

HENRY METCALFE.

Improvement in Metallic Cartridges.

No. 120,990.

Patented Nov. 14, 1871.

Fig. 1.

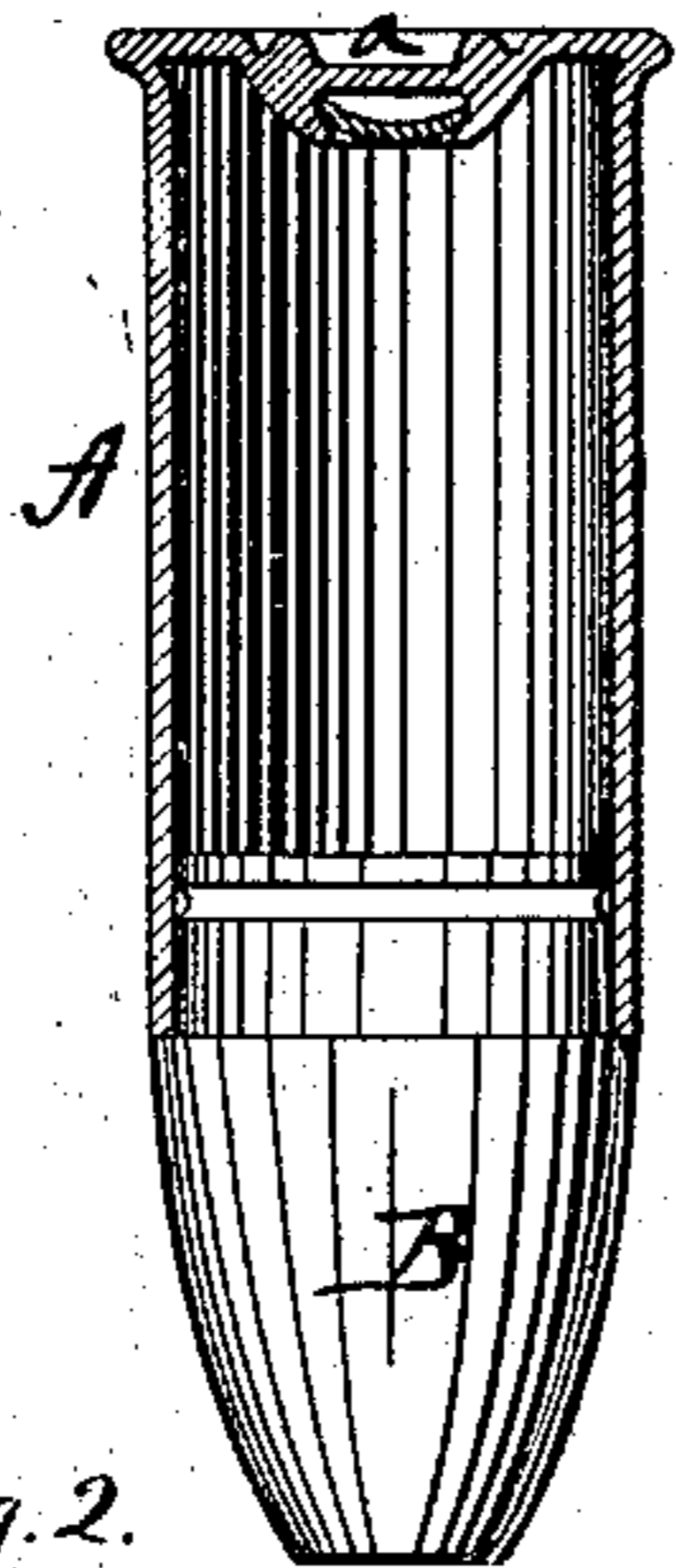


Fig. 2.

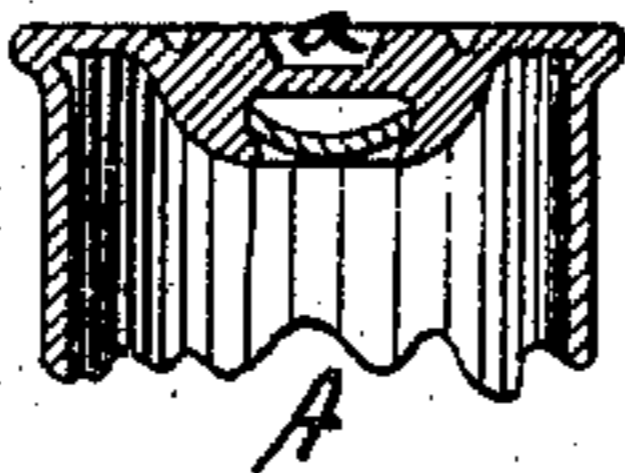
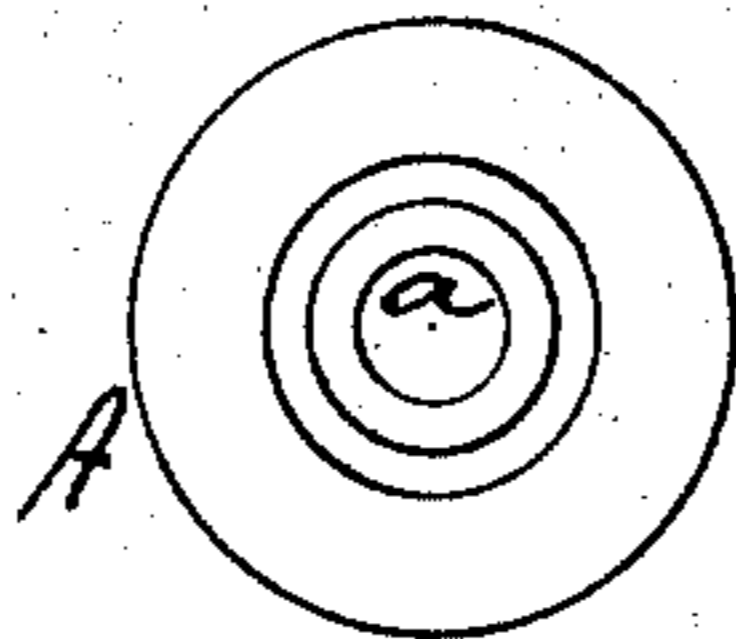


Fig. 3.



Witnesses:

Henry A. Miller  
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Inventor

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# UNITED STATES PATENT OFFICE.

HENRY METCALFE, OF NEW YORK, N. Y.

## IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 120,990, dated November 14, 1871.

*To all whom it may concern:*

Be it known that I, HENRY METCALFE, of the city, county, and State of New York, have invented certain new and useful Improvements in Metallic Cartridges for Magazine Fire-Arms; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in making a center-fire metallic cartridge for magazine fire-arms, primed from the inside, and having the fulminate protected from accidental ignition by impact from the succeeding ball by placing it at the interior apex of a concentric recessed pocket or teat in the head of the cartridge-case or shell, and supporting it there by an anvil or by lapping over of the metal of which the said case or shell is made, the diameter of which teat or pocket shall be less than that of the blunted point of the succeeding ball.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing which forms a part of this specification, and in which—

Figure 1 is a longitudinal vertical section of my cartridge. Fig. 2 is a similar view of the head of the succeeding cartridge, and Fig. 3 is an end view of the cartridge.

A represents the shell of a center-fire metallic cartridge for magazine fire-arms, the head of which shell is provided with a concentric recessed pocket or teat, *a*, for the purpose of protecting the fulminate from ignition by contact with the bullet of the succeeding cartridge. The fulminate is placed from the inside at the interior apex of said pocket, and supported either by an anvil or by letting the metal of the cartridge-case be lapped over the same, or by any other suitable means. B represents the bullet, the point of which is made blunt, and the diameter of said blunt point or end made somewhat larger than the diameter of the recessed teat or pocket *a*.

In the ordinary center-fire cartridge for magazine fire-arms, where, from the nature of the case, the ammunition is carried superposed, the bearer is exposed to danger from premature explosion from the shock of the bullet of the suc-

ceeding cartridge on the exposed fulminate, thus compelling a resort to the only less dangerous and trustworthy and more expensive rim-fire cartridge, depriving the arm, as in the Spencer rifles and carbines, of the advantage of interchange of ammunition with the United States pieces, which are only made for center fire.

With my cartridge the fulminate is protected from impact by the succeeding bullet by the recess in the center of the base, which, from the shape of the bullet, cannot be accidentally entered.

It will be seen that if the base of the shell be crushed by extreme pressure from without by an instrument which cannot enter the recess, the tendency will be to open or enlarge the fulminate pocket instead of contracting the pocket and cause ignition.

It will further be seen that the indentation in the anvil may be made smaller in diameter than the recess in the cartridge-head, so that, should the center be driven in, a bearing will be obtained around the pocket where the fulminate lies, and thereby prevent an explosion.

Another great advantage of this cartridge is the facility with which machinery already in use, as well as partly-finished ammunition, might be adapted to its use. The same for changing guns so as to use it.

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

A center-fire metallic cartridge for magazine fire-arms combining a centrally-recessed pocket, primed from the inside, with a ball so flattened or formed about its forward end that, when brought in contact with or jostled against the head of a preceding cartridge, it may not reach the fulminate or crush the base of the shell, and thereby induce explosion, while, with a properly-arranged firing-pin or other like device, said fulminate may be ignited and the cartridge fired when in that part of the fire-arm thereunto designed, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of October, 1871.

HENRY METCALFE.

Witnesses:

CHAS. P. HILL.

R. G. SHUTTLEFF.