

I. M. MILBANK.
Cartridge Primer.

No. 103,641.

Patented May 31, 1870.

Fig. 1.

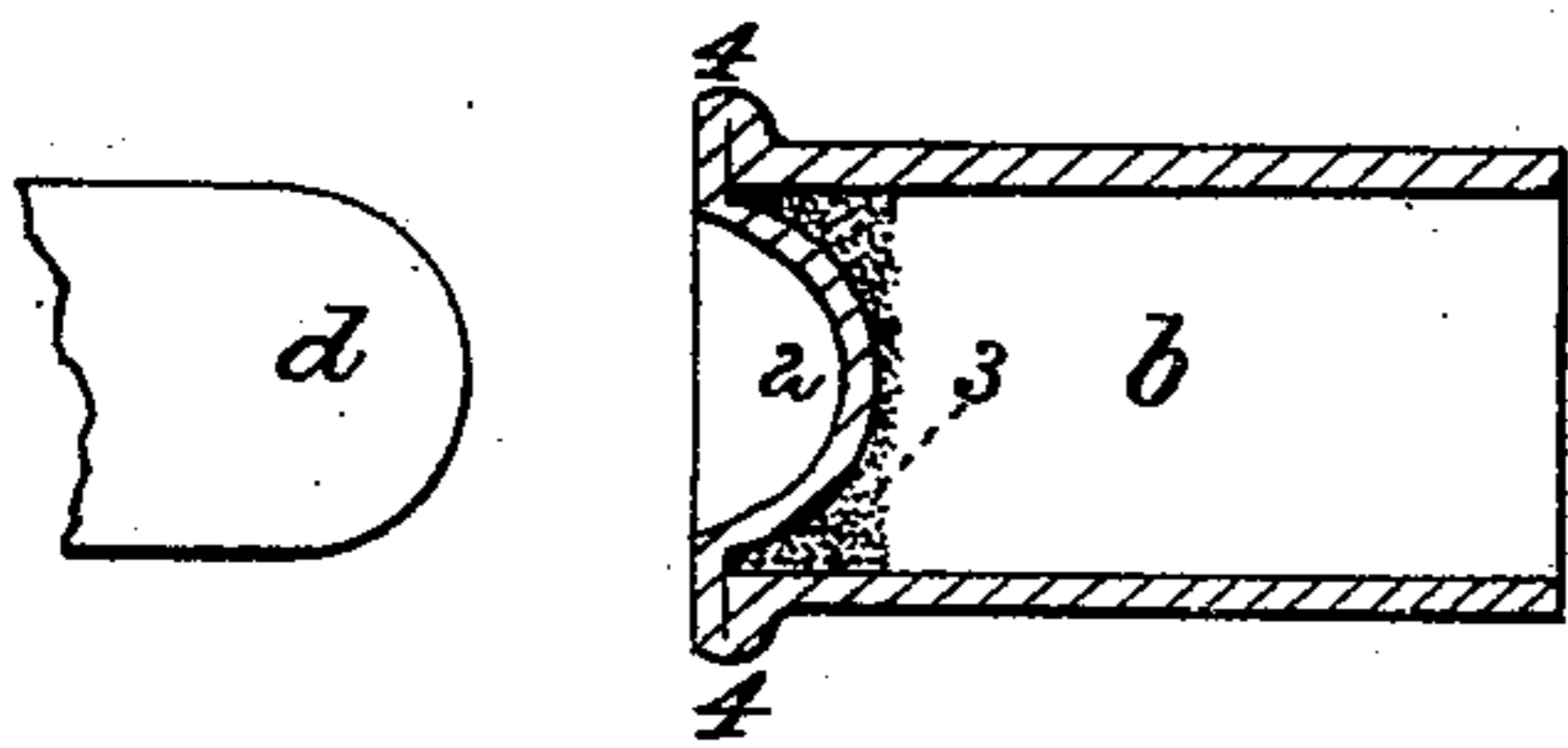
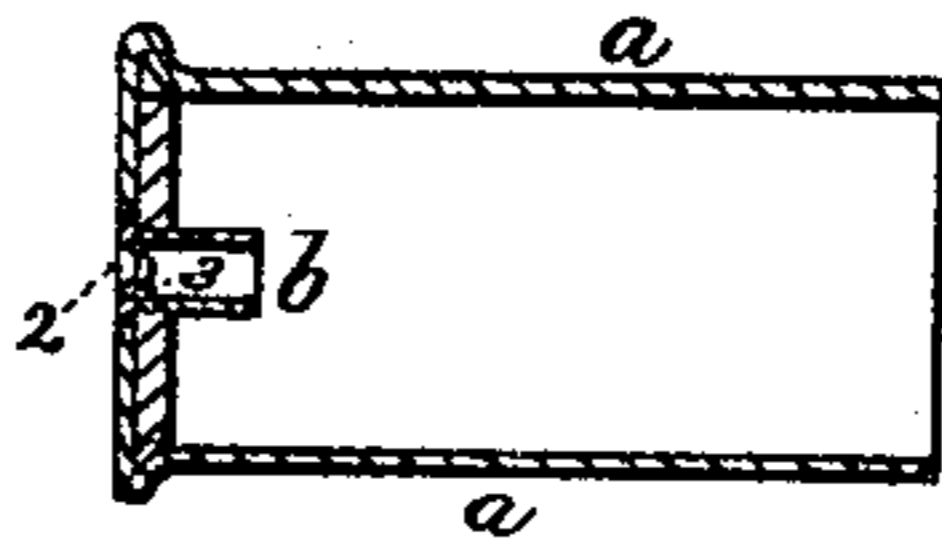


Fig. 2.



Witnesses:

Chas. H. Smith

Geo. D. Walker

Inventor:

Isaac M. Milbank

per L. W. Perrell

[Signature]
Atty

UNITED STATES PATENT OFFICE.

ISAAC M. MILBANK, OF GREENFIELD HILL, CONNECTICUT.

IMPROVEMENT IN PRIMERS FOR CARTRIDGES.

Specification forming part of Letters Patent No. 103,641, dated May 31, 1870.

To all whom it may concern :

Be it known that I, ISAAC M. MILBANK, of Greenfield Hill, in the county of Fairfield and State of Connecticut, have invented and made a new and useful Improvement in Primers for Cartridges; and the following is declared to be a correct description of the same.

The object of this invention is a metallic tube, closed at one end, to contain detonating material to be fired by the blow of a hammer and ignite the powder of a cartridge.

Before my invention cartridges had been made with an annular space between the fold of the metal at the base, into which fulminate is introduced to be fired by a blow from a hammer. In this case the fulminate-ring was as large as the interior of the cartridge-case and was liable to imperfections, hence would not explode if the hammer struck upon such imperfect parts.

Cartridges have been made with a small priming-tube introduced in the center of the base, said primer having an annular cavity similar to a miniature cartridge, or else formed as a small projecting teat.

Primers of this character are sometimes liable to explode by an accidental blow upon the same, either in the progress of manufacture or while being transported or used, and, being fired by a hammer that strikes upon the entire end of the primer, the force frequently is not sufficient to produce an explosion.

My improvement accomplishes two objects: it prevents the cartridge being exploded in the process of manufacture or transportation and facilitates the explosion by a slight blow from the properly-shaped hammer.

In the drawing I have represented the said primer in a magnified size sectionally in Figure 1, and in Fig. 2 an ordinary cartridge and said primer are shown sectionally.

a represents the sheet-metal cartridge-case, of any ordinary or desired construction, adapted to receive the primer *b* into a hole in the rear end of said case *a*.

The priming-tube *b* is made with a deep countersunk base, 2, leaving around it a fulminate face, 3, that is narrow at the bottom or back end and widens toward the open end of the tube *b*, the said countersunk base 2 ex-

tending into the tubular portion of the primer, leaving the fulminate-space, as aforesaid.

The primer is made with a flange, 4, (see Fig. 1,) and the sheet metal is so compressed in the dies that the flange is not hollow for receiving fulminate, but is as nearly closed by the sheet metal being pressed together as the ordinary circumstances of manufacture will allow, so that the fulminate-space shall correspond with that shown in Fig. 2.

It is now to be understood that a primer of this character cannot be exploded by a blow upon the closed end; hence the primer can be driven into the hole or cavity of the cartridge-case with whatever power is necessary for forcing it into place and producing the necessary adhesive force or friction to prevent the primer being subsequently detached from the cartridge by handling or use; and if the primer should not be fully inserted into the hole in the base of the cartridge-case, or should partially work out of the hole, there will be no danger of explosion when the breech is brought to place, and the breech-block will only force the primer into its correct position in the base of the cartridge.

The explosion of this cartridge is to be effected by a hammer that is small enough (as seen at *d*) to enter the cavity 2, and simply expand its sides against the fulminate contained in the space 3. This does not require a powerful blow, as the sheet metal of the cavity 2 is easily distended slightly and the explosion of the fulminate is effected at any point around the thin rear edge of said fulminate against which the hammer first strikes when projected against the primer; hence these primers explode with almost unerring certainty when struck by the hammer, but are free from risk of explosion in handling.

I claim as my invention—

A priming-tube, *b*, for a cartridge, formed with a closed flange, 4, a countersunk base, 2, and a fulminate-space, 3, as and for the purposes specified.

In witness whereof I have hereunto set my signature this 18th day of August, 1869.

Witnesses: I. M. MILBANK.

GEO. D. WALKER,
GEO. T. PINCKNEY.