No. 620,400. Patented Feb. 28, 1899.

F. AHRENS.

PROJECTILE.

(Application filed Aug. 18, 1898.)

(No Model.)

Fig. 1.

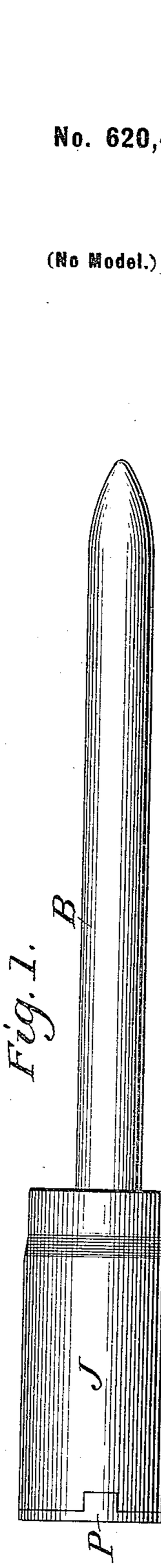


Fig. 4.

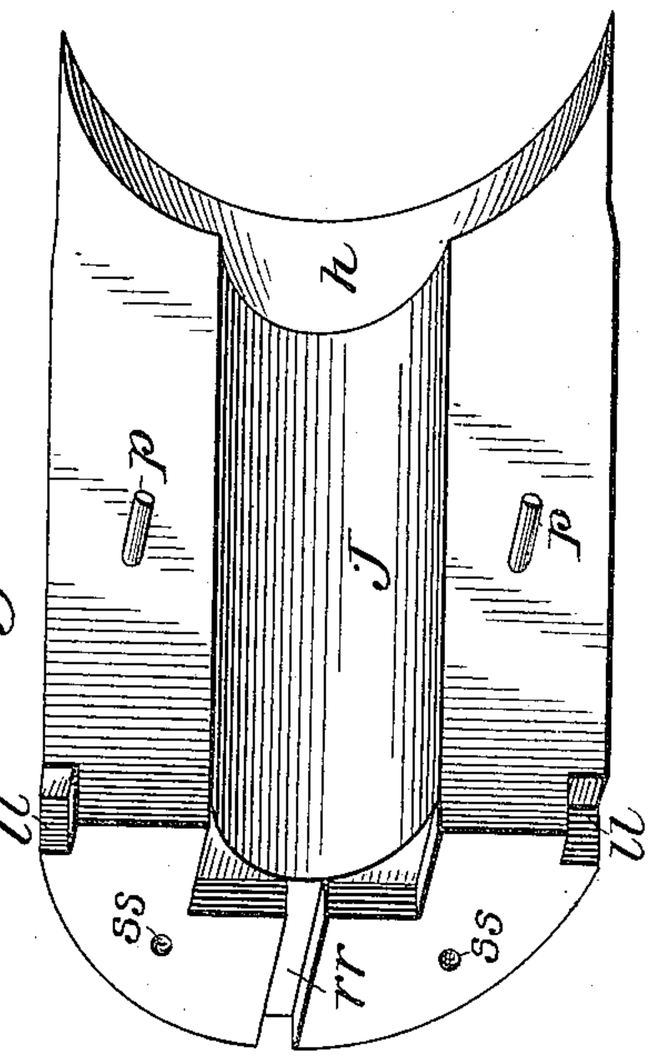


Fig. 5.

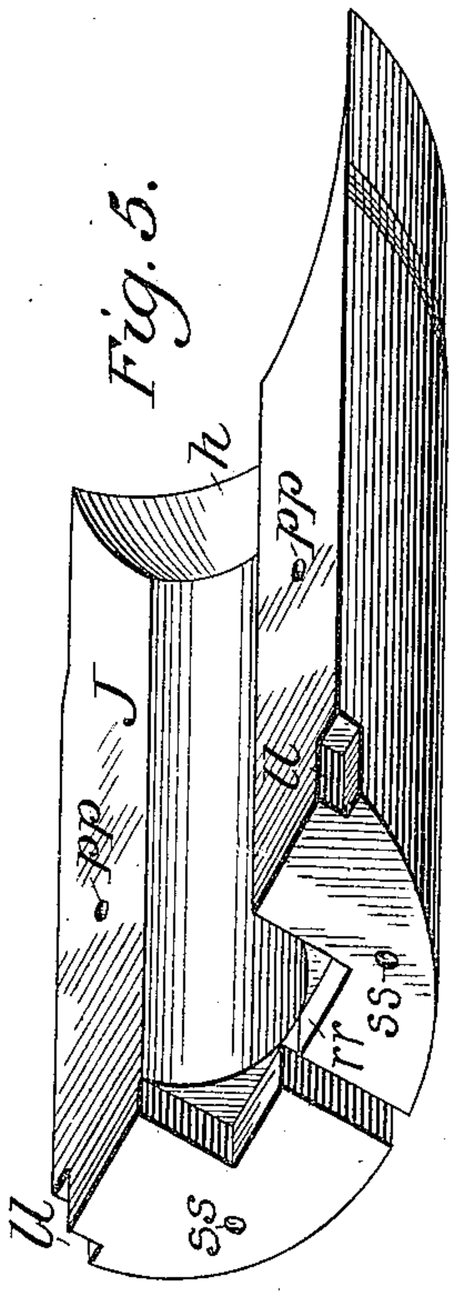


Fig. 3

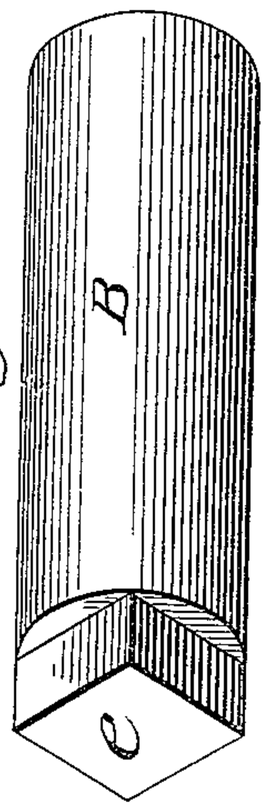
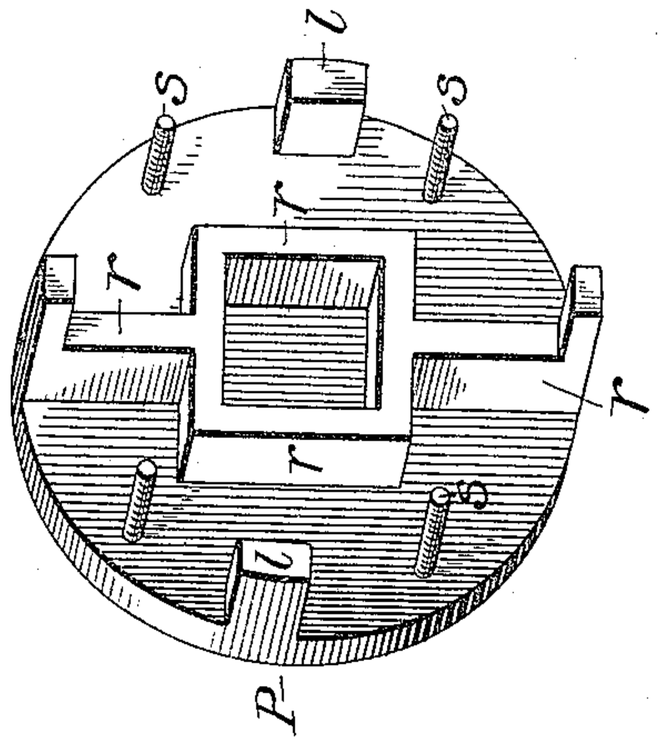


Fig. 2.



Witnesses.
Reuben F. McIver.
Oscar Purdy

Inventor.
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UNITED STATES PATENT OFFICE.

FREDRECH AHRENS, OF NEW YORK, N. Y.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 620,400, dated February 28, 1899.

Application filed August 18, 1898. Serial No. 688,926. (No model.)

To all whom it may concern:

Be it known that I, FREDRECH AHRENS, a citizen of the United States, residing at New York, (Tarrytown,) in the county of Westchester and State of New York, have invented a new and useful Projectile for Use in Naval Guns and Artillery, of which the following is a specification.

My invention relates to improvements in armor-piercing projectiles by which a projectile smaller than the caliber of the gun is fired; and the object of my improvements is to provide a projectile which will have a great penetrating power and capable of being thrown from the muzzle of a gun to an exceedingly long range, and when a long projectile is used possesses the capability of being fired at a point below the water's edge without deflection. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the entire projectile; Fig. 2, a view of the rear or back plate; Fig. 3, a view in perspective of a section of the steel projectile, showing the rear end; and Figs. 4 and 5 are perspective views showing the wooden jacket when open and separated.

Similar letters refer to similar parts throughout the several views.

The jacket J, Figs. 4 and 5, is composed of wood in two pieces, each part having the shape of a semicylinder, the two parts being held together by two wooden pins *p p*, the front ends being slightly bottle-necked on the outside to insure easy entry into the breech of a gun. This cylinder is made to fit the breech and may be made any required size. The steel projectile fits inside the cylinder when the two parts are fastened together. The front end of the jacket J is hollowed out in a cup or funnel shape *h*, Figs. 4 and 5, and the rear end is mortised, *r r* and *l l*. The rear plate P is made of steel or iron and has projecting ribs *r* along the inner surface, forming a hollow square to receive the squared end *e* of the steel projectile, Fig. 3. The plate is also furnished with lugs *l*, which, together with the ribs *r*, fit into the mortises *r r* and *l l*, Figs. 4 and 5. The plate P is also fastened to the jacket J by four screws *s*.

When the projectile fitted together as in Fig. 1 is propelled from the mouth of a gun, the force of the explosion and the air-pressure in the hollow end of the jacket created by its great velocity and the rotary motion of the projectile will cause the jacket J to separate and the two pieces and the plate P to fall to the ground, while the steel projectile is propelled with great force at the object aimed at. The proper accuracy is obtained by the jacket J and the plate P receiving a rotary motion by passing through the rifling of the gun-barrel. The projectile B may or may not have an explosive head.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination with a projectile having a square rear end, of a wooden jacket, cylinder-shaped in two parts, hollowed out in the front, cut with mortises at the rear end, a steel plate having a square recess in which rests the square end of the projectile and with ribs and lugs to enter the mortises in the rear of the jacket, all substantially as set forth.

FREDRECH AHRENS.

Witnesses:
CHAS. E. WASSITTER,
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