

E. MAYNARD.

Cartridge.

No. 39,823

Patented Sept. 8, 1863.

Fig. 1.

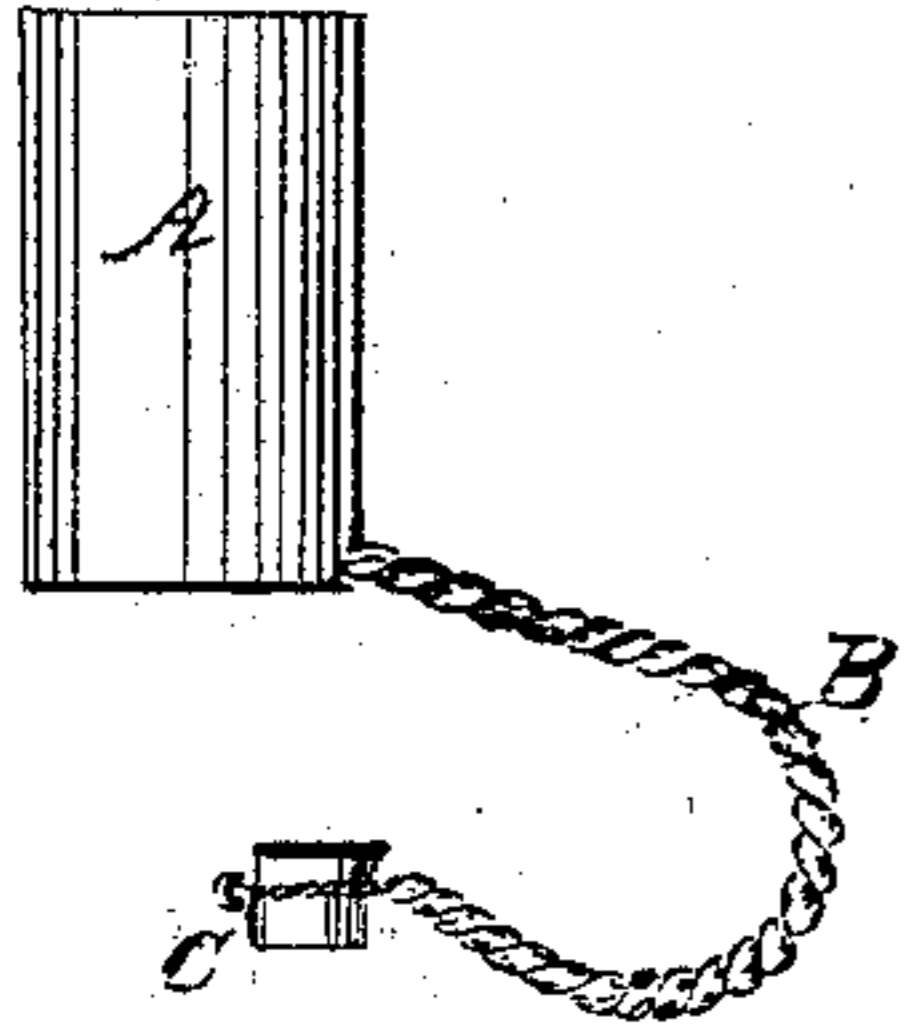


Fig. 3.

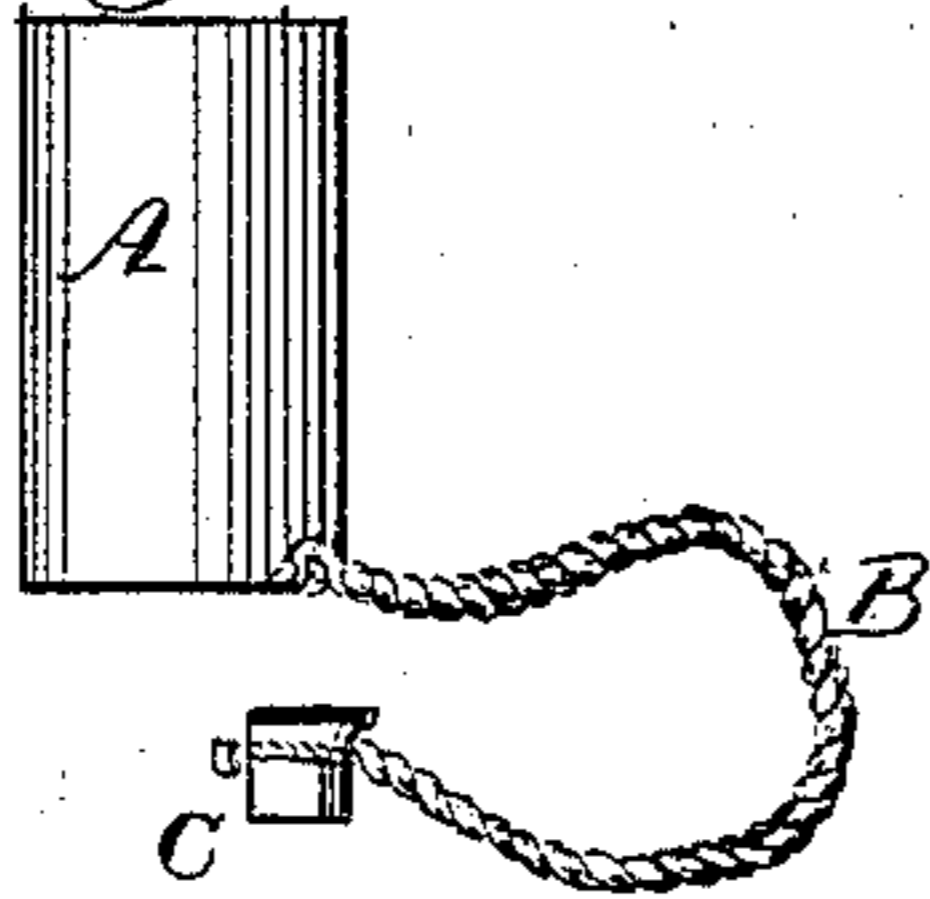


Fig. 5.

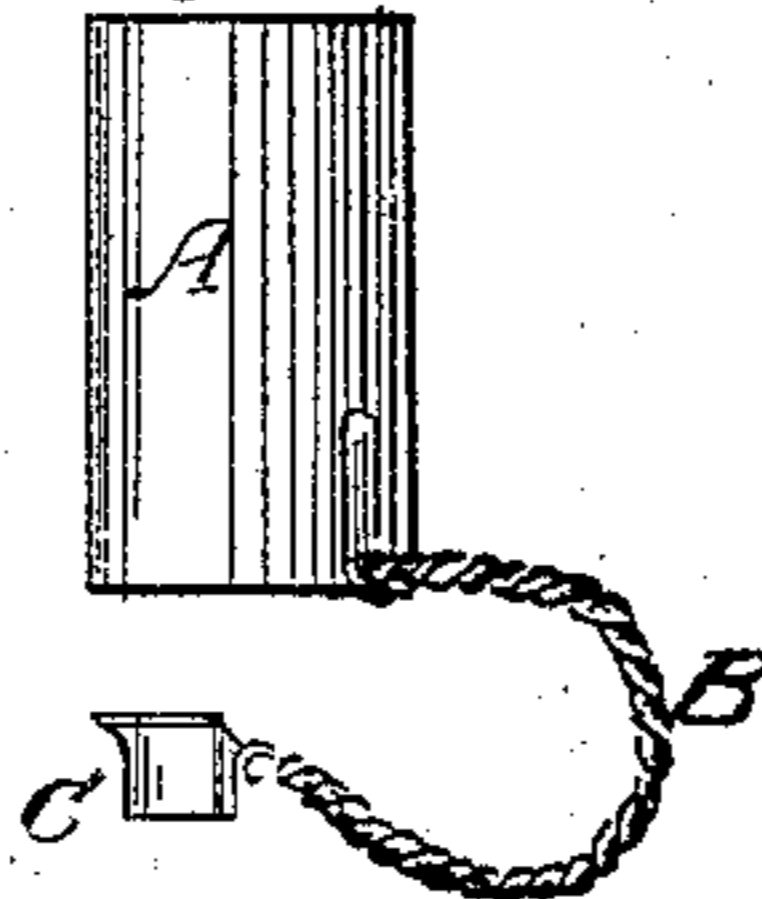


Fig. 2.

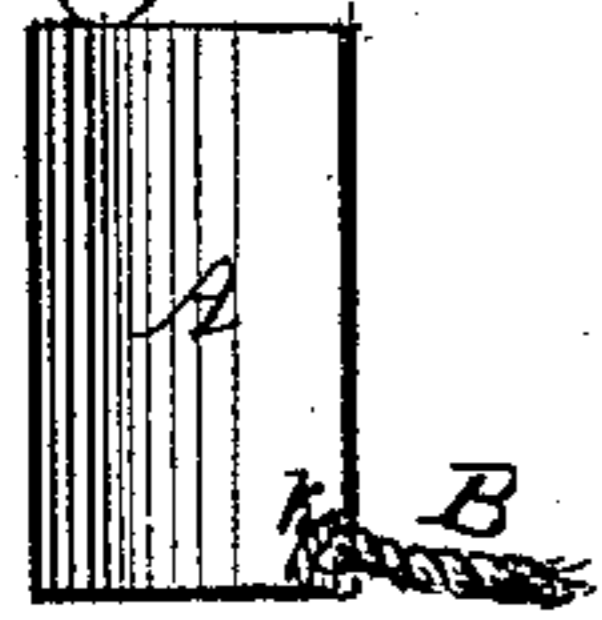


Fig. 4.

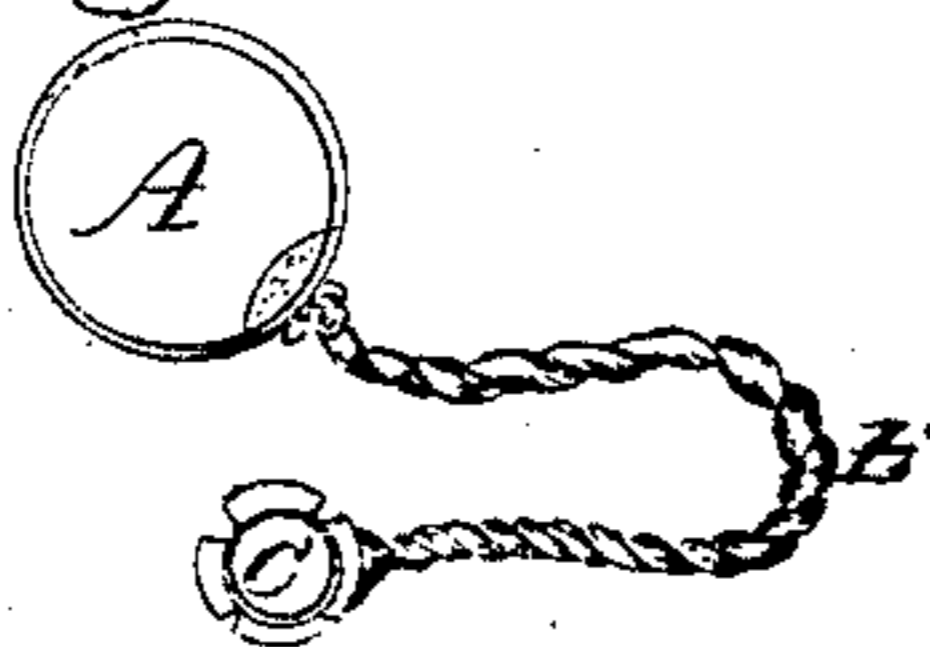


Fig. 7.

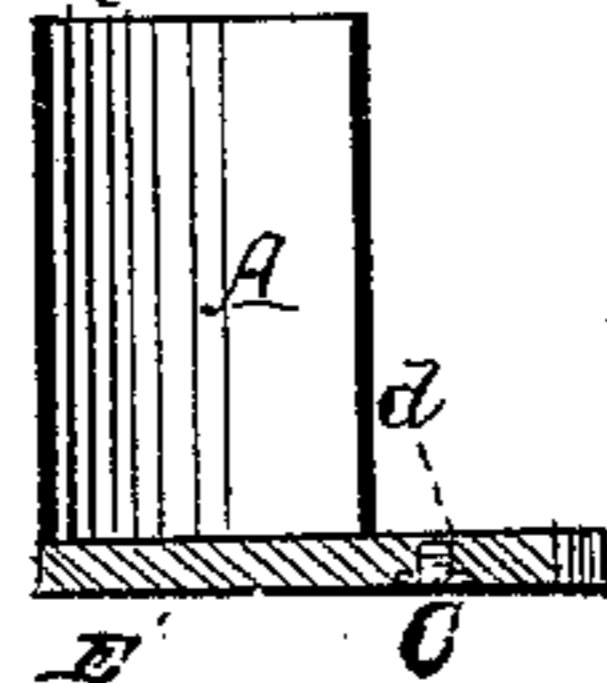


Fig. 9.

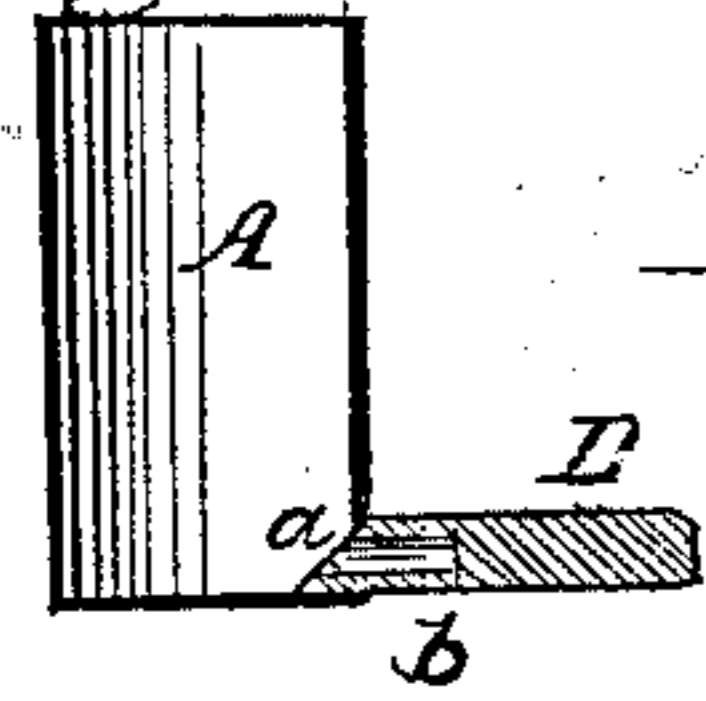
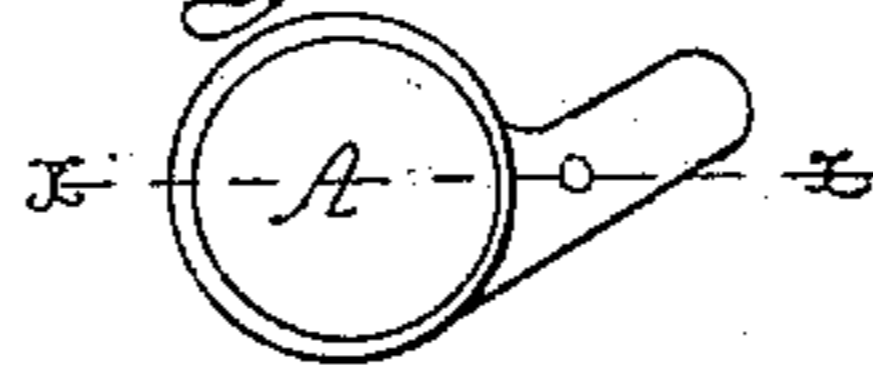


Fig. 8.



Fig. 6.



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UNITED STATES PATENT OFFICE.

EDWARD MAYNARD, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 39,823, dated September 8, 1863.

To all whom it may concern:

Be it known that I, EDWARD MAYNARD, of the city of Washington and District of Columbia, have invented certain new and useful improvements in the method of priming or combining fulminating powder with loaded metallic or otherwise durable and impermeable cartridges; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a side elevation and Fig. 2 a vertical section of a cartridge arranged in accordance with my invention; Fig. 3 a side elevation, and Fig. 4 a top view of another form of my invention; Fig. 5 a side elevation of still another arrangement thereof; Fig. 6 a top or interior view and Fig. 7 a vertical section through the line *xx* of Fig. 6, representing my improved metallic cartridge with the percussive powder arranged in the retracting-arm thereof; Fig. 8 a top or interior view, and Fig. 9 a vertical section in the line *yy* of Fig. 8, showing another combination of the fulminate with the retracting-arm of a metallic cartridge.

Similar letters indicate like parts in each of the drawings.

The object of my invention is to combine a fulminating compound with a loaded metallic cartridge in such a manner as to diminish or prevent the danger of an accidental explosion of the cartridge before it is placed in the gun, and thereby remove a serious objection to the general use of primed and loaded metallic cartridges.

To accomplish this end I propose to place the fulminate without the cartridge by combining it with an exterior arm or cord, which will subserve the additional purpose of a retractor, whereby the cartridge may be withdrawn from the gun after its discharge.

The simplest form of my invention is represented in Figs. 1, 3, and 5 of the accompanying drawings. I attach to a thin metallic cartridge, A, a suitable cord or thong, B, of such a length as to answer fully the purpose of a retracting-arm therefor, and to the end of this flexible arm or cord I attach securely an ordinary percussion-cap, C, either by slipping it into a noose formed at the end of the cord

and folding over it a portion of the edge of the cap, as shown in the drawings, or in other suitable manner. The cord may be readily and cheaply secured to the cartridge by passing it through a simple aperture in the side of the cartridge near its base, knotting the end within the cartridge to prevent it from slipping back, and then imbedding this knot in such gum, wax, or cement, *k*, as may be found sufficiently cheap, incombustible, and durable for the purpose, or by attaching it to an eye or loop of wire the ends of which either pass through and are soldered down within the cartridge, as illustrated in Figs. 3 and 4, or are soldered within a recess formed upon its outer circumference, as shown in Fig. 5.

In this manner many of the advantages found in cartridges which contain in their base the necessary fulminating compound are obtained without the danger of premature explosion, which must prevent their general use, for the cap can be readily and quickly placed upon the gun without detaching it from the cord; and the embarrassment, impediment to rapid firing, and difficulty experienced from dropping percussion-caps in attempting to place them upon the nipple under the excitement of an action, or in very cold weather, are thereby in a measure obviated.

This feature of my invention is peculiarly adapted for use in connection with my improvements in fire-arms patented October 30, 1860; but I contemplate also the extension of the invention to that class of fire-arms in which the cartridge is fired without the intervention of a cone or nipple, and to this end I place the fulminating compound in a rigid projection or retracting-arm, as shown in Figs. 6, 7, 8, and 9.

In the cartridge shown by a vertical section at Fig. 9, a round arm, D, of suitable length is fitted and soldered into the side of the cartridge, close to its base, with its inner head beveled off, as shown in Fig. 9, to occupy the least possible space. A small aperture, *a*, is pierced centrally from the inner end of the arm outwardly a short distance, and there communicates with a recess, *b*, formed in the side of the arm in a position to be struck either mediately or directly by the hammer of the gun.

It is evident that by merely placing the ful-

minate in a very small compass, and at a single point, a great advantage is obtained over the usual mode of arranging the detonating compound around the entire base of the cartridge; but in order to obviate entirely the danger of an accidental discharge of the cartridge from premature explosion of this fulminate when occupying even the smallest possible space, I prefer the expression of my invention illustrated in Figs. 6 and 7. Within the arm E of the cartridge, (made thick enough for the purpose,) I form a small recess, *c*, (Fig. 7,) at a point which will be struck by the hammer of the gun when the cartridge is placed in its proper position relative thereto. This recess terminates in an aperture formed through the arm as illustrated in Fig. 6, and is filled with a suitable fulminating compound. Upon the side of the cartridge A, at a point opposite the mass of powder contained therein when loaded, I pierce a simple aperture, *d*, (to be filled with wax or grease,) and in order to connect this aperture with the recess in the arm containing the detonating compound, I pierce an aperture in the gun-barrel, (as illustrated by the dotted line in Fig. 7,) in such a position as that when the cartridge is placed in the chamber of the barrel with the priming-recess in its retracting-arm in place to be struck by the hammer of the gun, (or any substitute therefor,) the two openings in the guiding aperture will correspond and coincide with the priming-recess *c*, at one end, and with the opening *d* pierced in the side of the cartridge at the other, so that the spark will be conducted from the one to the other, and into the cartridge to fire its charge.

It is clear, however, that if by any means the detonating compound be exploded before the cartridge is in its proper position in relation to the gun-barrel, the spark will not reach the powder contained in the cartridge, but will glance harmlessly off.

I am aware that cartridges have heretofore been constructed in which a sliding pin, subserving the purpose of a retracting-arm, has been so combined therewith as that when struck by the hammer of the gun it will be driven in upon and explode a charge of fulminate placed within the cartridge. Hence I do not claim broadly the combination of fulminating-powder with the retracting-arm of a cartridge, however they may be arranged.

The important and novel feature of my invention is placing the fulminate outside of the cartridge, which permits it to be loaded with as great a degree of safety as an ordinary paper cartridge, and with far greater rapidity. The facility with which the fulminate may be subsequently added to my improved cartridges renders it unnecessary to prime them until they are required for immediate use, and they can, therefore, be transported without a priming of fulminate, completely avoiding the danger from this source, while, as has already been stated, the form of cartridge which I prefer (Figs. 6 and 7) will, when primed and ready for use, take fire from the fulminate only when placed properly in the gun.

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

Combining any suitable detonating compound with a metallic or otherwise solid and durable cartridge, by means of an arm, cord, or thong, substantially in the manner and for the purpose herein set forth.

This specification of my new and useful improvement in the mode of priming metallic cartridges signed by me this 28th day of May, A. D. 1863.

EDWARD MAYNARD.

Witnesses:

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