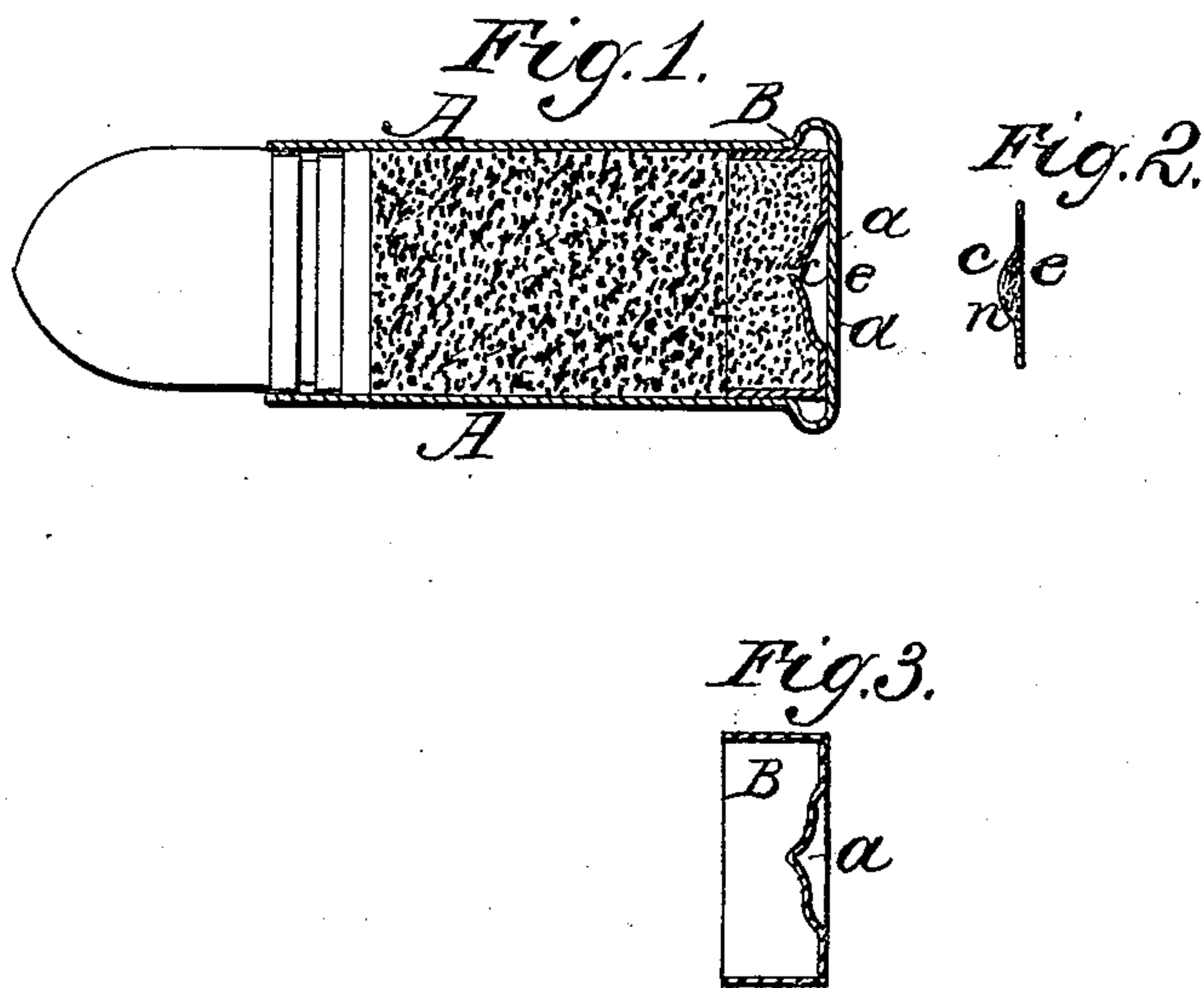


J. R. VAN VECHTEN.

Cartridge.

No. 87,735.

Patented March 9, 1869.



Inventor.
J. R. Van Vechten

Witnesses.
Fred. Haynes
McEvomby

UNITED STATES PATENT OFFICE.

JUNIUS R. VAN VECHTEN, OF NEW YORK, N. Y.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 87,735, dated March 9, 1869.

To all whom it may concern :

Be it known that I, JUNIUS R. VAN VECHTEN, of the city, county, and State of New York, have invented a new and useful Improvement in Priming Center-Fire Cartridges for Breech-Loading Fire-Arms; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a central longitudinal section, on a scale longer than real size, of a cartridge with my improvement. Fig. 2 is a central section of the fulminate priming and its envelope. Fig. 3 is a central section of the anvil-cup.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to center-fire cartridges in which the fulminate priming is contained between the butt or head of the shell and an anvil-cup inserted therein. In such cartridges the fulminate priming has heretofore commonly been inserted between the anvil-cup and the butt or head of the shell without any interposed substance, and the result has been that if the quantity of fulminate were sufficient to fill or nearly fill the cavity provided between the anvil-cup and the head or butt of the shell, it has been very liable to be exploded in the act of inserting the anvil-cup into the shell, and if the quantity of priming were not sufficient to fill the said cavity, its explosion by the striking of the butt or head of the cartridge with the hammer or firing-pin of the fire-arm has been very unreliable, owing to the liability of the fulminate to break or crumble and slip away from its place. Attempts, more or less successful, have been made to obviate these difficulties by the insertion of the priming into a separate capsule of metal; but this adds materially to the expense of the cartridge.

The object of this invention is to obviate the above-mentioned difficulties experienced in the placing of the fulminate priming between the anvil-cup and butt of the shell without any interposed substance, and to make a cartridge at less expense than, and which is as safe and reliable as, if not more safe and reliable than, the cartridge having the priming in a metal capsule; and to this end the invention consists in the interposition between the

fulminate-priming and the anvil-cup and the butt of the shell of paper or other thin flexible material, whereby the priming is so confined that it may be exploded with certainty by the blows of the hammer or firing-pin.

To enable others skilled in the art to apply my invention to use, I will proceed to describe it with reference to the drawings.

A is the shell of the cartridge, resembling that of metallic cartridges in common use. B is the anvil-cup, fitted, inserted, and secured into the shell A in the usual or any suitable manner, and having in its back side a shallow cavity, *a*, for the reception of the fulminate priming, and having at or near its center one or more holes for the passage of the fire from the priming to the charge of powder.

c is the fulminate priming. *e* is a piece of paper or other thin flexible material interposed between the priming and the butt of the shell. *n* is a piece of the same or similar material interposed between the priming and the anvil-cup.

The most convenient manner of priming the cartridges is to take a suitable quantity of the fulminate priming in a moist condition in a mass of a quantity which is less than sufficient to fill the cavity in the anvil-cup upon a piece of paper which has been previously coated with a solution of gum, mucilage, or other suitable adhesive material, and to cover it with a second piece of paper, which is pressed upon the first piece, around the fulminate, and caused to adhere thereto, and then allowed to dry; or, instead of thus preparing the priming for one cartridge at a time, the moist fulminate may be placed in suitable quantities for single cartridges, at suitable distances apart, upon a sheet of paper which has been previously coated with the moist adhesive material, and another sheet of paper may then be placed over the whole and made to adhere to all parts of the first sheet not covered by the priming; and the two adhering sheets, with the interposed priming, may, when dry, be cut into pieces, each containing a mass of the fulminate, and of suitable size to be received between the butt of the cartridge-shell and the anvil-cup. The double paper, with the interposed priming thus prepared for each cartridge, is then secured, by means of a solution of shellac or other adhesive material, to

the back of the anvil-cup, with the mass of priming opposite the cavity *a* in the said cup, which may then be inserted and secured in the cartridge-shell, in the usual or any convenient manner, without any danger of explosion of the priming. The shell may then be loaded with powder and ball, in the usual manner.

The cartridge thus primed, when struck in or near the center of the butt or head by the point of the hammer or firing-pin of a fire-arm, has its fulminate so held in place by the paper or other thin flexible material, which is interposed between it and the butt of the shell and the anvil-cup, that there is hardly a pos-

sibility of its failure to be fired, the fulminate being prevented from breaking or crumbling and slipping away under the blow of the hammer or firing-pin.

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

The paper or other thin flexible material *e n*, interposed between the fulminate and the butt or head of the shell and the anvil-cup of the cartridge, substantially as and for the purpose herein described.

JUNIUS R. VAN VECHTEN.

Witnesses:

FRED. HAYNES,
HENRY PALMER.