

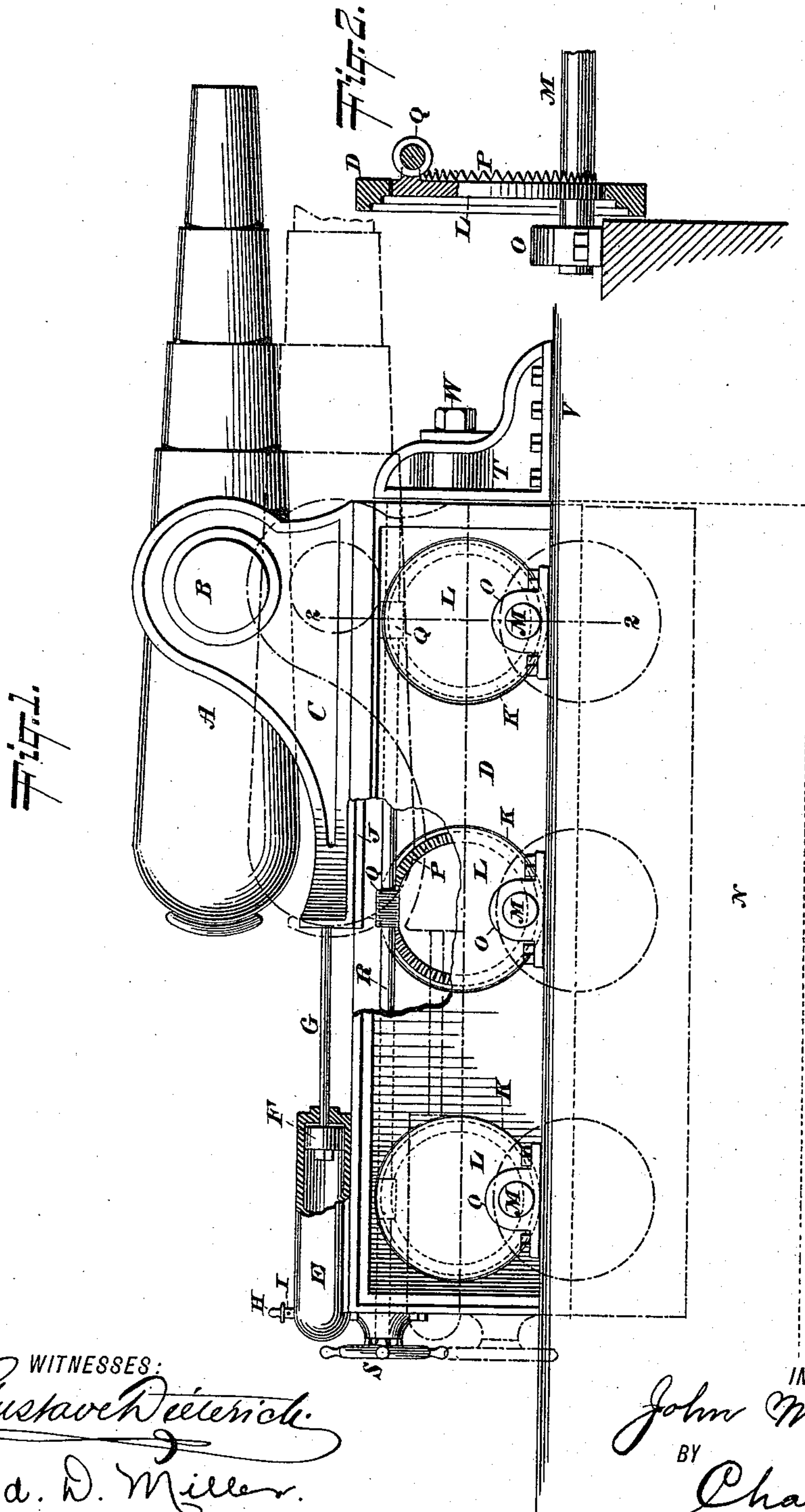
(No Model.)

2 Sheets—Sheet 1.

J. MASON.
ORDNANCE.

No. 473,939.

Patented May 3, 1892.



WITNESSES:
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Ed. D. Miller.

INVENTOR
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

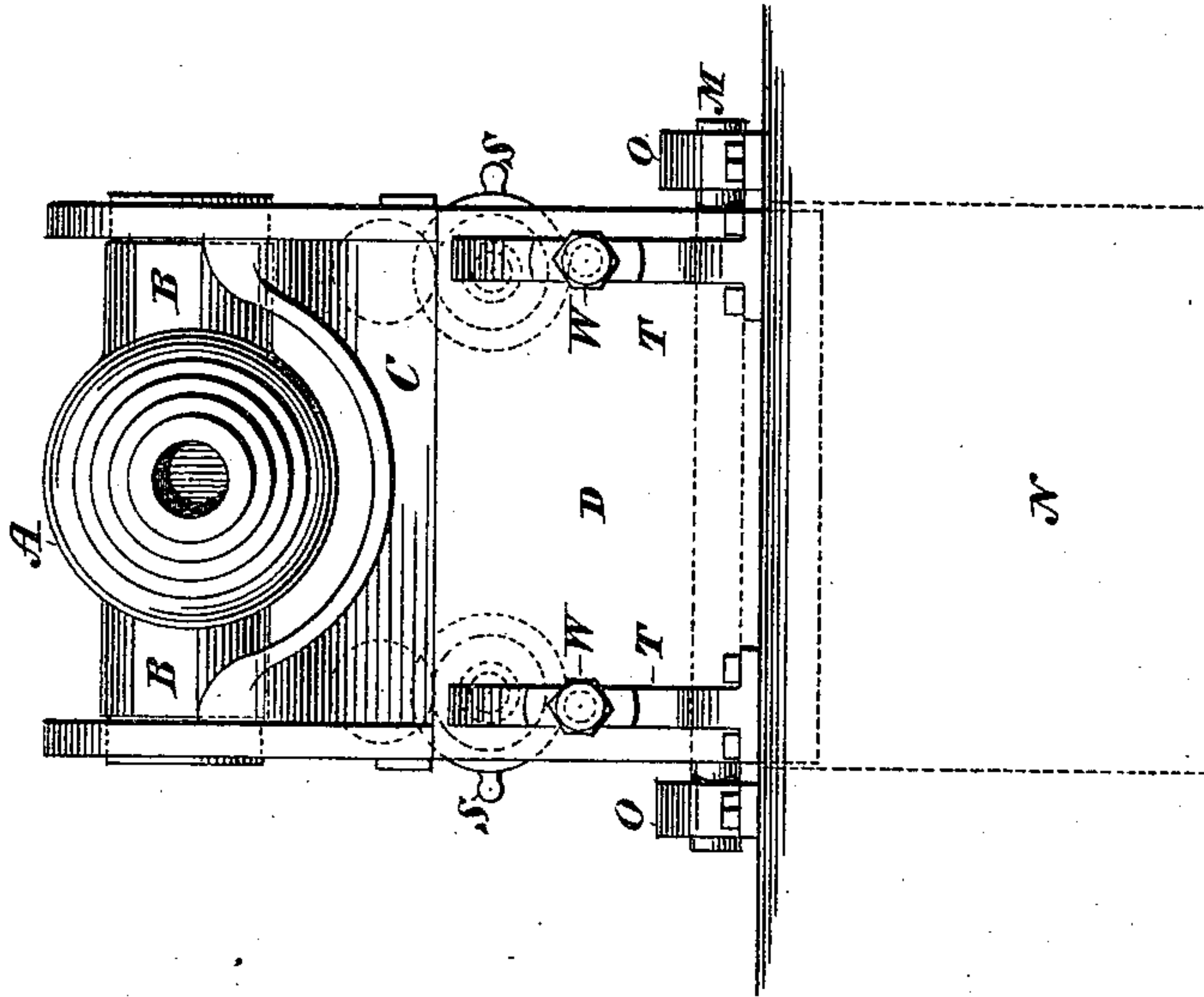
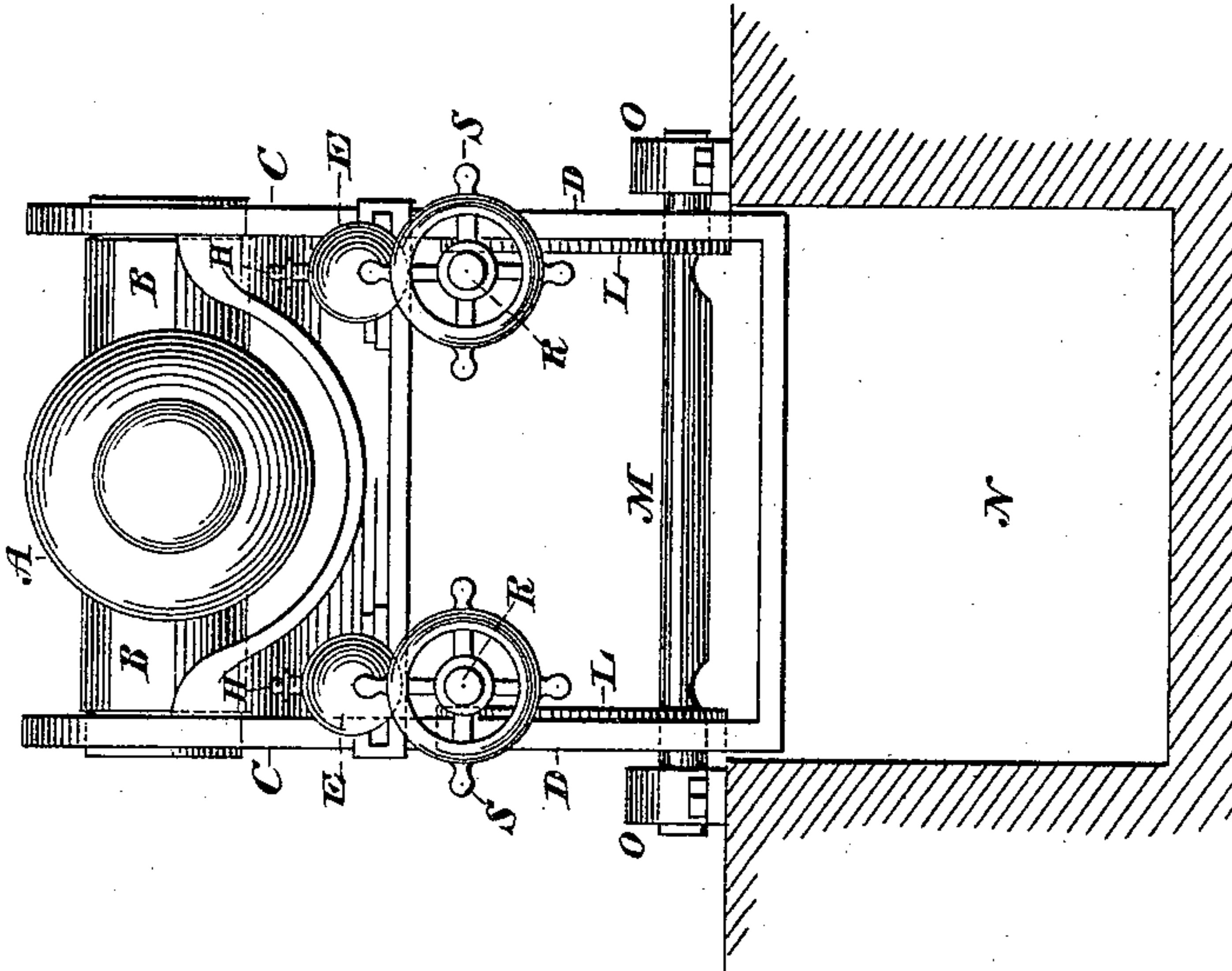


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN MASON, OF NEW YORK, N. Y.

ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 473,939, dated May 3, 1892.

Application filed July 11, 1891. Serial No. 399,181. (No model.)

To all whom it may concern:

Be it known that I, JOHN MASON, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Ordnance, of which the following is a specification.

The invention relates to improvements in ordnance; and it consists, essentially, in the carriage mounted upon a supporting-frame and a series of eccentrics carrying said frame and adapted to be rotated for the purpose of effecting the raising and lowering of the frame with its carriage and ordnance.

The object of the invention is to produce a durable support for the ordnance and one which can at will be lowered so as to bring the ordnance below the sill of its embrasure preparatory to reloading, the purpose being to secure both convenience and safety for the gunners.

The particular nature of the invention, with the details of the construction by which it is carried into effect, will appear from the description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, partly broken away, of a cannon with its carriage and supporting-frame constructed in accordance with the invention, the upward position of the cannon being illustrated by full lines and its lower and protected position being indicated by dotted lines. Fig. 2 is a detached vertical sectional view on the dotted line 2 2 of Fig. 1 and illustrating the gearing by which the supporting-frame of the cannon may be raised and lowered at will. Fig. 3 is a rear end view of the cannon with its carriage and supporting-frame, and Fig. 4 is a front end view of same.

In the drawings, A designates the cannon, having trunnions B upon which it is mounted in the opposite sides of the sliding carriage C, which is secured upon the supporting-frame D, the latter being rectangular in outline and provided upon its upper surface with the cylinders E, containing the pistons F, the latter being connected by piston-rods with the rear end of the sliding carriage C.

In the construction illustrated in the drawings I have provided two of the cylinders E

with their pistons F and rods G, and their object is to contain air under pressure in order that upon the recoil of the cannon a cushion will be provided against which the carriage C and pistons F may be driven. The cylinders E will be provided with a small nozzle H, containing a small aperture I of sufficient size to permit the escape of the air within the cylinders E in a very small volume in order that upon the recoil of the cannon a portion of the air may escape through the apertures I under the compressing action of the pistons F. It is important that the apertures I shall not be very large, since, if they were, the action of the pistons F would drive all of the air out of the cylinders E and destroy the effect which I seek to accomplish—namely, the formation of an air-cushion to receive the recoil of the cannon. The outer edges of the carriage C are provided with flanges J, entering a groove formed in the upper surface of the frame D, for the purpose of guiding the said carriage in its reciprocation upon said frame.

In the opposite sides of the supporting-frame D are formed the circular apertures K, within which are placed the eccentrics L, the latter being mounted upon the transverse shafts M, extending across the pit N, and being mounted at their ends in suitable boxes O, as illustrated more clearly in Figs. 3 and 4. The eccentrics L are rigid upon said shafts and support the frame D. In the present instance I have illustrated three of the eccentrics L upon each side of the frame D; but I do not of course limit the invention to the use of any special number of eccentrics. The object of the eccentrics L is to effect the raising and lowering of the frame D, carriage C, and cannon A, and in Fig. 1 I have illustrated by full lines the position of said eccentrics when the cannon A, carriage C, and frame D are in their upward position, and by dotted lines the position of said eccentrics when the cannon, carriage, and frame are in their lower position. The eccentrics L, as may be readily seen in Figs. 1 and 3, support the frame D, and upon the rotation of the eccentrics L the frame D will be raised and lowered.

I do not confine the invention to any particular means for rotating the eccentrics L, but in the drawings I illustrate the usual

worm-and-pinion gearing for accomplishing this purpose, and in the drawings it will be seen that the gearing lettered P is formed upon the inner faces of the eccentrics L, while
 5 the worms Q are formed or secured upon longitudinal shafts R, provided with the hand-wheels S at the rear of the frame D. Upon the rotation of the hand-wheels S the rods R, with their worms Q, will be rotated and effect
 10 the rotation of the eccentrics L, the effect of the latter being when rotated toward the rear to cause the frame D to travel with them and be lowered into the pit N, as illustrated by dotted lines in Fig. 1. The rods R are carried by the frame D, and hence will follow
 15 the movement of said frame into the pit and preserve their engagement with the gearing P on the eccentrics L. It will be apparent that by reversing the movement of the rods R and worms Q the eccentrics L will be rotated in an opposite direction and cause their
 20 greater projecting portion to turn upward to their former position, and thereby elevate the supporting-frame D, carriage C, and cannon A to a position illustrated by full lines in Fig. 1. The eccentrics L snugly fit the apertures K and afford a firm bearing for said
 25 frame; but the apertures K will be of sufficient size to permit the free rotation of said eccentrics therein, in order that a proper movement may be allowed in the eccentrics during the elevation and depression of the frame D.

When the cannon A is in the upward position illustrated in Fig. 1, it is in condition
 35 for immediate use; but when it is desired to reload the cannon the frame D will be lowered into the pit N, in order that protection may be afforded during said reloading. When
 40 the cannon A is in its upward position, its muzzle will be in line with the embrasure, and when the frame D is lowered into the pit N the cannon will be below the sill of the embrasure.

45 Adjacent to the front end of the frame D, I have provided the brackets T, against which the frame D may abut when in its elevated position. The brackets T constitute a stop for the frame D and are bolted to the floor V,
 50 as clearly illustrated in the drawings.

In order that the frame D may be more se-

curely held in its upward position, I have provided the bolts W, which extend through the brackets T and are screwed into the front end
 55 of the frame D as soon as the said frame has attained its upward position against said brackets. The bolts W will aid the frame in withstanding the backward strain caused by firing the cannon A and afford additional security against displacement. When it is de-
 60 sired to lower the frame D into the pit N, the bolts W will be loosened or removed, in order that said frame may be entirely free to leave its contact with the brackets T.

What I claim as my invention, and desire 55 to secure by Letters Patent, is—

1. In operating ordnance, the combination of the supporting-frame, the ordnance thereon, the rotary eccentrics located beneath and engaging said frame, and mechanism for simul-
 70 taneously rotating said eccentrics to raise and lower said frame and ordnance, substantially as and for the purposes set forth.

2. In operating ordnance, the combination of the supporting-frame having circular open-
 75 ings in its opposite sides, the carriage and ordnance on said frame, the eccentrics mounted on shafts and filling said openings, and mechanism for rotating said eccentrics to raise and lower said frame, substantially as
 80 set forth.

3. In operating ordnance, the combination of the supporting-frame, the carriage, and ordnance thereon, the eccentrics for raising and lowering said frame, and the abutting bracket
 85 for said frame when in its upward position, substantially as set forth.

4. In operating ordnance, the combination of the supporting-frame, the sliding carriage thereon, the ordnance mounted on said car-
 90 riage, the cylinders and pistons forming the air-cushion for said carriage, and the rotary eccentrics carrying said frame, substantially as set forth.

Signed at New York, in the county of New
 95 York and State of New York, this 8th day of July, A. D. 1891.

JOHN MASON.

Witnesses:

CHARLES C. GILL,
 ED. D. MILLER.