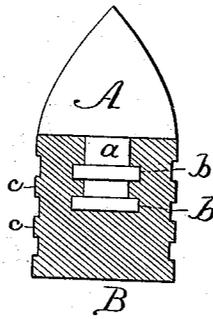


(No Model.)

H. J. HARWOOD.
PROJECTILE FOR FIRE ARMS.

No. 375,936.

Patented Jan. 3, 1888.



Witnesses
Thos. Houghton.
Van Buren Hilliard.

Inventor
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By his Attorneys
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UNITED STATES PATENT OFFICE.

HERBERT J. HARWOOD, OF LITTLETON, MASSACHUSETTS.

PROJECTILE FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 375,936, dated January 3, 1888.

Application filed October 27, 1887. Serial No. 253,534. (No model.)

To all whom it may concern:

Be it known that I, HERBERT J. HARWOOD, a citizen of the United States, residing at Littleton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Projectiles for Fire-Arms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters and figure of reference marked thereon, which form a part of this specification.

My invention consists in making a projectile for fire-arms in two parts or portions and of different metals, and connecting them with each other, as hereinafter described, its pointed or the conoidal portion of it being made of steel or some other hard metal joined to a body made of lead or other metal, which is to be sufficiently soft to enter the spiral grooves in the barrel of the piece while in movement therein, and thereby cause the projectile when expelled therefrom to rotate.

In the drawing, the figure shows a sectional view of my invention.

In constructing this projectile the portion A, after having been forged or swaged into the required shape, is placed in a mold, the shank *a* of it projecting into the space in the mold, into which the soft metal in a molten state is to be poured around the said shank *a*, so as to form the body portion B, the exterior surface

of which is formed with concentric ribs *c*, which are to extend into the spiral grooves in the interior surface of the barrel of the fire-arm. Instead of casting the soft metal around the shank and against the shoulder of the part A, it can be pressed into contact therewith.

The advantage of making a projectile as described is, that in providing it with a steel or hard-metal point its penetrating power is very much increased, it having been demonstrated that a projectile so made will penetrate a target or object more than twice the distance that an ordinary lead projectile will, and it can also be thrown with a greater degree of accuracy than the ordinary bullet, for the reason that its foremost end is more perfectly constructed, and will retain its shape and will rotate to better advantage than a leaden bullet or projectile.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

A projectile for fire-arms, consisting of the conoidal portion A, provided with the shank *a*, having extending from its surface one or more ribs, *b*, concentric therewith, in combination with the part B, provided with the ribs *c*, substantially as shown and described.

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

HERBERT J. HARWOOD.

Witnesses:

JEREMIAH KEITH,
S. N. PIPER.