Nov. 7, 1944. W. T. MOORE ET AL 2,361,955

EXPLOSIVE BULLET

Filed June 27, 1941

Fig. 1.

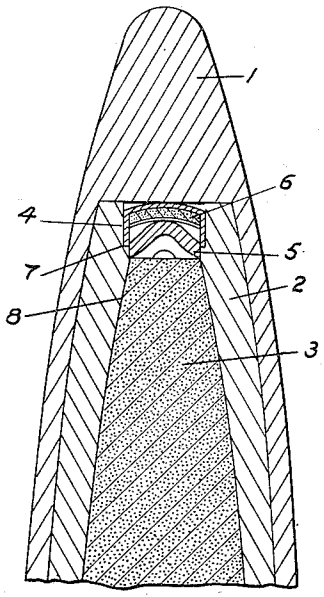


Fig. 2.

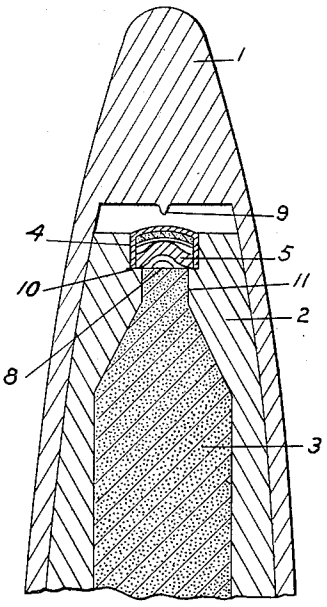
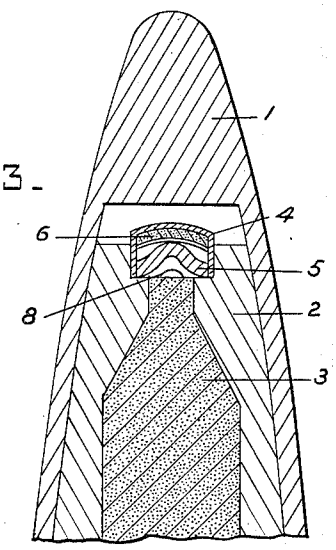


Fig. 3.



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EXPLOSIVE BULLET

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Application June 27, 1941, Serial No. 400,040

1 Claim. (Cl. 102—56)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to us of any royalty thereon.

This invention relates to explosive or incendiary bullets and in particular to percussion igniting means for such bullets.

It is an object of this invention to produce a simplified and safe igniting device for an explosive or incendiary bullet which may be largely constructed from standard components.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawing in which:

Figure 1 is a longitudinal section of a part of a projectile embodying one form of the invention.

Figure 2 is a longitudinal section showing another embodiment of the invention.

Figure 3 is a longitudinal section of another embodiment of the invention.

Referring to the drawing by characters of reference, Figure 1 shows a portion of an explosive projectile having a jacket 1 of gilding metal or the like enclosing a hollow core 2 containing a main charge 3. The forward end of the hollow core is bored to accommodate a standard primer capsule 4 having an oversize anvil 5 and containing a priming charge 6. The anvil fits in the bore with sufficient tightness to support it against the ordinary shocks of handling. A shoulder 7 is provided engaging the rear edge of the primer capsule 4 to support it against setback.

Upon impact of the projectile against any relatively solid object the forward motion of the jacket and core will be retarded. The anvil will tend to continue forward and is made sufficiently overweight that it will be able to overcome its frictional engagement with the bore in which it is seated. The primer charge will thus be crushed between the jacket nose and the anvil and the resulting explosion will flash through the conventional passages 8 in the anvil to initiate the main charge.

In the modification of the invention shown in Figure 2 the nose of the jacket 1 is formed with a central rearwardly directed firing pin 9. The core 2 is, as in Figure 1, hollow and contains a main charge 3. The nose end of the hollow core is bored to provide a shoulder 10 to support the anvil 5 and primer cup 4 of a standard primer against the forces of inertia. The bore is of such a diameter that a standard primer will be retained therein against all ordinary shocks and of such a depth that the primer extends slightly beyond the front face of the core. The conventional flash passages 8 in the anvil and a flash passage 11 in the core place the priming charge in communication with the main charge. The core is assembled in the jacket and secured therein with its nose portion spaced rearwardly from the nose of the jacket.

Upon impact of the projectile with an object the nose of the jacket will be retarded while the core tends to continue at the same rate of speed. The jacket will be sufficiently deformed to permit the core to move forward relative to the jacket and cause the firing pin to pierce the primer capsule and inflame the charge therein for initiation of the main charge.

In the modification of the invention shown in Figure 3 a primer either standard or with the oversize anvil is supported as in Figure 2 with the exception that it is mounted far enough forward that the tip of the anvil is in advance of the face of the core. No firing pin is provided on the jacket nose and upon impact the core will drive forward to crush the primer compound between the anvil and the jacket nose.

It will be noted that the manufacture and assembly of these projectiles will be extremely simple. The jackets of gilding metal or the like may be drawn in the conventional manner and the cores which are conveniently formed of steel may be shaped in automatic screw machinery. The primers used are largely or wholly of standard manufacture.

We claim:

A bullet comprising a jacket, a hollow metal core nested in the jacket and containing an explosive charge, said core being provided with a bore at its forward end in communication with said explosive charge, a primer cup in said bore and containing a primer charge at its forward end, an anvil tightly fitted in said cup and constituting an inertial element adapted to move forward to fire the primer charge upon impact of the bullet, and means in the bore to prevent rearward movement of the primer cup upon set back.

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