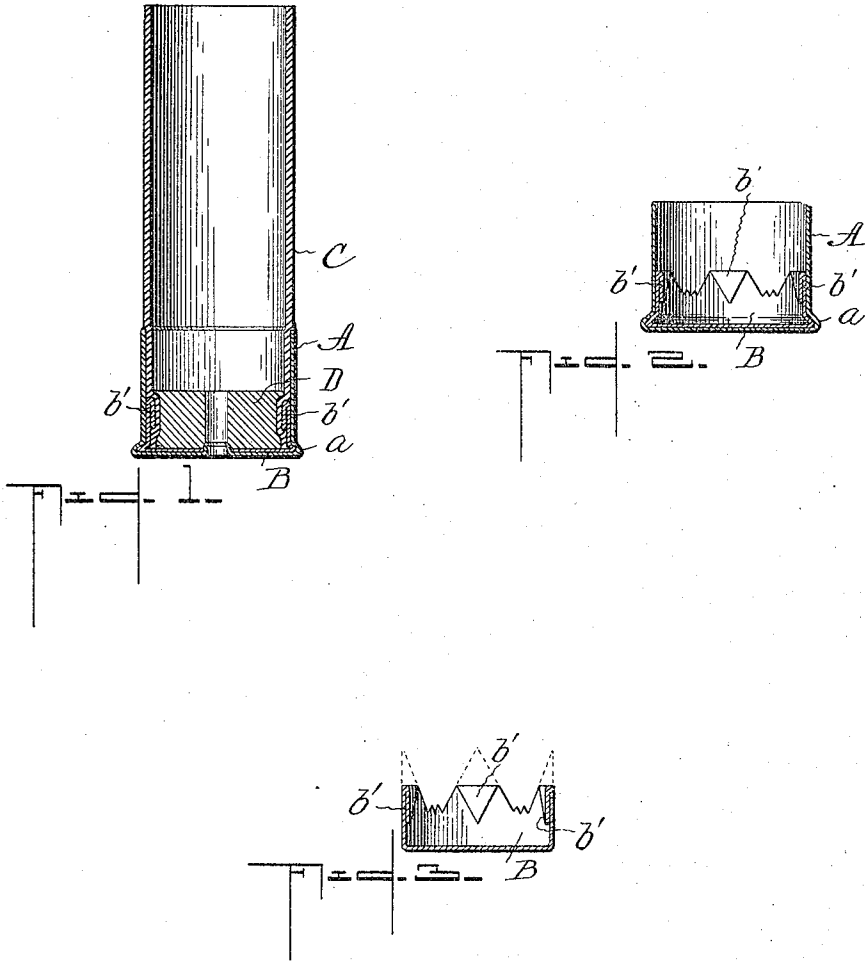


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PATENTED JUNE 6, 1905.

M. E. BAILEY.  
CARTRIDGE.

APPLICATION FILED JUNE 11, 1904.



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# UNITED STATES PATENT OFFICE.

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## CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 791,858, dated June 6, 1905.

Application filed June 11, 1904. Serial No. 212,138.

*To all whom it may concern:*

Be it known that I, MAUDE E. BAILEY, a citizen of the United States, residing at Cromwell, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Cartridges, of which the following is a specification.

This invention is an improvement in cartridges, and relates more especially to the class of paper-tube cartridges.

The object of the invention is to provide a simple and inexpensive breech construction for a paper-tube cartridge in which the paper tube and metal cap are intimately and strongly connected and in such manner as to reinforce the breech.

The invention contemplates the employment of a metal lining struck up to provide extensions that are bent inward upon themselves to form enlargements or lugs adapted to be embedded in the paper tube and intimately connect the same with said lining, such connection being firmly maintained by means of the usual paper wad or breech-piece, all as will be hereinafter particularly described, and the novel features more specifically pointed out in the appended claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a sectional view of a paper-tube cartridge constructed in accordance with my invention. Fig. 2 is a detail sectional view of the cap and metal lining connected together by the usual rim-flange. Fig. 3 is a detail view of the metal lining, illustrating the manner of making the same.

Like letters of reference indicate like parts in all the figures of the drawings.

Referring to said drawings, the letter A designates the metal cap; B, the metal lining; C, the paper tube, and D the usual breech-piece, which is inserted to connect the parts and further reinforce the breech.

In carrying out my invention the metal lining B is struck up or cupped from a square piece of sheet metal, whereby four pointed extensions are formed, as shown in dotted lines, Fig. 3, and these extensions are bent inward upon themselves to provide enlargements or lugs *B'*, disposed at the inner side of

the lining and V-shaped. This metal lining is inserted in the cap A, and both are flanged outward, as in Figs. 1 and 2, to provide the usual rim-flange *a* and also connect said parts together. When thus connected, the cap is provided with a lining at the breech of the cartridge, and the enlargements or lugs formed on said lining are peculiarly adapted to engage and securely hold the paper tube to the cap. In applying the paper tube one end of the same is slightly reduced and inserted in the connected cap and lining, after which the breech-piece or wad D is inserted in the paper tube and compressed by the usual method, which latter operation will clamp the tube between said breech-piece and lining and cause the V-shaped enlargements or lugs *B'* of the lining to be embedded in the paper tube and such engagement maintained by the wad or breech-piece. The paper tube may be either plain at its inner end, as illustrated in Fig. 1 of the drawings, or said inner end may be crimped inward, as is usual.

In the usual manner of connecting the paper tube and the metal cap, the latter either with or without a lining, the breech-piece alone has been relied upon to provide the required connection of the parts; but such a connection relying solely upon frictional engagement is not sufficient, inasmuch as it will readily yield when force is applied in removing a jammed cartridge from a firearm and results in a separation of the cap from the tube. This is more often the case when an attempt is made to remove the shell by turning the same, such operation usually resulting in turning the cap upon the tube, and thereby loosening the connection, so that the cap alone is removed. Therefore by providing a metal cap of a paper-tube cartridge with a metal lining having a series of lugs or enlargements struck therefrom and embedded in the tube by the expansion of the breech-piece in compressing the latter in the shell the said paper tube is intimately connected to the parts, and the connection will withstand both longitudinal and lateral strain, thus insuring a withdrawal of all the parts of the cartridge or shell when extra force is required to remove the same from the firearm.

The manner of making up the metal lining by forming the lugs from the stock in the manner described provides a cheap construction.

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

1. A paper-tube cartridge, comprising a metal cap, a lining secured therein and provided with inwardly-projecting lugs or enlargements, a paper tube inserted in said lining, and a breech-piece expanded to embed the lugs or enlargements of the lining into the tube.

15 2. A paper-tube cartridge, comprising a metal cap, a metal lining secured therein and provided with inwardly-projecting lugs or enlargements, a paper tube inserted in said lining, and means expanding the tube to embed the aforesaid lugs or enlargements of the lining therein.

3. In a paper-tube cartridge, the combination with the metal cap, of a metal lining secured thereto by the usual rim-flange, and inwardly-projecting lugs or enlargements formed on said metal lining; together with a paper tube inserted in the lining, and means for expanding the tube to embed the lugs or enlargements therein.

30 4. In a paper-tube cartridge, the combination with the metal cap, of a sheet-metal lining having portions of the sides thereof bent upon such sides to form lugs or projections, a paper tube, and a breech-piece expanding

the tube so as to embed the lugs or projections 3: therein.

5. In a paper-tube cartridge, the combination with the metal cap, of a metal lining secured therein and having lugs or projections formed by extensions of the sides bent inward 4: upon the latter, a paper tube inserted in the lining, and a breech-piece expanded to embed the lugs or projections into the paper tube.

6. In a paper-tube cartridge, the combination with the metal cap, of a metal lining struck 4: or cupped up from a square piece of sheet metal to provide pointed extensions which latter are bent inward upon themselves to form V-shaped projections or lugs *b'*, a paper tube inserted in said metal lining, and a breech- 5: piece inserted in the paper tube and expanded to embed the lugs or projections into the paper tube to intimately connect the parts.

7. In a paper-tube cartridge, a metal piece for connecting the paper tube, said metal piece 5: having inwardly-projecting lugs on the side walls thereof, which lugs are embedded in the paper tube; combined with the breech-piece expanding the paper tube against said lugs, substantially as described. 6:

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MAUDE E. BAILEY.

Witnesses:

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