T. G. ORWIG.

Projectile.

No. 46,490. Patented Feb. 21, 1865.

Fig. 2.

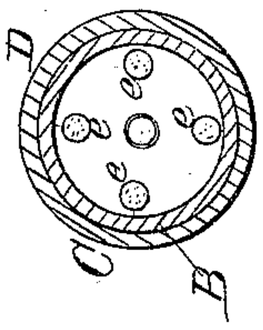


Fig. 1.

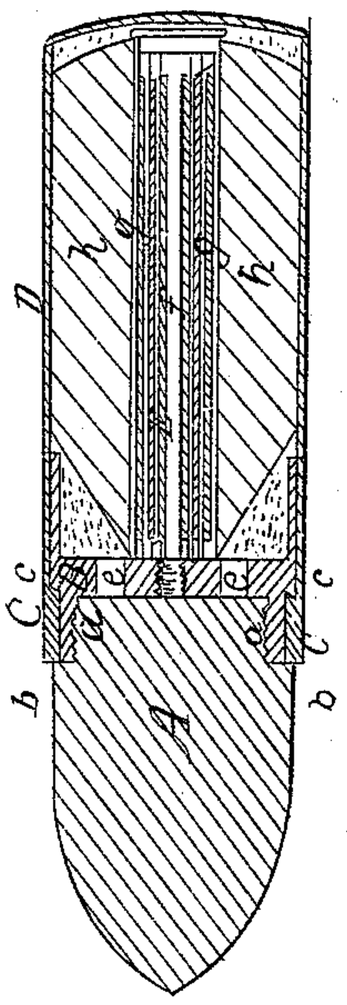
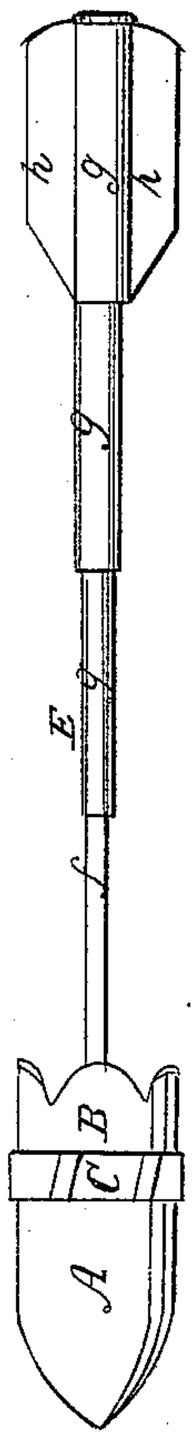


Fig. 3.



Witnesses.
Wm. Truman
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UNITED STATES PATENT OFFICE.

THOMAS G. ORWIG, OF NEW YORK, N. Y.

IMPROVEMENT IN PROJECTILES.

Specification forming part of Letters Patent No. **46,490**, dated February 21, 1865.

To all whom it may concern:

Be it known that I, THOMAS G. ORWIG, of the city, county, and State of New York, have invented a new and Improved Arrow-Projectile; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal central section of this projectile before firing. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a side elevation of the same after it has left the muzzle of the barrel.

Similar letters of reference indicate corresponding parts.

This invention consists in the application to a projectile of a telescope-stem provided with wings in such a manner that when the projectile is prepared for use said stem can be contracted within the limits of the cartridge-bag, but when the charge is fired, and as soon as the projectile leaves the muzzle of the barrel, the stem elongates by its own inertia and atmospheric resistance, and gives balance and steadiness to the projectile in its flight, thereby increasing the range, velocity, and force, and also the certainty of striking the object fired at. The wings, being secured to the tubular end of the stem, do not interfere with the revolving motion of the projectile, if the same is fired from a rifled barrel. The stem is secured to a cap which is perforated with holes, and from the outer surface of which rises a rim with an internal screw-thread, which screws on the inner end of the projectile, leaving a shoulder for the soft-metal ring to rest on in such a manner that when said cap, with the telescope-stem contracted, is introduced into the cartridge-bag said bag can be readily filled with powder through the perforations in the cap; and, by screwing the projectile down into the rim of the cap, the edge of the cartridge-bag is clamped between the soft-metal ring and the shoulder of the cap, and no further fastening for said bag is required.

A represents a projectile, which may be spherical, elongated, or in any other desirable form or shape, and solid or hollow. This projectile is furnished with a screw-thread, *a*, which screws into the rim *b* of the cap B, as shown in Fig. 1. A shoulder, *c*, left on the outside of the rim *b*, sustains the soft-metal ring C, and when the projectile is screwed down said ring clamps the edge of the cartridge-bag D between its inner edge and the shoulder *c*, so as to retain the same in place. The cap is perforated with holes *e*, through which the cartridge-bag is filled with powder previous to screwing on the projectile, and said cartridge-bag incloses the stem E, which is firmly secured in the cap B. Said stem is made of a solid rod, *f*, combined with a series of tubes, *g*, fitted to the same and to each other on the principle of a telescope, and the last or largest of these tubes is provided with wings *h*, made of thin sheet metal or any other suitable material, in the form shown in the drawings. The several sections of the stem are of such a length that the same, when it is contracted, has room in the interior of the cartridge-bag, as shown in Fig. 1. When the charge is fired and the projectile is driven out of the barrel, the inertia of the wings causes the stem to elongate and to form a guide for the projectile during its flight, which balances the same and imparts to it steadiness during its flight, thereby increasing its range, velocity, and force, and also the certainty of striking the object fired at. It can be adapted to smooth-bore and rifled cannon or small-arms; and by attaching the wings to the last tube they do not interfere with the revolving motion of the projectile when the same is fired from a rifled barrel.

I claim as new and desire to secure by Letters Patent—

1. The telescopic tubes *g g*, adapted to slide and rotate one within another, in the described combination with the ball A, stem *f*, and wings *h h*, all arranged and operating in the manner and for the purposes set forth.

2. The combination of the perforated cap B with the winged telescope-stem E, soft-metal ring C, projectile A, and cartridge-bag D, constructed and operating substantially as and for the purpose described.

THOMAS G. ORWIG.

Witnesses:

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