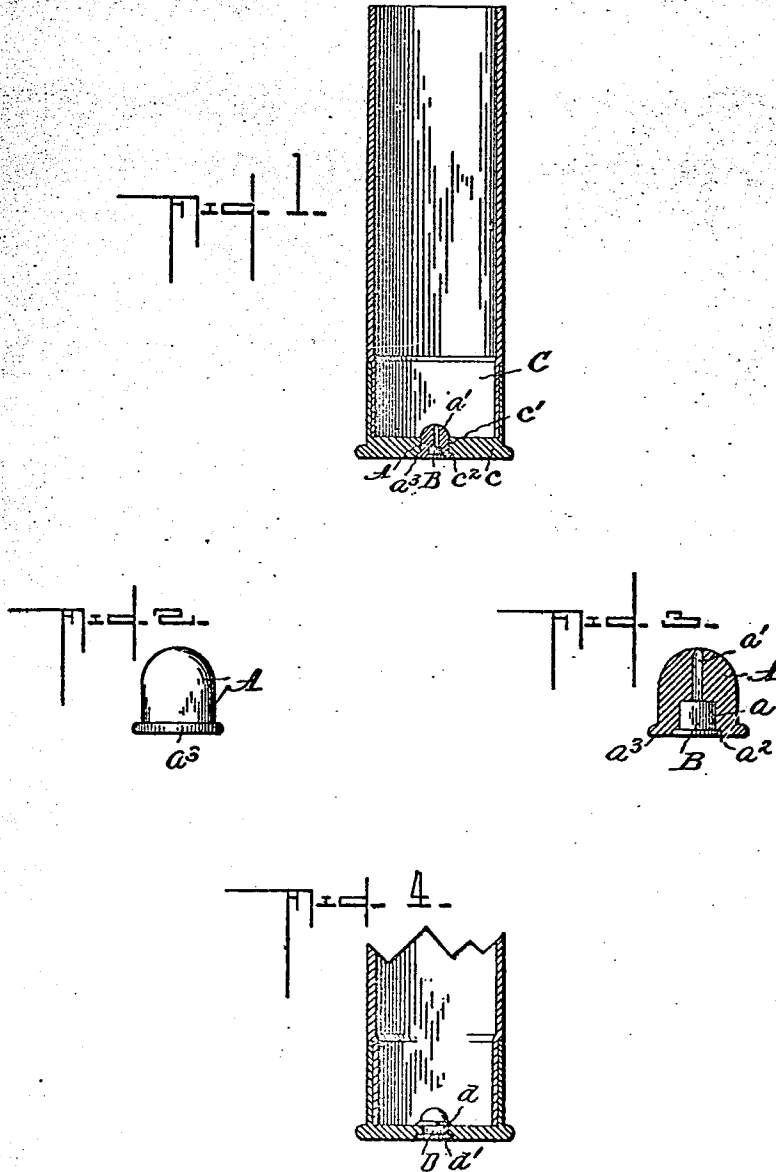


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PATENTED DEC. 11, 1906.

C. A. BAILEY.
PRIMING DEVICE FOR CARTRIDGES AND SHELLS.
APPLICATION FILED JUNE 26, 1905.



Charles A. Bailey,
Inventor

Witnesses

R. J. Deane
L. C. Thomas.

by John B. Thomas & Co.,
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES A. BAILEY, OF CROMWELL, CONNECTICUT, ASSIGNOR TO THE
BEST AMMUNITION COMPANY, OF CROMWELL, CONNECTICUT, A COR-
PORATION OF CONNECTICUT.

PRIMING DEVICE FOR CARTRIDGES AND SHELLS.

No. 838,493.

Specification of Letters Patent.

Patented Dec. 11, 1906.

Application filed June 26, 1905. Serial No. 267,086.

To all whom it may concern:

Be it known that I, CHARLES A. BAILEY, a citizen of the United States, residing at Cromwell, in the county of Middlesex and State of Connecticut, have invented a Priming Device for Cartridges and Shells, of which the following is a specification.

The primary object of my invention is to provide a peculiar form of priming device especially for cartridges and shells and which will effectually prevent the leaking of gas through the breech of the cartridge or shell upon the discharge of the latter.

In the usual form of center-fire cartridges, employing a primer or cap fitted in the hole in the head of the cartridge, it often happens that the gas generated by the explosion of the powder charge forces its way out through the breech by passing around such cap or primer. Therefore, to entirely remove the possibility of any escape of gas at this point I provide the firing-cap or primer with a bushing of soft material, which is adapted to fit the opening in the cartridge closely, and being soft or yielding it will, when the cartridge is exploded, expand to more effectually close the joint between said bushing and cartridge, as well as the joint between the bushing and primer.

In the following specification I have fully described my invention, and what I claim as new, and desire to fully protect by Letters Patent, is more specifically set forth in the appended claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a view illustrating the application of my invention to a cartridge or shell having a comparatively thick head. Fig. 2 is an enlarged detail side elevation of the priming device. Fig. 3 is a sectional view thereof. Fig. 4 is a view showing a modification of the invention, in which the bushing is upset at opposite sides of the head of the cartridge.

In carrying out my invention I employ a bushing or battery-cup A of soft metal, in the outer end of which is a recess or cavity a to receive the primer or firing-cap B, and from said cavity there extends through the bushing to the inner end thereof a small opening a' , through which the flash or flame from the primer passes into the cartridge. The recess or cavity a is of a shape to correspond with

that of the primer or firing-cap, and in some instances, therefore, it is countersunk at its outer end, as at a^2 , into which the rim of the primer or firing-cap is seated. Of course in case a straight primer is employed a plain cavity would be formed in the bushing.

The outer end of the bushing or battery-cup A is flared or provided with a circumferential flange a^3 , adapted to seat in a countersunk portion of an opening or hole through the head of the cartridge.

The cartridge or shell (designated as C in the drawings) is of the usual construction, and the head or end wall c thereof is provided with an opening c' large enough to receive the body of the bushing or battery-cup A, and such opening is countersunk or tapered, as at c^2 , into which the flared or flanged portion a^3 of said bushing or battery-cup is seated to hold the same and prevent it from being forced into the cartridge when the primer is struck by the firing-pin. It will be here noted that as shown the outer end of the bushing or battery-cup is shown as provided with a flange adapted to seat in the countersunk portion of the hole in the cartridge.

The bushing being of comparatively soft metal will not only closely embrace the primer or firing-cap embedded therein, but will also closely fit the opening in the head of the cartridge and will be retained in the latter by frictional contact.

In some instances, as shown in Fig. 4, I purpose to more firmly connect the bushing or battery-cup, as D, to the cartridge by upsetting a flange, as d , against the inner side of the head of the cartridge, such flange being opposed to the flange d' on the outer side, and of course this form may be used in connecting an inner reinforcing-piece to the head.

The inner end of the flash-opening a' through the bushing or battery-cup is preferably contracted or closed, as shown, so as to prevent any powder from entering the primer when loading the cartridge.

My improved priming device, comprising the soft bushing A and firing-cap B, may be marketed as a separate article of manufacture, as in the case of the ordinary primers, and can be readily applied by simply forcing the same into the countersunk or tapered opening in the metal head of the cartridge. When ap-

plied as illustrated in Fig. 4, a suitable tool is employed to upset the flange *d* against the inner side of the head. In both instances a simple and effective form of device is employed to effectually prevent the leakage of gas out of the breech of the cartridge, for inasmuch as the bushing or battery-cup is formed of comparatively soft material it will, when the cartridge is exploded, expand in the opening in the head of the cartridge and also flatten out against the breech-block of the firearm to completely close the breech of the cartridge. In reloading a cartridge provided with such a priming device the latter can be readily and conveniently removed.

The bushing is preferably made of soft metal, such as a lead alloy.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cartridge, the combination with the shell having an opening through the head, of a soft-metal bushing fitting snugly within the opening and having flanges upset against the inner and outer sides of the head, said bushing also having an elongated ta-

pered body portion projecting within the shell, a shallow cavity in its outer end, and a flash-hole extending through the body from said cavity to the inner end of the bushing at which latter point it is closed by a thin wall; together with a priming-cap frictionally engaging the cavity of the bushing, as herein shown and described.

2. As a new article of manufacture, a priming device for cartridges and shells comprising an elongated conical-shaped soft-metal bushing having an exterior flange, a cavity in its base, and a small flash hole or passage extending from the inner end of said cavity to the point of the bushing at which latter point it is closed by a thin wall, and a priming-cap frictionally engaging the cavity, as herein shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. A. BAILEY.

Witnesses:

PERCY FRANCIS,
ARTHUR BOARDMAN.