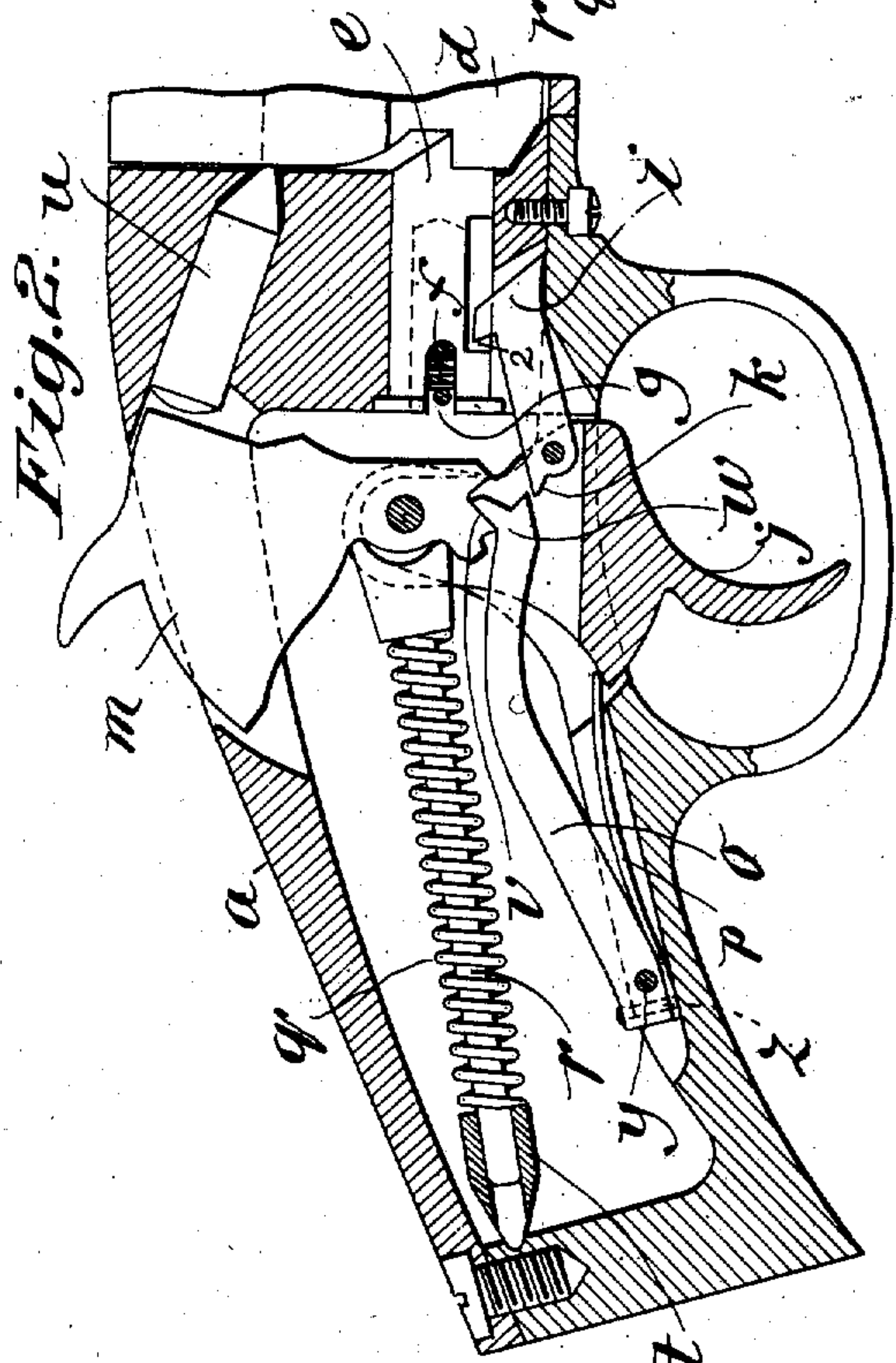
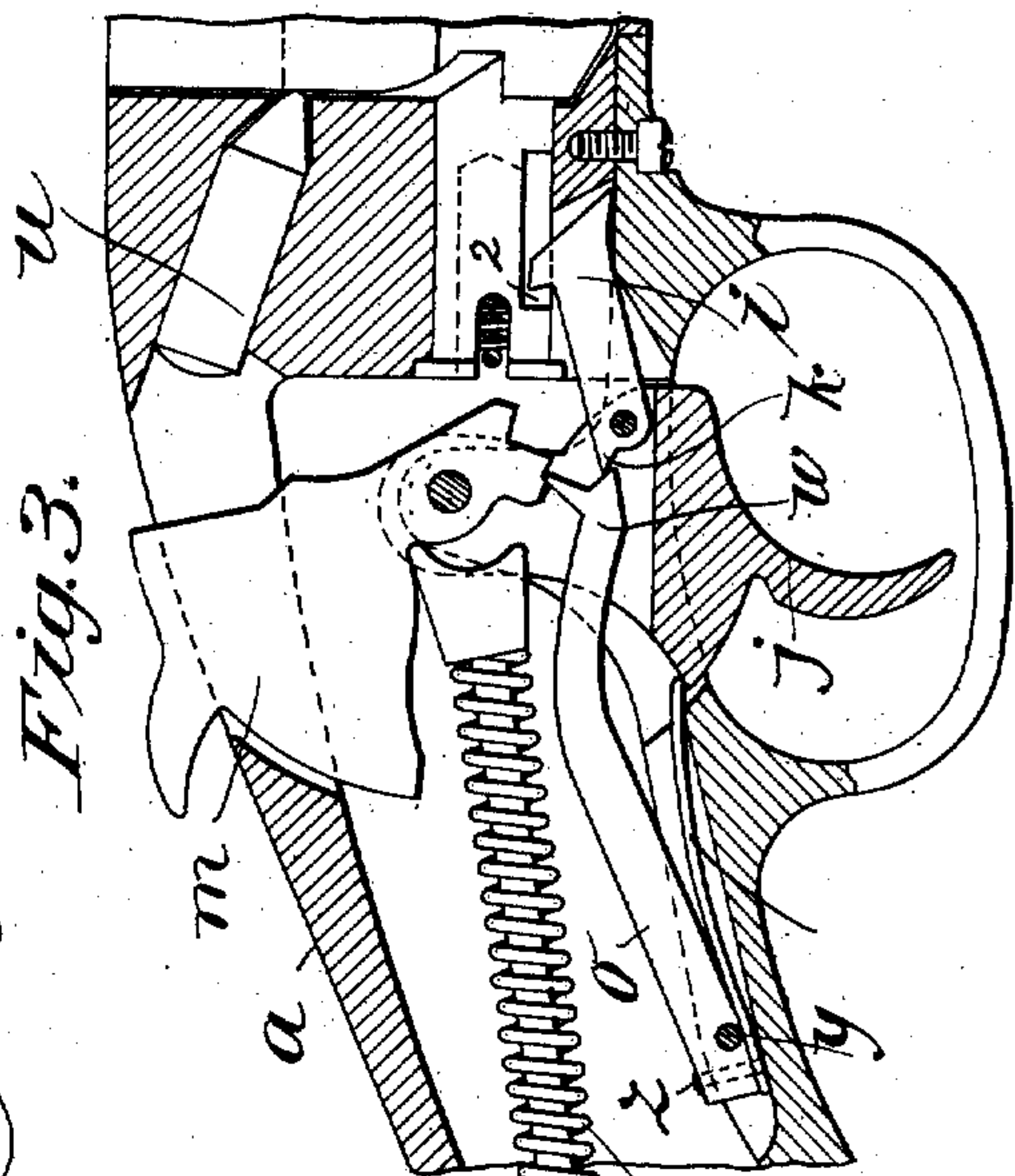
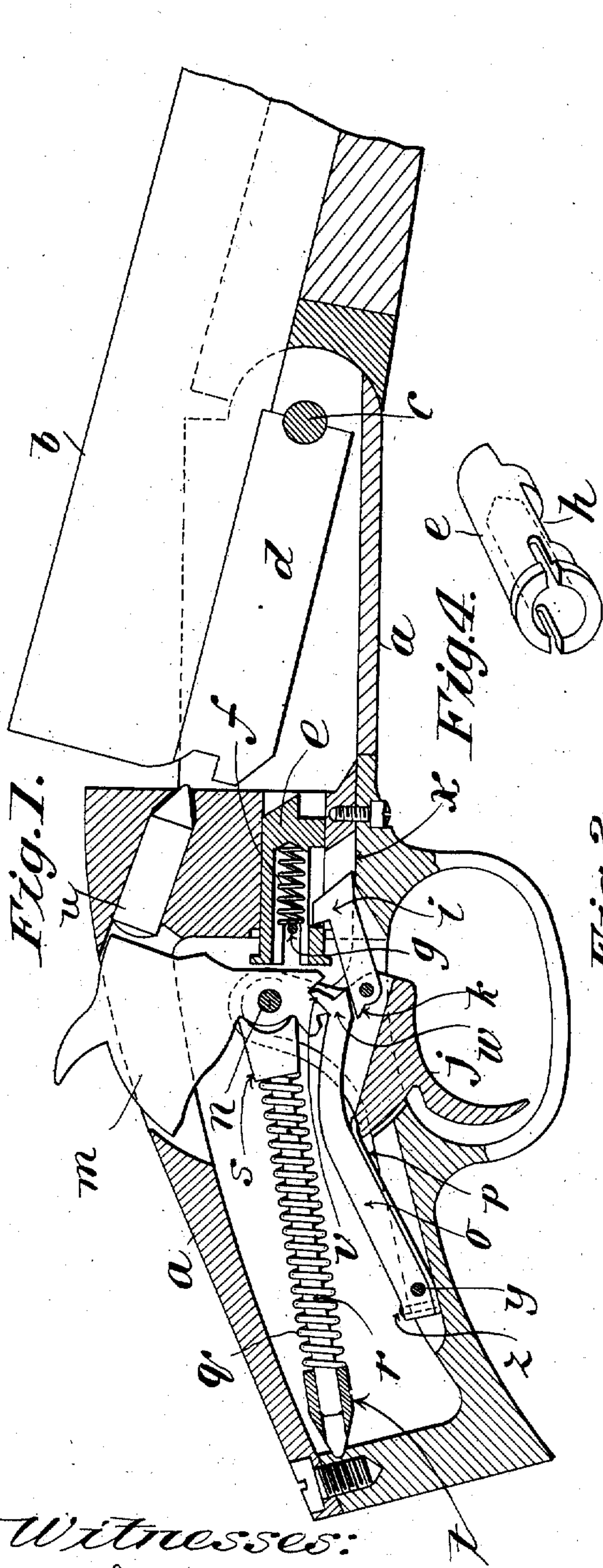


No. 756,039.

PATENTED MAR. 29, 1904.

O. F. MOSSBERG.
BREECH LOADING FIREARM
APPLICATION FILED JAN. 14, 1903.

NO MODEL



Witnesses:
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UNITED STATES PATENT OFFICE.

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TO J. STEVENS ARMS & TOOL COMPANY, OF CHICOPEE FALLS, MAS-
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BREECH-LOADING FIREARM.

SPECIFICATION forming part of Letters Patent No. 756,039, dated March 29, 1904.

Application filed January 14, 1903. Serial No. 139,046. (No model.)

To all whom it may concern:

Be it known that I, OSCAR F. MOSSBERG, a citizen of the United States of America, residing at Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Breech-Loading Firearms, of which the following is a specification.

This invention relates to firearms, and has special reference to the construction of a breech-loading firearm of the breakdown type, the object of the invention being to produce a gun in which the operation of the trigger will effect in successive movements the release of the mechanism whereby the gun is fired and the operation of a locking mechanism by which the barrel is locked in firing position in the frame, the construction and arrangement of the parts being such that the operation of the barrel-locking mechanism is rendered impossible at the moment of firing, and the operation of the firing mechanism is likewise rendered impossible when the trigger is adapted to release the locking mechanism.

In the drawings forming part of this application, Figure 1 is a sectional view of the frame of the firearm, showing the position of the parts when the locking mechanism is operated to permit the breaking down of the barrel, the plane of the section being lengthwise of the arm. Fig. 2 is a similar view showing the position of the parts just prior to the operation of the locking mechanism to open the gun. Fig. 3 shows the position of the parts when the gun is cocked, this figure also being shown in longitudinal section. Fig. 4 is a perspective view of the locking-bolt.

Referring now to the drawings, the frame of the firearm is indicated by *a*, the barrel by *b*, which is hung pivotally in the frame on a pin *c*, the breech tipping up to permit reloading. The under side of the breech end of the barrel is provided with a rib *d*, in the rear end of which is cut a notch, with which a spring-actuated locking-bolt *e* engages to secure the barrel in the frame in firing position. This bolt *e* is shown in Fig. 4 in perspective

and is located in the recoil-plate and is forwardly spring-pressed in a direction parallel with the axis of the barrel by a coiled spring *f*, located in a hole bored in the bolt, bearing against the latter and against a pin *g*, located in the recoil-plate transversely of said bolt, the latter being slotted, as shown, to receive said pin, which thus serves also to prevent the bolt from turning. The under side of the bolt is slabbed off, as at *h*, Fig. 4, whereby a suitable shoulder is provided for the engagement of the bolt-retracting hook *i*, pivotally secured near the forward edge of the trigger *j*. The rear end of this hook has formed thereon a rearwardly-projecting finger *k*. The trigger *j* and the hammer *m* are both hung on the pin *n*.

o indicates the sear, and *p* the sear and trigger-spring combined.

The mainspring *q* is a spiral spring mounted upon a post *r*, having a shoe *s* on the end thereof next to the hammer. The bearing end of said shoe is forked, the ends of the fork bearing on the hammer respectively above and below the axis thereof. The opposite end of the post *r* enters a socket in the piece *t*, in which it may play freely. Said piece is beveled at its rear edge transversely of the frame, and a groove is cut in the latter for said beveled edge, to the end that the post *r* may rock on said edge in its vertical movements imparted thereto by the hammer.

It will be observed by referring to Figs. 2 and 3 that when the hammer is half-cocked, as in Fig. 2, both of the fingers on the shoe *s* come to a bearing on the hammer to hold it in this position, and when the hammer is at full-cock only the finger on the upper end of the shoe bears on the hammer. As the hammer falls and it comes in contact with the firing-pin *u* it will throw by the half-cocked position and coming in contact with the lower finger of the shoe move it rearwardly and compress the mainspring more or less, whereby it will be immediately rebounded to half-cock position.

It will be observed that the sear *o* has a short upwardly-trending finger *v* thereon and

below this a short forwardly-projecting finger *w*, which results in the formation in the end of the sear of a V-shaped notch. The half-cock notch in the hammer is made proportionately as deep as the finger *v* is long, and the full-cock notch is located, as usual, back of this. The hook *z*, which operates the locking-bolt, is held in position to engage the latter by the provision of a bearing at *x* on the frame for the forward end thereof. The sear *o* swings in a vertical plane on the pin *y*, the trigger-spring being secured beneath it by a screw or rivet *z*, located back of the pivotal point *y*. The spring, as shown in Figs. 2 and 3, follows the contour of the sear to a point somewhat forward of the pivotal point of the latter, thereby pressing the forward end of the sear against the under side of the hammer.

The essential point to be observed to arrive at a clear understanding of the operation of the trigger, whereby its function is to operate the firing mechanism on one rearward movement and then to withdraw the locking-bolt on the next succeeding movement to permit the gun to be opened, is the relation of the rearwardly-projecting finger *k* on the hook *z* to the forwardly-projecting finger *w* on the sear. By referring to Fig. 2 it will be seen that the finger *w* overlaps slightly the finger *k* on the hook *z*. If now the hammer be brought to a full-cock position, the sear will be cammed downwardly by the hammer and the finger *w* will snap by the point of the finger *k*, the parts assuming the position shown in Fig. 3. This will bring the finger *k* in position to be drawn up onto the end of the sear by the rearward movement of the trigger, and as the forward end of the hook *z* cannot be swung downward the sear will yield and will be drawn out of the full-cock notch in the hammer, permitting the latter to fall. To permit this firing movement of the trigger, a space 2 is left between the hook *z* and the shoulder on the bolt *e*, with which it engages in operating said hook. Thus immediately after firing the hammer will be left in rebounded position, as shown in Fig. 1, the trigger being drawn back only as far as it is permitted to move, which distance is determined by the depth of the V-shaped notch in the end of the sear in which the finger *k* comes to a bearing, and this notch is so proportioned as to permit the finger *v* to just clear the bottom of the hammer. If now the trigger be released, the spring *p*, bearing on the rear end thereof, will swing the latter forward, and as the parts approach the position shown in Fig. 2 the finger *w* will snap by the point of the finger *k*, the parts thus assuming the position shown in said figure, there being sufficient vertical play for the forward end of the hook *z* to permit this movement. It is now clear that if the trigger be again drawn back the hook *z* will slide rearwardly below the sear, withdrawing the locking-bolt *e* from its position of engagement

with the barrel, permitting the latter to be swung on its pivot for reloading; but as soon as the hammer is cocked the point of the sear will by the cocking movement be snapped over the rear end of the hook *z*, thus bringing the latter in position to be drawn back against the upwardly-inclined upper side of the finger *w* on the sear to fire the gun.

From the foregoing description it is clear that the trigger of the arm is adapted to perform not only its usual function, but the further function of the usual locking-lever, connected with a suitable locking mechanism and located in a position to be conveniently operated by the thumb or finger, but requiring a separate operation.

No extractor has been shown applied to the firearm; but any of the usual types may be used, as desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a breakdown gun, a hammer, a trigger and a locking-bolt for the barrel, and suitable connections between the trigger and the hammer and the trigger and the bolt, whereby when the hammer is inoperative the trigger may operate the bolt.

2. The combination in a breech-loading firearm, of a trigger, a breech-locking mechanism and a hammer, and suitable connections between the trigger and the hammer and the trigger and the breech-locking mechanism whereby successive movements of the trigger may release the hammer and operate the locking mechanism.

3. In a breakdown gun, a firing mechanism including a trigger, a locking-bolt to secure the barrel in firing position, and suitable connections between the trigger and locking-bolt to operate the latter by the movement of the trigger, together with means operated by the hammer, whereby when the latter is raised, the bolt-operating devices are rendered inoperative.

4. In a firearm of the breakdown type, a hammer, a trigger, and a locking-bolt for the barrel; a sear to engage the hammer to hold it in cocked position, a hook actuated by the trigger to engage the locking-bolt to retract it, and means to effect the tripping of the sear by the movement of said hook, without imparting movement to the locking-bolt.

5. In a firearm of the breakdown type, a hammer, a trigger, and a locking-bolt connected to the trigger to secure the barrel in firing position; a sear to engage the hammer to hold it in cocked position, and means operated by the hammer during its cocking movement to move said sear into the path of movement of said locking-bolt, whereby the initial movement of the latter will trip the sear, said hook being movable more or less without engaging the bolt.

6. In a firearm, a hammer, a mainspring for

the latter consisting of a coiled spring, a post
encircled by the latter, a shoe on one end of
the post against which one end of the spring
bears, a socketed piece in which the other end
5 of the post slides, and on which the other end
of the spring bears, said socketed piece hav-
ing a beveled edge on which it may swing in

the plane of the movement of the hammer,
said shoe having a bearing on the hammer.

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Witnesses:

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