

(No Model.)

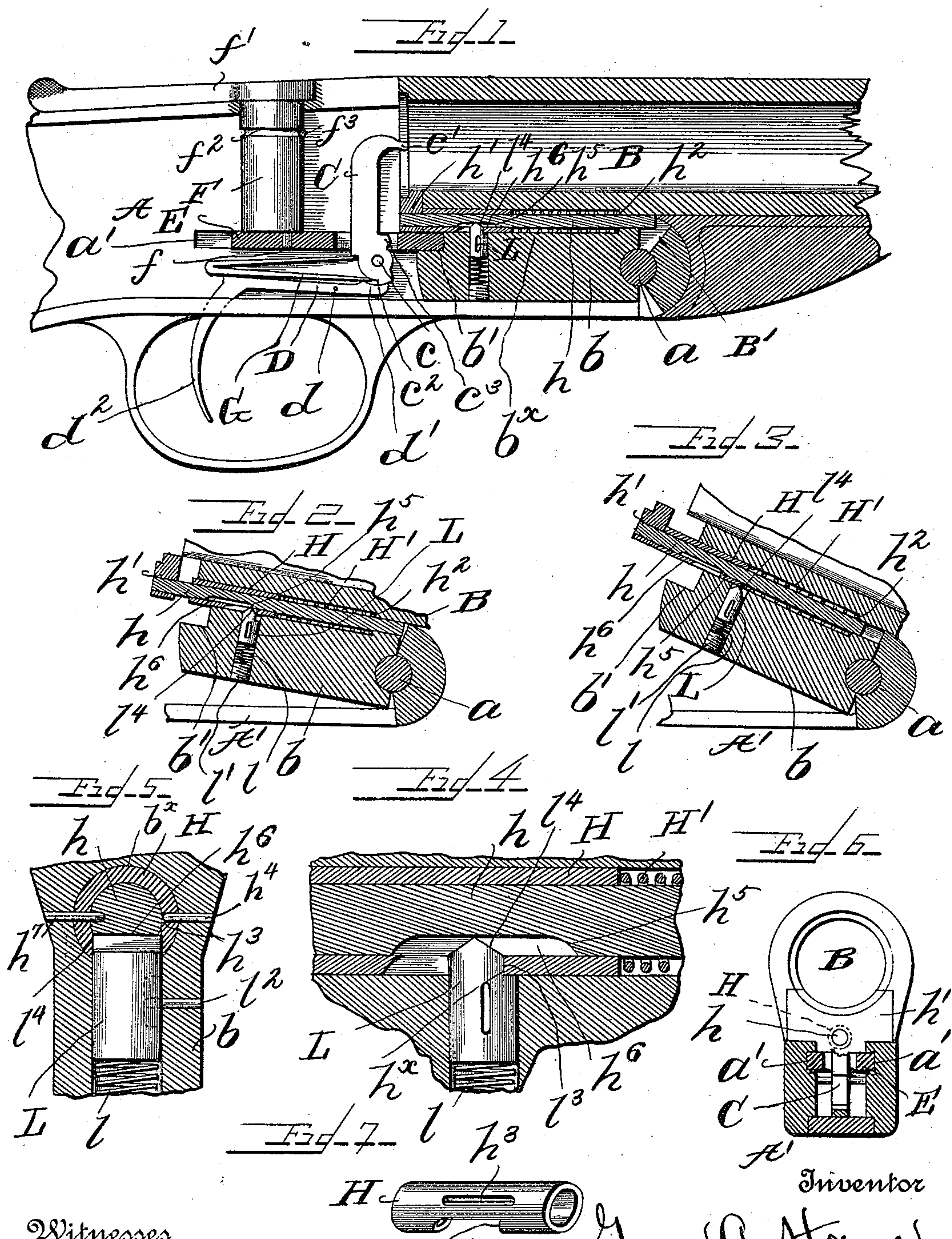
2 Sheets—Sheet 1.

G. A. HORNE.

EJECTING AND COCKING MECHANISM FOR BREAKDOWN GUNS.

No. 528,228.

Patented Oct. 30, 1894.



Witnesses
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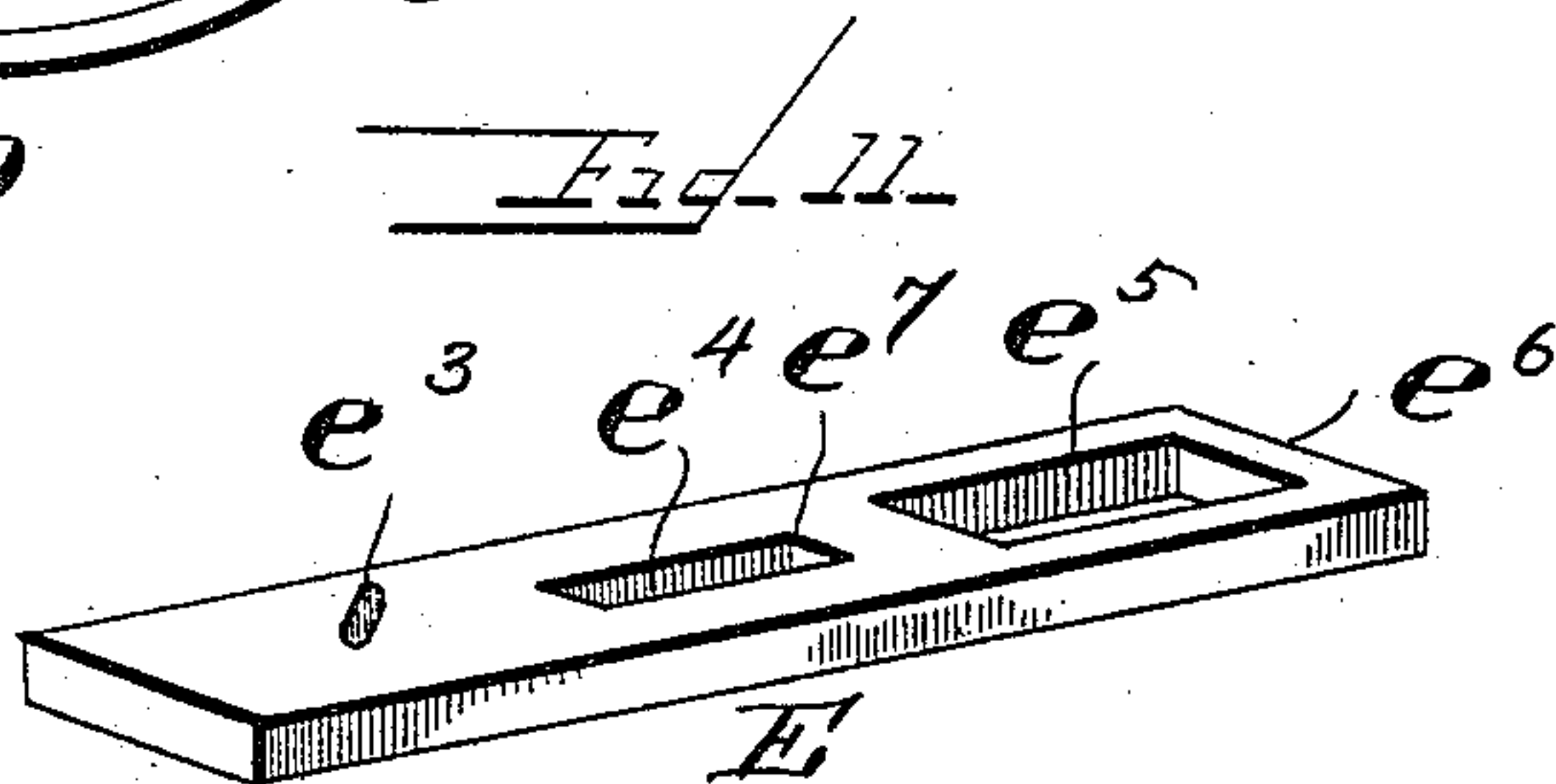
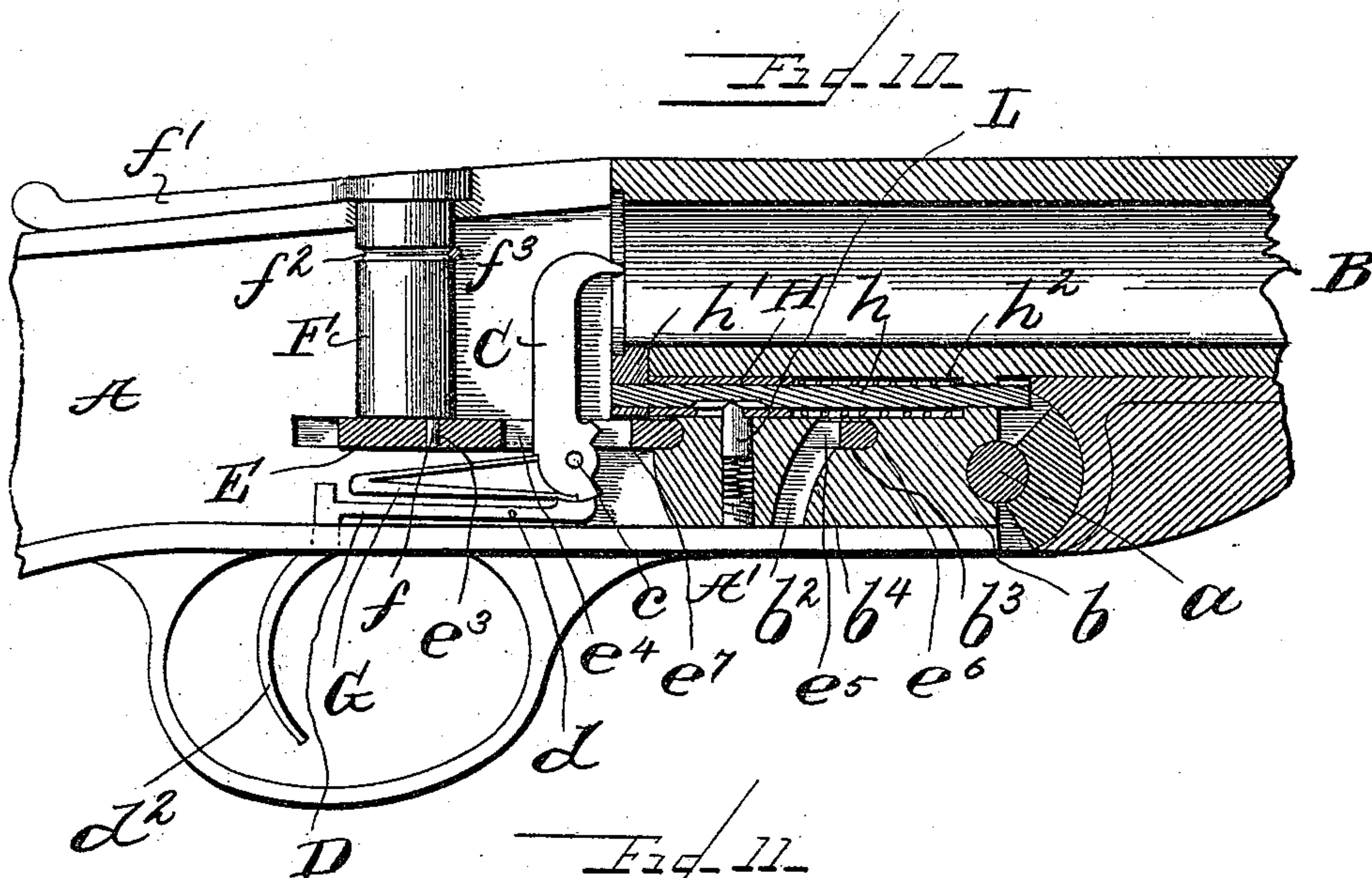
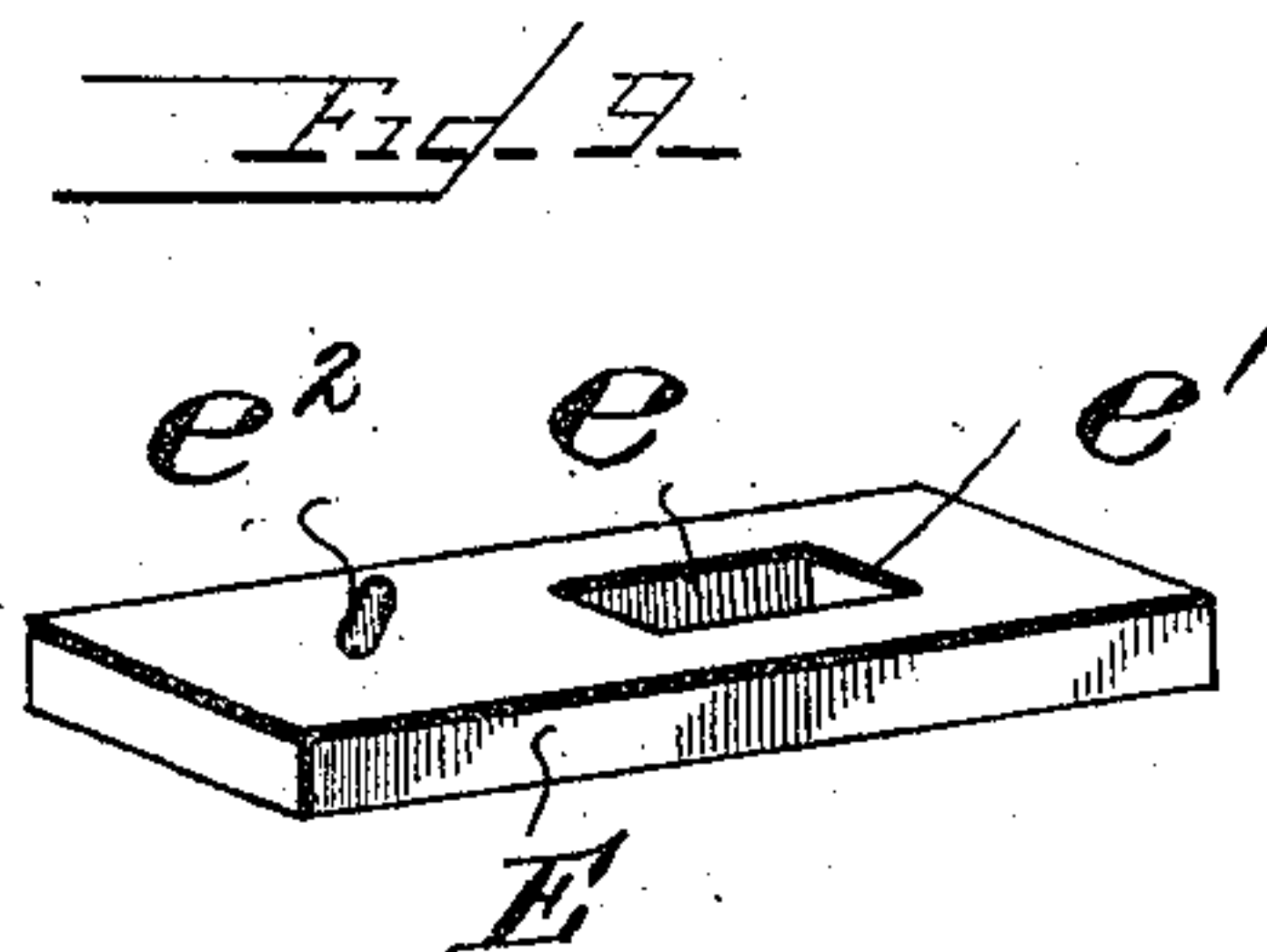
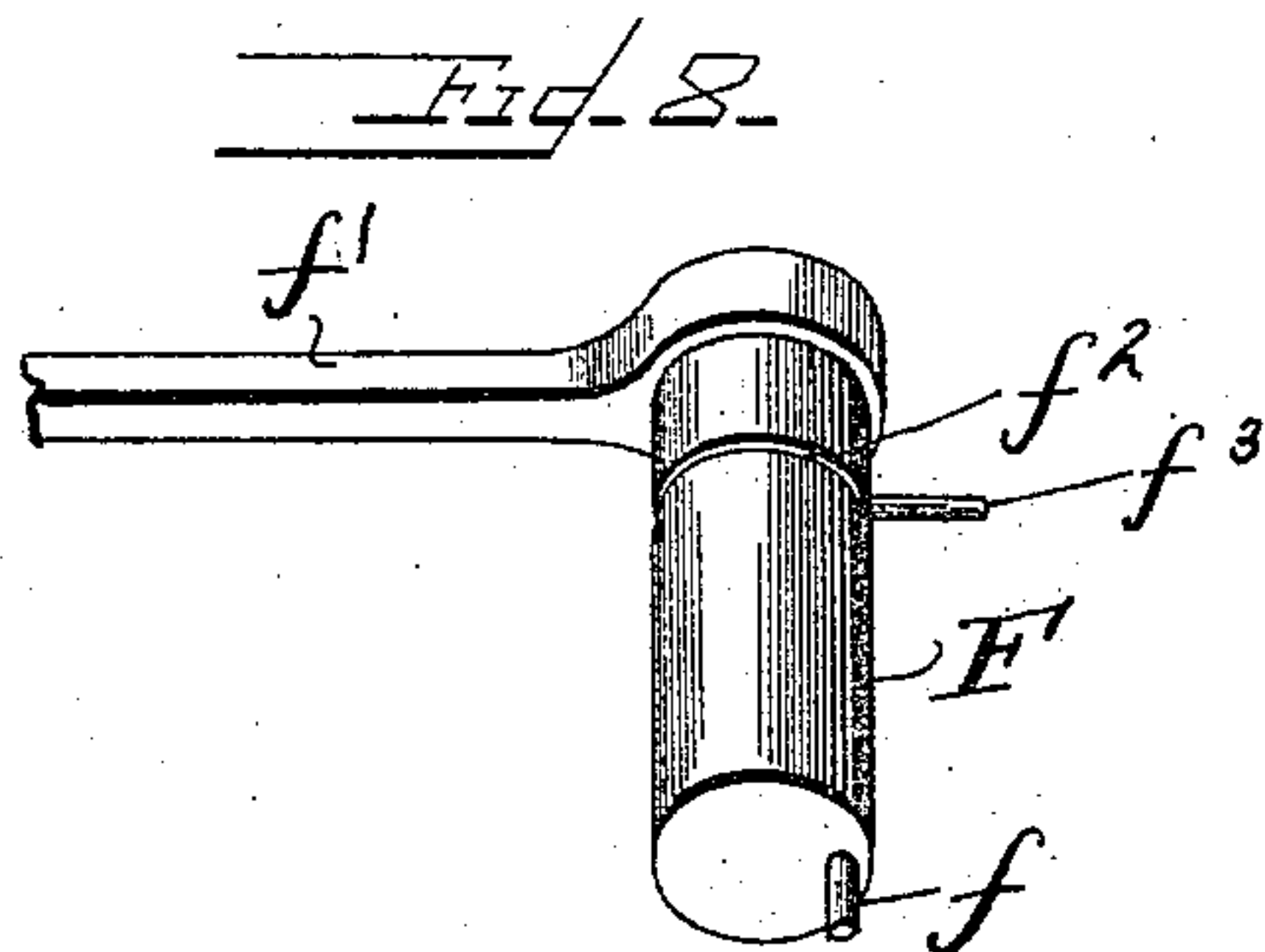
(No Model.)

2 Sheets—Sheet 2.

G. A. HORNE.
EJECTING AND COOKING MECHANISM FOR BREAKDOWN GUNS.

No. 528,228.

Patented Oct. 30, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE A. HORNE, OF SYRACUSE, NEW YORK.

EJECTING AND COCKING MECHANISM FOR BREAKDOWN GUNS.

SPECIFICATION forming part of Letters Patent No. 528,228, dated October 30, 1894.

Application filed July 10, 1894. Serial No. 517,103. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. HORNE, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Breech-Loading Hammerless Guns; 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 appertains to make and use the same.

My invention is an improvement in breech loading hammerless guns and consists in the novel features of construction and combination of parts hereinafter described reference being had to the accompanying drawings which illustrate two forms in which I have contemplated embodying my invention and said invention is fully disclosed in the following description and claims:

The object of my invention is to provide a simple and efficient ejector for the cartridge shells which will be operated positively to force the shell outwardly for a short distance and then be given a sharp quick movement which will eject the shell completely from the gun.

Referring to the said drawings, Figure 1 is a view partly in section illustrating a portion of the breech and barrel of a single barreled gun embodying my invention. Figs. 2 and 3 are detail sectional views showing the shell ejecting mechanism in different positions. Fig. 4 is an enlarged detail view of a portion of the ejecting mechanism. Fig. 5 is a transverse sectional view of the barrel through the ejecting mechanism. Fig. 6 is a view showing the end of the barrel in elevation and the portion of the frame beneath the same in section. Fig. 7 is a detail perspective of the ejector sleeve. Figs. 8 and 9 are detail perspective views of the locking devices for securing the barrel in operative position. Fig. 10 is a view similar to Fig. 1 showing a modified form of devices for cocking the hammer. Fig. 11 is a detail of the locking slide used in this form of my invention.

In the drawings I have shown my improvements embodied in a single barreled gun, but

I desire it understood that they may be applied to a double barreled gun if desired.

In the drawings, A represents the stock portion of the gun and B represents the barrel provided with the coupling lug *b* for engaging the coupling bolt *a* secured in the forward end of the frame A'.

C represents the hammer pivoted at *c* and provided with a firing point or projection *c'*.

D indicates a combined sear and trigger pivoted at *d* having an arm *d'* for engaging a shoulder *c²* on the lower end of the hammer for holding it in cocked position, and a finger piece *d²* for tripping the sear.

E represents a locking plate sliding in ways or grooves *a' a'* formed in the sides of the lock casing and adapted to enter a notch *b'* in the rear edge of the barrel lug *b* to lock the barrel in its normal or operative position.

The plate E is provided with a central slot or opening as shown in Fig. 9 through which the hammer C projects and the forward edge *e'* of this opening forms a shoulder adapted to engage a lug or projection *c³* on the hammer to cock the same when the locking plate E is moved rearwardly to unlock the barrel as shown in Fig. 1. I therefore prefer to term the forward edge *e'* of the recess the "cocking shoulder."

The plate E is retracted by means of an eccentrically located pin *f* on the bottom of a vertically rotary bolt F supported in the lock casing and having an unlocking lever *f'* on the upper edge of the stock outside of the lock casing for rotating said bolt to retract the locking plate. The pin *f* engages a slot *e²* in the locking plate to move said plate rearwardly. In order to prevent the bolt F from rising it is provided with an annular groove *f²* which is engaged by a pin *f³* passing transversely through the lock casing.

G represents the main spring for the hammer C. In using the above described construction it will be seen that by turning the lever *f'* to rotate the bolt F the locking plate E will be drawn back to cock the hammer C and release the notch *b'* of the barrel lug so that the breech may be opened to load the gun.

In Figs. 10 and 11 I have illustrated a

slightly modified construction, in which all the parts previously described are the same with the exception of the barrel lug and the locking plate E. The locking plate E is in this instance provided with a slot e^3 to be engaged by the pin f of the bolt F, a slot or aperture e^4 for the passage of the hammer C and a larger slot or passage e^5 for the passage of the rear portion of the barrel lug which is separated from the front portion of the lug in this instance by an inclined open slot b^2 having at the top a horizontal forwardly extending recess b^3 which is engaged by the forward end e^6 of the plate E. The forward edge b^4 of the slot b^2 is a cam face adapted to engage the forward edge e^6 of the plate E when the breech is opened, and thereby force said plate E rearwardly until the forward edge e^7 or cocking shoulder of the plate cocks the hammer C. It will be seen by reference to Fig. 10 that by turning the lever f the plate E will be drawn rearwardly far enough to withdraw the plate from the locking notch b' of the lug and the forward end e^6 of the plate from the horizontal recess b^3 at the upper end of the slot b^2 . When the breech is opened by swinging the muzzle of the barrel downward the cam face b^4 will engage the end e^6 of the plate and move it rearwardly thereby cocking the hammer. The rear face of the slot b^2 is concentric with the face b^4 and will therefore return the plate to its original position when the breech is closed.

I may employ a spring for insuring the prompt return of the plate E and its connected parts both in this form and in the form shown in Figs. 1, 8 and 9 if desired. I also provide an improved shell ejecting mechanism which is shown particularly in Figs. 2, 3, 4, 5 and 7.

A tubular passage b^x is hollowed out in the upper part of the barrel lug b adjacent to the barrel bore and in this passage is located an ejector sleeve H shown in detail in Fig. 7. Through the ejector sleeve and through the entire length of the passage b^x passes the extractor slide h having its outer end provided with the usual extractor h' . The forward end of the passage b^x is reduced as shown forming an annular shoulder h^2 between which and the sleeve H is located a powerful spring H' , which when the sleeve is released, throws the sleeve into engagement with the extractor and ejects the shell. The sleeve H is provided with a slot h^3 , see Figs. 5 and 7 into which projects a pin h^4 to hold said sleeve against rotation and to keep it from being forced out too far by its spring and another pin h^7 passes from the opposite side of the barrel through a similar slot in the sleeve H and into a groove in the extractor slide to hold it in the same manner.

The forward end of the extractor rod h is adapted to engage a shoulder B' on a part connected with the frame A' when the breech is opened, to start the cartridge shell by a

positive movement and during this movement I prefer to hold the extractor sleeve out of operation. To this end I employ a spring actuated stud or detent L movable vertically in a passage formed in the barrel lug pressed upwardly by a spring l held in position by a screw plug l' , the stud L being held from rotation by a pin l^2 (see Fig. 5) or in any other desired way. The upper end of the stud or detent L is provided with a vertical wall or shoulder l^3 for engaging the forward edge of a slot h^x cut in said sleeve thereby holding the sleeve out of operation. Above the shoulder l^3 the stud is beveled as shown at l^4 (see Fig. 4) and this beveled portion of the stud extends into a recess h^5 cut in the extractor slide and terminating at the forward end in a cam face h^5 .

By reference to Figs. 1, 2, 3 and 4 it will be seen that when the breech is broken the extractor slide h will be forced out a certain distance carrying the shell with it, until as shown in Fig. 2, the cam face h^5 of the extractor rod engages the cam or inclined portions of the stud H when the further movement of said rod will depress the stud so as to release the ejector sleeve from the shoulder l^3 when the spring H' will force the said ejector sleeve rearwardly and forcibly eject the shell from the gun. When the breech is again closed the extractor will be forced in carrying with it the ejector sleeve H, the stud L rising and holding the sleeve against operation until again released as before described.

I do not desire to be limited to the exact details of construction herein shown and described as variations may be made therein without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a fire arm the combination with the barrel, of the extractor and extractor slide, means for positively operating said slide, an ejector, a detent for holding said ejector out of operation and a part connected with said slide for releasing said detent, substantially as described.

2. In a fire arm the combination with the barrel, of the extractor and its slide, means for positively operating said slide, an ejector sleeve mounted on said slide, a detent having a shoulder for arresting said sleeve and a portion extending through said sleeve into position to be engaged by said slide, and a part connected with said slide for releasing said detent and sleeve, substantially as described.

3. In a fire arm the combination with the barrel, of the extractor and its slide, the ejector sleeve mounted on said slide, the spring actuated detent having a shoulder for arresting said sleeve, and provided with a part extending into engagement with said slide, said slide and said detent having the one a cam face to engage the other for releasing said detent, substantially as described.

4. In a fire arm the combination with the barrel, of the extractor and the extractor slide provided with a recess, the ejector sleeve mounted on said slide, an ejecting spring
5 surrounding said slide and engaging said sleeve and a spring actuated detent having a shoulder for engaging said sleeve, and an inclined part extending through an aperture in

said sleeve into the recess of said slide, substantially as described.

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

GEORGE A. HORNE.

Witnesses:

ALFRED A. DAY,
JOHN BROWN.