

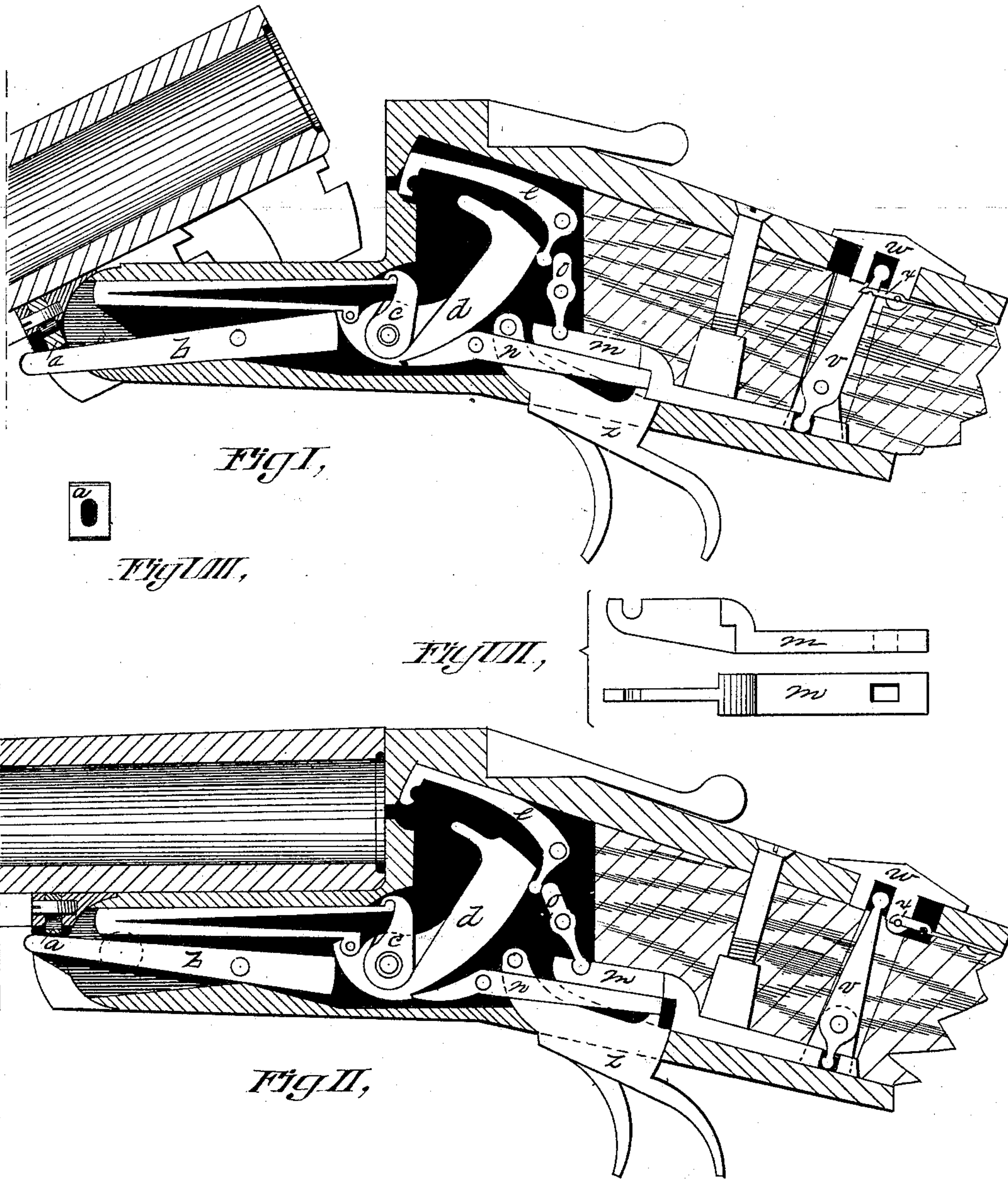
(No Model.)

2 Sheets—Sheet 1.

A. E. WHITMORE.
BREECH LOADING FIRE ARM.

No. 282,941.

Patented Aug. 7, 1883.



Witnessed,
R. H. Hyde
L. L. Derrison.

Inventor;
Andrew E. Whitmore
by Henry A. Chapin
Att'y

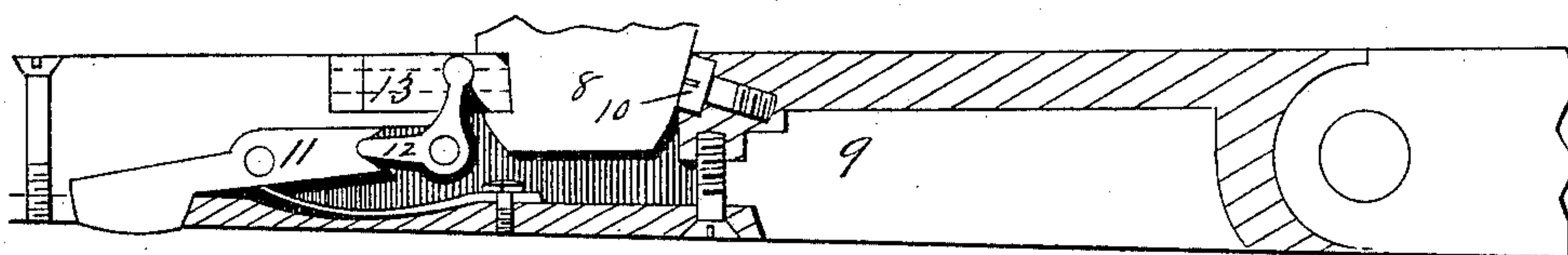
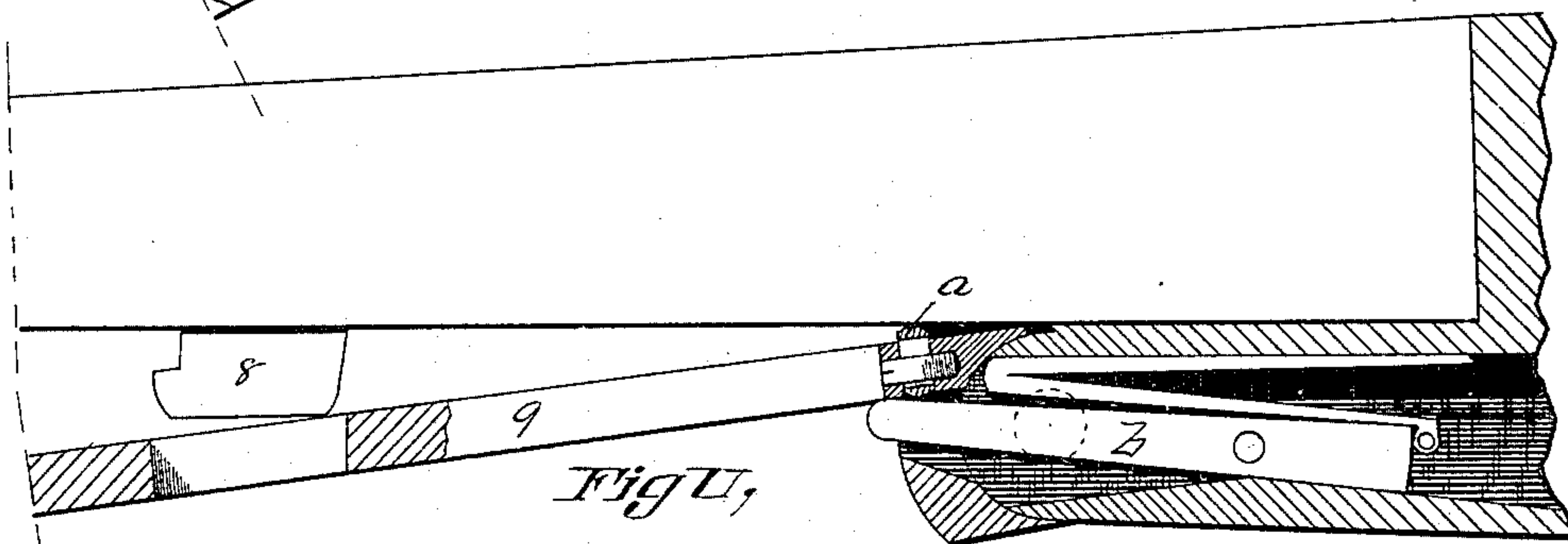
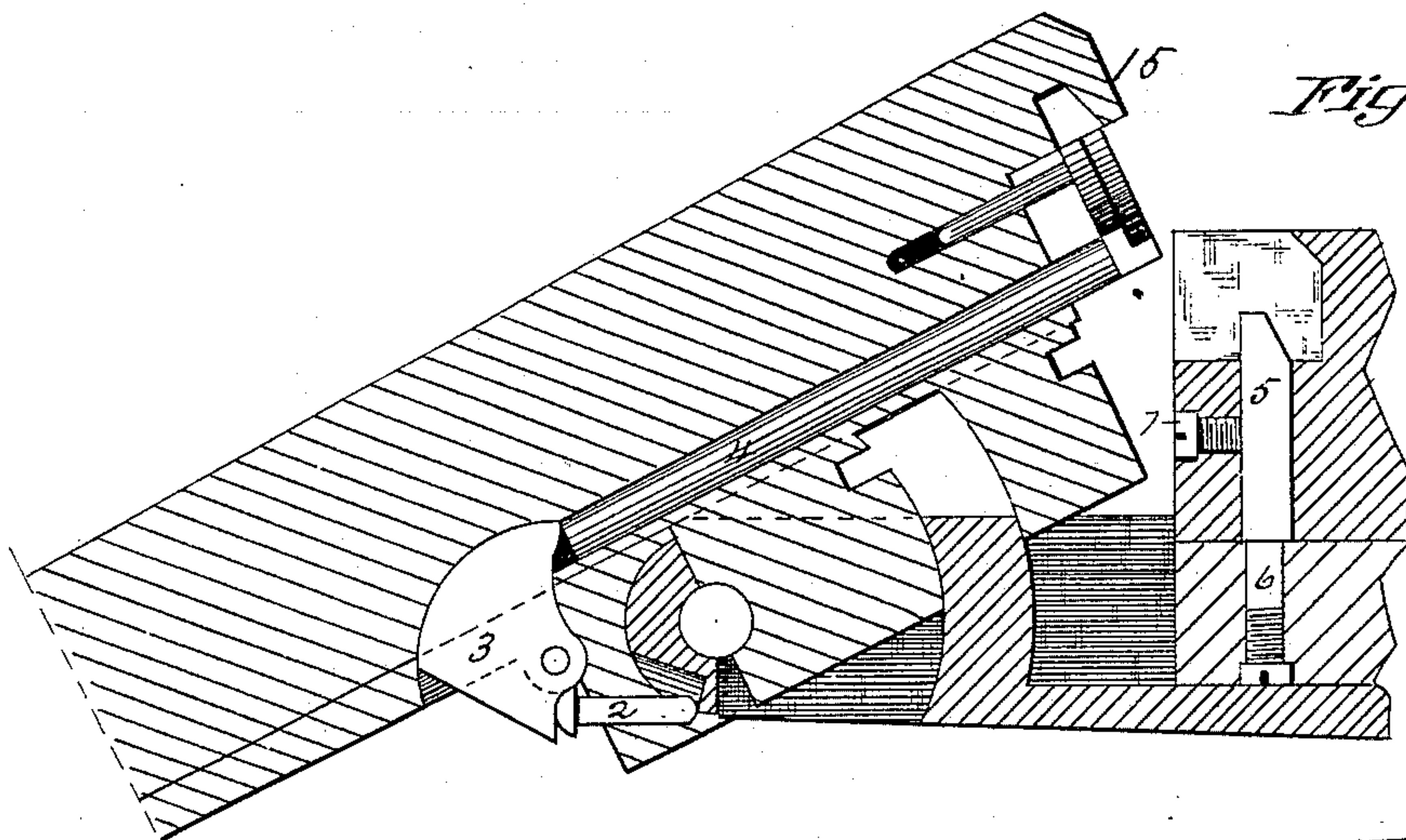
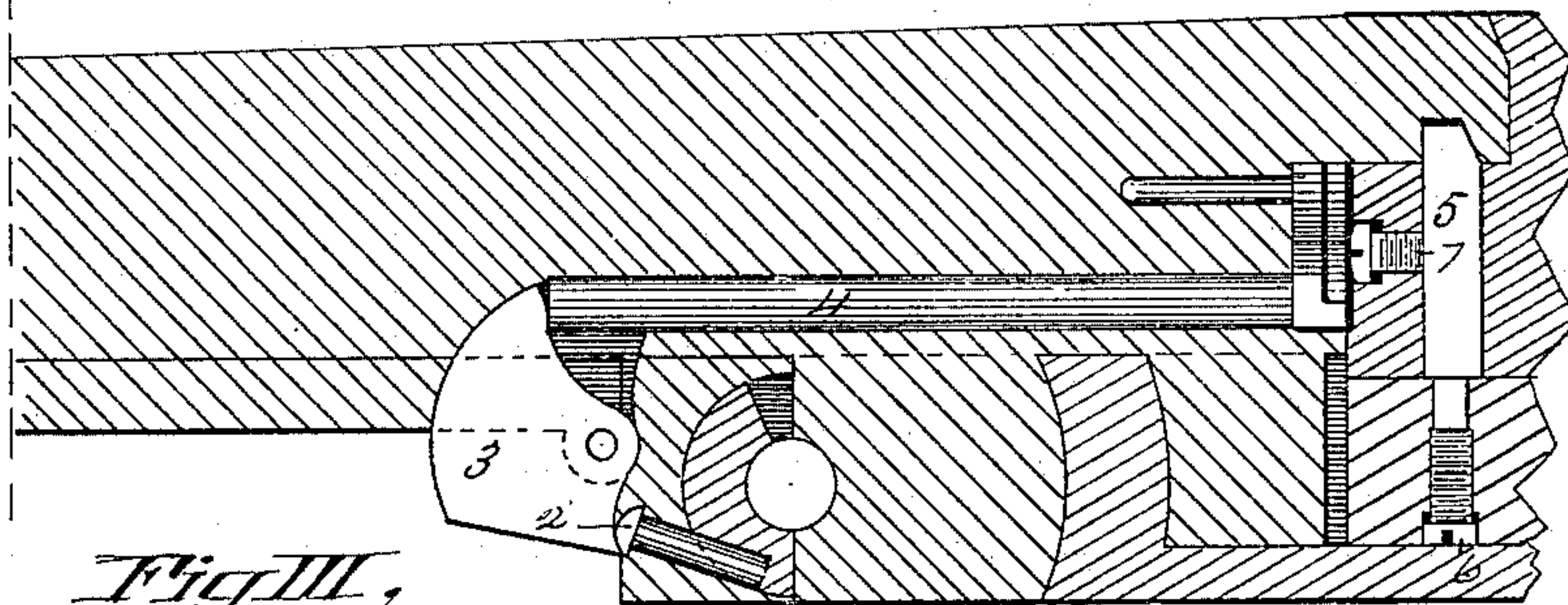
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UNITED STATES PATENT OFFICE.

ANDREW E. WHITMORE, OF SPRINGFIELD, MASSACHUSETTS.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 282,941, dated August 7, 1883.

Application filed May 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANDREW E. WHITMORE, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Breech-Loading Internal-Hammer Guns, of which the following is a specification.

This invention relates to improvements in shot-guns, and to that class thereof known as "break-down internal-hammer guns."

My invention consist in several novel features of construction, as hereinafter set forth.

One feature of my invention consists in improved devices for cocking the hammer by swinging the barrel, and to permit of connecting the fore end to the latter without causing the hammer to be cocked.

A second feature of my invention consists in improvements in the manner of hanging the mainspring, whereby the latter is entirely supported on the hammer and its pivot, and is prevented from interfering with the free action of the hammer by any frictional contact with the frame or other part of the arm.

A third feature of my invention consists in means adapted to be automatically interposed between the hammer and the end of the cartridge to prevent the hammer from accidentally striking the latter, and for keeping the hammer-chamber clean, and in improved means for guarding the sear against untimely action by the trigger, and for operating the sear-guard.

A fourth feature of my invention consists in improved means for operating the extractor and for adjusting its motion.

A fifth feature of my invention consists in improved means for causing the barrel to be drawn closely against the recoil-block when the gun is in a position to be fired.

A sixth feature of my invention consists in improved means for adjusting the bearing-surfaces of the rear edge of the fore-end lug and the fore end, and for securing the fore end up against the barrel.

In the drawings forming part of this specification, Figure I is a side elevation, partly in section, of a gun in a partly-opened position constructed according to my invention. Fig. II is a similar view to Fig. I, but showing the

gun closed. Fig. III is a view, partly in section, of that part of the gun at and just forward of the breech of the barrel, showing the extractor mechanism as it appears when the gun is closed. Fig. IV is a similar view to Fig. 3, but showing the position of the extractor parts when the gun is open. Figs. V, VI, VII, and VIII illustrate detail parts.

The parts of the arm generally shown in the drawings are those adapted to operate with one of two barrels, those for a second barrel, of course, being, where necessity requires it, duplicates of those shown in connection with one.

The general construction of the frame of the arm, adapting it to have the barrel pivoted to it to be swung thereon in the usual way and be locked thereto, is of the ordinary description.

In the drawings, *b* is the cocking-lever pivoted in the frame of the arm, under the rear part of the barrel, its forward end reaching out under a bearing-block, *a*, movably attached to the fore end, 9, near the rear end of the latter. Ordinarily the said bearing-block consists of a fixed stud rigidly attached to the forearm in such a position that when the muzzle of the barrel is depressed sufficiently the lever *b* is made to vibrate and cock the hammer. When, however, it becomes necessary to detach and reattach the fore end to the arm, said rigidly-fixed stud, when the fore end is held about in the position shown in Fig. V to place it under the arm, bears so hard on lever *b* as to swing it and cock the hammer when it is not the wish of the operator to do so. To obviate this inconvenience I loosely attach the bearing-block *a* to the fore end in such a way that it will slide up when it encounters the end of lever *b* in the act of putting on the fore end and not swing the latter; but when the fore end is brought up against the under side of the barrel said block will be crowded far enough through the fore end to cause it to properly act on lever *b* when the barrel is vibrated, as shown in Fig. I. The block *a* is shown in elevation in Fig. VIII. It has an elongated hole through it, and is secured in the fore end by a pin or screw, which passes through said hole, as shown. In this construction the rear end of lever *b* is not attached to the hammer di-

rectly, as is usually done, and the cost of the lever and its hammer-connection is much reduced; but the lever is arranged to bear directly on the mainspring, as shown.

5 The hammer *d* is hung upon a pivot-screw, as is usual, and is provided with a spring-step forward of the latter to hold the end of the lower arm of the mainspring. The upper arm of said spring is held by a stirrup, *c*, which is
10 hung on the hammer-pivot. Thus the mainspring is entirely supported upon the hammer and its pivot, and is not suffered to have any bearing upon any other part of the arm, whereby any frictional resistance to its free working
15 may result. Furthermore, this manner of assembling the parts facilitates the labor of putting up the guns.

To provide additional safeguards against premature action of the hammer, besides those
20 often attached to the trigger or sear in guns of this class, and to conduce to keeping smoke and dust from entering the hammer-chamber, I hang the hammer-guard *e* in the latter. This guard is adapted to have its forward end drop
25 down and cover the firing-pin hole, so that the end of the hammer cannot pass therethrough and strike the cartridge, as shown in Fig. I, and is adapted to be swung to another position, as in Fig. II, when the gun is to be fired.

30 An arm on the guard *e* hangs down back of the hammer *d*, so that when the latter is cocked the guard, by the action of the hammer in striking said arm, is thrown down to cover the firing-pin hole. To accomplish this action the
35 hammer is swung slightly more than is required to let the sear engage in its notch, as in Fig. I.

A guard-lever, *o*, is hung back of the guard-arm, whose lower end engages with a sliding
40 sear-guard, *m*. The latter is operated by a slide-block, *w*, located on the top of the breech, which engages with a lever, *v*, the latter in turn engaging with said guard *m*. A spring, *x*, serves to retain slide *w* in a forward or rear-
45 ward position. The sear-guard is, by moving slide *w* backward, carried over the end of the sear *n*, preventing the latter from being operated by the trigger *z* to release the hammer.

When the gun is to be loaded, slide *w* is
50 moved backward, as in Fig. I, thereby sliding guard *m* over the sear *n*, and swinging the upper arm of lever *o* back to let the arm on the hammer-guard swing, when the hammer, by the action of lever *b* and the swinging of the
55 barrel, is cocked and throws the guard *e* down. The gun having been loaded the barrel is swung up and locked, and previous to firing it the slide *w* is moved forward, bringing the parts to the positions shown in Fig. II.

60 The cartridge-extracting devices in this arm are operated by the circular lever 3 acting against the end of the extractor-stem 4, in combination with the pin 2, set in the end of the frame. The lever 3 is hung near the rear end
65 of the fore end, and its short arm, when the barrel is tipped, as in Fig. IV, strikes the head

of said pin, causing it to swing on its pivot. The pin 2 constitutes a bearing-point for the lever 3 to strike, which is easily made to engage therewith, near its pivot, and increase its
70 rotary motion and draw the shells more nearly out of the gun.

To cause the barrel to be drawn closely against the recoil-block when the gun is to be fired, I provide an adjustable wedge, 5, in the
75 frame, with the end of which a hook, 15, on the barrel engages, and whereby, when the end of the latter is forced down, the barrel will, as much as possible, be drawn rearward, causing the heads of the shells or shell therein to come
80 closely against the recoil-plate. The wedge 5 is adjustable by a screw, 6, and is secured in place by a screw, 7.

To provide means for causing the fore end always to have a close bearing on the rear
85 edge of the stud 8 on the barrel, (see Fig. 6,) so that any wear may be taken up and the fore end be crowded backward, I insert in the fore end, just back of its stud-opening, the screw
90 10, which may be adjusted so as to always have a firm bearing on said stud, for the purpose stated.

For fastening the fore end to the stud 8, and to conveniently operate said fastening, I provide a bolt, 13, in the fore end to engage in a
95 notch in the stud 8. Said bolt is capable of a longitudinal motion, and is made to engage with one arm of a species of bell-crank lever, 12, and the opposite arm of the latter engages with the forked end of a lever, 11, capable of
100 being operated from the outside of the fore end to draw back said bolt. A spring is placed under lever 11 to throw bolt 13 against stud 8.

What I claim as my invention is—

1. The combination, with the fore end, 9, of
105 the arm and the cocking-lever *b*, pivoted in the frame thereof under the mainspring of the bearing-block *a*, loosely hung in said fore end over the outer end of said lever, substantially as set forth.

2. In combination, the mainspring and the
110 hammer *d*, the cocking-lever *b*, pivoted in the frame of the arm under the mainspring, one end of which is adapted to bear upon the flat part of said spring forward of the hammer, and the bearing-block *a*, adapted to swing with the
115 barrel and to bear upon the outer end of said lever, substantially as set forth.

3. In combination, the internal hammer, *d*, hung within the frame of the arm, having a
120 support thereon one side of its pivot-pin, with which the lower arm of the mainspring engages, the stirrup *c*, hung upon the hammer-pivot and adapted to have the upper arm of the mainspring engage therewith, and the
125 mainspring, substantially as set forth.

4. In combination, the hammer *d*, hung within the frame of the arm, the hammer-guard
130 *e*, pivoted also within said frame over the hammer and adapted to have one end thereof swing between the hammer and the firing-pin hole at the rear of the barrel, and having an

arm thereon to engage with the hammer when the latter is cocked, substantially as set forth.

5 5. The combination, with the hammer-guard *e*, having an arm extending behind the hammer, of the lever *o*, pivoted in the frame of the arm and adapted to have one arm thereof strike said arm on the guard *e*, the sear-guard *m*, adapted to engage with the second arm of lever *o*, the lever *v*, and the slide *w*, substantially as set forth.

10 6. In combination, the extractor-stem 4, located under the barrel and adapted to have a movement in a line therewith, the circular lever 3, pivoted in the fore end, 9, and the pin 2, fixed in the frame in the rear of the lower arm of said lever, substantially as set forth.

15 7. In combination with the swinging barrel of a breech-loading gun having the hook 15 on its rear end, the wedge 5, located in the frame of the arm in the rear of the barrel, adapted to have said hook engage therewith, and adjustable in a line across the bore of the barrel, substantially as set forth.

8. The combination, with the stud 8, secured beneath the barrel, and the fore end perforated to let said stud enter it, of the bearing-screw 10, located at one end of said perforation and adapted to have a bearing against the rear edge of said stud, substantially as set forth.

25 9. In combination, the stud 8, secured beneath the barrel and having a bolt-notch on its forward edge, the fore end, 9, perforated to let said stud enter it, the bolt 13, located in the fore end and adapted to engage with said stud, the bell-crank lever 12, having one arm engaging with said bolt, the lever 11, having a forked end with which the other arm of lever 12 engages, and a spring to operate lever 11, substantially as set forth.

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Witnesses:

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