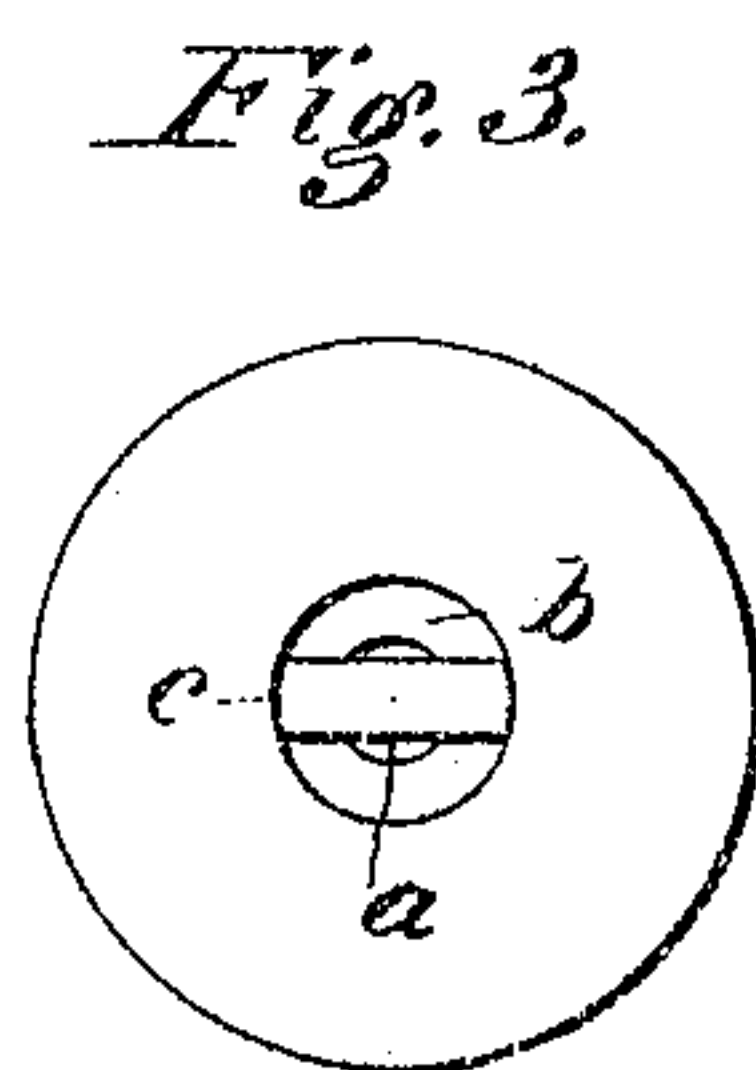
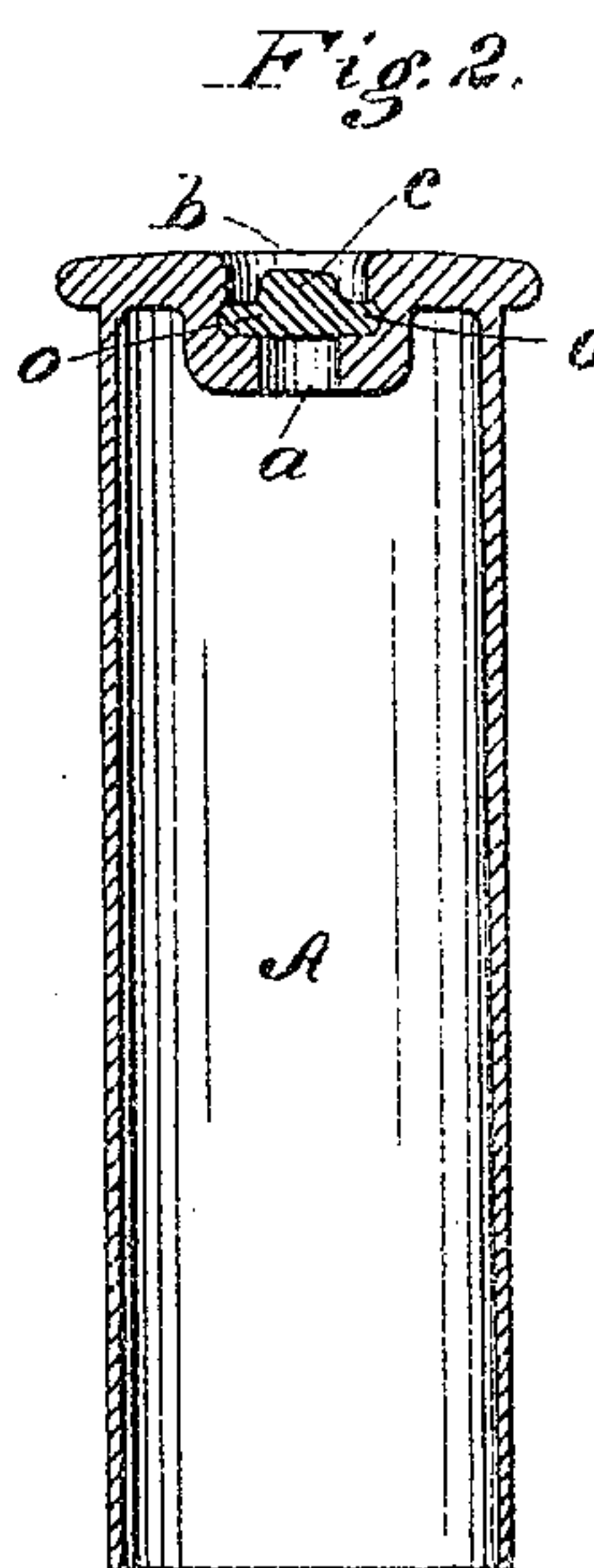
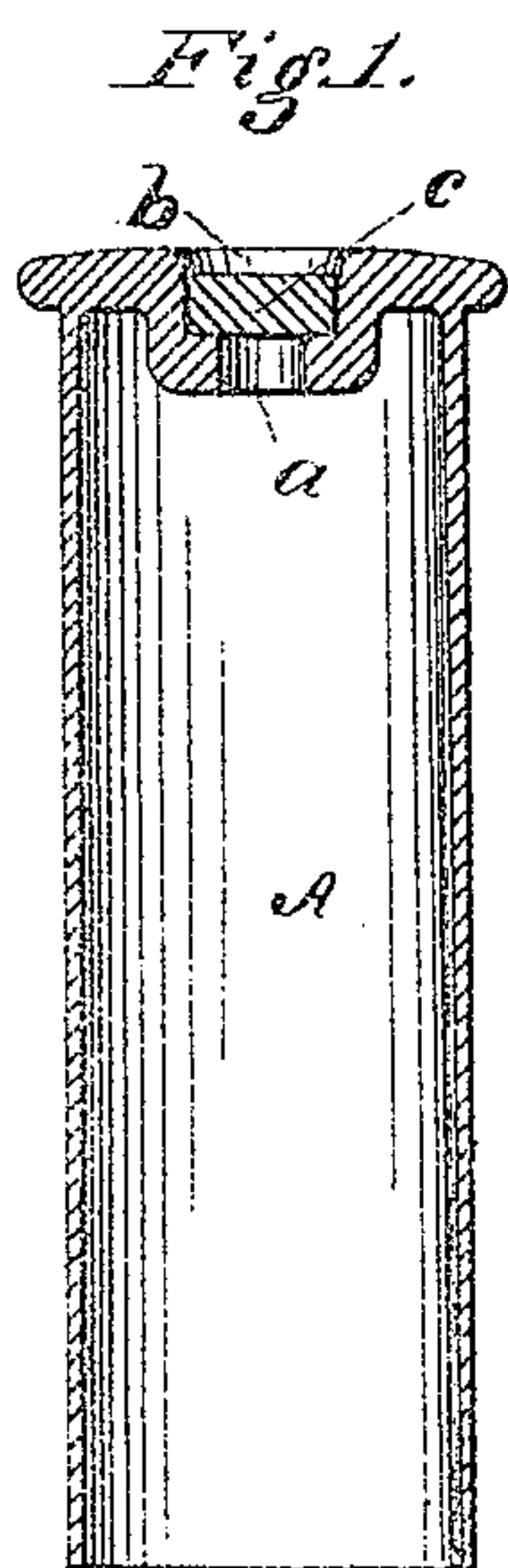


W. S. SMOOT.
CARTRIDGE.

No. 178,683.

Patented June 13, 1876.



Witnesses:
Oliver J. Fitchell.
Will H. Dodge

Inventor:
W. S. Smoot.
By Dodge & Son.
Attys.

UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 178,683, dated June 13, 1876; application filed
May 20, 1876.

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 Metallic Cartridges, of which the following is a specification:

My invention consists in the peculiar manner of constructing and securing the anvil of a metallic cartridge, as hereinafter more fully set forth.

Figure 1 is a longitudinal section of a cartridge-shell, with the blank for the anvil in place. Fig. 2 is a similar view, showing the anvil completed and secured in place. Fig. 3 is an end view.

In constructing a cartridge on my plan, the shell A is first formed by being drawn up from sheet metal in the usual manner, after which a central cavity, *b*, termed the pocket, is formed in the head by punching the metal inward, as shown in the drawings. In the center of this cavity or pocket *b* a vent-hole, *a*, is made, as shown.

To form the anvil I take a piece of wire or sheet metal of the requisite thickness and width, and cut it of such a length as to just reach across the pocket *b* and place it therein, as shown in Fig. 1. As represented in Fig. 3, this bar *c* is of such a width that when thus placed across the center of the pocket it will leave a portion of the hole *a* at each side uncovered for the flame from the cap or primer to pass through, so as to ignite the powder within the shell. After the blank anvil *c* has been thus placed in the pocket it is subjected to the action of a punch of such form as to compress and flatten its ends *o*, as shown in Fig. 2, leaving its central portion of the original thickness, thereby forming at the center

a teat-like projection, upon which the cap or primer is placed, and on which the fulminate is ignited by the blow from the hammer or firing-pin, when the gun is fired.

The anvil is fastened securely in place by the pressing down of its ends, which crowds the metal thereof outward against the walls of the pocket. In addition to this, the finishing or broaching of the pocket, to render its sides smooth and true, so as to enable the cap or primer to fit therein accurately, and prevent the escape of gas, also forces a small portion of the metal of the walls of the pocket down upon the extreme ends of the anvil, as shown in Fig. 2, thereby rendering it still more secure.

An anvil constructed on this plan permits the use of a very soft ductile metal for the body of the shell, while the anvil itself may be of a harder metal. It is also applicable to paper shells, as well as those made entirely of metal.

Having thus described my invention, what I claim is—

1. An anvil for a cartridge-shell, composed of a strip of metal of suitable length to fit crosswise in the pocket of the cartridge-case, with its ends *o* flattened or depressed by pressure, substantially as shown and described.

2. The process of forming and securing the anvil in the shell—that is to say, by placing the bar or strip *c* transversely in the pocket *b* of the shell, and then pressing down and expanding its ends *o*, substantially as described.

W. S. SMOOT.

Witnesses:
H. H. BENEDICT,
P. T. DODGE.