Dec. 12, 1944. R. N. NELSON 2,364,646

EXPLOSIVE BULLET

Filed Aug. 18, 1941

Fig. 1.

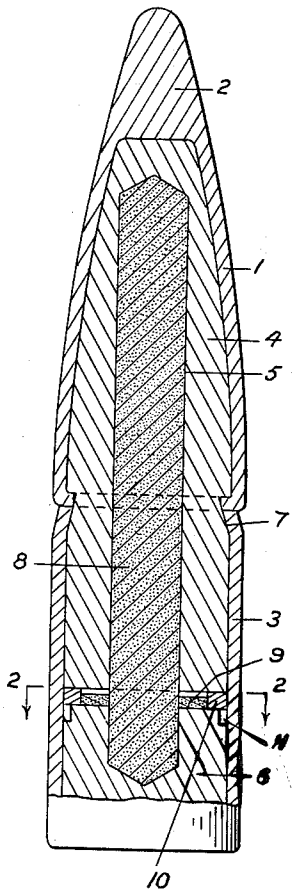
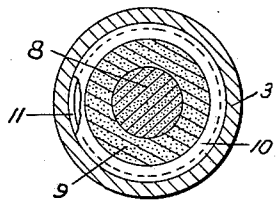


Fig. 2.



Inventor

Richard N. Nelson

By E. Kessenich & J. H. Church

Attorneys

Patented Dec. 12, 1944 2,364,646

UNITED STATES PATENT OFFICE

2,364,646

EXPLOSIVE BULLET

Richard N. Nelson, Black River Falls, Wis.

Application August 18, 1941, Serial No. 407,298

4 Claims. (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 me of any royalty thereon.

This invention relates to explosive or incendiary bullets and more particularly to percussion igniting means for such bullets.

It is an object of this invention to produce igniting means which although simple in operation and having a minimum number of parts will be safe in storage and in handling.

It is a further object of this invention to produce igniting means which can be readily assembled for use in small arms ammunition.

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 portion of a bullet embodying my invention.

Figure 2 is a cross section taken on the line 2—2 of Fig. 1.

In my invention as shown in Figure 1, the jacket 1, which may be made of gilding or other suitable metal is formed with a nose section 2 and a base section 3. Similarly the core 4 preferably of steel is formed with a hollow nose section 5 and a similar base section 6. A circumferential groove 7 having a rearwardly facing shoulder is formed in the outer surface of the core section 5. The core sections are filled with the main charge 8 such as tetryl, and between the ends of the core sections an annulus 9 of primer compound, such as fulminate of mercury or a suitable azide, and a washer 10 of a solid material, such as Wood's metal having a low degree of resistance to heat are inserted. The front end of the rear core section 6 has a short section 11 of reduced diameter. The sections of the core are inserted in the sections of the jacket and the ends of the jacket sections are crimped into the groove 7. Connecting the rear or driving section of the jacket to the front section of the core insures that the rear section of the jacket will support the front section of the core against setback and serve to transmit the driving force to the core without crushing the priming charge. If the rear jacket section is brought forward far enough to include all of the barrel engaging section of the projectile the forward jacket section may be dispensed with.

Upon firing the heat of the explosion and of friction will be sufficient to soften the material of the washer 10 to a degree sufficient to permit centrifugal force to displace the material to a position opposite the reduced portion 11 of the rear core section. Upon impact the rear section of the core will be free to move forward crushing the primer against the front core section to fire it and initiate the main charge.

I claim:

1. A bullet comprising front and rear hollow core sections in spaced relation, the front section having an exterior circumferential groove presenting a rearwardly facing shoulder, a main charge in said core sections, a jacket surrounding the core sections and comprising a front section having an inturned flange at its rear end in engagement with said shoulder, and a rear jacket section whose forward end occupies a portion of said groove and lies in abutting relation with the flange of the front jacket section, a priming charge between the core sections, and fusible means melted in the firing of a gun between said core sections and retaining them normally in spaced relation until after firing.

2. A bullet comprising a front hollow substantially cylindrical core section, said front section having an exterior circumferential groove presenting a rearwardly facing shoulder and having an open rear end, a rear hollow core section having an open front end opposed to and spaced from the rear end of the front section, a main charge in said core sections, an annular priming charge between the core sections, a ring of fusible material melted in the firing of a gun surrounding the priming charge and the main charge for maintaining the core sections normally in said spaced relation until after firing, a jacket for the core sections comprising front and rear sections, the front jacket section having an inturned flange at its rear end engaging the shoulder of said circumferential groove, and a rear jacket section in abutting relation with the flange of the front section.

3. A bullet comprising cylindrical front and rear core sections spaced from the other and having axially aligned communicating chambers, the front core section having an exterior circumferential groove presenting a rearwardly facing shoulder, a unitary main charge in said chambers, an annular priming pellet surrounding the main charge and in the space between the core sections, a ring of fusible material melted in the firing of a gun surrounding the said pellet and normally maintaining the core sections in said spaced relation until after firing, a jacket for the core sections comprising a front section having an inturned flange at its rear end and in

engagement with said shoulder, and a rear jacket section having its front end secured in said groove and in abutting relation with the flange of the front jacket section.

4. A bullet comprising front and rear core sections, spaced apart and adapted to receive therebetween a priming charge and means for normally maintaining the core sections in spaced relation until after firing, said core sections being provided with communicating aligned chambers for the reception of the main explosive charge, the front core section being provided with an exterior circumferential groove presenting a rearwardly facing shoulder, a jacket for said core sections comprising a front section having an inturned flange at its rear end in contact with said shoulder, and a rear jacket section having its front end portion connected with the front core section and occupying a portion of said circumferential groove and in abutting relation with the flange of the front jacket section.

RICHARD N. NELSON.