

No. 649,333.

Patented May 8, 1900.

H. S. MAXIM.

PROJECTILE FOR ORDNANCE.

(Application filed Feb. 5, 1900.)

(No Model.)

Fig. 1.

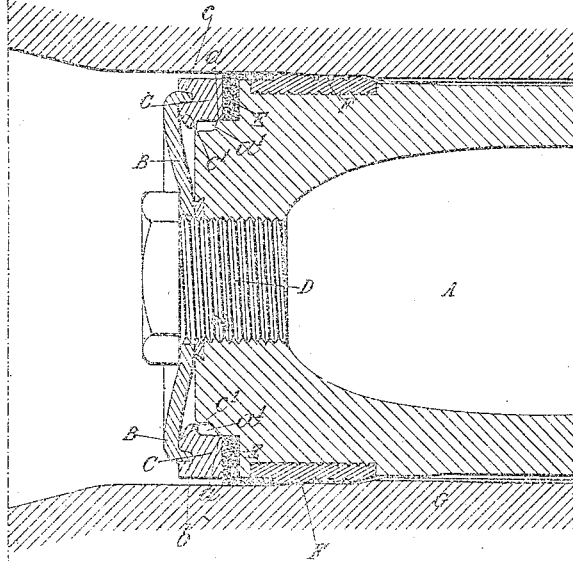
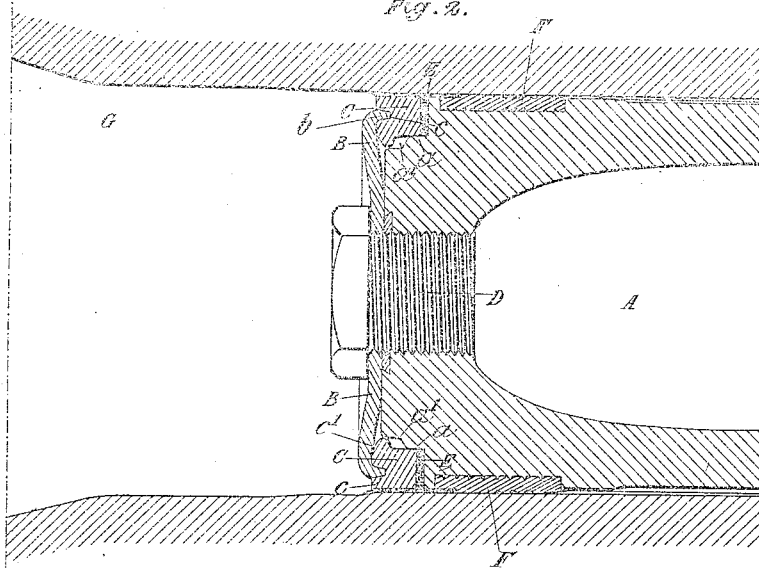


Fig. 2.



Witnesses

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attly

# UNITED STATES PATENT OFFICE.

HIRAM STEVENS MAXIM, OF LONDON, ENGLAND, ASSIGNOR TO THE  
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## PROJECTILE FOR ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 649,333, dated May 8, 1900.

Application filed February 5, 1900. Serial No. 4,031. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM STEVENS MAXIM, Chevalier of the Legion of Honor, civil and mechanical engineer, a subject of the Queen of Great Britain, residing at 18 Queen's Gate Place, London, England, have invented certain new and useful Improvements in Projectiles for Ordnance, of which the following is a specification.

This invention has reference to projectiles of the kind in which a flexible metallic cap or disk having a peripheral rim or flange is provided at the base of the projectile for compressing an obturating-ring or gas-check when the pressure of the powder-gases acts upon the said flexible metallic cap, disk, or base-piece. It has hitherto been usual to obtain the aforesaid peripheral flange by dishing or bending the base-piece near its edge; but in such cases there has been a liability of the base-piece when subjected to the gas-pressure to become fractured at the part adjacent to the bend, with the result that the pressure of the powder-gases has not been transmitted to the gas-check in an efficient manner. It is the object of my invention to overcome this liability by forming the aforesaid flexible base-piece and its peripheral flange in two parts instead of in one piece, as heretofore, the said flange being made in the form of a stout ring and subsequently connected to the base-piece in any appropriate manner.

In order that my said invention may be clearly understood and readily carried into effect, I will now proceed to describe the same more fully with reference to the accompanying drawings, in which—

Figures 1 and 2 are longitudinal sections of the rear portion of a projectile provided with my improved base-piece, Fig. 1 representing the parts approximately in the position they occupy prior to the firing of the gun and Fig. 2 representing the said parts approximately in the position they occupy after firing and when the flexible base-piece has been acted upon by the pressure of the powder-gases.

A is the projectile; B, the flexible base-piece; C, the ring-flange thereof; D, the screw for securing the base-piece to the projectile;

E, the gas-check; F, the driving-band, and G the gun-barrel. The said flange C comprises, as already stated, a stout ring made, preferably, of mild steel, which is adapted to fit around a shoulder *a* at the base of the projectile, the said ring having an annular recess *c* in its outer face to receive the peripheral edge *b* of the base-piece. The said base-piece is preferably made of tough rolled steel. When the said ring C and the base-piece B have been fitted to each other, they are subjected to hydraulic or other pressure to cause them to remain permanently fixed together. The outer face of the ring C is curved at the part *c'* to more or less conform to the curved shape of the portion of the base-piece adjacent thereto, so that when said base-piece is bent or deformed by the pressure of the powder-gases it will not meet any sharp corners on the said ring that would tend to fracture it. The said outer face of the ring C is also preferably enlarged, so that its surface is of greater area than that of the inner end. The base of the projectile is also recessed at *a'* for the said enlarged portion of the ring to enter, so that the forward movement of said ring will not be impeded when the pressure of the powder-gases acts upon it and the base-piece. The gas-check E is composed of a semiplastic or compressible substance, as is well understood, and is situated between the inner end of the said ring C and the aforesaid shoulder *a* on the base of the projectile, so as to be compressed by the movement of said ring C.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a projectile, the combination with an obturating-ring, of a base-piece constructed of two parts, having its periphery made in the form of a separate ring suitably connected therewith substantially as and for the purpose specified.

2. In a projectile, the combination with an obturating-ring, of a base-piece consisting of two portions one in the form of a flexible metallic disk and the other in the form of a rigid metallic ring connected with the periphery of said flexible metallic disk substantially as and for the purpose specified.

3. In a projectile, the combination with an obturating-ring, of a base-piece having its periphery made in the form of a ring connected therewith, said ring having a curved  
5 portion *c'* adjacent to the base-piece substantially as and for the purpose specified.

In testimony whereof I have hereunto set

my hand, in presence of two subscribing witnesses, this 9th day of January, 1900.

HIRAM STEVENS MAXIM.

Witnesses:

J. COLLINS,

WALTER J. SKERTEN.