

J. A. DE BRAME.
BREECH LOADING ORDNANCE.

No. 34,025.

Patented Dec. 24, 1861.

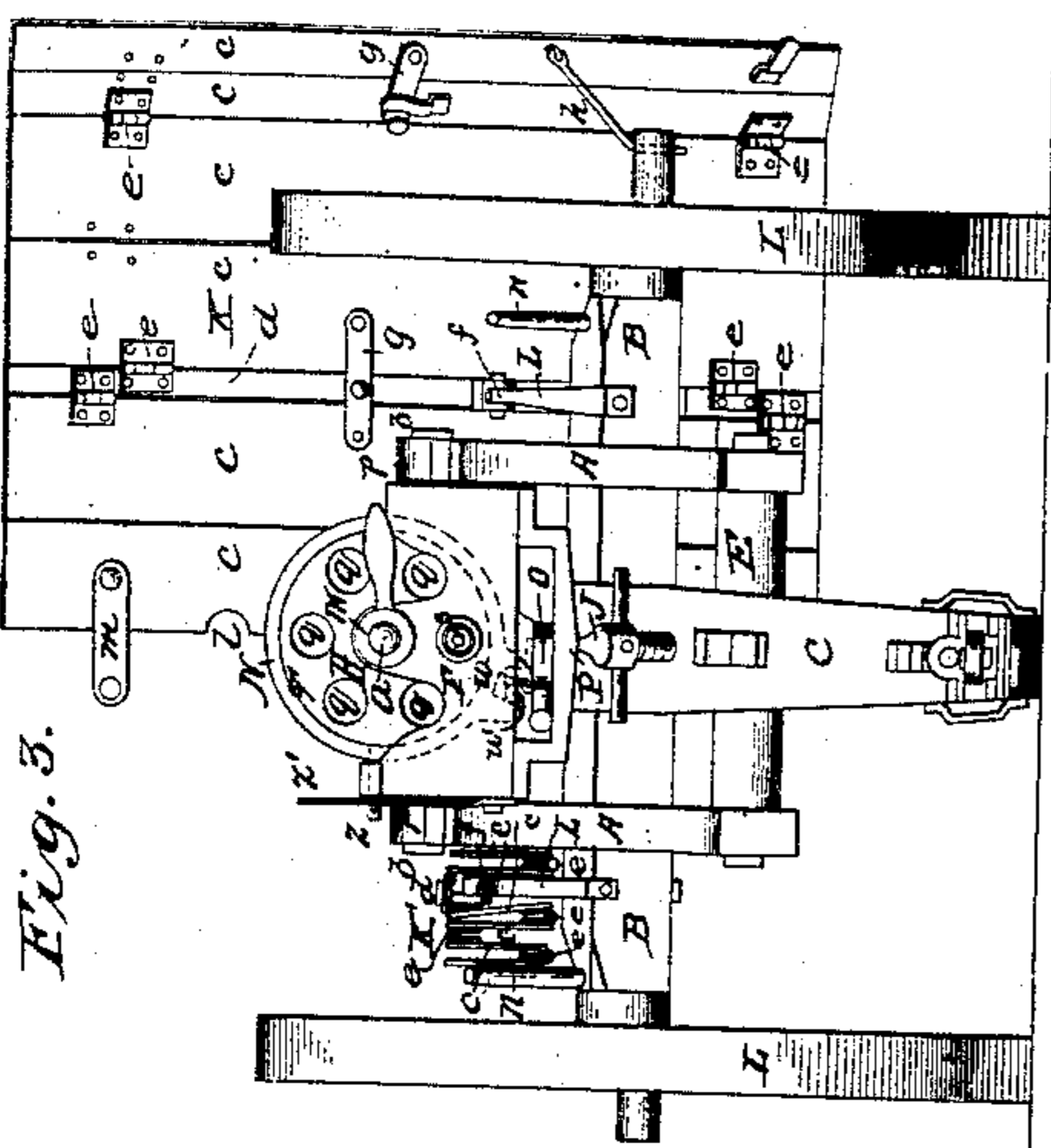


Fig. 3.

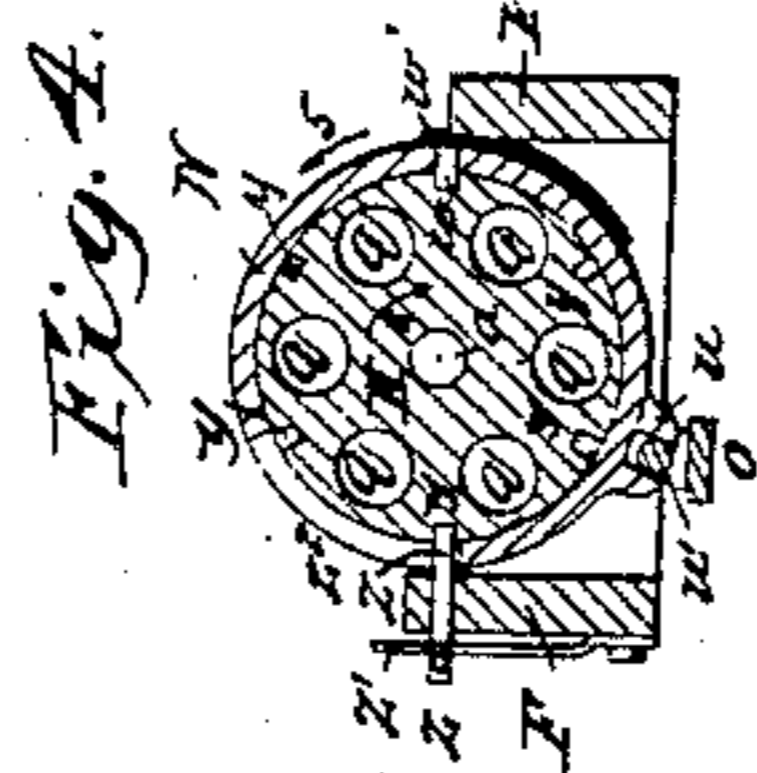


Fig. 4.

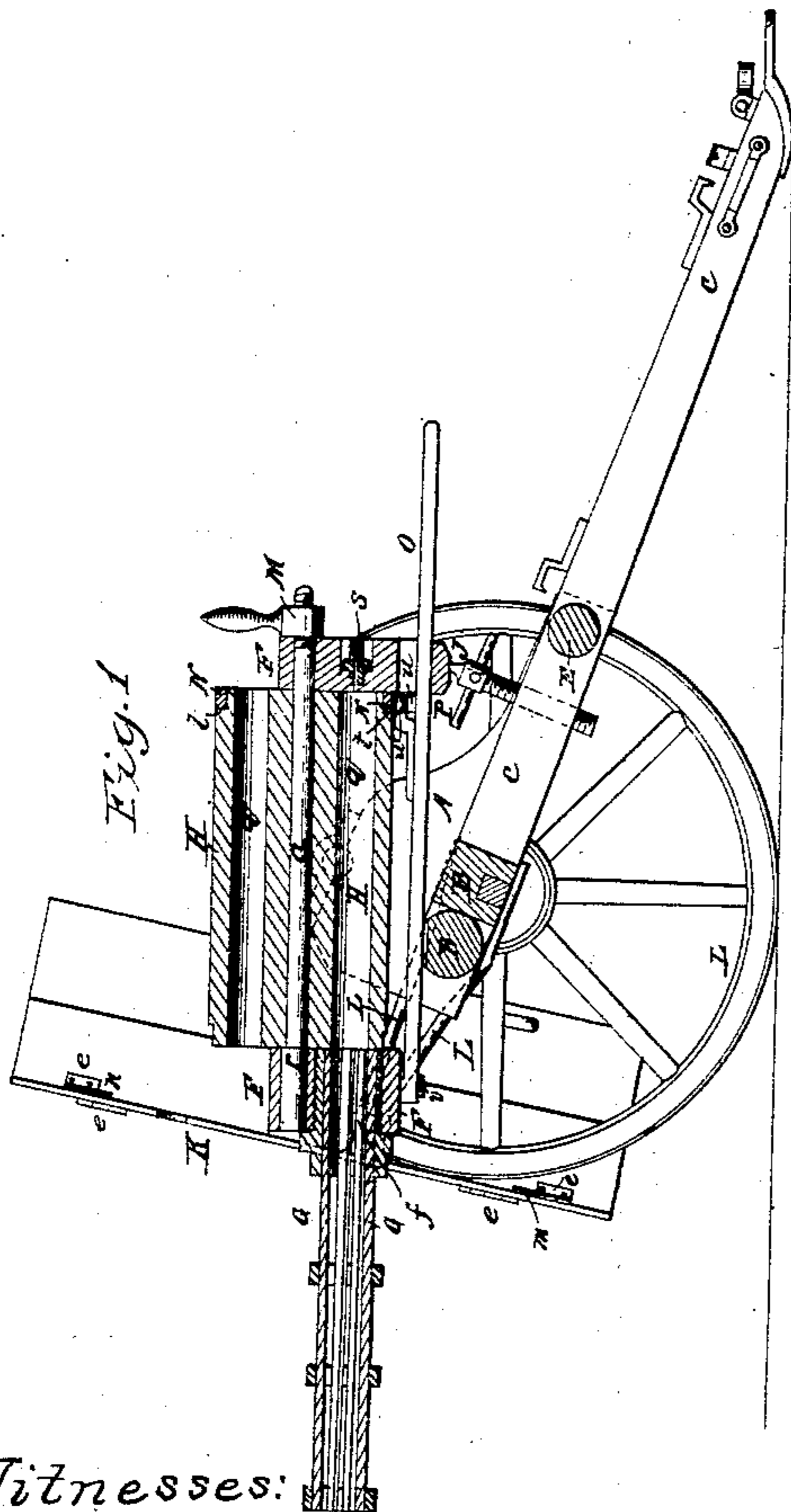


Fig. 1.

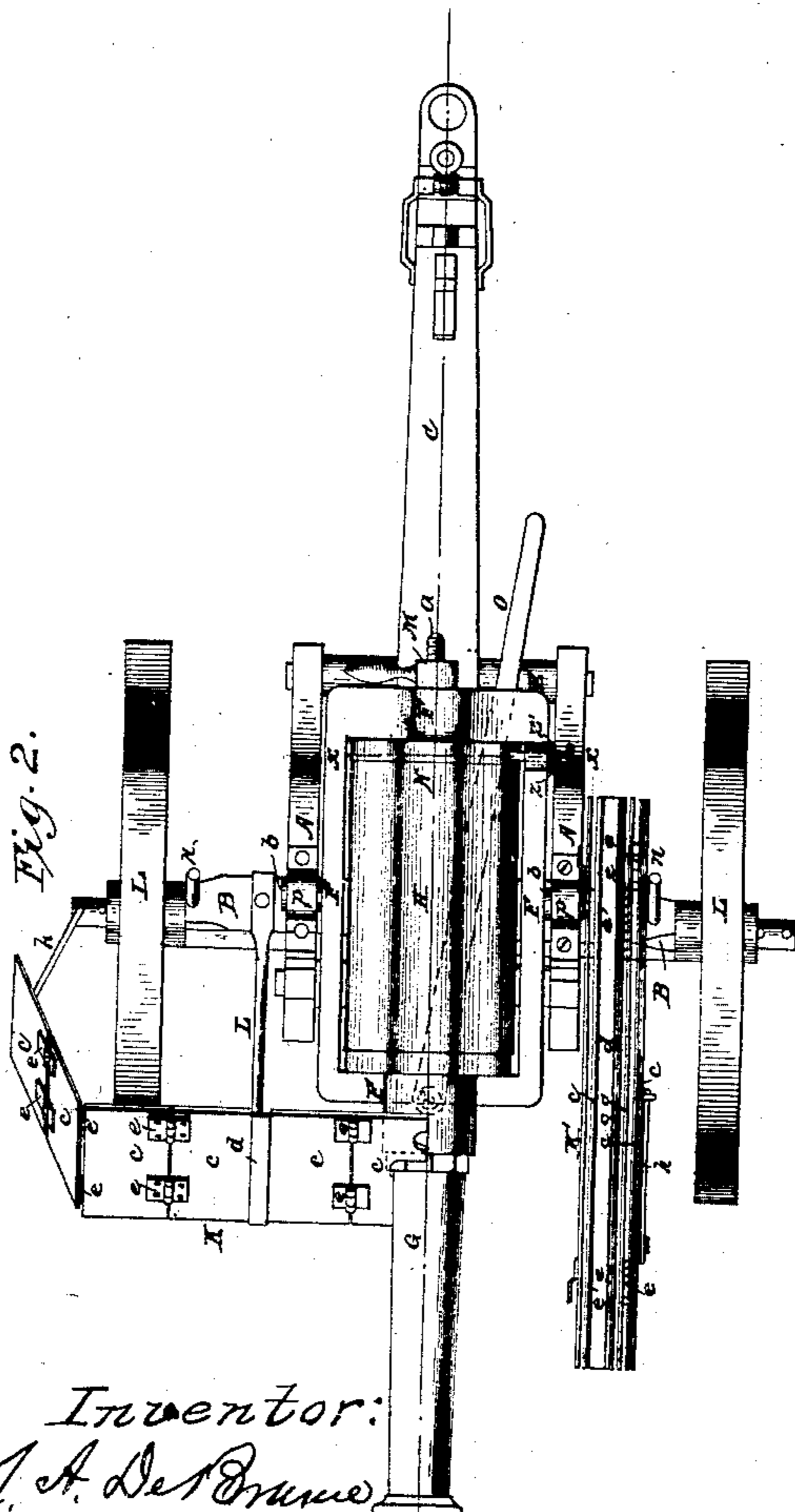


Fig. 2.

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UNITED STATES PATENT OFFICE.

J. A. DE BRAME, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND
JEREMIAH GURNEY, OF SAME PLACE.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. 34,025, dated December 24, 1861.

To all whom it may concern:

Be it known that I, J. A. DE BRAME, of the city, county, and State of New York, have invented certain new and useful Improvements in Breech-Loading Ordnance; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of a field-piece with my improvements. Fig. 2 is a plan of the same. Fig. 3 is a back view of the same. Fig. 4 is a transverse section of the breech in the red line *xx* shown in Fig. 2.

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

This invention consists in a certain mode of applying a rotating many-chambered cylinder in combination with a fixed barrel, and in certain means of rotating the said cylinder to bring the several chambers successively in line with the barrel.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A A B C D E is the carriage, constructed like any ordinary gun-carriage, except that there is a greater space between the side pieces, A A, to make room between them for the quadrangular wrought iron or other metal frame F, to the front of which is rigidly secured the fixed barrel G, and which receives within it the rotating many-chambered cylinder H. This frame has passing longitudinally through it the axis-pin *a*, upon which the cylinder H rotates, and it has formed upon or secured rigidly to its sides the trunnions *b b* of the gun, which are fitted to bearings *p p* in the side pieces, A A, of the carriage in the same manner as though formed on the body of the gun itself in the usual manner. The said frame has applied under its rear end an elevating-screw, J, by which the elevation of the gun is adjusted in the same manner as that of an ordinary gun, the trunnions *b b* moving in their bearings in such adjustment in the same manner as those of an ordinary gun.

The chambers *q q* of the cylinder H are bored

right through the rear of the said chamber, and the rear portion of the frame F constitutes a breech to that chamber which is at any time in line with the fixed barrel G. The axis-pin *a* is arranged parallel with the bore of the barrel G, and at such a distance above the said barrel that a chamber in line with the barrel is directly under the said pin. The axis-pin has the portion which is received within the front part of the frame F cylindrical, but larger than the portion which passes through the cylinder, so that it fits up to the front end of the cylinder with a shoulder, *r*, as shown in Fig. 1, and the so enlarged part of the said pin is made with a feather or fin to prevent the said pin from turning in the frame F. The rear end of the said pin protrudes through the rear end of the frame, and has a screw-thread cut upon its exterior for the reception of a nut, M, which is provided with a lever or handle to enable it to be turned by hand for the purpose of drawing back the shoulder *r* against the front end of the cylinder, and so drawing back the cylinder against the rear end of the frame F, which constitutes the breech, and so making a gas-tight breech-joint. The cylinder is so fitted between the ends of the frame F that when the nut M is unscrewed sufficiently to relieve the forward end of the cylinder of the pressure of the shoulder *r* the cylinder will just turn freely within said frame.

The rear end of the frame F constituting the breech is provided with a nipple, *s*, or priming-tube and vent, to enable the charge in the chamber opposite the stationary-barrel G to be fired.

The cylinder F has turned in it at its rear end a rabbet, *t*, Fig. 1, for the reception of a ring, N, Figs. 1, 2, 3, 4, which is fitted snugly therein flush with the rear end of the cylinder, and this cylinder is connected by a fork and pin, *u u'*, with a lever, O, which works laterally to the carriage, under the frame F, on a fulcrum-pin, *v*, secured in the front part of the said frame, said lever serving to turn the said ring upon the cylinder, and the said ring has attached to it by a spring, *w'*, a tooth, *w*, Fig. 4, which works through a hole in the said

ring and enters notches *y y* in the said cylinder, said notches being at equal distances apart, and corresponding in number with the number of chambers *q q*.

The tooth *w* is beveled on one side, to enable it to slip out of the notches *y y* when the ring is turned in the direction of the arrow 5, Fig. 4, and thus to enable the ring to move independently of the cylinder in that direction; but the said tooth compels the cylinder to turn with the ring when it engages in one of the said notches while the ring is turned in the opposite direction. To prevent the cylinder being moved with the ring by the friction between them when the ring is moved in the direction of the arrow 5, a stop-pin, *z*, Fig. 4, is arranged to slide through a hole provided for it in one side of the frame *F* and enter, one by one, the notches *y y* in the cylinder, and this stop-pin has applied to it a spring, *z'*, which tends to press it toward the cylinder and force it into the said notches as they severally arrive opposite to it. This stop-pin is withdrawn by hand from the notches when it is desired to turn the cylinder to carry one chamber out of line with the barrel and bring the next chamber in line therewith.

A slot, *z²*, is provided in the ring *N*, to allow it to move upon the stop-pin *z* far enough to present the several chambers successively in line with the barrel.

The several chambers of the cylinder are loaded from their rear, while their rear ends are exposed in an open condition above the rear of the frame *F*, and the loaded chambers are successively brought between the breech and stationary barrel by a movement of the lever *O*, first to the right and then to the left. The movement of the said lever to the right turns the ring *N* upon the cylinder in the direction of the arrow 5, causing the pin *w* to pass out of one notch *y* to the next one above it. The stop-pin *z* is then withdrawn by hand from the notch *y*, in which it has engaged, and the lever moved to the left, which turns the ring in the opposite direction and causes the pin *w* to bring the cylinder along with it, as indicated by the arrow 6, shown upon the cylinder in Fig. 1, thus removing one chamber out of line with the bar-

rel and bringing another which is loaded in line therewith. The stop-pin *z* may be released as soon as the movement of the lever to the left has commenced, and when the loaded chamber arrives opposite to the barrel the spring *z* slips into a new notch, *y*, and locks it in that position, ready to have the charge contained in it fired by a hammer properly applied to strike a percussion-cap which has been placed on the nipple *s*, or by any other suitable means. Before firing the nut *M* is tightened up to tighten the breech-joint, as before described, and this must be slackened again before the next movement of the cylinder can be effected. The movement of the lever *O* is properly limited by means of a fixed yoke, *P*, secured to the bottom of the frame *F*; but such yoke is not absolutely necessary. The said yoke, however, constitutes a convenient bearing for the elevating-screw *J*.

H H' is a folding screen, attached to the carriage of the gun for the purpose of protecting the artillerymen from the enemy's riflemen when in action, and capable of being folded up in such manner that it may offer no impediment to the movement of the piece from place to place.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The axis-pin *a*, having a shoulder, *r*, and fitted to the cylinder-frame *F*, and rotating many-chambered cylinder, substantially as herein described, and furnished with a screw-thread receiving a nut, *M*, applied in rear of the cylinder-frame, to operate substantially as herein set forth, for the purpose of making a tight joint between the open rears of the chambers and a breech formed by the rear end of the cylinder-frame.

2. The combination, with the rotating many-chambered cylinder *H*, of the ring *N*, the lever *O*, the spring-tooth *w*, and the stop-pin *z*, said tooth and pin operating in combination with notches *y y* in the cylinder, substantially as and for the purpose herein specified.

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Witnesses:

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