

(No Model.)

I. G. JOHNSON.
ARMOR PIERCING PROJECTILE.

No. 571,195.

Patented Nov. 10, 1896.

Fig. 1.

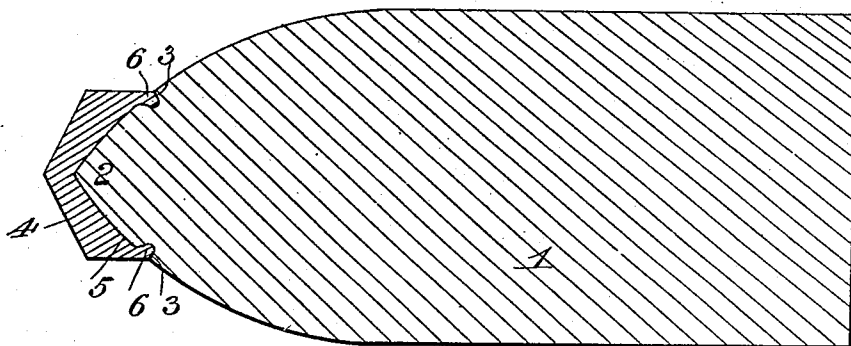


Fig. 2.

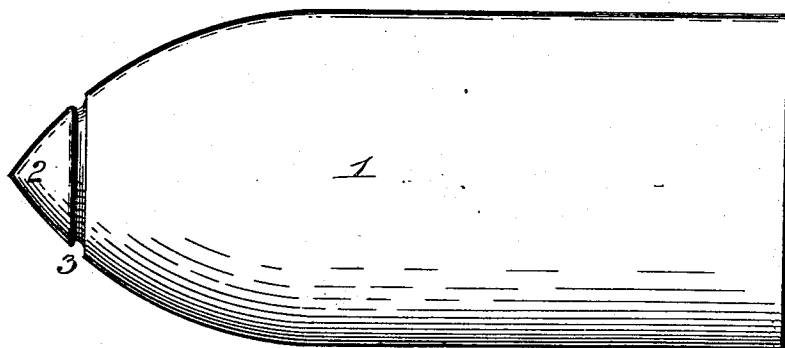
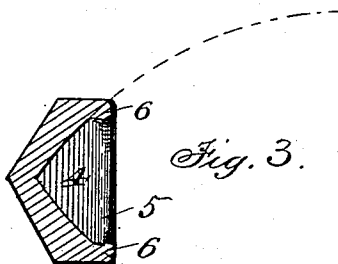


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

ISAAC G. JOHNSON, OF NEW YORK, N. Y.

ARMOR-PIERCING PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 571,195, dated November 10, 1896.

Application filed August 3, 1896. Serial No. 601,539. (No model.)

To all whom it may concern:

Be it known that I, ISAAC G. JOHNSON, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Projectiles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to that class of projectiles designed more particularly for use with rifled ordnance for piercing armor-plates which are provided with hard conoidal points having secured thereto a soft-metal cap. In said projectiles the soft-metal cap is recessed or formed with a cavity in which the conoidal point of the projectile fits, and is provided with bolts which hold it in place on the projectile. When fired against an armor-plate or other object, the cap will first strike the same, and by reason of its softer nature will by the impact spread over the hard point of the projectile and preventing the latter from being broken or otherwise injured, so that it will penetrate the hardened surface of the plate.

Armor-plates for ships of war and fortifications generally as now constructed have their surfaces treated so as to harden the same, so that an ordinary projectile is liable to have its point upset or broken by the impact when fired against said plate, and it was the object of this soft-metal cap to prevent such injury to the projectile-point. Experiments have demonstrated the great utility and efficiency of this form of projectile; and the object of the present invention is to provide improved means for securing the soft-metal cap to the conoidal point of the projectile.

The invention consists, essentially, in forming the solid hard point of the projectile near its end with a peripheral groove in which is seated a rib on the inner side of the recessed soft-metal cap, as hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a projectile constructed in accordance with my invention.

Fig. 2 is an elevation of the projectile, the cap being removed. Fig. 3 is a longitudinal sectional view of the cap.

In the said drawings the reference-numeral 1 designates a projectile adapted to be used with rifled ordnance, and is formed with a hard solid conoidal point 2. Near its extremity this conoidal point is formed with a peripheral groove 3.

The numeral 4 designates the cap, preferably made of soft tough iron, formed with a recess or cavity 5 in its inner end. On its inner side the wall of this recess or cavity is formed with an annular rib 6, adapted to fit in said groove and hold the cap in position on the projectile.

The configuration or shape of the cap is preferably in the form of a cylinder having a conoidal point, and the cavity or recess in the inner end of the same follows the contour of the conoidal point of the projectile, but is somewhat larger than the same, so as to enable it to readily slip over the point.

In attaching the cap to the point the latter is inserted in the recess or cavity, when the rib will coincide with the groove in the projectile. The cap is then compressed by hydraulic pressure, so that the wall of the recess will be tightly pressed against the conoidal point and the rib will be forced and compressed in the groove, so that the cap will be securely held to the projectile. The said cap is in the form of a cylinder with a conical point and is constructed with reference to the point of the projectile that when in place thereon the line of junction of the conical point with the cylindrical portion will lie in a plane in rear of the pointed extremity of the projectile, so as to prevent the cap from being separated from the projectile due to the impact of the latter against an armor-plate or other object.

Having thus fully described my invention, what I claim is—

1. The combination with an armor-piercing projectile having a hard solid conoidal point formed with a peripheral groove near its extremity, of a soft-metal cap having a recess or cavity in its inner end provided with an annular rib, said cap fitting over the conoidal point of the projectile and the rib forced and compressed in the said groove

whereby the cap is firmly secured to the projectile, substantially as described.

2. The combination with an armor-piercing projectile having a hard solid conoidal point
5 formed with a peripheral groove near its extremity, of a soft-metal cylindrical cap having a conoidal point and a recess in its inner end provided with an annular rib and the line of junction of said conoidal point of the
10 cap with the cylindrical portion thereof lying

in a plane in rear of the point of the projectile, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ISAAC G. JOHNSON.

Witnesses:

AUGUST PETERSON,
HENRY H. FLATHER.