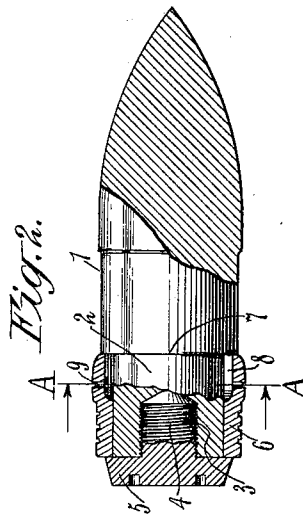
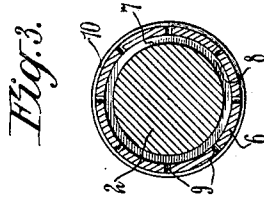
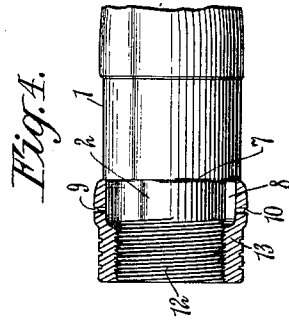
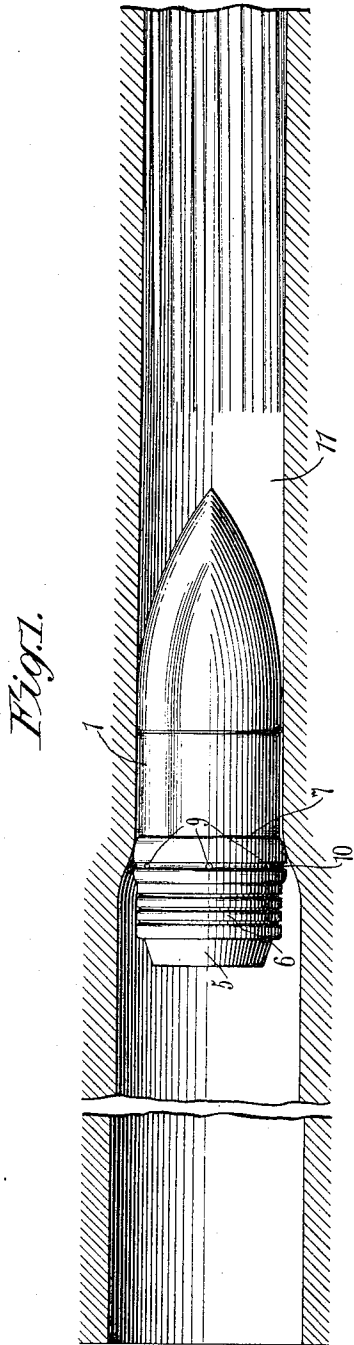


J. H. BROWN.
PROJECTILE.
APPLICATION FILED NOV. 2, 1910.

997,540.

Patented July 11, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN H. BROWN, OF WEST HOBOKEN, NEW JERSEY.

PROJECTILE.

997,540.

Specification of Letters Patent. Patented July 11, 1911.

Application filed November 2, 1910. Serial No. 590,353.

To all whom it may concern:

Be it known that I, JOHN H. BROWN, a citizen of the United States, and resident of West Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Projectiles, of which the following is a specification.

My invention relates to a projectile with the object in view of providing a projectile which will prevent erosion of the bore of the gun in which the projectile is fired, under the high pressure at present in use.

A practical embodiment of the invention is represented in the accompanying drawings in which,

Figure 1 is a longitudinal section through a portion of the powder chamber and chase of a gun, showing the projectile in position for firing. Fig. 2 is a view of the projectile in detail, partly in section and partly in elevation. Fig. 3 is a transverse section through the projectile, in the plane of the line A—A of Fig. 2, and Fig. 4 is a view of a portion of the projectile, showing a modified form of the invention.

The body of the projectile is denoted by 1, and is here shown as a solid projectile provided with a pointed forward end as is common. The rear end of the projectile is reduced in diameter as shown at 2, and the rear portion of this reduced part is provided with a screw-threaded socket 3 capped therein for the reception of a screw-threaded plug or stem 4 projecting forwardly from a rear cap 5.

On the reduced rearward extension 2 of the body the rotating band 6 is fitted and is held in position against forward displacement by means of the shoulder 7 on the body of the projectile, and the cap 5, which may be screwed as shown in Fig. 2, into position snugly against the rear end of the reduced portion 2 of the projectile.

The rotating band 6 may be of any suitable metal which is sufficiently soft to be compressed when the projectile is forced through the tapered portion of the chase or of the front end of the powder chamber in proximity to the chase, and the forward portion of said rotating band is made sufficiently larger than the body of the projectile 2, to cause the said rotating band to be compressed during the early traveling movement of the projectile. The said enlarged forward portion of the rotating band is provided with a chamber 8, preferably

formed by cutting away a portion of the wall of the band, and this chamber 8 communicates with the exterior of the rotating end through a number of radially disposed holes 9. These holes 9 preferably communicate with an annular groove 10 in the outer face of the rotating band.

The chase of the gun which is preferred for use in connection with this projectile is provided with a smooth bore portion 11 intermediate of the front of the powder chamber and the rifled portion of the chase, so that the compressed band 6 will tightly close the bore of the gun during the early travel of the projectile without any liability of becoming torn or cut by the rifling. This smooth bore portion furthermore permits the projectile to advance with ease during its initial movement and hence has a tendency to relieve the strain of the high pressure during its early stage.

In order to prevent the gases resulting from the explosion of the powder from attacking the wall of the bore during the moment of intense heat and high pressure which prevails when the projectile is started on its advance movement, the chamber 8 within the band 6, is charged with a suitable coating material, for instance grease or paraffin, which, when the band 6 is compressed radially by the tapered wall of the gun, will be forced out through the holes 9, filling the annular grooves 10 and distributing itself along the inner wall of the bore of the gun as the projectile progresses.

Instead of holding the rotating band 6 in position by means of a cap 5, with a threaded plug 4, the reduced rear portion of the projectile may be provided with an exterior screw-thread as shown at 12, Fig. 4, and the rotating band denoted by 13, may be provided with an internal screw-thread by which it may be screwed in position on the threaded portion 12.

In either form of construction, the charge of grease or other suitable coating material, will be set free by the compression of the rotating band at the initial movement of the projectile and will serve to coat the interior of the chase of the gun throughout its length as the projectile progresses.

What I claim is:

1. A projectile provided with a soft metal rotating band adapted to be compressed radially by its movement along the tapered wall of a gun, said radially compressible

metal band having a chamber formed there-
in for holding a suitable coating material
and having one or more openings from the
chamber to the exterior of the band for the
5 passage therethrough of the coating mate-
rial when the band is compressed.

2. A projectile provided with a compres-
sible metal band having an annular groove
in its outer surface and a chamber within
10 the band for retaining a suitable coating
material and with one or more openings be-
tween the chamber and the bottom of the
said groove for the passage of the coating
material when the band is compressed.

15 3. A projectile provided with a rotating

band fixed thereon, the said band having its
forward portion enlarged and provided
with a chamber for receiving a suitable coat-
ing material, the said enlarged portion of
the band being provided with one or more 20
openings leading from the said chamber
through the wall of the band.

In testimony, that I claim the foregoing
as my invention, I have signed my name in
presence of two witnesses, this twenty-ninth 25
day of August 1910.

JOHN H. BROWN.

-Witnesses:

F. GEORGE BARRY,
HENRY C. THIEME.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."