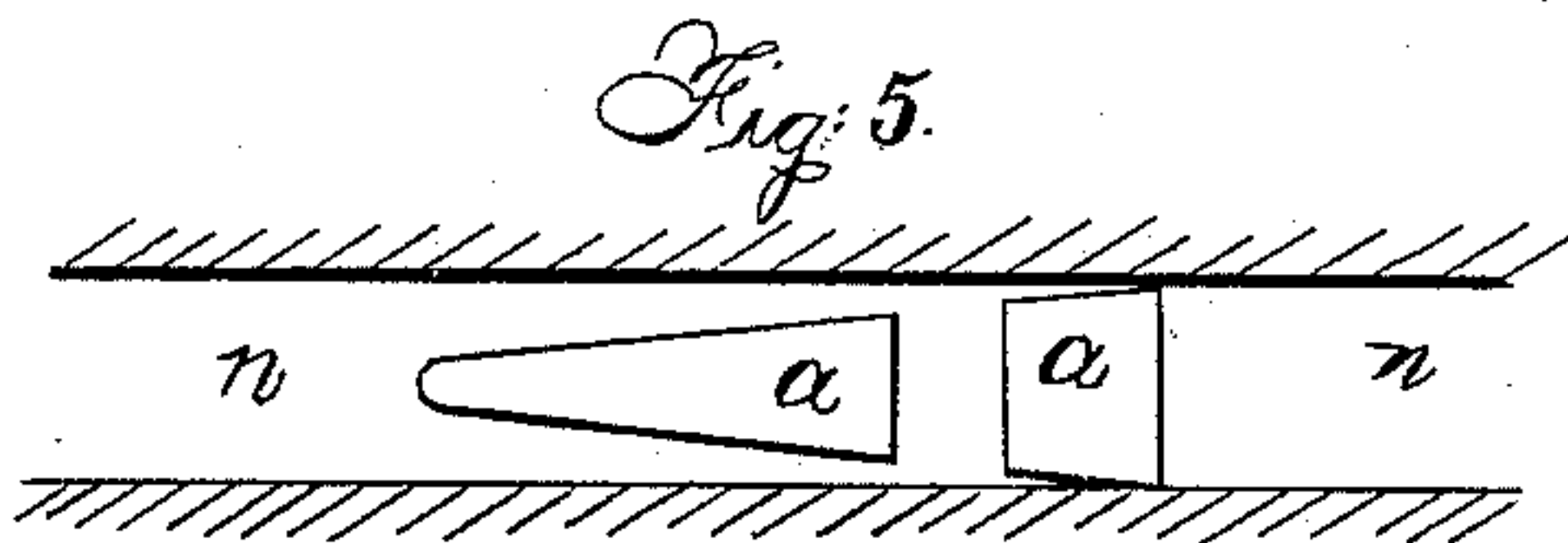
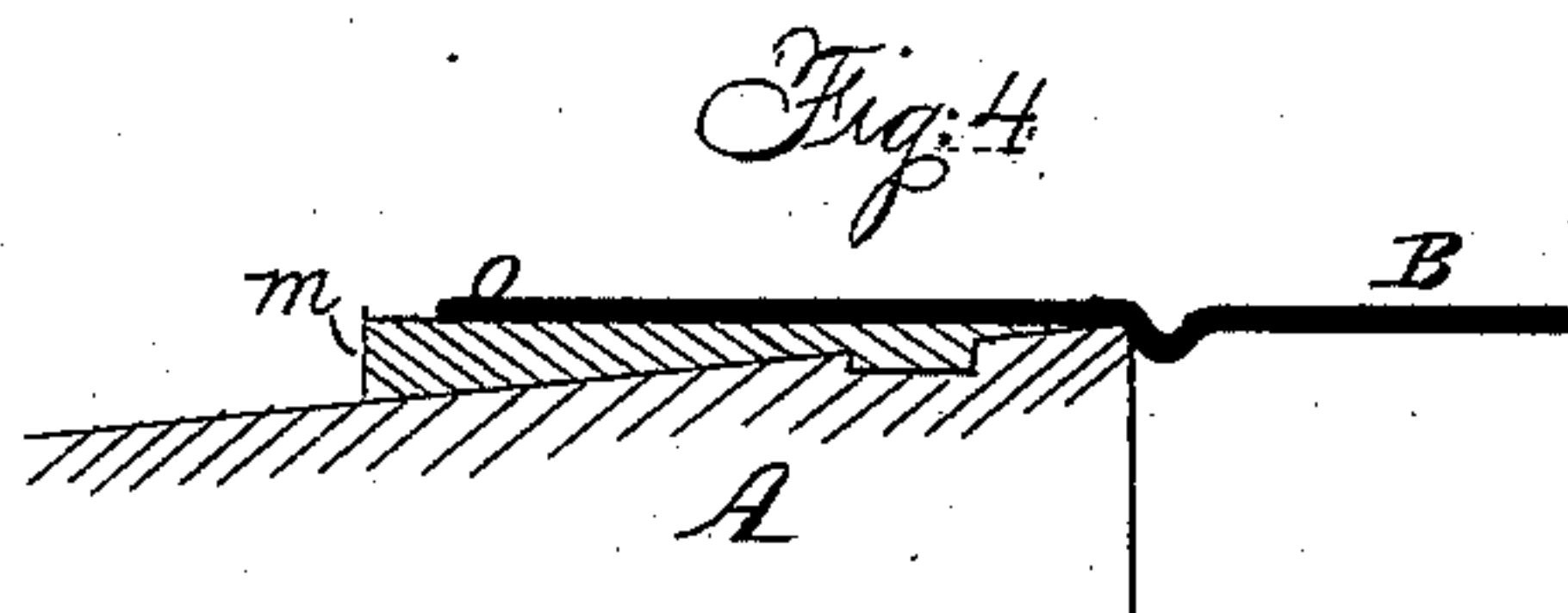
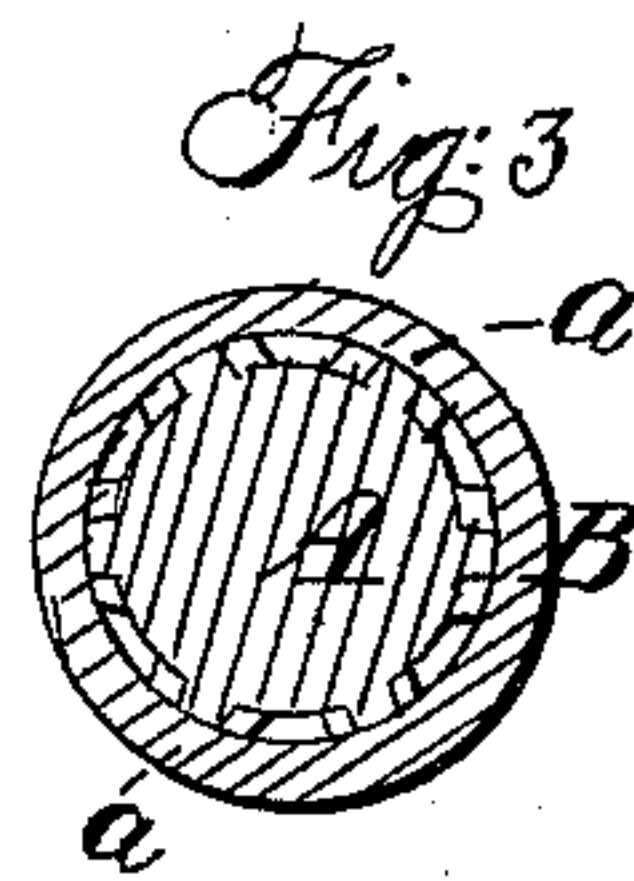
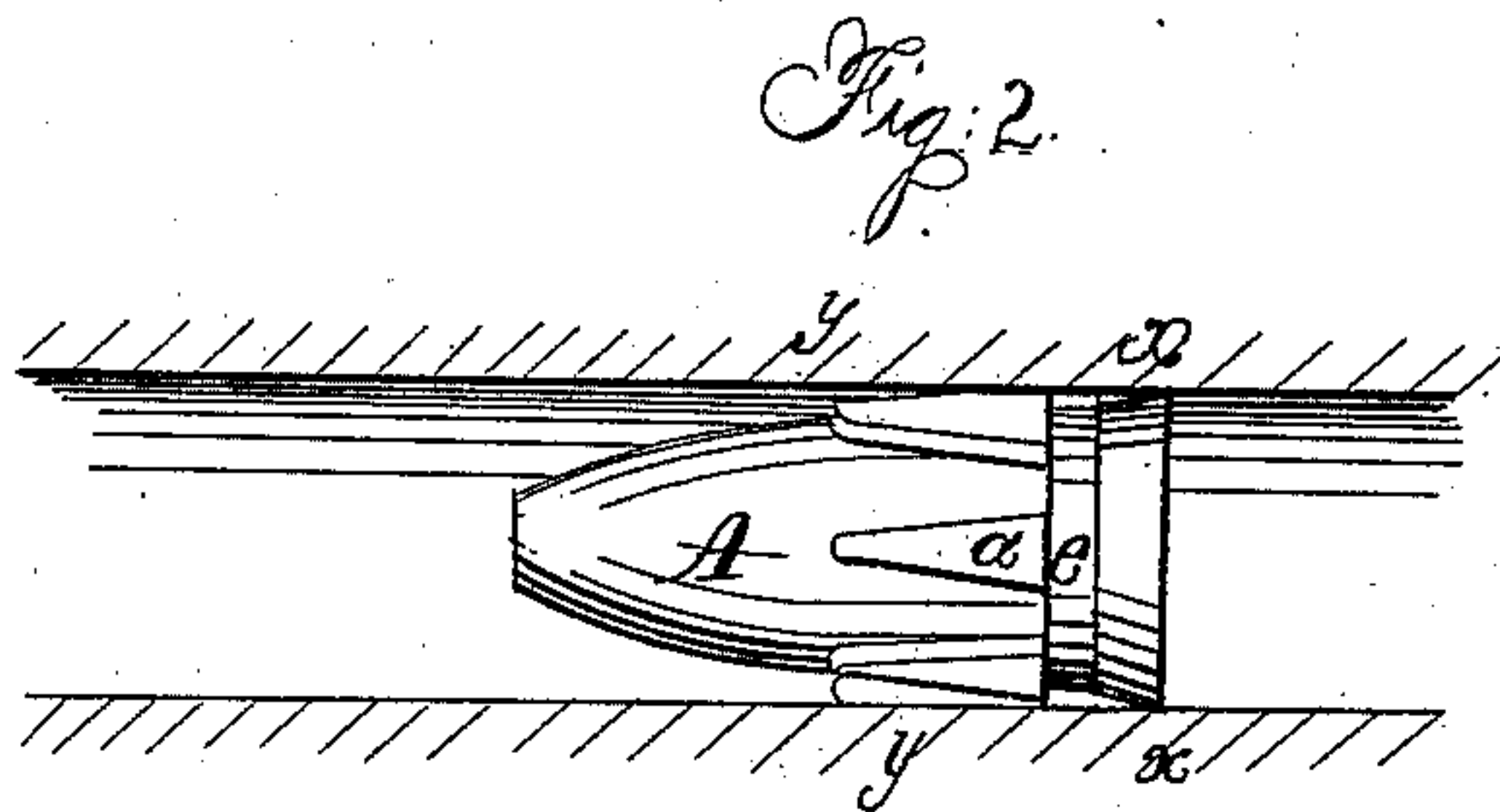
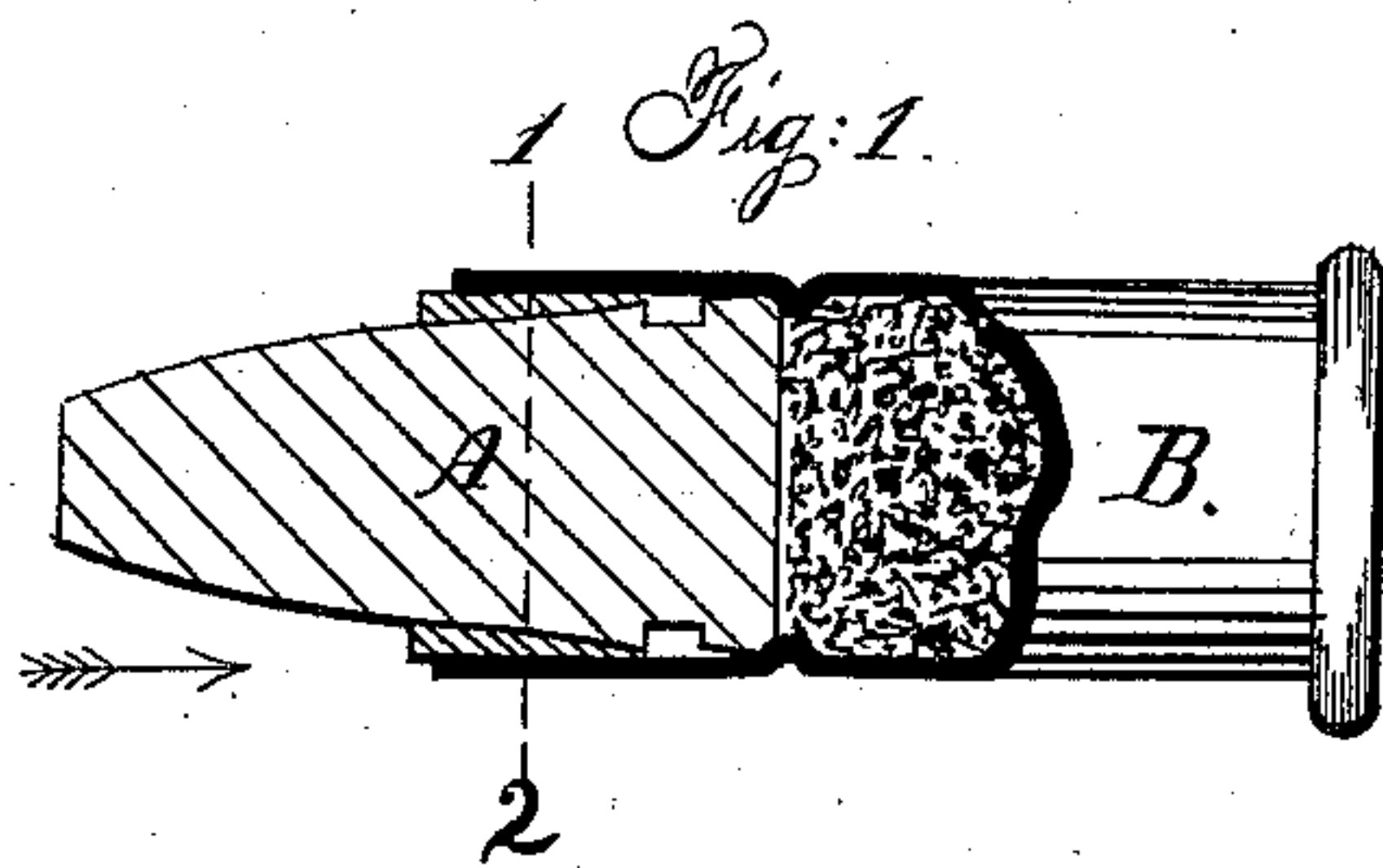


C. SHARPS.

Projectile.

No. 48,729.

Patented July 11, 1865.



Witnesses { *Wm. Albert Steel*
John Parker

C. Sharps
By his Att'y
J. H. Houston

UNITED STATES PATENT OFFICE.

CHRISTIAN SHARPS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PROJECTILES FOR RIFLED FIRE-ARMS.

Specification forming part of Letters Patent No. 48,729, dated July 11, 1865.

To all whom it may concern:

Be it known that I, CHRISTIAN SHARPS, of Philadelphia, Pennsylvania, have invented an Improved Projectile; 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 invention consists of a projectile having a body of a tapering form from the rear to the front end, in combination with certain wedge-formed projections, the whole being constructed and adapted to the bore of the barrel and to the metallic cartridge-case, substantially as described hereinafter, so that the projectile may be properly guided in its passage through the bore of the barrel, and so that both bore and projectile may be properly lubricated, while the bore is effectually cleansed of all detrimental sediment.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a view, partly in section, of the projectile and metal case; Fig. 2, an exterior view of the projectile in the barrel of the fire-arm; Fig. 3, a transverse section on the line 1 2, Fig. 1, looking in the direction of the arrow; and Figs. 4 and 5, diagrams illustrating my invention.

Similar letters refer to similar parts throughout the several views.

A is the projectile, and B the metal case, the latter being similar to those of ordinary projectiles used in connection with breech-loading fire-arms. The body of the projectile, as seen in Fig. 1, is not made cylindrical near the base, as usual, but is tapered from the base toward the point. On the body, however, are projections *a* of the wedge form represented in Fig. 2, there being the same number of projections as there are grooves in the barrel. The projectile, measured over the projections, is of the same diameter from the point *x* to the point *y*, with the exception of a groove, *e*, near the rear, the case fitting tightly over the projections, as seen in Fig. 1, and the points of the projections extending sufficiently beyond the end of the case to enable the opera-

tor to insert them into the grooves as he places the cartridge in the bore of the fire-arm. When the case is thus fitted to the projectile a series of angular chambers are presented between the two for the reception of grease, as will be best observed on reference to Fig. 4, where *m* represents the grease. It should be understood that each of the wedge-shaped projections *a* is at the base as wide as one of the grooves in the bore of the barrel, as seen in Fig. 5, where *n* represents the groove.

In designing my improved projectile I had three main objects in view: first, the proper guiding of the projectile as it passes through the bore; second, the efficient lubrication of both projectile and barrel; third, the cleansing of the barrel by means of the projectile.

Hitherto it has been deemed necessary to make the projectile cylindrical toward the rear, so that it might be properly guided in its passage through the bore of the barrel, the metal case fitting tightly to this cylindrical portion, and there being no other chamber or receptacle for the grease than that presented by one or more circular grooves formed near the base.

It will be seen that my improved projectile is maintained in a position concentric with the bore of the barrel by the projections *a*, and consequently it must be properly guided in its course. At the same time, owing to the tapering form of the body of the projectile, as seen in Fig. 1, there are numerous chambers communicating with each other between the case and projectile for the reception of much greater quantity of grease than an ordinary projectile could contain. On its passage through the bore of the barrel the wedge-formed projections *a* have a tendency to spread the grease laterally against the grooves and throughout the interior of the barrel, which is thus thoroughly and evenly lubricated throughout its length—a most important feature, inasmuch as an unequal lubrication of the barrel causes a projectile to deviate from the intended course.

The third important end attained by the use of my improved projectile is the cleansing of the barrel, whatever sediment may be left therein by the discharging of a previous load being, as it were, plowed up by the wedge-formed projections, so that the sediment cannot present any obstacle to the direct course of the

projectile, whereas in using other projectiles the sediment is apt to become jammed between the bullet and the bore and to cause the former to deviate from its direct course.

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

The within-described projectile, having a body tapering from the rear toward the front end, in combination with the wedge-formed projections *a*, the whole being constructed and

adapted to the bore of the barrel and to the case B, substantially as and for the purpose herein set forth.

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

CHRISTIAN SHARPS.

Witnesses:

JOHN WHITE,
CHARLES HOWSON.