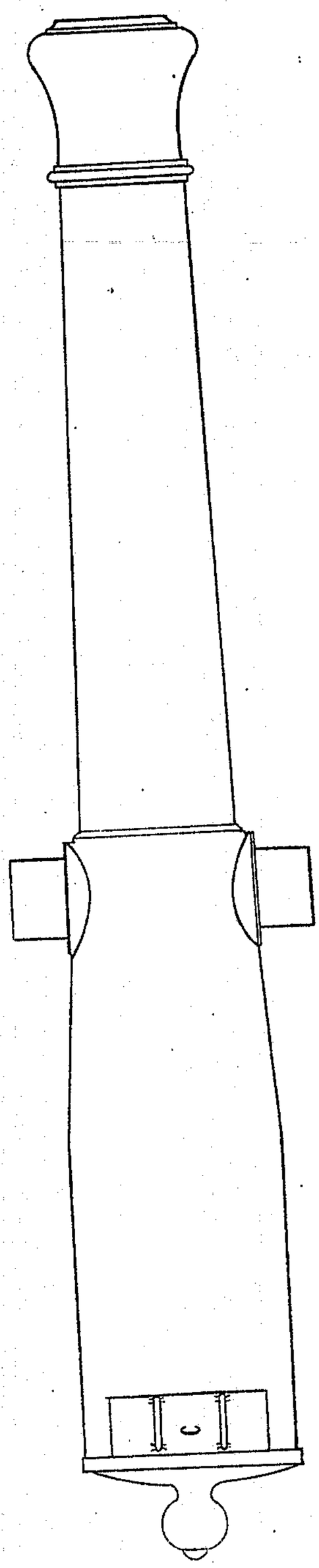
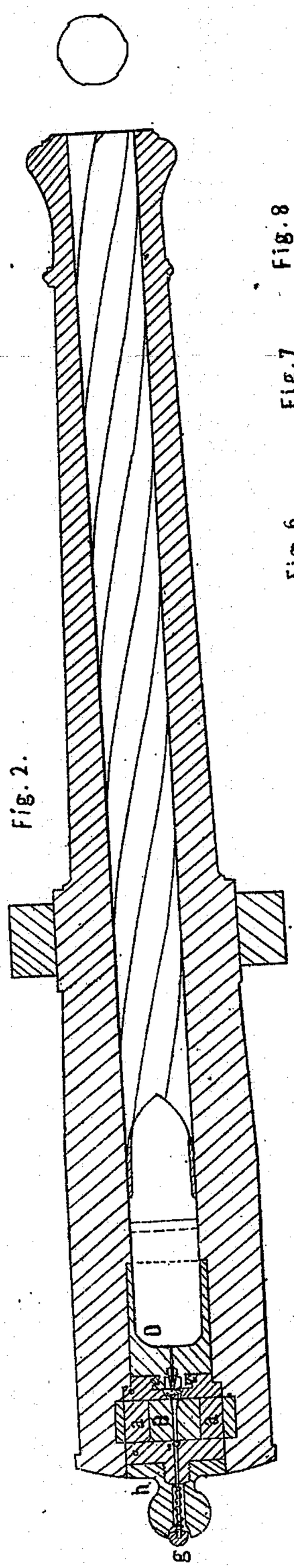
C. C. N. Müller

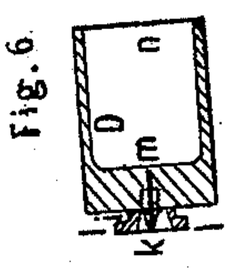
Breech-Loading Ordnance

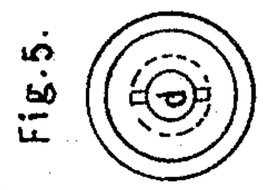
Patented Aug. 13. 1867

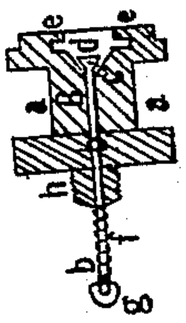
No. 67792.

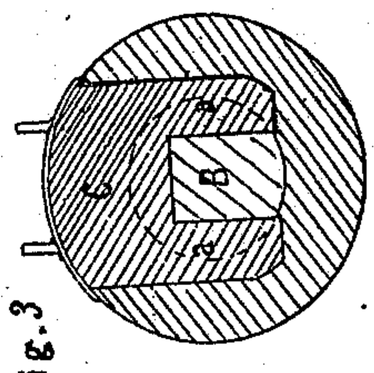


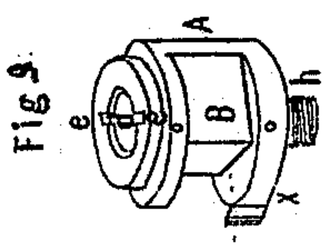












INVENTOR.

C. C. Wolfrum Müller

United States Patent Office.

CHARLES C. WOLFRUM MÜLLER, OF NEW ORLEANS, LOUISIANA.

Letters Patent No. 67,792, *dated August* 13, 1867.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES C. WOLFRUM MÜLLER, of the city of New Orleans, State of Louisiana, have invented a new and improved Breech-Loading Apparatus for Rifled and Smooth-Bore Cannon, combining a new system of firing the charge by means of a percussion-cap placed inside the breech-piece, so as to dispense with the vent-hole, said breech-piece consisting of two small cylinders joined together, the last one containing a chamber for the reception of the charge in a tin tube, thereby insuring great protection against the overheating of the gun by rapid firing; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 is a perspective view of the cannon, with breech-fork set.

Figure 2, a longitudinal section of it, representing the breech apparatus with the charge in position.

Figure 3, a cross-section of the breech-piece, with the key or breech-fork (of good cast steel) in position, when the breech is closed.

Figure 4, a longitudinal section of the first cylindrical breech-piece, (also of good cast steel,) of which Figure 5 is a top view, and Figure 9 a perspective one, with guide *x*.

Figure 6, a longitudinal section, and Figure 10 a perspective view of the second cylindrical breech-piece, made also of good cast steel, and in duplicate, for a change when firing.

Figure 7, a longitudinal section of the tin cartridge-box.

Figure 8, the shot.

The breech-fork, as shown in fig. 3, fits exactly and closely the mortise *a* of the first breech-piece, and passes through a nicely-fitting aperture, cut with great precision in the cannon, down to the lower end of the mortise. Its thickness depends on the calibre of the cannon. The breech-piece A is provided with two shoulders, *o*, the inner one of which fits against a corresponding shoulder in the chamber. A three-sided neck, B, is left between the two shoulders, which is straddled or encompassed by the key or breech-fork C, whose legs reach down to the bottom of the breech-plug A. It will be seen that all the parts being angular, they will fit snugly together, and the breech-plug be firmly secured in place. There is a piston, *b*, which passes through the middle of the first breech-piece, ending in a conical-shaped head, *c*, to explode the percussion-cap with, and fitting closely a conical aperture in the breech-piece of same size, the whole held in position and closed by a spiral wire, *f*, which rests on the breech-screw *h* of the first breech-piece, and on the small knob *g*, at the other end of the piston, where it is screwed on, and which receives the blow of the hammer for the explosion of the cap, the piston resuming its position before the latter occurs, or at least at the same time. The large knob of the cascabel, through which the piston passes, instead of being cast may be made of light material, yet substantial; it is screwed on the above breech-screw *h*. The top of the first breech-piece, fig. 4, is formed by a cylindrical opening or recess, *d*, with two notches, *e*, and corresponding groove around the bottom of the recess deep enough for the admission of the neck *i* of the second breech-piece, fig. 6, on which there are two corresponding gudgeons, *l*, fitting exactly the notches and the groove just described, into which they are inserted, when the two breech-pieces are joined together and secured by half a turn, the gudgeons being then arrested by a steel point fixed near one of the notches. The neck *i* is hollowed out, and contains the nipple *k* for the reception of the percussion-cap, which communicates the fire in a direct line through a small vent-hole, drilled through the second breech-piece, to the chamber *n*, with the tin cartridge-box, having a similar small hole at its bottom, so as to allow direct access of the fire to the powder. The chamber or secondary piece D can be constantly changed during action, and thus prevent the rapid propagation of heat by quick firing.

The bore of the cannon, where the rifling begins, (which is hexagonal, very shallow, and has one turn in forty inches,) is smoothed out about four inches long for the closer admission of so much of the tin tube as remains outside the chamber, and also of the shot, encircled by a leaden band or ring, reaching about the middle of the shot and closely fitting the sides of the smoothed-out recess, tapering towards the end of the shot before it enters the rifling. At the bottom of the shot, having the usual conical cavity of the Enfield rifle ball, which is also plugged by a wooden plug, there is a small rim fitting exactly the cartridge-box or tube, into which it is inserted after a well greased wad on top of the powder. This arrangement with the leaden band around the

shot, filling up all the interstices of the rifling through which it is forced, must necessarily destroy all windage when the piece is fired, and secure steadiness and precision to the shot. For the better security of the breech-fork, when travelling or otherwise, a steel bolt is passed through it and the breech in an oblique direction.

The loading and firing of this cannon are executed in seven movements, as follows: first movement, lift out the breech-fork; second movement, haul out the breech-piece and present it, by half a turn of the body, to the next cannonier, who, third movement, unfastens, by half a turn of the piece, the second breech-piece, which he hands over to his next companion, from whom, after having cleaned with a small steel brush the recess of the first, he receives the already loaded and primed duplicate of the second breech-piece, which, fourth movement, he inserts in the first one, and secures it by half a turn of it; fifth movement, the whole is inserted again into the cannon; sixth movement, replace the breech-fork, and fasten with the bolt; seventh movement, fire the charge by a blow of the hammer on the piston-knob. During the movements two, three, and four, the sponge-staff is run through the bore and the piece pointed.

I am aware of the sundry contrivances already in use for the closing of the breech in breech-loading cannon by screws, &c., of the employment of percussion-caps and primers outside on top of the vent-hole, and also of tin tubes for cartridges in small fire-arms as well as cannon; but what I claim as my invention, and which I desire to secure by Letters Patent, is—

1. The breech-plug A, provided with shoulders *o o*, leaving an angular neck straddled by the key C, and receiving the spring plunger *b*, and having its inner end grooved, or a shoulder to lock with cartridge-plug D, when constructed and operating substantially as described.

2. In combination with the above, the key C straddling the neck B of the plug A, between its shoulders *o* to the base thereof, and operating substantially as described for the purpose specified.

CHS. C. WOLFRUM MÜLLER.

Witnesses:

C. F. HUFFT,

JAS. FURNEAUX.