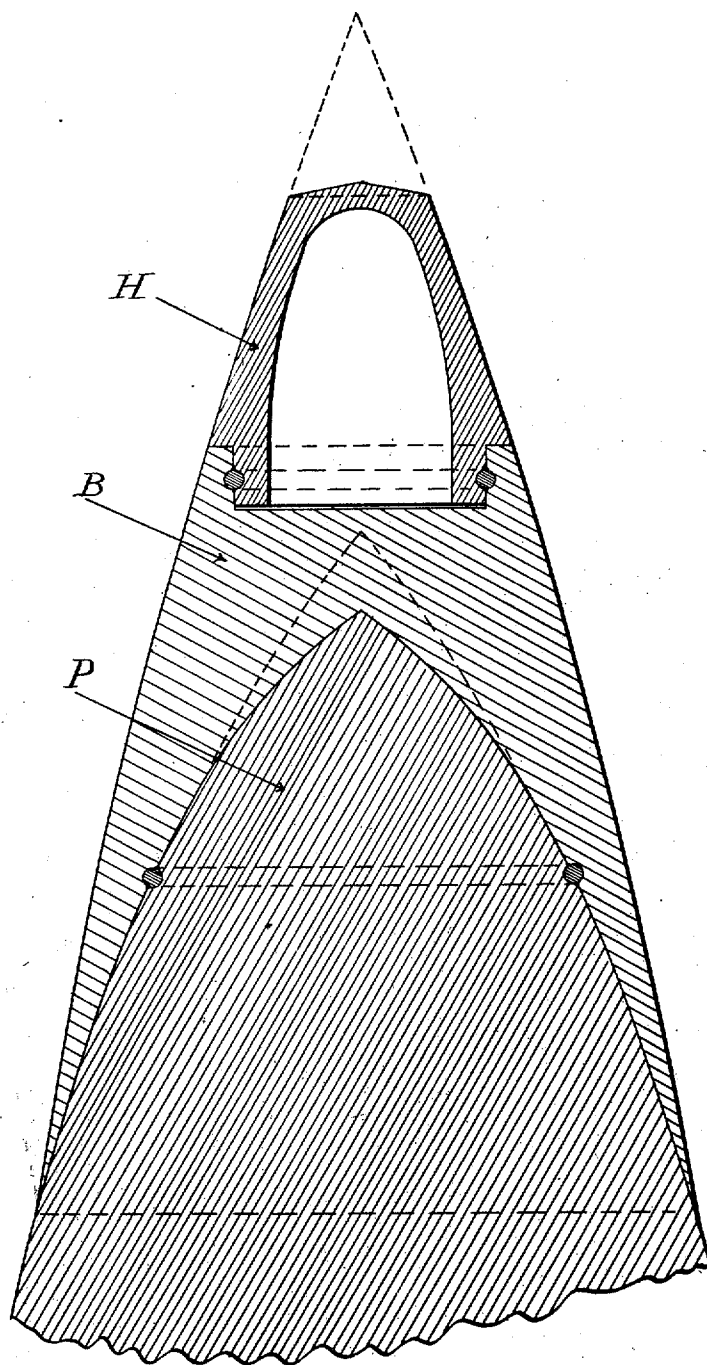


C. VAN C. WHEELER & A. G. McKENNA.
CAP FOR ARMOR PIERCING PROJECTILES.
APPLICATION FILED MAR. 5, 1909.

968,012.

Patented Aug. 23, 1910.



Witnesses
E. P. LaGay
A. Carham

Charles Van C. Wheeler & Alexander George McKenna. Inventors
By their Attorneys
Clemmy Westick & Ogden

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.

CAP FOR ARMOR-PIERCING PROJECTILES.

968,012.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed March 5, 1909. Serial No. 481,243.

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 Caps for Armor-Piercing Projectiles, of which the following is a specification accompanied by drawings.

The object of the invention is to reduce and eliminate if possible the liability of deflecting a projectile by the one-sided or uneven buckling, crumpling, or deformation at impact of the mass of the cap between the nose of the projectile and the plate attacked.

In caps that are prolonged in front of the nose of the projectile to afford better contour for flight or for any other reason, and particularly in caps that have hollow or chambered fore-portions, there is a likelihood of one side of the fore portion of the cap buckling or crushing before the opposite side and by accumulation of a greater mass on one side of the axis of the shell nose causing a deflection of the nose. To avoid this we have devised a cap that possesses in combination with the relatively ductile soft cap characteristics required to support and facilitate penetration of the nose of the shell the further quality of getting its fore portion out of the way of the succeeding portions of the cap and shell nose. This we have accomplished by making the cap of two compositions, the rear portion being of the usual and desirable quality of metal and therefore relatively ductile, and the fore portion preferably in the form of a hollow tip and of relatively frangible or strong but brittle material and construction.

The fore portion or tip needs to be sufficiently strong to withstand the blows and strains to which it is liable in handling and in being fired in the gun. A number of different substances will serve, for example, cast iron, hard brass, aluminum, hand vul-

canized rubber, or even tough glass, but so far we prefer to use cast iron.

Upon impact the fore portion, particularly if hollow and comparatively thin, is broken into small or harmless fragments that fly out of the path of the shell and do not tend to deflect it.

In the accompanying drawing we show in section a cap comprising the present invention in its preferred form.

P is the shell point, B the rear or main portion of the cap, and H the fore portion of frangible material.

The cap may be secured to the shell, and the tip or fore portion H of the cap be secured to the main portion by any suitable means; that shown being in accordance with our Patent No. 748,827 of January 5, 1904. The hollow cap as a whole is another invention of ours not herein claimed.

What we here claim is as follows:

1. A cap for projectiles fitted at its rear to the nose of the projectile and provided with securing means and having a hollow tip or fore portion of material that is relatively frangible or brittle as compared with the rear portion, whereby on impact it may be broken and fly out from between the rear portion and the plate struck.

2. A cap for armor piercing projectiles and of two materials, the fore portion being of relatively frangible material and of hollow form.

3. A cap for armor piercing projectiles and of two materials, the fore portion being of relatively frangible material and the rear portion of relatively ductile material, for substantially the purposes set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses; March 2nd 1909.

CHARLES VAN CISE WHEELER.
ALEXANDER GEORGE McKENNA.

Witnesses:

GEORGE F. BENKERT,
HARRY F. CLARK.