

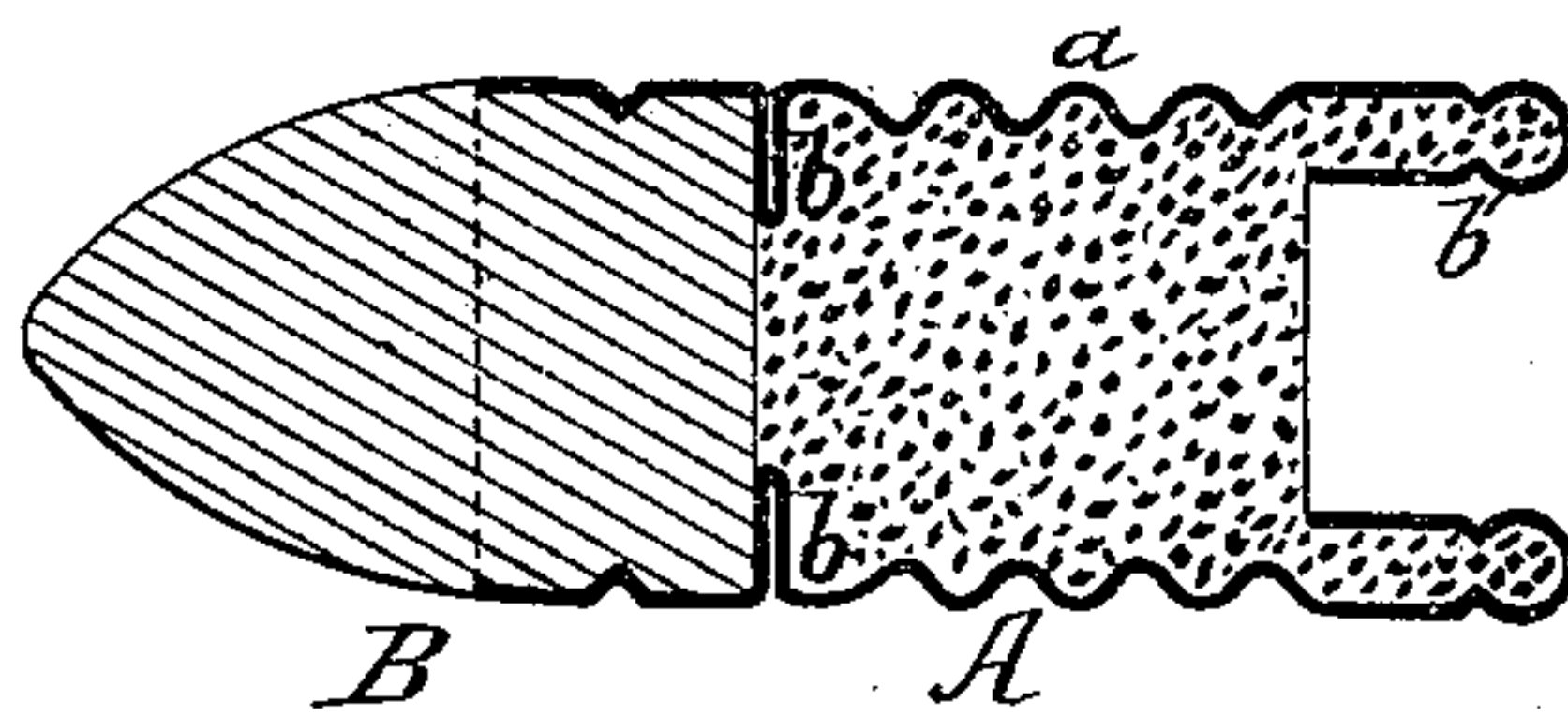
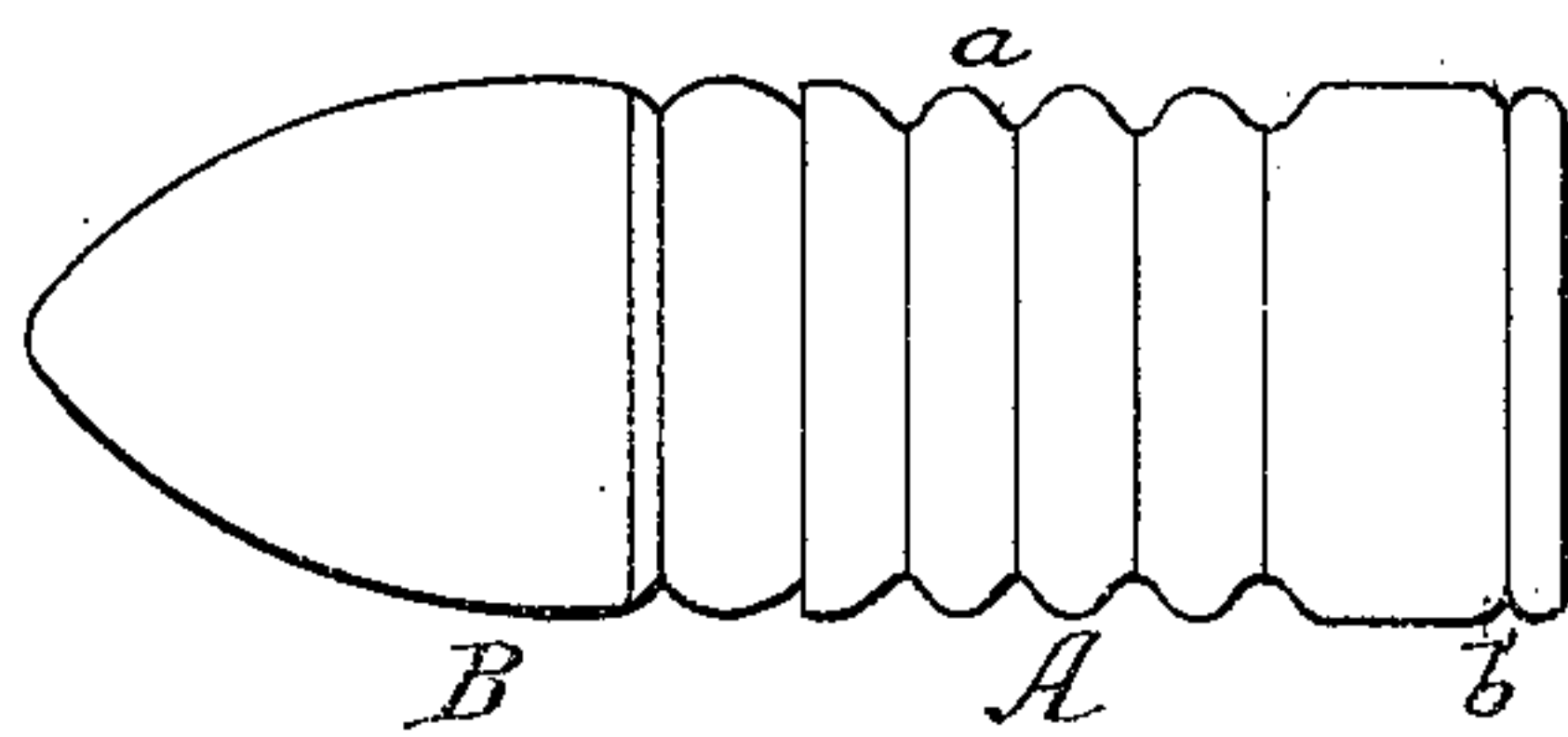
W. I. PAGE.

Cartridge.

No. 109,931.

Patented Dec. 6, 1870.

Fig. 1.



Witnesses:

William I Page,

by his attorney

C. P. Hale.

# UNITED STATES PATENT OFFICE.

WILLIAM I. PAGE, OF EAST BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 109,931, dated December 6, 1870; antedated November 26, 1870.

To all whom it may concern:

Be it known that I, WILLIAM I. PAGE, of East Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Metallic Cartridges; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a side elevation, and Fig. 2 a longitudinal and central section, of a metallic cartridge constructed in accordance with my invention.

My invention relates, principally, to the construction of the metallic case or shell of the cartridge; and consists in forming the said case with a series of beads or corrugations; also, in forming within the bore of the shell, and near the front end thereof, an annular shoulder, which serves a double purpose—first, to insure the ejection or discharge of the shell from the fire-arm should the powder of the cartridge be exploded; and, secondly, in case the fulminate should prove ineffectual in exploding the powder, to enable the shell to be extracted from the piece.

In the said drawings, A denotes the hollow metallic case or shell, each of whose ends is open. B is a ball, which is arranged in the front end of the said case.

The said shell is formed with a series of beads or corrugations, *a*, extending transversely of the same and entirely around it; or, if desirable, the corrugations may extend spirally instead of transversely. The object of thus corrugating the shell is threefold—first, to give greater stiffness and strength to it in order to prevent undue expansion; secondly, to form chambers for the reception of a lubricating material; and, thirdly, to lessen the frictional surface of the shell.

Within the bore of the shell, and near the front end thereof, an annular shoulder, *b*, is formed. This may be formed by upsetting the metal of the shell, or may be a separate piece and soldered in place. This shoulder should be of sufficient width to insure the discharge of the shell from the fire-arm when the

cartridge is fired. In case of a failure of explosion of the charge, the said shoulder affords a ready means of enabling the shell to be extracted from the fire-arm, which can be readily effected by means of a hook or a worm catching upon or against the inner face of the said shoulder. *b'* is the fulminate-chamber, which is disposed in the rear part of the shell, and extends entirely around the periphery thereof, and is formed by bending inward the rear portion of the shell, as seen in Fig. 2.

The shell so made is first to have the fulminate inserted in its chamber; next the ball is to be inserted in its front end; it is next to be filled with powder and rammed therein in the usual manner. The rear end of the powder is to be sealed up or protected by a water-proof deflagrating coating of varnish, or its equivalent. The rear end of the cartridge is not to be filled flush, but a small space is to be left in order to enable a projection or anvil formed in the chamber of the fire-arm to enter the same when the cartridge is to be fired.

Having described my invention, what I claim is as follows:

1. A metallic cartridge having its shell formed with a series of corrugations, *a a*, an internal annular shoulder or perforated diaphragm, *b*, and a fulminate-chamber, *b'*, constructed and arranged substantially as described, and provided with powder, ball, and fulminate, applied thereto in manner as set forth.

2. A metallic cartridge-case as formed with an internal annular shoulder or perforated diaphragm, *b*, and a fulminate-chamber, *b'*, substantially as and for the purpose set forth.

3. A metallic cartridge-case as formed with the corrugations *a a* and the annular shoulder or diaphragm *b*, as and for the purpose set forth.

4. A metallic cartridge-case as formed with a perforated diaphragm, *b*, arranged in manner and for the purpose set forth.

WILLIAM I. PAGE.

Witnesses:

F. P. HALE,  
SAMUEL VOSE.