G. F. LALLMAN.

AMMUNITION PRIMER.

APPLICATION FILED SEPT. 23, 1916.

1,240,859.

Patented Sept. 25, 1917.

Fig. 1.

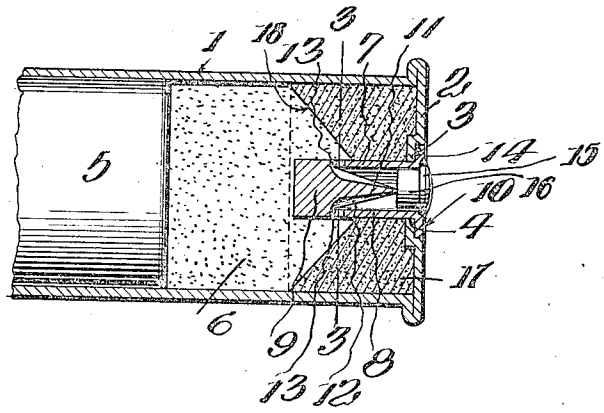


Fig. 2.

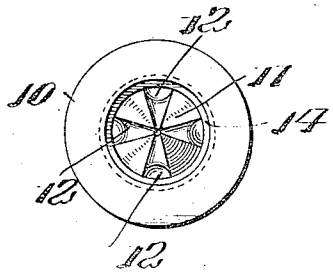
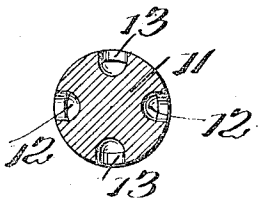


Fig. 3.



WITNESSES

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GILBERT F. LALLMAN, OF ARLINGTON, NEBRASKA.

AMMUNITION-PRIMER.

1,240,859. Specification of Letters Patent. Patented Sept. 25, 1917.

Application filed September 23, 1916. Serial No. 121,844.

To all whom it may concern:

Be it known that I, GILBERT F. LALLMAN, a citizen of the United States, residing at Arlington, in the county of Washington and State of Nebraska, have invented certain new and useful Improvements in Ammunition-Primers, of which the following is a specification.

This invention has relation to cartridges and shells, and the nature and objects thereof will be readily apparent to those skilled in the art to which it appertains in the light of the following explanation of the accompanying drawings, illustrating what I now believe to be the preferred embodiment, or mechanical expression, of my invention, from among other forms and arrangements, within the spirit thereof, or the scope of the appended claims.

However, an object of the invention is to provide a cartridge or a shell containing the projectile and a charge, and embodying means associated with the priming cap, whereby to direct the flame from the cap upon percussion, to various separated parts of the charge so as to cause uniform ignition thereof as rapidly as possible, with the consequent generation of a large volume of gas to quickly and properly eject the projectile with an increased amount of energy.

Another object of the invention is to provide a cartridge having the improvements above noted, and designed in such a manner as to permit manufacture thereof at as low cost as possible and with a minimum of parts.

In addition to the foregoing my invention comprehends improvements in the details of construction, and arrangement of the parts to be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings in which similar and corresponding parts are designated by the same characters of reference throughout the several views in which they appear:—

Figure 1, is a fragmentary longitudinal section taken through a cartridge constructed after the manner of my invention.

Fig. 2, is a face view of the battery cup forming a part of my invention, and

Fig. 3, is a transverse detail section taken on the line 3—3 of Fig. 1.

With reference to the drawings 1 indicates the wall of a cylindrical cartridge casing, having the usual integrally formed base 2, which in the present instance is formed with a central depression indicated at 3, the center of said depressed portion being provided with an aperture as indicated at 4. The projectile is indicated at 5 and the charge at 6.

My invention comprises in its essentials a battery cup indicated generally at 7 and comprises a hollow cylindrical portion 8 closed completely by a solid portion at 9, and having its opposite end outwardly flared to form an annular flange 10. The battery cup is formed interiorly with a cone shaped projection 11 formed integrally at its base portion with the solid portion 9 of the battery cup, said cone member having its apex directed toward the flared end and located centrally within the cylindrical portion of the battery cup.

This conical member which will hereinafter be termed the deflector is provided with a plurality of grooves 12 which extend from the apex thereof toward the juncture between said cone shaped member and the interior surface of the cylindrical portion of the battery cup. At the base portion the grooves which diverge gradually from the apex downward are each in communication with a separate opening 13 which extends through the wall 8 of the battery cup. The grooves 12 are also increased in depth toward the base portion of the cone member.

Surrounding the battery cup and filling the base portion of the cartridge is a padding indicated at 17 and formed at its front face with a conical depression whose walls 18 diverge from a point behind the openings 13 of the battery cup to the walls of the cartridge.

The battery cup adjacent the flanged portion 10 thereof is provided with an annular groove 14 formed at the edge of the opening in said battery cup to receive the annular projection 15 of a priming cap 16, which is seated in the open end of the battery cup. If desired, this flange 15 may be omitted and the usual form of plain battery cup used instead.

The battery cup is seated within the cartridge casing with its flanged portion 10 seated in the depressed portion 3, in the end of the cartridge, the battery cup being forced in there by pressure or otherwise.

In view of the foregoing the theory of operation of the cartridge should be quite

apparent. However when the priming cap is shocked to ignite by percussion the fulminating charge contained therein, the flame will obviously be directed toward the cone shaped member 8. The flame is thereby directed along the sides of the cone shaped member and particularly within the diverging grooves thereof, the flame finally emitting from the openings 13 in the side of the battery cup. The openings 13 corresponding in number to the number of grooves are preferably disposed circumferentially around the battery cup in uniformly spaced relation, whereby the tongues of flame emitting from said openings are directed against the walls 18 of the packing and from there deflected downward and throughout the charge of powder which is disposed around the said battery cup, and in the conical depression of the packing. In this manner, the powder is ignited at several places simultaneously thereby resulting in a rapid and complete combustion whereby a larger volume of gas is generated thereby imparting an increased energy to the projectile.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations thereover may be made, and I therefore, reserve the right and privilege of changing the form of the details of construction, or otherwise altering the arrangement of the correlated parts without departing from the spirit of the invention or the scope of the appended claims.

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

1. In a cartridge, a battery cup having a plurality of circumferential openings, a priming cap for said battery cup, and a cone shaped deflector within the cup having a plurality of longitudinally extending grooves, for directing the flames toward all of the openings.

2. In a cartridge, a battery cup having a plurality of circumferential openings, a priming cap for said battery cup, and a cone member within the cup having a longitudinally extending groove formed therein for each of the aforesaid openings, for directing the flame from the cap toward said openings.

3. In a cartridge, a battery cup, having a plurality of circumferential openings, a priming cap for said battery cup, and a cone member within the cup having a plurality of grooves in its surface corresponding in number to the number of openings, for directing the flame from the cap toward said openings, thereby igniting the charge of the cartridge uniformly.

4. In a cartridge, a battery cup, having a plurality of circumferential openings, a priming cap for said battery cup, and a conical deflector within the cup, having a plurality of longitudinally extending grooves in its surface, each groove leading to one of the aforesaid openings whereby to direct the flame from the cap toward and through said openings to uniformly ignite the charge.

5. In a cartridge, a battery cup substantially cylindrical in conforination, closed at one end and provided with an integrally formed inwardly extending cone shaped member extending from said closed end, said cone member having a plurality of longitudinally extending grooves which diverge toward the base portion of the cone member, an opening in the wall of the battery cup opposite the base portion of each groove, and a priming cap fitted in said battery cup whereby the flame therefrom is directed by means of the aforesaid openings to uniformly ignite the charge.

6. A cartridge having a battery cup, said battery cup having a series of circumferentially disposed openings in its side wall, and a padding located at the base portion of the cartridge therewithin and around the battery cup having in its forward face a conical opening with the apex thereof located adjacent the openings of the battery cup whereby to deflect the flame from said battery cup toward said front end of the cartridge.

In testimony whereof I affix my signature in presence of two witnesses.

GILBERT F. LALLMAN.

Witnesses:
EDWARD C. JACKSON,
OVE T. ANDERSON.