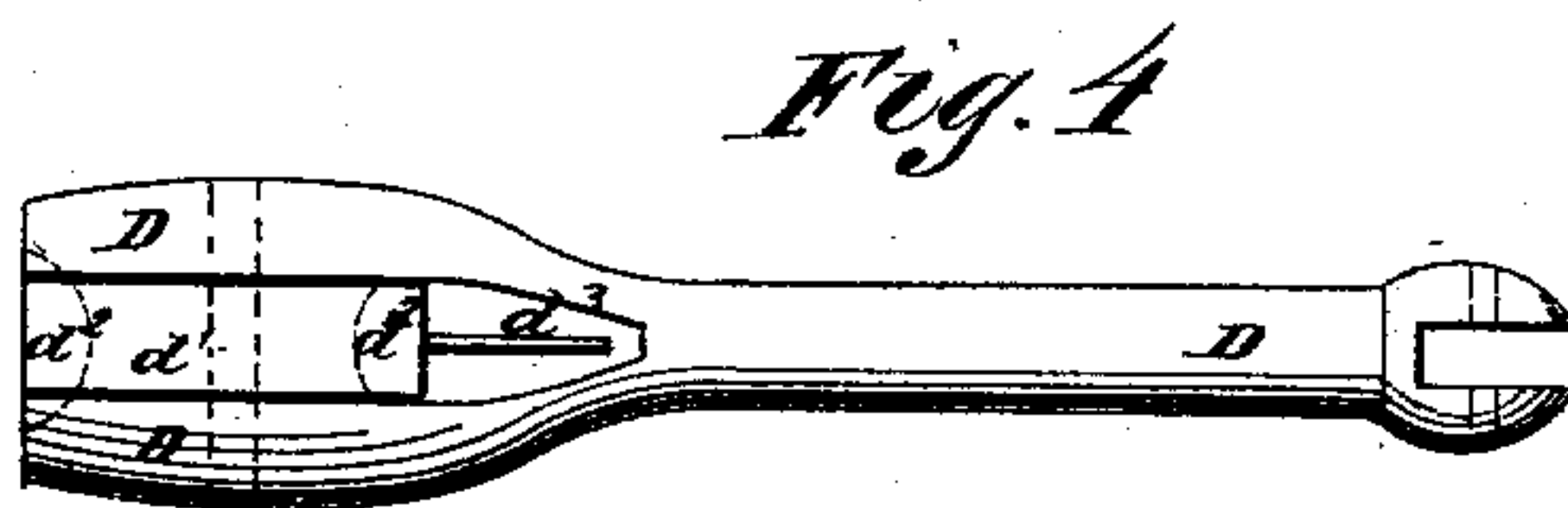
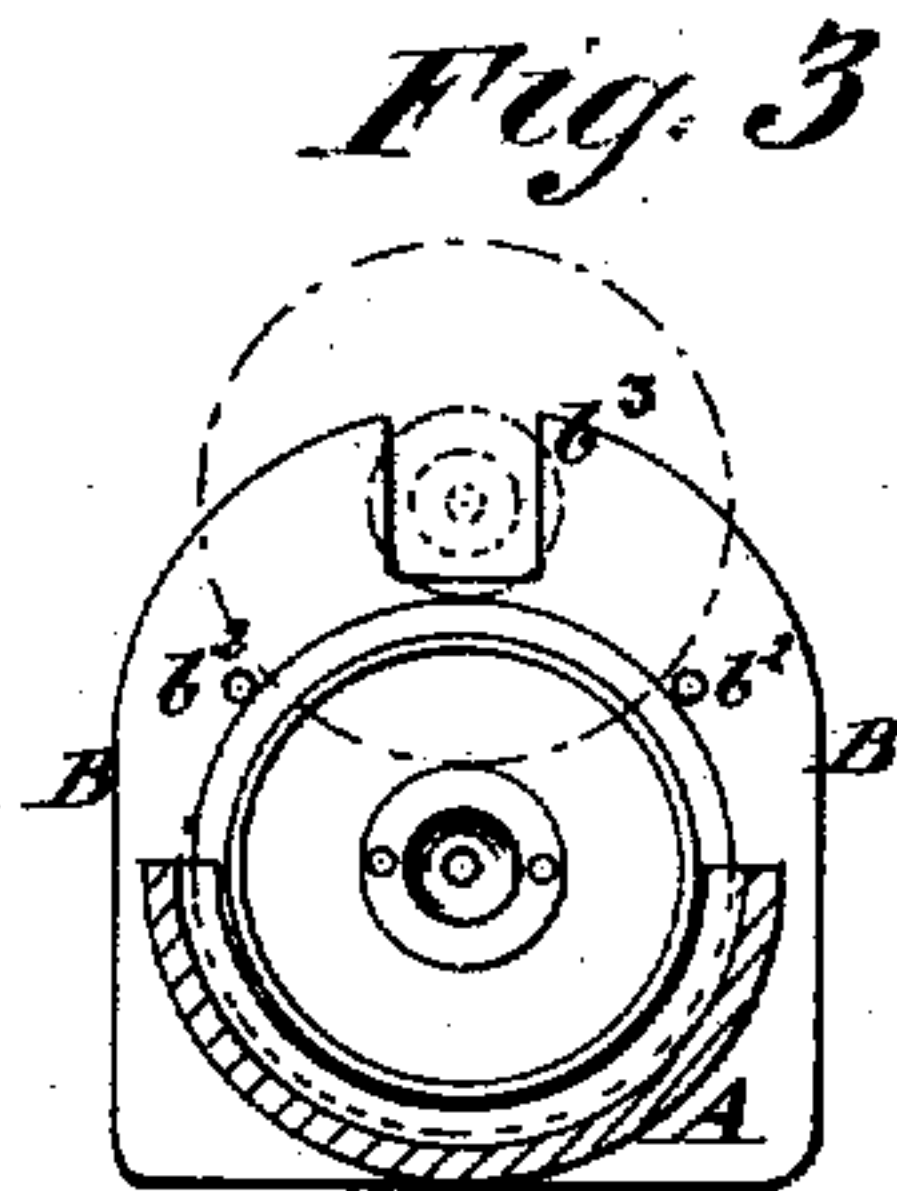
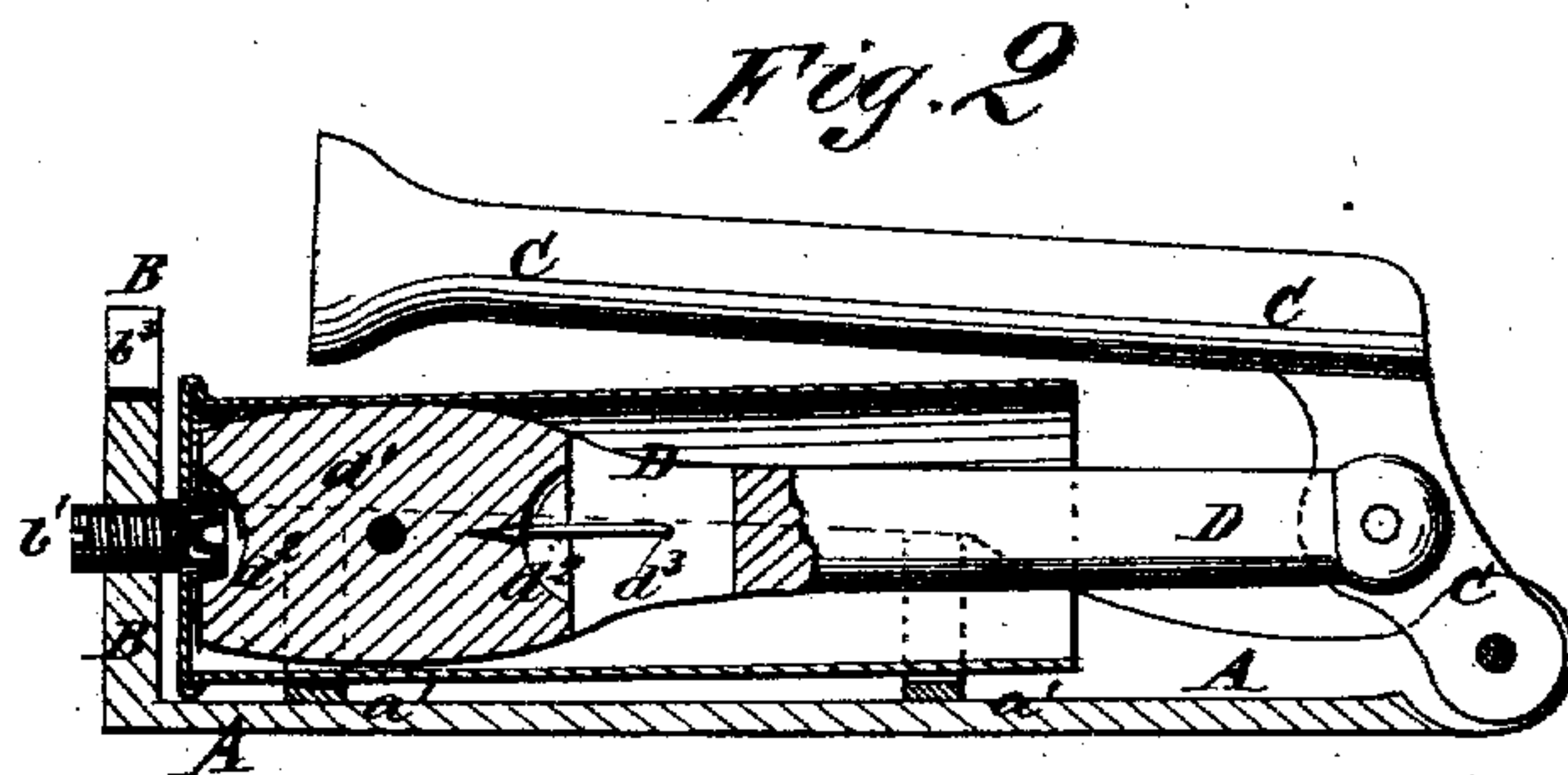
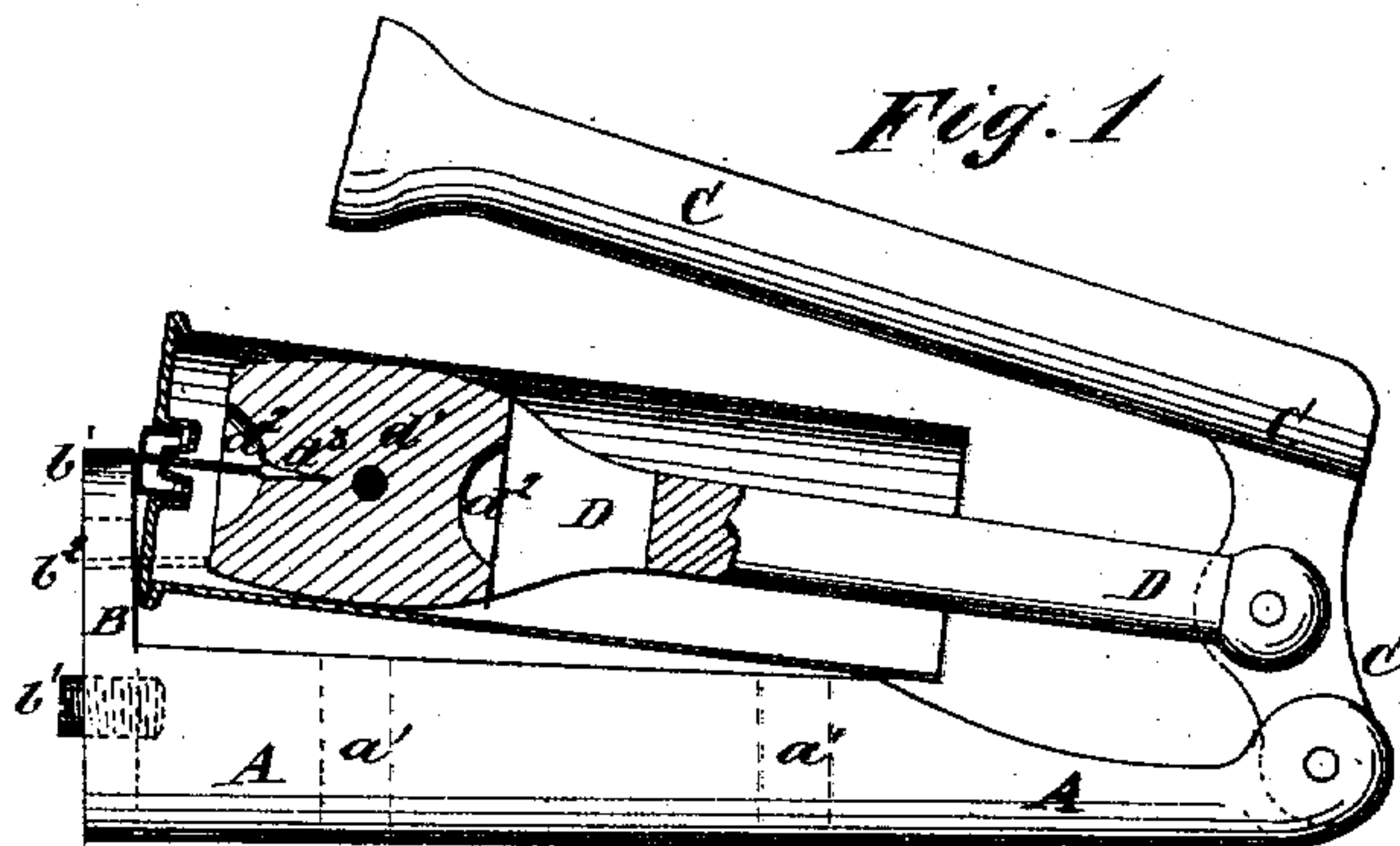


I. & C. ZAMBONI.
 TOOLS FOR CAPPING AND UNCAPPING CARTRIDGES.
 No. 180,305. Patented July 25, 1876.



WITNESSES:
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UNITED STATES PATENT OFFICE.

ISIDORO ZAMBONI AND CARLO ZAMBONI, OF OWATONNA, MINNESOTA.

IMPROVEMENT IN TOOLS FOR CAPPING AND UNCAPPING CARTRIDGES.

Specification forming part of Letters Patent No. **180,305**, dated July 25, 1876; application filed May 27, 1876.

To all whom it may concern:

Be it known that we, ISIDORO ZAMBONI and CARLO ZAMBONI, of Owatonna, Steele county, and State of Minnesota, have invented new and Improved Devices for Reloading Cartridge-Shells, of which the following is a specification:

In the accompanying drawing, Figure 1 is a side view, partly in section, of our improved device, shown in position for removing the old cap from the shell. Fig. 2 is a longitudinal section of the same, shown in position for recapping the shell. Fig. 3 is a cross-section of the same, and Fig. 4 is a detail view of the stem.

Similar letters of reference indicate corresponding parts.

The special object of our invention is to furnish an improved device for removing the exploded cap from a cartridge-shell for breech-loading shot-guns, and recapping and reloading the shells, which shall be simple in construction and convenient in use.

Our invention consists in the device formed of the semi-cylindrical plate, provided with the ribs; the disk, provided with the screw, the pins, and the notch; the bent lever and the slotted stem, provided with the pivoted block, having recesses formed in its ends, and having a needle attached to one of said recessed ends, as hereinafter fully described.

In the annexed drawing, A is a semi-cylindrical plate, one end of which is closed with a disk, B, made solid with said plate A. Upon the inner surface of the plate A are formed two semi-ring ribs, a' , of a thickness equal to the projection of the cartridge-rim, so that the cartridge-shell may be parallel with said plate when laid in it. In the disk B, in line with the axis of the shell when laid in plate A, is formed a screw-hole, into which is screwed a screw, b , to press the cap upon the nipple of the shell, and which may be turned in or out should the thickness of the shells or caps vary. To the inner side of the disk B are attached two pins, b^2 , for the rim of the shell to rest upon while the exploded cap is being detached, said cap being pushed out through a notch, b^3 , in the upper edge of the said disk B. To the other end of the plate A is hinged the end of the short arm of a bent lever, C, the long arm of which may be made of wood

or metal, and serves as a lever for operating the stem D, and has its outer end enlarged, to adapt it to serve as a ramrod for ramming the wads into the shell in loading it. To the middle part of the short arm of the lever C is hinged the stem D, the forward end of which is enlarged, and is slotted longitudinally to receive the block d^1 . The block d^1 is pivoted at its center to the arms or forks of the stem D, and in its ends are formed recesses d^2 , of sufficient size and depth to receive the inward projection of the nipple of the shell. To one end of the pivoted block d^1 , in the center of its recess d^2 , is attached a needle, d^3 , of such a size as to pass through the perforation of the nipple of the shell, and push the exploded cap off said nipple. The needle d^3 may or may not be used, as may be desired.

In using the device the shell is placed upon the stem D, and is lowered until its rim rests upon the pins b^2 . The lever C is then operated to force the needle d^3 through the perforation of the nipple of the shell, forcing the exploded cap off said nipple, and out through the notch b^3 of the disk B. The shell is removed from the stem D, the block d^1 is reversed, the shell is replaced, a fresh cap is placed upon the nipple of the shell, and the shell is lowered into the cavity of the plate A. The lever C is then operated to press the shell forward with such force that the screw b^1 may force the cap into place upon the nipple of the shell. The shell is then removed, the ammunition is put into it, the wads being rammed down with the end of the lever C.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The device formed of the semi-cylindrical plate A, provided with the ribs a' ; the disk B, provided with the screw b^1 , the pins b^2 , and the notch b^3 ; the bent lever C and the slotted stem D, provided with the pivoted block d^1 , having recesses d^2 formed in its ends, and having a needle, d^3 , attached to one of said recessed ends, substantially as herein shown and described.

ISIDORO ZAMBONI.
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Witnesses:

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