

I. M. MILBANK.  
Metallic Cartridge.

No. 93,545.

Patented Aug. 10, 1869.

Fig. 1

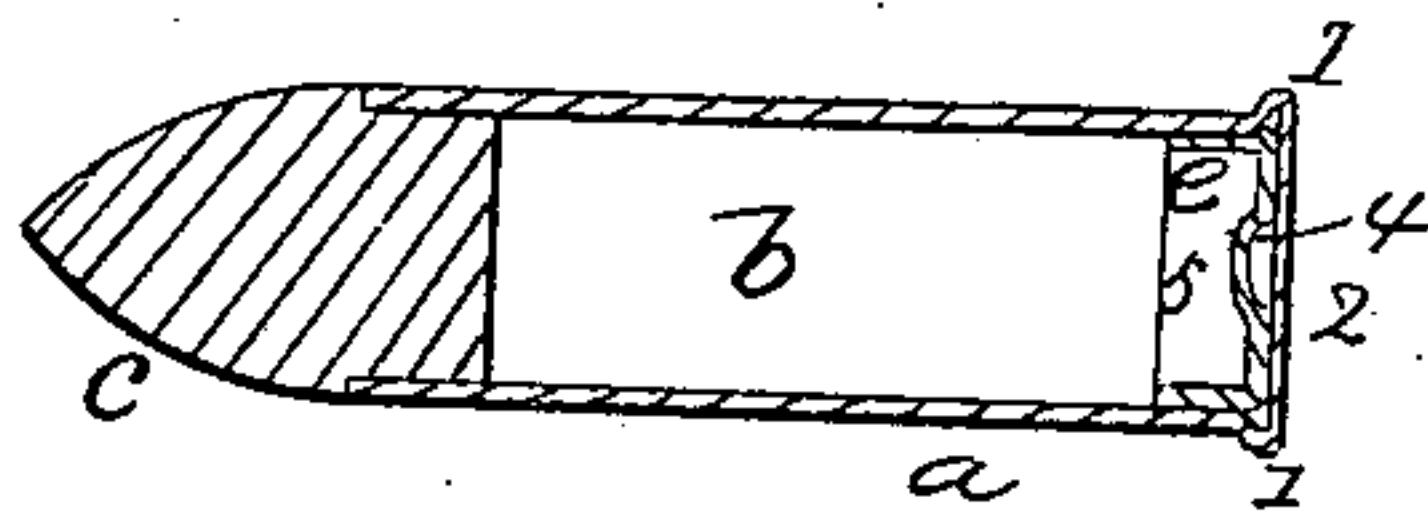


Fig. 2

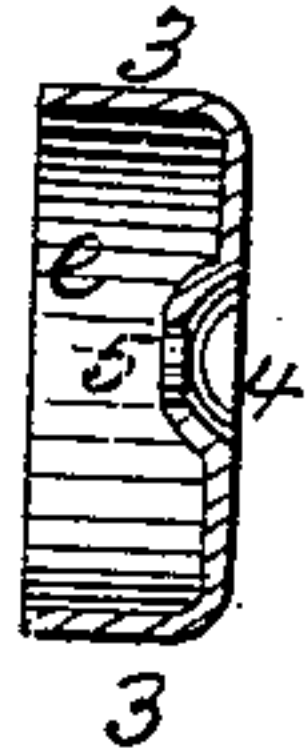
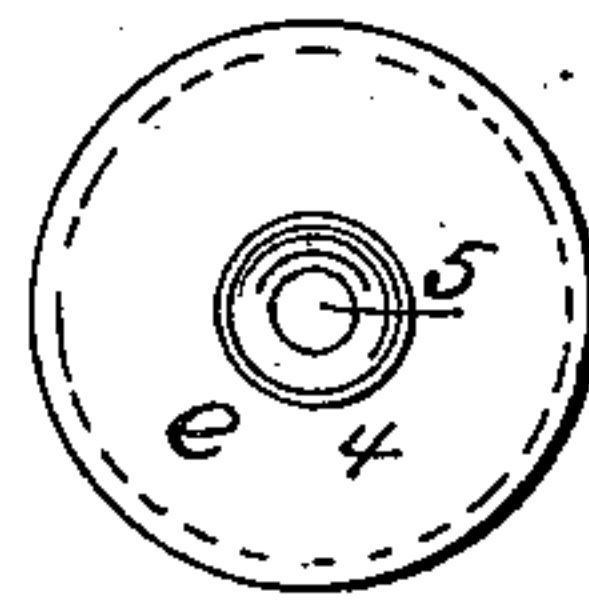


Fig. 3



Witnesses  
Geo. D. Walker  
Chas. H. Smith

Inventor  
Isaac M. Milbank  
per L. W. Ferrell  
Atty

# UNITED STATES PATENT OFFICE.

ISAAC M. MILBANK, OF GREENFIELD HILL, CONNECTICUT.

## IMPROVEMENT IN METALLIC CARTRIDGES.

*Specification forming part of Letters Patent No. 93,545, dated August 10, 1869.*

*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, made, and applied to use a certain new and useful Improvement in Metallic Cartridges for Fire-Arms; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a section of said cartridge complete. Fig. 2 is a section, in larger size, of the metallic cup-piece, separately, and Fig. 3 represents also, in larger size, the surface of said cup that sits against the base of the metallic case.

Similar marks of reference denote the same parts.

Cartridges have heretofore been made with a sheet-metal case, within which is a disk forming a support for the fulminate.

It is found in practice that small particles of the fulminate employed in exploding the cartridge sometimes work in between the disk and sheet-metal case, and explode if the case receives a blow upon the end by a fall or other accidental pressure. This fulminate sometimes passes in between the disk or cup and case, in the form of fine powder, when a dry wafer is employed, or where the fulminate is introduced wet, a very thin layer or fine particles pass into the crevice between the disk and sheet metal, rendering the cartridge liable to accidental explosion, as aforesaid.

The nature of my said invention consists in uniting the surface of the disk to that of the cartridge-case around the cavity occupied by the fulminate, in order that said fulminate may not be able to pass into the narrow crevice between the surfaces, and by this means avoid the risk of an explosion. I also provide an opening from the said cavity through the disk for charging the said cavity with fulminate in a semi-liquid state by pressure, and I turn up or form the edges of the disk in the shape of a cup in order to strengthen the rear end of

the metal cartridge-case under the explosion.

In the drawing, *a* represents the usual metallic cartridge-case, with the flange 1 and base 2. *b* is the powder-space, and *c* the ball, as usual. *e* is the metallic disk, with an edge or cup-shaped rim 3, that sets against the interior of the cylindrical part of the shell or case *a*, at the rear end, to sustain the case at the time of the explosion. In the disk *e* is a cavity, 4, having a central opening, 5. (See enlarged view, Fig. 2.) This disk is coated with suitable material, such as solder, varnish, or adhesive material, (I prefer solder,) and pressed down to place in the metal case *a*, and sufficient heat is to be present to cause the said material to firmly unite the surface of the disk around the cavity 4 with the sheet metal 2 of the case, so that fulminate will not pass in between the disk *e* and sheet metal 2.

I make use of a tube, having a tapering point, to enter the hole 5, and in this tube the semi-fluid or plastic fulminate is introduced, and I employ a plunger, acting in this tube, to force the fulminate into the cavity 4 and press it solid therein.

I am aware that cartridges have been made with a rim-fire and with a cup of sheet metal inside the sheet-metal case; also, that the base has been strengthened by a disk, as in my patent of August 6, 1867.

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

1. The metallic disk *e*, having a cavity for the fulminate, in combination with the sheet-metal cartridge-case, when the said disk and case are united around the edges of the cavity for the purposes and as set forth.

2. The disk with a cup-shaped edge, when secured within the sheet-metal cartridge-case by solder or other adhesive material, as specified.

In witness whereof I have hereunto set my signature the 20th day of February, A. D. 1868.  
ISAAC M. MILBANK.

Witnesses:

GEO. D. WALKER,  
CHAS. H. SMITH.