

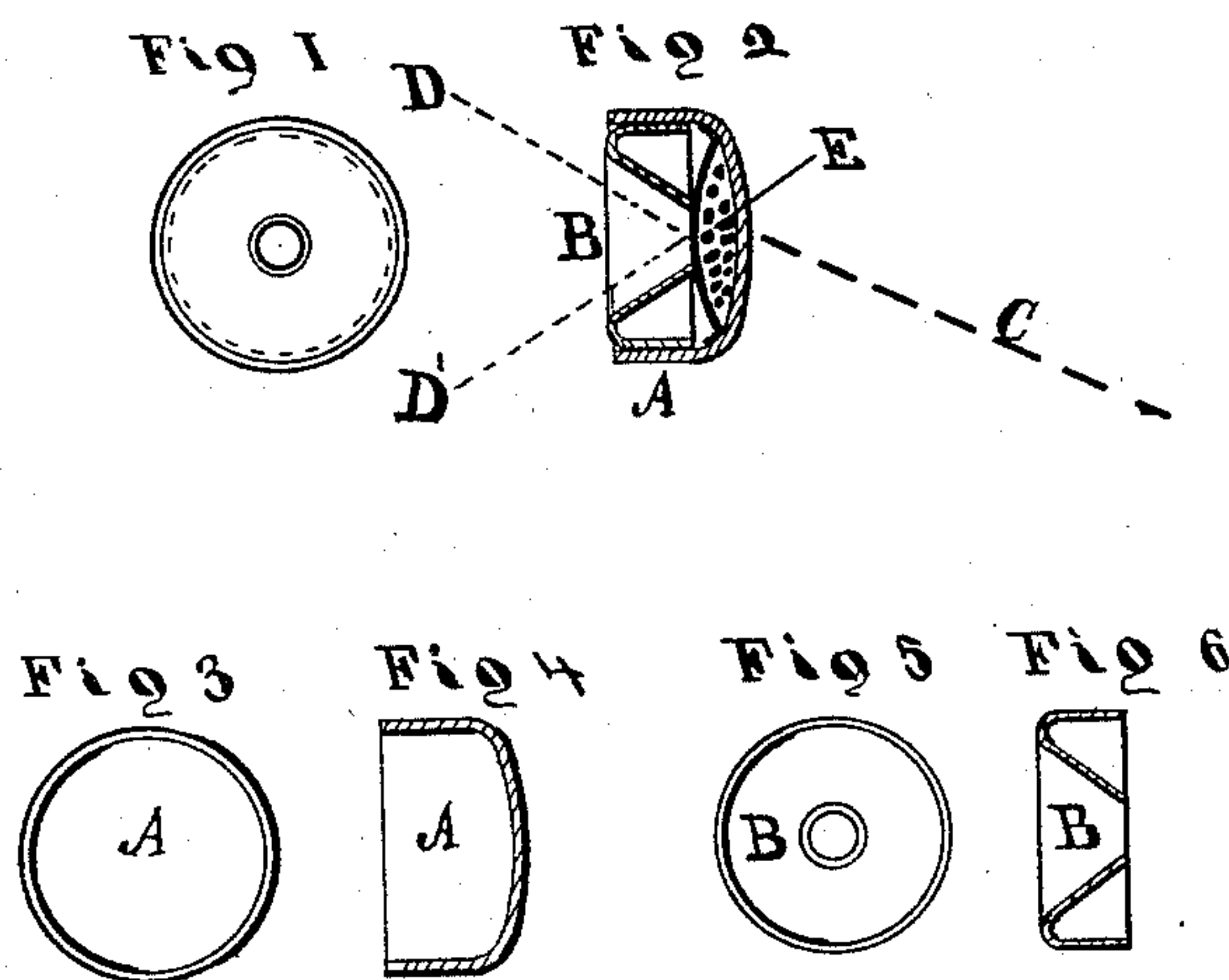
(Model.)

W. S. SMOOT.

PRIMER FOR CARTRIDGES.

No. 255,822

Patented Apr. 4, 1882.



WITNESSES

*George Dyett*  
*W. S. Smoot*

INVENTOR

*W. S. Smoot*

# UNITED STATES PATENT OFFICE.

WILLIAM S. SMOOT, OF ILION, NEW YORK, ASSIGNOR OF ONE-HALF TO E. REMINGTON & SONS, OF SAME PLACE.

## PRIMER FOR CARTRIDGES.

SPECIFICATION forming part of Letters Patent No. 255,822, dated April 4,

Application filed February 11, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, WILLIAM SYDNEY SMOOT, of Ilion, Herkimer county, New York, have invented a new and Improved Percussion-Primer, of which the following is a full and exact description, reference being had to the accompanying drawings, in which A represents the outside cap; B, the anvil, and E the charge of fulminating powder.

My invention relates to the class of primers used in priming metallic cartridges, and has for its purpose to insure a more perfect and certain ignition of the fulminating powder, and communication of same with the powder in the cartridge, thus preventing what is called "missing fire" or "hanging fire."

Figure 1 represents an inside view of my primer complete. Fig. 2 represents a sectional view of the same. Figs. 3 and 4 are face and sectional views of the cap, and Figs. 5 and 6 similar views of the anvil.

In constructing my improved primer I first form the outside cap, A, Figs. 3 and 4, by cupping up the same out of sheet metal. This outside cap is then charged with fulminate and a tin-foil covering in the usual way. For the anvil I strike up another piece of sheet metal with a central aperture and continuous rim, B, Figs. 5 and 6, fitting closely the outside cap described. This anvil is then pressed firmly into the outside cap and against the foil covering the fulminate, as shown in Figs. 1 and 2. The primer is then ready for use, and when inserted into the shell the anvil B rests against the bottom thereof, and causes the explosion of the fulminate when struck by the firing-pin of the gun.

In order to explain the advantages of my improved primer, I will refer to the difficulties sometimes experienced, which difficulties I have endeavored to overcome. In most guns it is impossible to have the firing-pin strike in a direct line, and the dotted line C, Fig. 2,

represents the exact inclination of the firing-pin in the No. 3 rifle made by E. Remington & Sons, for which gun this primer is expressly intended. When the anvil is in the form of a cone, as shown by lines D D, Fig. 2, the blow of the firing pin is delivered above the anvil, and this distance is increased in case the head of the shell is a little thinner or the primer inserted a little more deeply, and may sometimes cause the gun to miss fire. In my improved primer the effective edge of the anvil is at a little distance from the center, so that some portion of it will receive the blow, while if used with guns having a straight firing-pin, the whole edge of the anvil will come into play. Another advantage arises from the fact that the communication is direct between the fulminate and the powder in the cartridge through the central aperture in the anvil, and the liability of the arm to hang fire is much less than where the flame has to pass through a circuitous channel, while by reason of the close fit of the anvil against the foil it forms a more perfectly water-proof primer than any other in use.

What I claim is my invention, and desire to secure by Letters Patent of the United States, is—

1. An anvil constructed of thin sheet metal, and having a continuous outer flange, and an inwardly struck-up cone-shaped bottom with an aperture at the apex.

2. As a new article of manufacture, a primer for cartridges composed of an anvil constructed of thin sheet metal, and having a continuous outer flange and an inwardly struck-up cone-shaped bottom with an aperture at the apex, an outer cap, and interposed fulminate.

WILLIAM SYDNEY SMOOT.

Witnesses:

H. H. BENEDICT,  
S. ZIMMERMAN.