

No. 791,936.

PATENTED JUNE 6. 1905.

K. C. McNEILL.
TRIGGER MECHANISM FOR FIREARMS.
APPLICATION FILED FEB. 25, 1904.

3 SHEETS—SHEET 1.

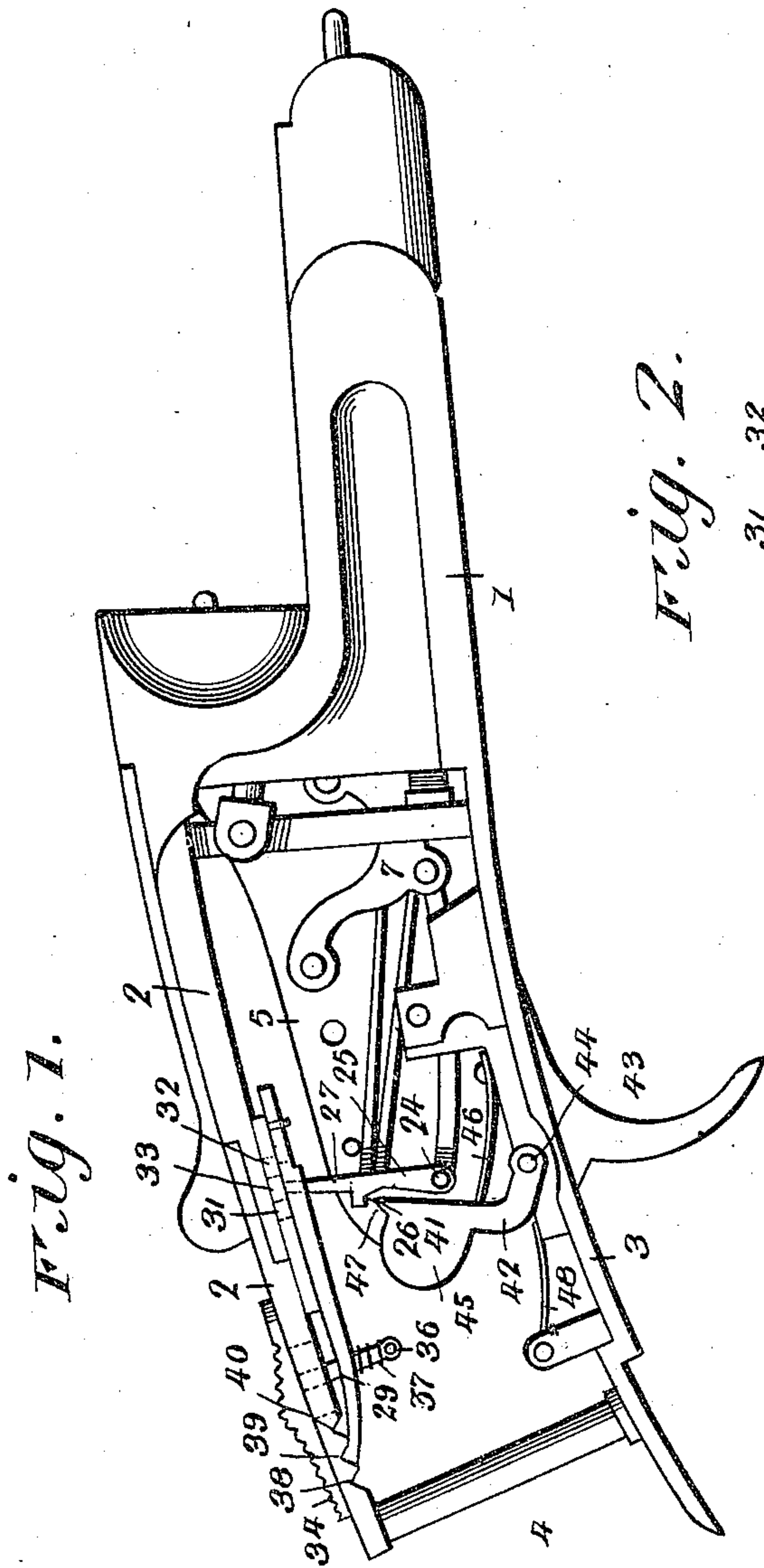


Fig. 2.

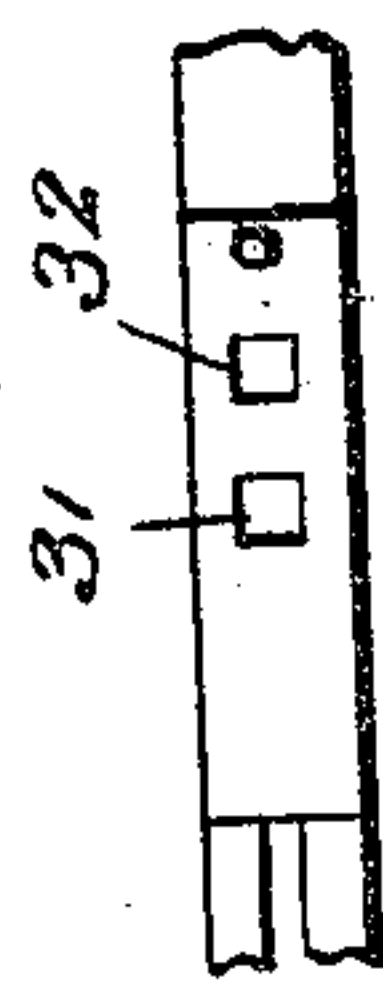


Fig. 3.

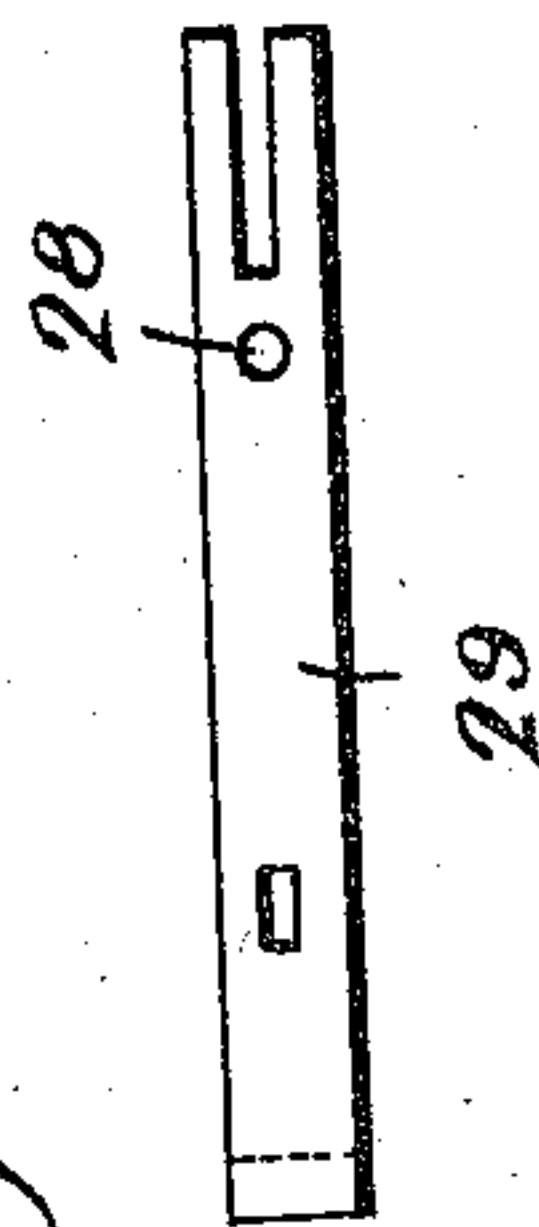
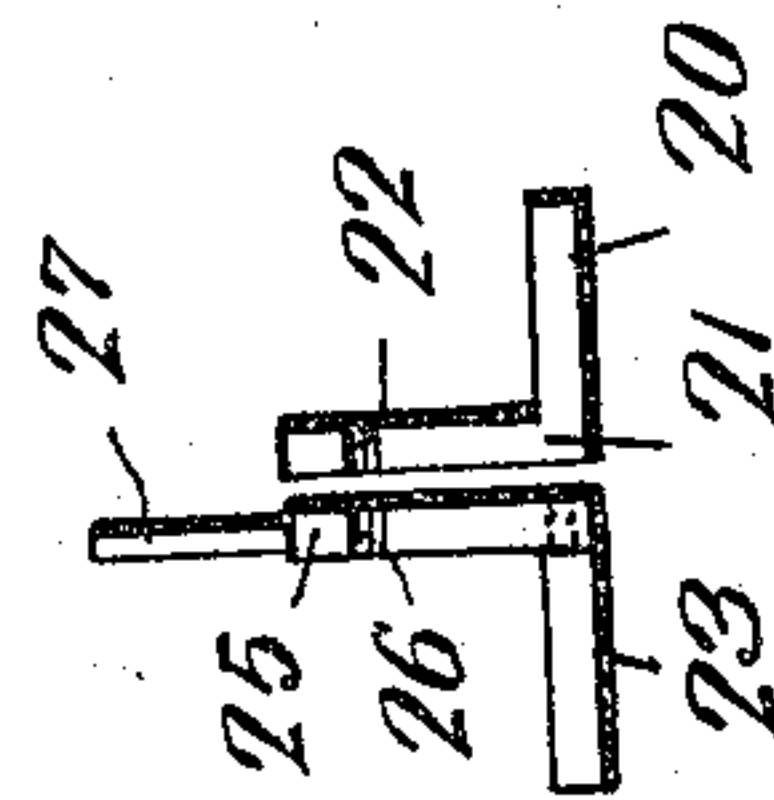


Fig. 4.



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3 SHEETS—SHEET 2.

Fig. 5.

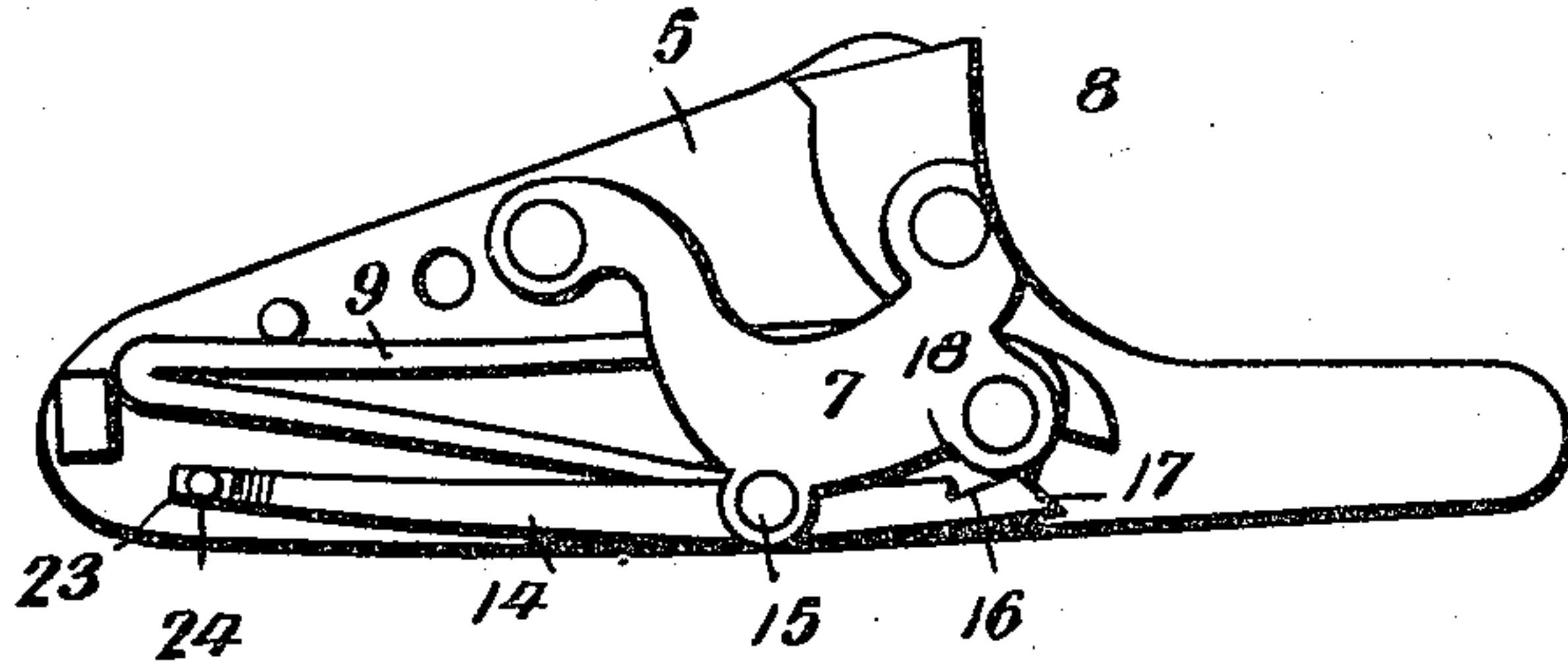


Fig. 6.

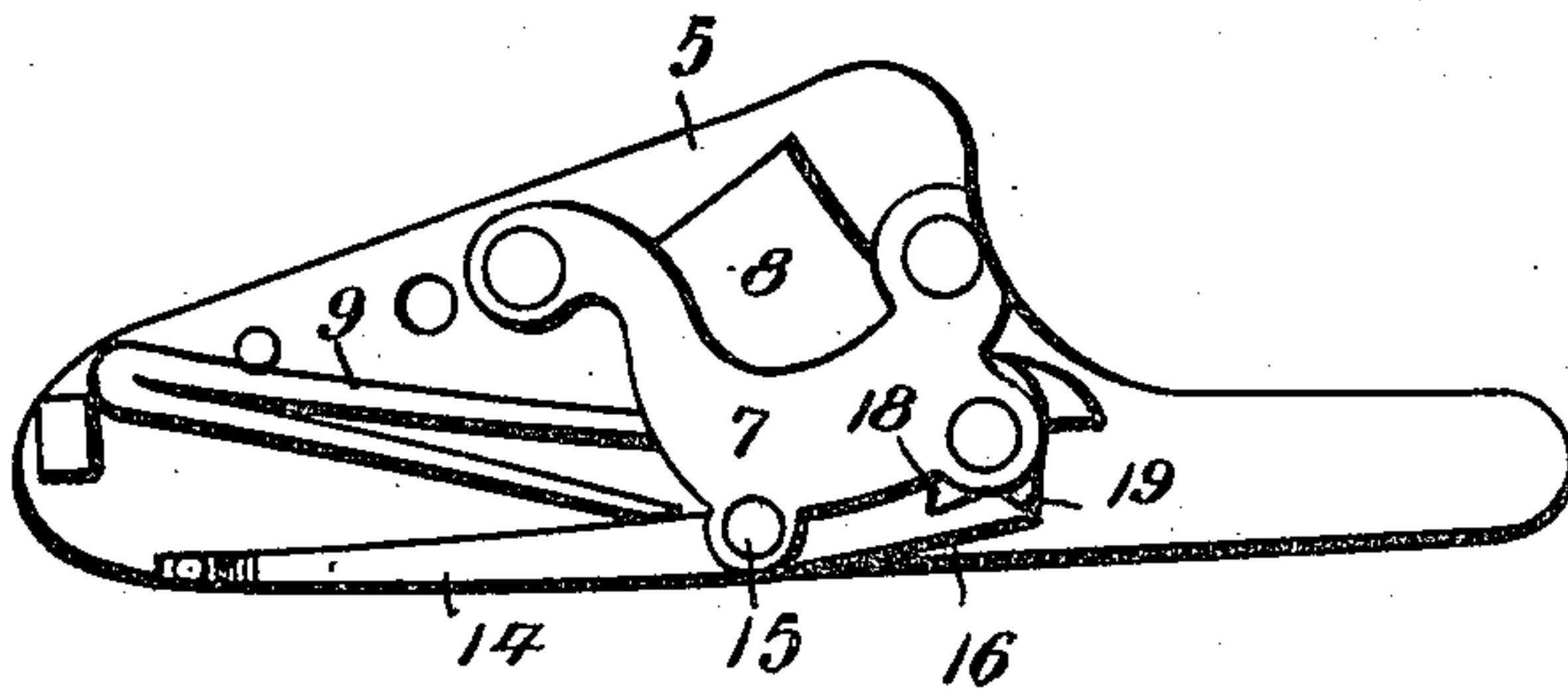


Fig. 7.

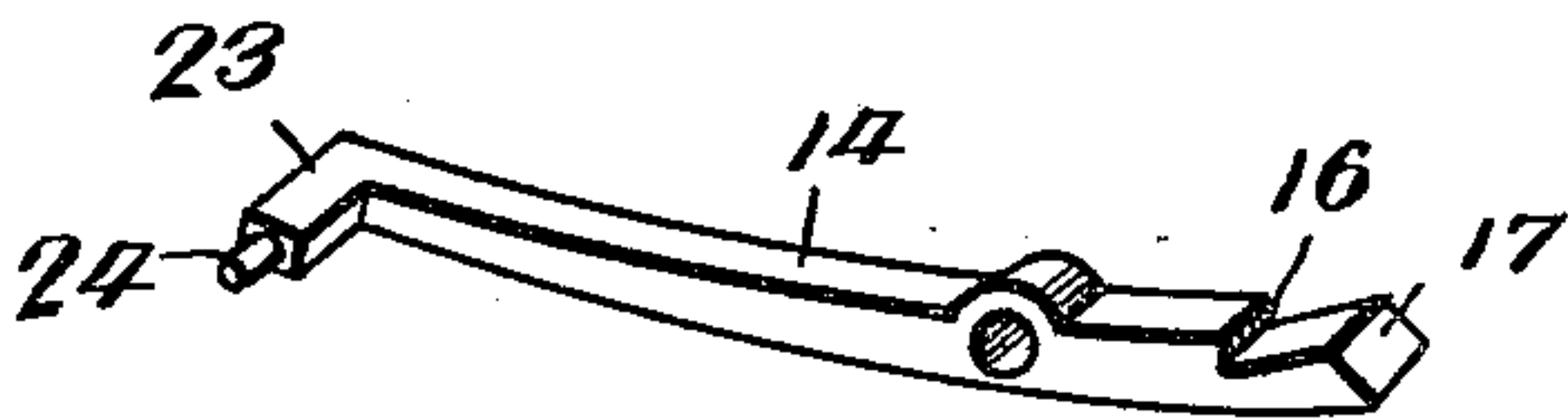
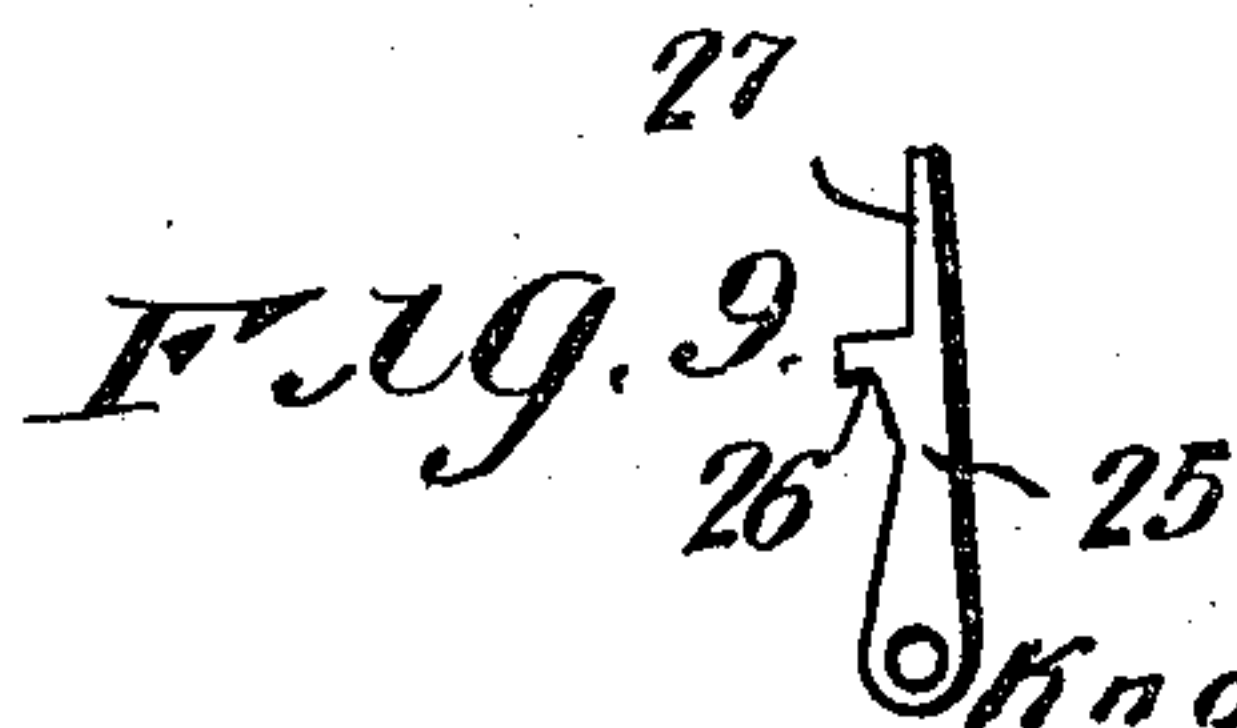
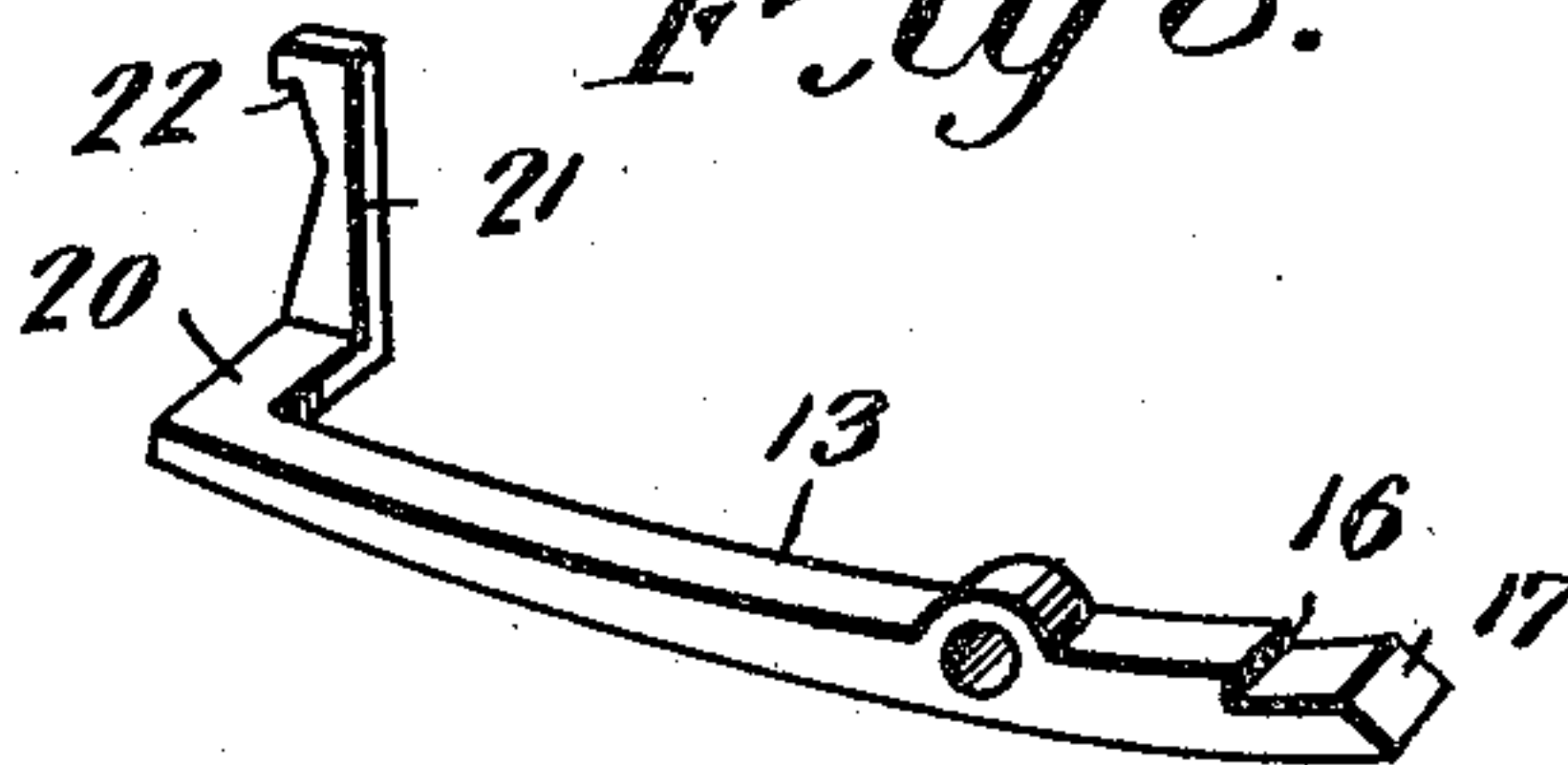


Fig. 8.



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3 SHEETS—SHEET 3.

Fig. 10.

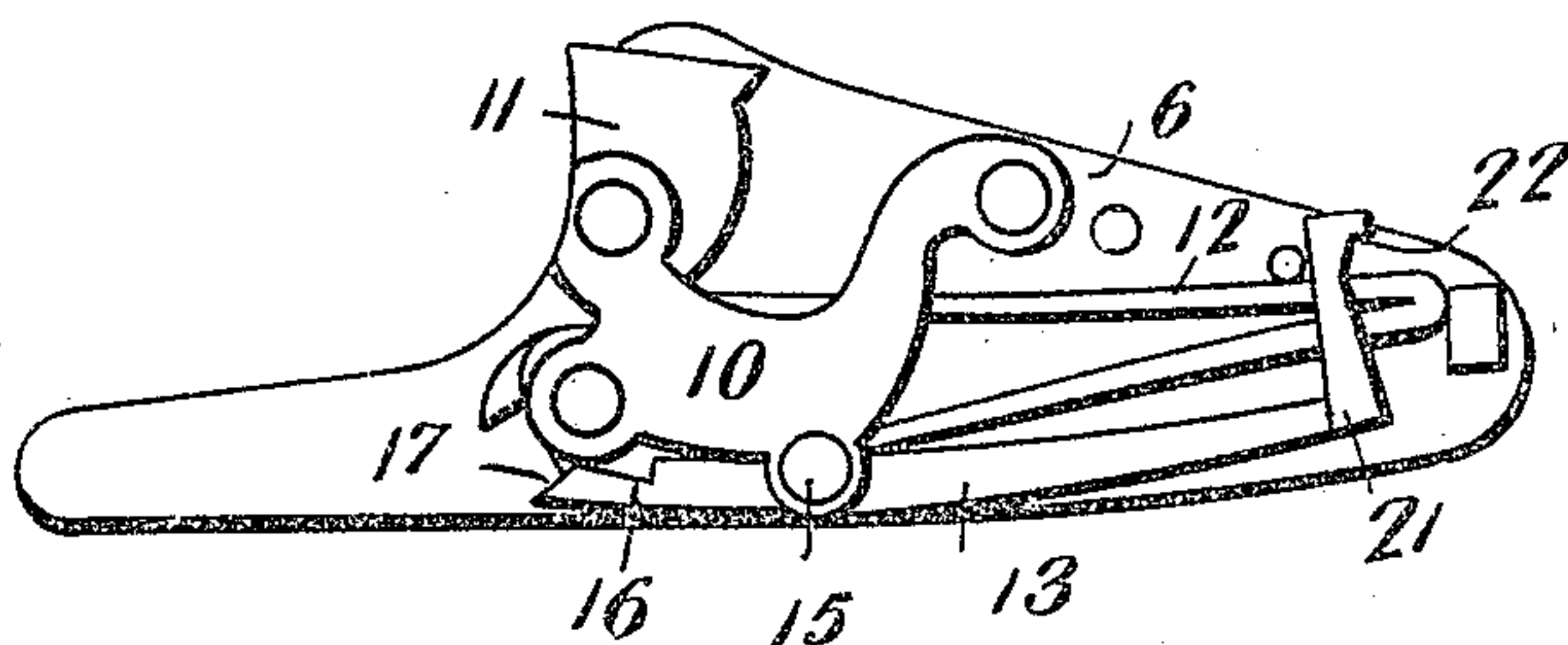


Fig. 11.

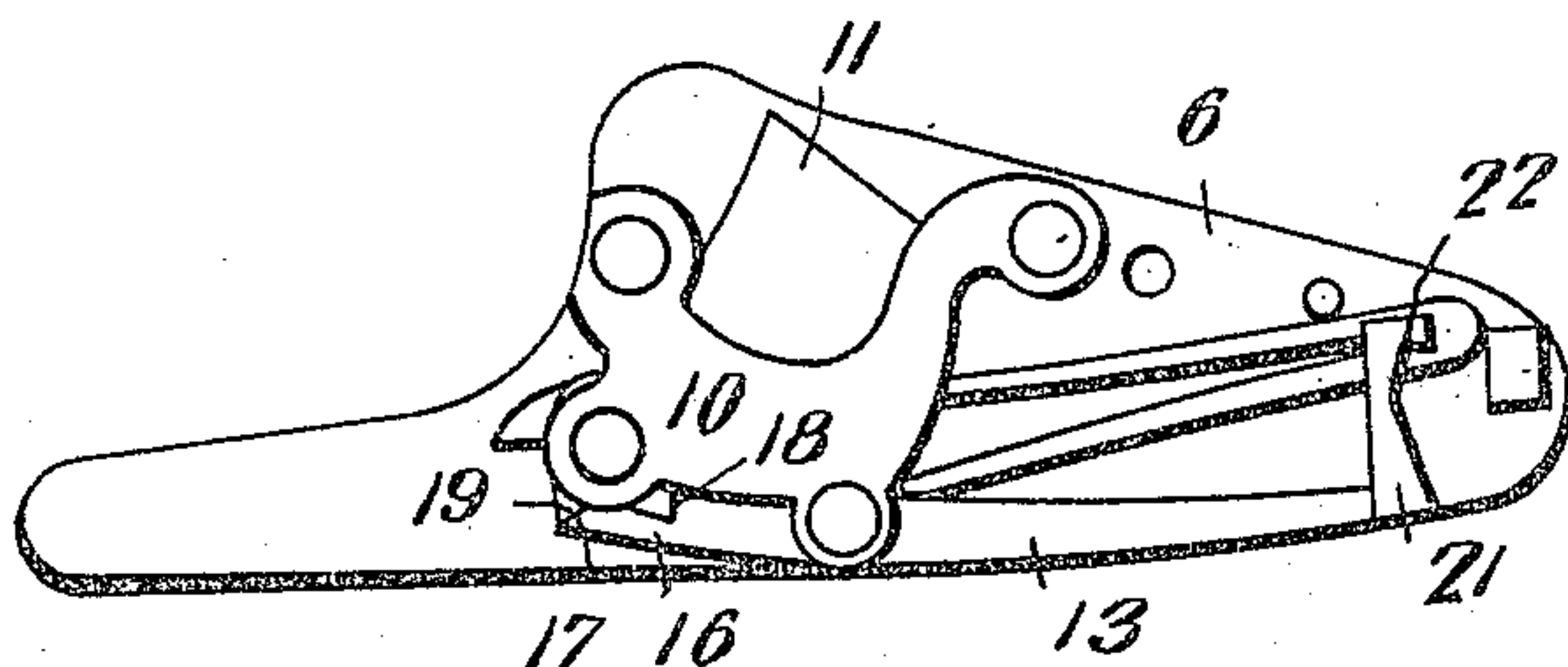


Fig. 12.

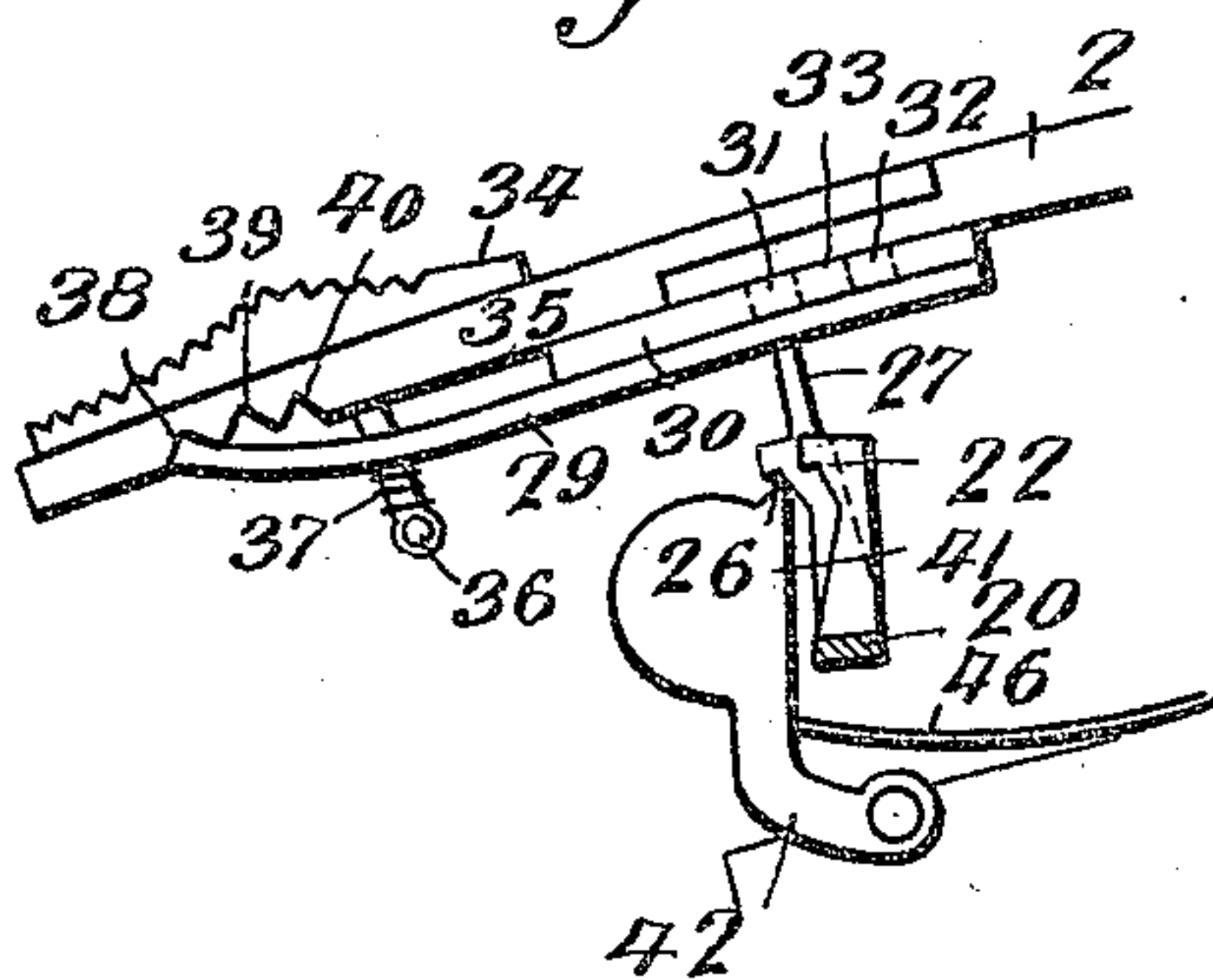
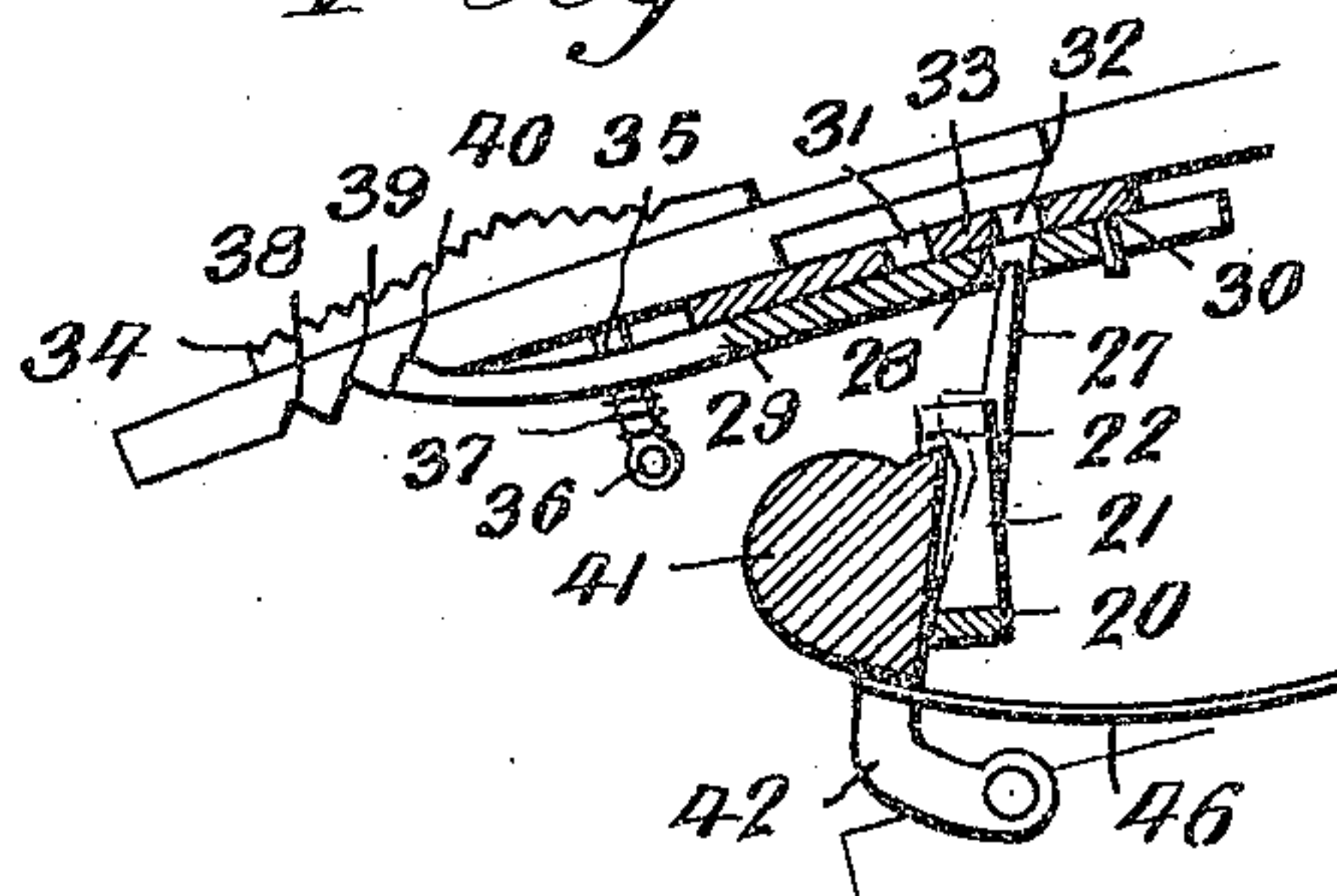


Fig. 13.



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UNITED STATES PATENT OFFICE.

KNOWLTON CYRUS McNEILL, OF CHANDLERVILLE, ILLINOIS.

TRIGGER MECHANISM FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 791,936, dated June 6, 1905.

Application filed February 25, 1904. Serial No. 195,236.

To all whom it may concern:

Be it known that I, KNOWLTON CYRUS McNEILL, a citizen of the United States, residing at Chandlerville, in the county of Cass and State of Illinois, have invented new and useful Improvements in Trigger Mechanism for Firearms, of which the following is a specification.

This invention relates to firearms, and particularly to the trigger mechanism, the object of the invention being to provide a single-trigger mechanism for breakdown guns which will enable both barrels of the gun to be fired individually and at different times one after the other, either barrel first, as may be preferred.

The invention also enables the mechanism to be set so as to avoid any danger of firing either barrel when adjusted to a position of safety.

A further object of the invention is to so construct and arrange the trigger mechanism that simplicity and reliability will be attained without resort to delicate parts and consequent liability of getting out of order.

With the above general objects in view the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully illustrated, described, and claimed.

In the accompanying drawings, Figure 1 is an elevation of the breech-frame of a firearm with the right-hand plate or lock removed to show the trigger mechanism. Fig. 2 is a plan view of the socket-plate, showing also a portion of the slide which controls and sets the sear-catches. Fig. 3 is a plan view of the catch-setting slide. Fig. 4 is a rear end elevation of the sears and the catches carried thereby. Figs. 5 and 6 are inside elevations of the left-hand plate or lock, showing the snapped and cocked positions, respectively. Figs. 7 and 8 are detail perspective views of the left and right sears, respectively. Fig. 9 is a detail elevation of the catch of the left-hand sear. Figs. 10 and 11 are inside elevations of the right-hand plate or lock, showing the snapped and cocked positions of the sears, respectively. Fig. 12 is a detail view showing the first position of the thumb-piece and

sliding plate or slide, and Fig. 13 is a similar view showing the third position of the same parts.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates a breech-frame of the usual breakdown type and having the tang 2 and trigger-plate 3, respectively, connected at the rear by means of a brace or post 4, while 5 designates the left-hand plate or lock and 6 the right-hand plate or lock, the said parts being of the usual construction and arrangement.

Referring to Figs. 5 and 6, it will be seen that the left-hand plate or lock 5 comprises the usual yoke or frame-piece 7, pivoted hammer 8, and mainspring 9. By reference to Figs. 10 and 11 it will be seen that the right-hand plate or lock comprises the usual yoke or frame-piece 10, hammer 11, and mainspring 12. In carrying out the present invention right and left hand sears 13 and 14, respectively, are pivotally mounted in the usual manner at intermediate their ends, and the forward end of each sear is provided with a notch 16 and an inclined terminal shoulder or extremity 17, while each hammer is provided with a sear-engaging shoulder 18 and in addition thereto a wedge-shaped projection, one side of which is inclined, as shown at 19, the said inclined shoulder cooperating with the inclined terminal shoulder 17 of the sear, so that as the hammer is thrown forward by the spring the shoulder 19 operates with a cam action on the shoulder 17, depressing the forward end of the sear and elevating the rear extremity thereof, as clearly illustrated in Figs. 5, 6, 10, and 11.

The right-hand sear 13 is provided at its rear extremity with a lateral offset 20, from which rises a fixed catch 21, provided with a hook-shaped or undercut shoulder 22, adapted to be engaged by the sear-actuator, hereinafter more particularly described. The left-hand sear 14 is also provided with a lateral offset 23, to which is pivotally connected at 24 a swinging catch 25, which is provided with a shoulder 26 for engagement with the sear-actuator. In addition to its pivotal re-

lation to the sear 14 the catch 25 also differs from the catch 21 in that it is provided with a locking projection 27, preferably in the form of a pin, which extends upward from the catch, so as to enter a socket or opening 28 in a slide 29, located just beneath the upper tang 2 of the frame, as best illustrated in Figs. 1, 12, and 13. The slide 29 is adapted to move lengthwise of the tang and rides in contact with a socket-plate 30, interposed between the slide and the tang 2 and provided with a plurality of openings or sockets 31 and 32 and an intervening imperforate portion 33.

The slide 29 is moved lengthwise by means of the usual sliding thumb-piece 34, which in firearms now in use is employed to lock or release the trigger mechanism, so as to set the same for firing or safety. The thumb-piece 34 is provided with a pin or shank 35, which works through a slot in the tang 32 and also passes through an opening in the slide 29, said shank or pin being provided with a shoulder or stop 36, between which and the slide 29 is arranged a spring 37, which operates to hold the rear end of the slide yieldingly toward the tang 2. Three notches 38, 39, and 40 are provided in the tang 2, into any one of which the extremity of the yielding and sliding plate 29 is adapted to snap for the purpose of holding the plate, and consequently the pivoted catch 25, in one of three positions, the spring 37 allowing the extremity of the slide or plate 29 to snap into or past the said notches and the shoulders formed thereby.

When the slide or plate 29 is in the first position, the extremity thereof engages the first notch 38 and holds the locking projection 27 in line with the socket 31, so that the catch 25 may move upward. When the slide or plate 29 is in engagement with the notch 40, the locking projection 27 is in line with the socket 32, which arrangement of parts also permits the catch 25 to move upward. When, however, the slide or plate 29 is in engagement with the intermediate or second notch 39, the locking projection 27 is in line with the imperforate or solid portion 33 of the socket-plate, which prevents any upward movement of the catch 25. As the upward movement of the catch 25 is necessary to the firing operation, it will be understood that when the catch 25 is in the intermediate or middle position the trigger mechanism is at safety, which prevents the firing of the gun.

The catches 21 and 25 are raised and operated by means of a sear-actuator 41, the shank 42 of which is slotted to straddle the tang or body portion of the trigger 43, which is pivotally mounted in the usual manner, said sear-actuator being pivotally connected to the trigger, as shown at 44. The sear-actuator is also weighted at the rear, as shown at 45, to

give the same a normal tendency away from the catches; but said sear-actuator is held yieldingly toward the catches by means of a spring 46, one extremity of which is secured to the trigger of the gun, while the free end thereof passes through the slotted shank of the sear-actuator and exerts an upward pressure thereon, so as to hold the engaging point 47 of the dog in engagement with the shoulder of one or both of the catches 21 and 25, according to the position of the slide or plate 29. 48 designates the trigger-spring.

The operation of the mechanism will be readily understood by reference to Figs. 1, 12, and 13, in which it will be observed that when the slide or plate 29 is thrown rearward to the first position the sear-actuator 41 engages the pivoted catch 25 and when the trigger is operated the said catch is moved upward, which movement is permitted by reason of the fact that the locking projection 27 is in line with the socket 31. When the trigger is now operated, the left-hand sear is vibrated and the hammer of the left-hand barrel released. When the plate is pushed forward to the third position or so as to engage the notch 40, the catch 25 is swung far enough forward to allow the sear-actuator to engage the shoulder of the catch 21, so that when the sear-actuator is raised said catch is lifted, thus operating the sear and snapping the hammer of the right-hand barrel. When the sliding plate is adjusted to the middle position, the sear-actuator engages the shoulders of both catches 21 and 25; but the locking projection 27 is then in line with the imperforate or solid portion of the socket-plate 30 just between the sockets 31 and 32, and therefore the catch 25 is prevented from moving upward, and as a result the trigger mechanism is locked and incapable of any movement which will result in the firing of either barrel.

It will be apparent that the operator may fire either barrel first, as he may desire, the left-hand sear being placed in operative relation to the trigger by sliding the thumb-piece 34 rearward and the right-hand sear being placed in operative relation to the sear-actuator by sliding said thumb-piece to the forward limit of its movement. The mechanism above described obtains the greatest simplicity of mechanism, no greater number of parts being used than are now employed in the ordinary double-trigger mechanism. The mechanism is also durable, and no delicate parts liable to get out of order are resorted to. The mechanism is also arranged with special reference to taking up the recoil of the gun in firing, thus avoiding unintentional firing of the remaining barrel. The mechanism also enables the gunner to select either barrel he desires to fire primarily and to follow the same up quickly by firing the remaining barrel. In case the first barrel

snaps the second may be fired instantly without changing or shifting the mechanism, and vice versa.

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

1. The combination with a plurality of firing mechanisms, each having a sear, of a trigger common to both firing mechanisms, a sear-actuator connected with the trigger, a catch fixed to one sear, a second catch movably connected with the other sear, and means for shifting the movable catch into engagement with the sear-actuator while moving said sear-actuator out of engagement with the fixed catch, and for shifting said movable catch out of engagement with the sear-actuator while permitting said sear-actuator to engage the fixed catch.

2. The combination with a plurality of firing mechanisms each having a sear, of a trigger common to both mechanisms, a sear-actuator pivotally connected with the trigger, a fixed catch on one sear, a movable catch on the other sear, and a sliding plate for moving the movable catch either into inoperative position or into and out of engagement with the sear-actuator, said sear-actuator being disengaged from the fixed catch when engaged by the movable catch, engaged with the fixed catch when disengaged from the movable

catch, and engaged with both catches when the movable catch is in inoperative position.

3. The combination with a plurality of firing mechanisms involving sears, of a trigger common to both firing mechanisms, a fixed catch on one sear, a catch having a jointed connection with the other sear, means for shifting the jointed catch to throw the same into and out of alinement with the fixed catch, and a sear-actuator having a yielding connection with the trigger and adapted to engage one or the other or both of said catches, substantially as and for the purpose described.

4. The combination of firing mechanisms, each having a sear, a trigger, a sear-actuator pivotally connected with the trigger, a fixed catch on one sear, a movable catch on the other sear, a locking projection on the movable catch, a sliding plate engaged with the locking projection, a socket-plate adjacent to the sliding plate, means for retaining the sliding plate in different positions, and a finger-piece for actuating the sliding plate.

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

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Witnesses:

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