

(No Model.)

G. P. SALISBURY.

Cartridge.

No. 226,932.

Patented April 27, 1880.

Fig. 1

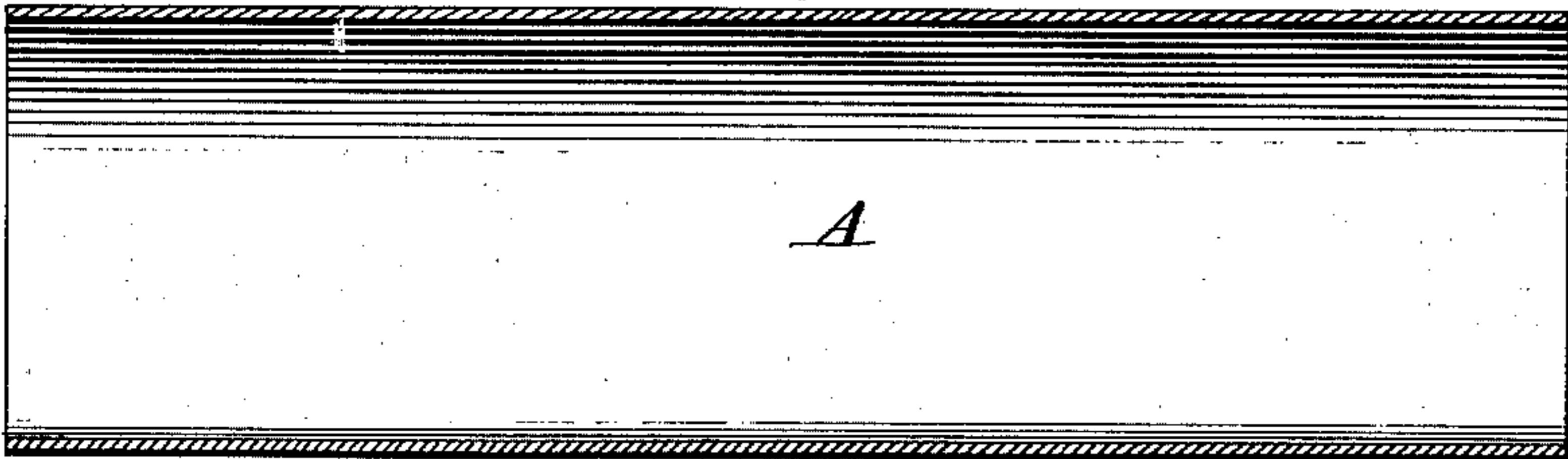
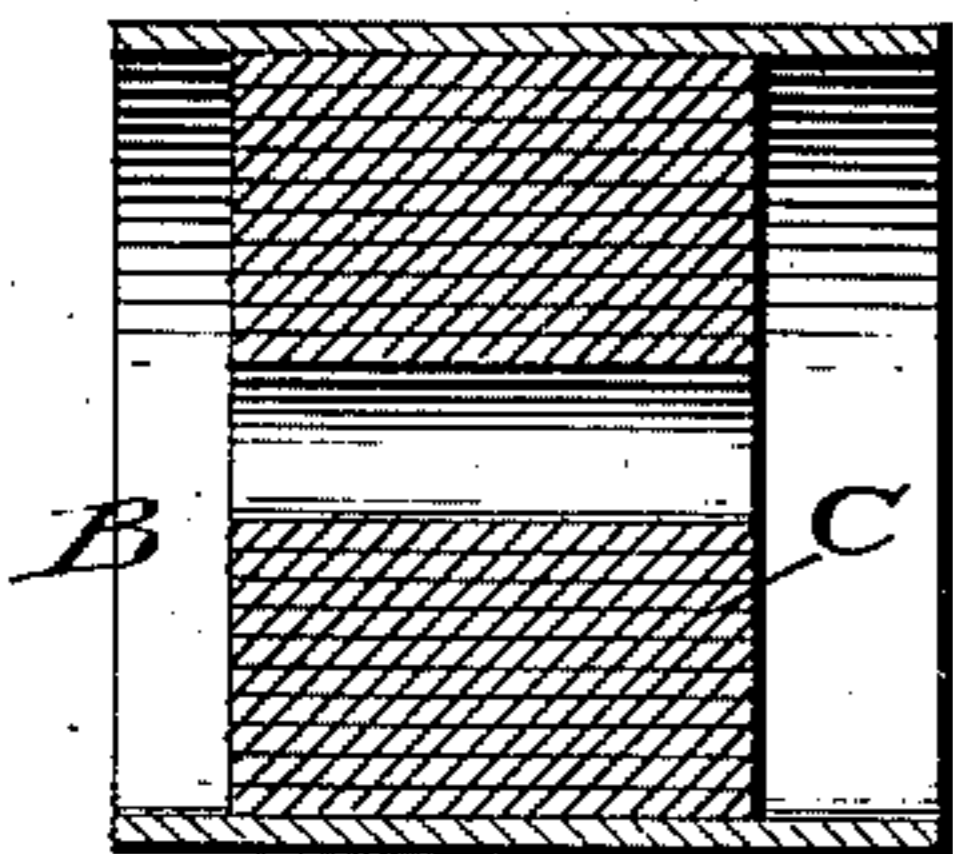


Fig. 2



a Fig. 3.



Fig. 4.

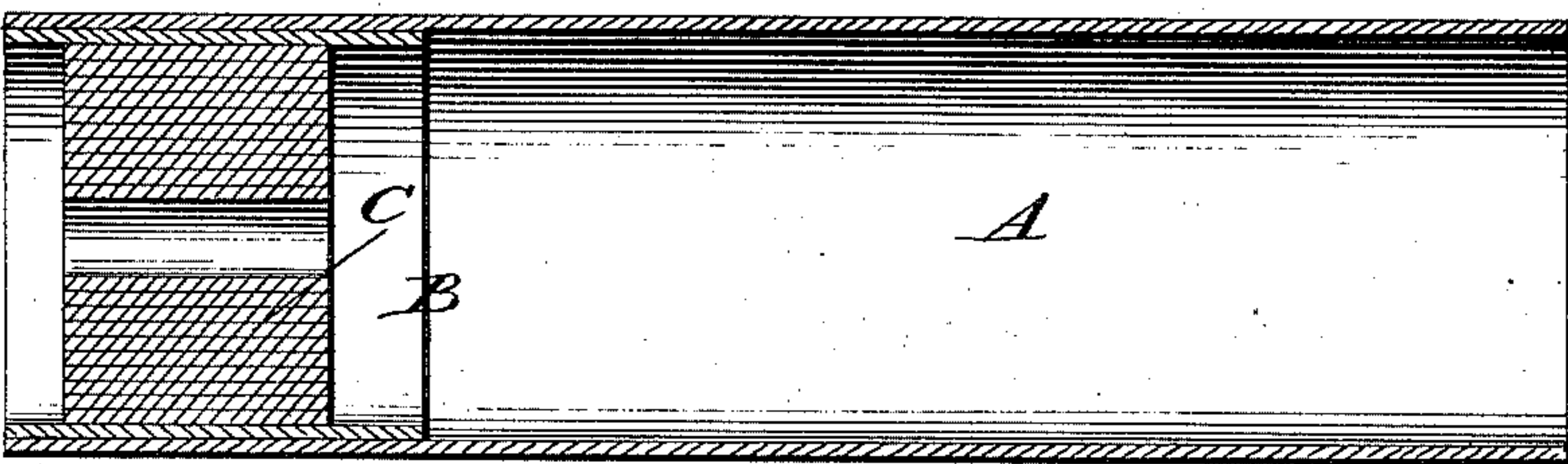


Fig. 5.

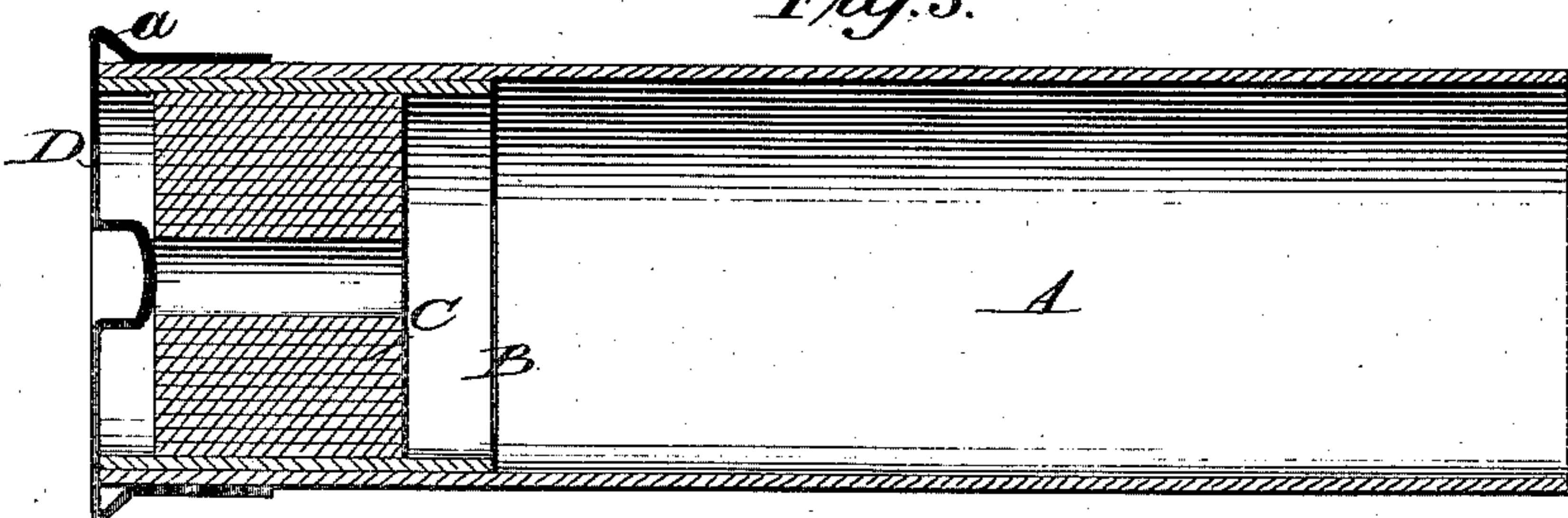
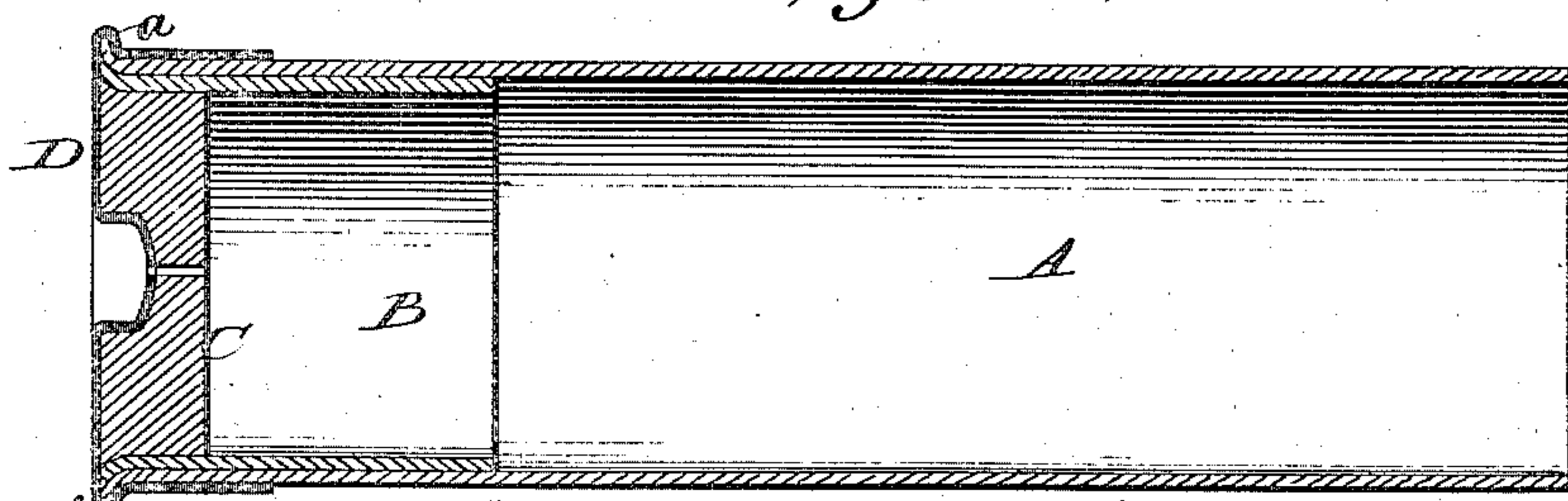


Fig. 6.



Attest.

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UNITED STATES PATENT OFFICE.

GEORGE P. SALISBURY, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE
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CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 226,932, dated April 27, 1880.

Application filed March 16, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. SALISBURY, of New Haven, in the county of New Haven and State of Connecticut, have invented certain Improvements in Paper Cartridge-Shells, of which the following is a specification.

My invention relates to that class of cartridge-shells known as "paper shells" for use in shot-guns; and the invention consists in an improved method or process of constructing the same, as hereinafter more fully described.

In the accompanying drawings, Figures 1, 2, 3, 4, and 5 represent the various parts of which the shell is composed and the several stages through which they pass in the construction of the shell, while Fig. 6 shows the shell completed, all the figures except Fig. 3 representing central longitudinal sections.

Heretofore this class of cartridge-shells have usually been made by first making the tube A, re-enforce B, and wad C of paper, and after assembling or putting these parts together, as represented in Fig. 4, then placing on the end a brass or copper cup, which was made without any flange, then putting the whole into a heading-machine and forming a flange on the metal head by pressing the wad with great force, and thereby forcing the metal outward into the recess in the die.

Another method which was patented, but, so far as I am aware, never practiced, was to form the flange on the metal cup or head before applying it to the body, then cut a series of slits in the end of the tube or body A, so as to permit it to spread as it was forced into the metal head, and then compress the wad inside to fasten the tube to the head.

In making a shell by my plan, I prepare the tube A, re-enforce B, and wad C (if the latter be used, and which is optional) in the usual manner, and assemble them as shown in Fig. 4. I then take the metal cup or head-piece D and partially form a flange thereon, as shown in Fig. 3, where it will be seen that the projecting flange *a*, while being expanded lat-

erally to near its full extent, is left open inside to a much greater extent than in the finished head, the front side of the flange *a* being left inclined, as there shown.

After the head D, with its partially-formed flange, is put onto the body A, as shown in Fig. 5, the whole is subjected to the operation of a heading-machine, by which the inside punch first compresses the wad C endwise, thereby forcing the end of the tube A and re-enforce B outward all around into the open flange, after which, as the bunter descends, it forces the metal head D completely down, and thereby compresses the flange *a* and completes it, at the same time clamping the end of the tube A firmly between the two walls of the flange, as represented in Fig. 6, in which it will be seen that the front face of the flange *a* is made to assume a position at right angles to the sides of the shell, or as near so as is usual in shells as ordinarily made.

By this method of constructing the shell much less force is required than where the flange is formed by pressing the metal outward by the compression of the wad, and consequently lighter machinery may be used, and by clamping the end of the tube firmly between the compressed walls of the flange the head D is so securely fastened to the body of the shell that it is impossible for it to become detached therefrom.

Having thus described my invention, what I claim is—

As an improvement in the art of manufacturing paper cartridge-shells, first partially forming a flange on the metal head, then placing said head with its open flange on the paper tube, and by compressing the wad forcing the end of the tube outward into the cavity of the flange and clamping it there by compressing the flange upon it, as set forth.

GEORGE P. SALISBURY.

Witnesses:

DANIEL H. VEADER,
T. G. BENNETT.