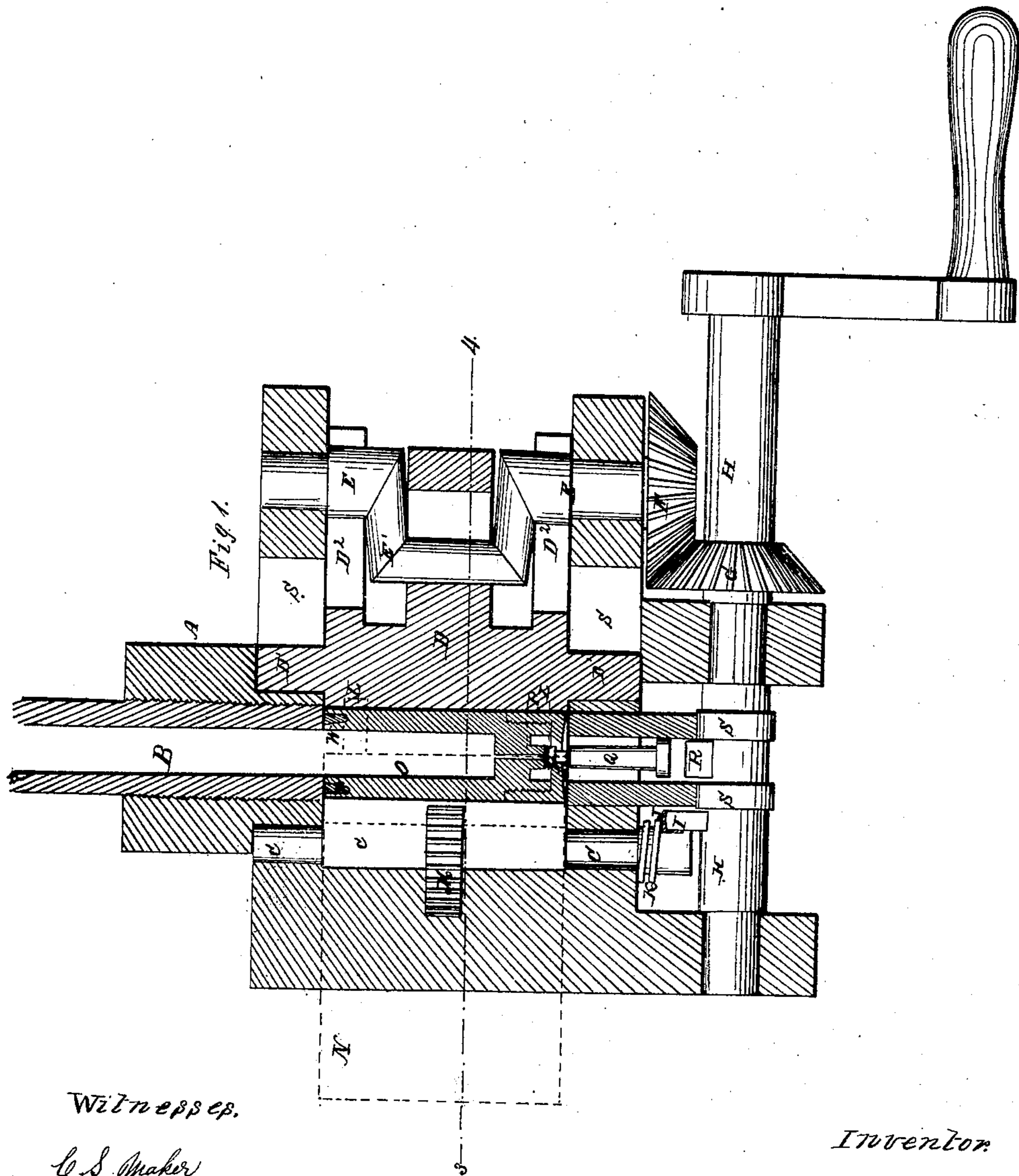


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REPEATING ORDNANCE, &c.

No. 33,813.

Patented Nov. 26, 1861.



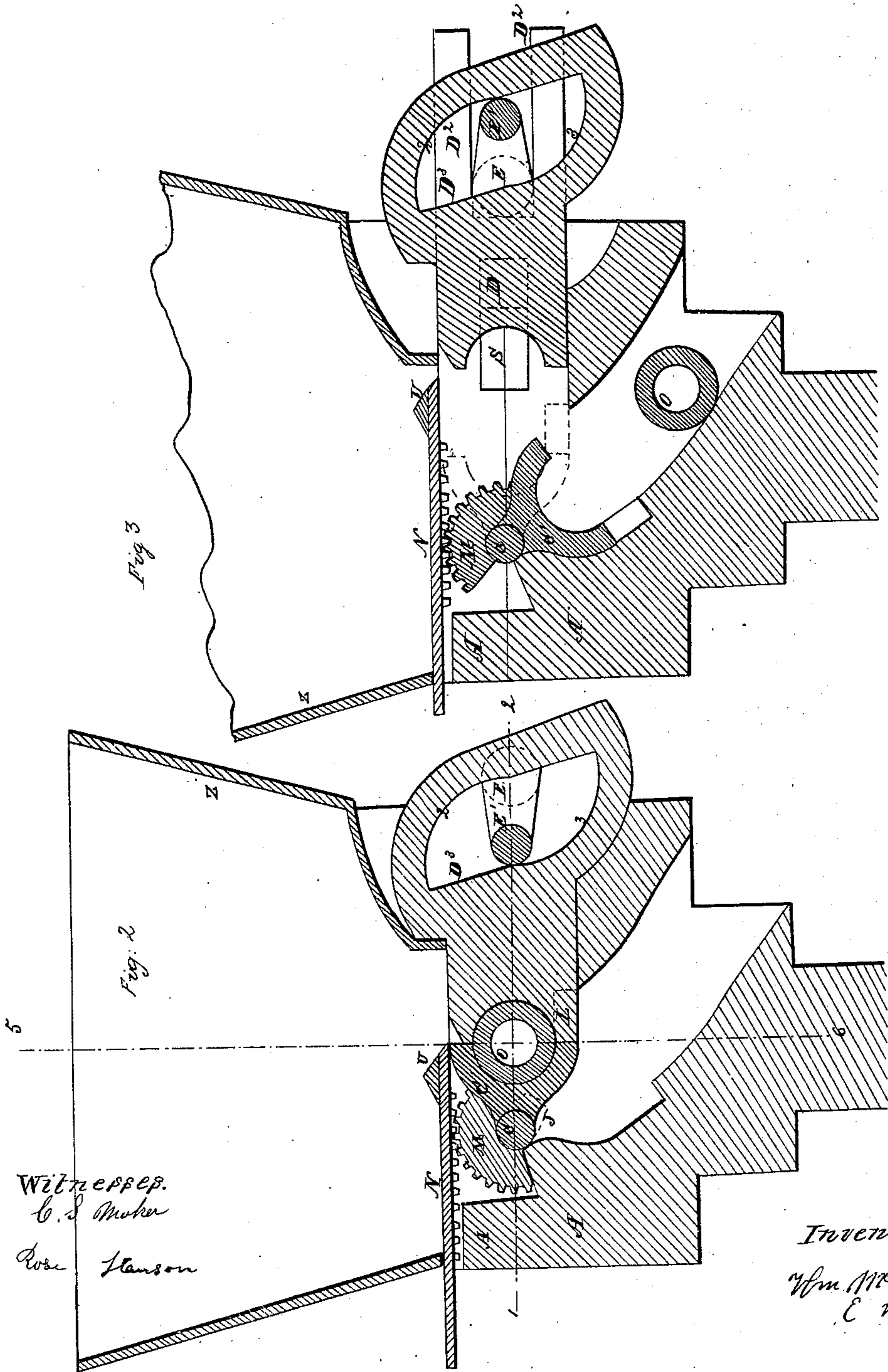
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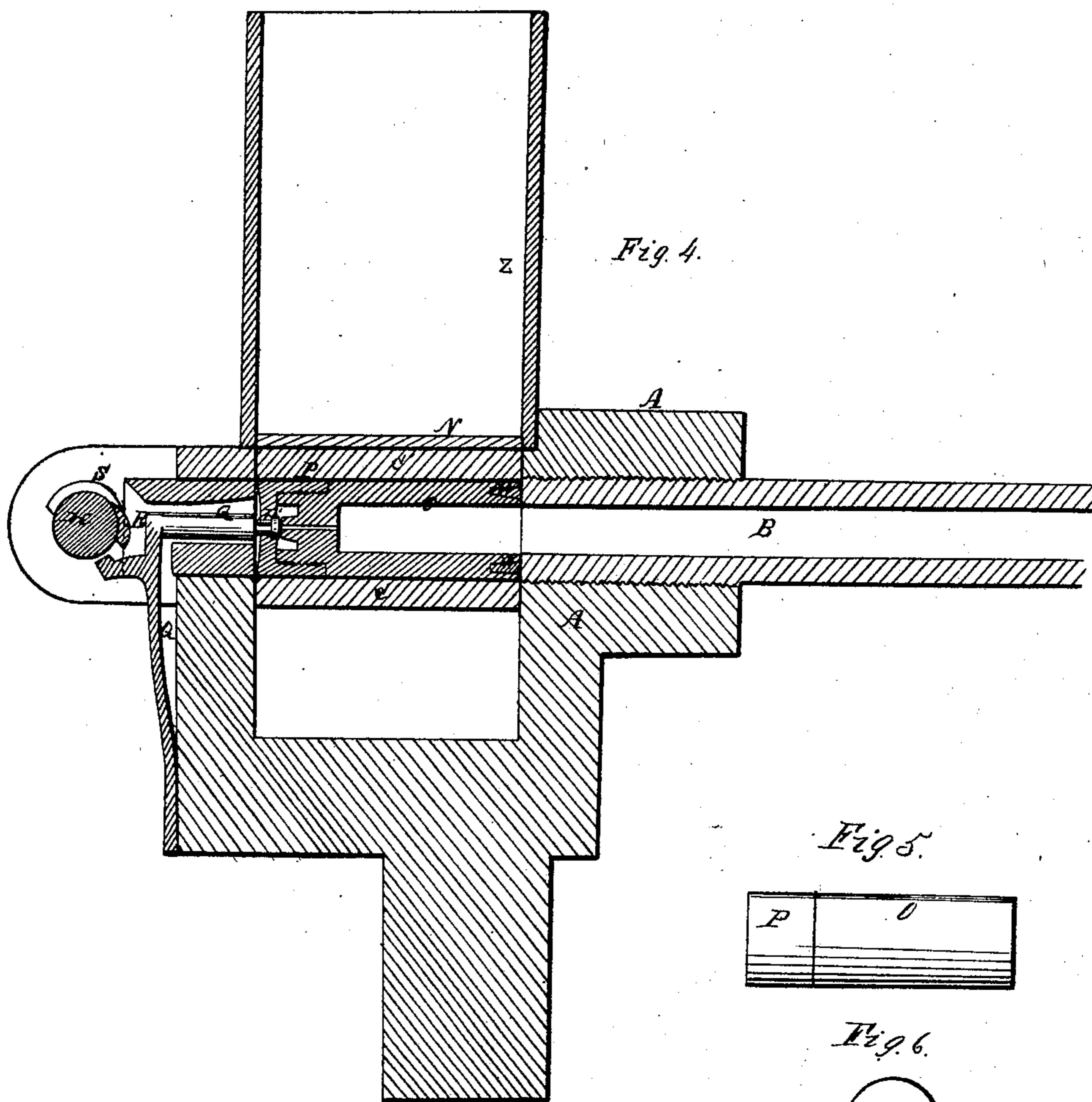


Fig. 4.

Fig. 5.

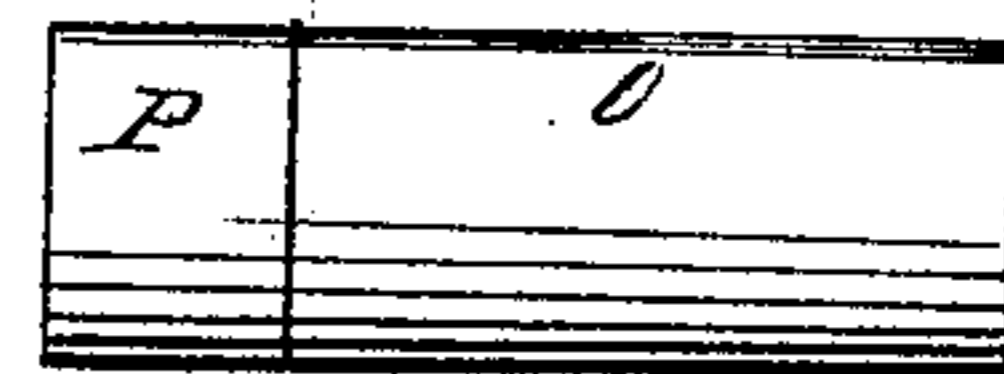
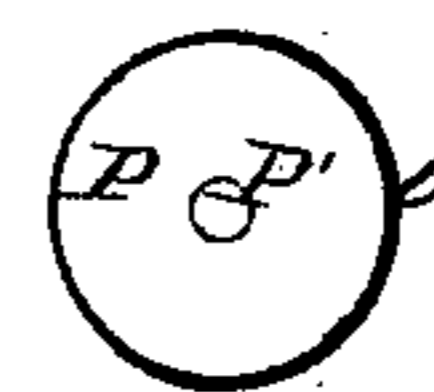


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM McCORD, OF SING SING, AND EDMUND MAHER, OF NEW YORK, N. Y.,
ASSIGNORS TO WILLIAM McCORD.

IMPROVEMENT IN REPEATING ORDNANCE, &c.

Specification forming part of Letters Patent No. 33,813, dated November 26, 1861.

To all whom it may concern:

Be it known that we, WILLIAM McCORD, of Sing Sing, in the county of Westchester and State of New York, and EDMUND MAHER, of the city, county, and State of New York, have invented certain new and useful Improvements in Guns; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a horizontal section of the improved gun at the red line 1 2 of Fig. 2, with one of the peculiarly-formed cartridge-chambers employed embraced between reciprocating and oscillating jaws for holding them opposite the gun-barrel. Fig. 2 is a vertical transverse section of the same at the red line 3 4 of Fig. 1. Fig. 3 is a similar transverse section of the same with the said reciprocating and oscillating jaws open and a cartridge-chamber in the act of descending therefrom. Fig. 4 is a longitudinal section of the gun at the red line 5 6 of Fig. 2. Fig. 5 is a side view of one of the metallic cartridge-chambers. Fig. 6 is an end view of the same.

Similar letters in the several figures refer to corresponding parts.

This invention consists in a certain novel construction, arrangement, and movement of parts by which peculiarly-formed metallic cartridge-chambers charged with powder and ball are successively and at regular intervals dropped from a hopper, opposite to and held tightly in contact with a gun-barrel of corresponding caliber, firmly secured in a substantial stock, and after being fired discharged from below while the necessary preparations and movements are being made for the reception from the hopper of the next loaded cartridge-chamber in succession in such a manner as to enable a constant firing of the cartridge-chambers through the barrel to take place from the simple act of turning a crank.

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

The frame or stock A, to which the gun-barrel B is secured, may be formed in two parts, firmly secured together by screws or bolts, the upper part being in fact a cap-plate for holding the several moving parts in place. Within

this stock is secured the shaft C of an oscillating semi-cylindrical jaw, C', the concavity or inner periphery of which, when elevated, is on line with one-half the caliber of the gun, with which and a similar concavity in the end of a reciprocating jaw-piece, D, it corresponds. This latter jaw-piece, D, is provided with rectangular projections or tongues D' at its sides, which tongues fit and slide in slots s, formed equally in the upper and lower portions of the stock or frame at their junction, and next these tongues it is provided on either side with a pair of prong-pieces, D², which extend horizontally outward therefrom above and below a horizontal crank-shaft, E, turning in suitable boxes in the frame, and arranged parallel with the gun-barrel, with its axis on the same horizontal plane as the center of the same, so as to enable it to act as a guide to the prong-pieces in their reciprocating movements. Between these pairs of prong-pieces D² the said jaw-piece D is increased in thickness, and within this portion is formed a peculiar-shaped opening or space, D³, in which the crank E' of the shaft E turns. The peculiar form of this opening or space D³ somewhat resembles a rhomboid, and the object designed in giving it this form is to enable the reciprocating jaw-piece D to remain at rest a short time at each reciprocal throw, as will be more fully described hereinafter.

On the rear end of the crank-shaft E is secured a bevel cog-wheel, F, which meshes in gear with a corresponding cog-wheel, G, secured on a horizontal revolving transverse shaft, H, whose axis is on the same horizontal plane with the center of the gun-barrel. This last named-shaft, H, has a hand-crank at one end for giving it motion, and near its opposite end a protuberance or cog, I, so situated in relation to a similar cog, J, projecting from the periphery at the rear end of the shaft C of the oscillating jaw C', as to enable it in its revolution with its shaft H to depress said cog J and tip or turn the jaw C' to the position represented in Fig. 3 of the drawings, a space being formed in the lower part of the stock or frame A to admit of this movement. After being thus tipped it is raised to its original position by a spiral spring, K, on the end of the shaft C.

Two bars, L, project tangentially from the

lower part of the semi-cylindrical oscillating jaw C', for preventing the loaded cartridge-chambers falling through when said jaw is raised, which bars L, when the reciprocating jaw D closes upon the oscillating one, C', enter corresponding slots in it. A segment of a cog-wheel, M, is secured to near the center of the shaft C, and meshes in gear with a cogged rack on the lower surface of a horizontal plate, N, for shutting off communication with the hopper during the tipping movement of the oscillating jaw C'.

The detachable cartridge-chambers O are made of a cylindrical form, with a nipple at one end, and of a caliber corresponding with the caliber of the gun-barrel. At their nipple ends they are provided with caps P, screwed on their ends, which caps have small round openings in their centers, through which pass small pins P', having heads on their inside ends, which are situated immediately opposite the ends of the nipples and rest in seats provided for them on the inside of the caps P. This pin, when struck by the hammer Q, explodes the percussion-cap on the nipple, and immediately thereafter the head is driven against its seat, and thus prevents the escape of any of the charge or force of either the cartridge or percussion-cap, and causes the whole force of the latter to assist in giving force to the ball.

The spring percussion-hammer Q is secured at its lower end to the rear surface of the stock or frame A, and is operated by means of a tooth, R, on the periphery of the transverse shaft, and the cartridge-chambers are forced against the breech end of the barrel at the same time of firing by means of two cams, S, formed on the shaft H on either side of the hammer-tooth R.

The cartridge-chambers O are placed in the hopper Z above the sliding plate N, whence they are supplied to the gun singly and fired and discharged therefrom in the following manner: Supposing motion to be given the shafts E H and the reciprocating jaw-piece D to be opened to its fullest extent, as represented in Fig. 3, and the oscillating jaw C' to be raised to the position represented by red lines in the same figure, this causes the sliding plate N to be moved to the position represented in Fig. 2 by the upward moving of said jaw C' and consequent turning of the segment of a cog-wheel, M, attached thereto. In this movement the ridge V on the plate N agitates the cartridge-chambers O in the hopper Z and causes one of them to descend through the space next the end of said sliding plate N, between the upper edges of the jaws C' D, and rest on the bars L, projecting from the lower edge of the oscillating jaw C'. The continued turning of said shafts E H and the crank E' after the jaw D has been opened does not operate on the straight portion of the space D³ until after it has made one-quarter of a revolution past the segmental portion 2

of said opening or space D³, but simply holds the jaw D open, thereby giving the necessary time for the jaw C' to rise and the gate or slide N to open and the cartridge-chamber to descend onto the bars or prongs L. In reaching the position represented in Fig. 2 the movement of the crank closes the jaw D and embraces between it and the jaw C' the previously-descended cartridge-chamber O as represented in the figure just mentioned. During the next quarter-revolution of the crank E' past the quarter-segment portion 3 of the opening or space D³ it holds the jaw D against the other jaw, C', without moving it in the least, and thereby gives the cams S time to force up the cartridge-chamber in contact with the gun-barrel and hold it there until its contents are fired off by the cog or notch R coming in contact with the notch I of the hammer Q and springing it to explode the cap, as before stated. The next quarter-revolution of the said crank E' again opens the jaw D, while at the same time the protuberance or cog I on the shaft H, operating on the similar cog, J, on the oscillating jaw-shaft c', depresses the same to the position represented in Fig. 3, to throw off the cartridge-chamber therefrom, and at the same time moves the gate or slide N to prevent the descent of another chamber until the exploded one is thus thrown off. In this manner the operation is continued, a cartridge-chamber being fired at every revolution of the shafts E H.

What we claim as new, and desire to secure by Letters Patent, is—

1. Embracing and holding the cartridge-chambers O opposite the gun-barrel B by means of the oscillating and reciprocating jaws C' D, constructed, combined, arranged, and operating as before described.

2. The employment of the bars L and segment of a cog-wheel, M, on the oscillating jaws C', and slide N, with cogged rack on its lower surface and a ridge on its upper one, for throwing off from said jaw C' the exploded cartridge-chambers and admitting loaded ones singly from the hopper, as set forth.

3. The peculiar form of the opening or space D³ in the reciprocating jaw-piece D, in connection with the crank E', by which the necessary stoppage is given the said jaw-piece at the end of every reciprocal throw of the same, as herein fully set forth.

4. Covering the nipple ends of the cartridge-chambers with a cap, P, having a headed or valve pin, P', working loosely in an opening immediately opposite the percussion-cap on the nipple, substantially in the manner and for the purpose set forth.

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Witnesses:

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