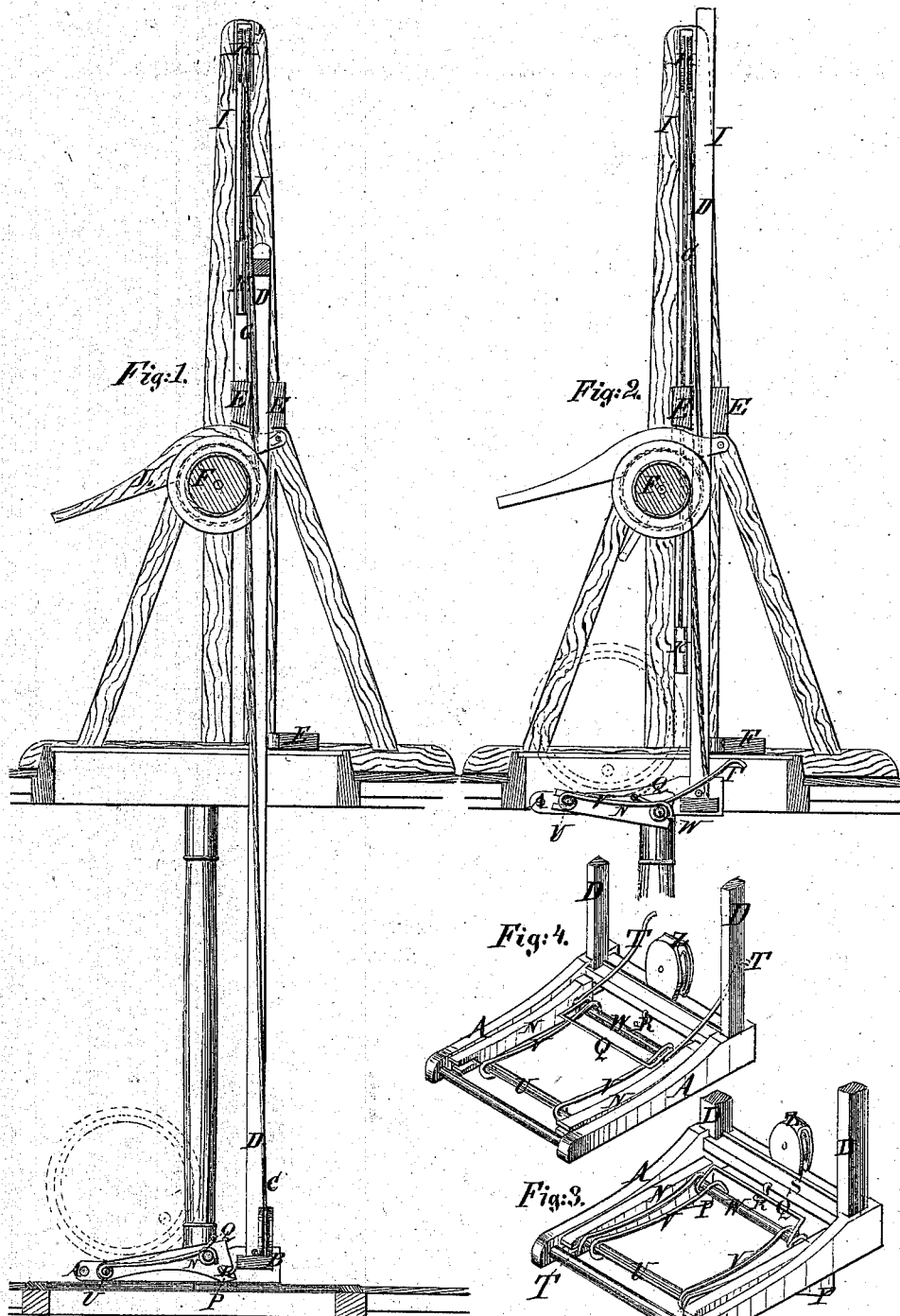


R. L. FITCH.

Improvement in Hoisting and Lowering Apparatus.

No. 115,292.

Patented May 30, 1871.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ROSS L. FITCH, OF SING SING, ASSIGNOR TO HIMSELF AND WILLIAM A. VAN HOUTEN, OF HAVERSTRAW, NEW YORK.

## IMPROVEMENT IN HOISTING AND LOWERING APPARATUS.

Specification forming part of Letters Patent No. 115,292, dated May 30, 1871.

*To all whom it may concern:*

Be it known that I, ROSS L. FITCH, of Sing Sing, in the county of Westchester and State of New York, have invented a new and Improved Hoisting and Lowering Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in machines for hoisting freight from the holds of vessels or lowering it thereto, especially barrel freight; and it consists in a carriage or platform suspended at one edge by cords from a hoisting-drum, and having a rigid guide attached to said edge to prevent it from tilting, which carriage is provided with apparatus for discharging the barrel automatically when it strikes the bottom of the hold in lowering freight into it, and, being properly shifted, will also discharge the barrel on the deck automatically when raising freight, all as hereinafter described.

Figure 1 is a sectional elevation of the apparatus when the platform is arranged for discharging the barrel at the bottom of the hold; Fig. 2 is a similar section, showing the arrangement for discharging at the top; Fig. 3 is a perspective view of the platform when arranged as indicated in Fig. 1; and Fig. 4 is a perspective view of it, showing the arrangement indicated in Fig. 2.

Similar letters of reference indicate corresponding parts.

A is the platform or carriage, suspended at one edge, B, by the cords C, and having the strong wood bars D rising up from it between the guides E to prevent it from tilting or swinging out of the vertical line in consequence of being so suspended at one side. The cords C are wound around the drum F, on which another cord, G, is wound, said cord passing up over a pulley, H, at the top of the frame I, extending considerably above the drum, and having a weight, K, which shall be heavy enough to raise the platform out of the hold by turning the drum F, when the machine is used for lowering freight into the hold; but when used for raising freight out of the hold

said weight will be enough lighter to let the platform run down quickly. L is a brake-lever to regulate the descent when lowering freight. When hoisting, a hand-crank or a gear-wheel, worked by a crank and another wheel, is applied to the drum. N is a frame pivoted in the platform at U and having projecting lugs P at the heel, which, striking on the floor of the vessel before the platform comes down to the floor, will arrest the downward motion at that side, while the front side, continuing to go down, the frame will take such an inclined position as to cause the barrel to roll off instantly. The rear end of this frame is suspended by a bail, Q, pivoted on bar W, from a hook, R, on the rear bar S of the platform, when used in this way for discharging, the said bail having arms T extending across to the bar U and resting upon it.

When the machine is used for hoisting and automatically discharging at the top the said frame, being first shifted bottom side up, is suspended at the rear by the arms T, turned back over the beam at S, as shown in Fig. 4, and another set of arms, V, pivoted to bar U and extending backward under bail Q and on to bar W, whereon they rest. The side arms in this case project backward beyond the bar at S, so that when the platform rises up to the deck they come in contact with the bar X, and being arrested from further movement upward swing the rear side of the frame N and throw the barrel off. The said frame N is shifted the other side up when arranged for discharging on the deck, in order to adjust the bail Q and arms T to be turned over bar at S, as shown in Fig. 4, and have the arms V connected with said bail, as shown, for supporting the rear side of said frame. For heavy hoisting the rope connecting the platform with the drum passes under the pulley Z, and is attached to a support at the deck, so as to double the leverage of the hoisting-gear.

Of course the machine may be used for hoisting or lowering in warehouses or in any other location as well as in vessels.

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

1. The combination of the platform-bars D, hoisting-cord C, drum F, weighted cord G,

and brake L, all arranged in a suitable frame, substantially as specified.

2. The combination, with the platform, of the tilting-frame N, a suspending-bail, Q, and a hook, R, substantially as specified.

3. The said tilting-frame, arranged to be shifted as described, and provided with the

arms T and V, said arms T being attached to bail Q, operating substantially as specified.

The above specification of my invention signed by me this 29th day of March, 1871.

Witnesses:

ROSS L. FITCH.

GEO. W. MABEE,

ALEX. F. ROBERTS.