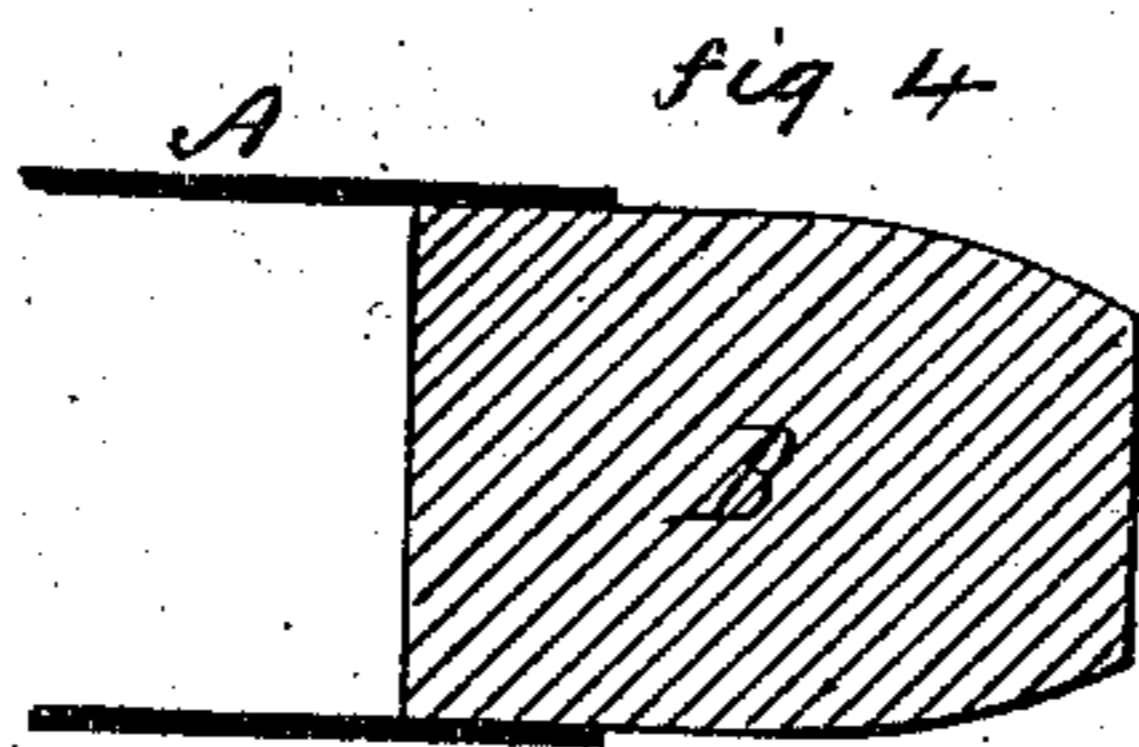
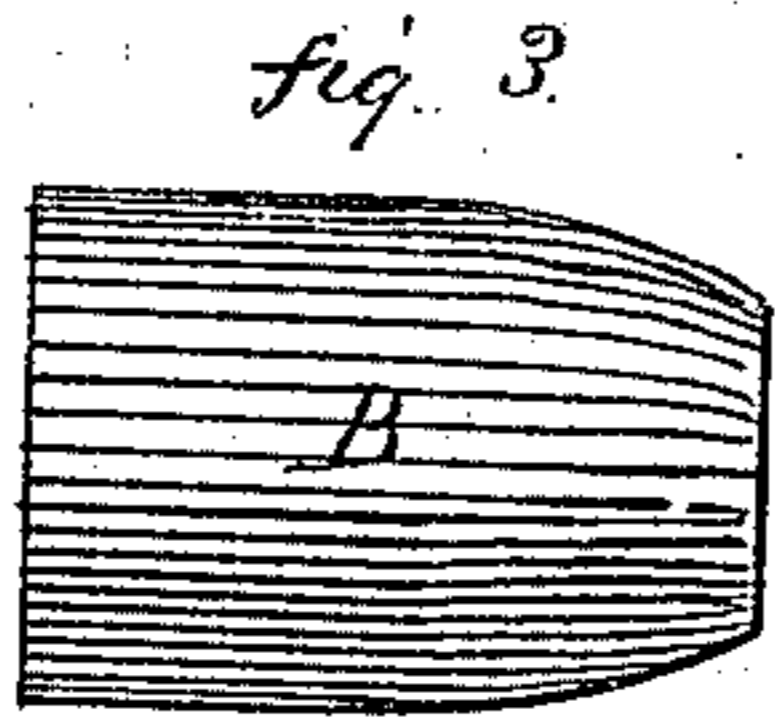
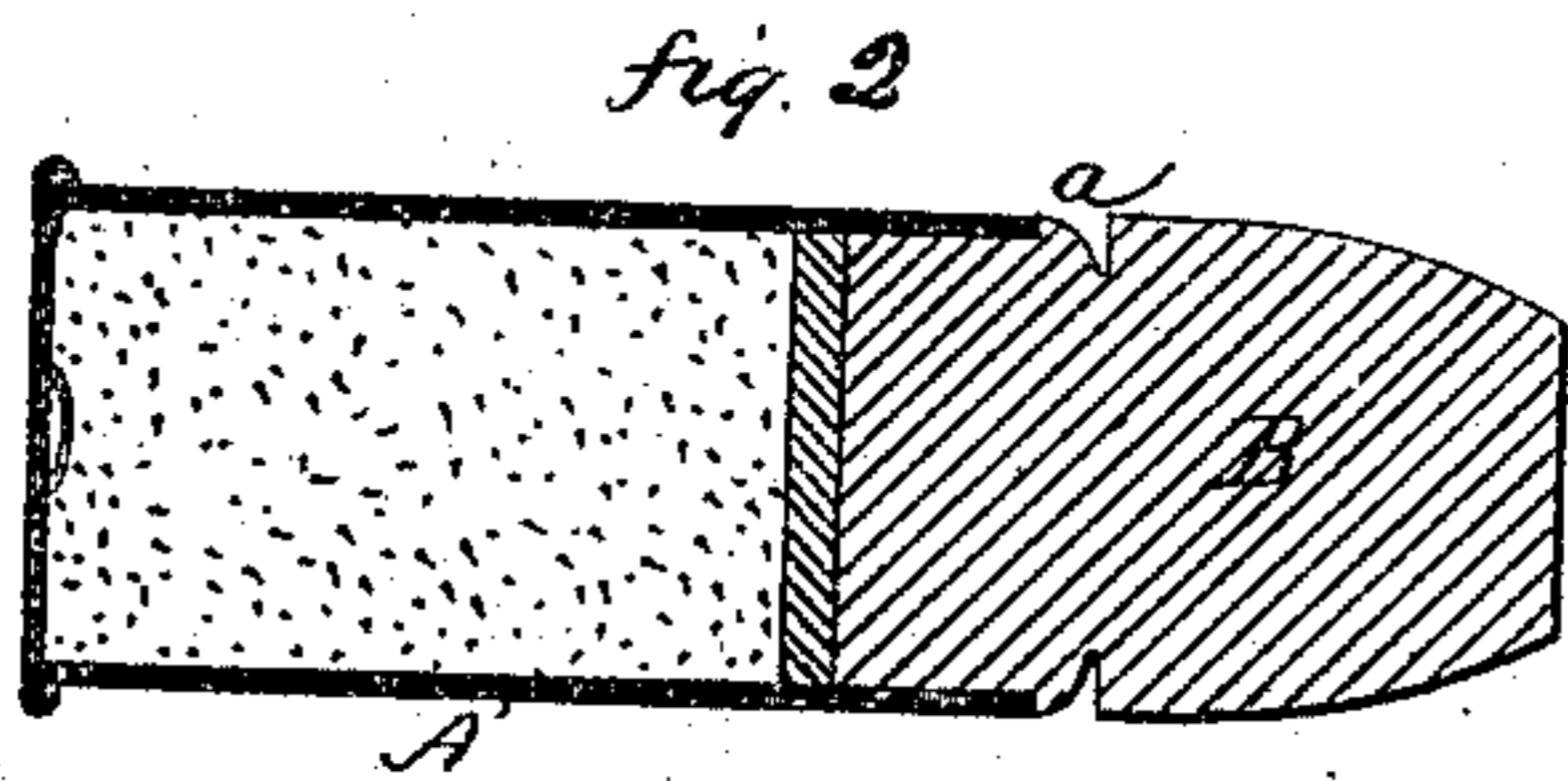
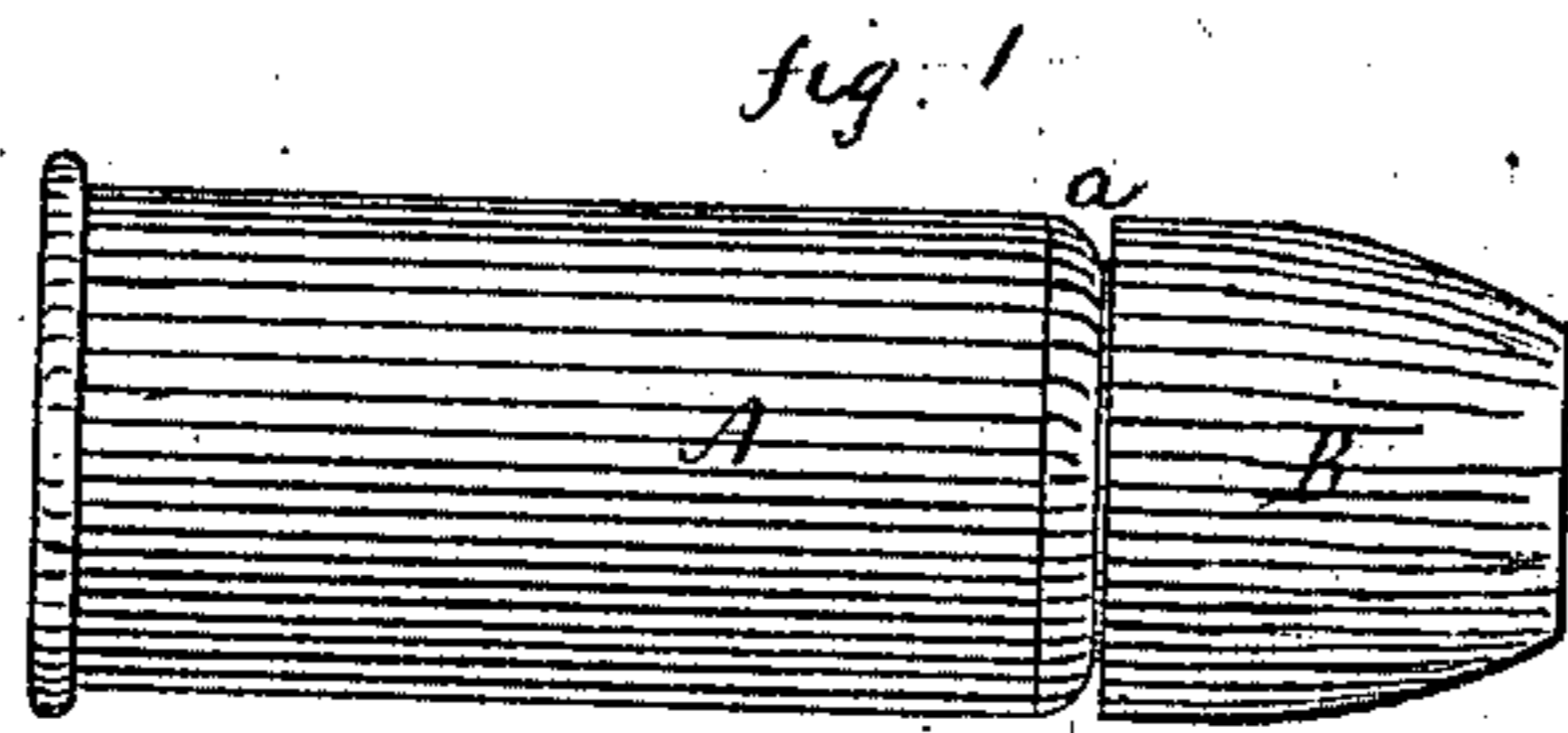


GEORGE R. STETSON.

Improvement in Metallic Cartridges.

No. 120,403.

Patented Oct. 31, 1871.



Witness,
J. B. Shumway
A. J. Lebeck

Geo. R. Stetson
Inventor
By his Atty.
John E. East

UNITED STATES PATENT OFFICE.

GEORGE R. STETSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE WINCHESTER REPEATING-ARMS COMPANY, OF SAME PLACE.

IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 120,403, dated October 31, 1871.

To all whom it may concern:

Be it known that I, GEORGE R. STETSON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Cartridges for Fire-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1 a side view; Fig. 2, a longitudinal central section; Fig. 3, the ball preparatory to the insertion of the cartridge; and Fig. 4, the shell inserted preparatory to forming the groove.

This invention relates to an improvement in that class of ball-cartridges in which the powder and ball are arranged in a metallic case, the object of the invention being to allow the use of swaged balls. Such balls, it is well known, are superior to molded balls, in consequence of greater perfection in shape and equal density of metal; but with such balls a patch has been required for lubricating purposes.

By my invention the use of the patch is avoided, and consists in forming the ball of the internal diameter of the shell—that is, the diameter of the bore of the arm in which they are to be used—then inserting the ball into the shell onto the wad or powder, and, after it is so inserted, by any suitable tool I form an annular groove in the ball near the end of the shell, pressing the lead to form this groove, which causes the lead to rise against the shell, the said groove being sufficient to retain the requisite quantity of lubrication; and the enlargement to so form the groove and shoulder is sufficient to take the grooves of the bore and give the requisite rotation to the ball.

A is the shell, of any known construction; B, the ball, (see Fig. 3,) is formed in a solid die into

any desired shape, and the diameter of the ball should be the same as the bore of the barrel and the internal diameter of the shell. After the shell is charged this ball is inserted into the shell, as seen in Fig. 4, and then by any suitable device, by preference one which will cause the cartridge to revolve, I form an annular groove, *a*, in the ball forward of the end of the shell, the instrument used to form the groove being of such character as not to cut the metal, but to spin or throw it back against the end of the shell, as seen in Fig. 2. The groove is then filled with lubricating material in the usual manner.

In this construction it is not necessary to spin or turn the end of the shell down into the ball to retain it in position, as in the usual construction, the ball fitting sufficiently close in the shell to be retained; hence the ball will leave the shell more readily and in more perfect condition than in the common construction, and the labor of forming the groove in this manner is no more, if not less, than that required to turn the shell into the ball. The metal which is thrown up against the end of the shell may be to a greater or less extent; but as shown it is sufficient to take the grooves of the bore and give rotation to the ball, and possessing this advantage that, by the forcing of the lead against the end of the shell, it hermetically seals the shell against the admission of moisture.

I claim as my invention—

The combination, with a cartridge-shell, of a swaged projectile, in which an annular groove is formed and the metal displaced thereby is raised against the end of the shell after the insertion of said projectile, substantially as and for the purpose described.

GEORGE R. STETSON.

Witnesses:

A. J. TIBBITS,
J. H. SHUMWAY.

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