No. 776,056. PATENTED NOV. 29, 1904.

A. HAASE.

PROCESS OF PRODUCING SMALL CALIBER JACKETED STEEL PROJECTILES.

APPLICATION FILED DEC. 17, 1903.

NO MODEL.

Fig. 1.

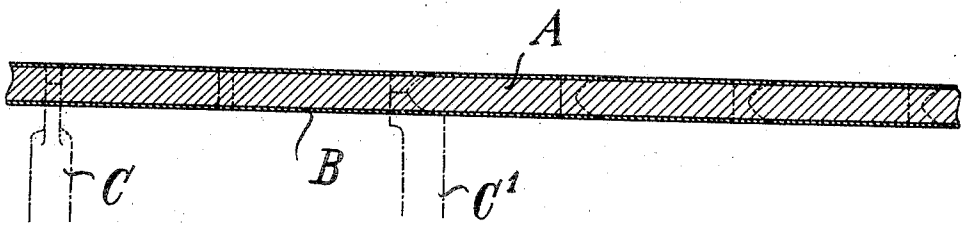


Fig. 2.

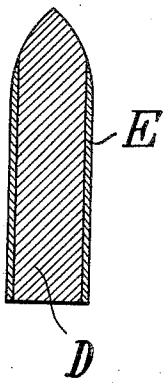
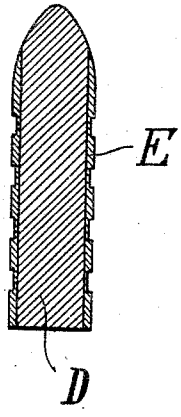


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT HAASE, OF RÜTTENSCHEID, NEAR ESSEN-ON-THE-RUHR, GERMANY, ASSIGNOR TO FRIED. KRUPP, AKTIENGESELLSCHAFT, OF ESSEN-ON-THE-RUHR, GERMANY.

PROCESS OF PRODUCING SMALL-CALIBER JACKETED STEEL PROJECTILES.

SPECIFICATION forming part of Letters Patent No. 776,056, dated November 29, 1904.

Application filed December 17, 1903. Serial No. 186,577. (No model.)

To all whom it may concern:

Be it known that I, ALBERT HAASE, a subject of the Emperor of Germany, and a resident of Rüttenscheid, near Essen-on-the-Ruhr, Germany, have invented certain new and useful Improvements in Processes of Producing Small-Caliber Jacketed Steel Projectiles, of which the following is a specification.

The present invention relates to a process of producing small-caliber jacketed steel projectiles; and this process has for its objects to make the producing of such projectiles essentially cheaper.

The desired objects are attained according to the present invention by providing steel rods the length of which is a multiple of the single projectile with a jacket of softer material (copper, nickel, or the like) and then dividing the jacketed rod into parts corresponding to the desired length of the individual projectiles.

The invention will be understood upon reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal section through a portion of a jacketed steel rod in which the outlines of the projectiles which are to be produced from the rod are indicated by dotted lines. Figs. 2 and 3 represent vertical sections of two finished projectiles on a larger scale.

The steel rod A is first—for instance, by galvanic process—provided with a jacket B, of copper, nickel, or the like. Thereupon the desired diameter is given to the rod, and finally it is divided into parts. For this purpose it may be put in a lathe—for instance, a revolving lathe—in which it is turned and in which the several projectiles are cut by means of suitable tools. (See, for instance, the tool suggested by dotted lines C, Fig. 1.) The projectile thus produced may then be provided on one end with a taper or point. This may, if the circumstances require it, be done in a special machine; but the cutting and the pointing may also be done simultaneously by the use of a special tool—such, for example, as that suggested by dotted lines C′ in Fig. 1. Moreover, in turning the projectiles grooves may also be turned in the copper or nickel jacket. The finished projectiles will have somewhat the shape shown in Figs. 2 and 3, D indicating the projectile proper, consisting of steel, and E the guide-jacket, consisting of copper, nickel, or the like. The jacket becomes cut away or otherwise removed short of the point or front end of the projectile by the act of tapering or pointing the projectile. The cheapness obtained by the above process is, in fact, so great that the projectiles made thereby are not more costly than the coated projectiles (a lead core with nickeled or coppered steel coating) at present exclusively used as infantry-ammunition.

Having thus described the invention, the following is what is claimed as new therein:

1. The process of producing jacketed projectiles which consists in providing a metal rod of a length corresponding to several projectiles, with a jacket of a softer metal, dividing up such jacketed rod into projectile lengths and suitably shaping the ends of the parts thus produced by cutting material therefrom.

2. The process of producing jacketed steel projectiles, which consists in providing a rod having a steel core and soft jacket and of a length sufficient to produce a number of single projectiles, dividing the rod into parts of a length approximately the length of the projectile desired, removing part of the jacket near one end, and pointing or tapering the core from which the jacket has been removed.

The foregoing specification signed at Düsseldorf this 1st day of December, 1903.

ALBERT HAASE.

In presence of—
WILLIAM ESSENWEIN,
PETER LIEBER.