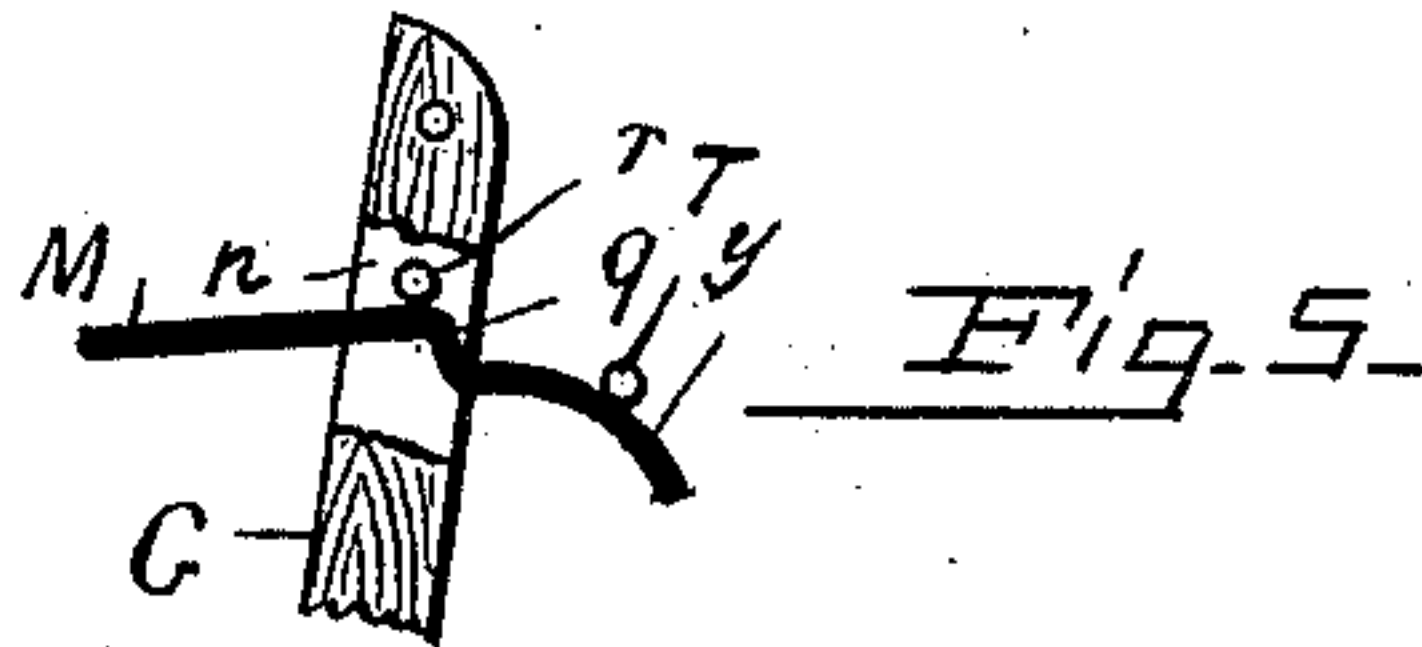
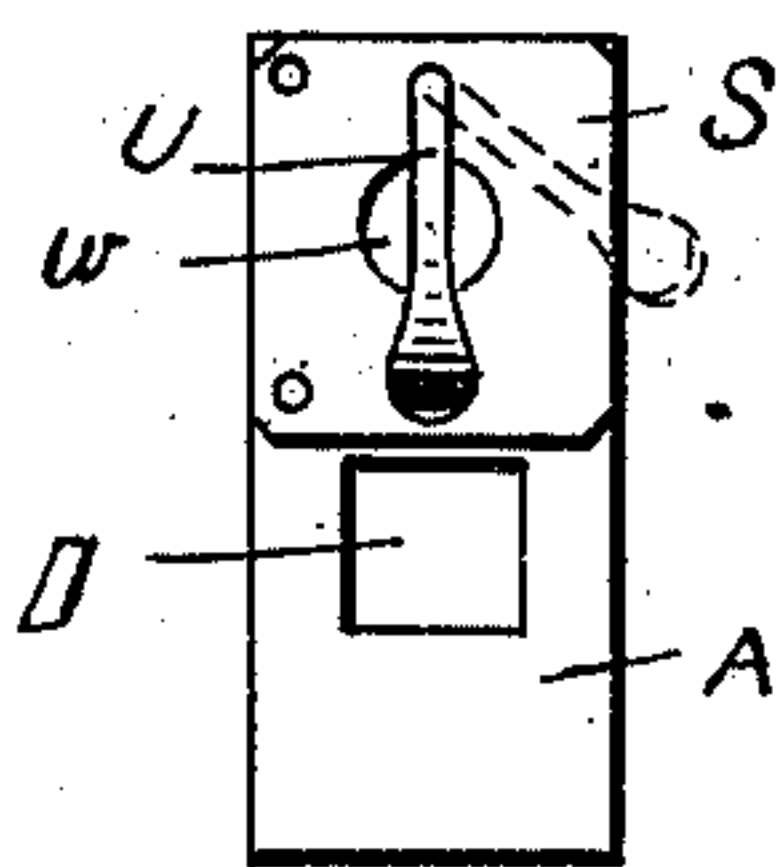
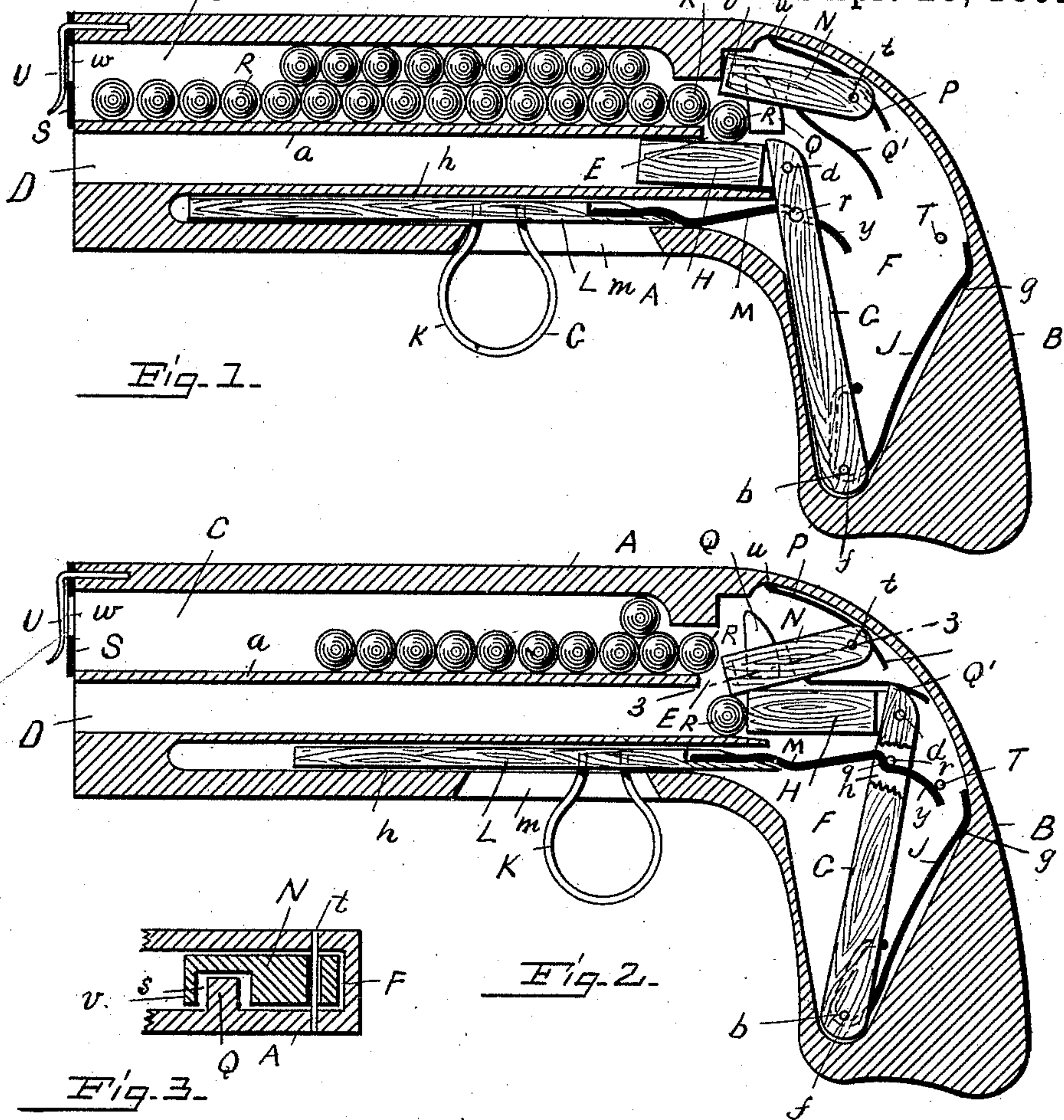


(No Model.)

O. H. ARNO.
MAGAZINE SPRING GUN.

No. 473,808

Patented Apr. 26, 1892.



WITNESSES:
Gavin E. Nichols.
H. B. Wentworth

INVENTOR:
Oliver H. Arno
PER Qu. Edwin W. Brown.
ATTY-

UNITED STATES PATENT OFFICE.

OLIVER H. ARNO, OF BOSTON, MASSACHUSETTS.

MAGAZINE SPRING-GUN.

SPECIFICATION forming part of Letters Patent No. 473,808, dated April 26, 1892.

Application filed June 23, 1891. Serial No. 397,223. (No model.)

To all whom it may concern:

Be it known that I, OLIVER H. ARNO, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Magazine Toy Pistols, of which the following is a full, clear, and exact description.

This invention relates to a magazine toy pistol more particularly intended for the discharge of peas or other small articles; and the invention consists of a pistol provided with a magazine-chamber, in which the peas or other article to be discharged are placed in quantity, and a discharging or barrel chamber having communication therewith at its rear end, in combination with certain construction and arrangement of operating parts for letting pass or feeding one pea or other article at a time into the discharging chamber or barrel from the magazine-chamber, also preventing at the same time the other peas or articles from passing to the discharging or barrel chamber, and the discharging of such pea or article from the discharging or barrel chamber, all substantially as hereinafter fully described, reference being had to the accompanying sheet of drawings, in which—

Figure 1 is a longitudinal central section of the pistol, with the operating parts in side view, with the magazine-chamber supplied with peas, and all parts in their normal positions. Fig. 2 is a similar longitudinal central section, but showing the operating parts as moved into position for the discharge of the pea in the discharging or barrel chamber. Fig. 3 is a detail section on line 3 3, Fig. 2. Fig. 4 is an end view. Fig. 5 is a detail elevation.

In the drawings, A represents the body of the pistol; B, its handle; C, the magazine-chamber, and D the discharging or barrel chamber. The chambers C D extend the length of the body or barrel, being separated by the partition *a*, and are open at their outer ends, and have communication with each other by an opening E in the partition *a*. The handle portion is cut or hollowed out to form a chamber F, in which the operating parts are placed.

G is a lever, pivoted at *b* in the handle-chamber and extending upward, and having

pivoted at its upper end at *d* a block H, which is disposed in the rear end of the discharging-chamber D.

A spring J, secured by one end to the lever at *f* and bearing by its free end against the side wall *g* of the handle-chamber, acts to hold the lever in its forward position, as shown in Fig. 1, and returns it thereto, if the lever is moved backward and left free.

K is a ring or loop secured to the under side of the bar or strip L, disposed and arranged to freely slide back and forth in a longitudinal groove *h* below the discharging-chamber, the loop projecting down through an opening *m* in lower side of the body into convenient position for use as the trigger of the pistol. At the rear end of this strip is secured a spring rod or wire M, which extends back and passes freely through a slot in the lever G and has a shoulder *q* made by bending the wire in the form shown, its free end projecting beyond the lever and bent downward, as shown, this shoulder lying up against a cross-pin *r* of the lever.

N is a block, pivoted at *t* to swing vertically thereon above the lever and held in its uppermost position (shown in Fig. 1) by a spring P, secured at *u* to the body and bearing by its free end against the upper side of the rear end of the block.

Q is the rear wall of the magazine-chamber, and is cut away on one side to allow one side of the block N to pass freely by it, the block being grooved on its inner side, as at *s*, for such purpose, the block at its end *v* being of full size in cross-section, as shown in detail in section in Fig. 3. Secured to the under side of this block is a spring arm or wire Q', which extends back in the form shown, for the purpose to be described.

The operation of the pistol is as follows: The peas R are placed in the magazine-chamber by putting them through an opening *w*, one at a time, in a plate S, secured over the end of the magazine-chamber, the plate-opening being opposite to and communicating therewith, which opening limits the size of the peas to be put in the chamber, so that too large ones cannot be placed therein to prevent the working of the pistol. The pistol is then held in the hand, and the finger placed

in the trigger-loop K and pulled back, which moves the strip L and its wire M, back with its shoulder *q* bearing against the cross-pin *r* of the lever G, and moves the lever against its spring J, and with it the block H, back from the opening E, so that then a pea from the magazine-chamber can pass down through the opening into the barrel-chamber in front of the lever-block H, the lever at the same time pressing against the spring-arm Q' of the block N, causing its free end *v* to swing down over the opening E in front of the next or second pea, preventing its passing through the opening into the barrel-chamber to interfere with the first pea that is now in said chamber. The parts in these positions are as shown in Fig. 2, which is just before the last part of the movement of the trigger and just as the hammer-lever is to escape from the shoulder *q* of the trigger-strip, and as it finishes its movement the bent end *y* of the wire M then strikes against the under side of a cross rigid wire or stop T, secured in the handle, causing its depression, so that its shoulder *q* moves down and slips from the cross-pin *r* of the lever, as shown in detail in Fig. 5, leaving it free to be operated by its spring J, which, being of considerable power, moves it forward forcibly, its block H striking and driving the pea from the barrel. As the lever moves forward, its block or plunger H also moves into its position under the opening E, preventing the peas from passing down through it into the discharge-chamber. At the same time as the lever moves away from the wire Q its block N is raised by its spring P from the opening E into its normal position to allow the next or second pea to lie in the opening on the lever-block H in position ready to fall down into the barrel-chamber the instant the hammer-lever block H is moved back in the act of discharging the pistol, as before. The trigger and its slide are now moved forward by the finger, bringing its wire M again into engagement with the lever, when all parts are in their normal positions ready for the discharge of another pea, as before. Thus as the trigger is moved back by the finger a pea drops down through the opening E into the barrel-chamber in position to be discharged therefrom, the block N moves down to prevent other peas from passing into the opening, and the lever is then operated by its spring to discharge the pea in position therefor, when all parts return to their normal positions, as before, except the trigger, which is moved back by the finger. Thus at each pull upon the trigger a pea is fed and discharged automatically until all the peas in the magazine are discharged, and in such operation only one pea at a time is operated upon, as two peas cannot pass to the barrel-chamber together to clog the movements of the pistol. The several chambers and passages are all of a size and diameter corresponding to the size of the peas to be used.

An arm U, pivoted to the end of the pistol,

extends down over the opening *w* in the plate S, which prevents the escape of the peas from the barrel at such opening, but which can be swung to one side, as shown in dotted lines in Fig. 4, when filling the magazine-chamber.

If desired, the lever G and its spring J can be made of spring-wire in one piece and formed into proper shape for its attachment to the pistol-body and other parts and for the proper operation of the same; also, the trigger-loop K, its slide L, and its spring-arm M can be made of one piece of wire, preferably of spring-wire, and shaped into the form required for its operation.

Having thus described my invention, what I claim is—

1. In a pistol, the combination, with the barrel-chamber, of a spring-lever pivoted to the pistol and having a block or plunger pivoted thereto and arranged to move back and forth in the barrel-chamber, for the purpose specified.

2. In a magazine-pistol, the combination, with the barrel-chamber and the magazine-chamber having communication with each other, of a spring-lever pivoted to the pistol and having a block or plunger pivoted thereto and arranged to move back and forth in the barrel-chamber, substantially as and for the purpose specified.

3. In a magazine-pistol, the combination, with the barrel-chamber and the magazine-chamber having communication with each other, and a spring-lever pivoted to the pistol and having a block or plunger pivoted thereto and arranged to move back and forth in the barrel-chamber, of a spring-block pivoted to the pistol, having an arm Q, and arranged to swing down and close the opening between the two chambers, for the purpose specified.

4. In a magazine-pistol, the combination, with the barrel-chamber and the magazine-chamber having communication with each other, of a spring-block pivoted to the pistol and extending into the magazine-chamber and adapted to swing down and close the opening between the two chambers, for the purpose specified.

5. In a magazine-pistol, the combination, with the barrel-chamber and the magazine-chamber having communication with each other, of a spring-lever pivoted to the pistol, having a shoulder and a block or plunger pivoted thereto, arranged to move back and forth in the barrel-chamber, a trigger, a spring-arm to said trigger provided with a shoulder *q*, and an abutment *r* of the lever, substantially as and for the purpose specified.

6. In a magazine-pistol, the combination, with its magazine-chamber having an opening at its end and a plate secured over said opening, having an opening *w* opening into said chamber, of an arm pivoted to the end of the pistol and arranged to swing over said plate-opening, for the purpose specified.

7. In a magazine-pistol, the combination, with the barrel-chamber and the magazine-

chamber having communication with each other, and a rear wall at the end of the magazine-chamber having a portion of its side cut away, of a spring-block pivoted to the pistol 5 and provided with a transverse groove in which said rear wall is disposed, for the purpose specified.

8. In a magazine-pistol, the combination, with the barrel-chamber and the magazine- 10 chamber having communication with each other, a spring-lever pivoted to the pistol, having a shoulder and a block or plunger pivoted thereto, arranged to move back and forth in the barrel-chamber, and a spring-block 15 pivoted to the pistol and extending into the magazine-chamber and adapted to swing down and close the opening between the two chambers, of a trigger, a spring-arm to said trigger provided with a shoulder *q*, and an abutment

r of the lever, substantially as and for the 20 purpose specified.

9. In a magazine-pistol, the combination, with the barrel-chamber and the magazine-chamber having communication with each other, and a spring-lever pivoted to the pistol, 25 having a block or plunger pivoted thereto, arranged to move back and forth in the barrel-chamber, of a trigger, a spring-arm to said trigger adapted to engage with said lever, and an abutment *r* of the lever, substan- 30 tially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

OLIVER H. ARNO.

Witnesses:

EDWIN W. BROWN,
CARRIE E. NICHOLS.