J. URBUTIS.

PROJECTILE.

APPLICATION FILED SEPT. 27, 1920.

1,409,045.

Patented Mar. 7, 1922.

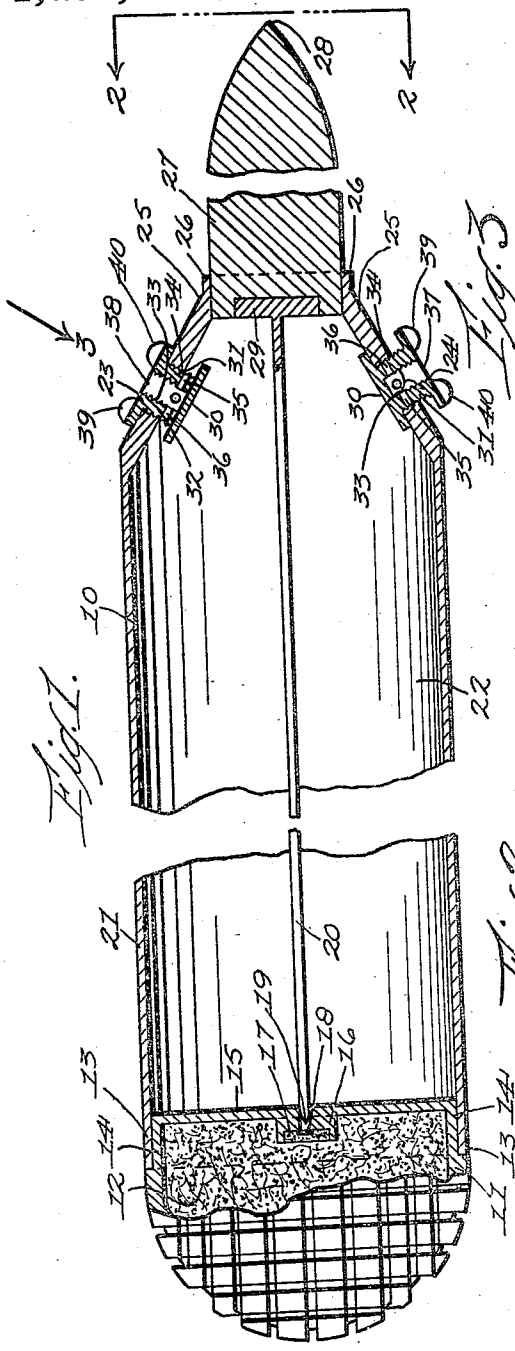


Fig. 1.

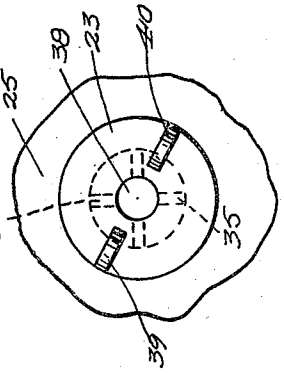


Fig. 3.

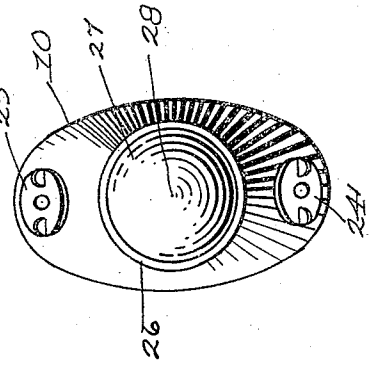


Fig. 2.

Inventor

Jozapas Urbutis

By his Attorney

George C. Heinicke

UNITED STATES PATENT OFFICE.

JOZAPAS URBUTIS, OF CHICAGO, ILLINOIS.

PROJECTILE.

1,409,045. Specification of Letters Patent. Patented Mar. 7, 1922.

Application filed September 27, 1920. Serial No. 413,222.

To all whom it may concern:

Be it known that I, JOZAPAS URBUTIS, a citizen of Lithuania, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Projectiles, of which the following is a specification.

This invention relates to improvement in projectiles and particularly to types adapted to be used in marine service.

It is the principal object of the invention to provide a projectile containing a buoyant vacuum chamber provided with means to exhaust the air originally contained in this chamber.

A further object of the invention is to provide a projectile of such a shape that it will travel through water far more quickly than any other projectile of the customary circular cross-section.

These and other objects are attained by the novel construction and combination of parts hereinafter described and shown in the accompanying drawing, forming a material part of this disclosure, and in which—

Figure 1 is a side view of the projectile constructed according to the present invention, partially in section.

Figure 2 is a top end view, looking along 2—2 of Figure 1.

Figure 3 is an end view of the valves looking in the direction of arrow 3 Figure 1.

The main body of the projectile is of elliptical cross-section and contains an end chamber 11 for the explosive charge 12 at its inner part, the wall of this chamber is constructed to form a shoulder 13 and is then extended as at 14, and closed by a partition 15. The inner face of this partition carries a centrally located bracket 16 holding a percussion cap 17 and forming with a central opening in the partition 15 a channel 18 for the reception of the pointed end 19 of a percussion rod 20.

The shoulder 13 is engaged by the end of the wall 21 of a buoyant chamber 22 in which a vacuum is created by means of an air pump or pumps the nipples of which are attached to the valves 23, 24 in the conically shaped upper end wall 25 of the chamber 22 terminating in an extending annular flange 26 in which is engaged the solid projectile 27 having a point 28 and held in the opening formed by the flange 26 to execute a limited backward movement when the point strikes an object. In the bottom of the projectile the head 29 of the percussion rod 20 is secured as shown in Figure 1.

The valves comprise each, an inner plate 30 provided with stems 31 and 32 extending through the conical end wall 25 which are provided with inner screw threads 33 for the engagement of the screw-threaded nipples of the pumps and outer screw-threads 34 to engage the screw-threaded wall 25. Near the inner ends of the stems the same are provided with channels 35 and 36, while their outer ends are connected by plates 37, 38 integral with stems 31 and 32 respectively, and ears 39 and 40 project from the plates adapted for engagement by a wrench or other suitable tool.

In operation, after the air has been exhausted from chamber 22 to create a vacuum therein, and the projectile has been propelled from the muzzle of a gun, preferably of the pneumatic type, it will, upon striking a body of water, travel with great velocity upon the surface of the water, and upon striking the object aimed at the projectile through the impact of the point 28 will explode the charge by means of the percussion rod and cap.

It is clear, that changes may be made in the general arrangement of the parts and in the construction of the minor details without deviating from the scope and spirit of the present invention.

What I claim as new and desire to secure by Letters Patent of the United States is—

1. A projectile of elliptical cross-section comprising a rounded lower end, a partition wall in said end to form with the same an explosive chamber, a percussion cap located in said chamber, a vacuum chamber having a flanged conical outer end, valves in the conical part of said outer end, a solid pointed projectile held in said conical and flanged outer end, and a percussion rod formed with the bottom part of said solid projectile having a pointed inner end adapted to explode the percussion cap and the charge in said explosive chamber when said projectile is hitting a target.

2. A projectile of the character described comprising a body of elliptical cross-section, a rounded end wall and a restricted side wall formed with an outer shoulder and constituting an explosive chamber, a tube forming a vacuum chamber in said body adapted to

rest with its end against said shoulder, a conical and flanged wall at the opposite end of said tube, valves for the attachment of a suction pump to exhaust the air from said vacuum chamber, a solid pointed projectile held by the conical and flanged end wall of said vacuum chamber for limited backward motion, and means for exploding the charge in said explosive chamber when said solid projectile strikes a target.

In testimony whereof I have affixed my signature.

JOZAPAS URBUTIS.