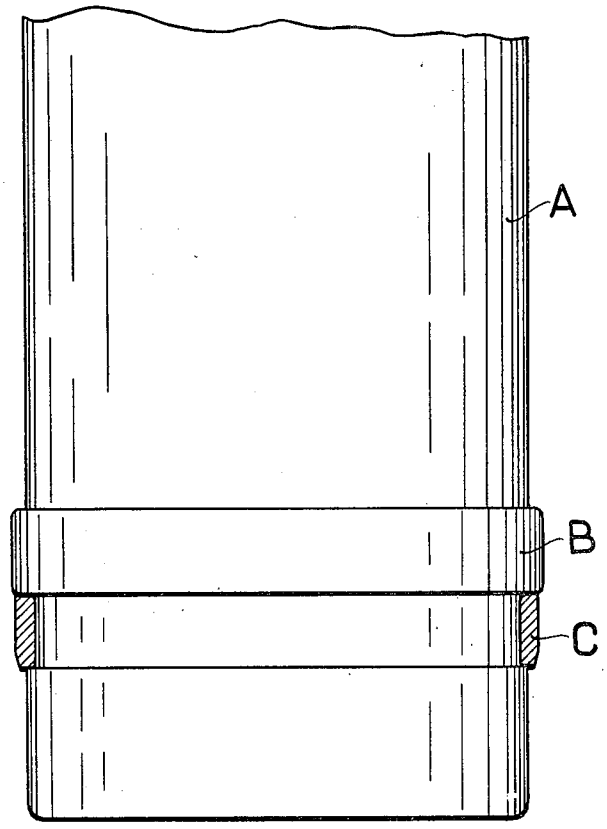
W. ULRICH.

PROJECTILE.

APPLICATION FILED SEPT. 4, 1920.

1,356,840. Patented Oct. 26, 1920.



Inventor
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UNITED STATES PATENT OFFICE.

WILHELM ULRICH, OF ESSEN, GERMANY, ASSIGNOR TO FRIED KRUPP AKTIEN-GESELLSCHAFT, OF ESSEN-ON-THE-RUHR, GERMANY.

PROJECTILE.

1,356,840. Specification of Letters Patent. Patented Oct. 26, 1920.

Application filed September 4, 1920. Serial No. 408,385.

To all whom it may concern:

Be it known that I, WILHELM ULRICH, residing at Essen, Germany, a citizen of the German Republic, have invented a certain new and useful Improvement in Projectiles, of which the following is a specification.

The invention relates to projectiles fitted with a copper driving band. When projectiles of this kind are fired from a gun, a small portion of the hot powder gases escapes past the driving band and heats the outer layer of the copper up to a point where it becomes comparatively soft, so as to leave a thin film of copper on the wall of the bore of the gun barrel. In course of time, this deposit of copper can under certain circumstances become so considerable as to exercise an unfavorable influence on the movement of the projectile. The invention proposes to remedy this drawback.

The invention will be described with reference to the accompanying drawing which shows a construction of the projectile.

To the shell body (A) a driving band (B) made of copper is attached in the known manner. A ring (C) made of tin is fitted into a groove immediately in rear of the driving band, the outside diameter of the ring (C) being slightly smaller than the diameter of the gun-bore measured across the lands.

As experiments have shown, the presence of the tin ring (C) reduces the deposit of copper in the bore to a very slight amount. This effect is probably due to the tin being vaporized by the hot powder gases surrounding it, whereby the gases escaping past the driving band are deprived of a great part of their heat. The gases, after having been cooled in this manner, are no longer capable of heating the driving band up to the point where its outer layer is able to form an appreciable deposit of copper on the wall of the gun-bore.

What I claim is:

A projectile having a copper driving band and a ring made of tin arranged in rear of the driving band.

The foregoing specification signed at Germany, this 15th day of June, 1920.

WILHELM ULRICH.

In presence of—

HANS GOTTSMANN,

JOSEF OLBERTZ.