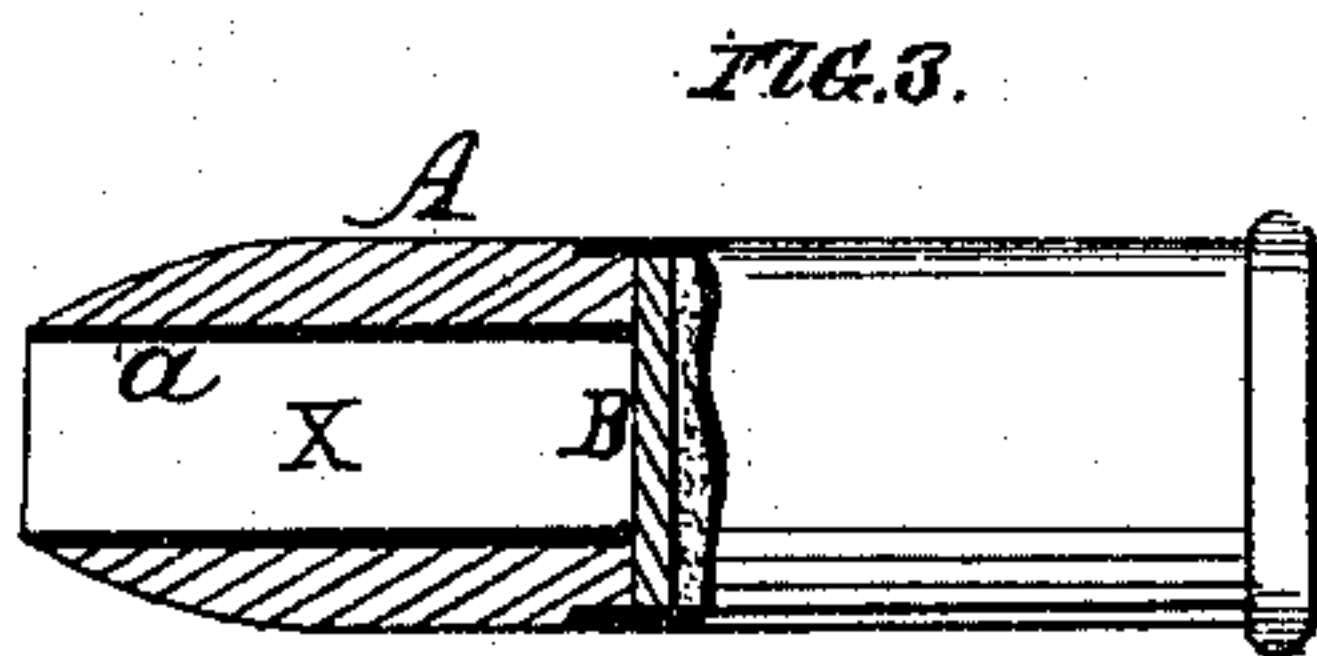
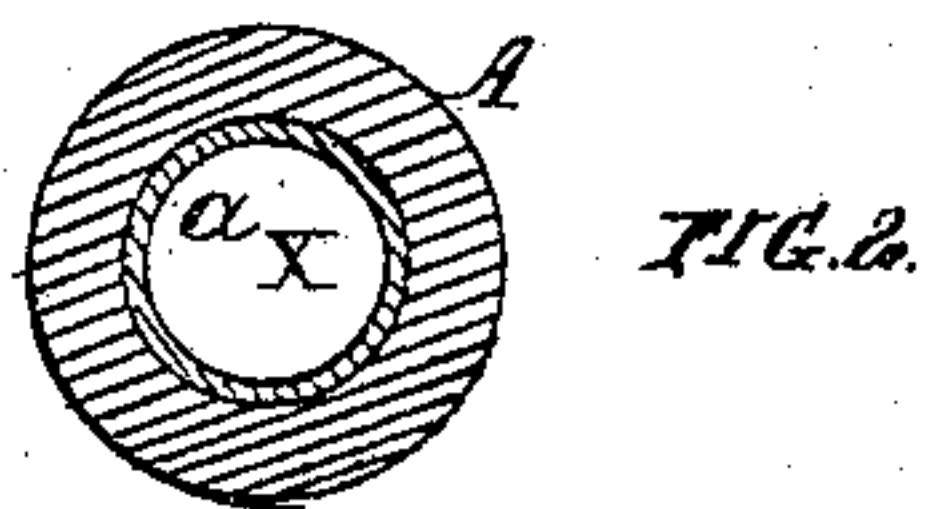
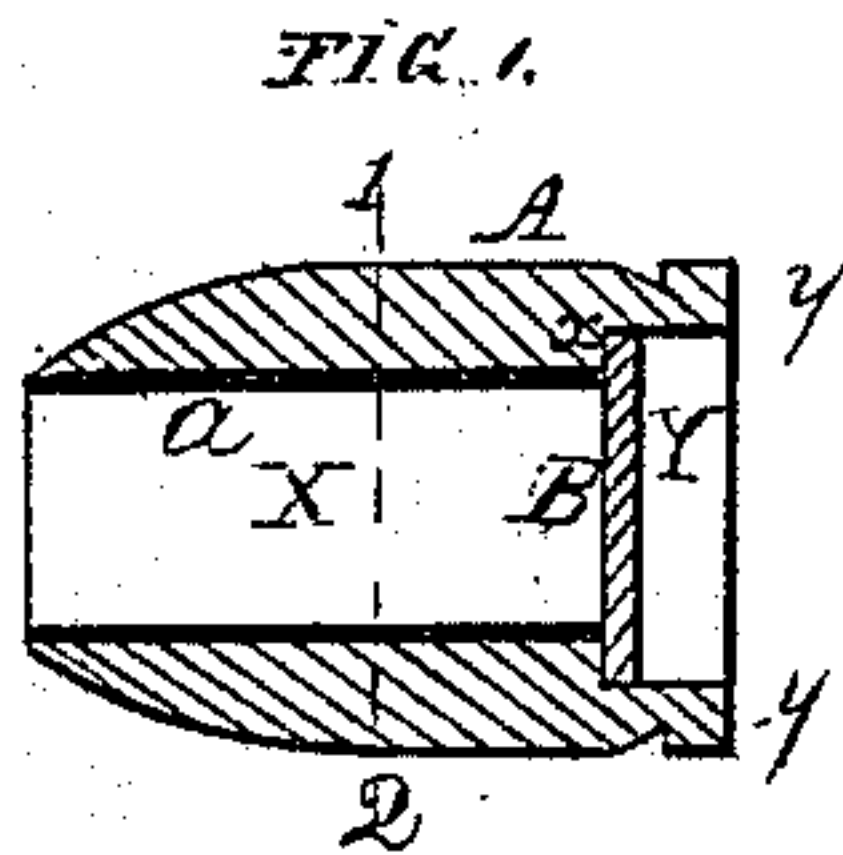


J. G. DeCOURSEY.
Projectile.

No. 53,582.

Patented April 3, 1866.



Witnesses { Wm. Albert Steel,
John Parker

J. G. De Coursey
By his Att'y
J. H. Howard

UNITED STATES PATENT OFFICE.

JOHN G. DE COURSEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BULLETS FOR SMALL-ARMS.

Specification forming part of Letters Patent No. 53,582, dated April 3, 1866.

To all whom it may concern:

Be it known that I, J. G. DE COURSEY, of Philadelphia, Pennsylvania, have invented an Improved Projectile for Small-Arms; and I do hereby declare the following to be a full, clear and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My improved projectile consists of a central tubular lining of tinned iron, round and to which is cast a leaden exterior, tapering in front, as described hereinafter, in combination with a washer of hard metal adapted to the rear of the projectile, and bearing against the lining, all as herein set forth, so that the end of the iron tube will be the first to strike the object aimed at, and so that the central opening may be maintained in that smooth and uniform condition which will insure the direct course of the projectile, the saving of lead in the construction of which will more than compensate for the cost of the said iron tube.

In order to enable others to make my invention, I will now proceed to describe the manner of constructing the same.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a longitudinal section of my improved projectile; Fig. 2, a transverse section on the line 1, 2, Fig. 1; and Fig. 3, the projectile as applied to a metallic cartridge-case.

Similar letters refer to similar parts throughout the several views.

The main body of the projectile A is made cylindrical toward the rear and tapering at the front end, and has a central longitudinal opening, X, the rear end of the latter being enlarged so as to form a chamber, Y, bounded by an annular flange, y, and a shoulder, x.

In the opening X is a tube or lining, a, of tinned iron, one end of the tube being flush with the tapering end of the projectile, and the other end terminating at the shoulder x, against which and against the tube a disk or plate, B, of iron or other metal harder than lead is fitted.

The powder is introduced into the fire-arm in the ordinary manner, and the projectile is driven onto the powder by a ramrod the end

of which is adapted to the front end of the said projectile.

When the powder is exploded the annular flange y is expanded and driven into the grooves of the bore, the projectile being driven forward by the pressure of the gases against the plate B until it leaves the piece, when the said plate will be expelled as the projectile rushes through the air.

It has been ascertained that the course of a projectile with a longitudinal opening through the center is much more direct than a solid bullet of the same size. It is necessary, however, that the opening should be perfectly clear and smooth, and unobstructed by any projections. The necessity of maintaining the opening in this condition has heretofore prevented the general use of such projectiles, inasmuch as the soft metal is easily indented round the edge of the opening, the uniformity of which is thus destroyed, and the deviation of the projectile from a straight line a certain result.

Another objection to this class of projectiles has been the liability of the plate B to be driven by the explosion into the body, so that on leaving the piece the plate would not be detached.

It will be seen that the hard-metal lining, as well as the shoulder x, resists this tendency of the disk to become jammed fast, and that the lining not only preserves the entirety of the projectile, but increases its penetrative quality, the end of the iron tube being the first to strike the object aimed at, at the same time the saving of the lead more than compensates for the expense of introducing the hard lining.

When the projectile is used in connection with metallic cartridges the plate B may be fitted into the case, as shown in Fig. 3.

I wish it to be understood that I neither claim, broadly, a projectile with a central opening through it, nor lining it with a metal differing from that of which the projectile is made; but

I claim as my invention, and desire to secure by Letters Patent—

The within-described projectile for small-arms, the same being composed of the cen-

tral tubular lining of tinned iron, round and to which is cast a leaden exterior, tapering in front, as described, in combination with a hard-metal washer, B, bearing against the rear of the said tube, the whole being otherwise constructed, as set forth, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. DE COURSEY.

Witnesses:

CHARLES E. FOSTER,
JOHN WHITE.