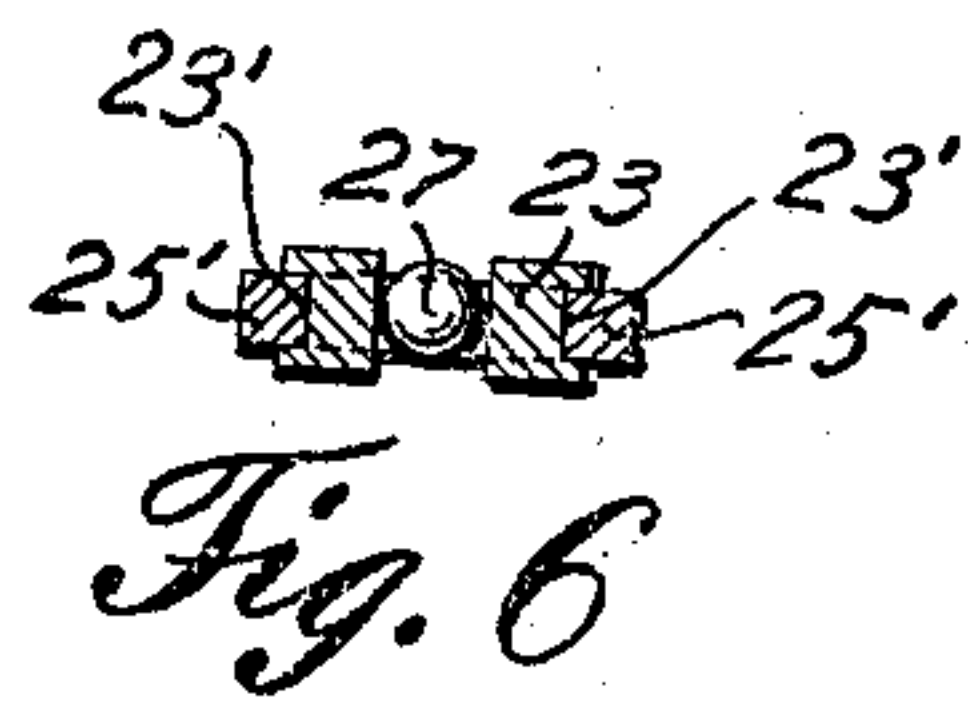
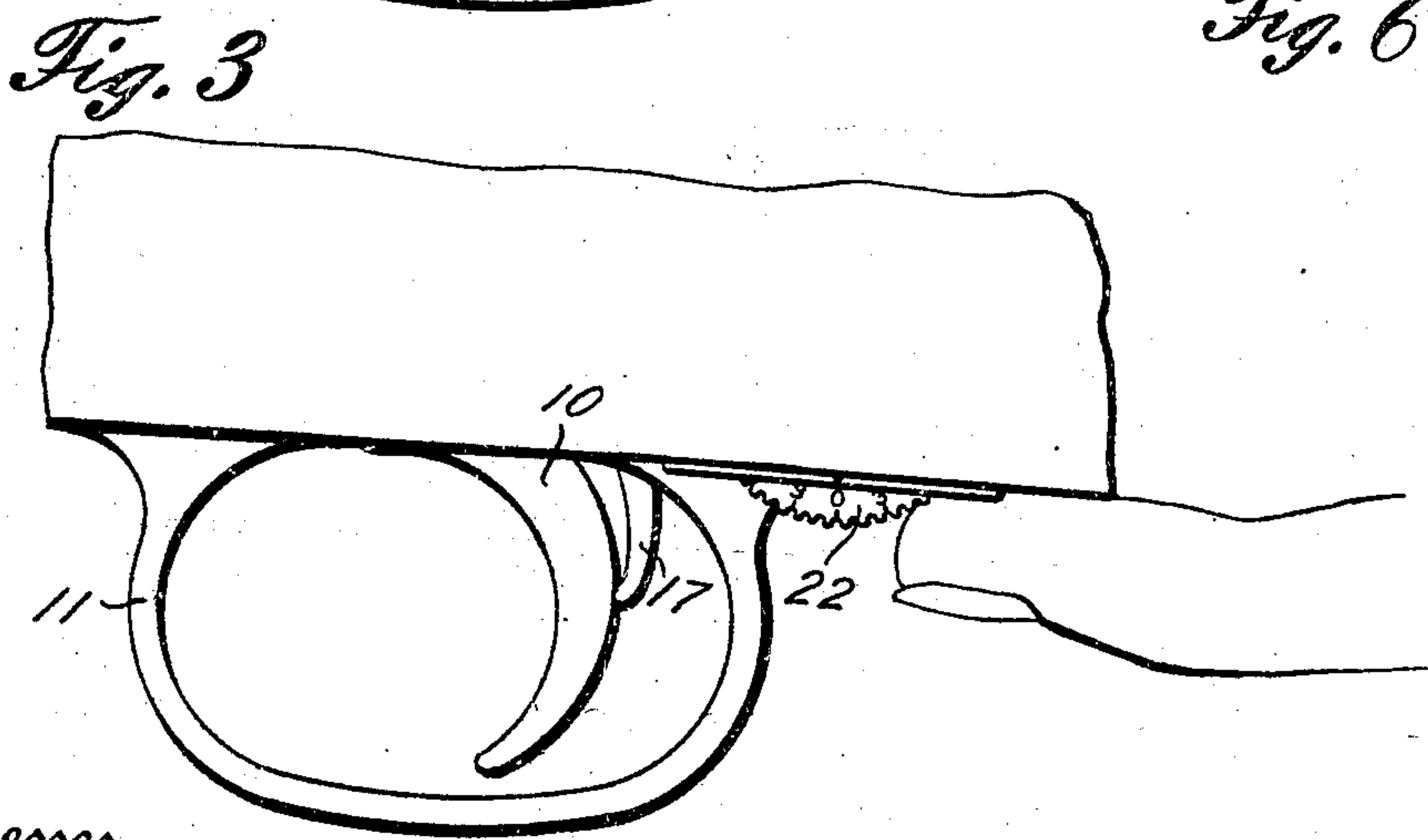
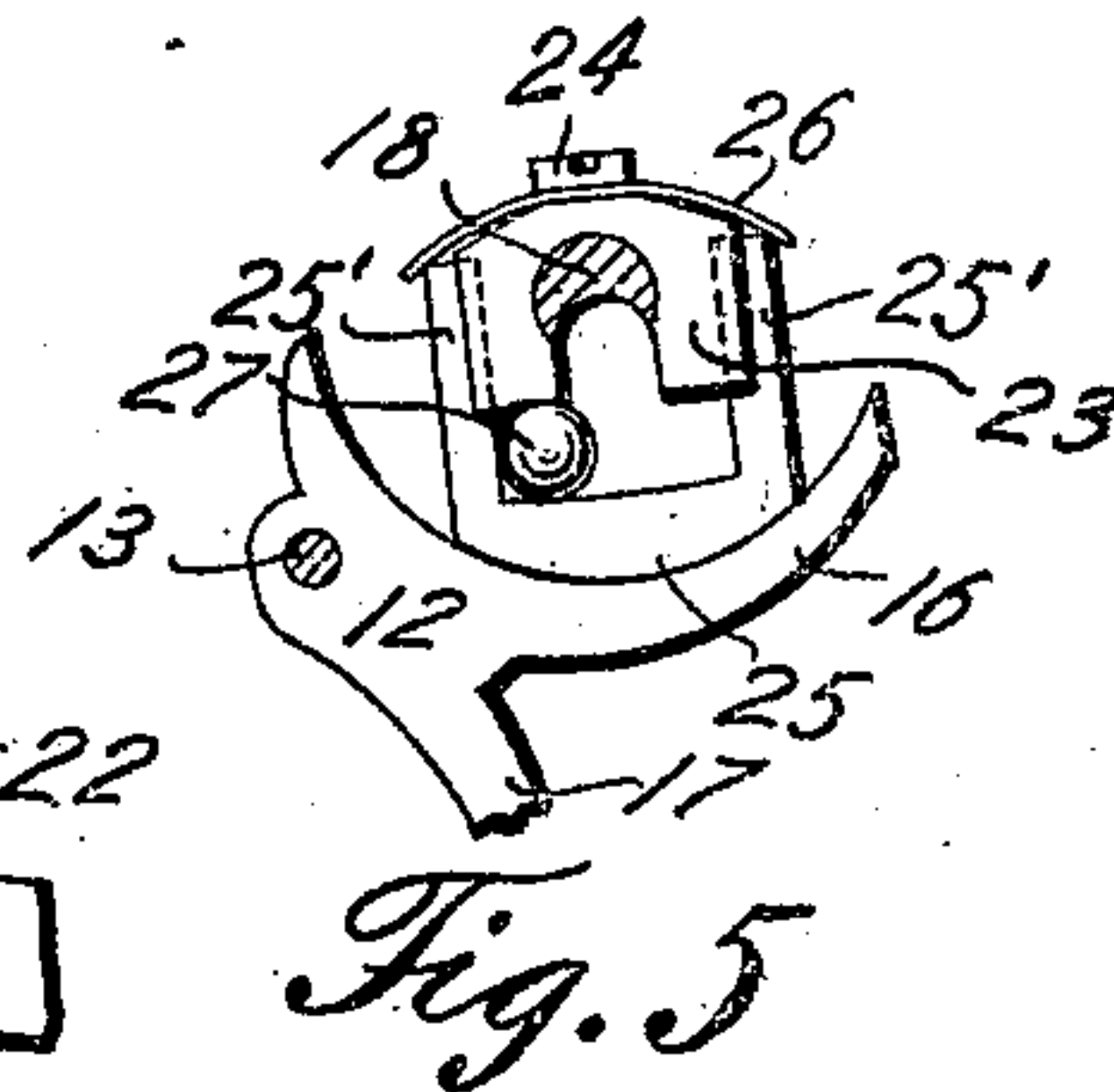
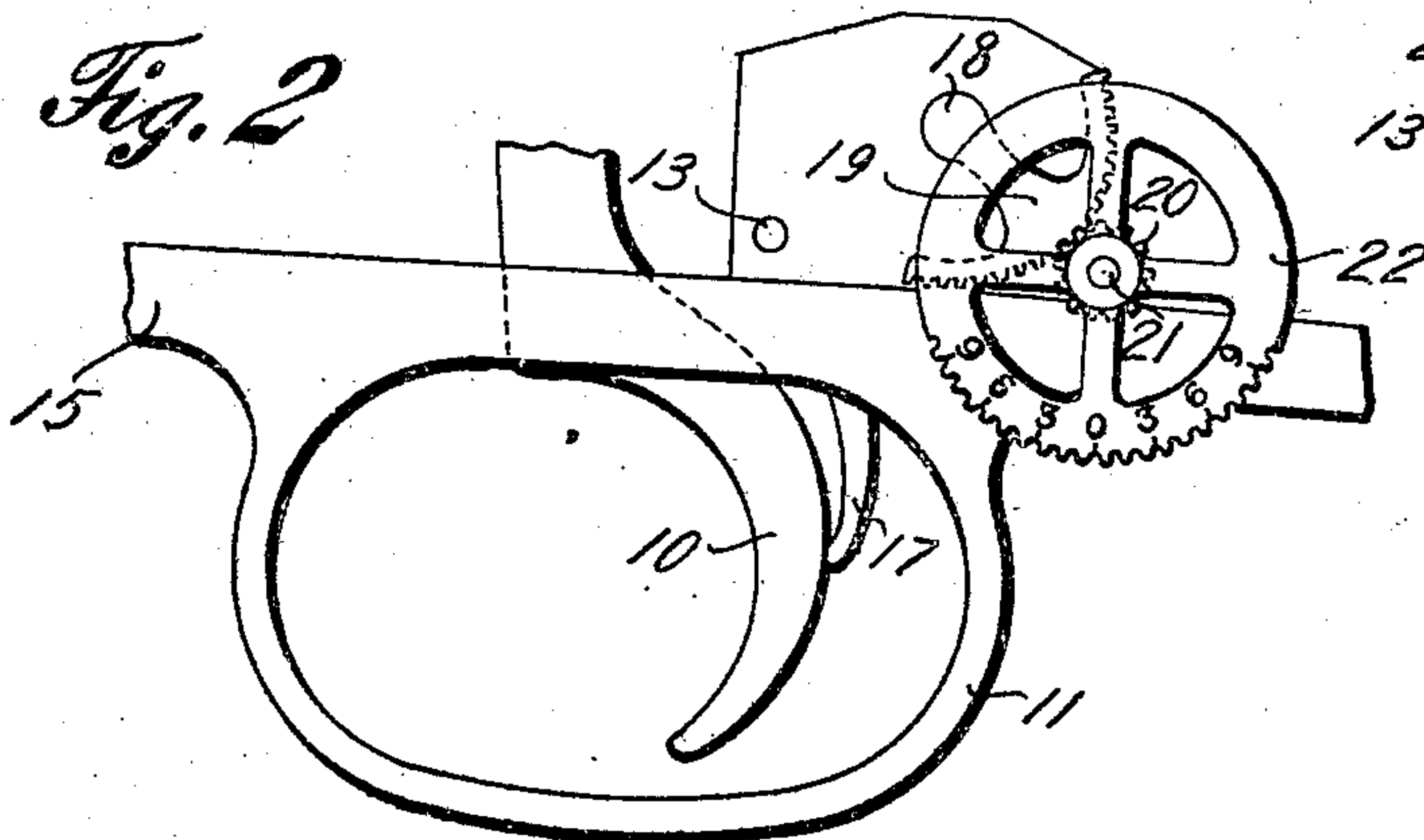
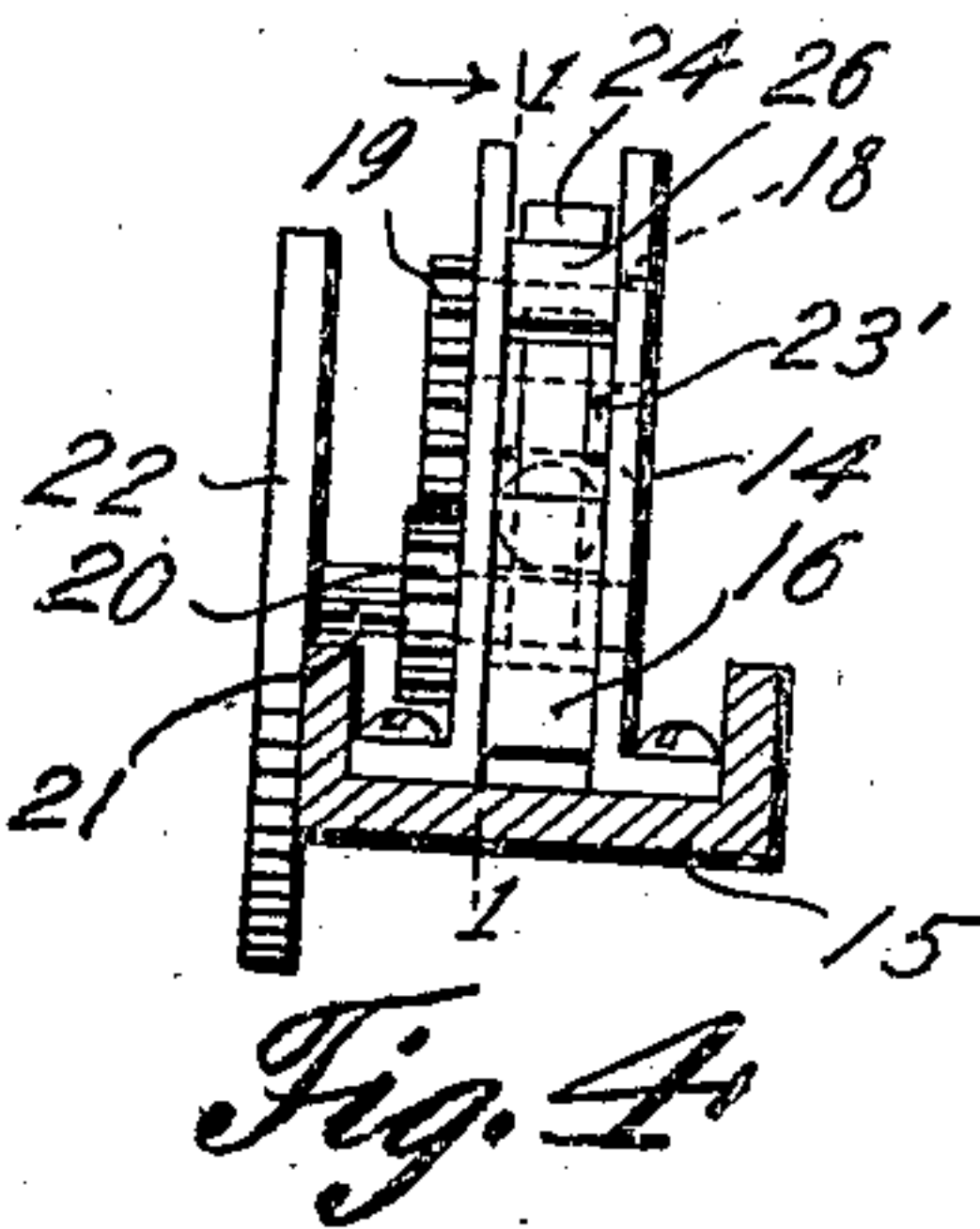
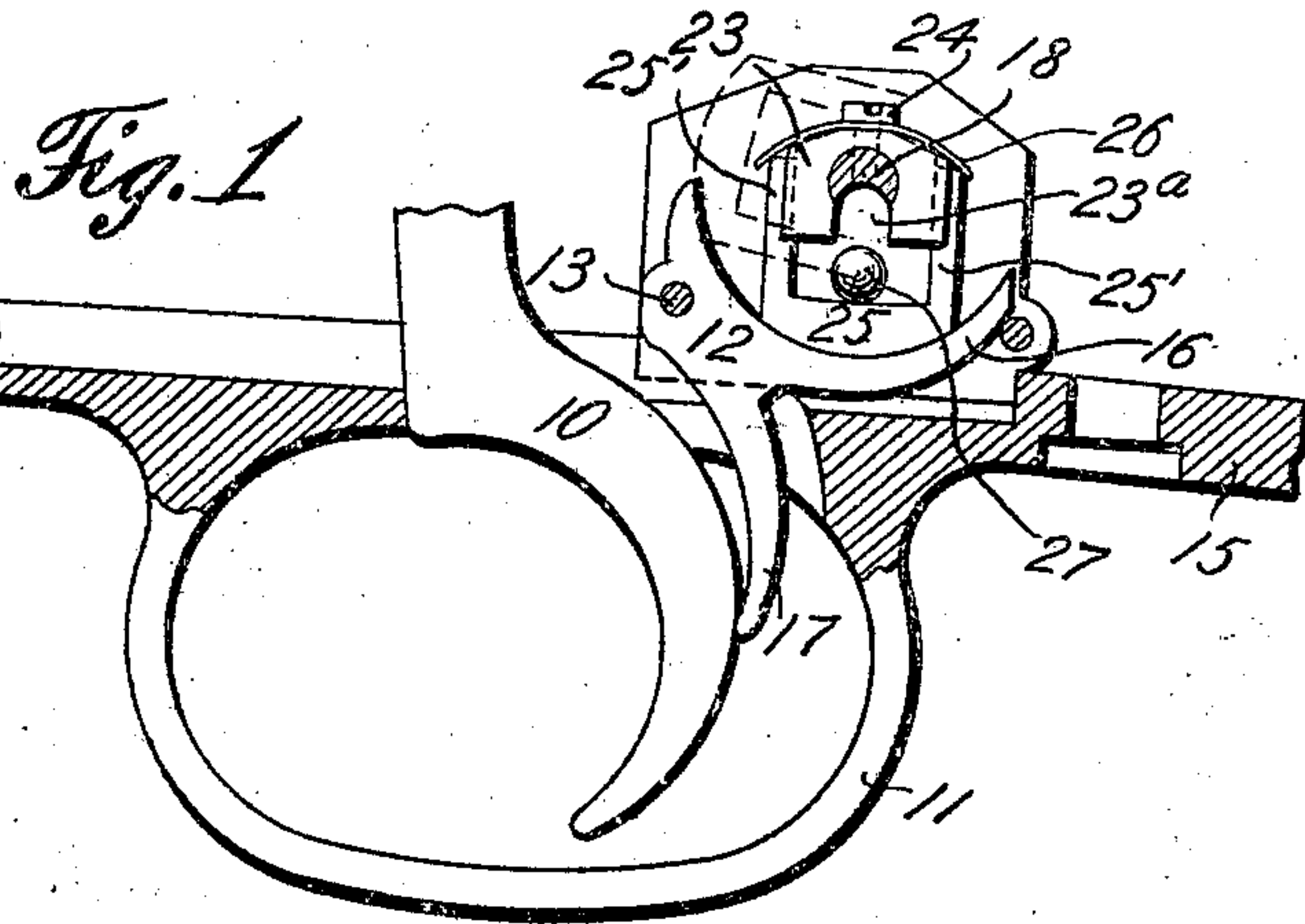


960,185.

R. A. MOORE.
TRIGGER CONTROLLER.
APPLICATION FILED NOV. 22, 1909.

Patented May 31, 1910.



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TRIGGER-CONTROLLER.

960,185.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed November 22, 1909. Serial No. 529,345.

To all whom it may concern:

Be it known that I, ROBERT A. MOORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Trigger-Controllers, of which the following is a specification.

This invention relates to fire arms, and has particular reference to a novel device adapted to control the operation of the trigger of the fire arm to which it is applied, rendering it an impossibility for the gun to be fired when held at any elevation other than that for which the device is set. By equipping the fire arm with a device of this character, and adjusting the same in accordance with the range at which it is to be fired, whether applied to a small arm or to heavy ordnance, the range having been estimated or determined by an officer in command or by any approved means, the effectiveness of the firing operation will be enhanced to a very great extent for the reasons above stated.

For a full understanding of the invention, including its construction and characteristic advantages, reference is to be had to the following detail description, and the accompanying drawings, in which:

Figure 1 is a vertical longitudinal section of a portion of a gun lock, showing certain parts of the controller in side elevation, the view being taken substantially on the line 1—1 of Fig. 4; Fig. 2 is a side elevation of the controller applied in the same position as indicated in Fig. 1, the view being taken at right angles to that of Fig. 4; Fig. 3 is a view similar to the first two figures, but showing an outside view of the gun stock; Fig. 4 is a rear elevation of the controller, the supporting means therefor being in section; Fig. 5 is a diagrammatic view of the principal parts of the controller in their relative positions when the trigger is inoperative, and Fig. 6 is a transverse sectional detail.

Throughout the following description and on the several figures of the drawings similar parts are referred to by like reference characters.

At 10 is indicated a conventional form of fire arm trigger adapted to be drawn rearwardly to fire the gun. Said trigger is surrounded as usual by a trigger guard 11.

The controller constituting the subject-

matter of this invention comprises a false trigger or dog 12 mounted at any suitable point with respect to the trigger and under certain conditions is movable to permit movement of the trigger and under other conditions it is prevented from movement and thus preventing the pulling of the trigger. The said dog or false trigger is illustrated in this instance as being a member pivoted at 13 between two stationary plates or frames 14 secured to or within the trigger plate 15. The dog includes a rearwardly extending finger 16 and a toe 17 extending downwardly substantially into contact with the rear edge of the trigger. It is to be understood however that I do not wish to be limited to the exact form or location of said dog. The form indicated constitutes in effect a bell crank, the backward movement of the toe 17 tending to cause the elevation of the finger 16. When the pivotal movement of the dog on the axis 13 is unobstructed the trigger 10 may be pulled in the usual manner.

Journaled in the plates 14 and spanning the space between them is a shaft 18. Connected to one end of said shaft in any suitable manner is a gear segment 19, whereby the said shaft may be adjusted or held stationary after being adjusted. The means indicated for operating said segment comprises a pinion 20 mounted upon an arbor 21 journaled in the rear portion of the plates 14. Said arbor 21 also carries a circular thumb or finger-piece 22, a small portion of which projects downwardly below the gun stock so as to be manipulated for the purpose of adjustment of the controller. Said finger-piece 22 constitutes a graduated indicator having a normal or zero point from which on opposite sides extend a series of graduations indicated in any suitable manner as by numerals. The zero mark may indicate a normal level at which the gun may be fired and the other characters would then indicate a certain elevation or depression, respectively. It is to be understood that the adjusting mechanism just described will be so constructed as to normally remain in stationary position, subject to intentional adjustment, and hence the shaft 18 may be regarded as a stationary support for the parts carried thereby and hereinafter described.

A block or abutment 23 is located between

the side plates 14 and is fixed to the shaft 18 by any suitable means, such as a set screw 24, and said abutment is shown as being provided on its front and rear edges with vertical grooves 23' and on its bottom midway of said edges with a notch 23^a. In order to make the device compact and thus occupy a minimum amount of space within the gun, an important factor in this art, the notch 23^a may extend within the circumference of the shaft 18 as indicated in Fig. 1. A yoke or plunger 25 rests normally upon the upper edge of the dog finger 16 and is provided with parallel legs 25' which slide vertically in the aforesaid grooves 23' when the dog is turned on its pivot by operation of the trigger. The upward movement of said plunger 25 is resiliently resisted by any suitable mechanism, such as a light leaf spring 26, shown as held in place upon the abutment by the set screw 24, the ends of the spring overlapping the upper ends of the lugs 25'. A gravity roller shown as a ball 27 is adapted to roll freely between said legs 25' of the plunger and upon the bottom of said plunger, and the surface of the plunger on which the ball rolls is slightly concave. The vertical space between said plunger bottom and the lower surface of the abutment 23 is substantially equal to the diameter of the ball or a trifle greater. When the plunger bottom is horizontal the ball will occupy the point indicated in Fig. 1 and in such position the trigger may be pulled freely, the ball 27 being lifted by the plunger into the notch 23^a. Upon release of the trigger the parts of the controller will be restored to their normal position by virtue of the spring 26. If the gun be elevated or depressed as indicated in Fig. 5, the plunger bottom will not be horizontal and therefore the ball will roll toward one end thereof or the other, and if an attempt be made to pull the trigger at such a time the ball will strike against the bottom of the abutment and positively prevent the lifting of the plunger and movement of the dog.

In order to provide for the proper adjustment of the controller as already described, the finger 16 is preferably formed on an arc of a circle drawn from the axis of the shaft 18 as a center. When therefore the shaft 18 and the abutment connected thereto are rotated during adjustment, the plunger will likewise be turned to the desired angle, but the operation thereof with respect to the dog finger will remain substantially the same. During such adjustment the bottom of the plunger slides along the arc-shaped surface of the finger 16. Upon turning the abutment around so that the plunger will occupy the position indicated in dotted lines in Fig. 1 the controller will become inoperative, permitting free movement of the trig-

ger as would be the case if the controller were not employed.

I claim:

1. In combination with a trigger, a trigger controller comprising an abutment having a notch, a plunger slidable toward and from the abutment, a gravity roller carried by the plunger between the plunger and the abutment, the roller in a certain predetermined position being adapted to enter said notch and in other positions to impinge against the abutment, and means coöperating with the trigger and normally supporting said plunger.

2. In combination, a trigger, a dog pivotally mounted adjacent to the trigger and in engagement therewith, an abutment having a notch, a plunger supported upon said dog and slidable toward and from said abutment, a roller carried upon the plunger between the plunger and the abutment and adapted to enter said notch when the plunger is moved toward the abutment, and means to normally force the plunger away from the abutment.

3. In a trigger controller, the combination with a trigger, of an abutment having a notch, a plunger coöperating with said abutment, a gravity roller carried upon the plunger between the plunger and the abutment, and a bell crank one portion of which engages with the trigger and the other portion of which normally supports said plunger, whereby when the roller support is horizontal the roller will enter the notch but when the said support is other than horizontal the roller will impinge against the abutment, preventing operation of the trigger.

4. In a trigger controller, the combination of an abutment having a notch, a plunger associated with said abutment and movable toward the same under certain conditions, means to support and move said plunger, and gravity means carried upon the plunger and under certain other conditions preventing movement thereof toward the abutment.

5. In a trigger controller, the combination of a frame, a shaft adjustably mounted in said frame, a plunger movable toward and from said shaft, guiding means connected to the shaft for determining the position of the plunger, means carried by the plunger to control the movement thereof with respect to the shaft, and means for determining the position of said shaft comprising an indicator wheel and interposed gearing between the same and the shaft.

6. In a trigger controller, the combination of a frame, an adjustable shaft mounted in said frame, an abutment connected to the shaft, a plunger movable toward the abutment and shaft, said abutment having guiding grooves for the plunger and an intermediate notch, a gravity roller carried by

the plunger between the plunger and the abutment and adapted to enter said notch when the roller supporting portion of the plunger is horizontal, means for coöperating with said plunger to move the same toward the shaft and abutment under the conditions indicated, and means to rotate said shaft to vary the effective operative positions of the plunger and roller.

7. In a trigger controller, the combination of an abutment, a plunger movable toward and from said abutment, a dog coöperating with the plunger, a gravity roller between the plunger and the abutment adapted to resist movement of the plunger and operating means therefor under certain conditions, and a spring tending normally to keep the plunger spaced from the abutment and in contact with the plunger operating means.

8. In combination with a trigger, a trigger controller comprising a pair of spaced plates, an abutment between said plates, a plunger between said plates movable toward and from the abutment, gravity means between the plunger and the abutment adapted to resist said movement of the plunger under cer-

tain conditions, and a dog mounted between said plates having one portion thereof in contact with the plunger and another portion thereof in contact with the trigger.

9. In combination with a trigger, a trigger controller comprising a pair of spaced plates, a shaft journaled in said plates, an abutment connected to said shaft, a plunger coöperating with the abutment and movable toward and from the same when in a certain predetermined position, a gravity roller carried by the plunger between the plunger and the abutment and serving to prevent movement of the plunger toward the abutment in other positions, and a dog pivoted between said plates and having one portion thereof curved substantially on an arc of a circle from the center of said shaft and another portion co-operating with the trigger, substantially as set forth.

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

ROBERT A. MOORE.

Witnesses:

J. L. FRANZ,

JAS. J. PIERCE.