

(No Model.)

M. TWEEDIE.
COMPOUND PROJECTILE FOR SMALL ARMS.

No. 481,081.

Patented Aug. 16, 1892.

Fig. 1.

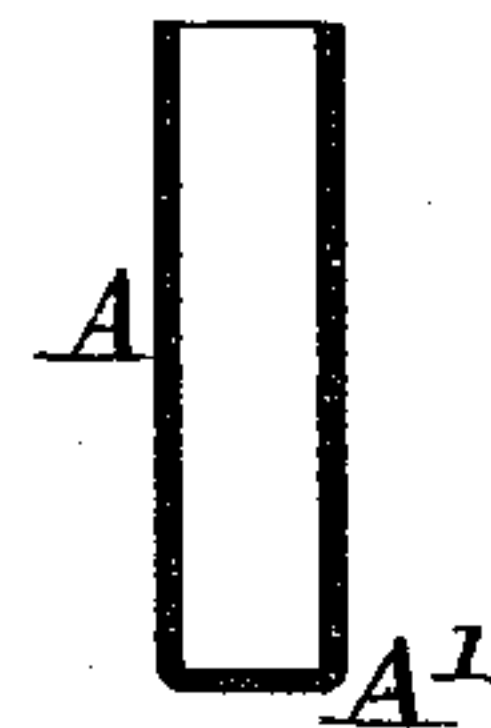


Fig. 2.

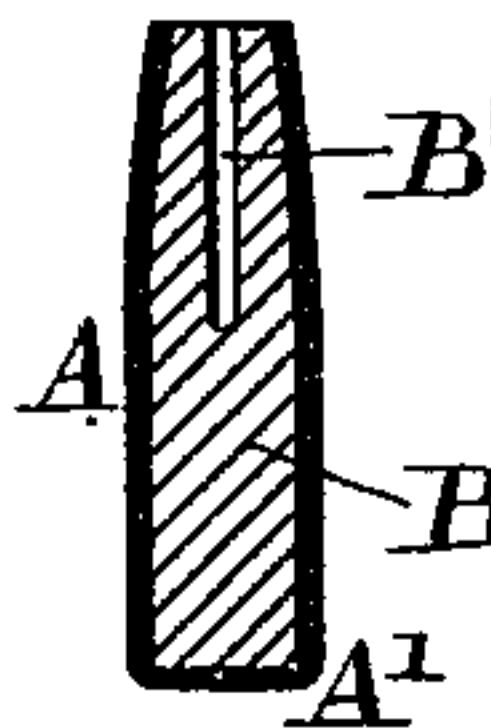


Fig. 3.

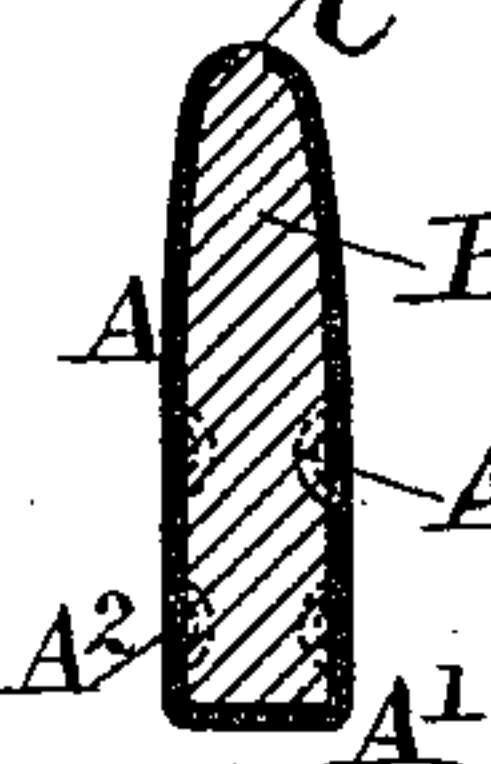
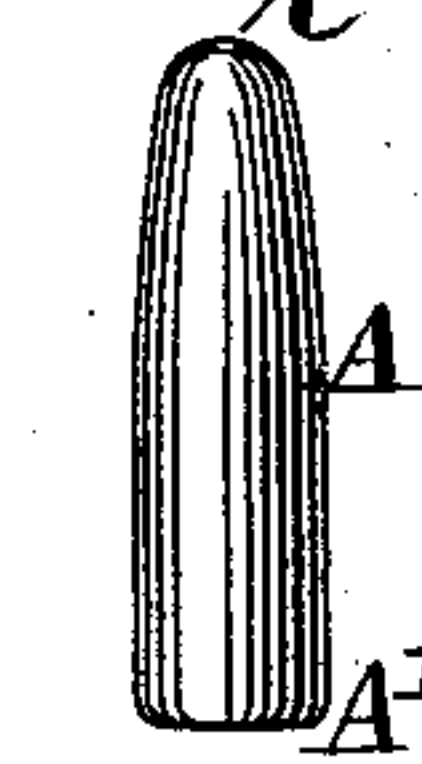


Fig. 4.



Witnesses:
J. A. Rutherford.
Robert Everett.

Inventor:
Michael Tweedie
By James L. Norris.
Attorney

UNITED STATES PATENT OFFICE.

MICHAEL TWEEDIE, OF BILLINGSHURST, ASSIGNOR TO EDGAR RAY, OF
LONDON, ENGLAND.

COMPOUND PROJECTILE FOR SMALL-ARMS.

SPECIFICATION forming part of Letters Patent No. 481,081, dated August 16, 1892.

Application filed February 23, 1892. Serial No. 422,574. (No model.) Patented in England December 18, 1891, No. 22,173; in France February 5, 1892, No. 219,181; in Belgium February 6, 1892, No. 98,243, and in Italy March 2, 1892, LXI, 259.

To all whom it may concern:

Be it known that I, MICHAEL TWEEDIE, a citizen of England, residing at Wisborough House, Billingshurst, in the county of Sussex, England, have invented a new and useful Improved Compound Projectile for Small-Arms, (for which I have obtained Letters Patent in France, dated February 5, 1892, No. 219,181; in Belgium, dated February 6, 1892, No. 98,243, and in Italy, dated March 2, 1892, Vol. LXI, 259, and for which I have made application for Letters Patent in Great Britain, which patent when granted will bear date December 18, 1891, No. 22,173,) of which the following is a specification.

My invention relates to compound projectiles consisting of a hard-metal casing inclosing a soft-metal core.

Figures 1 to 4 of the accompanying drawings show a projectile constructed according to my invention. Fig. 1 shows a vertical section of the case. Fig. 2 shows a section of the case when filled with the core. Fig. 3 shows a vertical section of the compound projectile when completed, and Fig. 4 shows an elevation of the same.

According to my present invention instead of constructing the hard-metal shell with a closed head and an open base, through which the soft-metal core was introduced, as has heretofore been done, I construct the shell with a closed base and with an opening in the head, through which the soft metal for the core is introduced. By this means certain inconveniences are avoided which arise when the projectile of present construction is used with charges of smokeless or other powder giving high initial velocities. In addition the improved construction also has the advantage of causing the front end of the projectile to flatten out or spread more or less when hitting a hard resisting substance, such as a bone of an animal or human being, and thus effectually disabling the object struck instead of passing right through and making a comparatively small wound, as is the case with the compound projectiles of present construction.

For manufacturing the projectile in the above-described manner I prefer to proceed as follows: I construct a cylindrical hard-

metal case A, closed at the rear end by a flat base A', while the front end is open. Such open end having by preference been slightly tapered, I then introduce the soft-metal core, as shown at B, Fig. 2, the core being by preference united to the case by soldering in either of the ways described in the specification to Abel's British patent, No. 9,577 of 1884. I then subject the projectile to pressure in a mold of such a form as to impart to the head the requisite approximately ogival form, as shown in Figs. 3 and 4, thereby reducing the opening at that end to a comparatively small hole C. To facilitate such formation of the head, I may in the first instance form a central longitudinal perforation B', extending down some distance from the front end of the core, as shown at Fig. 2, which may facilitate the compression of the latter when subjected to pressure, as described. As before stated, I prefer to unite the core B to the case A by soldering; but it may also be simply secured by the closing in of the head, as described, or it may be held in addition by one or more circular grooves or neckings formed in the case, as indicated in dotted lines at A², Fig. 3.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

As an improved article of manufacture, a compound projectile constructed to flatten out at the front end when striking the object aimed at and composed of a hard-metal case closed at the rear end and open at the front end and a soft-metal core introduced at the front end of the case, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 3d day of February, A. D. 1892.

MICHAEL TWEEDIE.

Witnesses:

CHAS. D. ABEL,
Patent Agent, 28 Southampton Buildings,
London, W. C.

GERALD L. SMITH,
Clerk to Messrs. Abel & Imray, Consulting
Engineers and Patent Agents, 28 South-
ampton Buildings, London, W. C.