

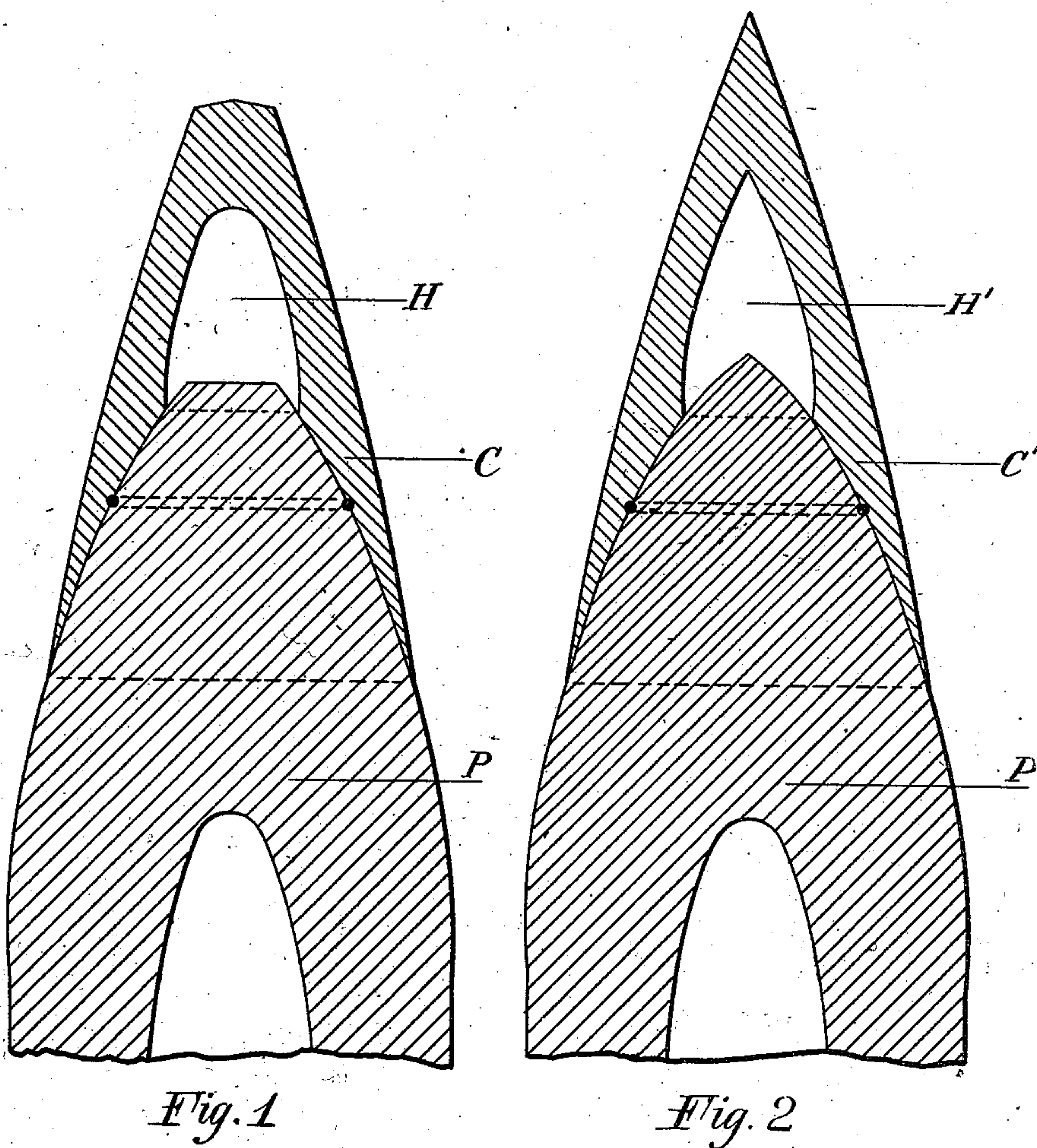
G. VAN C. WHEELER & A. G. McKENNA.

CAPPED ARMOR PIERCING PROJECTILE.

APPLICATION FILED JULY 3, 1909.

950,586.

Patented Mar. 1, 1910.



E. P. LaGay

A. Parkman

Charles Van Cise Wheeler INVENTORS

and

Alexander George McKenna

BY

James Mestick Elgden ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES VAN CISE WHEELER AND ALEXANDER GEORGE McKENNA, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNORS TO FIRTH STERLING STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

CAPPED ARMOR-PIERCING PROJECTILE.

950,586.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed July 3, 1909. Serial No. 505,930.

To all whom it may concern:

Be it known that we, CHARLES VAN CISE WHEELER and ALEXANDER GEORGE McKENNA, both citizens of the United States of America, and residents of Washington, in the District of Columbia, United States of America, have invented certain new and useful Improvements in Capped Armor-Piercing Projectiles, of which the following is a specification, accompanied by drawings.

The invention relates to capped armor piercing projectiles and its object is to produce a capped projectile which will have very good armor piercing qualities at long range as well as at short range. This we have accomplished by the means illustrated in the accompanying drawings, wherein—

Figure 1 is a longitudinal section on reduced scale of the forward part of a six inch armor piercing capped projectile embodying the present improvement, and Fig. 2 is a modification of the same.

In Fig. 1 the projectile point is shown at P and the cap at C. The projectile point is preferably of the ogival form illustrated. The cap is hollow, affording a chamber H immediately around the nose of the projectile but providing a solid and substantially massive convergent tip in front of the hollow for facilitating the penetration of the nose into the plate upon impact. The walls of the hollow cap extend well down on the sides of the projectile point and meet those sides almost tangentially. The entire cap is of conoidal form, preferably as illustrated, which converges forward from the walls of the projectile in a long gentle contour for the purpose of minimizing air resistance of the flight of the projectile. This gives a long conoidal cap the length of which materially exceeds one caliber, as will be apparent from the drawings. The hollow H in front of the nose of the projectile leaves, as will be seen, a very considerable interval between the nose of the projectile and the tip of the cap, and this affords time for the tip to flatten against the face of the plate that is attacked, while the nose of the projectile is traversing the said interval. Both the tip of the cap and the tip of the projectile point may be truncated or flattened for a small area without material effect on flight or penetration.

We prefer to make the cap of soft and highly ductile tough steel, whereby at impact the tip of the cap may on becoming flattened still present to the nose of the projectile an unbroken relatively soft face, upon the plate attacked, for the nose of the projectile to penetrate.

In Fig. 2 we have shown the cap C' continued to a sharp point inside and out, the shell point P' being also sharp tipped. This sharp cap reduces the wind resistance slightly more than Fig. 1 but is less desirable as it requires much greater deformation of the tip in flattening out at impact.

We do not mean to assert that the tip of our cap entirely flattens out upon the armor plate to present a soft surface thereon by the time the nose of the projectile begins to penetrate it but we have reason to believe it does, nor do we wish to be limited to any theory as to why our long conoidal hollow point converging to a tip located at some distance in front of the nose of the projectile operates satisfactorily upon impact, without impairing the flight.

We make no claim merely to the long external contour of the cap considered by itself as the means of giving a flat trajectory and reducing the energy lost in flight at long range and we disclaim a light wind shield not designed nor intended to act as a massive soft cap to facilitate penetration at impact.

While we are not able to exactly state the best weight for our improved cap, we prefer to approximate the formula given in our United States Patent 875,023 of December 31, 1907 and to give to the projectile itself a long point and relatively blunted nose as set forth in our United States Patent 721,487 of February 24, 1903.

We claim and desire to secure the following:

1. A capped armor piercing projectile having a cap of relatively soft and ductile material and of conoidal form of length exceeding one caliber, hollow immediately around and forward of the nose of the projectile and solid and substantially massive in front of such hollow to provide material to facilitate penetration of the projectile nose at impact for substantially the purposes set forth.

2. A capped armor piercing projectile provided with a hollow cap of relatively soft and ductile material adapted to facilitate penetration of the nose of the projectile at impact, said cap having walls which converge forward from the surface of the projectile to a solid massive tip separated from the projectile nose by the hollow of the cap, whereby the said tip may flatten upon a plate at impact while the nose is traversing the said hollow, substantially as set forth.

In testimony whereof we have signed this

specification in the presence of two subscribing witnesses June 28th 1909.

CHARLES VAN CISE WHEELER.
ALEXANDER GEORGE MCKENNA.

Witnesses as to the signature of Charles Van Cise Wheeler:

E. A. LYCETT,
R. H. CARLIN.

Witnesses as to the signature of Alexander George McKenna:

ERNEST J. STEBBINS,
WALTER ANDERSON.