April 16, 1929. F. STENDEBACH 1,709,414

PROJECTILE

Filed Nov. 2, 1927

Fig.1

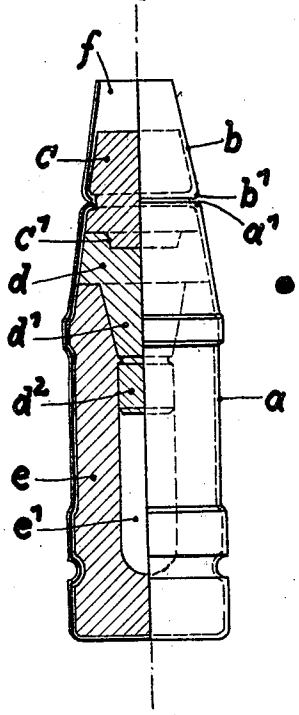
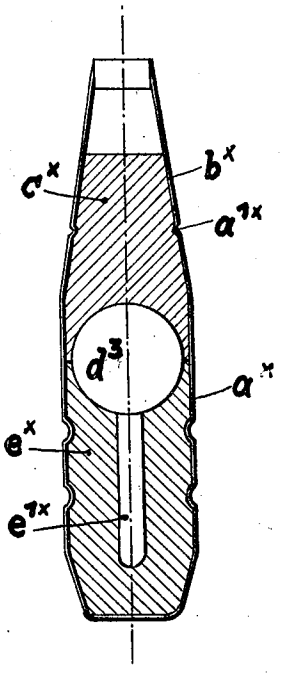


Fig.2



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UNITED STATES PATENT OFFICE.

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PROJECTILE.

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This invention relates to an improved encased projectile or shot for sporting guns for hunting therewith game of any kind, said projectile having a core consisting of several parts of different materials and a two-part casing enclosing said core whereby at the impact of the projectile upon soft parts of the game either the head thereof gets deformed and thus a convenient widening of the spot or channel, where the projectile entered, is produced, or, upon strong bones of the game the shooting effect is still increased so as to be at any rate deadly, without the flesh of the game being unduly torn whereby it would lose its value.

The accompanying drawing illustrates in Figs. 1 and 2 by way of example two preferred constructional forms of the subject matter of the invention, in longitudinal sections thereof.

Referring to Fig. 1:—The projectile comprises a guiding casing *a* of iron or copper, a head casing *b* of iron or steel, a soft-lead head *c* in the latter, an anvil *d* of iron or hard lead, and a lead body *e* in said guiding casing. The soft-lead head *c* is thus enclosed by a separate casing *b* that has a circumferential nick b^1 at its rear end for its attachment to the head *c* and which at its front end is sharp-edged and extends beyond the head *c* in such a way that the point of the projectile is formed by said head casing *b* only. Thereby, a cavity *f* is produced at the front end of the latter, which cavity is so dimensioned that its front mouth at the point amounts to about 3/10 and its depth to about 5/10 of the cross-section of the body of the projectile. At its reduced rear end projecting into the front end of the guiding casing *a* the head *c* engages centrally in the correspondingly recessed anvil *d*, which again engages with its conical rear end d^1 and its cylindrical rear extremity d^2 centrally in the correspondingly bored body *e*. The cylindrical boring e^1 in the latter is extended to about the rear end of the body *e*. The whole core consisting of the anvil *d* and the body *e* is enclosed by the guiding casing *a* that is pressed thereon and at its front end provided with a circumferential nick a^1 facing the nick b^1 at the rear end of the head casing *b* and engaging in the circumference of the head *c*.

The action of the improved projectile at its impact is as follows:—The annular sharp-edged point of the head casing sharply cuts the hair of the game, which is a very important circumstance for the hunter. The atmospheric air suddenly compressed in the comparatively large cavity *f* enters the channel produced by the shot while simultaneously tearing the head casing *b* at its front end projecting freely beyond the head *c*, whereby said channel is enlarged. With high speeds of impact, of 650 metres per second and more, the deformation of the point alone suffices for attaining a deadly effect with game up to 100 kgs. of weight. With higher resistances, also the lead head *c* participates in the deformation and, which is very important, it is upset on the anvil *d* in a quicker and more energetic way than this would be possible with a lead core extending to the bottom of the projectile. With the projectile meeting strong bones, the anvil *d* effects a percussion of the same in such a way that the following lead body *e* is kept in reserve for a final effect by its being vigorously upset on the conical rear end of the anvil and by the air in the boring e^1 being compressed by the cylindrical end d^2, in such a way that with very high resistances the projectile acts like an explosive one and thereby completely delivers all its energy to the game, that is thereby safely killed. For hunting pachyderms, the boring e^1 can be filled in with glycerine, whereby the explosive action of the projectile is further increased.

Finally, the anvil *d* is allowed in most cases to leave the body of the game, as due to its hardness it remains intact and non-upset, without the back ground being endangered, as due to the particular formation of the anvil its flying range does not reach very far.

Fig. 2 shows a modified construction of the improved projectile. In this example, the casing of the latter is first made in one piece and pressed thereon, it being then provided with a circumferential nick $a^{1\times}$ by means of a sharp implement whereby it is divided into a head casing $b^\times$ enclosing the front end of the head $c^\times$ and a guiding casing $a^\times$ enclosing the rear end of the head $c^\times$, the body $e^\times$ with its cylindrical boring $e^{1\times}$, and the anvil d^3 centrally located intermediate said head and body and forming in this example a hard-metal ball.

Due to the improved projectile suiting

automatically any resistances at its impact, it can be used for hunting all and any kinds of game and can thus in fact be considered as a universal projectile.

What I claim, is:

1. A projectile, comprising a core consisting of a head and a body, both of soft metal and an anvil of hard metal interposed between said head and body, and a casing enclosing said core and having a rupturable open end projecting in advance of said soft metal head.

2. A projectile as specified in claim 1, in which the front end of said casing projecting beyond said head is of annular form and sharp-edged at its mouth.

3. A projectile as specified in claim 1, in which the casing comprises two parts flanged at their adjacent ends, said flanged ends of the two parts of said casing engaging a groove in said soft metal head.

4. A projectile as specified in claim 1, in which said anvil is cross-sectionally coextensive with the head and body and is interlocked centrally with said head and said body.

5. A projectile as specified in claim 1, in which said body has a central boring therein open toward said anvil and closed at its forward end by the latter.

6. A projectile as specified in claim 1, in which said body has a glycerine-filled central boring therein open toward said anvil but closed by the latter.

In testimony whereof I have hereunto set my hand.

FRIEDRICH STENDEBACH.