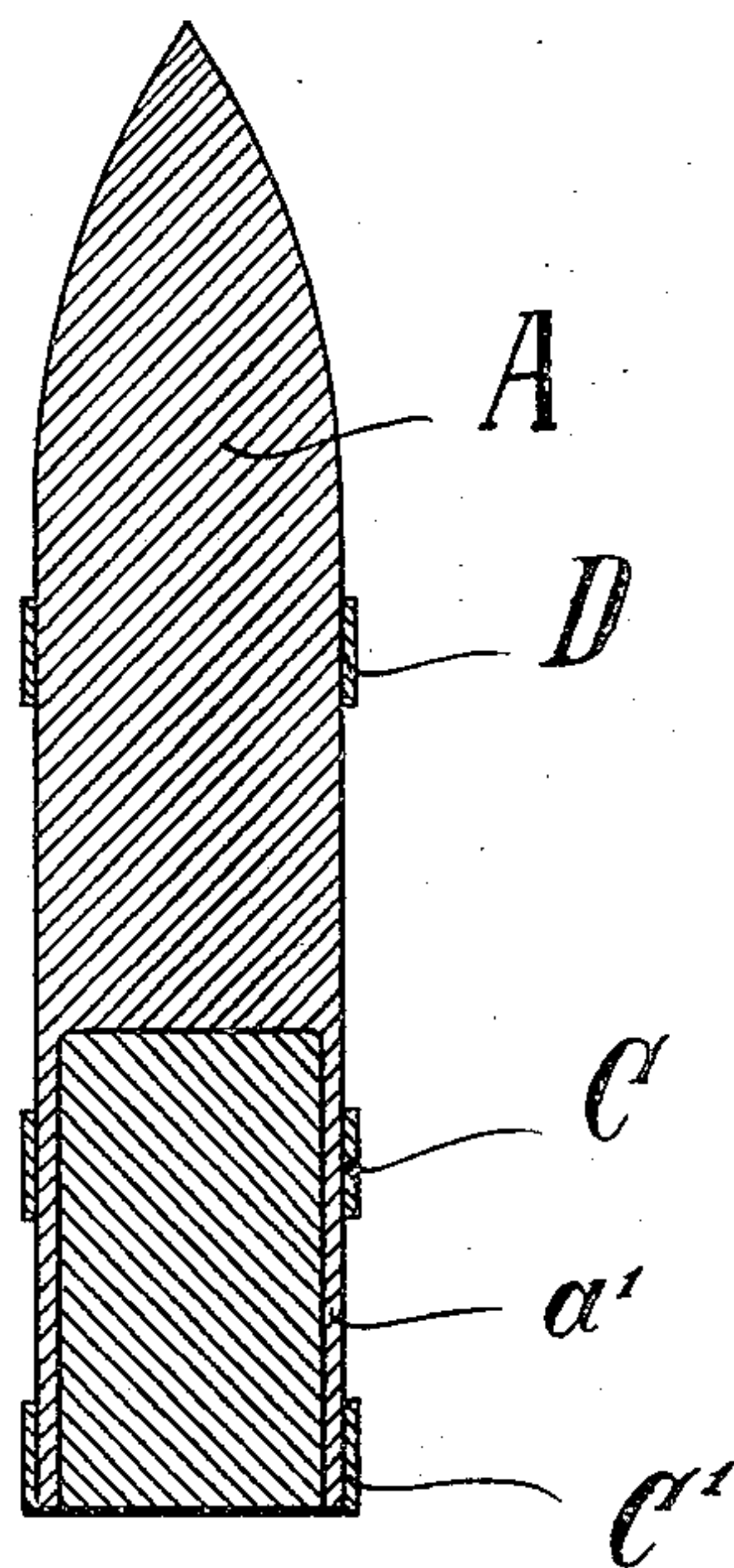


No. 816,577.

PATENTED APR. 3, 1906.

A. HAASE.  
STEEL PROJECTILE.  
APPLICATION FILED NOV. 13, 1905.



Witnesses  
J. M. Thompson  
A. O. Knight.

Inventor  
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# UNITED STATES PATENT OFFICE.

ALBERT HAASE, OF ESSEN-RÜTTENSCHIED, GERMANY, ASSIGNOR TO  
—FRIED. KRUPP AKTIENGESSELLSCHAFT, OF ESSEN-ON-THE-RUHR,  
GERMANY.

## STEEL PROJECTILE.

No. 816,577.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed November 13, 1905. Serial No. 287,126.

*To all whom it may concern:*

Be it known that I, ALBERT HAASE, a subject of the German Emperor, and a resident of Essen-Rüttenscheid, Germany, have invented certain new and useful Improvements in Steel Projectiles, of which the following is a specification.

The present invention relates to steel projectiles, and particularly to the projectile forming the subject-matter of my copending United States patent application, Serial No. 253,087, filed March 31, 1905, in which there is provided a solid-steel front body portion and a hollow rear portion provided with a filling of metal of higher specific gravity than steel, which filling causes the rear portion to separate from the front portion upon impact.

The object of the invention is to increase the accuracy of the flight of the projectile. One embodiment of the invention is shown in longitudinal section in the accompanying drawing by the way of example.

The projectile according to the present invention differs mainly from that described in my copending application in having a band D, made from copper, nickel, or other soft material, arranged on the solid cylindrical portion A of the projectile and near the projectile-point. The band D serves the same purpose as the jacket which is arranged on the hollow cylindrical part *a'* of the projectile and which in the present instance is formed by two rings C and C', the said purpose being to guide the projectile in the rifling of the barrel.

By reason of the guide-band D being disposed near the projectile-point the wobbling or pendulum motion of the projectile is prevented during its passage through the barrel, which motion would result in a deviation of the projectile from its normal path of flight. The guide-band D therefore diminishes the

spreading of the projectile—that is to say, increases the accuracy. When the projectile hits an armor-plate, the guide-band D is stripped off, and the force required for this action is very small, and the pressure of the guide-band therefore does not cause any noteworthy decrease in the penetrating capacity of the projectile. In other respects the projectile acts in the same manner as the projectile of my copending application.

Having described my invention, what I claim as new is—

1. The combination with a projectile having a front portion separating from the remainder of the projectile upon impact, of means on the front portion preventing the wobbling of the projectile during its passage through the barrel, said means being adapted to readily strip from the projectile when the projectile pierces the armor.

2. The combination with a projectile having a front portion adapted to separate from the remainder of the projectile upon impact, of a soft-metal guiding-band arranged on the front portion and adapted to be readily stripped therefrom when the projectile pierces armor.

3. The combination with a projectile having a front portion adapted to separate from the rear portion upon impact, of a guiding-band arranged on the front portion of the projectile and adapted to be readily stripped therefrom when the projectile pierces armor, the front portion of the projectile having a diameter in the rear of the band at greatest equal to the inner circumference of the band.

The foregoing specification signed at Düsseldorf this 31st day of October, 1905.

ALBERT HAASE.

In presence of—

WILLIAM ESSENWEIN,  
EGMONT DOETSLOFF.