## R. WHITE.

Cartridge.

No. 112,305.

Patented Feb. 28, 1871

Fig.1.

Fig. 2.

Witnesses.

Fig. 4.

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## UNITED STATES PATENT OFFICE.

ROLLIN WHITE, OF LOWELL, MASSACHUSETTS.

## IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 112,305, dated February 28, 1871.

To all whom it may concern:

Be it known that I, Rollin White, of Lowell, in the county of Middlesex, and in the State of Massachusetts, have invented certain new and useful Improvements in Cartridges; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists, first, in a cap made of one or more pieces, carrying its own anvil, and provided around its exterior surface with one or more tongues or grooves; and, second, in combination with such a cap, of a cartridge-base having an aperture for the insertion of said cap, said aperture being provided with one or more grooves or tongues corresponding with the tongues or grooves of the cap.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which represents various forms of cap, all having the grooves or tongues.

A represents a cap made of one or more pieces and provided with fulminate-receptacle a and anvil b.

Figures 1 and 2 show a cap with its anvil made of one piece and a vent, *i*, through the anvil; Fig. 4 shows, also, a cap made of one piece with its anvil, but with no vent; while Fig. 3 shows the anvil formed of a separate piece of metal from the cap and two vents through the anvil.

Around the exterior surface of the cap A is formed one or more grooves, d, or tongues e.

B represents the base of the cartridge-shell, having an aperture into which the cap is to

be inserted, and said aperture is provided with either one or more tongues or one or more grooves, to correspond with the grooves or tongues on the exterior surface of the cap.

The caps A may be of any desired form, either cylindrical, conical, or any other suitable shape, and may have one or more grooves or tongues, as may be necessary, or according to the apertures made to receive or fit into it. They may be corrugated, concave, convex, or flat, and either bent, forced, or pressed into the aperture, and made as tight as desirable, thus forming, as it were, one piece with the base of the cartridge-shell B.

The caps are manufactured and filled with greater convenience separate from the cartridge, and when fastened in as above described they may be said to form a part of the shells.

The cap represented in Fig. 4 has a tongue or flange, f, which, when the cap is inserted into the aperture of the cartridge-shell, is to be pressed down so as to fit over the tongue on the inside of the aperture, and thus hold the cap firmly in its place. This cap may also have a vent, the same as the others represented in the drawing.

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

The combination of the cartridge-case and cap herein described, one provided with an annular tongue and the other with a groove, all substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of January, 1871.

ROLLIN WHITE.

Witnesses:

C. M. ALEXANDER,

J. M. MASON.