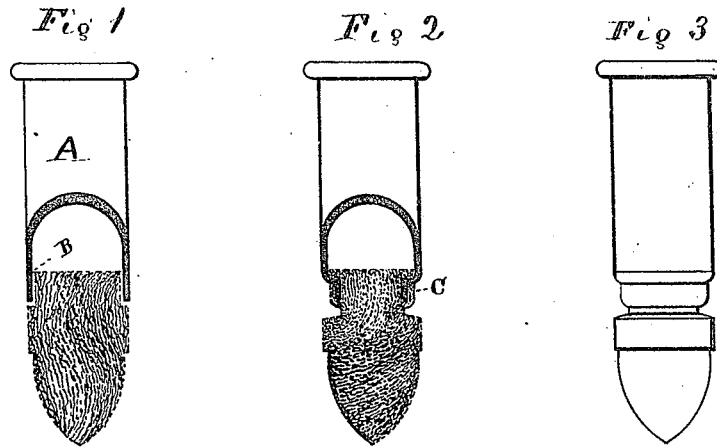


De W. C. FARRINGTON.  
Cartridge.

No. 160,263.

Patented March 2, 1875.



Witnesses,  
C. A. R. Dimou  
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Inventor,  
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# UNITED STATES PATENT OFFICE.

DE WITT C. FARRINGTON, OF LOWELL, MASSACHUSETTS.

## IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 160,263, dated March 2, 1875; application filed February 8, 1875.

*To all whom it may concern:*

Be it known that I, DE WITT C. FARRINGTON, of Lowell, county of Middlesex, and Commonwealth of Massachusetts, have invented certain Improvements in Cartridges of which the following is a specification:

This invention relates to the method of attaching a projectile to the shell of a cartridge, and is designed to secure more uniformity and accuracy than by the ordinary method, and also to make a joint which shall be impervious to moisture.

Heretofore the projectile has been generally secured to the shell of a cartridge by crimping the metal into it with a beveled roll or similar tool. As it is impossible to make every shell of a given length, an inequality of crimping is obtained, by which the projectile is distorted from its proper position, producing inaccuracy of flight.

Another method of securing the projectile to the shell is by packing the metal of the projectile into and against the end of the shell by pressure. This, in some cases, is not sufficient security for rough transportation, and the projectiles are often loosened thereby.

My improved method is intended to overcome these objections, and is described as fol-

lows, reference being made to the drawings and letters of reference.

Figure 1 represents a cartridge-shell, A, having the tenon of the projectile B inserted therein. The metal of the shell is then reduced, by any proper method, into the metal of the projectile, preferably by a flat-faced tool, as shown at C in Fig. 2. The metal of the projectile is then displaced, and turned or made to flow over the outside, or that part of the shell which has been reduced, as shown in Fig. 3.

By these means the projectiles are accurately set and uniformly fastened to the shell, and, by enveloping the end of the shell in the metal of the projectile, a water-proof joint is produced.

What I claim as my invention is, viz:

A cartridge in which the shell or case and the projectile are connected together, as shown, and having the metal of the projectile turned over the end of the shell, for the purposes set forth.

DE WITT C. FARRINGTON.

Witnesses:

C. A. R. DIMON,  
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