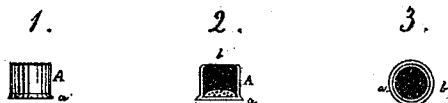


R. R. MOFFATT.  
PERCUSSION PRIMER FOR CARTRIDGES.

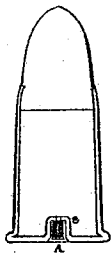
No. 110,266.

Patented Dec. 20, 1870.

*Figures*



*Fig. 4.*



Witnesses

*Jos. A. Grant*  
*Houghton Wheeler*

Inventor

*R. R. Moffatt*

# United States Patent Office.

RICHARD R. MOFFATT, OF BROOKLYN, NEW YORK.

Letters Patent No. 110,266, dated December 20, 1870.

## IMPROVEMENT IN PERCUSSION-PRIMERS FOR CARTRIDGES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, RICHARD R. MOFFATT, of the city of Brooklyn, Kings county and State of New York, have invented a new and useful Improvement in Percussion-Primers for Cartridges, Guns, &c., of which the following is a specification.

My invention consists in combining with a primed metallic cup or tube an anvil, composed of a suitable fluid, semi-fluid, or plastic substance, which, after being deposited in the cup or tube, will become sufficiently hard, solid, and adhesive to the cup or tube to perform the office of an anvil on which to explode the priming, and of being consumable or inflammable.

Figure 1 is an exterior view of a short primer similar to a common percussion-cap, except that it has, annularly, a somewhat projecting base.

Figure 2 is a central vertical view of the same, showing the anvil B filling the interior.

Figure 3 is a top view of the same.

Figure 4 is a central sectional view of a cartridge-case, with a bullet inserted having a percussion-primer containing my anvil.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and mode of operation.

The body A of the primer is a small metallic cup or tube, made of sheet metal in the ordinary manner of cutting and sinking up or "drawing" percussion-caps or metallic cartridge-cases.

The closed end or base may or may not be "headed" or formed with an annular projecting base, *a*, as represented in the drawing. When designed to be used for priming center-fire metallic cartridges, as shown in fig. 4, giving the base a projecting form will be found desirable, as that form will make a closer, neater fit with the cartridge-case than will a straight tube.

This cup or tube I prime, by pressing a small quantity of fulminate into the base, in a manner similar to that in which percussion-caps are primed.

Into this cup or tube thus primed I deposit and press firmly down upon the fulminate a small quantity of the following compound, namely: Aloes (gum) one part, and chlorate of potash two parts. The variety of aloes called Cape aloes will be found best.

I find an advantage in adding to the compound, or depositing on the fulminate before depositing the compound in the cup or tube, a small quantity of powdered glass, or pure sand.

The body of the primer, when made only the length of the ordinary percussion-cap, should be nearly or quite filled with the compound *b*. For cannon primers, or where a tube of any considerable length is used, still about the same quantity of the compound as needed in the cap will be found sufficient, usually. Enough should be used to secure the certain explosion of the fulminate by a blow on the end of the tube, notwithstanding the anvil has no other support than the tube itself.

The compound I have described will, very quickly

after being deposited in the body of the primer, become so hard and firmly adhered to the cap or tube that without other support it will act efficiently as an anvil.

I do not, however, intend to limit myself to the precise compound. Any other equivalent composition of matter, or any other substance, whether single or compound, may be employed which has the characteristics described, namely, that of being, when prepared for the purpose herein intended, fluid, semi-fluid, or plastic, so that it may be readily deposited in the cap or tube; and that of becoming hard, solid, and adherent to the cap or tube after being so deposited; and of being consumable.

The proportion of the ingredients used in the compound described, or any other that may be used, may be varied at pleasure.

In the compound described, the chlorate of potash is used to render it quickly inflammable; and as it is desirable that a primer should as quickly as possible communicate its fire to the charge in the gun or cartridge, I would recommend the use always of chlorate of potash, or something its equivalent; still, it is not indispensable.

Figure 5 represents one of the modes in which my primer may be used for priming a center-fire cartridge-case.

As will be seen, a cylindrical cup-like depression, C, is made in the center of the butt, by carrying the metal inward by means of a suitable die and punch. It is made of such diameter and depth as to contain and snugly hold the primer A, the open end of which rests on the bottom of the depression. An aperture, one or more, is made through such bottom to allow the fire of the primer to communicate with the gun powder in the cartridge.

The great advantage of this primer, carrying its own anvil for the priming of center-fire cartridges especially, obviating as it does the necessity of providing a metallic one belonging to or connected with the cartridge-case or otherwise, is obvious.

I am aware that percussion-caps have been made with a plug, or piece of metal, or some other solid substance, inserted in them. But so far as my knowledge extends, such anvils have always been formed of some hard material, and fashioned into the proper shape before being inserted in the cap. The combination of percussion-caps with all such anvils I disclaim.

What I do claim as my invention, and desire to secure by Letters Patent, is—

The anvil of a percussion-cap or primer, when composed of a consumable material as herein described, and applied in a liquid or plastic state, substantially as and for the purpose specified.

Witnesses:

R. R. MOFFATT.

THOMAS COSTIGAN,  
J. STANHOPE WHITE.