H. C. BULL.

CARTRIDGES.

No. 180,840. Patented Aug. 8, 1876.

Fig. 1.

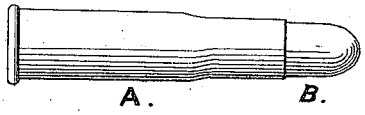


Fig. 2.

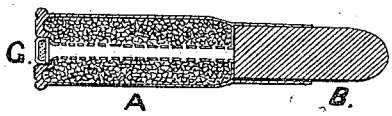


Fig. 3.

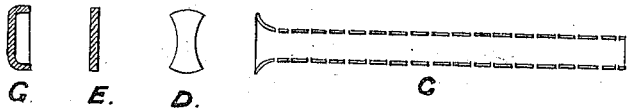
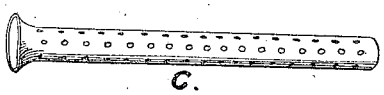


Fig. 4.



WITNESSES

Octave Whittaker

John. Harrison

INVENTOR

Henry C. Bull.

UNITED STATES PATENT OFFICE.

HENRY C. BULL, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO WM. L. HEADLEY, OF SAME PLACE.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 180,840, dated August 8, 1876; application filed December 18, 1875.

To all whom it may concern:

Be it known that I, HENRY C. BULL, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Central-Fire Cartridges for Fire-Arms; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the figures and letters marked thereon, and in which—

Figure 1 is an exterior view of the cartridge; Fig. 2, a longitudinal section of the same, in the line of the axis; Fig. 3, a longitudinal section of the central tube in the line of its axis, together with the anvil and cap for the fulminate; Fig. 4, the central tube detached.

The same letters of reference are used to designate the same parts in all the figures.

The nature and object of my invention are to produce perfect combustion of the powder within the cartridge, which result I accomplish by conveying the fire from the fulminate into the axis of the cartridge by means of a small perforated or slotted tube, thus igniting the charge in numerous places simultaneously.

To enable others skilled in the art to make and use my invention, I shall now describe the construction and operation of the same.

I take the ordinary metallic shell-cartridge, as shown in Fig. 1, in which A is the shell and B the projectile, and place in its axis the small perforated tube C, (shown detached in Figs. 3 and 4,) which should be of thin metal, or other suitable material, and the perforations of which should be smaller than the grains of the powder with which the shell is charged; or, if preferred, narrow slots may be used instead of the small holes or perforations.

The powder is filled into the shell A, around the central perforated tube C, and then the projectile B is set into the shell against the inner end of this tube, as shown in Fig. 2. A small piece of metal, called the anvil, a front view of which is shown at D in Fig. 3, and an edge view at E in the same figure, and the cap G, containing the fulminate, (shown in section in Fig. 3,) are secured in a small cavity in the end of the cartridge, as shown at G in Fig. 2, which cavity has an opening into the central perforated tube C, for the passage of the fire; or the cavity G may be formed at the center of the inner side of the head of the cartridge, and have the fulminate deposited in or attached to it opposite to the open end of the inner tube; or the fulminate may be attached to the rear end of the central tube, or in such wise that the hammer of the lock shall strike against and explode the fulminate.

The cartridge, being thus prepared and loaded, is placed in the chamber of a breech-loading fire-arm, and on drawing the trigger the hammer of the lock strikes the cap G, exploding the fulminate and forcing the fire into the central tube C, and, through the perforations of this tube in all directions, into the charge by which it is surrounded, producing a perfect, entire, and simultaneous combustion of all the powder behind the projectile or ball, thus giving to such projectile or ball a greater velocity and range than it is possible to obtain from the same weight and quality of powder when only partially consumed in the discharge, as is now the case when heavy charges are used for long-range practice; and thus also keeping the barrel of the piece comparatively clean, and capable of being used for a much longer time than can be done by any of the modes heretofore in use for firing the charge.

I do not limit myself by this specification to any particular form of shell; nor that the shell shall be metallic in its composition; nor to any particular form or order of the perforations or openings in the central tube; nor that the central tube shall pass entirely through the charge of powder in the shell; nor that the fire of the fulminate shall directly produce the combustion of the powder in the cartridge; nor do I confine myself entirely to the use of the anvil and cap as a means of exploding the cartridge, as other methods to produce the same effect in place thereof may be used and substituted.

Having thus described the nature, construction and operation of my improvement in cen-

ter-fire cartridges, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

A cartridge for breech-loading fire-arms, having an inclosing case or shell, and an interior or central perforated or slotted tube extending to the base of the projectile, and provided with a percussion-cap or fulminate at the rear end, substantially as herein described.

HENRY C. BULL.

Witnesses:
OCTAVE WHITTAKER,
JOHN HARRISON.