

Timothy J. Powers,

Improved method of priming

PATENTED JUN 20 1871

116094

Centre fire Cartridges.

Fig 1.

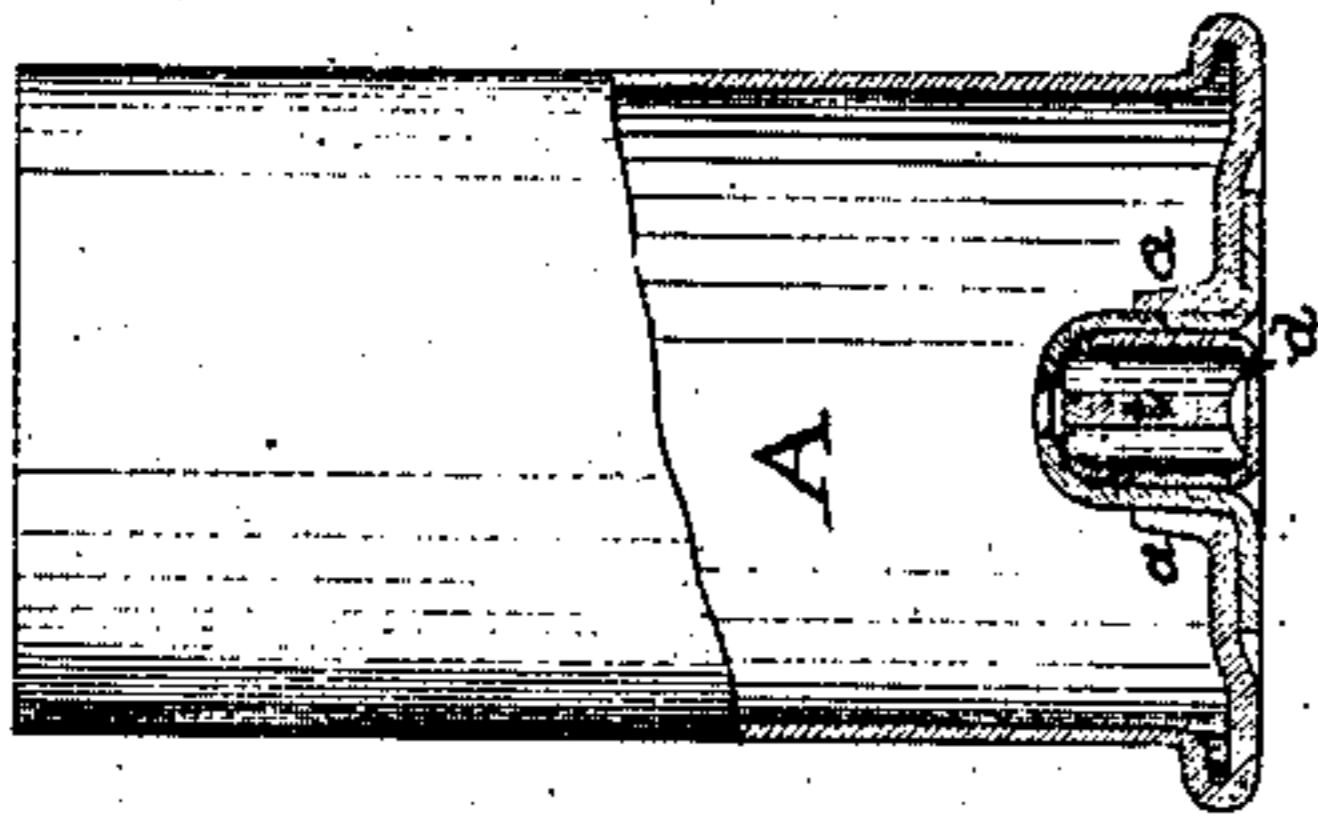


Fig 2.

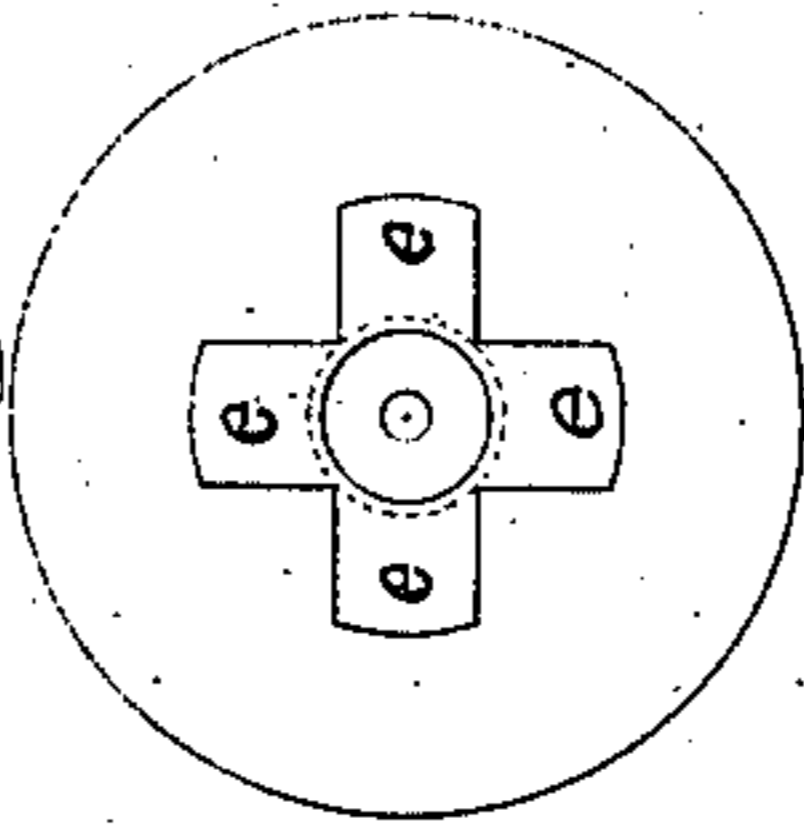


Fig 3.

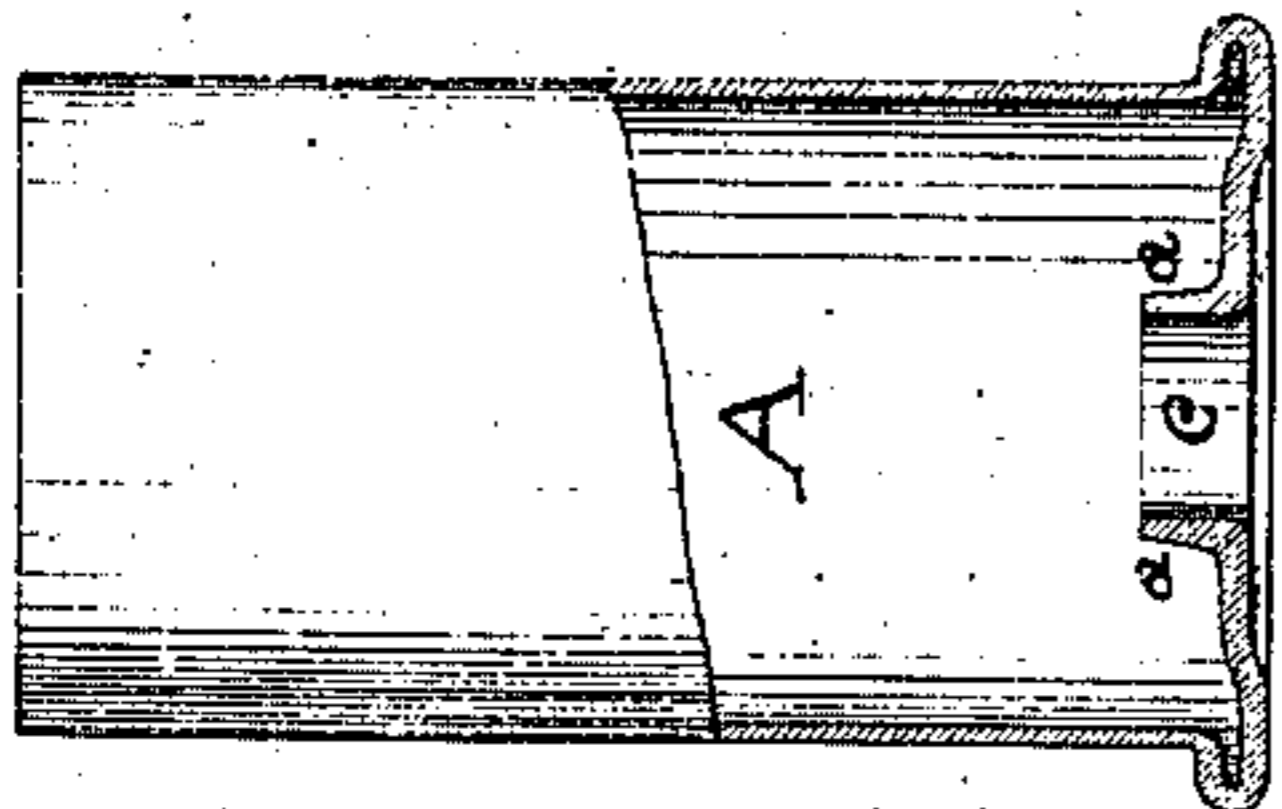
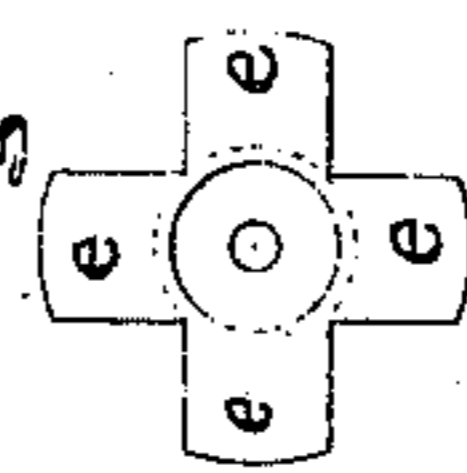


Fig 4.



Fig 5.



Witnesses:

Mr. Riddley  
Geo. Gott.

Inventor:

Timothy J. Powers  
By J. P. Hatch, his Atty.

# UNITED STATES PATENT OFFICE.

TIMOTHY J. POWERS, OF NEW YORK, N. Y.

## IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 116,094, dated June 20, 1871.

*To all whom it may concern:*

Be it known that I, TIMOTHY J. POWERS, of the city, county, and State of New York, have invented a new and useful Improvement in Center-Fire Cartridge-Cases, of which the following is a specification, reference being had to the accompanying drawing forming part thereof, in which—

Figure I is a view, partly in section, of a cartridge-case completely primed embodying my invention. Fig. II is a butt-end view of the same. Fig. III is a view, partly in section, of a cartridge-case prepared to receive the priming. Fig. IV is a central sectional view of the flanged cup or tube to be inserted in the butt of the cartridge-case for holding the percussion-cap that forms the priming. Fig. V is an end view of the same.

My invention consists in piercing the butt of the cartridge-case for the admission of the priming devices, and carrying a portion of the metal of the butt inward so as to form an annular or tube-like projection, then inserting into this opening a flanged cup or tube, the flange resting against the outer surface of the butt, and the body being tightly encircled by the annular projection on the butt, thus securing the said cup in position, and forming a very complete gas-check, and then inserting into this short tube a percussion-cap having in it a suitable anvil on which to explode the cap.

A is a metallic-cartridge case, made in the ordinary manner. *a* is an annular or short tube, projecting inward around the orifice *c*, made in the butt of the case. *b* is a priming-holder, being a small cup struck or drawn up out of either a circular or star-shaped piece of metal plate, the rim being turned outward at right angles with the body, forming a flange, *e*. It is made to fit snugly into the orifice *c* in the butt of the case, the flange *e* resting against the outer surface of the butt, which is bent inward around the orifice *c* to receive it, so that the rear of the butt with the flange *e* of the priming-holder *b* shall present a smooth surface. A small hole, one or more, is made through the bottom of the priming-holder, to permit the fire from the priming to be communicated to the gunpowder within

the case. *d* is an ordinary percussion-cap, containing a suitable anvil, *t*, to explode the cap, one end or edge of which touches the priming of the cap, and the other is flush with the open end of the cap. This cap is forced tightly into the priming-holder *b*, the open end with the anvil resting down against its closed end. After the priming-holder *b* is inserted into the orifice *c*, the annular flange *a* should, by a suitable die-punch, be placed within the case, having in its end a counter-sink fitted to receive and hold the flange *a*, and a small punch forced into the orifice *c* be closed in tightly around the body of the priming-holder.

When this operation is properly performed the flange or tube *a* and the body of the priming-holder *b* may be so closely and firmly united together as to constitute them a perfect gas-check, preventing all escape of gas between them.

The gas generated by firing the powder in the cartridge, pressing upon the outside of the flange *a*, tends to close the flange more tightly in upon the body of the priming-holder *b*, and necessarily obviates all escape of gas.

The percussion-cap may be readily removed after firing, as is evident, and another inserted; and I have often reloaded and fired one of these cartridges forty or fifty times without destroying or indeed injuring the case.

I am aware that the use of the flanged cup or tube *b* for holding a percussion-cap as a priming in the butt of a cartridge-case is not new; but whenever it has been heretofore used, so far as I know, the orifice in the butt of the case made to receive it has been formed by removing the metal at the opening, making a straight clean cut through the metal, and without turning any of it inward to form a support or a gas-check around the body of the cup. The result has been that from cartridges primed in this manner there is so large an escape of gas upon firing them that they are practically worthless unless the butt is filled in and made tight by paper or some equivalent substance pressed into them. I do not, therefore, claim broadly the priming of a cartridge by means of a percussion-cap held

within the cup *b* in the butt of the case;  
but

What I do claim is—

The combination and relative arrangement,  
herein shown and described, of the internal  
flange *a* and cap-pocket or battery-cup *b*,  
whereby the said battery-cup is secured in

position and a gas-tight connection effected,  
as set forth.

T. J. POWERS.

Witnesses:

J. P. FITCH,  
GEO. GOTT.