

No. 636,650.

Patented Nov. 7, 1899.

C. A. FISCHER.  
EJECTOR FOR BREAKDOWN FIREARMS.

(Application filed July 3, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

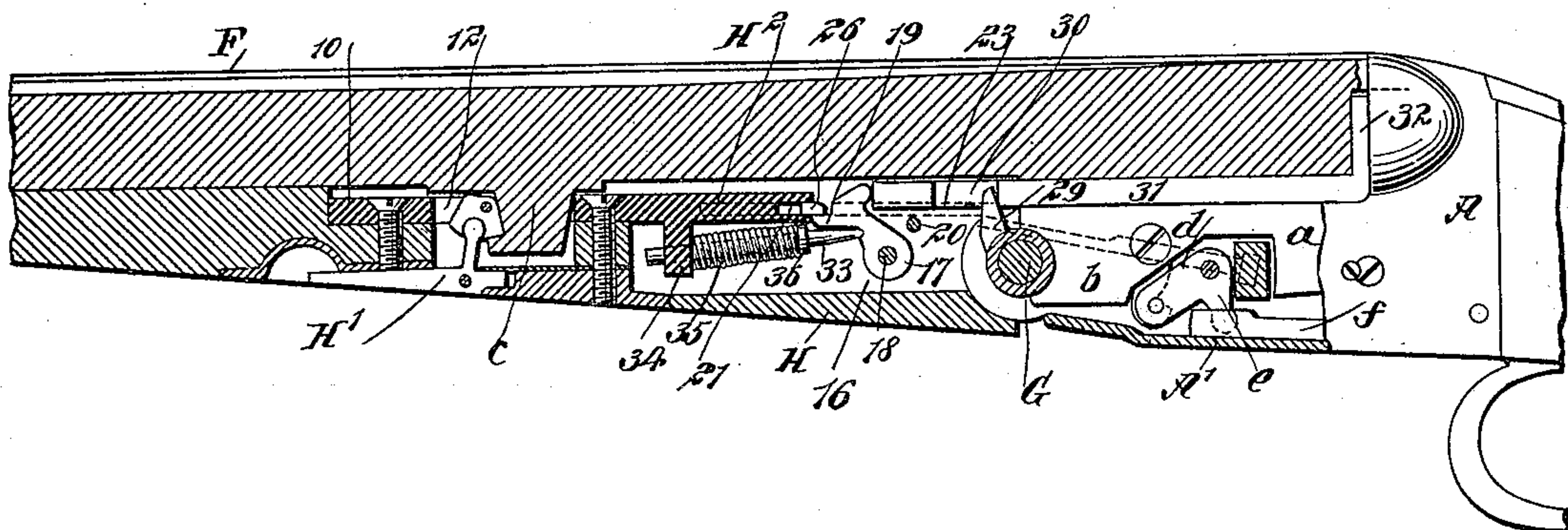


Fig. 2.

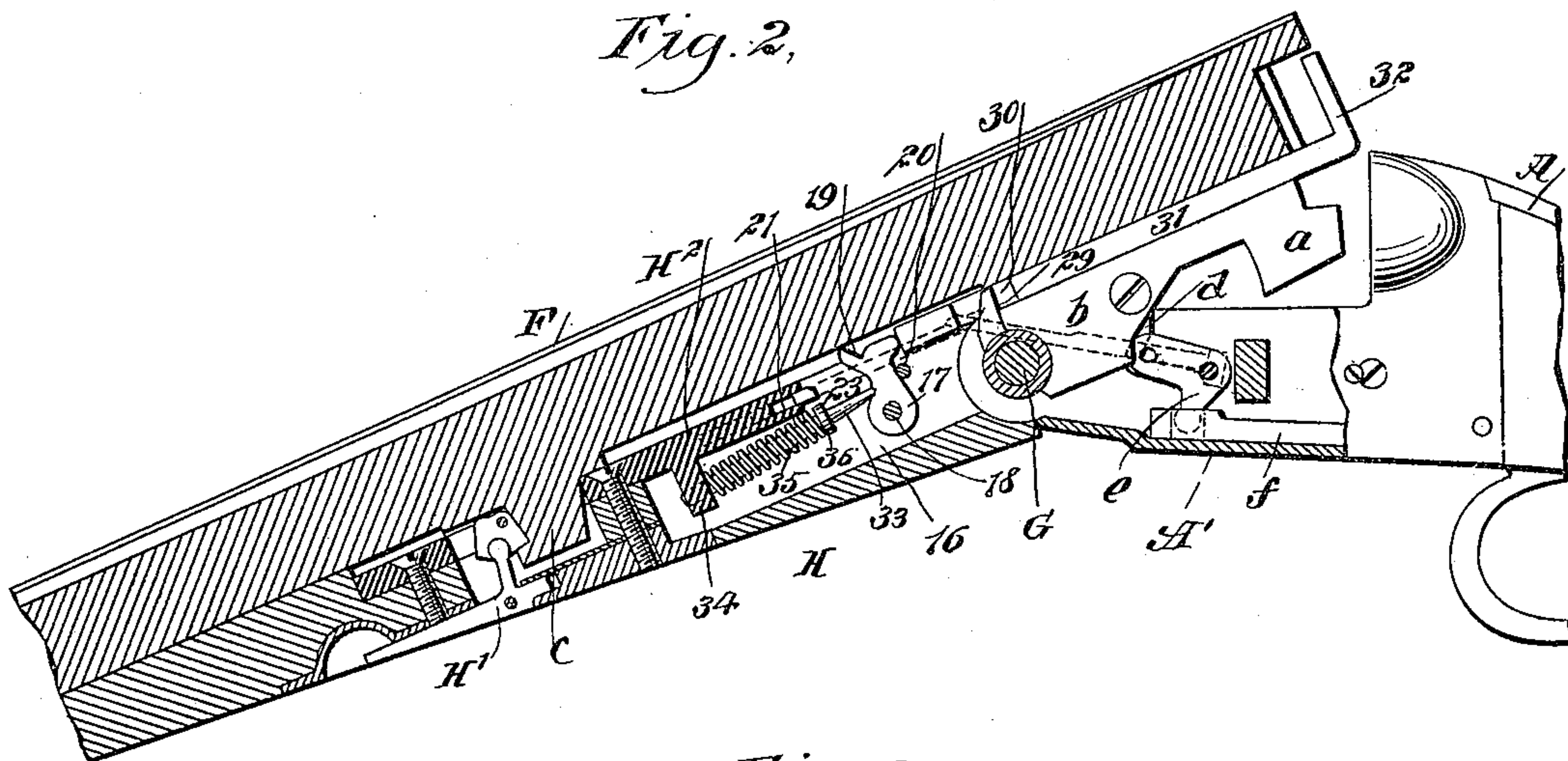
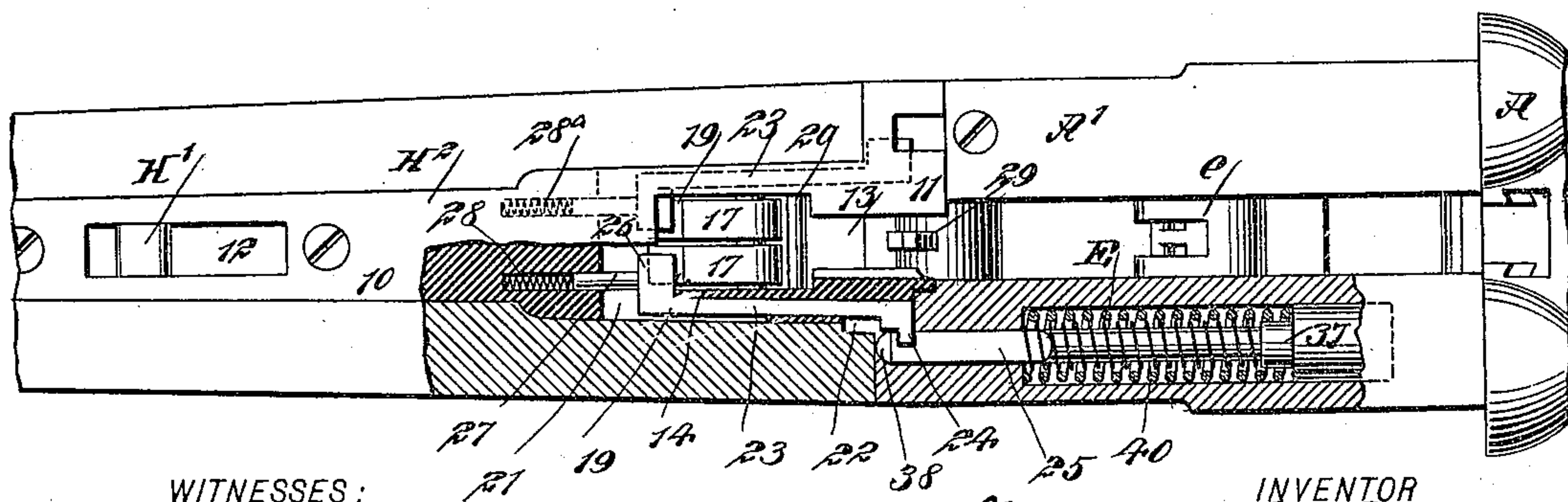


Fig. 3.



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Fig. 4.

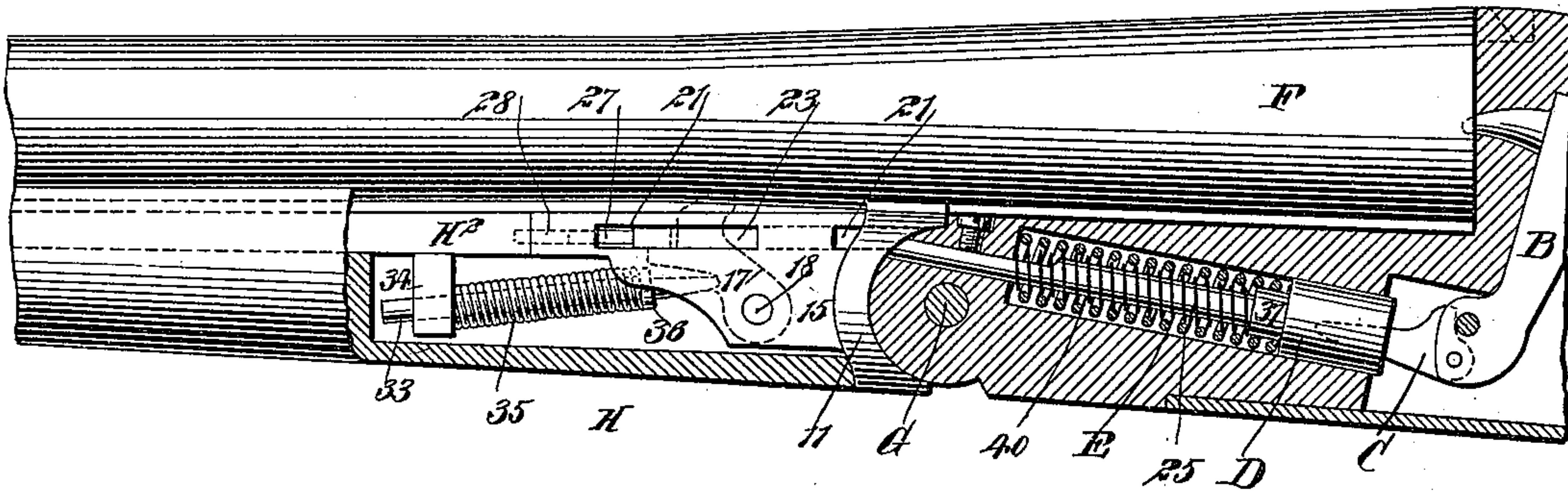


Fig. 5.

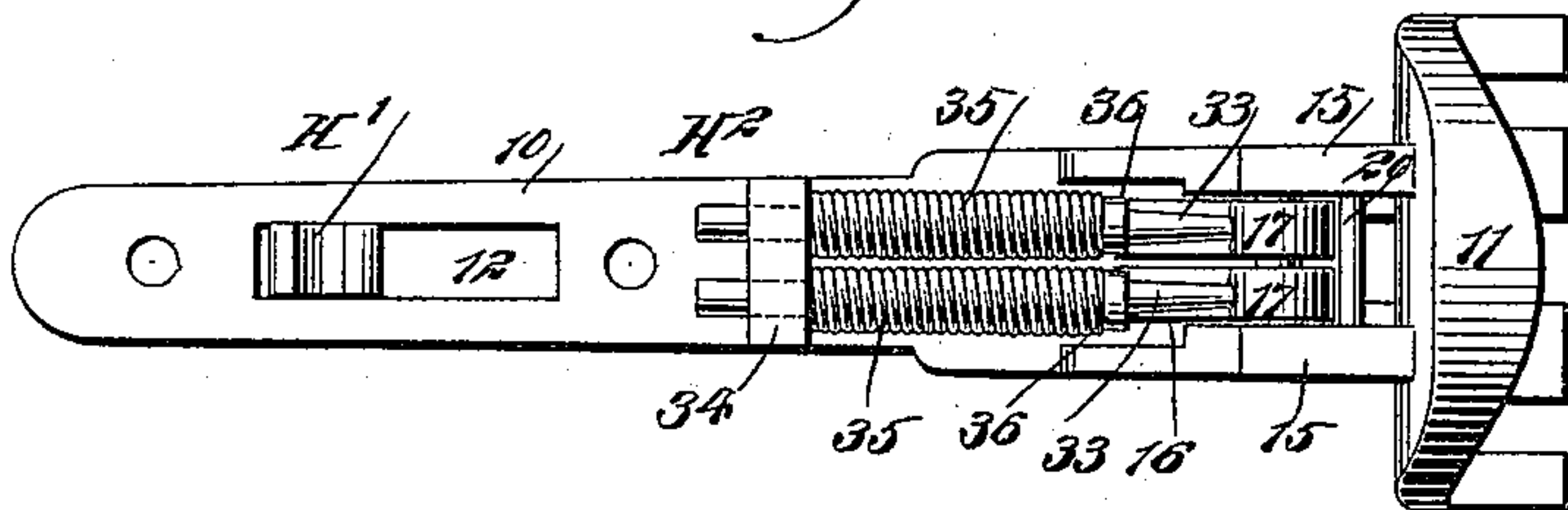


Fig. 6.

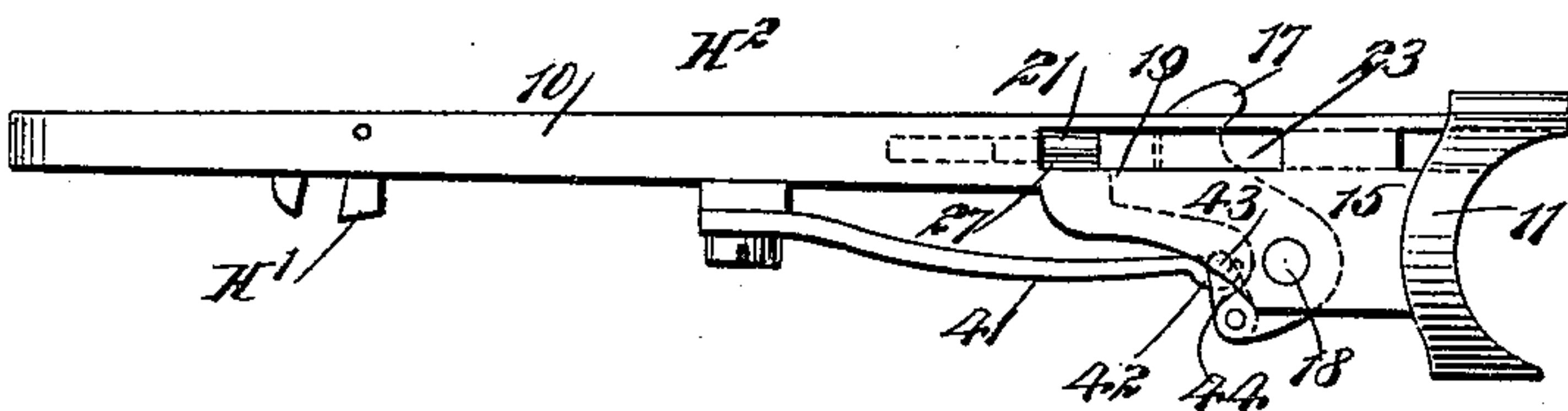
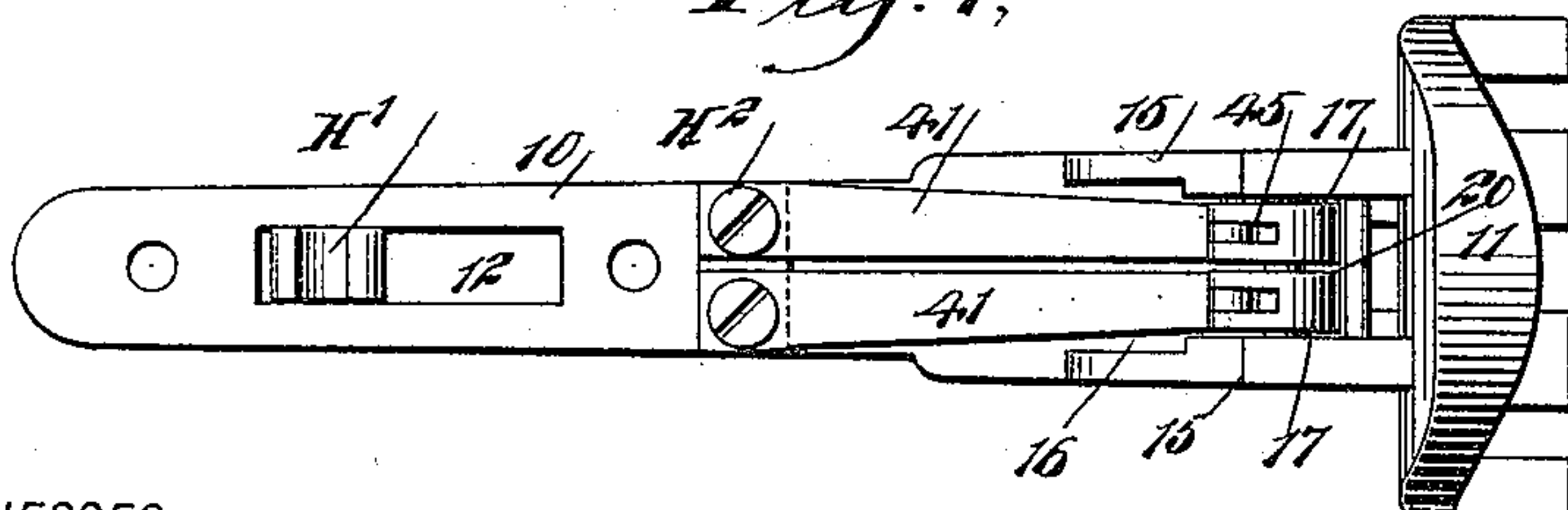


Fig. 7.



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Fig. 8. Christian A. Fischer



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# UNITED STATES PATENT OFFICE.

CHRISTIAN A. FISCHER, OF GRAND FORKS, NORTH DAKOTA.

## EJECTOR FOR BREAKDOWN FIREARMS.

SPECIFICATION forming part of Letters Patent No. 636,650, dated November 7, 1899.

Application filed July 3, 1899. Serial No. 722,711. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN A. FISCHER, of Grand Forks, in the county of Grand Forks and State of North Dakota, have invented a new and Improved Ejector for Firearms, of which the following is a full, clear, and exact description.

The object of the invention is to provide an ejecting mechanism that will not act to eject a cartridge-shell until the hammers are at full-cock and which will be otherwise effective and simple in general construction.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section through the web between the barrels and through the fore-end and a portion of the frame, the gun being closed and ready for firing. Fig. 2 is a section similar to Fig. 1, the gun being shown as broken. Fig. 3 is a plan view of the fore-end and the forward projection of the frame, parts being in horizontal section. Fig. 4 is a side elevation of a part of the gun with portions in vertical section. Fig. 5 is a bottom plan view of the fore-end iron shown in Figs. 1 to 4. Fig. 6 is a side elevation of a fore-end iron, illustrating the application of a different form of spring to the ejecting-hammers. Fig. 7 is a bottom plan view of the fore-end iron shown in Fig. 6, and Fig. 8 is a detail view of one of the trip-rods for the sears.

A represents a frame, A' the forward extension of the frame, B the hammer, and C the stirrup, of a hammerless gun.

D represents the plunger that receives the stirrup C, E the mainspring for the plunger, and F the barrels of the gun, the barrels F being mounted in the usual manner upon the pivot-pin G. The barrels are provided with the usual rear locking-lug *a*, intermediate locking-lug *b*, and forward locking-lug *c* for the fore-end H, the snap H' of the fore-end being of the usual type used in the Parker hammerless gun. The firing-hammers B are operated in the usual manner—namely,

through the medium of links *d*, cranks *e*, and slides *f*, as shown in Figs. 1 and 2.

The fore-end iron H<sup>2</sup> consists of a body-plate 10, enlarged at its rear end and provided at said rear end with a cap 11, curved to fit to the forward end of the forward extension A' of the frame A. Near the forward end of the fore-end iron H<sup>2</sup> a longitudinal slot 12 is made, in which a portion of the snap H' is located, as shown in Figs. 5, 6, and 7. A longitudinal slot 13 is made in the rear end of the body-plate 10, the said slot extending through the cap 11, and the slot 13 connects with an opening 14, usually of rectangular shape, made in the enlarged portion of the body-plate, as shown particularly in Fig. 3. Cheeks or side pieces 15 are formed upon the body-plate 10 at the enlarged portion, and the said cheeks extend downward and connect with the forward face of the cap 11, as shown in Figs. 5, 6, and 7. Said cheek-pieces form a chamber 16, in which chamber the ejector-hammers 17 are located, being pivoted on a suitable pin 18, that extends from one cheek-piece to the other. The heads of the hammers are adapted to strike extractor-rods, to be hereinafter described, and back of the heads, but at the forward edge of each hammer, a lip 19 is formed, which lips occupy a horizontal position when the ejector-hammers 17 are fully cocked, as shown in Fig. 1. The ejecting movement of the hammers is limited by a pin 20, that extends from one cheek-piece to the other at the rear of the hammers. A slot or recess 21 is horizontally produced in the said fore-end iron at each side, said slots or recesses being at the enlarged portion of said fore-end iron H<sup>2</sup>, as shown in Figs. 3 and 6. These slots or recesses extend through the cap 11, and the forward portion of each recess or slot is made quite wide, so that it communicates with the forward portion of the central slot 14, through which the upper portions of the hammers 17 extend; but the horizontal slots or recesses 21 are of sufficient length to extend some distance beyond the forward end of the central or hammer-receiving slot 14, as shown particularly in Fig. 3. Each slot or recess 21 is adapted to receive a sear 23, and each sear has sliding movement in its slot or recess 21. Each sear is provided with a foot



24, that normally extends beyond the rear face of the cap, and the foot 24 of each sear is practically flat and extends laterally outward beyond the plane of the outer wall of the recess or slot in which the sear is placed. The foot 24 of each sear is preferably provided with a downwardly-beveled end and a stepped outer side, one of the steps thus formed in a foot 24 being adapted to engage with a shoulder 22, one of which shoulders is formed at the rear end of each slot or recess 21, as shown in Fig. 3, and such an engagement is made when a sear has been placed forward as far as needful.

The foot of each sear 23 is adapted to be engaged by a trip-rod 25, to be hereinafter described, which rods act to force the sears forward, and the sears carry heads 26, located at the forward ends of the sears and extending inwardly in direction of each other from over the lips 19 of the ejector-hammers 17, since when said hammers are in a cocked position the heads 26 of the sears engage with the upper surfaces of the said lips 19 and maintain the hammers in their cocked position.

Each sear is provided with a rod 27, that extends forwardly from its head 26, and these rods enter and slide in chambers 28, formed in the fore-end iron  $H^2$ , as shown in Fig. 3, and springs  $28^a$ , located in these chambers, act to normally force the sears to locking position with the ejector-hammers. The slot 13 is made in the fore-end iron to admit of the upward extension of a spur 29, that is attached to the central portion of the forward end of the extension  $A'$  of the frame. This spur 29 is adapted to limit the movements of the extractors 31, which extractors lie close together and slide in suitable guides carried by the web between the barrels  $F$ . Said spur 29 enters a slot 30, that is produced partially in both of the extractors 31, and each extractor 31, at its rear or outer end, is provided with the usual head 32, while the forward or inner ends of the extractors 31 are adapted to be struck by the hammers 17 when said hammers are released from their sears 23.

A driving-rod 33 is usually provided for each ejector-hammer. These rods 33 are so located that one of their ends will enter suitable recesses in the back portions of the hammers 17, while the forward ends of said rods 33 have sliding movement in a guide 34, projected downward from the under face of the body-bar of the fore-end iron. A spring 35 is coiled around each driving-rod 33, and each spring has bearing against the guide-lug 34 and a sleeve 36, located one on each of the rods.

The trip-rods 25, heretofore referred to, extend through the coils of the main spring  $E$  of the plunger  $D$ , as shown in Figs. 3 and 4, and the forward portion of each trip-rod, which portion is flattened on one side, extends through a suitable channel out beyond the forward face of the frame extension  $A'$ . The rear or inner end of each trip-rod 25 is

provided with an enlargement or a head 37, that bears against the forward end of the plunger  $D$ , in connection with which the rod is to be used. The forward or outer end 38 of each of the trip-rods 25 is beveled, as shown in both Figs. 3 and 8, and a recess 39, preferably spiral, is formed in the inner edge of each trip-rod 25 near its outer or beveled end. These recesses 39 extend from top to bottom of the trip-rods 25. A spring 40 is coiled around each trip-rod, having bearing against the head 37, and the forward wall of the chamber in which the main spring  $E$  is placed. These springs 40 return the trip-rods after they have been forced forward.

In operation, when the gun is closed and ready for firing, the extractor-hammers 17 will be in the cocked position shown in Fig. 1, and the heads of the sears will be over the lips 19 of said hammers. When a barrel has been fired and the gun is broken for the purpose of ejecting an empty shell, the hammer of the fired barrel will be gradually carried downward to a cocked position, thus forcing forward the plunger  $D$ , which in its turn will force forward the trip-rod 25 belonging to the same barrel. When the gun is broken, the foot of the sear for the ejector-hammer of the fired barrel will be forced forward and the head of the sear will be carried from over the lip of the said hammer, permitting the tension device or driving-rod of that particular hammer to force said hammer against its extractor-rod, thus driving the rod rearward and causing the empty shell to be ejected. As soon as the head of the sear is carried from engagement with the lip the trip-rod will have passed up above the foot of the sear, permitting the spring at the forward end of the sear to force said sear to its normal position, and as the gun is closed the lateral projection from the head of the sear will pass upward through the recess 39 in the trip-rod, and the foot of the sear will therefore assume its normal position above the trip-rod when the gun is closed. As the gun is closed the extractor, that has been forced outward, will be restored to its normal position by engagement with the perpendicular wall of the main portion of the frame, and as the extractor-rod moves forward it forces the hammer with which it engages in the same direction, and the lip of the hammer will strike the head of the sear belonging to it, pushing said sear forward. As soon as the hammer has been carried forward and downward sufficiently to bring its lip 19 below the head of the sear the spring  $28^a$  of that sear will force it rearward, and the head of the sear will then be over and in engagement with the lip of the ejector-hammer thus cocked.

In Figs. 6 and 7 I have illustrated a substitute for the driving-rods 33 and their springs 35. This substitute consists of flat or leaf springs 41, provided for each ejector-hammer. Said springs are rigidly secured at their forward ends to the under face of the



fore-end iron H<sup>2</sup>, while the rear or free ends of the springs 41 are provided with the usual stirrup, consisting of sockets 42, in which pins 43 rest, said pins being attached to cranks 5 44, pivotally connected to the lower ends of the hammers 17. The lower ends of the hammers have slots 45 made therein to receive said cranks.

Having thus described my invention, I 10 claim as new and desire to secure by Letters Patent—

1. In a breech-loading firearm an ejector-hammer, a spring-controlled sliding sear for the said hammer, a plunger, a firing-hammer 15 arranged to operate the said plunger, and a spring-controlled trip-rod operated from the plunger and arranged to release the said sear from the said hammer when the gun is broken.

2. In a breech-loading firearm, an ejector-hammer provided with a lip extension at its head, a sliding sear having an extension arranged for engagement with the lip of said hammer, and a trip-rod arranged to carry the sear out of engagement with the lip extension 25 of the hammer when the gun is broken, as described.

3. In breech-loading firearms, an ejector-hammer, a sliding sear arranged to control the hammer, and a trip-rod operated from the plunger of the firing-hammer, adapted to control said sear, as specified. 30

4. In a breech-loading firearm, an ejector-hammer having an extension from its head, and a sliding sear one portion whereof is arranged for engagement with the extension 35 from the said hammer, as described.

5. In breech-loading firearms, an ejector-hammer having an extension from its head, a driving device for said hammer, which device is placed under tension when the hammer is 40 cocked, a spring-controlled sliding sear, a portion of which is arranged for locking engagement with the hammer extension, and a trip for the said sear, brought into operation when the gun is broken, as described. 45

6. In a breech-loading gun, the combination, with a fore-end iron, ejector-hammers mounted in said iron, and tension devices arranged to force the hammers to striking position, of sears mounted to slide in the said 50 fore-end iron, the said sears being arranged for locking engagement with the said hammers when the latter are in cocked position, as described.

7. In a breech-loading gun, the combination, with a fore-end iron, ejector-hammers mounted in said iron, and tension devices arranged to force the hammers to striking position, of spring-controlled sears mounted to slide in the said fore-end iron, a portion of 60 said sears being adapted for locking engagement with the said hammers when said hammers are cocked, and a trip mechanism for the said sears, adapted to be brought into action when the firing-hammers of the gun 65 are in cocked position and the gun is broken, as described.

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Witnesses:

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H. M. ERICKSON.