

*The specification*

*is not to be*

W. C. DODGE.  
METALLIC CARTRIDGE CASE.

No. 48,536.

Patented July 4, 1865.

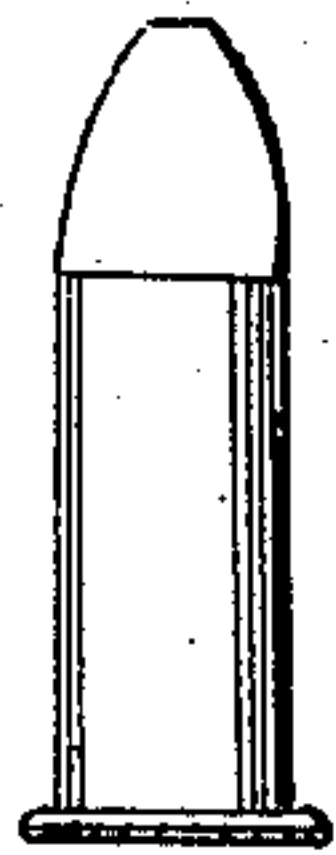


Fig: 1



Fig: 2



Fig: 3

Witnesses:

*J. D. Willoughby*  
*James Lee*

Inventor:

*W. C. Dodge*

# UNITED STATES PATENT OFFICE.

WM. C. DODGE, OF WASHINGTON, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN METALLIC CARTRIDGE-CASE.

Specification forming part of Letters Patent No. 48,536, dated July 4, 1865.

*To all whom it may concern :*

Be it known that I, WILLIAM C. DODGE, of Washington City, in the District of Columbia, have invented a new and useful Improvement in Metallic Cartridge-Cases; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of a cartridge complete, with my improvement applied internally; Fig. 2, a longitudinal section of a metallic cartridge-case of the ordinary form, showing my improvement applied; and Fig. 3 is a side elevation of a metallic case of another form, with a portion broken away to show the interior.

The nature of my invention consists in plating or coating the metallic case with a metal, or alloy of metals, less liable to corrode or oxidize than the case itself, and thus preserve the case and its contents from deterioration.

To enable others skilled in the art to construct and use my improvement, I will proceed to describe it.

In making cartridges with a metallic shell or case, it is desirable to place the fulminate, powder, and lubricant all within the case; but when this is done, experience shows that the cases become corroded or oxidized, especially by contact with the grease or lubricating material, and thus the usefulness or value of the ammunition is ultimately entirely destroyed or greatly deteriorated, especially when stored or kept for a great length of time, and more particularly if in a hot or moist climate.

To prevent these evils, I coat or plate the metallic case of the cartridge, before filling in the fulminate, powder, and other materials, with tin or any other suitable metal or alloy of metals. This may be done in a variety of ways, but the plan which I prefer is to apply the coating material in a molten state. One of the most obvious methods of doing this is to tin the sheets of metal from which the cases are to be made, previous to forming them up, by dipping the sheets properly prepared in molten tin in the usual manner of tinning.

It can also be done by immersing the case, after it has been formed, into the molten tin, but in that case, if it be intended to make a cartridge having the fulminate placed in the

annular rim or flange, as is now usually done, I would prefer that the case should be tinned the last thing previous to forming the flange, which is usually the last operation in the construction of the case, for the reason that, if tinned after the flange is formed, there will be danger of filling the flange with the tin, which would prevent the subsequent placing of the fulminate therein. In what are termed central-fire cartridges, in which the fulminate is not placed in the flange, this objection will not occur, and in such the tinning or plating may be done after the flange is formed.

It is obvious that other methods of applying the coating or plating to the case may be used; and that gold, silver, and other metals or alloy of metals may be used instead of tin, but tin is preferable, for the obvious reason that it is one of the most efficient, cheapest, and easiest applied of any suitable material for the purpose intended.

It is also obvious that in using some kind of metals, such as gold, silver, &c., for the coating material, it may be successfully and rapidly applied by the well-known galvanic process.

I am aware that efforts have heretofore been made to accomplish the object of my improvement by boiling brass cases in a solution of tin in acid, but the coating thus applied was a mere film, and entirely inefficient for the accomplishment of the desired object; and I therefore do not claim that.

It is obvious that the cases may be coated or plated internally only or both internally and externally, as circumstances may require, and where the cartridges are intended to be kept for any great length of time, and where they are to be used in moist or warm climates, I would prefer coating them both internally and externally.

Having thus described my invention, what I claim is—

A cartridge-case for small-arms composed of ductile metal and coated or plated internally, or both internally and externally, with tin or other suitable metal or alloy of metals, substantially as and for the purpose herein set forth.

WILLIAM C. DODGE.

Witnesses:

JAMES LEE,  
P. T. DODGE