

W. F. GOODWIN.
Breech-Loading Ordnance.

No. 43,306.

Patented June 28, 1864.

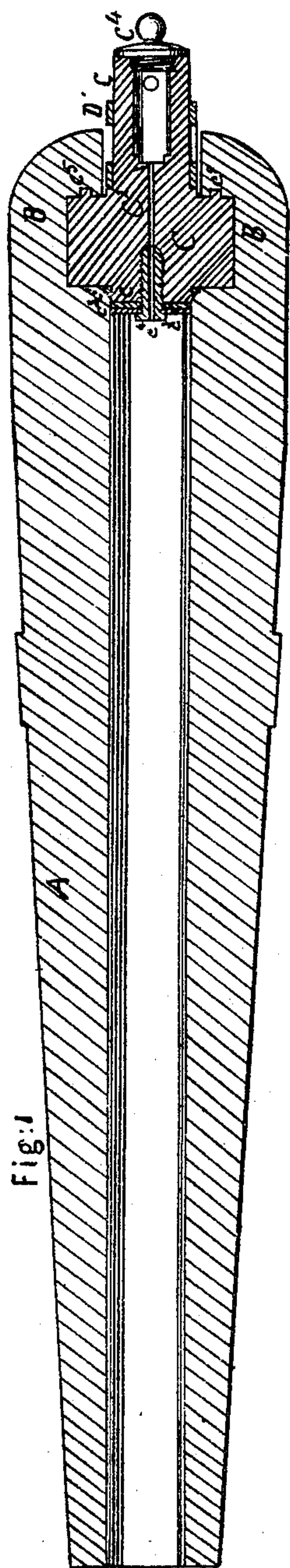


Fig:1

Witnesses:

Chas D. Smith
R. H. Mayhew

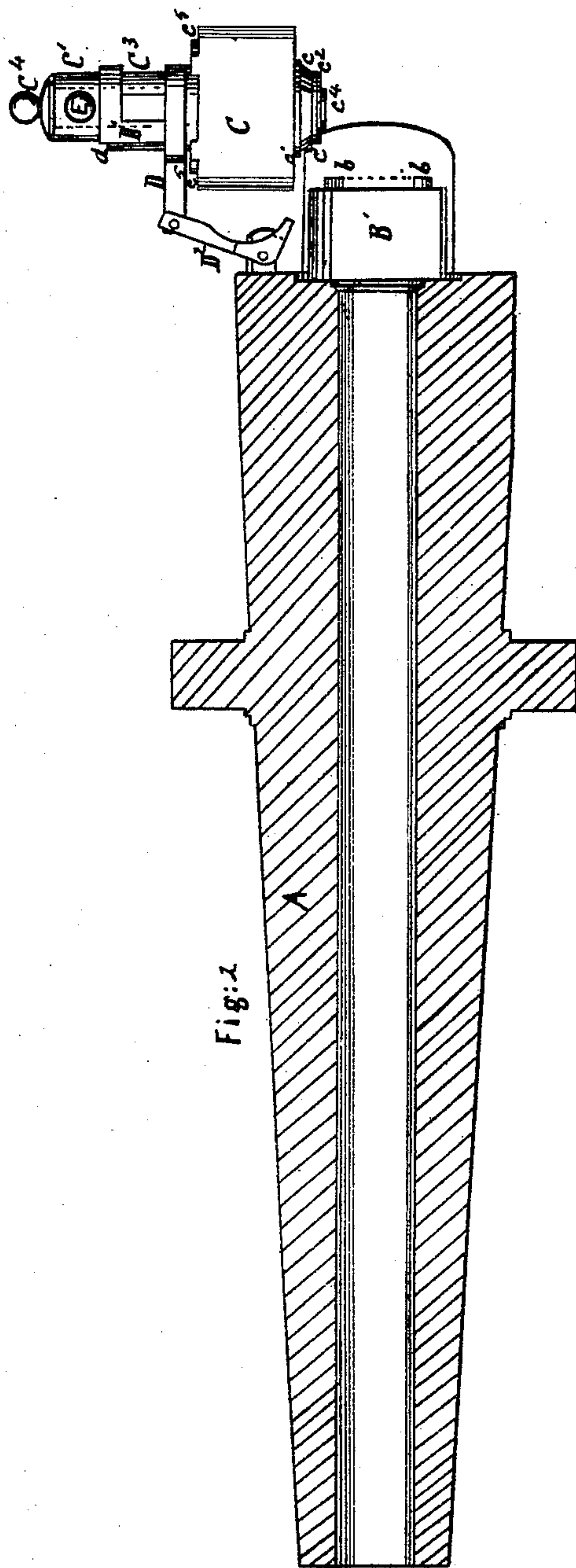


Fig:2

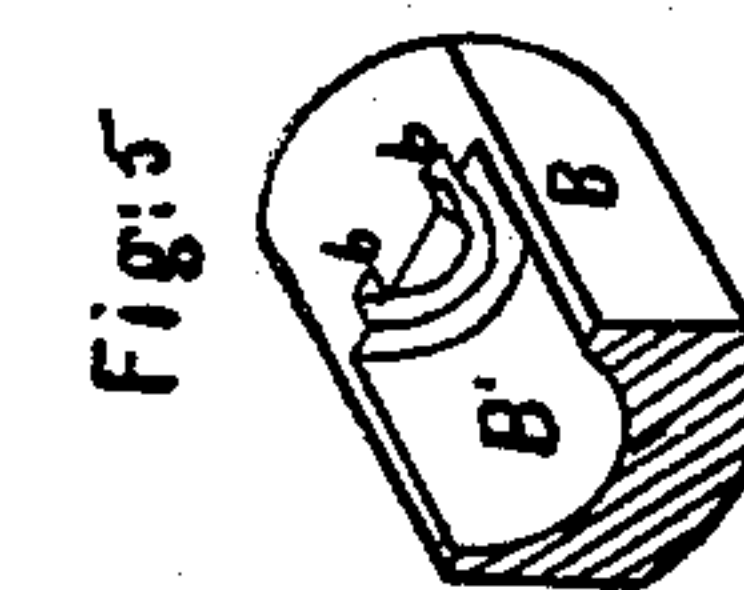


Fig:5

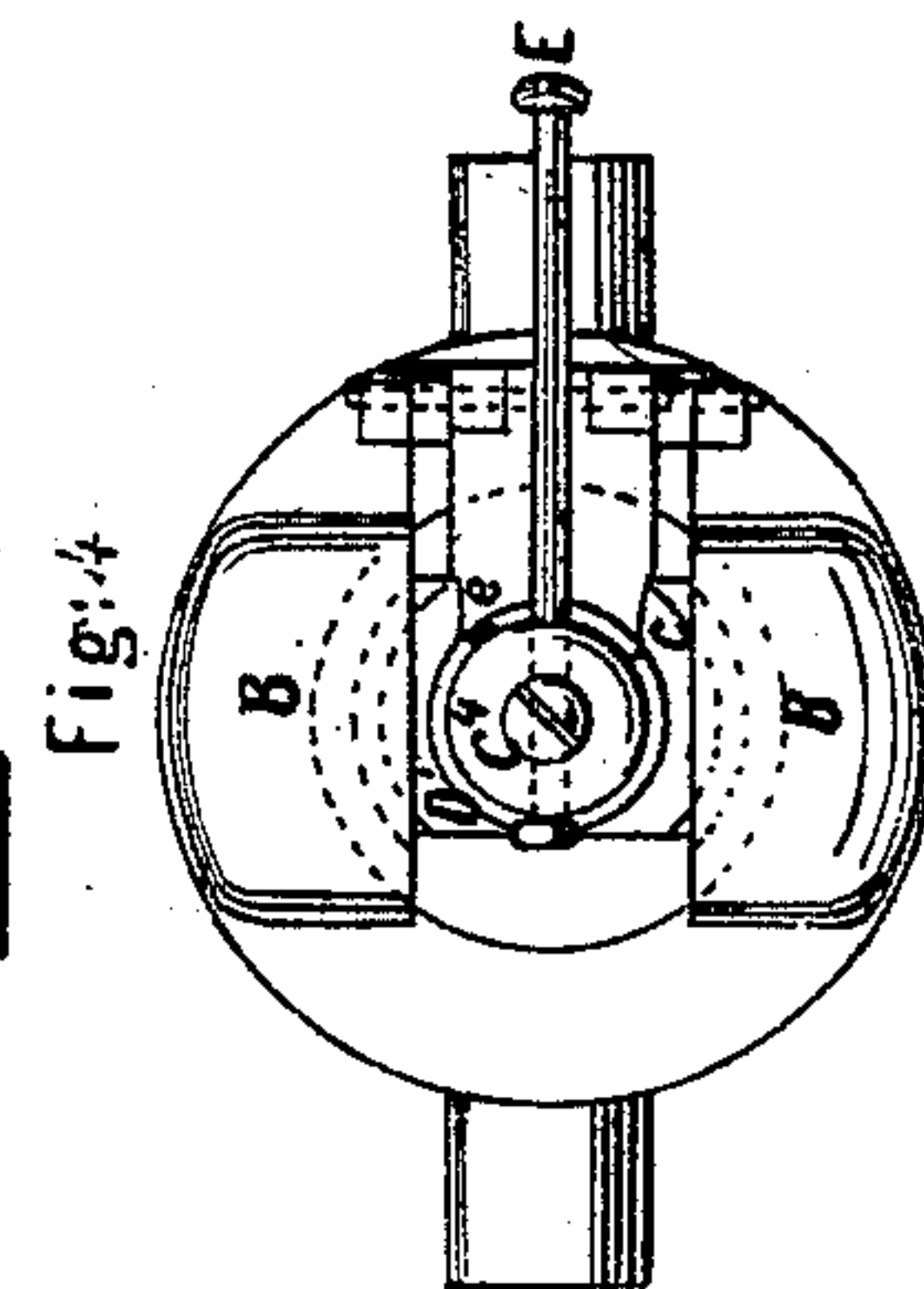


Fig:4

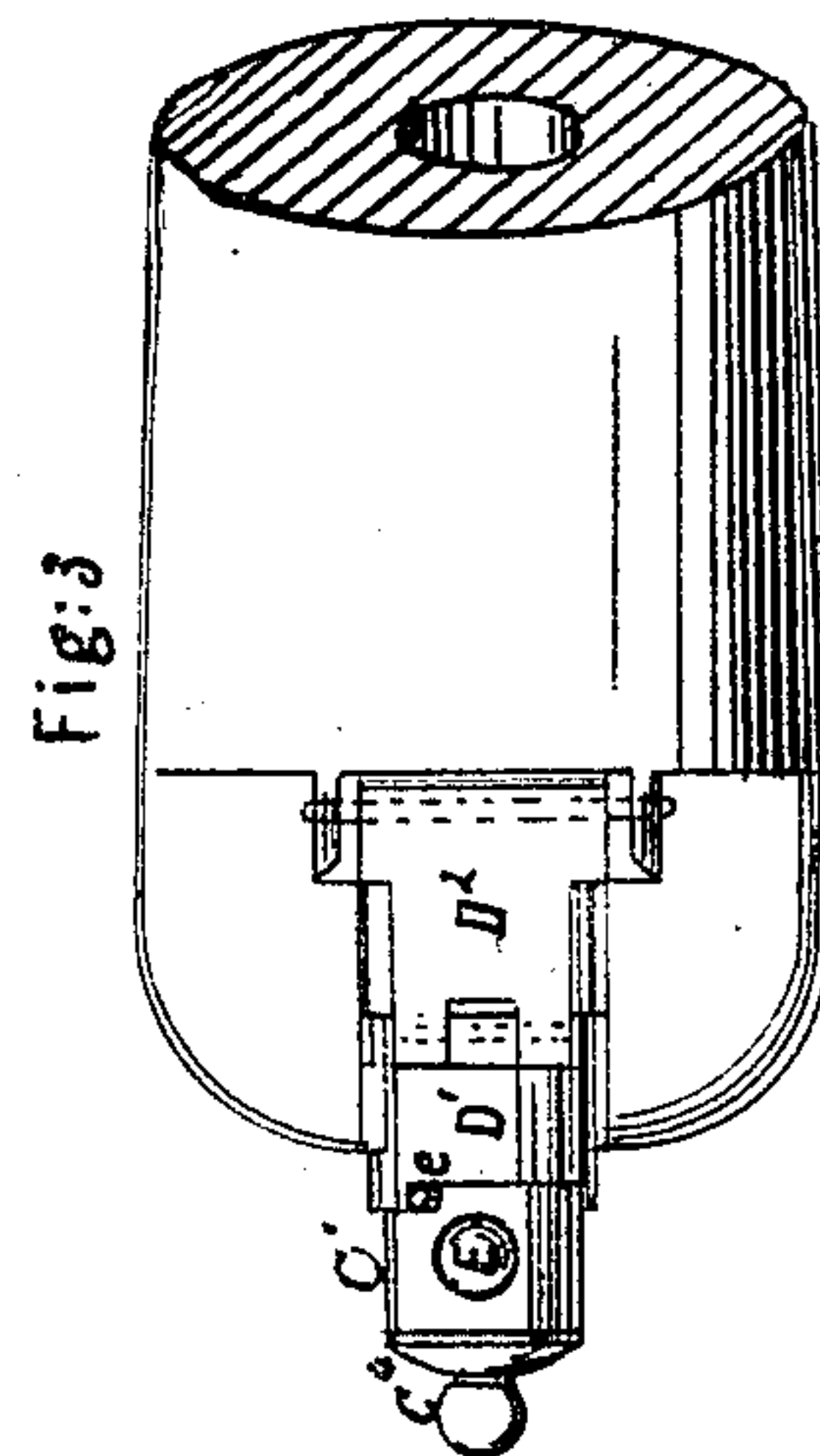


Fig:3

Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM F. GOODWIN, OF POWHATAN, OHIO.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. 43,306, dated June 28, 1864.

To all whom it may concern:

Be it known that I, WILLIAM F. GOODWIN, of Powhatan, in the county of Belmont and State of Ohio, have invented a certain new and useful Improvement in Breech-Loading Ordnance; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical longitudinal section of a cannon illustrating my invention. Fig. 2 is a horizontal section of the gun, representing the breech in an open condition, and illustrating in elevation the devices for closing the same. Fig. 3 is a sectional elevation, representing the breech as closed. Fig. 4 is a rear end elevation. Fig. 5 is a perspective view of one of the cheeks or lugs in which the breech block or piece is retained.

Similar letters of reference indicate corresponding parts in the several views.

The object of this invention is to provide means by which the breech of a gun may be more readily opened or closed; and to this end the invention consists in the employment of a breech-block of novel construction which may be turned by a lever in such manner as to secure it in position when the gun is to be fired, or adapt it to be turned out of contact with the breech for loading purposes, all as will be hereinafter fully explained.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A represents a cannon, from the rear end of which project a pair of lugs or cheeks, B B, each of which is formed with a circular cavity, B', so that both together will constitute a suitable receptacle for a block, C. This block C has projecting from its rear end a hollow cylindrical extension or shank, C', which forms a pivot for the block to turn upon, said shank C' being encircled by a slotted sleeve, D', which is formed on the end of an arm, D, (the latter being hinged to an arm, D²,) and serving to support the block when turned back from the breech in the manner shown in Fig. 2. On the front end of the block C is formed the breech-plug *c* in a suitable groove, in which

may be inserted a compressible gas-check, *c'*. At the forward end of the plug *c* is secured a metallic disk, *c²*, between which and the plug is inserted an elastic disk, *c³*, which, when the discharge takes place, expands and forms within the breech a gas-tight joint, the check *c'* serving as additional means to more effectually secure this object. The disk *c²* is secured in position by a perforated screw, *c⁴*, through which the vent communicates with the bore of the gun from the interior of the shank C'.

E represents a lever inserted through the rear end of the shank C'. By means of this lever the block C may be turned into such position as will adapt it to pass between the cheeks B B, for the purpose of either opening or closing the breech, the lever E also providing means by which the block may be swung in or out with facility. On the rear end of the block C are formed segmental flanges *c⁵*, which are adapted to enter corresponding grooves, *b*, in the cavities B', so that when the block C is brought into coincidence with the cavities B the turning of the lever E will cause the flanges *c⁵* to take into the grooves *b*, and thus serve to correctly guide the block C, while being turned to the vertical position in which it is clearly represented in Figs. 1 and 4. When the oblong block C is turned into a vertical position in the manner described, its respective ends are caused to occupy the cavities B' B', whereby it is securely locked in position to receive the explosive force of the charge. When it is desired to retract the block C, it is only necessary to turn the lever E so as to cause it to assume a horizontal position, the hinged arms D D² adapting it to be then swung back with facility, little strength being required to perform this operation. When the block C in being turned into position for firing reaches a vertical position, a pin, *e*, coming in contact with a shoulder, *d*, intercepts any further turning thereof. The manner of opening and closing the breech by the oblong block C will be fully understood from the foregoing description, and needs no further explanation.

C² represents the vent which communicates with the interior of the shank C', as clearly illustrated in Fig. 1, and the primer may be inserted into the vent through the opening C³. The rear end of the shank C' is occupied by a screw-cap, C⁴, which may be withdrawn to

facilitate the removal of burned primers or to render the vent accessible in order to perform any repairing that may be necessary.

I am aware that breech-loading guns have before been made with breech-blocks having flanges or projections adapted to engage with suitable lugs by turning the block after its insertion in the breech of the gun. This, therefore, I do not claim.

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

1. In combination with the lugs or projections BB, having bearing-surfaces perpendicular or nearly so to the axis of the bore, the solid oblong breech-block C, having flanges *c* concentric with the axis, and otherwise con-

structed and applied, as herein shown and described, so that by turning the block after its insertion its ends will occupy the concavities of the lugs BB, and the entire strength of the block will be employed to resist the explosion.

2. The combination, with of the slotted shank C', and slotted sleeve D', of the hinged arm D, adapted in the manner described to permit the ready insertion of the primers.

3. The combination, with the shank C', of the block C, the screw-cap C', for facilitating the removal of the burned primers, as explained.

WM. F. GOODWIN.

Witnesses:

A. MOORE,
C. D. SMITH.