(No Model.)

A. T. LOYD.

BULLET.

No. 355,653. Patented Jan. 4, 1887.

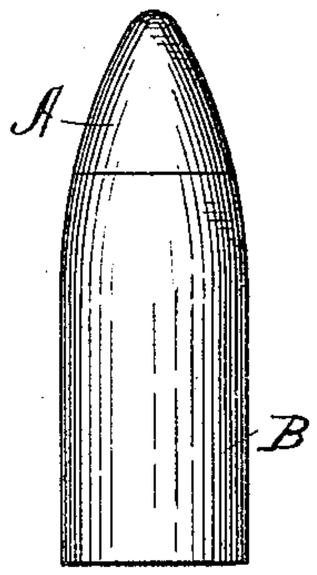


Fig. 1.

Fig. 2.

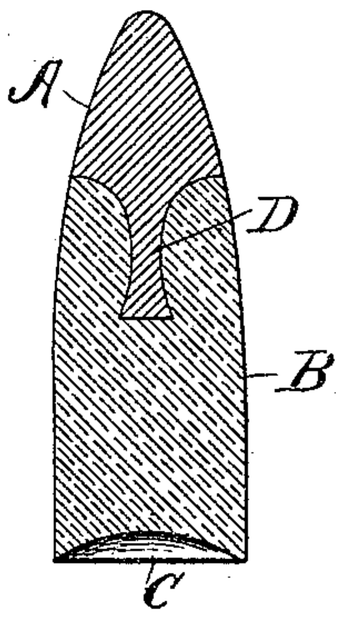
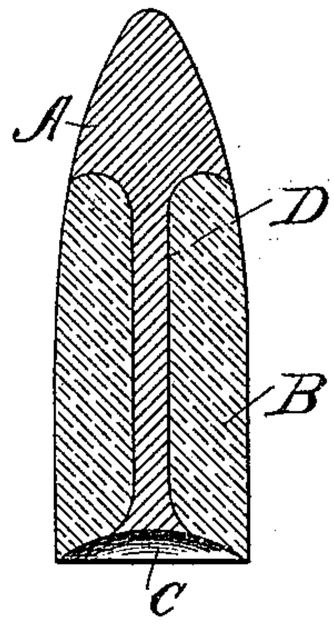


Fig. 3.



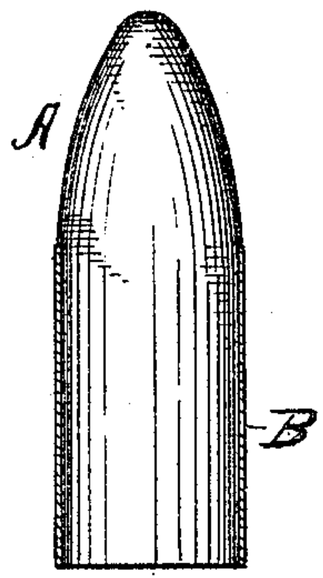


Fig. 4.

Fig. 5.

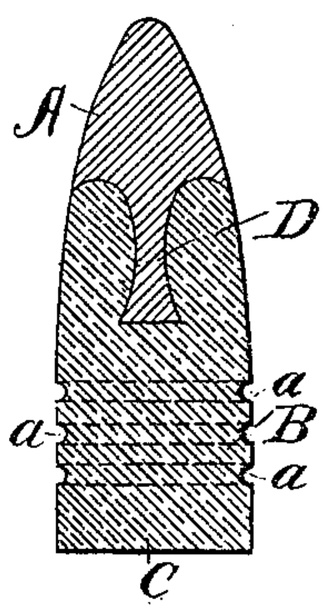
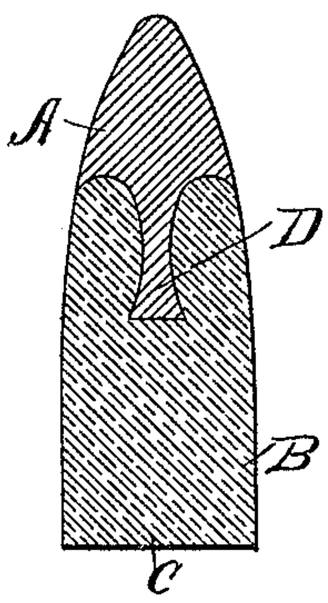


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALEXANDER T. LOYD, OF CHICAGO, ILLINOIS.

BULLET.

SPECIFICATION forming part of Letters Patent No. 355,653, dated January 4, 1887.

Application filed January 20, 1886. Serial No. 189,118. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER T. LOYD, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Bullets for Rifles and other Fire-Arms, of which the following is a specification.

My invention relates to improvements in bullets in which a combination of paper-pulp or papier-maché and lead, or some other metal or combination of metals, is used in the manufacture; and the objects of my invention are, first, to provide bullets which, while retaining a uniform length and caliber, may be made of various weights; second, to dispense with the necessity of any patch, such as is commonly now used; third, to provide a bullet that may have the greater proportion of its weight at its forward end or distributed throughout its length. I attain these objects in the manner illustrated in the accompanying drawings, in which like parts are designated by like letters throughout.

Figure 1 represents a vertical section of a bullet constructed according to my invention. A represents a core of lead or other suitable metal, or combination of metals, shaped substantially as shown in the drawings, so as to afford a firm hold for the covering or casing B, which is made of paper-pulp, papier-maché, or other suitable composition. C represents the base of the bullet, which may be cup-shaped, as shown in this figure, or flat, as shown in Figs. 3, 4, 5, and 6.

Fig. 2 represents a vertical section of a similar bullet, but with an elongated core extending the entire length of the bullet. Fig. 3 represents an outside view of a bullet of similar construction to those shown in Fig. 1, 2, or 5. Fig. 4 represents a sectional view of a bullet similar in construction to that shown in Fig. 1, but having a flat instead of a cup-shaped base, and also having canules let into the side for the purpose of holding a suitable lubricant. Fig. 5 is the same as Fig. 1, except as to the base, which is flat in Fig. 5 and cup-shaped in Fig. 1. Fig. 6 represents a bullet constructed almost entirely of lead or other suitable metal or metals, with but a thin covering of paper-pulp or papier-maché, to perform the office of an ordinary patch, and intended to be used when a heavy bullet is required.

The core A may be shaped as shown in Fig. 1, or it may be varied by elongating or shortening its stem, or increasing or diminishing the diameter thereof, the object being in each case to increase or lessen the weight of the bullet, as may be desired, and to distribute the weight throughout the length of the bullet, or to concentrate it toward the forward end. The covering or casing B is forced around the core A under sufficient pressure to make it homogeneous. This is attained by the use of suitable presses and dies, to give it the required form and density. The core may be either molded or swaged.

In constructing bullets according to my invention I prefer the use of paper-pulp for the covering or casing; but any other suitable composition may be used, and the covering or casing B may be made of waterproofed material.

I am aware that a detachable paper band and sabot and a hard-metal flanged core have been used with a leaden or soft-metal projectile, and do not therefore claim the same as of my invention.

I do not claim a bullet having a heavy body portion provided with a light steel point and a cast-iron or wooden ring mounted on a rearward extension or core, as shown in English Patent No. 2,495 of 1854; nor do I claim a projectile comprising an iron or steel core and attached rings or tubes of felt, wood, leather, or papier-maché having a diameter somewhat greater than the front of the projectile. As shown in the sectional views, it will be seen that my form of core, D, whether extending partly or entirely through the casing or covering, is enlarged in cross-section at its rear end, so that the casing or covering when compressed thereon is firmly secured against removal, and this without the use of extraneous securing devices.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

A bullet consisting of an integral soft-metal core and point, the former being laterally expanded at its rear end and merged into the

base of the point on curved lines, and a papier-maché covering firmly seated upon the core and retained by the lateral expansions thereof, and forming in its general outline the body portion of the bullet, substantially as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

ALEX. T. LOYD.

Witnesses:
E. C. J. CLEAVIN,
CARL R. SHERWOOD.