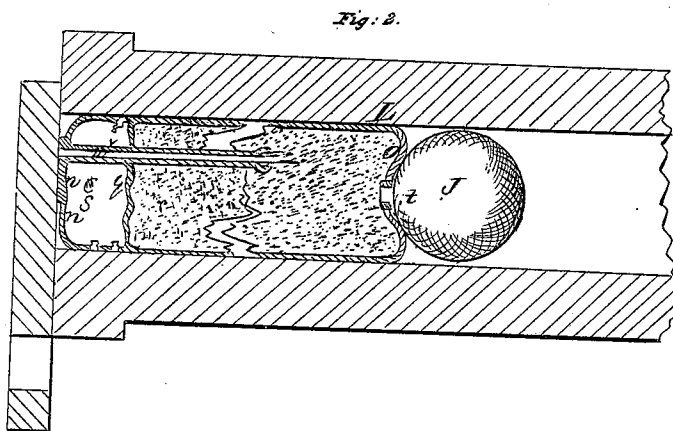
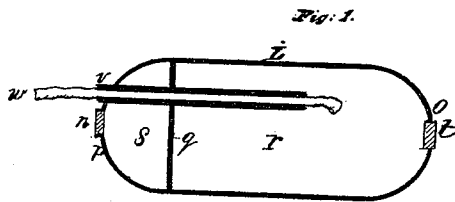


C. F. BROWN.
Cartridge.

No. 12,942.

Patented May 29, 1855.



UNITED STATES PATENT OFFICE.

CHARLES F. BROWN, OF WARREN, RHODE ISLAND.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 12,942, dated May 29, 1855.

To all whom it may concern :

Be it known that I, CHARLES F. BROWN, of Warren, in the county of Bristol and State of Rhode Island, have invented an Improved Cartridge for Breech-Loading Ordnance; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal section of the cartridge; Fig. 2, a central section of the chamber of a gun, with the cartridge in the act of exploding.

Similar letters of reference indicate corresponding parts in both figures.

The case of this cartridge is intended to be made of tin-plate or other metal.

The invention consists, first, in making the ends of the case of hemispherical or other convex form. By giving them this form, when the explosion takes place they will be caused to expand in such form and direction as to fill the bore of the piece tightly, and in a great measure prevent windage both at the breech and around the ball or projectile.

The invention also consists in making a water-chamber in the rear end of the case. This chamber will be burst by the explosion of the charge, and the water will serve at the same time the purposes of cooling the breech and of preventing the escape of the fire at the breech, and the consequent loss of force.

L is the case, of which *o* is the front end, and *p* the rear end, both of nearly hemispherical form. At a short distance from the rear end there is a partition, *q*, which divides it into two parts, *r* and *s*, the former of which is the powder-chamber and the latter the water-chamber. In the front end *o* there is an opening to insert the powder in the chamber *r*, and in the rear end *p* another opening to fill the chamber *s* with water, the former opening being closed by a tight stopper, *t*, and the latter by another tight stopper, *u*. A tube, *v*, leads from the rear end *p*, through the water-chamber and the partition *q*, into the middle of the powder-chamber, to convey a fuse, *w*, to the center of the charge, the said tube being intended to be furnished at its outer end with a percussion priming, which will be ignited by the shearing off of its end by the closing of the breech; or the fuse may be ignited by any other convenient means.

The ball or other projectile, *J*, is put in the piece separate from the cartridge, and in order that the cartridge and projectile may be inserted easily and the ball may fit with sufficient tightness during the discharge, the chamber of the piece should be slightly enlarged toward the breech. The explosion of the cartridge drives one end toward the breech and the other toward the projectile, and the concave end *o* will be driven against the projectile with such force that before the latter has hardly started the said end will have been expanded laterally, so that it nearly forms a square corner all round the bore, and the case *L*, for a considerable distance from its front end, will fit very closely to the bore, so as to prevent windage around the projectile. The end *p* will be driven back against the breech, and a similar lateral expansion will take place, causing a considerable portion of the case from the rear end to fit tightly enough to the bore to prevent, in a great measure, any windage or escape of exploded powder taking place at the breech by reason of the latter not being perfectly tight. The explosion of the charge after having expanded the end of the case, as described, will burst the water-chamber, either by tearing the metal or melting the soldering of the case, and the water being discharged will not only cool the breech, but, if the breech should not be tight, it will be driven into the crevices, and thus prevent the escape of the gas or exploded powder. When the breech of the piece is opened after the discharge, the water all runs out unless the inclination of the piece is such that it runs toward the muzzle.

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

1. Making the ends of the metal cartridge-case of hemispherical or other convex form, substantially as and for the purpose herein set forth.

2. Providing a water-chamber, *s*, in the rear end of the cartridge-case, to be filled with water previously to the insertion of the cartridge in the gun, substantially as and for the purpose set forth.

CHARLES F. BROWN.

Witnesses:

JOS. GEO. MASON,
WILLIAM TUSCH.