

W. S. SMOOT.

Improvement in Metallic Cartridges.

No. 116,105.

Patented June 20, 1871.

Fig. 1.

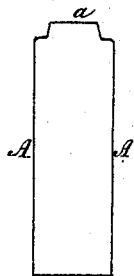


Fig. 2.

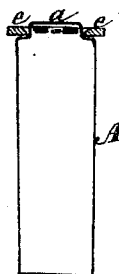


Fig. 3.

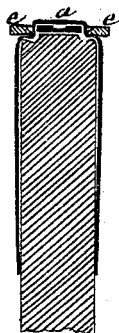


Fig. 4.

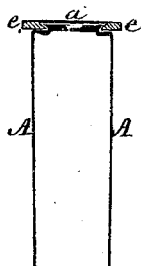
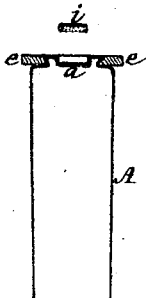


Fig. 5.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

WILLIAM S. SMOOT, OF ILION, NEW YORK.

## IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 116,105, dated June 20, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM S. SMOOT, of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Center-Primed Metallic Cartridges; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents the shape and form of the case as it is stamped up ready to receive the head and primed anvil. Fig. 2 represents the same case with the head and primed anvil in position to be riveted thereto. Fig. 3 represents the case, head, and anvil in place, and the mandrel inserted, against which the parts are riveted up and firmly held together. Fig. 4 represents the position of the parts after they have been riveted or united. Fig. 5 represents a modification of the above-mentioned plan, in which the interior primed anvil is omitted and a priming attached to the heel of the case on the exterior, so that it may be re-primed, if necessary.

When a head is struck up upon a cartridge-case, which is usually made of copper, the case has to be made long enough to allow for this head, and the body of the case must be stout enough to resist the force necessary in forming this head against a mandrel inserted therein, with shoulders, against which the front of the case bears. The metal of which these cases are made is very expensive, and more is used by the plan above mentioned than is actually necessary for a good cartridge. I propose to make the head of a separate piece, of much cheaper metal, and thus save much of the expense incurred in making the cases exclusively of copper.

My invention consists in making a projection on the closed end of the case of less diameter than the case itself, and using that extended portion of the case as a rivet to rivet on a head of iron or other metal cheaper than the copper.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing.

A represents a copper case, struck up in the usual way, with a projection, *a*, made upon its closed end. When I use a primed anvil, as seen in Figs. 2, 3, 4, it is slipped into the interior of the case, and into the recess *a* thereon. The head *e*, which is punched out of iron or other cheap metal, is made large enough to also form a flange to the finished cartridge, and is then laid over the exterior of the projected part *a*. A mandrel, B, Fig. 3, is then inserted, and, by a drop, die, or otherwise, upon the end of the projection *a*, the metal of said projected portion becomes a rivet, taking over the chamfered edge of the head *e*, and against and under the primed anvil, as seen in Fig. 4, firmly uniting the three parts together, making a very strong and quite cheap cartridge-case. When the primed anvil is omitted and the priming is placed upon the exterior of the case, then the head alone is riveted on, as seen in Fig. 5, and a recess formed in the end of the cartridge, into which the priming, pellet, or exploding material *i* is placed and secured in the usual way. This admits of repriming the case when necessary to do so.

I am aware that heads have been riveted and soldered to cylinders to form cartridge-cases, but done by separate rivets, eyelets, or other metal, which requires too much labor and expense. I make a rivet of the cartridge-case itself; and, further, economize, when the primed anvil is used, by making the piece punched out of the head serve the purpose of an anvil. The usual fire-holes are, of course, used in either form of priming.

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

The combination, herein shown and described, of the closed tube A and disk *e*, whereby said disk is secured to the body of the cartridge, the fulminate-pocket formed, and the anvil secured in place, when said head is riveted to the cylinder, by the metal of which said cylinder is composed, and forms a head and flange, both as described.

W. S. SMOOT.

Witnesses:

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