

# J. W. COCHRAN.

*Cartridge.*

No. 120,625.

Patented Nov. 7, 1871.

Fig. 1.

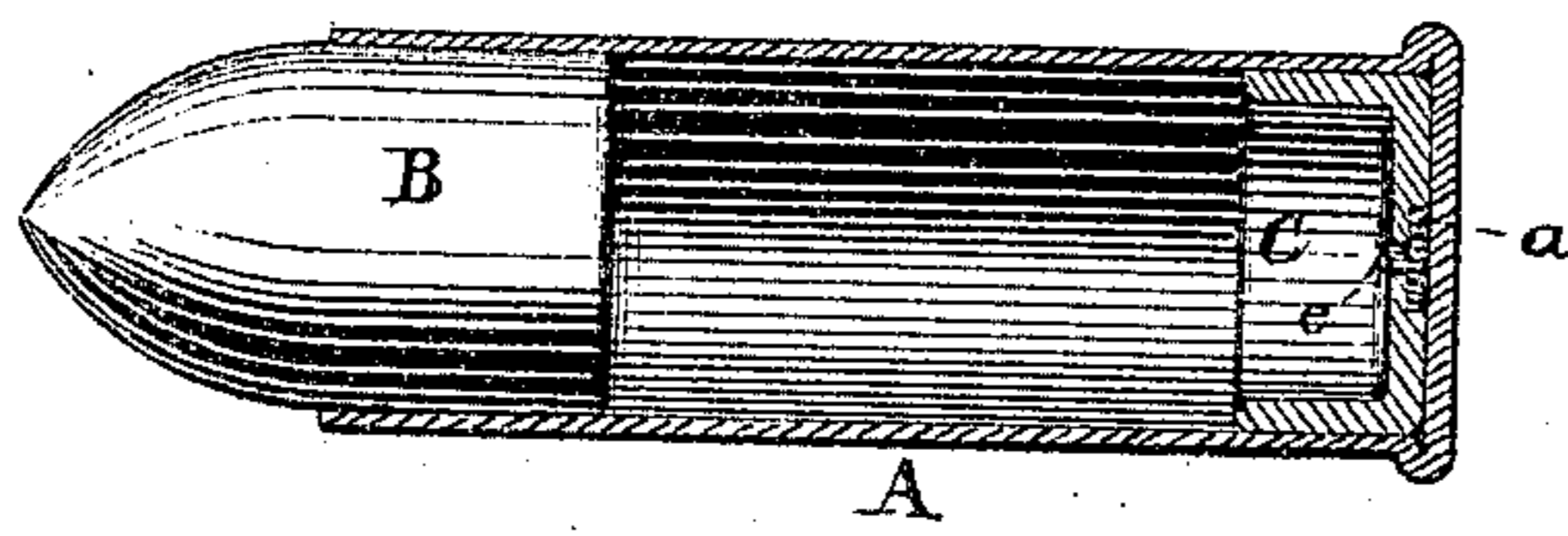


Fig. 2.

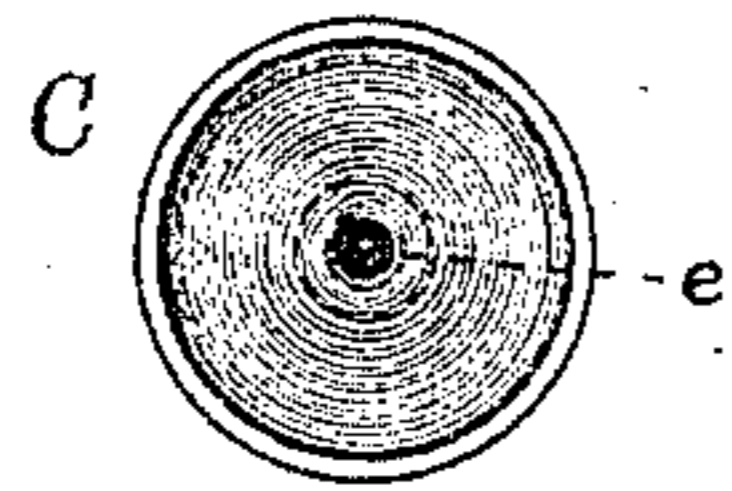
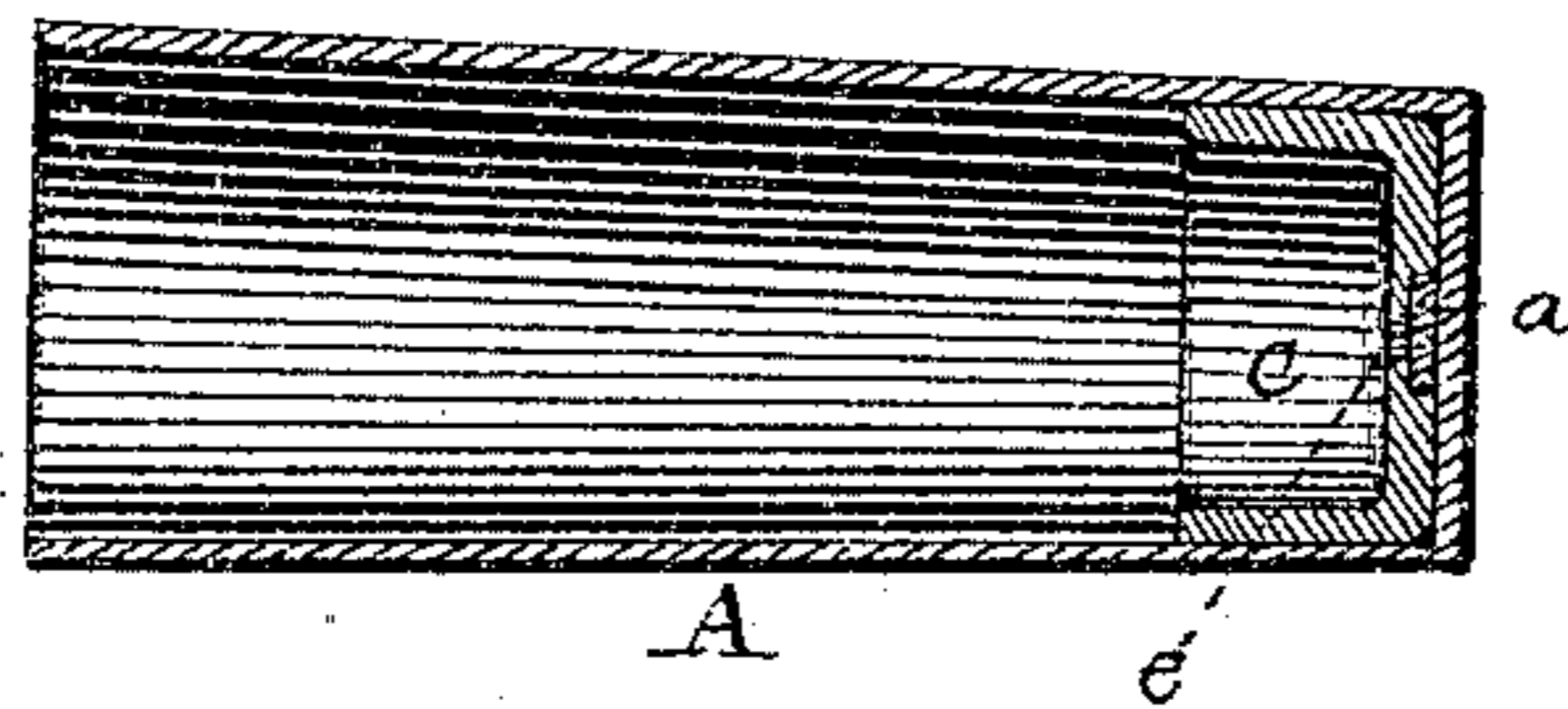


Fig. 3.



Fig. 4.



Witnesses:  
*L. Hailer.*  
*Phil. T. Dodge.*

Inventor  
*John W. Cochran.*  
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# UNITED STATES PATENT OFFICE.

JOHN WEBSTER COCHRAN, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNION METALLIC CARTRIDGE COMPANY, OF BRIDGEPORT, CT.

## IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 120,625, dated November 7, 1871.

*To all whom it may concern:*

Be it known that I, JOHN WEBSTER COCHRAN, of the city, county, and State of New York, have invented a new and useful Improvement in Metallic Cartridges; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification.

My invention relates to certain improvements in metallic cartridges; and the invention consists in providing the case or shell of the cartridge with an interior cup or re-enforce, arranged in a peculiar manner, as hereinafter explained.

Figure 1 is a longitudinal section of a cartridge-case complete, with the ball inserted. Fig. 2 is a front end view. Fig. 3 is a side view of the cup detached; and Fig. 4, a longitudinal section of the cartridge without any flange.

My present invention is designed for rendering more perfect that style of cartridges denominated copper cartridges or metallic cartridges, and more generally used in military arms, both revolving and single-barreled. In the present improvement I seek to accomplish three objects. First, to so strengthen the base or rear end of the cartridge that it can be fired in a revolving arm without having its base swelled or bulged outward so as to cause it to bind or wedge against the breech, and thereby prevent the cylinder from rotating. Second, to strengthen the flange of the shell and prevent it from bursting when the charge is fired; and third, to make the cup or re-enforce serve as an anvil to resist the impact or blow of the hammer or firing-pin, striking from behind and at the center of the base.

To make my improved cartridge I provide the case A, which is formed of copper or other ductile metal, in the usual manner. I then provide a cup, C, which may also be made of sheet metal or any other suitable material. This cup I make of such a diameter that it will fit snugly within the case A at its rear end, as shown in Figs. 1 and 4. Before inserting the cup I make a small recess, *a*, in its rear face or outside, at the center, as shown in Figs. 1 and 4, and by dotted lines in Fig. 2, to receive the fulminate. A small hole, *e*, also extends from the recess through to the inside of the cup to permit the passage of the flame from the fulminate to the powder or charge inside of the case A. After placing the fulminate

in the recess *a* the cup C is pressed down into the case A so as to fit snugly against its rear end, where it may be secured by slightly indenting the sides of the case at the front edge of the cup. When thus arranged, as shown in Fig. 1, I produce a cartridge admirably adapted for military use. If it be desired to have a cartridge that can be inserted from the front instead of at the rear I merely omit the flange on its rear end and make the case slightly tapering, its front end being the larger, as represented in Fig. 4.

It is obvious that the cup may be used with cartridges having the fulminate located in the rim or flange by making one or more small grooves leading from the flange to the central hole *e*, or by making one or more small perforations at the angle of the cap, in which latter case the central opening *e* might be dispensed with. It is also obvious that, if preferred, a hole may be made through the base of the cartridge opposite the hole *e* in the cup, and the fulminate be applied externally; in which case, as well as in that where rim-fire is used, the recess *a* may be dispensed with, the cup still performing its three-fold functions of protecting or strengthening the flange or angle of the head of the case, rendering the base rigid and preventing it from expanding or bulging outward, and furnishing, in connection with the base, an anvil to receive and resist the blow of the firing-pin or hammer. By this improvement I construct a cartridge-case capable of withstanding the heavy charges now used in military arms, and that can therefore be fired with safety, and that can be manufactured cheaply.

I am aware that a cartridge has heretofore been made with a cup having the fulminate placed inside of the same, or of a rearwardly-projecting portion of the same; and also, that a cup has been used in connection with a separate disk or anvil placed between the base of the cup and the rear end of the case; but, in all such cartridges, the cup does not serve as an anvil, and in nearly all it is placed so far forward that it does not operate to protect or strengthen the flange or angle of the head; and in those cases where it does cover the flange a large opening is made in the base of the cartridge, through which a portion of the cup protudes, thus leaving but a single thickness of metal at that point to resist the strain of the charge. Moreover, in all of these cartridges an anvil is required, sep-

arate and distinct from the cup, and all of them are so constructed that to ignite them the blow must be struck at right angles to the longitudinal axis of the case, like the well-known Lefeu- cheux cartridge, and, therefore, cannot be used in the guns in general use in this country.

Having thus described my invention, what I claim is—

A metallic cartridge-case, consisting of the

case A and the cup C, when the said parts are constructed and arranged substantially as herein shown and described.

J. W. COCHRAN.

Witnesses:

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(32)