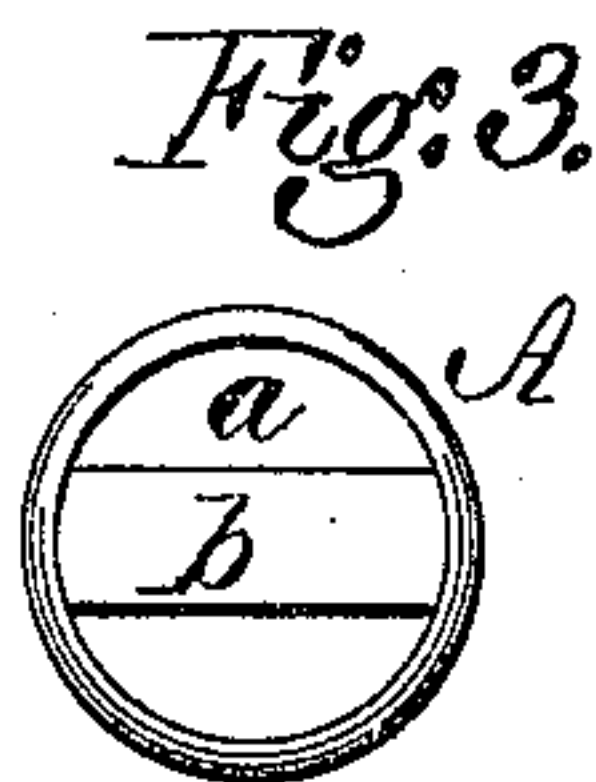
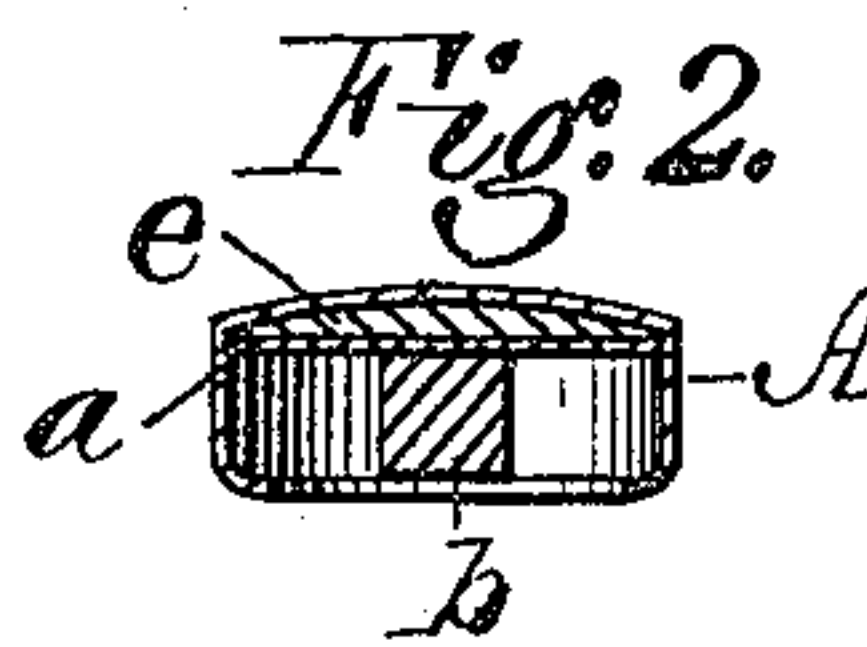
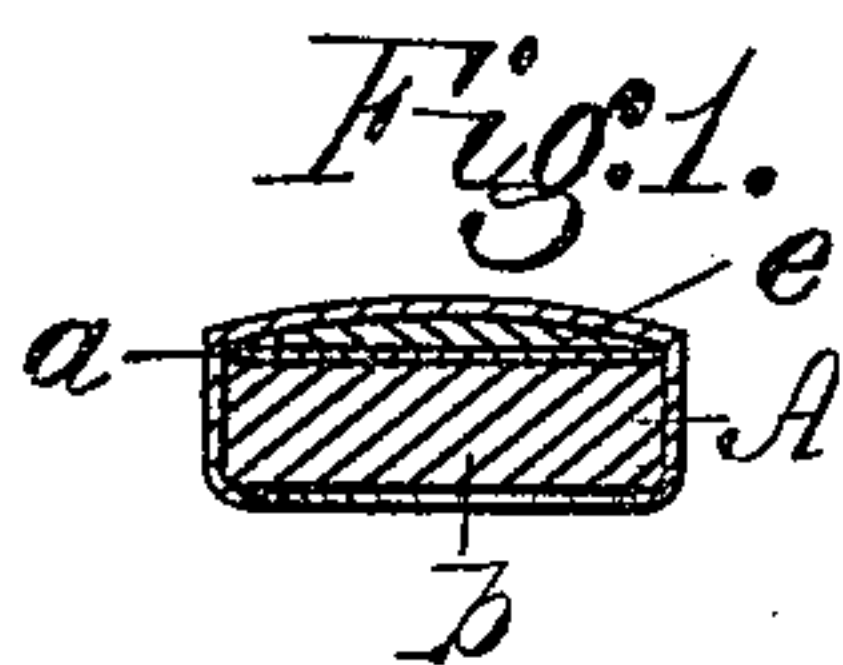


W. S. SMOOT.  
PRIMERS FOR CARTRIDGES.

No. 170,780.

Patented Dec. 7, 1875.



Witnesses:  
Will. H. Dodge.  
Thos. Houghton.

Inventor:  
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Atty

# UNITED STATES PATENT OFFICE.

WILLIAM S. SMOOT, OF ILION, NEW YORK.

## IMPROVEMENT IN PRIMERS FOR CARTRIDGES.

Specification forming part of Letters Patent No. **170,780**, dated December 7, 1875; application filed November 24, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM S. SMOOT, of Ilion, in the county of Herkimer and State of New York, have invented certain Improvements in Primers for Cartridge, of which the following is a specification:

My invention consists of a primer for metallic cartridges, constructed as hereinafter described.

Figure 1 is a transverse section taken through the anvil longitudinally. Fig. 2 is a similar view, taken at right angles to that shown in Fig. 1. Fig. 3 is a face or plan view, looking at the open end of the primer; and Figs. 4, 5, and 6 represent modifications of the anvil.

Since the introduction of externally-primed metallic cartridges there has arisen a demand for an efficient and cheap primer, and various efforts have been made to supply the demand, with more or less success.

To construct my improved primer I provide a shallow cup, A, of the usual form, and, after placing therein the fulminating material *e*, I place over the same a thin metallic disk, *a*, as shown in Figs. 1 and 2. I then construct an anvil, *b*, by taking a piece of wire or other metallic rod, and cutting therefrom a piece of the proper length to just fit crosswise within the cap, as shown in Figs. 1 and 3. After placing the anvil thus within the cap the edge of the latter is slightly crimped or bent inward, so as to hold the anvil in place, as shown in Figs. 1, 2, and 3.

The rod from which the anvil is cut may be round, as shown in Fig. 5; or it may be polygonal, as shown in Fig. 4; or it may be formed of a wire flattened on its two faces by passing it between rolls, as represented in

Fig. 6; or it may be rectangular in cross-section, as shown in Fig. 2, this latter being the form which I prefer. Whatever its form in cross-section, it should be of a thickness equal to the depth of the cap A, or nearly so, as represented in Figs. 1 and 2.

When thus constructed it forms a rigid anvil; and when a primer thus constructed is inserted in the cavity provided for it in the head of the cartridge case the ends of the rigid bar or anvil rest upon the bottom of the cavity at opposite sides of the vent-hole, and sustain the anvil, which, being sufficiently rigid to resist the blow of the firing-pin, prevents its being forced down, so as to close the vent-hole under its center. The crimping in of the anvil also makes the mouth or open end of the cap slightly conical or reduced in diameter, thus enabling it to be more readily forced into the cavity in the cartridge-shell, it being desirable to force the primer in tight, so as to hold securely in place, and insure a gas-tight joint when fired.

One great advantage of this style of anvil is that it can be cut from a coil of wire, thus saving at least twenty per cent. of material over those punched from a sheet of metal, as is the usual custom.

Having thus described my invention, what I claim is—

A primer for cartridges, consisting of the cup A, having the fulminate *e*, disk *a*, and bar-anvil *b* secured therein, substantially as shown and described.

WILLIAM S. SMOOT.

Witnesses:

E. ROCHE,  
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