C. DURHAM.

PROJECTILE.

APPLICATION FILED DEC. 6, 1918.

1,327,531.

Patented Jan. 6, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

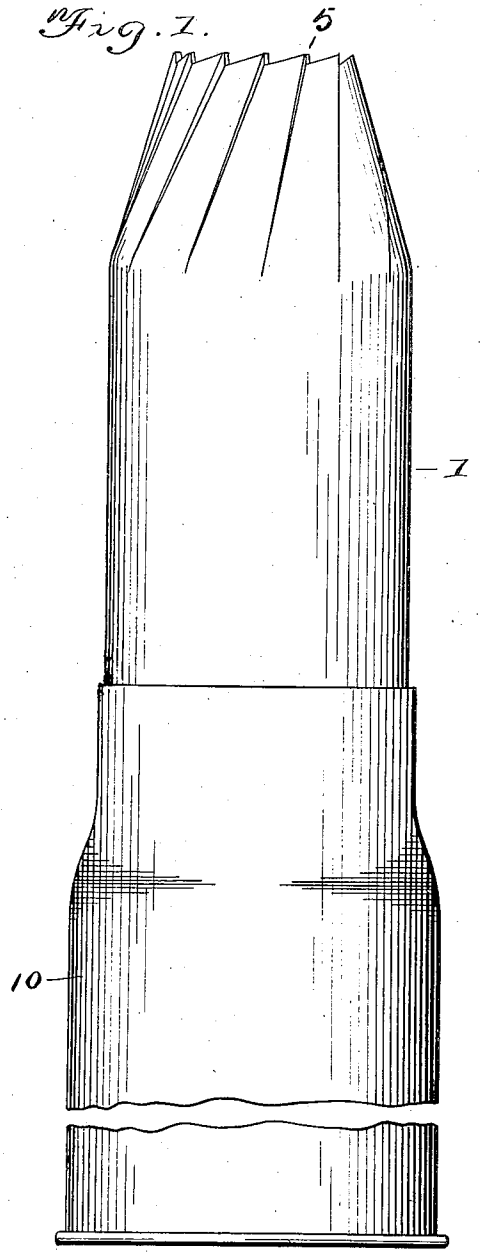
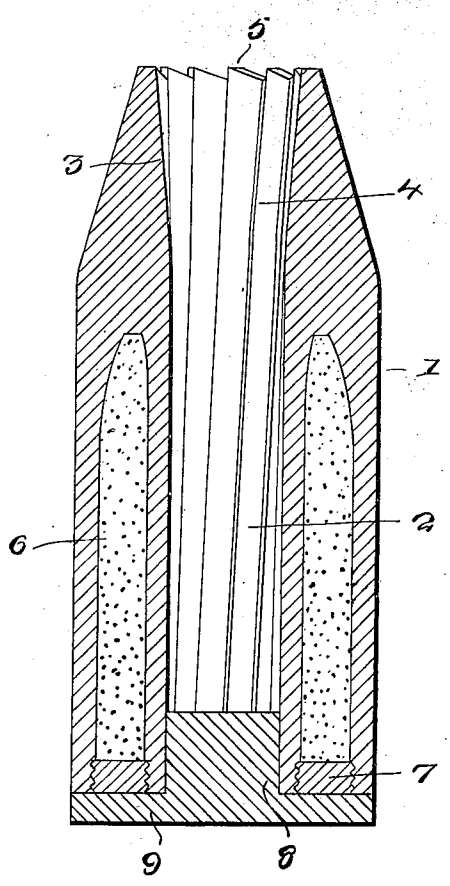


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

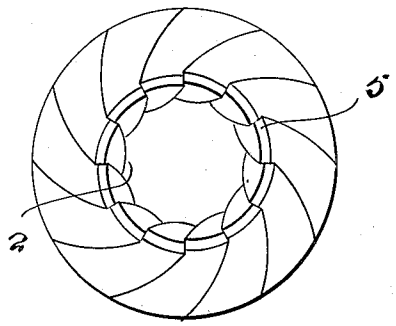


Fig. 4.

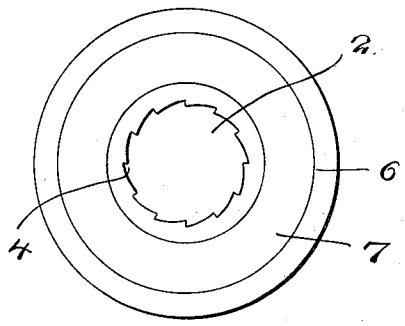


Fig. 5.

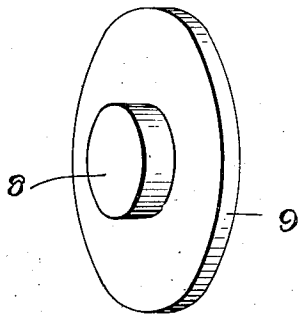
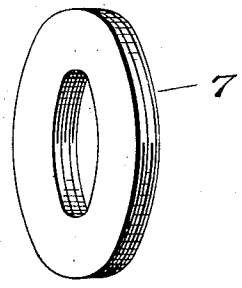


Fig. 6



Witnesses

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PROJECTILE.

1,327,531. Specification of Letters Patent. Patented Jan. 6, 1920.

Application filed December 6, 1918. Serial No. 265,615.

To all whom it may concern:

Be it known that I, CHARLES DURHAM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Projectiles, of which the following is a specification.

This invention relates to improvements in projectiles.

In carrying out the present invention it is my purpose to provide a projectile which, when discharged from the gun or rifle, will penetrate the water as well as the air, and which will not ricochet when striking the water.

It is also my purpose to provide a projectile wherein the body will be formed with a longitudinally extending bore formed with ribs so arranged as to revolve the projectile in flight, incident to the action of the fluid through which the projectile is traveling on the ribs, thereby enabling the projectile to maintain a relatively high speed of rotation in order to pierce the object at which the projectile is discharged.

It is also my purpose to provide a projectile wherein the nose will be formed in such manner as to increase the penetrating or piercing qualities of the projectile and wherein the bore through the body of the projectile will be so formed as to insure the projectile traveling in a straight path when it is traveling through a liquid or gaseous substance.

A further object of the invention is the provision of a projectile which will be constructed in such a manner as to carry a quantity of high explosive, so that when the projectile has reached its destination the explosive may be ignited to destroy the object.

With the above recited objects in view and others of a similar nature the invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

In the accompanying drawings:—

Figure 1 is a view in side elevation of a projectile constructed in accordance with my present invention, the same being shown as mounted in a shell carrying the propelling charge for the projectile.

Fig. 2 is a longitudinal sectional view through the projectile removed from the shell.

Fig. 3 is an end view of the projectile.

Fig. 4 is a similar view of the other end of the projectile.

Fig. 5 is a perspective view of the cap that receives the impact from the explosion of the propelling charge.

Fig. 6 is a similar view of the ring or annulus which closes the outer end of the explosive carrying chamber formed in the body of the projectile.

Referring now to the drawings in detail, 1 designates the body of my improved projectile. In the present instance the outer surface of the body 1 is shaped after the fashion of the ordinary projectile, while formed in the body 1 and extending longitudinally therethrough is a bore 2 which opens onto the respective ends of the body. At the forward or nose end of the body 1, the bore 2 increases in diameter gradually from a point a short distance from the forward extremity to such extremity as at 3 so as to provide a relatively large entrance mouth for the fluid through which the projectile is traveling and effect a compression of such fluid when the same enters the major portion of the bore thereby enabling the projectile to hold to a true course in its flight.

In accordance with the present invention the wall of the bore 2 is formed with longitudinal ribs 4. In this instance, these ribs 4 have a helical pitch with respect to the axis of the bore 2 so that the fluid traversing the bore may act upon the ribs to revolve the projectile at a relatively high speed.

The forward end of the projectile is formed with a circular row of cutting teeth 5 which act to assist the projectile in penetrating the object at which the projectile is discharged.

Formed in the body 1 of the projectile behind the head thereof and opening onto the rear end is an annular chamber 6 adapted to contain a charge of high explosive. This chamber 6, in the present instance, is arranged concentrically of the bore 2 and threaded into the rear end of the chamber 6 is an annulus or ring 7 which forms a closure for the explosive chamber. The rear end of the bore 2 of the projectile is closed by means of a plug 8 that fits loosely into the bore and is provided with a circumferential flange 9 which engages the rear end of the body 1. 10 designates a shell containing a charge of powder or other propelling agent and fitted into the open end of the shell 10

in the rear end of the body 1 of the projectile.

In practice, when the explosive or propelling charge in the shell 10 is exploded the air traveling into the bore 2 pushes the cap 8 out of the rear end of the bore thereby freeing the projectile to the action of the air or other fluid in its flight.

From the foregoing description taken in connection with the accompanying drawing, it will be seen that I have provided a projectile which possesses relatively high penetrating power and which will not ricochet when discharged into the water.

While I have herein shown and described one particular form of my invention by way of illustration, I wish it to be understood that I do not limit or confine myself to the precise details of construction herein described and delineated, as modification and variation may be made within the scope of the claims and without departing from the spirit of my invention.

I claim:—

1. A projectile comprising a body formed with a longitudinal bore flared at one end, longitudinally disposed ribs extending from the flared end of said bore and terminating short of the opposite end defining a shoulder, said ribs having a helical pitch, and a cap loosely fitted in said bore and bearing against said shoulder, said cap including a plate arranged against the bottom of said projectile.

2. A projectile comprising a body formed with a longitudinal bore flared at one end, longitudinally disposed ribs extending from the flared end of the bore to a point adjacent the opposite end thereof, said ribs defining a shoulder, a chamber formed in the body of the projectile between the bore and the outer circumference thereof, and adapted to contain a charge of explosive mixture, a cap loosely fitted in said bore and bearing against said shoulder, and an annular plate formed on said cap and arranged to engage the lower end of the projectile.

In testimony whereof I affix my signature.

CHARLES DURHAM.