S. JACKSON.

Cartridge.

No. 45,830. Patented Jan. 10, 1865.

Fig 1

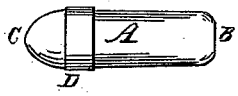

Fig. 3

Fig. 2.

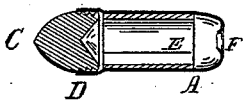

Fig 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL JACKSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CASTINGS.

Specification forming part of Letters Patent No. **45,830**, dated January 10, 1865; antedated January 3, 1865.

To all whom it may concern:

Be it known that I, SAMUEL JACKSON, of Philadelphia, in the county of Philadelphia and State of Pennyslvania, have invented a new and Improved Cartridge for Breech-Loading Carbines or 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 letters of reference marked thereon.

The nature of my invention consists in providing a cartridge with a metallic lining, of novel construction and arrangement, so that the same, acting in connection with the paper casing of the cartridge, shall form a perfect gas-check, and at the same time enable the shell of the cartridge to be readily withdrawn from the barrel after having been discharged.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

Figure 1 is a side elevation of a cartridge complete. Fig. 2 is a longitudinal section of the same; Fig. 3, an elevation of the rear end; and Fig. 4 is a transverse section taken in the line *x x* of Fig. 2.

My improved cartridge is intended for use in that class of breech-loading guns in which the joint between the barrel and the breech-piece is at a point about midway between the front and rear ends of the cartridge when the latter is placed in position ready for firing.

A represents the outer casing of the cartridge, which may be constructed of cloth or any other pliable material suitable for such use, though I prefer to use paper.

The rear end of the outer casing A is made in the form shown, having a slight indentation in the center thereof, at which point a small hole is made, through which the powder is ignited by the cap. This hole is closed by a small piece of tissue-paper placed over it on the inside of the casing, at its rear end; or it may be filled by a drop of collodion. The object of thus closing the orifice in the rear end of the cartridge is to prevent the powder from escaping and being lost by the handling or transportation of the cartridge, and also to prevent the powder from becoming injured by the admission of moisture.

I then place inside of the casing thus made a cylinder made of a strip of thin metal, with its edges overlapping, as shown at G, Fig. 4, said edges being left loose, or, in other words, not soldered or otherwise united to each other. This metallic cylinder E is of such length, and is so located in the paper-casing A, that when the cartridge is placed in the gun it shall extend across and completely cover the joint between the barrel and the breech-piece, as shown in Fig. 2, where the line *x x* indicates the position of said point.

The ball C is then inserted in the front end of the casing A, after the latter has been charged with powder in the usual manner, the casing being secured to the rear of the ball, as shown at D, Fig. 2.

The operation of my improved cartridge is as follows: The cartridge is placed in the barrel in the usual manner, when the barrel is brought back in contact with the breech-piece so as to close the joint, which will bring the orifice in the rear end of the cartridge in line with the opening through which the fire from the cap is conveyed to the powder, the fire from the cap acting with sufficient power to penetrate or ignite the tissue-paper or collodion with which the hole in the rear of the cartridge had been closed, as previously described.

The explosion of the powder within the metallic casing forces the latter outward, causing it to press with great force against the inner surface of the chamber of the gun, and pressing the paper casing so tightly between the metallic tube E and the wall of the chamber as to pack the joint between the barrel and breech-piece tight, and thus prevent the escape of any gas. The metallic tube or cylinder E being thus inserted, receives the pressure of the gas at the explosion of the charge, and prevents it from breaking through the paper casing A and escaping at the joint, as it otherwise would.

When the pressure upon the interior of cylinder E is relieved by the escape of the

gas from the muzzle of the gun, the cylinder E slightly contracts in diameter, the loose edges permitting it to do so readily, by which means the casing of the cartridge is left loose in the chamber, and can be readily removed therefrom.

Having thus described my invention, what I claim is—

The combined paper and metallic cartridge-case, when constructed and arranged to operate substantially as set forth.

SAMUEL JACKSON.

Witnesses:
J. A. PECK,
THOMAS SCRIVENER, Jr.