

W. H. BUELL.
 IMPACT ILLUMINATING BULLET.
 APPLICATION FILED OCT. 3, 1913.

1,088,007.

Patented Feb. 24, 1914.

Fig. 2

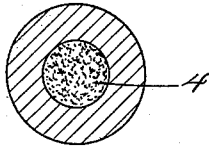


Fig. 5

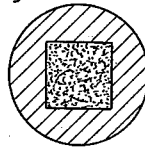


Fig. 1

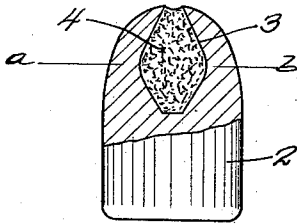


Fig. 3

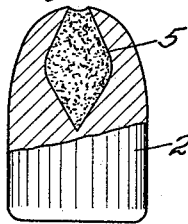


Fig. 4

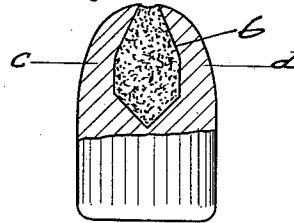


Fig. 6

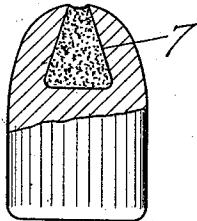
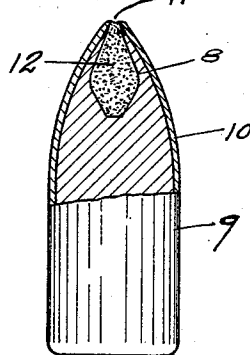


Fig. 7



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UNITED STATES PATENT OFFICE.

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IMPACT-ILLUMINATING BULLET.

1,088,007.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. BUELL, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Impact-Illuminating Bullets; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1, a view partly in side elevation and partly in central longitudinal section of an impact-illuminating bullet constructed in accordance with my invention. Fig. 2, a view thereof in transverse section on the line *a—b* of Fig. 1. Fig. 3, a view partly in elevation and partly in longitudinal section of a modified form which my improved bullet may assume. Fig. 4, a corresponding view of a bullet constructed in accordance with my invention, but having a square instead of a circular composition-cavity. Fig. 5, a view in transverse section on the line *c—d* of Fig. 4. Fig. 6, a view showing a bullet having another form of composition-cavity falling within my invention. Fig. 7, a view partly in side elevation and partly in longitudinal section of a jacketed bullet constructed in accordance with my invention.

My invention relates to an improvement in that class of bullets charged with a composition flashing upon the impact of the bullet and thus illuminating the place where it struck for the information of the user of the gun from which it was fired, the object being to produce a superior bullet of the character described, furnishing a circular, or substantially circular, area of illumination of which the point of impact is the center.

With these ends in view, my invention consists in an impact-illuminating bullet having certain details of construction as will be hereinafter described and pointed out in the claim.

In carrying out my invention as shown in Figs. 1 and 2, the bullet 2 is formed with a capacious, pear-shaped concentric composition-cavity 3 located within its forward end or nose and having its forward end

contracted. Into this cavity I directly introduce a charge 4 of percussion-igniting flash-light composition chemically compounded with particular reference to the character of the momentary or brief illumination which it is desired to secure. The charge 4 is unconfined and introduced directly into the bare cavity 3 without any containing envelop of any sort to retard its free flashing on ignition which is provided by the shock of impact.

I do not limit myself to any particular flash-light composition, but hold myself free to employ any of the well-known compositions flashing or sparkling on impact, or any composition which may be devised for the purpose. My preference, as at present advised, is for compositions which on impact produce a brilliant flash-light or illumination of momentary or brief continuation with the production of the minimum amount of smoke. If it is desired that the composition shall detonate, it will be compounded accordingly, that being a matter of easy regulation by the chemist. On account of the concentricity of the cavity 3 with respect to the nose of the bullet, the area illuminated by the flashing of the composition will be circular, or substantially circular, in form and several times the diameter of the bullet, its size, brilliancy, intensity and color depending upon the character of the composition, the size of the charge, and the location of the composition-cavity with respect to the nose of the bullet, and upon perhaps other factors, but whatever its size and character, its center will be the point of impact of the bullet.

In the modified form of bullet shown in Fig. 3, the relatively large concentric pear-shaped composition-cavity 5 located within the forward end of the bullet 2, is pointed at its inner end, the difference between the cavities 3 and 5 proceeding from the character of the tool employed to produce them.

In the modified form of bullet shown by Figs. 4 and 5 of the drawings, the large composition-cavity 6 is in effect concentrically arranged in the forepart of the bullet, but instead of being circular in form, it is square, its inner and outer ends being tapered so that a pear-shaped form is in effect secured.

In the modified form of bullet shown by Fig. 6 of the drawings, the composition-

cavity 7 is cone-shaped in form, which provides tapering forward walls.

The bullets of Figs. 1 to 6 inclusive are jacketless, but my invention may also be embodied in jacketed bullets as shown in Fig. 7, in which a concentric pear-shaped composition-cavity 8 is located in the forward end of a bullet 9 inclosed in a jacket 10 shaped at its tapering forward end to form a concentric clearance opening 11 coincident with the open outer end of the cavity 8 which contains a mass 12 of flash-light composition.

It will be noted that each of the several bullets shown and described herein has a relatively large concentric composition-cavity located in the nose portion of the bullets and having converging forward walls forming the nose of the bullet without necessitating the use of a jacket for the purpose. In any form which the composition-cavity of my improved bullet may take, the said cavity will be in effect concentric with the nose of the bullet so as to secure a circular or substantially circular form for the area illuminated by the burning of the charge,

whereby the user of the gun from which the bullet is fired receives the maximum amount of information as to his aim, etc., and whereby the most pleasing effect is secured.

I claim:

As a new article of manufacture, an impact illuminating metal bullet for use in pleasure-shooting, formed in its forward end with a composition-cavity having converging forward walls forming the nose of the bullet, and a charge of unconfined percussion-igniting flash-light composition introduced directly into the said cavity the converging forward walls of which confine it in place, whereby a brilliant, momentary illumination for the information of the user of the gun from which the bullet is fired, results from the impact of the bullet.

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

WILLIAM H. BUELL.

Witnesses:

THOMAS C. JOHNSON,
FRANK A. PAUL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."