(No Model.)

E. MAYNARD.

CARTRIDGE INDEX FOR MAGAZINE GUNS.

No. 343,471. Patented June 8, 1886.

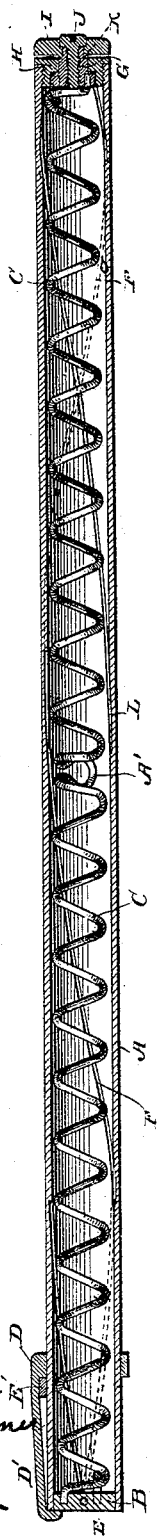

Fig. 1.

Fig. 4.

Fig. 3.

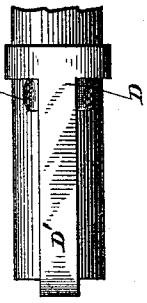

Fig. 5.

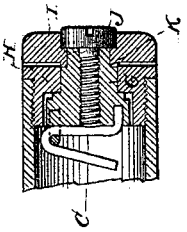

Fig. 2.

WITNESSES

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CARTRIDGE-INDEX FOR MAGAZINE-GUNS.

SPECIFICATION forming part of Letters Patent No. 343,471, dated June 8, 1886.

Application filed September 5, 1885. Serial No. 176,231. (No model.)

To all whom it may concern:

Be it known that I, EDWARD MAYNARD, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented new and useful Improvements in Magazine Fire-Arms, of which the following is a specification.

My invention relates to certain new and useful improvements in magazine-guns, and particularly to the construction and arrangement of the magazine.

In all of the magazine-guns with which I am familiar no provision is made for determining the contents of the magazine, except by emptying the same and counting the shells. This inspection necessarily involves manipulation, and consequently loss of time both in emptying and recharging the magazine. An effort, however, has been made, I believe, to overcome this disadvantage by providing the magazine-tube with a longitudinal slot, through which protrudes from the "follower" a short pin or stud, the position of which may be observed, and from which observation a calculation approaching correctness may be made as to the contents of the tube; but it will be readily understood by those familiar with this class of magazine-guns, if any such have been placed upon the market, that the presence of the slot not only tends to weaken the tube, but is also a positive detriment, in that it permits the ingress of water or dampness to the tube, seriously affecting its contained ammunition, and rendering the inside of the tube subject to corrosion. Dirt and dust are also liable to enter the tube and render the movement of the shells, as well as the follower, exceedingly irregular and altogether uncertain.

The object of my invention is to provide a safe and reliable means of instantly determining the number of shells, if any, contained in the magazine, and at the same time free from the objections already referred to; and with this end in view my invention consists in the combination, with the magazine-tube and a suitable follower contained therein for feeding the shells into position, of an indicator connected by suitable means with the follower or its equivalent, which shall record and designate the contents of the tube, as will be hereinafter and in detail explained.

In order that those skilled in the art to which my invention pertains may know how to make and use it, I will proceed to describe the construction and operation of the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a central longitudinal section of a magazine-tube with my invention in one form applied thereto. Fig. 2 is a detail longitudinal section of the exposed end of the tube and indicator connections, on an enlarged scale, to more clearly illustrate the same. Fig. 3 is a rear end view showing the scale on the indicator. Fig. 4 is a side view showing a modified form of exposing the indicator-marks, and Fig. 5 is a plan view showing the spring-stop employed to hold the follower in place when the magazine is empty.

Similar letters indicate like parts in the several figures.

A represents an ordinary receiving tube or magazine, which is connected to the gun in any suitable manner. Arranged within the tube is a suitable follower, B, which, through the action of a spiral spring, C, bears against the shells contained within the tube, and causes them to be properly delivered in the usual manner into the breech of the gun, a suitable stop, D, being provided to arrest the follower at the point of its extreme outward limit of movement. At one or more points on the periphery of the follower is provided a short cylindrical teat or projection, E, which (one or more) projects within suitable helical grooves or rifles, F, formed within the interior circumference of the tube, the connection being such that in the reciprocation of the follower it is caused to rotate upon its axis, for the purpose presently to be explained.

The spiral spring at one end is connected in any suitable manner to the rear face of the follower B, and at its opposite end to a rotary hub, G, arranged within a screw-bushing, H, connected with the exposed end of the magazine-tube, the arrangement and connection between the hub G, spring C, and follower B being such that as the follower is caused to rotate upon its axis, through the medium of the pin or teat E and rifle-groove F, the hub will be correspondingly rotated, and the curvature and direction of the rifle-groove F are so proportioned to the length of the shells designed to be contained within the tube that as

each additional shell is introduced or forced out the follower will make a given amount of rotation upon its axis, which will be denoted by an indicator, I, connected with the hub G by a jam-screw, J, or in any other suitable manner. As seen at Fig. 2, I have shown the indicator formed with a shoulder, K, which, through the binding force of the screw J, will be clamped against the hub sufficiently to secure the rotation of the indicator with the hub. This form of connection I have adopted, as I am best enabled to properly adjust the indicator with reference to the length of shells or the rotation of the hub in an obvious manner.

The spiral spring C, I prefer to make as shown, so that one half of its length shall be coiled in one direction and the other half in an opposite direction, so that any tendency to twist in one half will be counteracted by the other half, and thus secure accurate rotation of the whole. An easy manner of thus forming the spring is indicated at Fig. 1. A′ represents a loop made at the center of the wire from which the spring is to be formed. This loop is placed around the center of a forming-mandrel, and the wire is then wound about the mandrel in opposite directions. The loop A′ should be of such proportion that when the spring is compressed the said loop may lie within the adjacent coils.

From the construction shown it will be seen that if the relation and proportions of the several parts are such as described, the indicator being so adjusted as to show at any predetermined locality the zero figure, the introduction of each successive shell to the tube will be recorded by the serial numbers 1, 2, 3, &c., on the indicator, and as each shell is expelled from the magazine such fact will be indicated by a corresponding reverse movement of the indicator, thus enabling an inspector to instantly determine the condition as to the number of charges contained within the magazine.

At Fig. 3 I have shown the figures arranged on the exposed disk-face of the indicator; but it will be seen that they may be arranged upon the edge or periphery of the indicator, as shown at Fig. 4.

I wish it to be understood that I do not limit my invention to the exact details herein shown and described, as they may be very considerably varied without departing from the spirit of my invention, the gist of which rests in the broad idea of so connecting an indicator with the follower or its equivalent and the magazine-tube that a visual inspection of the indicator will denote the number of charges or shells contained within the tube.

It will be readily understood, without a drawing to illustrate the same, that the same generic feature of invention would exist where the indicator is arranged at any other suitable point on the fire-arm other than immediately at the end of the magazine-tube, and suitably connected by intermediate transmitting mechanism with the spring C or follower B, or where the indicating-figures are placed upon the tube and a suitable pointer is connected with the shell-feeding mechanism; and I desire my invention to be construed broad enough to comprehend any such arrangement.

In order that the follower and spring may be retained in place within the magazine-tube when all the shells have been released, I provide a spring-stop, D, the forward end of the spring-arm D′ projecting slightly over the end of the tube, and the rear end formed into a ring to embrace the tube and hold the stop in place. The arm D′ is so formed and tempered that it will assume the position seen at Fig. 1, from which it may be changed or lifted by the longitudinal movement of the slide E′ whenever it is desired to entirely remove the spring and follower from the magazine, the screw J being previously removed.

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

1. In a magazine-gun, the combination of a magazine, a shell-feeding mechanism, and a suitable indicator for instantly and at all times designating the exact number of shells in the magazine, substantially as and for the purpose set forth.

2. In combination with the magazine and the shell-feeding mechanism of a magazine-gun, an indicator, the movement of which upon its axis serves to record the exact number of shells or charges contained in the magazine at all times.

3. In a magazine-gun, the combination, with the shell-feeding mechanism and with a suitable pointer or indicator, of an appropriately-marked dial upon which the pointer designates the exact number of shells or charges contained in the magazine at all times, substantially as hereinbefore set forth.

4. In a magazine-gun, the combination of a magazine, a shell-feeding mechanism, and a suitable indicator adapted to be axially adjusted upon its axis, substantially as and for the purpose set forth.

5. In combination with a spring-follower arranged within the magazine of a magazine-gun and adapted to rotate, as described, the rotary hub G and indicator I, adjustably connected by the jam-screw J, substantially as and for the purpose set forth.

6. The combination of the magazine-tube A, screw-bushing H, rotary hub G, indicator I, and connecting and adjusting screw J, whereby the operating mechanism may be introduced and adjusted at one end of the magazine, as shown and described.

7. In a magazine-gun, the combination, with the magazine-tube A, provided with one or more rifle-grooves, F, of the follower B, provided with a corresponding number of radial teats, E, and the spring C, connected at one end to the follower and at the opposite end to

the indicating mechanism, substantially as and for the purpose set forth.

8. In combination with the follower B, provided with one or more radial teats, E, the tube A, formed with a corresponding number of rifle-grooves, F, substantially as and for the purpose set forth.

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

EDWARD MAYNARD.

Witnesses:
JOHN E. BEALL,
GEO. W. DREW.