

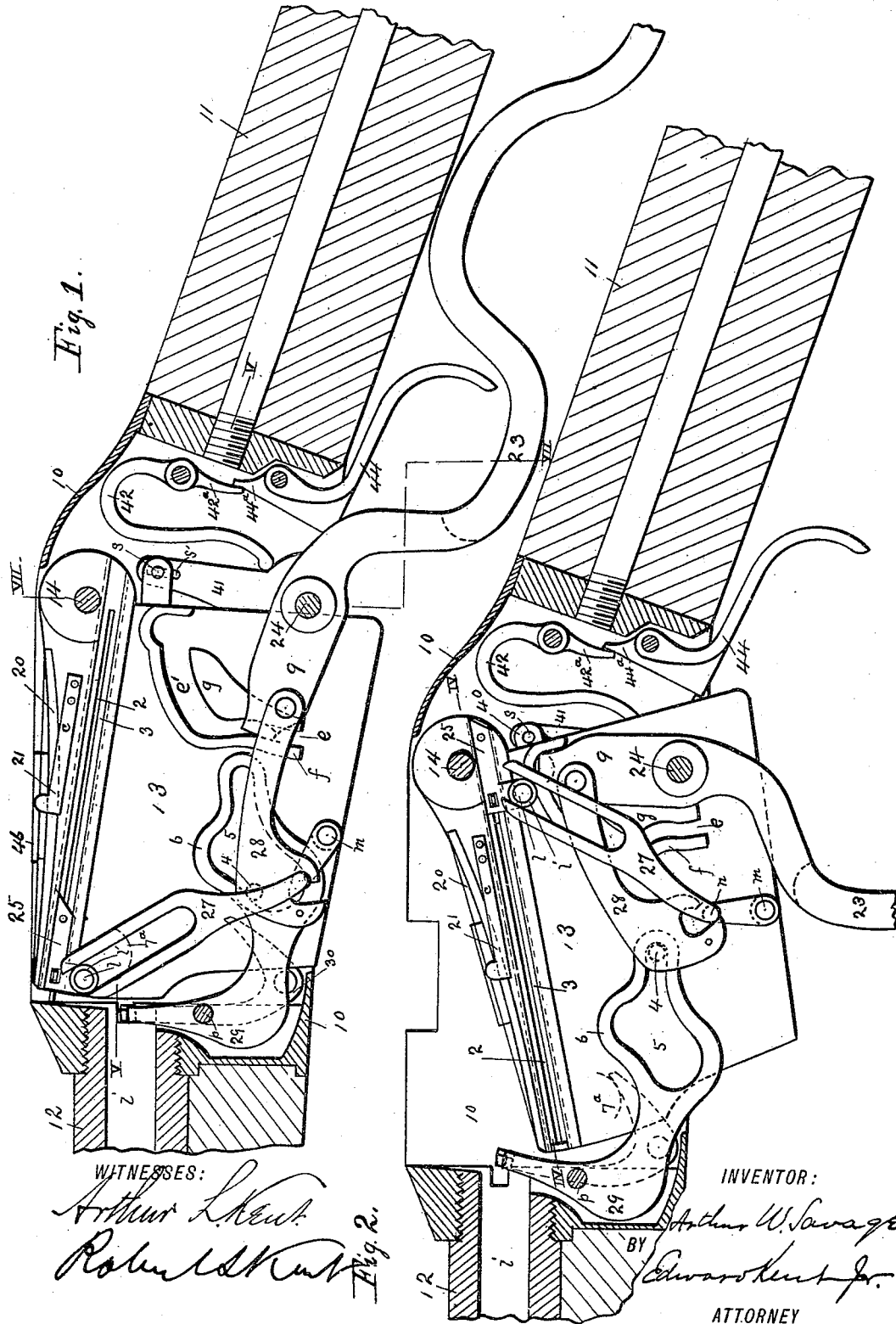
(No Model.)

3 Sheets—Sheet 1.

A. W. SAVAGE.  
MAGAZINE OR SINGLE LOADING FIRE ARM.

No. 460,786.

Patented Oct. 6, 1891.



(No Model.)

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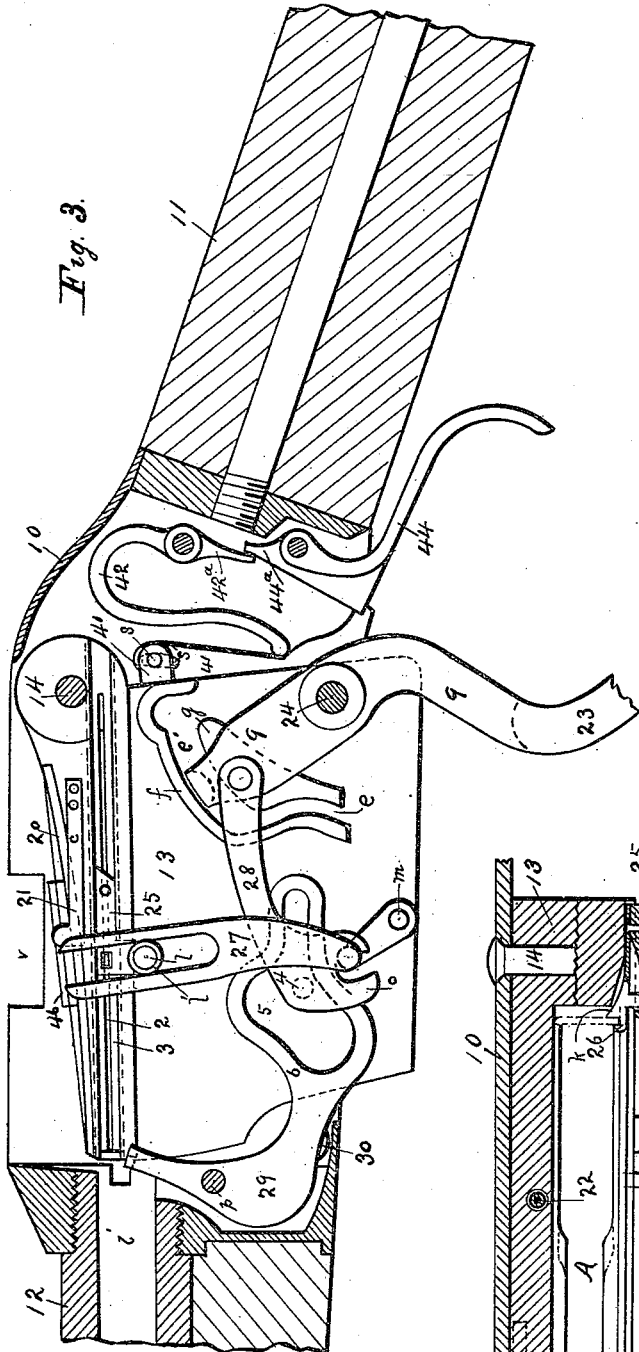


Fig. 3.

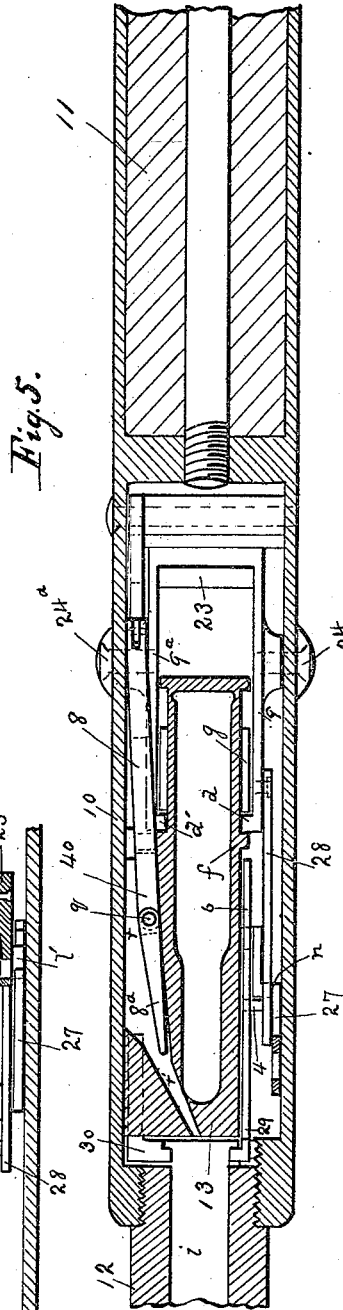


Fig. 5.

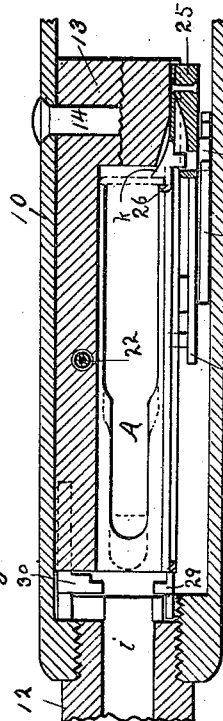


Fig. 4.

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*Arthur L. Hunt.*  
*Robert Hunt.*

INVENTOR:  
*Arthur W. Savage*  
 BY *Edward Hunt, Jr.*  
 ATTORNEY

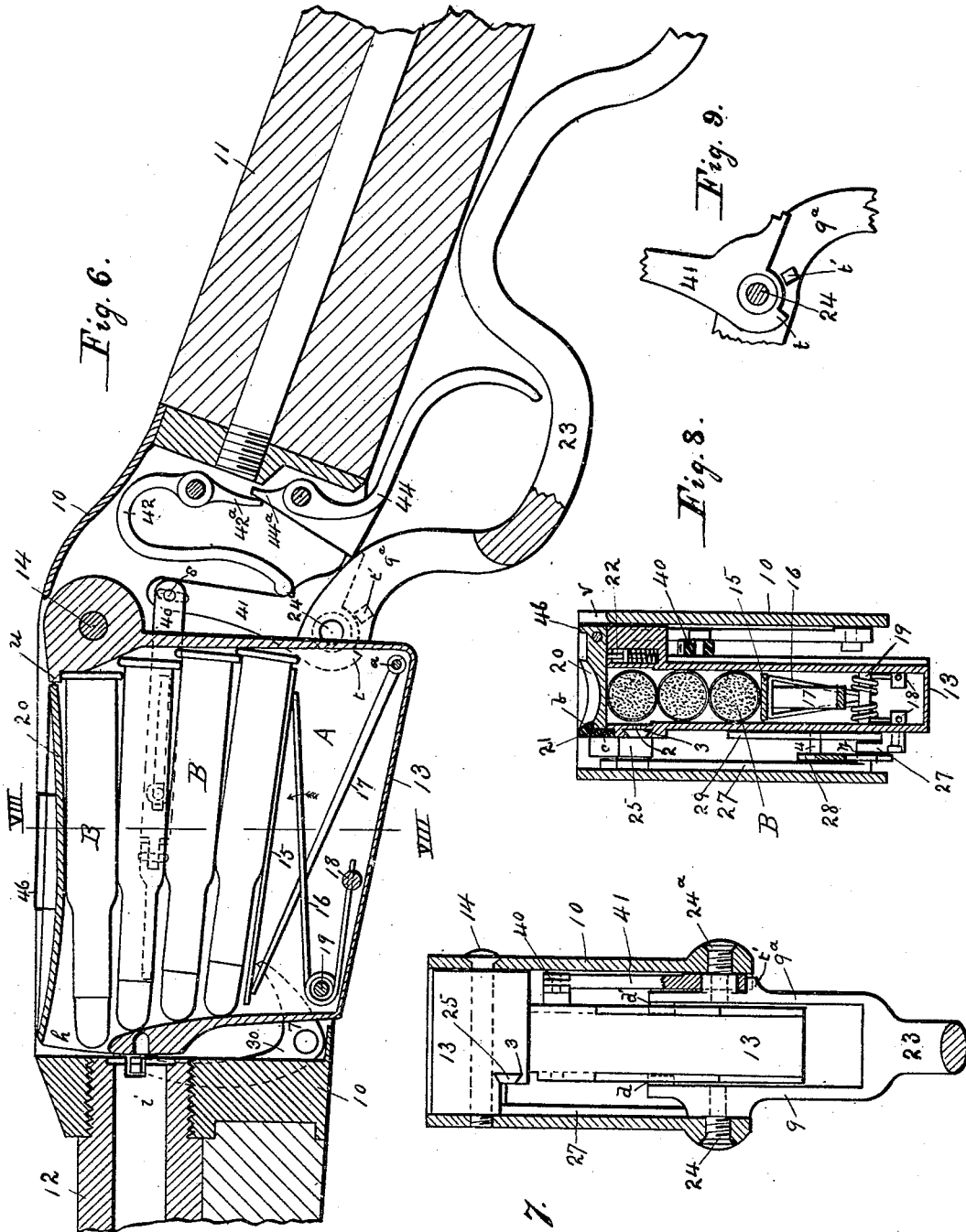
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WITNESSES:  
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*Robert Kent*

Fig. 7.

INVENTOR:  
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 ATTORNEY

# UNITED STATES PATENT OFFICE

ARTHUR W. SAVAGE, OF BAY RIDGE, NEW YORK.

## MAGAZINE OR SINGLE-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 460,786, dated October 6, 1891.

Application filed March 2, 1891. Serial No. 383,480. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR WILLIAM SAVAGE, a subject of the Queen of Great Britain, residing at Bay Ridge, in the county of Kings and State of New York, United States of America, have invented a new and Improved Magazine and Single-Loading Fire-Arm, of which the following is a specification.

The main object of my present invention is to produce an arm of the lever type, which may without adjustment be used interchangeably as a single breech-loader or as a magazine-arm; and to the end named the invention consists, essentially, of a fire-arm provided with a breech-block that is chambered to receive a number of cartridges placed side by side, one above the other, and mounted to swing downward in opening and upward in closing the breech, and which is controlled by a lever mounted to swing beneath the receiver, there being provided a cartridge-feeding mechanism and an automatic cut-out arranged in connection therewith, all as will be hereinafter explained, and specifically pointed out in the claims.

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

Figure 1 is a side view of a portion of the arm, the receiver being shown in section and the parts being represented as they appear after a cartridge has been fed forward from the magazine and the breech-block moved to the firing position. Fig. 2 is a similar view, the parts, however, being represented as they appear when the breech is open. Fig. 3 is also a similar view, the parts in this case being represented as they appear in an intermediate position, the position being that which the parts assume when the cartridge is being fed forward. Fig. 4 is a sectional plan view taken on line IV IV of Fig. 2. Fig. 5 is a similar view taken on line V V of Fig. 1. Fig. 6 is a central longitudinal sectional view of the arm, the parts being represented as they appear when in the firing position. Fig. 7 is a cross-sectional view taken on line VII VII of Fig. 1. Fig. 8 is a cross-sectional view taken on line VIII VIII of Fig. 6, three cartridges only being shown in this view, and

Fig. 9 is a detail view of a portion of the sear and a portion of the operating-lever.

In the drawings above referred to, 10 represents the receiver, to which the stock 11 and the barrel 12 are connected in the usual manner. Within the frame 10 there is pivotally mounted a combined cartridge-receptacle and breech-block 13, the connection between the block and receiver being established by means of a pivot pin or bolt 14, that passes through the receiver and through an aperture in the block located near the rear upper corner thereof. The block 13 is hollowed to form a chamber A of proper shape to receive a number of superimposed cartridges B, such cartridges resting on a leaf or plate 15, that is supported by arms 16 and 17. The arm 16 is preferably made from a single length of spring-wire, the wire being centrally bent and its ends being held by studs 18, while the body of the wire is coiled about a cross pin or bar 19 in a manner such that the arm will always tend to move in the direction of the arrow shown in connection therewith in Fig. 6.

Although the arm above described is my preferred form, I desire it to be distinctly understood that any proper arrangement, whereby the free end of the arm would always tend to move upward, could be substituted for the construction described.

The arm 17 is pivotally mounted at the point *a* and extends forward between the side members of the arm 16, whereby as the arm 16 raises the arm 17 will be carried upward, and both ends of the plate 15 will be properly advanced toward the upper part of the chamber A.

The chamber A is normally closed by a trap or cover 20, that is hinged to one of the side walls of the breech-block, and this cover is held in its closed position by a spring-latch 21, that is carried by the breech-block. The latch 21 may be arranged in many ways; but I prefer such a latch as I have illustrated—viz., a latch having an inclined face *b*, (see Fig. 8,) against which the cover strikes when lowered to its closing position, and a spring-shank *c*, that extends along the side of the breech-block, the rear end of said shank being secured to said block.

To facilitate the opening of the trap cover 20, I provide a spring-pressed pin 22, which is housed within a proper chamber formed in the side wall of the block 13, the  
 5 pin being arranged to bear against the under side of the trap or cover, as shown in Fig. 8, so that when the latch 21 is moved from engagement with the cover, said cover will be  
 10 thrown upward by the action of the spring-pressed pin.

In order that the block 13 may be readily moved from the position in which it is shown in Fig. 1 to the position in which it is shown in Fig. 2, and conversely, I provide an oper-  
 15 erating-lever 23, formed with a bifurcated forward end and mounted on studs 24 and 24<sup>a</sup> that extend inward through the side walls of the receiver 10. The members 9 and 9<sup>a</sup> of the bifurcated lever end pass upward and for-  
 20 ward on each side of the block 13, and are provided with lateral projections *d d'*, (see Fig. 5,) that extend inward and ride within cam-grooves *e*, formed by flanges *f* and *g*, that  
 25 are carried by the block 13, or the grooves could be made in the side faces of the block, as will be readily understood. It will be noticed that the sections *e'* of the grooves *e* are  
 30 concentric with the axes of the studs 24 and 24<sup>a</sup>, and consequently it will be understood that while the projections *d d'* are passing  
 through these concentric sections the block 13 will remain stationary. At the time the  
 35 block 13 is so held stationary an opening *h* in the forward end of the block will register with the firing-chamber *i* of the barrel 12, the  
 parts being shown in this position in Fig. 3, and while this register lasts the feeding forward of the cartridge from the chamber A to  
 40 the chamber *i* takes place, the forward movement of the cartridge being brought about by a mechanism which will now be specifically  
 described.

In one side of the block 13 I form a slot 2 and a groove 3, in which there rides a slide  
 45 25, provided with a spring-clip 26, adapted to engage the rim of the upper cartridge within the chamber A, the rear inner face *k* of the clip being inclined, as shown in Fig. 4, in order  
 50 that as the slide is moved to the rear the clip will pass the cartridge-flange and ultimately engage the same. The slide 25 is provided with a projection *l*, which carries an anti-friction sleeve *l'*, and this sleeve rides between the members of a bifurcated lever 27,  
 55 said lever being pivotally connected to the block 13 by a stud *m*. The lever 27 is preferably made in two sections that are rigidly connected by a cross-piece *n*, which cross-piece is at times engaged by a hook *o*, formed at the  
 60 end of an arm 28, that extends forward from and is pivotally connected to the member 9 of the lever 23. The arm 28 carries a stud or projection 4, that extends into an opening 5, formed in the rearwardly-extending arm 6 of  
 65 an extractor 29, said extractor being pivotally mounted at *p*, the arrangement being such that as the lever 23 is moved from the position in

which it is shown in Fig. 1 to the position in which it is shown in Fig. 2 the rear end of the  
 70 arm 6 of the extractor 29 will be drawn down and the cartridge-shell will be moved to the rear from its position within the firing-chamber *i*, such shell being finally ejected by an ejector  
 75 30, that is pivotally mounted at the opposite side of the receiver, the rearwardly-extending arm 7 of said ejector being borne upon by a pro-  
 80 jection 7<sup>a</sup>, formed upon the side of the breech-block, as indicated by dotted lines in Figs. 1 and 2. If while the parts are in the position in which they are shown in Fig. 2 a cartridge  
 85 be placed by the hand in the firing-chamber *i* from above the breech-block, the vertical arm of the extractor 29 will be carried forward and the arm 6 raised, whereby the hook  
 90 *o* will be carried free from the cross-piece *n*, and then when the lever 23 is moved upward the lever 27 will not be carried forward, and consequently the slide 25 will remain at rest and no cartridge will be fed forward from the  
 95 magazine; but if a cartridge is not placed in the chamber *i* from above the breech-block the extractor will remain in a position such that the hook *o* will engage the cross-piece *n*, and then when the lever 23 is moved upward to close  
 the breech the arm 28 and the lever 27 will be moved, so that the slide 25 will be advanced, and with it the upper cartridge in the chamber A.

From the description of the operation just given it will be seen that the gun may be used  
 100 interchangeably as a magazine-arm or as a single loader without adjustment—that is to say, if the arm be used as a single loader the mechanism by which cartridges are fed forward from the magazine is automatically cut  
 105 out of action.

The firing-pin 40 is formed in sections 8 and 8<sup>a</sup> that are connected by a hinge-joint at  
 110 *q*, the main section 8 of the pin 40 riding in a groove *r*, formed in the side of the block 13, while the section 8<sup>a</sup> is arranged to pass through a diagonal opening *r'* that leads inward and forward through the block 13. The rear end of the firing-pin, section 8, is connected to the sear 41 by a pin *s*, that rides in a  
 115 slot *s'*, formed in the sear, which sear is loosely mounted on the stud 24<sup>a</sup>, and is borne upon by a heavy spring 42. The sear 41 is formed with a shoulder *t*, against which a projection  
 120 *t'*, formed on the arm 9<sup>a</sup> of the lever 23, is brought to bear when the lever 23 is moved downward to open the breech, and consequently when the breech is opened the sear is moved against the tension of its spring and the firing-pin is withdrawn to the position in  
 125 which it is shown in Fig. 5, the sear at this time being engaged by the trigger 44, as shown best in Fig. 3. In order that the trigger may be held in engagement with the sear, I form the spring 42 with a projection 42<sup>a</sup>, which  
 130 bears on a projection 44<sup>a</sup>, that extends upward from the trigger.

With such an arm as the one above described it is desirable that provision be made

for holding the cartridges against vertical displacement after they have been placed within the magazine-chamber, and to this end I form the block 13 with a shoulder *u*, (see Fig. 6,) against which the rim of the upper cartridge abuts, and it is also desirable that the trap or cover 20 should always be closed when the breech is open, and to this end I form such trap or cover with a flange 46, which, when the cover is open, overlaps the side wall of the receiver, such wall being cut away, as shown at *v*, (see Fig. 3,) to receive the flange. From the above description it will be understood that if the breech-block be lowered while the cover 20 is open the cover-flange 46 will strike against the receiver and the cover will be thrown to its closing position.

To facilitate the introduction of a cartridge from above the breech-block when the arm is used as a single loader, I form the cover 20 with a concave upper face, as shown in Figs. 6 and 8.

The term "cartridge-feeding mechanism," as employed in the claims, refers to a mechanism for transferring the cartridges from the magazine to the firing-chamber.

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

1. A hollow breech-block constituting a magazine-chamber.

2. A hollow breech-block constituting a magazine-chamber, in combination with a cover that is hinged to one of the upper edges of the block.

3. A hollow breech-block constituting a magazine-chamber, in combination with a cover that is hinged to one of the upper edges of the block and a latch carried by the block and arranged to engage the cover.

4. A hollow breech-block provided with a trap or cover that is formed with a concave upper face.

5. The combination, with a breech-block that is chambered to form a magazine-chamber, of a trap or cover hinged thereto, a latch carried by the breech-block and arranged to engage the cover, and a spring-pressed pin that is arranged to throw the cover toward its open position, substantially as described.

6. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block, a cover hinged thereto and formed with a flange which overlaps the receiver when the cover is in its open position, and a means for raising and lowering the breech-block, substantially as described.

7. In a magazine fire-arm, the combination, with the receiver formed with a recess *v*, of a hollow breech-block, a cover hinged thereto and formed with a flange which rests within the recess *v* when the cover is in its open position, and a means for raising and lowering the breech-block, substantially as described.

8. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block provided with a cover, a cartridge-support-

ing mechanism arranged within the breech-block, and a cartridge-feeding mechanism, substantially as described.

9. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block formed to constitute a magazine-chamber and provided with a cover, a spring-pressed cartridge-supporting plate or leaf, and a cartridge-feeding mechanism, substantially as described.

10. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block formed to constitute a magazine-chamber, a means for raising and lowering the same, a cover hinged thereto, a cartridge-supporting leaf, a spring-arm which bears upon the leaf, a pivotally-mounted arm which also bears upon the leaf and is controlled by the spring-arm, and a cartridge-feeding mechanism, substantially as described.

11. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block mounted therein and formed to constitute a magazine-chamber, a lever by which said block is moved, a cover hinged to the block, a means for raising the cartridges within the magazine-chamber, a cartridge-engaging clip, and a means for reciprocating said clip, substantially as described.

12. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block constituting a magazine-chamber, a lever by which the block is moved, a cover hinged to the block, a spring-actuated cartridge-upholding leaf, a spring-supported cartridge-engaging clip, a slide to which said clip is secured, and a means for reciprocating the slide, substantially as described.

13. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block constituting a magazine-chamber, a lever by which the block is moved, a cover hinged to the block, a spring-actuated cartridge-upholding leaf, a spring-supported cartridge-engaging clip, a slide to which said clip is secured, a lever that engages the slide, and an arm that is carried by the breech-block-operating lever and is arranged to engage the slide-lever, substantially as described.

14. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block constituting a magazine-chamber, a lever by which the block is moved, a cover hinged to the block, a spring-actuated cartridge-upholding leaf, a spring-supported cartridge-engaging clip, a slide to which said clip is secured, a lever that engages the slide, an arm which engages the slide-lever and is carried by the breech-block-operating lever, and an extractor formed with an opening that is entered by a projection carried by said arm, substantially as described.

15. In a magazine fire-arm, the combination, with the receiver, of a hollow breech-block constituting a magazine-chamber, a lever by which the block is moved, a cover hinged to the block, a spring-actuated cartridge-up-

holding leaf, a spring-supported cartridge-engaging clip, a slide to which said clip is secured, a lever that engages the slide, such lever being provided with a cross-piece *n*, an arm carried by the breech-block-operating lever and formed with a hook *o* that at times engages the cross-piece *n*, and an extractor formed with an opening 5 that is entered by a projection carried by the arm, substantially as described.

16. A hollow breech-block constituting a magazine-chamber and formed with a shoulder *u* that is located near the rear upper edge of the block, substantially as described.

17. In a magazine fire-arm, the combination, with the receiver, of a breech-block formed with a groove *r* and a diagonal opening *r'*, a sectional firing-pin mounted in said groove and arranged to enter the opening *r'*, a block-operating lever, a sear connected to the firing-pin and controlled by said lever, a spring arranged in connection with the sear, and a trigger, substantially as described.

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Witnesses:

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