

E. G. ALLEN.  
Projectile.

No. 45,306.

Patented Dec. 6, 1864.

Fig 2

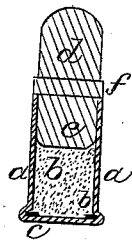


Fig 3

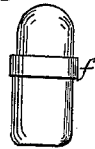
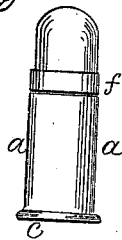


Fig 1



Witnesses  
Joseph Garrett  
Frederick Arlauer  
E. G. Allen

# UNITED STATES PATENT OFFICE.

E. G. ALLEN, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN BULLETS FOR SMALL-ARMS.

Specification forming part of Letters Patent No. 45,306, dated December 6, 1864.

*To all whom it may concern:*

Be it known that I, E. G. ALLEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Projectiles; and I do hereby declare that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The present invention relates to certain new and useful improvements in projectiles, intended more particularly for breech-loading fire-arms, but also applicable to muzzle-loading weapons.

The object of my improvements is to impart accuracy of flight to the ball, and at the same time secure a perfect gas-check in rifled barrels. I attain these results by forming my new projectile with a projecting band encircling its periphery, and located on or near its center of gravity. The projecting band fits into the rifled grooves of the barrel so as to form a perfect gas-check, while at the same time the remaining portion of the surface of the projectile has a bearing against the smooth surface of the barrel, both in front of and behind the projecting band, thereby guiding and holding the ball perfectly true to the line of flight intended. Moreover, when the projectile leaves the muzzle of the gun, that portion of it aft of the projecting band has a bearing against the smooth or ungrooved portion of its bore, thereby keeping the ball steadily in its

true position until it arrives at the extreme end of the muzzle, thus insuring its delivery therefrom with perfect accuracy.

In the accompanying drawings my improved projectile is represented as applied to a cartridge arranged for fixed ammunition, Figure 1 being a side elevation of the same; Fig. 2, a central vertical section; and Fig. 3, a detail view, to be hereinafter referred to.

*a a* in the drawings represent the metallic case, containing the powder *b b*, and the fulminate in the cap or edge *c* at its base. The projectile *d e* has a band, *f*, extending against around it at or near its center of gravity. As shown in the drawings, the projectile is inserted in the metallic case until the band *f* rests upon the top edge of the same. When the projectile is discharged from the case *a a*, the band *f* fits and travels in the rifled grooves of the barrel, and the portions *d* and *e* fit and bear against the ungrooved portions thereof, the combined arrangements giving the projectile that accuracy of flight, and forming a perfect gas-check in the weapon, as hereinabove enumerated. In Fig. 3 the band *f* is represented as placed a little ahead of the central transverse axis of the ball; but it is desirable that it should be as near its center of gravity as possible.

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

An elongated cylindrical projectile having a projecting band at or near its center of gravity, as set forth.

E. G. ALLEN.

Witnesses:

JOSEPH GAVETT,  
FREDERIC A. SAYER.