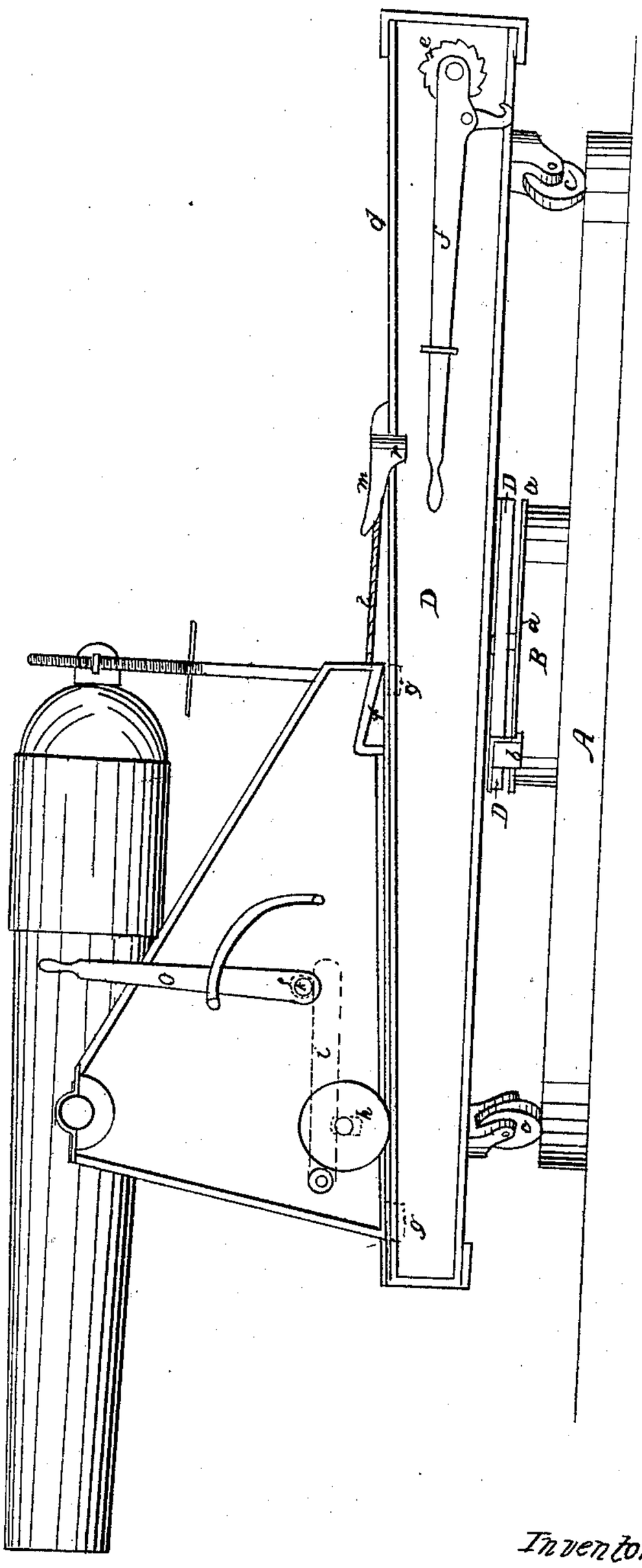
No 38,831.

J. B. LYONS.

Gun-Carriage.

2 Sheets—Sheet 1.

Patented June 9, 1863.



Witnesses.
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2 Sheets—Sheet 2.

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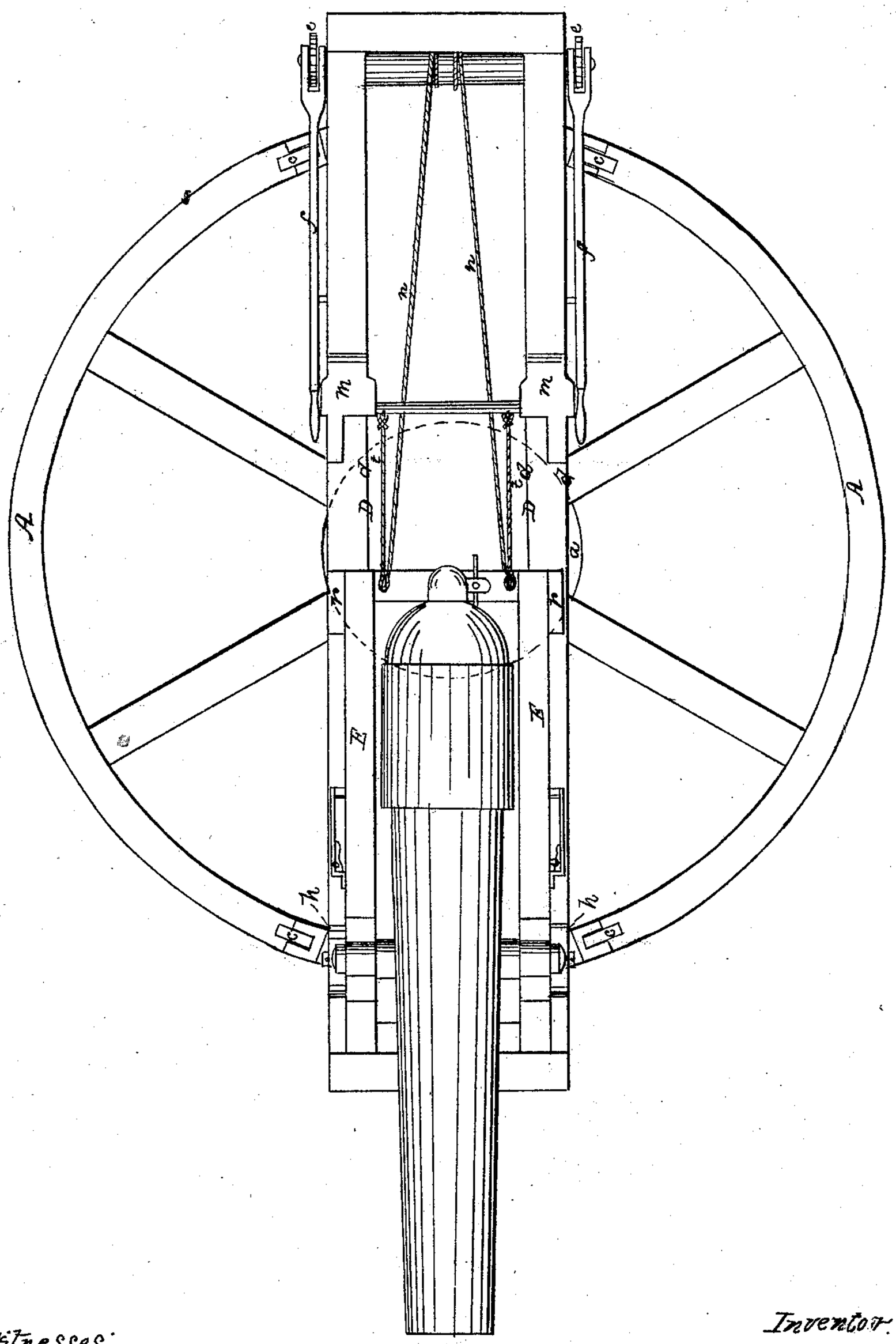

Witnesses:
A H Worthington
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UNITED STATES PATENT OFFICE.

JAMES B. LYONS, OF LITCHFIELD, CONNECTICUT.

IMPROVEMENT IN GUN-CARRIAGES.

Specification forming part of Letters Patent No. **38,831**, dated June 9, 1863.

To all whom it may concern:

Be it known that I, JAMES B. LYONS, of the town of Litchfield, in the county of Litchfield, State of Connecticut, have made new and useful Improvements in the Construction of Traverse-Beds and Gun-Carriages and Operating the Same; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures marked thereon.

The nature of my invention consists in constructing traverse-beds and gun-carriages in such a manner as to prevent dismounting the gun when being fired or run into battery, as most frequently the case as heretofore used and constructed, and also to prevent the many accidents that happen in handling and operating the ordnance.

To enable others skilled in the manufacture and operation of ordnance to make and use my invention, I will proceed to more fully describe my invention.

Figure 1 is a side elevation or view of a complete traverse-frame, gun-carriage, and gun in battery. Fig. 2 is a top view of the same parts and in the same position.

I make my traverse-bed of any good timber, in circular form, with several timbers reaching the entire diameter of the traverse and crossing each other at the center of the circle. This gives me a firm base on which to place the pintle B. The pintle is circular, with a flange projecting from the upper face, *a*, of sufficient breadth and thickness to hold the frame D firmly to its place by means of the lugs *b b*, that are fastened to the frame D, but so as to admit the free revolution of the frame on the traverse. The frame D is made of two parallel timbers, metallic plates, or with four flat bars with intermediate studs and bolts, (which I regard as preferable,) that are somewhat longer than the whole diameter of the traverse-bed. The ends are fastened firmly together by means of cross-pieces bolted across the main pieces. The rear end of the frame is made somewhat broader than the front to produce an incline to aid in running the gun in battery. The frame D rests on two sets of wheels, *c c c c*, attached to it by means of a cross-tree that extends out on either side some distance to give a broader base to rest upon and prevent the gun and carriage from upsetting. The upper surface of the sides of the frame D are so made as to form a flange on both the inner face, *d d d d*, and outward face. At the rear end of the frame D, I attach a windlass, the shaft of which reaches through the frame D, so as to attach ratchet-wheels *e e* on the outside, to be operated by pawl-levers *f f*, to haul the gun out of battery. These pawl-levers *f f* are constructed with the hook or catch fastened outside the line of their centers, so that when the levers are dropped forward the hooks drop away from the ratchet-wheels, and leave the windlass free to unwind when the gun moves forward into battery; but when the levers *f f* are brought to a perpendicular position the hook or catch takes firmly hold of the ratchet, and, by alternating the levers to the rear, the gun is easily drawn back out of battery. The gun-carriage E is made in nearly the ordinary form and placed upon the frame D, and secured there by means of lugs *g g g g*, to prevent tilting forward when the gun runs into battery, and dismounting the gun, or vice versa, when the recoil is checked by the compound clamp *m m*. There is a pair of wheels, *h h*, attached to the gun-carriage, with axle working in free boxes that will admit the carriage to be let down upon the face of the frame when the gun is fired, to produce as much friction as possible on the recoil. I also have a pair of levers attached to the inner faces of the carriage *i i* and resting upon the axles *h h*. I also have a cam-shaft, *k*, running through the carriage-sides, with cams on the inside of the carriage *l l* to operate the levers *i i* to raise the carriage to bear upon the wheels by means of the lever *o o* when the gun is run into battery. I also have two chains, *n n*, attached to the center of the windlass, and to either side of the gun-carriage, to haul the gun out of battery by means of the pawl-levers *f f*. On the outer face of the carriage, at the rear, I attach a wedge-shaped piece, *p p*, for the purpose of checking and holding the recoil to prevent a rebound of the gun. This is accomplished by means of the combined clamp *m m*. This clamp I make with a projecting piece to the front, the point elevated to permit the wedges *p p* to pass under, and also extends to the rear of the lugs *r r*, to give a slightly-yielding motion to the clamp when the recoil of the gun-carriage forces the wedge *p p* under the front part of the clamp. To the cross-head of

the clamp I attach two chains that connect with the gun-carriage. These chains *t t* are to be of such length as will permit the carriage to recoil any distance required before being checked and held fast, and, when the gun is run into battery, will bring the clamp to its proper place each time.

I am aware that it is not new to raise or depress gun-carriages by the use of levers, eccentrics, &c. This, therefore, I disclaim; but

What I do claim is—

1. The arrangement of the hand-levers *o o* and their cams *l l* with the axle-levers *i i*, operating substantially as described.

2. The arrangement of the combined friction-clamp *m m* and wedges *p p*, to check and hold the recoil and prevent the rebound of the gun, substantially as set forth.

3. The combination of the friction-clamp with the gun-carriage by means of the adjustable chains *t t*, whereby the distance provided for the recoil may be accurately and uniformly provided for, as set forth.

Dated at the city of Washington this 19th day of May, 1863.

JAMES B. LYONS.

Witnesses:

EDM. F. BROWN,

N. W. NORTHRUP.