(Model.)

J. H. KRUG.

MAGAZINE FOR FIRE ARMS.

No. 304,008. Patented Aug. 26, 1884.

Fig. 1.

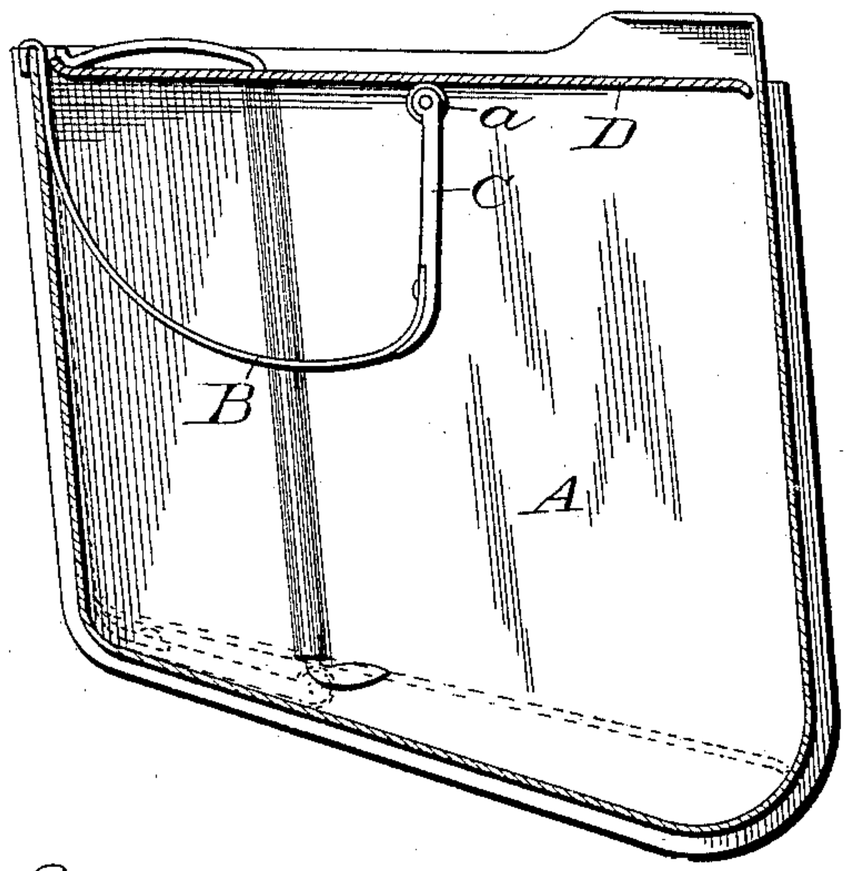


Fig. 2.

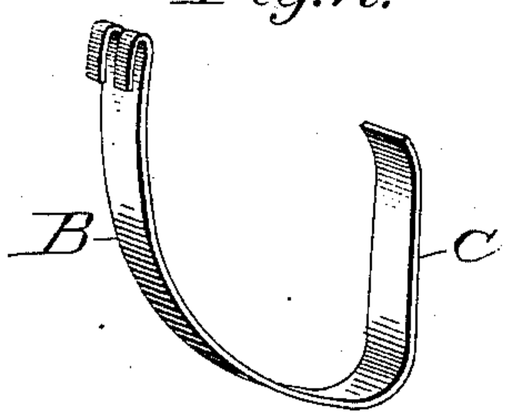
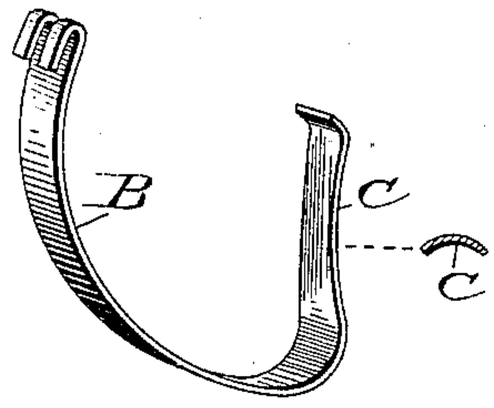


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MAGAZINE FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 304,008, dated August 26, 1884.

Application filed June 11, 1884. (Model.)

To all whom it may concern:

Be it known that I, J. HENRY KRUG, of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Magazines for Fire-Arms, of which the following is a specification.

My invention relates to detachable magazines for fire-arms; and the invention consists in a novel construction and arrangement of the spring used to force the cartridges upward in the box or magazine, as hereinafter more fully set forth.

Figure 1 is a longitudinal vertical section of the magazine with my improved spring applied thereto. Figs. 2 and 3 are perspective views of the spring formed of a single piece, and showing the construction of the rigid arm.

Heretofore this class of magazines have usually been provided with a zigzag spring composed of a flat strip of steel bent back and forth to form a series of leaves, or several separate pieces riveted together, such springs being placed in the bottom of the box, with the follower D resting thereon. More recently coiled springs have been used, there being one secured to the top of the box at each end with the follower resting thereon, and a single coiled or curved spring has also been devised for the same purpose.

My present invention may be properly described as an improvement on the single coiled spring, the object being to provide a single curved spring with a rigid arm to bear upon the follower.

In the drawings, A represents the box for containing the cartridges, and which may be made in the usual manner. The spring B, I make of a flat strip of steel or similar spring metal, its upper end being bent over backward to form a lip or hook for securing it to the front edge of the box A, as shown, though it may be secured by a rivet or in any suitable manner. The body of the spring proper is bent as shown, so as to form about a quarter of a circle, more or less, and to its free end I secure a rigid arm, C, as shown in Fig. 1, this arm projecting at a right angle, or nearly so, from the end of the spring proper, so that when secured within the box, as shown, the extremity of the rigid arm C will bear against the follower D with sufficient force to raise the cartridges to the mouth of the box as they are fed out. As the box is filled with cartridges, the arm will be depressed, thereby straightening the spring, until, when the box is full, the spring will lie close along the front wall and parallel therewith, or practically so, while the arm C will have assumed a horizontal position nearly or quite parallel with the bottom of the box, as shown in dotted lines in Fig. 1. As the cartridges are removed from the box, the arm and spring will gradually resume the position shown in full lines. It will be observed that the end of the arm is arranged to bear against the follower D at about its center or a little in front of the center; and it will continue to occupy nearly the same point of bearing on the follower during the entire movement of the latter from the top to the bottom of the box, and vice versa, the point of bearing changing gradually toward the front as the follower is depressed, and gradually moving backward a little as the follower rises in the box. In order to facilitate this sliding movement of the end of the arm on the follower as it rises or falls, I journal a small friction-roller, *a*, in the end of the arm C, as shown in Fig. 1, thereby reducing the friction and insuring the free and easy movement of the parts.

While in Fig. 1 I have shown the arm C as being made of a separate piece, and riveted to the spring B, it may be made integral with the spring by simply rolling or forging the part of the spring which constitutes the arm thicker, so as to render it rigid; but as it is much cheaper to form these springs in long strips and then cut them to the required length, I prefer to make the spring and arm in one piece in the manner shown in Figs. 2 and 3. To do this I first form the strip and cut it of the required length to form the arm and spring all of one piece, then bend the part B to the required form for the spring, and bend the part C at the required angle, as shown in Fig. 2, at the same time forming the hook on the end of the spring for attaching it to the box, if that method of attachment be desired. The part C is then corrugated longitudinally with

one or more grooves—one being sufficient—as represented in Fig. 3, which also shows it in cross-section. This imparts to the arm C sufficient rigidity to enable it to operate successfully, and is in effect as good as though the arm was made of a separate piece, as in Fig. 1, while it is simpler and cheaper of construction. The friction-roller *a* may be used with this form of arm, if desired, by cutting a suitable recess for it in the end of the arm, and bending over the lips at each side of the recess, to form eyes for holding the journal of the roller; but in practice I find it unnecessary, except when it is desired to make a very nice and more expensive article, as may be required with the finer class of sporting-arms, it being sufficient in ordinary cases to bend over the outer end of the arm C, as shown in Fig. 3, so as to present a rounded surface at the point where it bears against the follower. The spring and arm thus formed are both simple and efficient. Any style of detent for locking the cartridges in the box may be used with this style of spring. If a follower be used, I prefer one which is slightly longer than the top of the box, so as to insure its front end always being elevated a little, so as to present the cartridges at the proper angle to enable them to be shoved into the chamber of the gun, as usual with this class of magazines. It is, however, obvious that with this spring the follower may be dispensed with entirely, the end of the arm C or the friction-roller (in case one be used) bearing directly against the under side of the lower cartridge and operating equally well. Dispensing with the follower not only lessens the cost in that respect, but it also cheapens somewhat the construction of the box A, as no ribs are required to serve as guides for the follower, and no lips are necessary at the front to prevent the follower from being forced out of the box.

Having thus fully described my invention, what I claim is—

1. In combination with a detachable magazine, A, the curved spring B, provided with the rigid arm C, said spring being constructed and arranged to operate substantially as shown and described.

2. In combination with the detachable magazine or box A, the curved spring B, provided with the rigid arm C, having the roller *a* mounted in its free end, arranged to operate substantially as set forth.

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