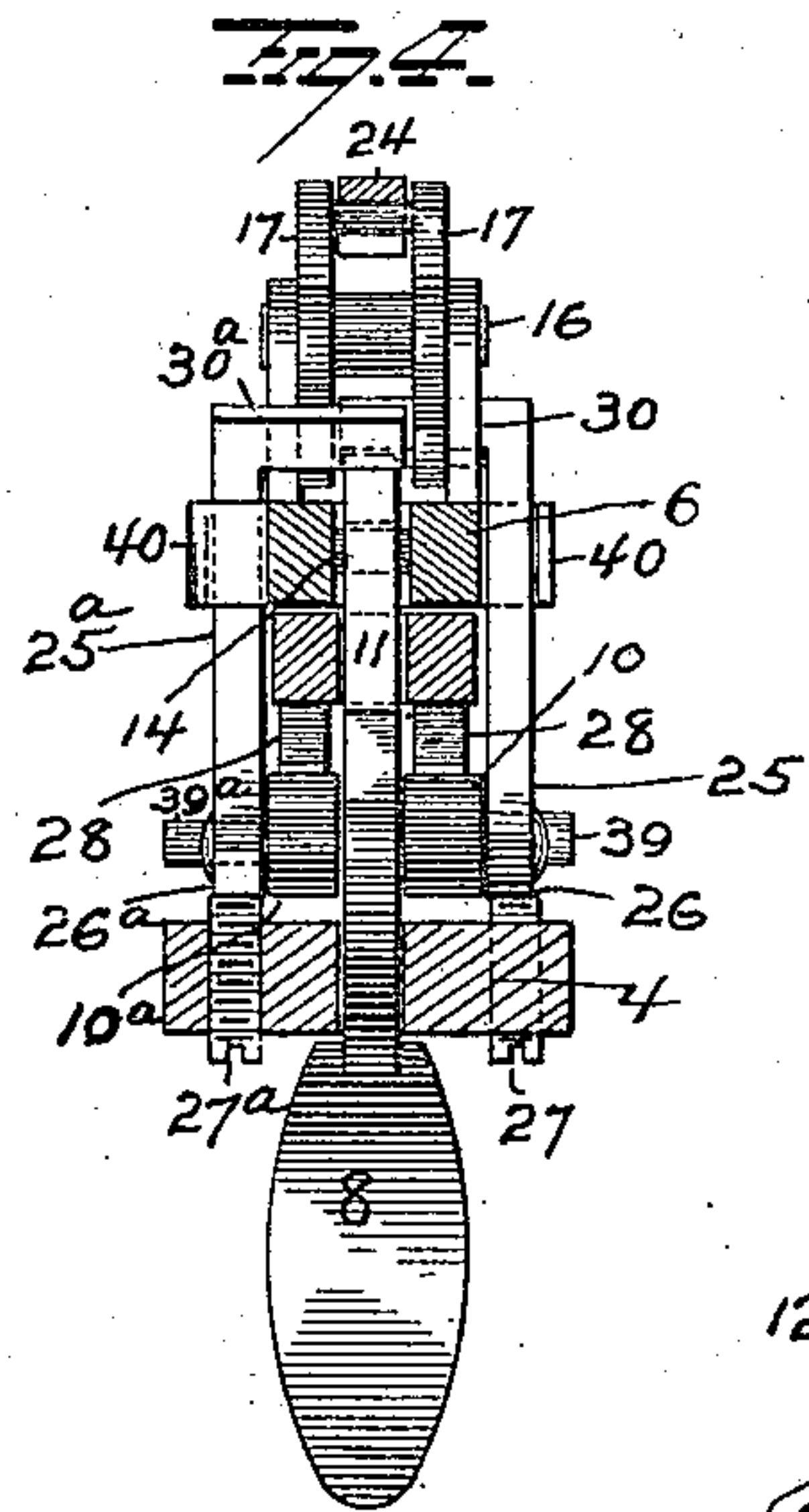
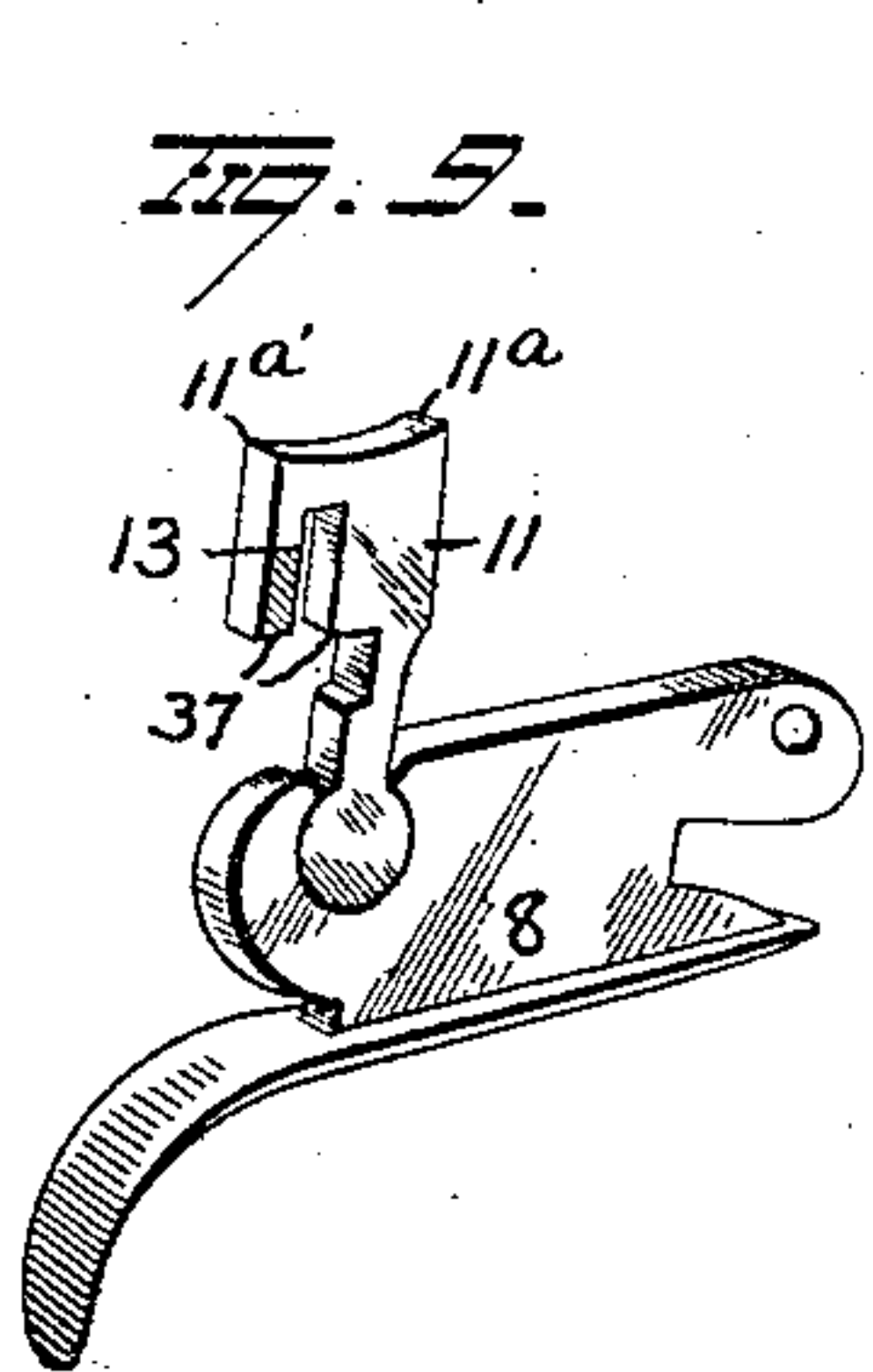
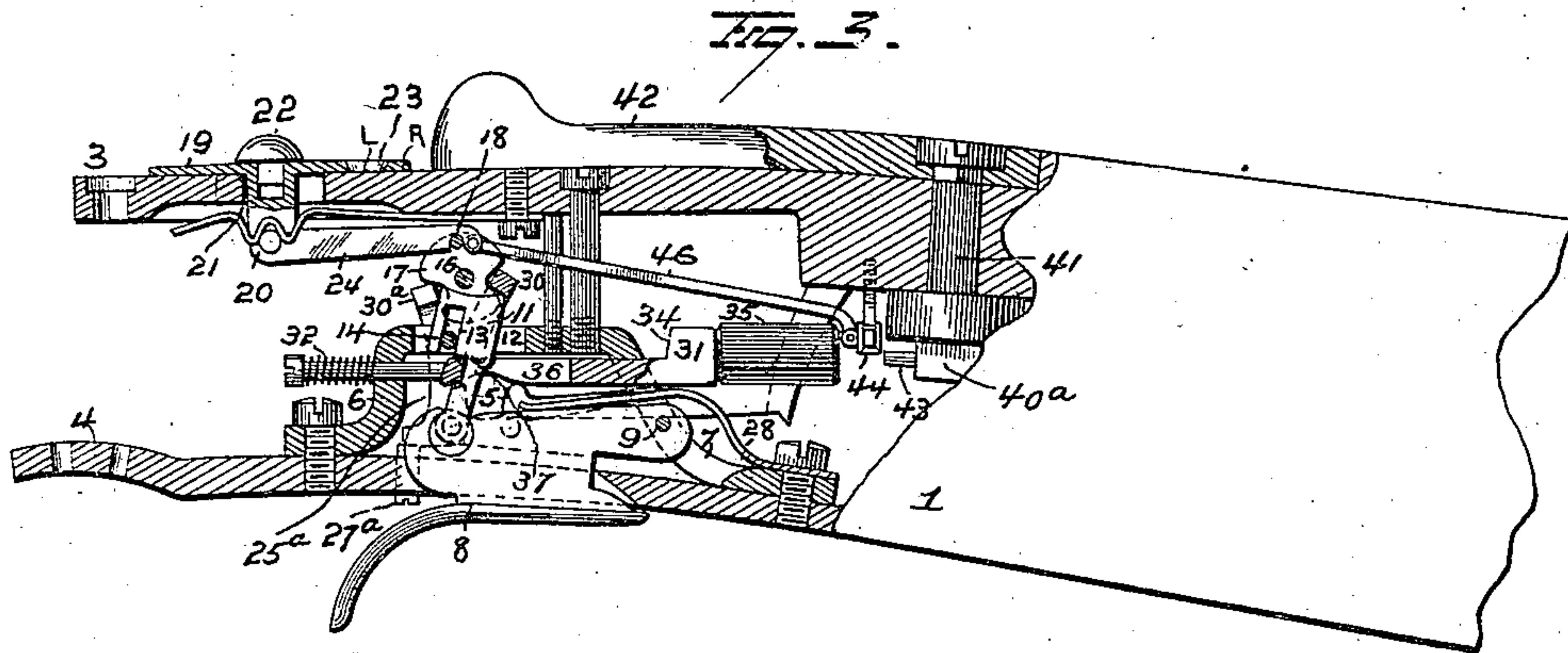
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

FIG. 15.

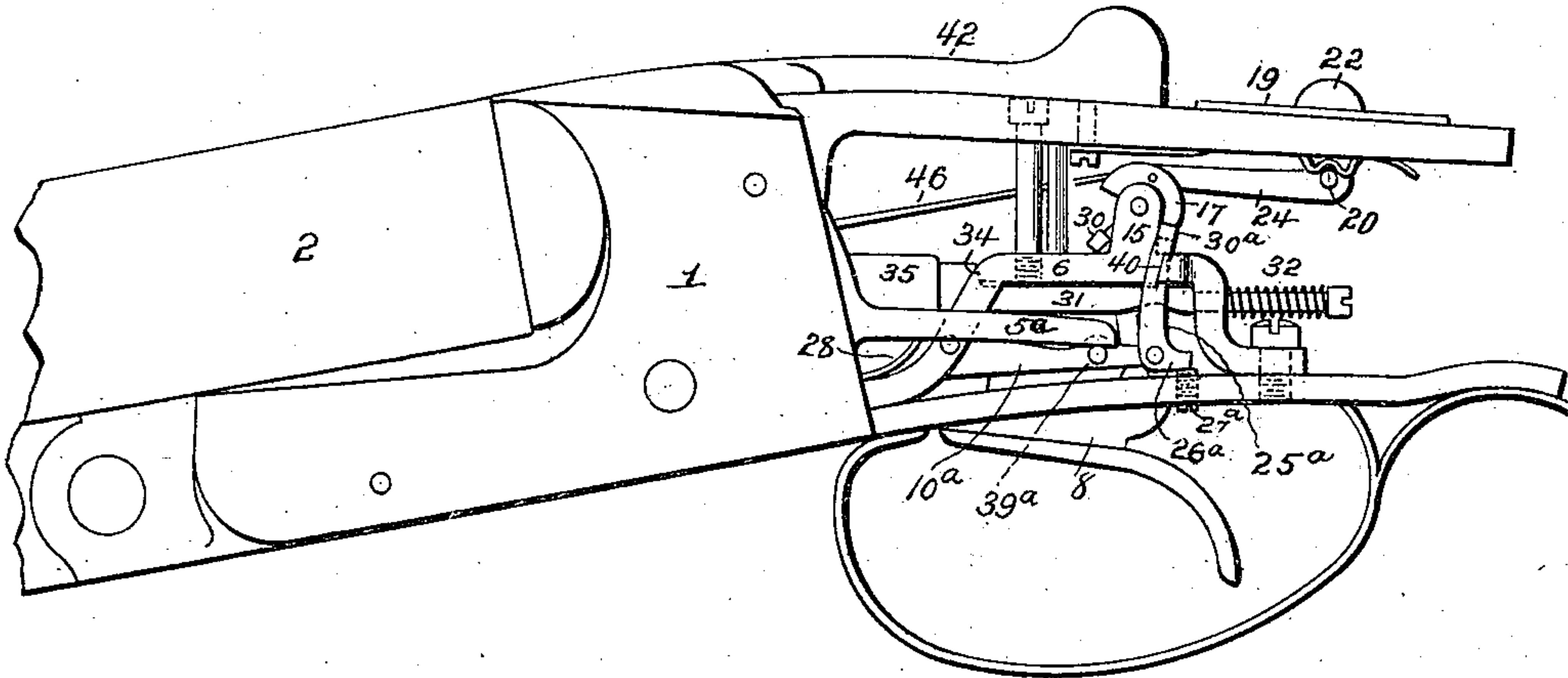


FIG. 16.

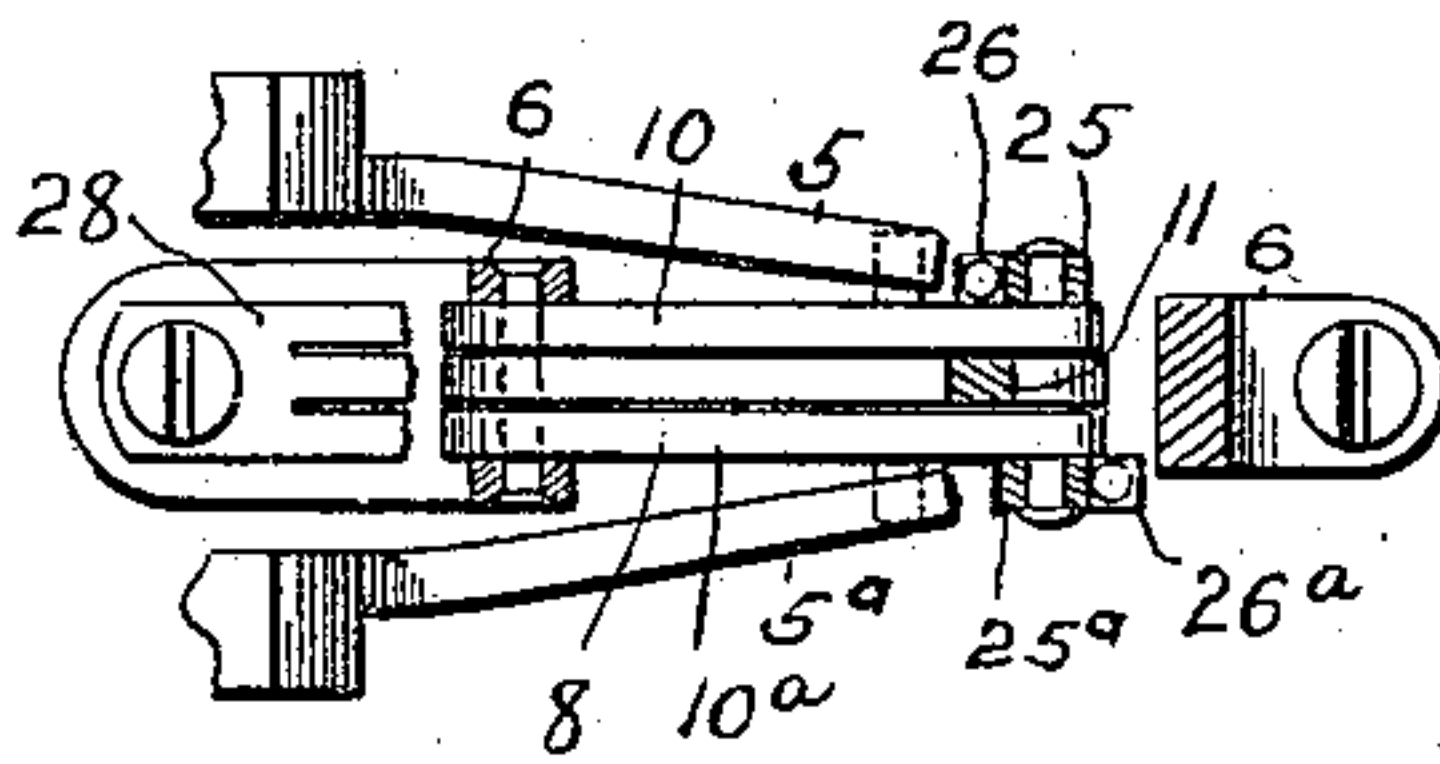
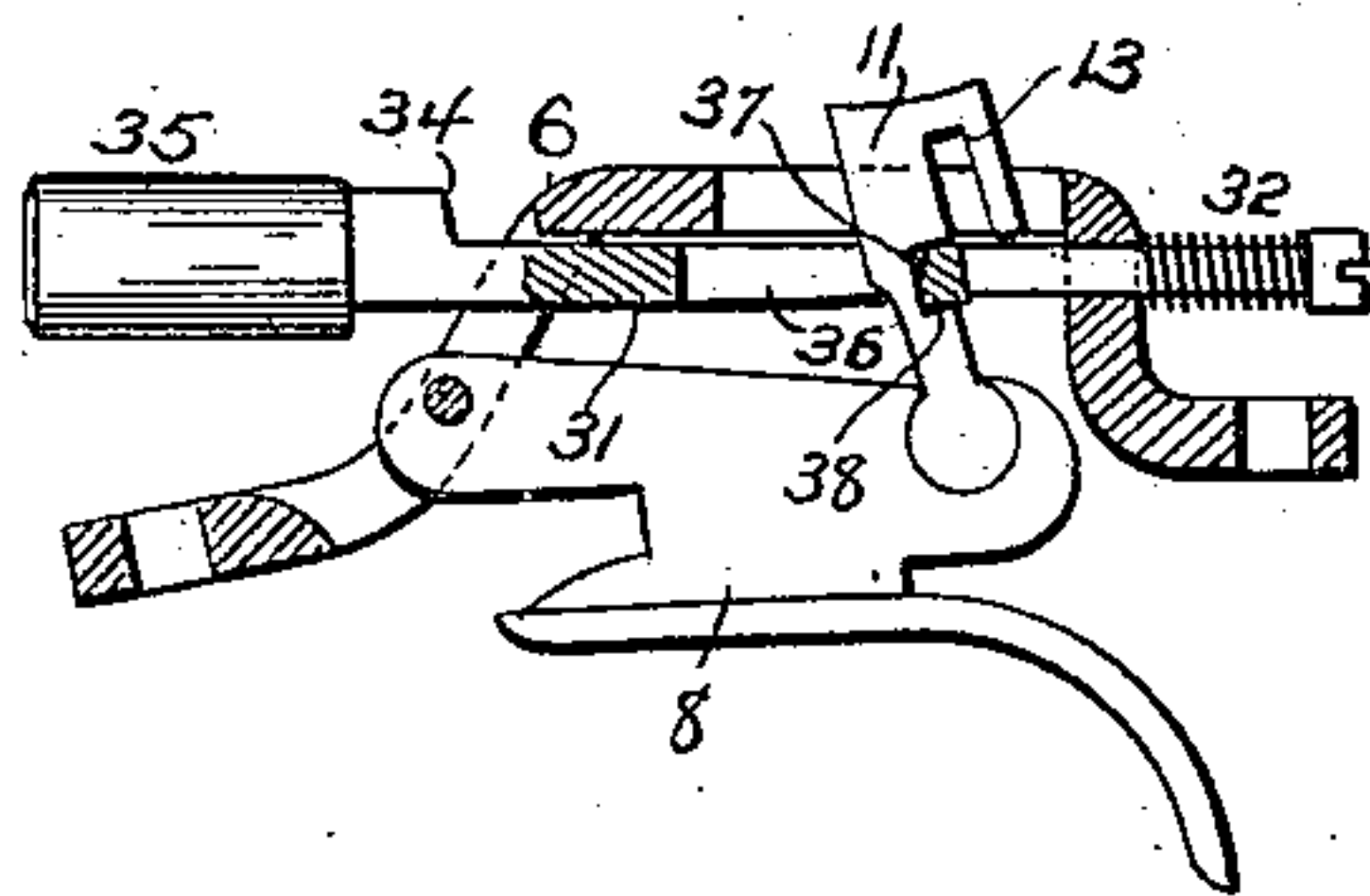


FIG. 17.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALFRED H. WORREST, OF LANCASTER, PENNSYLVANIA.

FIREARM.

No. 871,550.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed August 10, 1906. Serial No. 330,036.

To all whom it may concern:

Be it known that I, ALFRED H. WORREST, a resident of Lancaster, in the county of Lancaster and State of Pennsylvania, have
5 invented certain new and useful Improvements in Firearms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

My invention relates to improvements in fire arms, and more particularly to double barreled fire arms having a single trigger, the
15 object of the invention being to provide a fire-arm having concealed hammers, known as "hammerless" wherein the hammers are cocked by the breaking of the gun, and a single trigger employed to operate both hammers, and provide improved mechanism pre-
20 venting accidental discharge of both barrels when one is discharged, which has been found will occur, due to recoil of the gun, if some mechanism is not provided to prevent it.

It has been found by actual test, that where a single trigger is employed to discharge both barrels of a gun, that the recoil
25 of the gun in firing one barrel will compel the operator to unintentionally pull the trigger a second time and the discharge will leave both barrels in quick succession, one so quickly following the other that the operator is not aware that both barrels have been dis-
30 charged. To prevent this I have provided improved mechanism, operated by the recoil of the gun, to prevent this accidental discharge of the second barrel, but which will not interfere with rapid discharge of the barrels in succession at the will of the operator.

40 A further object is to provide improved devices for setting the mechanism to fire either barrel first as may be desired, and also this mechanism may be set to always fire a particular barrel first.

45 With these and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the
50 claims.

In the accompanying drawings, Figure 1 is a view in side elevation illustrating my improvements. Fig. 2 is a view in longitudinal section. Fig. 3 is a view similar to Fig.
55 2 showing the parts in position after the right barrel has been discharged and before

the trigger is allowed to go forward. Fig. 4 is a view in cross section. Fig. 5 is a top plan view. Fig. 6 is a view of the tumbler. Fig. 7 is a view of the trip arms, and Figs. 8, 60 9, 10, 11, 12, 13 and 14 are views of various other details of construction. Fig. 15 is a view showing the parts in position to operate the left sear. Fig. 16 is a sectional plan view of the trigger mechanism and Fig. 17 65 shows the locking bolt in locking position.

1 represents the lock casing hinged to the barrels 2, and having the top and bottom rearwardly extending plates 3 and 4. This casing 1 contains any approved construction 70 of inclosed hammers, cocked by breaking or hinging the barrels and released by the sears 5 and 5^a projecting rearward from the casing 1, as shown.

A bracket 6 is secured to lower plate 4, and 75 made with a slot 7 in its forward portion, in which the trigger plate 8 is pivotally secured on a pin 9, and the latter projects at both ends, beyond the bracket and pivotally supports links 10 and 10^a respectively at the 80 sides of the bracket.

The trigger plate 8, is made with a circular socket to receive the rounded or ball end of a plunger 11 which latter projects up through a slot 12 in the top of bracket 6 and is made 85 with a slot or recess 13 which permits the plunger to straddle a cross bar 14 on the bracket to guide the plunger in its up and down movement.

Upwardly projecting parallel ears 15 are 90 made integral with bracket 6 and located at opposite sides of the slot 12, and these ears 15 are made with alined openings to receive a pin 16 and pivotally support a tumbler 17, the latter comprising twin plates rigidly con- 95 nected by a cross pin 18.

On top of upper plate 3 two indicating characters "R" and "L" are provided, the former when displayed indicating that the right barrel will be discharged when the trig- 100 ger is next operated, and the indicating letter "L" when displayed denotes that the left barrel will be discharged when the trigger is operated. An indicator or slide 19, having a stud 20 movable in a slot 21 in plate 105 3, is provided with a central knob or button 22 to facilitate its manipulation, and is made with a single opening 23 through which but one of the letters "L" or "R" can be seen at a time. A link 24 is fixed to, or made in- 110 tegral with the stud 20, projects at right angles thereto and is provided with a notch

to engage over cross pin 18, compelling the indicator slide to be moved by the tumbler 17, or the tumbler to be moved by the slide, as the case may be. The stud 20 has a lug

5 20^a at one side to be moved into any of a series of notches 20^b to prevent movement of the tumbler 17 and hence prevent movement of plunger 11 and trigger 8.

25 and 25^a represent trip arms, which are
10 pivotally secured at their lower ends to pivoted links 10 and 10^a respectively and movable in angle arms 40 on bracket 6. Trip arm 25 is made with a forwardly projecting lug 26 at its lower end and arm 25^a has a
15 rearwardly projecting lug 26^a at its lower end. Screws 27 and 27^a respectively are located in lower plate 4 below the lugs 26 and 26^a which limit the pivotal movement of the trip arms away from each other, and a slit-
20 ted, three member flat spring 28 which bears on trigger plate 8, and links 10 and 10^a will cause these trip arms 25 and 25^a to tend to rock upon their pivots towards a vertical line through their axes and to hold the pro-
25 jecting fingers 30 and 30^a against the cams 29 at the lower end of tumbler 17 and the inwardly projecting fingers 30 and 30^a are located at the upper ends of the trip arms 25 and 25^a respectively, for a purpose which
30 will more fully hereinafter appear.

31, represents my improved recoil controlled locking bolt, located in a normal horizontal position, and movable longitudinally in openings in bracket 6. A coiled spring 32
35 on the contracted rear end of the locking bolt 31, bears against bracket 6 and holds the bolt in its normal position with its shoulders 33 and 34 against the end portions of the bracket, and a weight 35 is located on the
40 forward end of the bolt to retard the rearward movement of the bolt on the recoil of the gun and compel the bolt to act, as will be more fully hereinafter pointed out. The locking bolt 31 is made with an elongated
45 slot 36 through which the plunger 11 moves, and the plunger is made with a shoulder 37 beneath which the bolt 31 is carried by the recoil of the gun, to prevent the downward movement of the plunger for an instant, and hence prevent accidental discharge of
50 the second barrel. The rear end wall of the slot 36 is beveled, as shown at 38 which not only prevents any pounding of the rear edge of plunger 11, but also insures the
55 bolt moving beneath shoulder 37 even though the plunger be but partially elevated and compel the plunger to execute its full stroke to carry out the complete operation thereof, even though the hammer be fired
60 before the full stroke of the plunger is made.

The links 10 and 10^a are provided with outwardly projecting studs 39 and 39^a respectively, on which the sears 5 and 5^a rest, and when these links are elevated by the particular trip arms 25 and 25^a the sears 5 and

5^a will be moved to release the hammers, the latter being cocked by breaking the gun, as is common with hammerless guns on the market.

The operation of my improvements above 70 described, is as follows:—Assuming the hammers to be cocked, and the mechanism in position to fire the right barrel first, the parts will be in the position shown in Figs. 1 and 2. It will be seen that the 75 lower end of tumbler 17 is turned so that its cam shaped lower end will engage the finger 30^a of trip arm 25^a and hold the trip arm 25^a rearward out of the path of plunger 11 while the finger 30 of trip arm 25 is over the 80 upper part of the lower end of the plunger. A rearward pull on the trigger will move plunger 11 upward, and the latter will elevate trip arm 25 by reason of the finger 30 lying in the path of movement of the plunger 85 11 and the trip arm 25 will elevate the link 10 and the stud 39 on the link 10 will elevate the rear end of sear 5 to release the hammer and fire the right barrel. The upward movement of trip arm 25 will also cause the finger 90 30 thereon to strike the shoulder of tumbler 17 and turn the latter, which movement of the tumbler will be transmitted to the indicator slide 19 to hide the letter "R" and expose the letter "L" in its opening, indi- 95 cating that the next barrel to be fired will be the left. The pivotal movement of the tumbler will, due to its cam shaped lower end, move the finger 30 and arm 25 from the path of plunger 11 and permit the finger 30^a 100 of trip arm 25^a to move over the plunger when the latter falls. Fig. 3 illustrates the parts in their position as the right barrel is being fired from which the action of the recoil on the locking bolt 31 is clearly illustrated. 105 When the tumbler is rocked backward, the arm 25^a is rocked forward by spring 28 through the intermediacy of link 10^a, so the finger 30^a enters the valley between the two cams on the tumbler, and when the plunger 110 is withdrawn, as explained below, takes position over the rear corner 11^a of the plunger 11. At the discharge, the recoil of the gun causes it to kick back, overcoming the action of spring 32 and moving the 115 bolt forward, or more correctly speaking causing the gun to move back as the locking bolt stands still, which will bring the bolt beneath the shoulder 37 and prevent the plunger 11 from lowering for an instant, not 120 long enough to interfere with the rapid fire of the gun or to be noticed by the operator, but sufficiently long to prevent him accidentally and involuntarily pulling the trigger a second time to discharge the second barrel, 125 which is bound to happen unless some locking device is provided to prevent it. When the shock of recoil is over, the bolt 31 will be moved back to normal position by its spring 32, and the plunger 11 will lower and 130

the trigger be moved forward by its spring 28. A second pull on the trigger will elevate plunger 11, and as the finger 30^a of trip arm 25^a will be over the plunger and finger 30 of arm 25 out of the path thereof, the link 10^a will be elevated to operate sear 5^a and fire the left barrel. The operator can, by moving indicator slide 19 swing tumbler 17 so that either of the trip arms 25 or 25^a may be over the plunger 11 and either barrel discharged, as indicated by the exposed letters "L" or "R".

It is very desirable to have some means provided which will insure the firing of a certain barrel first and to do this I have secured a cross head 40^a to the lower inner end of bolt 41 to which the finger piece 42 at the top of the gun is secured and which must always be moved in the same direction to unlock the gun to permit it to be broken to throw out the shells and cock the hammers. This cross head 40^a is provided at its ends with rearwardly projecting pins 43 to engage the ends of a rocker bar 44, the latter pivotally secured between its ends to a screw eye 45 and connected at one side of its center by a rod 46 with the forward end of link 24. Vertically movable push rods 47 and 48 are mounted in the gun case, secured at their lower ends to the respective ends of rocker bar 44, and provided with buttons 49 at their upper ends, which may be designated "L" and "R" if desired. By pushing rod 48 down, the rocker bar 44 will be swung on its central pivot to move the right hand end of the bar 44 opposite the right hand pin 43 while the left hand end of the rocker bar 44 will be elevated above the left hand pin 43. When in this position, the turning of bolt 41 will cause right hand pin 43 to push rearward the right end of bar 44 and as rod 46 is connected to bar 44 at the right of its center, the right pin 43 will swing bar 44 and push the tumbler 17 rearward to set the mechanism to fire the left barrel first, and at the same time move the indicator to display the letter "L". When the other push rod 47 is depressed, the turning of bolt 41 will cause the tumbler 17 and indicator to be moved forward so that the parts are set to fire the right barrel.

Side notches are provided in the slot in top plate 3 to receive the lug 20 of slide 19 to lock the tumbler against movement and hence lock the trigger and prevent firing of the gun until the slide is moved laterally into normal position.

A great many changes might be made in the general form and arrangement of the parts described without departing from my invention and hence I do not restrict myself to the precise details set forth but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. In a multi-barreled fire-arm, the combination with firing means for both barrels, alternating means, a single trigger for controlling the firing means and alternating means, and trigger-controlled actuating means for the firing means and alternating means, of a device operative by the recoil to positively engage said actuating means and lock the firing means and the alternating means and prevent the operation of the firing and alternating means by the trigger.

2. In a multi-barreled fire arm, the combination with means for firing the barrels and a single trigger for releasing both firing means, of a plunger actuated by the trigger to release a single firing means when said plunger is moved by the trigger, and a locking bolt operative by the recoil of the gun to engage the plunger and prevent the return thereof for a short period.

3. In a multi-barreled fire arm, the combination with means for firing the barrels, of a single trigger to release both firing means, a plunger moved by the trigger to release a single firing means at a time, and a locking bolt operated by the recoil of the gun to temporarily lock the plunger and compel it to complete its movement.

4. In a multi-barreled fire arm, the combination with means for firing the barrels, of a single trigger to release both firing means, a plunger moved by the trigger to release a single firing means at a time, and a weighted spring held locking bolt operated by the recoil of the gun to engage the plunger and temporarily lock the plunger.

5. In a multi-barreled fire arm, the combination with means for firing the barrels, of a single trigger to release both firing means, a plunger moved by the trigger to release a single firing means at a time, devices permitting the positioning of either firing means to be operated by the plunger, and a locking bolt operative by the recoil of the gun to engage the plunger and temporarily lock the same.

6. In a multi-barreled fire arm, the combination with means for firing the barrels, of a single trigger to release both firing means, a plunger moved by the trigger, trip arms connected with the respective firing means, a tumbler holding one of said trip arms out of the path of the plunger and operated by the plunger to permit the other trip arm to move into position to be operated after the first barrel is fired.

7. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger, a plunger moved by the trigger, a tumbler, an indicator slide on the gun connected with and operated simultaneously with the tumbler, a trip arm for each

firing means, fingers on the trip arms engaged by the tumbler to dispose one in the path and the other out of the path of the plunger, and said tumbler shifted by the movement of the plunger.

8. In a multi-barreled fire-arm, the combination with firing means for the barrels, of a single trigger, a plunger moved by the trigger, a trip arm for each firing means, fingers on said trip arms normally above the plunger, a tumbler constructed to hold one trip arm at a time out of the path of the plunger, an indicator operating the tumbler and operated by the tumbler, and said tumbler also shifted by the upward movement of the plunger.

9. In a multi-barreled fire arm, the combination with means for firing the barrels, of a single trigger, a plunger elevated by the trigger, a tumbler constructed to move one firing mechanism into the path of the plunger and the other out of said path, an indicator slide on the top of the gun to shift the tumbler and be shifted by the tumbler, and said tumbler also shifted by the upward movement of the plunger to release one firing means, and a locking device operated by the recoil of the gun to temporarily hold the plunger elevated.

10. In a multi-barreled fire arm, the combination with firing means for the barrels cocked by the breaking or opening of the gun or by other means, of a single trigger constructed to release the firing means in turn, an indicator movable to shift the mechanism to release either firing means first, and a locking bolt constructed to be operated by the recoil of the gun to directly engage a part of the firing means and prevent the release of the same by an involuntary pull on the trigger.

11. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger to release both firing means, a tumbler to move either firing means into position to be operated by the trigger, and devices operated by the opening or breaking of the gun to shift the tumbler to fire either barrel first as may be desired.

12. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger to release both firing means, a tumbler to throw either firing means into position to be operated by the trigger, an indicator to operate the tumbler and be moved thereby, a rotary locking bolt on the gun to lock the gun barrels and stock in normal position, a finger piece to turn the locking bolt, a cross head on the bolt, pins on the cross head, a pivoted rocker bar, indicator plungers to shift the rocker bar to move the ends thereof into or out of the path of the pins on the cross head, and a rod connecting the rocker bar with the tumbler or indicator.

13. In a multi-barreled fire arm, the com-

bination with firing means for the barrels, and sears for releasing the firing means, pivoted links supporting the sears, trip arms connected with the links, a single trigger, a plunger elevated thereby, and a tumbler to move one of said trip arms out of the path of the plunger, and an indicator to shift the tumbler and be shifted thereby.

14. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger, a plunger moved thereby and constructed to release the firing means in turn, a spring held locking device moved forward by the recoil of the gun, a shoulder on the plunger and a beveled shoulder on the locking device to engage the plunger shoulder, compel the plunger to complete its upward movement and temporarily lock it against downward movement.

15. In a multi-barreled fire arm, the combination with firing means for the barrels, and sears for releasing said firing means, of pivotal links having studs supporting the ends of the sears, trip arms connected with the links, fingers at the upper ends of the trip arms, a single trigger, a plunger elevated by the trigger, a tumbler holding one trip arm finger out of the path of the plunger and permitting the other to rest in the path thereof and said tumbler shifted by the upward movement of the plunger, an indicator slide to shift the tumbler and be moved thereby, springs bearing down on the links and trigger, and a locking bolt operated by the recoil of the gun to temporarily hold the plunger in elevated position.

16. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger, a plunger elevated by the trigger, trip arms connected with the firing means, a tumbler to locate either trip arm in the path of the plunger and shifted by the upward movement of the plunger, lugs on the lower ends of the trip arms, and screws engaging the lugs to adjust the positions of the trip arms.

17. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger to release both firing means, a plunger having pivotal connection with the trigger, a tumbler to move either firing means into the path of the plunger, a notch in the plunger, and a locking bolt operated by the recoil of the gun to move the bolt into the notch in the plunger and temporarily lock the plunger in elevated position.

18. In a multi-barreled fire arm, the combination with firing means for the barrels, of a single trigger to release both firing means, a plunger having pivotal connection with the trigger, a tumbler to move either firing means into the path of the plunger, a notch in the plunger, and a locking bolt operated by the recoil of the gun to move the bolt into the notch in the plunger and temporarily

lock the plunger in elevated position, and a beveled shoulder on the locking bolt compelling the plunger to complete its upward stroke.

- 5 19. In a multi-barreled fire arm, the combination with firing means for both barrels, a single trigger to release the firing means in turn, an indicator slide to control which barrel is fired, a lug on the slide, and a slot in the
10 gun frame having one or more notches there-

in to receive the lug and lock the slide and trigger against movement.

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

ALFRED H. WORREST.

Witnesses:

JONAS A. GOODMAN,

CHRISTIAN G. BASSLER.