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2,459,175

EXPLOSIVE BULLET

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Fig. 1.

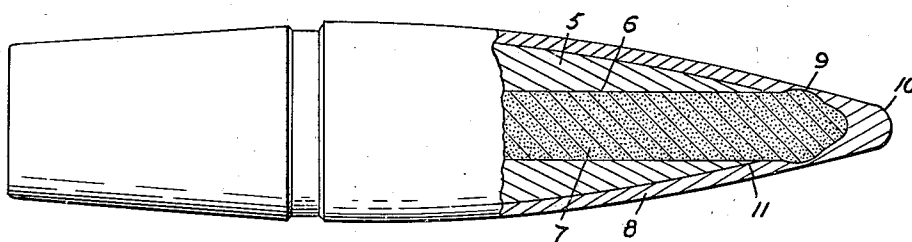
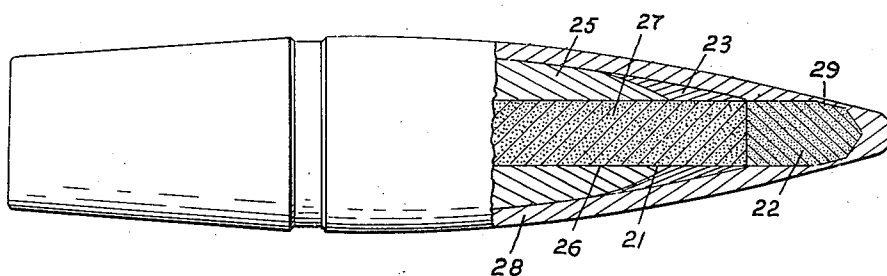


Fig. 2.



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UNITED STATES PATENT OFFICE

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EXPLOSIVE BULLET

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as represented by the Secretary of War

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3 Claims. (Cl. 102—56)

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amended April 30, 1928; 370 O. G. 757)

1

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 an explosive or incendiary bullet and more specifically to igniting means for such a bullet.

It is the object of this invention to provide igniting means applicable to small arms explosive and incendiary projectiles. In small arms projectiles of this type it is essential that the igniting means adopted be highly sensitive, safe to use, and that the charge holding capacity of the bullet be reduced as little as possible. The projectile must also be safe and convenient to manufacture.

The invention resides in the provision of a bullet having a weakened portion adjacent the nose adapted to exert a pinching action upon a sensitive compound when the bullet strikes some resisting object.

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

Figure 1 is a longitudinal cross section of a bullet embodying my invention.

Figure 2 is a similar view showing a modified form of my invention.

Referring to Figure 1 there is shown a bullet comprising a core 5 of steel or other fairly hard metal formed with a hollow chamber 6 to contain an explosive or incendiary charge 7. Surrounding the core and charge is a jacket 8 of gilding metal or like material and outwardly of conventional form, characterized by an annular zone 9 of reduced thickness adjacent the nose 10 of the jacket and forward of the nose end 11 of the core 5. As shown in Fig. 1 the main charge 7 is of a material fairly sensitive to shock and friction although capable of resisting shocks due to normal handling or to inertia on firing such as tetryl.

In the modification of the invention shown in Figure 2 the construction is similar to that which would be produced if a service ball cartridge were drilled longitudinally from the rear to a location adjacent the point thereof. There is shown a hollow core 25 of steel or other relatively hard metal. Surrounding the nose 21 of the core and forming a continuation of the chamber 26 is a collar 23 of a relatively soft metal such as a lead-antimony alloy. A jacket 28 of gilding metal or like material is secured on the core with an annular zone 29 of reduced thick-

2

ness spaced just in front of the collar 23. A priming charge 22 of fairly sensitive material such as tetryl occupies the nose of the bullet and a main charge 27 of comparatively insensitive materials such as TNT fills the chamber 26.

Upon impact of the bullet with a resisting surface the nose of the jacket will be retarded with the result that the jacket will be flared out and driven back upon itself in the annular zone of reduced thickness producing a pinching action upon the sensitive charge contained in said zone with the unweakened sections of the jacket and the front end of the core serving as anvil and firing pin to initiate the charge.

In the modification of the invention shown in Figure 2 the pinching action above referred to will be reinforced by the deformation of the relatively soft material of which the collar 23 is formed. As the nose of the jacket is deformed the collar 23 will be shortened and pressed toward the center forming an anvil against which the nose of the jacket can function as a firing pin to assist in the initiation of the priming charge which will detonate the main charge.

It will be noted that there has been provided an explosive projectile which operates without requiring the use of separate moving members and in which the maximum possible space has been devoted to the explosive charge. The strength of the material forming the jacket is sufficient that deformation will not be produced by the forces which are likely to be encountered in the usual handling of ammunition loaded with these components.

It may be expedient to vary the character of the explosive charge and the primer charge in accordance with the use to which the bullet is put with special respect to the nature of the impact of the bullet, and while I have mentioned materials which are suitable, I do not limit myself to their use.

I claim:

1. A projectile comprising a jacket having a hollow nose portion with a closed front end, an annular zone of reduced thickness in the inner wall of said jacket in rear of the said closed end, a hollow core in said jacket in rear of said zone of reduced thickness, and a charge in said core and extending into said zone of the hollow nose of said jacket.

2. A projectile comprising a hollow metallic core having an open front end, a collar of soft material relative to the core and surrounding the front end of said core and projecting in advance thereof, a jacket surrounding said core.

and said collar and having a hollow nose portion in advance of said collar, the wall thickness of said nose portion being reduced in thickness to form an annular zone, and a charge confined in the hollowed portions of the projectile.

3. In an explosive projectile for small arms, a metallic jacket of generally uniform thickness and having an ogival nose portion with a smooth unbroken outer surface terminating in a tip, a metallic core fitting said jacket, there being a central axial bore through said core, said bore extending into the nose portion of said jacket to form in said jacket an annular portion of reduced thickness immediately rearwardly of said tip, said bore being adapted to contain an explosive charge sensitive to shock.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,094,402	Keen -----	Apr. 21, 1914
1,175,800	Nixon -----	Mar. 14, 1916
1,197,465	Dunwoody -----	Sept. 5, 1916
2,217,645	De Wilde et al. -----	Oct. 8, 1940
2,269,475	Pomeroy -----	Jan. 13, 1942
2,288,627	Kowalski -----	July 7, 1942
2,424,970	Church -----	Aug. 5, 1947

FOREIGN PATENTS

Number	Country	Date
252,419	Great Britain -----	May 25, 1926