

JOHN RIGNEY.

Improvement in Projectiles.

No. 127,796.

Patented June 11, 1872.

Fig. 1.

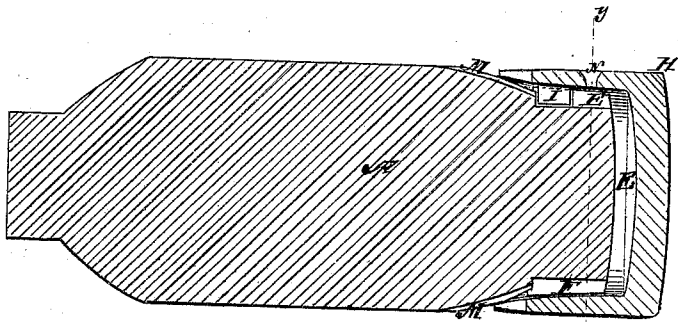


Fig. 2.

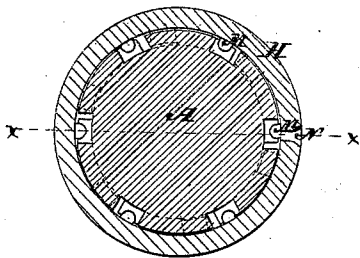


Fig. 3.

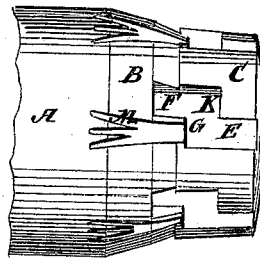
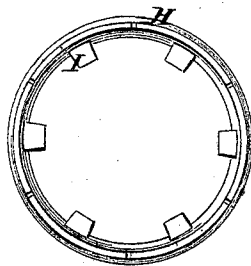


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN RIGNEY, OF WEST POINT, NEW YORK.

IMPROVEMENT IN PROJECTILES.

Specification forming part of Letters Patent No. 127,796, dated June 11, 1872.

Specification describing a new and Improved Projectile, invented by JOHN RIGNEY, of West Point, in the county of Orange and State of New York.

My invention consists of a composition or soft-metal cup applied to the rear of the projectile in such manner that the sides, being forced along a conical part of it, will be expanded into the grooves of the gun. The invention consists of a connection of the cup to the end of the projectile in such manner that it cannot become detached during the flight and thus fall short of the range of the projectile, said connection being such as not to interfere with the movement of the cup along the projectile on expanding.

Figure 1 is a longitudinal section of a projectile with my improvement taken on the line *x x*, Fig. 1. Fig. 2 is a cross-section on the line *y y* of Fig. 1. Fig. 3 is a side elevation of part of the projectile; and Fig. 4 is a top view of the cup.

Similar letters of reference indicate corresponding parts.

The projectile A is provided with a conical part, B, near the rear end, between the largest part, and a smaller cylindrical part, C, at the end. This latter part and part of the conical part B have one or more of the locking-grooves for fastening the cup, consisting of two longitudinal grooves, E F, connected by a circumferential groove, G, and the composition-metal cup H has as many studs I upon the inner wall of the side as there are of said locking-grooves, which, entering grooves E and being turned into grooves G behind shoulder K, secure the cup by a kind of bayonet-fastening, so that after the projectile has escaped from the gun and is in flight the cup cannot fall off,

although it may become loose on the conical part B, up which it is forced by the explosion of the charge behind it to be expanded into the grooves of the gun for giving the shot the spiral motion required. The grooves F are provided to allow the lugs I to move forward without obstruction when the explosion takes place and the sides of the cup are forced up the expanding part B.

I propose to utilize the space L between the end of the shot and the bottom of the cup; also the unoccupied spaces in the grooves, to contain tallow or any other lubricant that will solidify in the temperate climates, and hold it subject to the action of the explosion, which will instantly melt and force it out through the groove M and spread it over the surfaces of the shot and the gun for lubricating and preventing the wear of the shot on the gun, which is sometimes so great as to scrape off the surface considerably. The cup will be temporarily held by set-screws in the holes N, which will be broken to allow the cup to move along by the explosion.

A great advantage in my coupling is that the cup and projectile can be manufactured by different establishments, packed separately, and sold independently of each other.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The projectile A, having the grooves E F G, with shoulders K, in combination with cup B, having the studs I, as and for the purpose described.

JOHN RIGNEY.

Witnesses:

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