

No. 645,705.

Patented Mar. 20, 1900.

F. A. FOSTER.

EJECTOR FOR BREAKDOWN GUNS.

(Application filed Jan. 17, 1898. Renewed Aug. 24, 1899.)

(No Model.)

Fig-1.

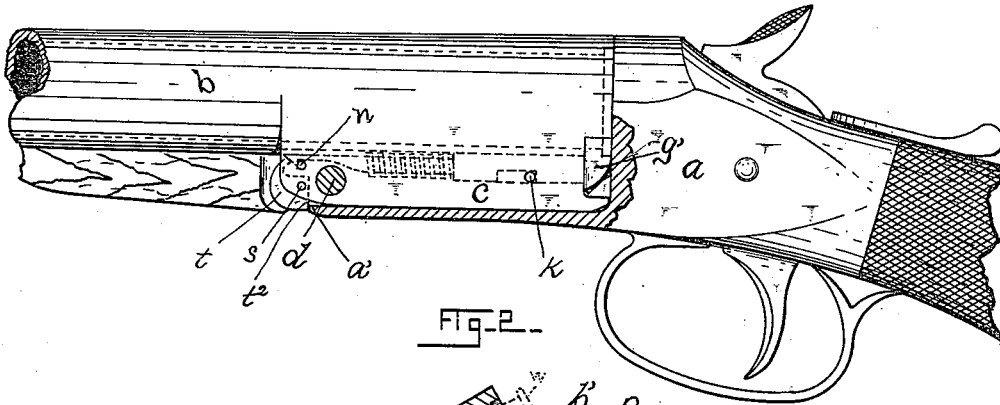


Fig-2.

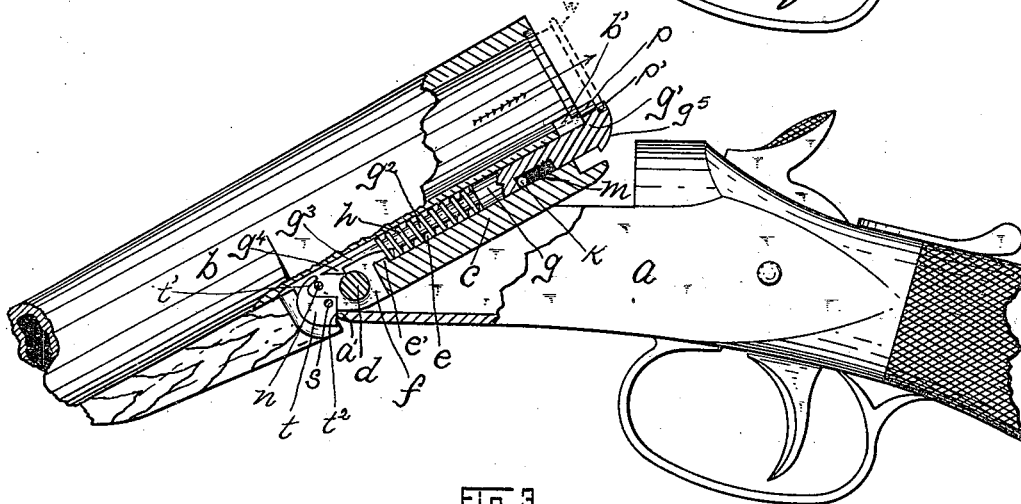
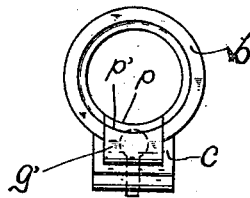


Fig-3.



WITNESSES

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EJECTOR FOR BREAKDOWN GUNS.

SPECIFICATION forming part of Letters Patent No. 645,705, dated March 20, 1900.

Application filed January 17, 1898. Renewed August 24, 1899. Serial No. 728,371. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. FOSTER, a citizen of the United States, residing at Norwich, New London county, State of Connecticut, have invented certain new and useful Improvements in Ejectors for Firearms, which improvements are fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings.

The particular object of this invention is to provide mechanism which shall automatically operate to eject a shell from the barrel of a hinged firearm when the same is "broken down" and which shall be so positive in its action as to obviate entirely the necessity of prying tightly-fitting shells from the barrel by means of a knife or other tool because of the failure of such mechanism to properly perform its work.

To assist in the explanation of my invention, the accompanying drawings have been provided, illustrating the same as follows:

Figure 1 shows, partly in elevation and partly in section, an arm fitted up with my newly-invented device. Fig. 2 is a similar view illustrating the manner in which my device operates to eject the shell. Fig. 3 is a rear end view of the barrel of the arm.

Referring to the drawings, *a* denotes the frame of the arm, *b* the barrel, and *c* the block or rib formed as a solid part of said barrel and hinged at *d* to the frame *a*.

The mechanism of my newly-invented ejector is located in the block *c*, and to receive the same said block is bored, as at *e*, from its rear end almost throughout its entire length and at its forward end is slotted centrally and vertically, as at *f*, the hole *e* and slot *f* opening into each other, as shown in the drawings.

Located in the hole *e* and adapted to slide longitudinally therein is a bolt denoted as a whole by the letter *g* and bearing at its rear end a head *g'*, whose office is hereinafter explained. A considerable portion of the bolt *g* is shouldered down, as at *g²*, to receive thereon a spiral spring *h*, the opposite ends of which engage, respectively, the body portion of bolt *g* and a shoulder *e'*, formed by counterboring the hole *e*. The spring *h* tends constantly by expansion to force the bolt *g*

rearward; but such movement of the latter, as well as its forward movement, is limited by means of a pin *k*, so located in the block *c* as to cross at right angles the hole *e* and a recess *m* cut in the bolt *g*, the end walls of which recess engage said pin to limit the movement of the bolt *g*, as abovestated. The forward portion of the bolt *g* is flattened to form a spring *g³* and the extreme forward end is formed as a hook *g⁴*, which latter when the bolt *g* is in its forward position engages a pin *n*, that crosses the slot *f* at right angles to the length of the block *c*, which pin when so engaged by the hook *g⁴* serves to retain the bolt *g* normally in its forward position against the force of the spring *h*.

The rear end of the barrel *b* and block *c* are cut out, as at *b'*, to receive the bolt-head *g'*. Said head is so constructed that it forms a part of the rear end of the barrel when the ejector is in its home position in the block *c*, said head being cut, as at *p*, on an arc corresponding to the caliber of the barrel and also having the counterbored portion *p'* to receive the flange or head of the shell.

Parallel with and beneath the pin *n* is a similar pin *s*, which serves to support in the slot *f* a trip-lever *t*, having an upwardly-extending point *t'*, which when the bolt *g* is in its forward position, as shown in Fig. 1, engages the under side of the hook *g⁴*, as shown in dotted lines in said figure. The edge *t'* of the trip *t* is engaged by the frame *a* at the point *a'*.

Assuming that an arm is fitted up with my newly-invented device and that the mechanism is in the position shown in dotted lines of Fig. 1 the ejection of a shell from the arm is accomplished as follows: As the barrel *b* is broken down the frame *a*, engaging the trip *t*, prevents the latter from rocking with said barrel, and as a result the hook *g⁴* is caused to ride upon the trip-point (the spring portion *g³* of the bolt *g* yielding to allow such action) until the hook is lifted clear of the pin *n*, when the spring *h*, being now free to expand, at once shoots the bolt *g* rearward, such movement being limited, of course, by the pin *k*, as already explained. The bolt *g* in its rearward movement carries with it the shell *w*, whose flange is engaged by the counterbored portion *p'* of the head *g*, and said

shell is usually shot rearward with sufficient force to cause it to leave the barrel. When, however, such is not the case, as in the instance of a tightly-fitting shell, the bolt *g*, acting positively when the arm is broken down, pushes the shell rearward a distance equal to the movement of the bolt, in which position it may be readily grasped and withdrawn from the barrel without requiring a knife or like tool to first pry it from its seat in the barrel.

When a new shell is placed in the barrel end in loading the arm, the closing of the same causes the beveled face *g*⁵ of the bolt-head *g*¹ to engage the frame *a*, and thereby said bolt and shell are pushed forward against the force of the spring *h* until the shell is properly seated in the barrel, which occurs when the arm is fully closed and when the bolt *g* has reached its extreme forward position. The forward movement of the bolt *g* causes the hook end *g*⁴ to engage the pin *n* and the yielding spring portion *g*³ of the bolt *g* allows said hook to ride upon the pin *n* until it snaps over the same and holds the bolt in its forward position. It is of course understood that in closing the arm the rocking of the barrel *b* returns the pin *n* to the position shown in Fig. 1, said pin, when the arm is open, having been rocked to a position beneath the toggle-point *t*, as shown in Fig. 2.

The mechanism of my newly-invented device being extremely simple and comprising very few parts is not likely to get out of or-

der, while at the same time it performs automatically and positively the office for which it was designed. The expense incident to fitting up firearms therewith is very small.

Having thus described my invention, I claim—

1. In a breakdown firearm, in combination, a longitudinally-movable, spring-pressed ejector seated in the lower portion of the barrel and having its forward end terminating in a spring-hook as set forth, a pin in the barrel located in the path of said hook and adapted to be engaged by the latter when the arm is closed, and means for releasing said hook from said pin, substantially as and for the purpose specified.

2. In a breakdown arm, in combination, a longitudinally-movable, spring-actuated ejector seated in the lower portion of the barrel and having its forward end terminating in a spring-hook as set forth, a pin fixed in the barrel and cooperating with the said ejector-hook when the arm is closed, and means for releasing said hook from said pin consisting of a pivoted trip, one end of which engages the frame and the other end engages the ejector-hook and forces the latter out of engagement with said pin when the arm is opened for reloading, all substantially as specified.

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Witnesses:

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