F. O. HOAGLAND.

MUSHROOM BULLET.

APPLICATION FILED JULY 3, 1913.

1,073,349. Patented Sept. 16, 1913.

Fig. 1

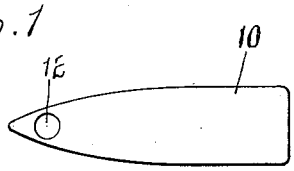


Fig. 2

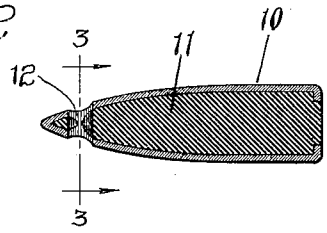


Fig. 5

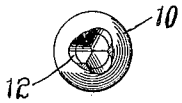


Fig. 3

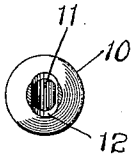


Fig. 6

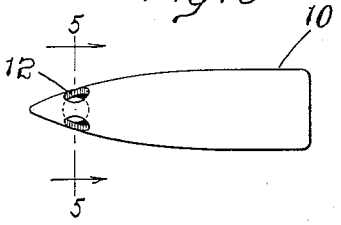


Fig. 4

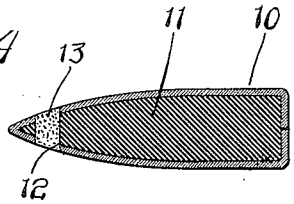
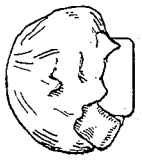


Fig. 7



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MUSHROOM-BULLET.

1,073,349. Specification of Letters Patent. Patented Sept. 16, 1913.

Application filed July 3, 1913. Serial No. 777,368.

To all whom it may concern:

Be it known that I, FRANK O. HOAGLAND, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Mushroom-Bullets, of which the following is a specification.

This invention has for its object to provide a hard pointed and practically full-jacketed bullet that will have the flat trajectory and the great muzzle energy, velocity, range, penetrative power and accuracy of ordinary full-jacketed bullets combined with the great shocking power of mushroom bullets; that is to say, my present invention enables me to produce a mushroom bullet having all the advantages of an ordinary full-jacketed bullet and likewise having to the fullest extent the shocking powers of an ordinary soft-nosed mushroom bullet.

With these ends in view I have produced the novel bullet which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts.

Figures 1 and 6 are elevations illustrating slightly variant forms of my novel bullet; Fig. 2 a longitudinal section, the bullet having been given a quarter turn from the position in Fig. 1; Fig. 3 a transverse section on the line 3—3 in Fig. 2, looking in the direction of the arrows; Fig. 4 a longitudinal section showing the transverse hole in the bullet filled with wax or other soft material to preserve the contour of the bullet; Fig. 5 a transverse section on the line 5—5 in Fig. 6 looking in the direction of the arrows, and Fig. 7 is a view showing the bullet mushroomed by firing.

10 denotes the full jacket which is drawn from relatively hard metal as cupro-nickel, and 11 the core of relatively soft metal as lead or an alloy of lead which is cast in the form of a slug and then swaged into the jacket and the end of the jacket closed about the base of the core either partly covering the base as shown in Fig. 2 or wholly covering it as shown in Fig. 4.

I have discovered that an ordinary full jacketed bullet may be caused to mushroom when it strikes an objective without impairing its other qualities as a full jacketed bullet by drilling a hole or holes through the jacket and through the core at a short distance below the point of the bullet leaving the tip solid.

In Figs. 1 to 4, inclusive, I have shown a form in which a single hole 12 is drilled straight through both sides of the jacket and the core, wholly removing the metal of both the jacket and the core but leaving the tip solid. The result is that when my novel bullet strikes an objective and the solid tip is checked, the relatively soft metal of the core will be forced outward through the holes in the jacket and the jacket itself having been weakened by the removal of metal will crumple up and split, both the jacket and the core piling into a mass having no resemblance to the original contour of the bullet, as indicated in Fig. 7.

In the form illustrated in Figs. 5 and 6, instead of drilling one hole straight through both sides of the jacket and the core, I have drilled three holes in circular arrangement through one side of the jacket and through the core but not through the opposite side of the jacket. The special number of holes, the size of the holes or the exact distance of the holes from the point of the bullet are not essential features of the invention. The requirements are to remove a portion of the metal of the core by drilling it out and to weaken the jacket sufficiently so that when the tip is checked the relatively soft metal of the core will be forced out through the holes and the weakened jacket will crumple up and split without, however, weakening the bullet sufficiently to make it necessary to use special care in packing, shipping or handling the bullets or cartridges provided with them. In other words, the bullet is weakened near the point by drilling through the jacket and the core sufficiently to cause effective mushrooming when the tip is checked in firing but not sufficiently to affect the bullets in any way in transportation and handling.

If it is preferred to retain the superficial contour of the bullet, the hole or holes therein may be filled with wax or other soft material as indicated in Fig. 4.

Having thus described my invention I claim:

1. A bullet of the character described comprising a full jacket and a relatively soft core, the bullet being weakened near the point by drilling through the jacket and

through the core so that when the tip is checked in firing the metal of the core will be forced out through the holes and the weakened jacket will crumple.

2. A bullet of the character described comprising a full jacket and a relatively soft core, the bullet being weakened near the point by drilling a hole straight through both sides of the jacket and through the core so that when the tip is checked in firing the metal of the core will be forced out through the holes and the weakened jacket will crumple.

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

FRANK O. HOAGLAND.

Witnesses:
S. W. ATHERTON,
E. M. CULVER.

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