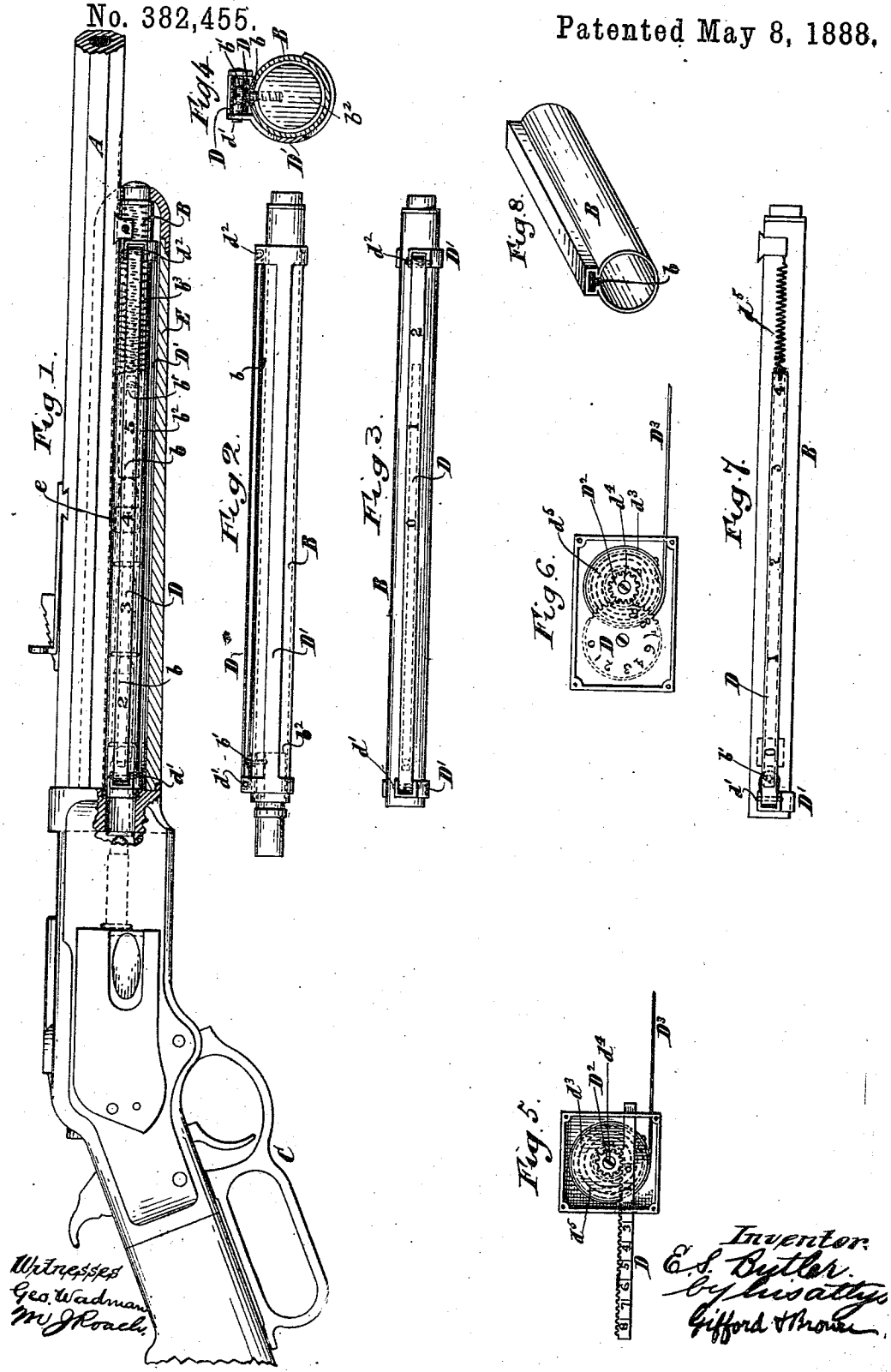
(No Model.)

E. S. BUTLER.

CARTRIDGE FEED INDICATOR FOR FIRE ARMS.

No. 382,455. Patented May 8, 1888.



UNITED STATES PATENT OFFICE.

EDWARD S. BUTLER, OF NEW YORK, N. Y.

CARTRIDGE FEED-INDICATOR FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 382,455, dated May 8, 1888.

Application filed March 26, 1887. Serial No. 232,483. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. BUTLER, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Fire-Arms, of which the following is a specification.

My improvement relates to magazine fire-arms.

The object of the improvement is to afford a simple and convenient means for ascertaining the number of cartridges contained at any time in the magazine.

I will describe in detail a magazine fire-arm embodying my improvement, and then point out the novel features in claims.

In the accompanying drawings, Figure 1 is a side view of a fire arm embodying my improvement, certain parts being shown in section to exhibit the improvement. Fig. 2 is a view of the lower side of the magazine and certain appurtenances thereof. Fig. 3 is a side view of the magazine detached. Fig. 4 is a transverse section of the magazine, showing an end view of the follower or pusher thereof which serves to propel the cartridges toward the carrier, whereby they are introduced into line with the barrel. Fig. 5 is a side view of certain parts illustrating a modification of my improvement. Fig. 6 is a similar view, illustrating still another modification of the improvement. Fig. 7 is a similar view of another modification. Fig. 8 illustrates a modification of the magazine.

Similar letters of reference designate corresponding parts in all the figures.

While my improvement is applicable generally to magazine fire-arms, I have in Figs. 1, 2, 3, and 4 shown it as applied only with reference to the type of fire-arm known as the "Winchester." I do not, however, desire to restrict myself to the application of the improvement to such fire-arm.

It will be unnecessary to describe the fire-arm which I have represented, except in a very general way.

A designates the barrel.

B designates a magazine consisting of a tube extending lengthwise of the barrel and under the lower side of the same. This magazine is of ordinary form, except that it is provided with a longitudinal slot, *b*, through which extends a pin, *b'*, which is connected to the follower or pusher b^2, whereby the cartridges are moved toward the breech of the fire-arm into a carrier of well-known character, whereby they are at the proper time shifted from a position in alignment with the magazine to a position in alignment with the barrel. The carrier is made in the form of a block and operated by a guard-lever, C.

The follower or pusher b^2 is made in the form of a piston fitting the interior of the magazine-tube. It is moved toward the carrier-block by means of a spring, b^3, arranged within the magazine-tube between the forward end of the latter and the said follower or pusher.

The pin *b'*, which is attached to the follower or pusher b^2 of the magazine and protrudes through the slot *b* thereof, is fastened to a strip, tape, or ribbon, D, which may be made of any desirable material. The two ends of the tape or ribbon are securely fastened to the said pin. The tape or ribbon passes around guides d' d^2, which are affixed to one side of the magazine, and may consist of pins or of pulleys journaled in any suitable manner. As shown, the guides d' d^2 are supported in brackets forming part of a frame, D', fitted to the magazine The tape or ribbon has figures marked upon it in any suitable manner.

The casing E, covering the magazine, is provided at a certain point—in the present instance at about the middle of its length—with an opening, *e*, (shown in dotted outline in Fig. 1,) which may be covered with any transparent material to admit of the figures upon the tape or ribbon being seen one at a time through the casing. That portion of the tape or ribbon only which bears the figures constitutes an indicator.

As the tape or ribbon always moves in proportion to the movement of the follower or pusher, it will be evident that if the figures are properly spaced upon the tape or ribbon one of them may always be made to appear through the opening *e* of the casing E to indicate the number of cartridges remaining in the magazine.

It will be borne in mind that when the cartridge is inserted the follower or pusher will be caused to move forwardly, and that when the guard-lever is operated to effect the ejection of an empty cartridge-shell and to shift a cartridge from alignment with the magazine

to alignment with the barrel the follower or pusher will move rearwardly. As the tape or ribbon will move to correspond with the movements of the follower or pusher in both directions, the indicator will be caused to indicate both after the insertion of cartridges into the magazine and after the removal of cartridges therefrom the number contained therein.

Turning now to Fig. 5, it will be seen that instead of an indicator upon a tape or ribbon I use a strip made in the form of a bar, D, having gear-teeth upon one of its edges, and bearing upon its outer face a series of figures, which are intended to be visible one at a time through an opening in any inclosing part of the fire-arm in which it may be found convenient to arrange said strip or bar. The teeth of the strip or bar D engage with the teeth of a pinion, D^2, which is affixed to a spring-barrel, d^3, mounted loosely on a stationary shaft, d^4, and having fastened to it one end of a convolute spring, d^5. The other end of this convolute spring is attached to shaft d^4. A tape or ribbon, D^3, is fastened at one end to the spring-barrel, wound several times around the latter, and at the other end secured to the follower or pusher of the magazine of a fire-arm. When the follower or pusher moves in one direction, the convolute spring will wind up, and in so doing rotate the shaft carrying the pinion D^2 and cause the latter to move the strip or bar D longitudinally in one direction. When the follower or pusher moves in the reverse direction, it will pull the spring, and thereby effect the rotation of the pinion D^2 in such direction that the latter will adjust the strip or bar D in the reverse direction.

The example of my invention illustrated in Fig. 6 operates in the same manner as the last-described example of the improvement, excepting only that I employ a plate of circular form bearing upon the outer surface a series of figures, and provide this plate with peripheral teeth, so that in effect it forms a gear-wheel engaging with the pinion D^2. The pinion D^2 derives a rotary motion in the same way as the pinion D^2 in the example of my improvement which is illustrated in Fig. 5.

In Fig. 7 I have shown a tape or ribbon which is fastened at one end to a pin extending from the follower or pusher through a longitudinal slot in the magazine. This tape or ribbon passes around a guide, d', like that which is shown in the first-described example of my improvement. The outer end of the tape or ribbon is not, however, connected to the follower or pusher, but is connected to a spring, d^5. This spring will move the tape or ribbon in one direction when it is permitted so to do by the follower or pusher. In the other direction the tape or ribbon will, however, be moved by a pull exerted through the follower or pusher.

In Fig. 8 I have shown that instead of having the slot b of the magazine open, I may cover it and provide a space for the pin b' to travel in.

It will be seen that in all examples of my improvement a tape or ribbon connected to the follower or pusher serves to cause the display of the figures on the indicator successively.

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

1. The combination, with a magazine fire-arm, of an indicator bearing figures arranged upon one side of the magazine, a movable follower or pusher, and a tape or ribbon connected with the follower or pusher and serving to cause the display of the figures on the indicator successively, substantially as specified.

2. The combination, with a magazine fire-arm having its magazine provided with a longitudinal slot, of a strip bearing figures and connected through said slot to the follower or pusher of the magazine, substantially as specified.

3. The combination, with a magazine fire-arm having its magazine provided with a longitudinal slot, of a tape or ribbon bearing figures passing around guides and having its ends connected through the slot of the magazine to the follower or pusher of the magazine, substantially as specified.

EDW. S. BUTLER.

Witnesses:
D. H. DRISCOLL,
M. J. ROACH.