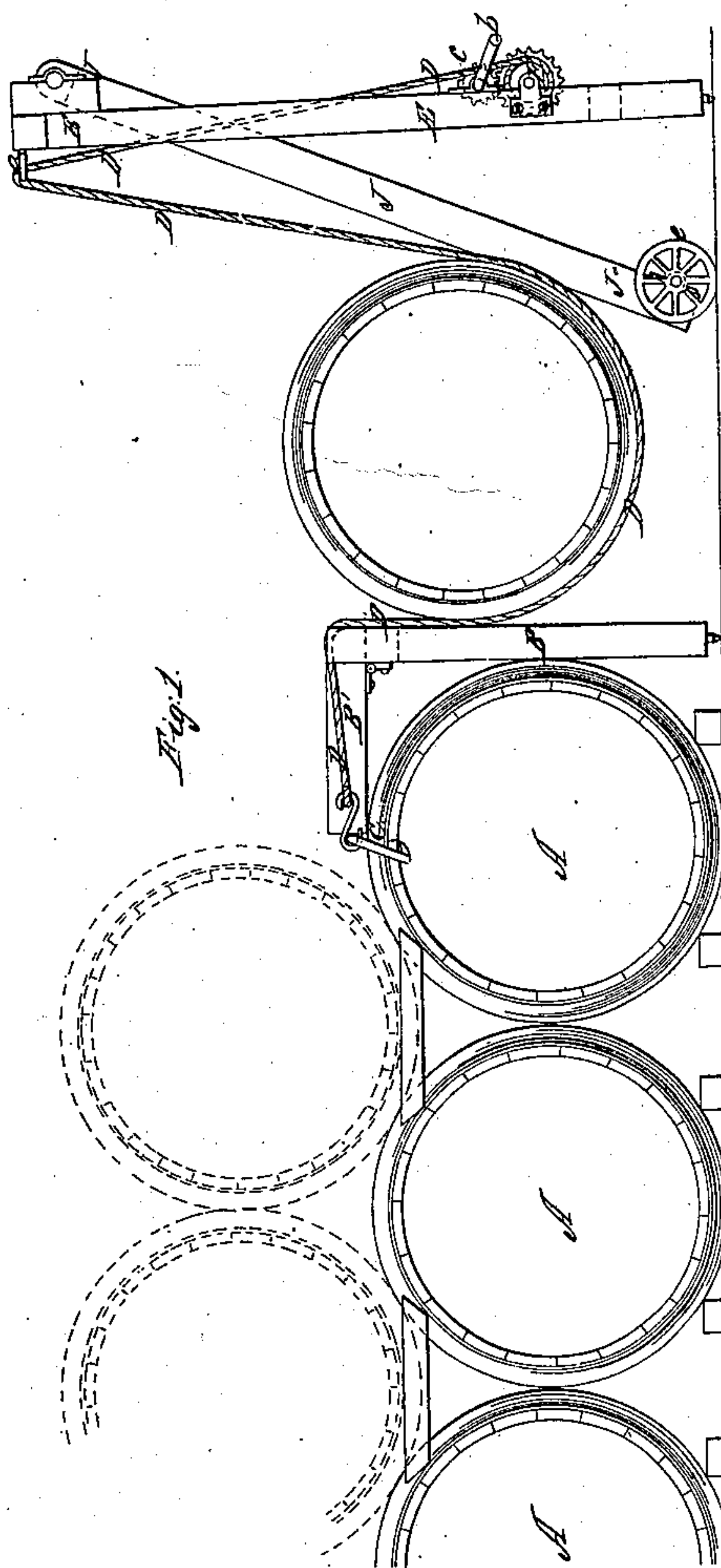
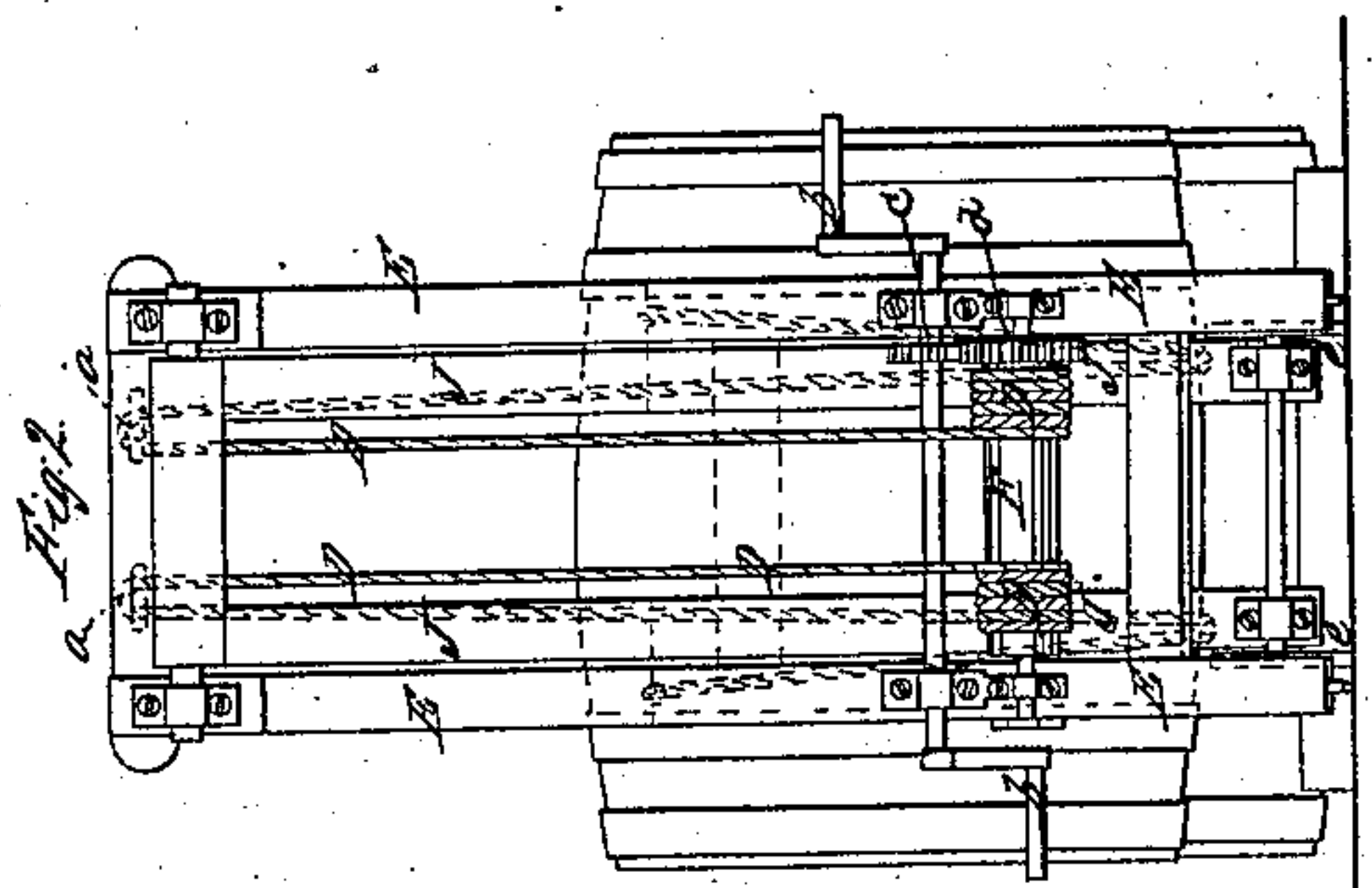


Vroom & Kinzie, Elevator.

N^o 31,197.

Patented Jan. 22, 1861.



Witnesses:
J. W. Campbell
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Inventor:
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UNITED STATES PATENT OFFICE.

G. B. VROOM AND SOL. KINZIE, OF JERSEY CITY, NEW JERSEY.

MACHINE FOR HOISTING BARRELS AND PLACING THEM IN TIERS OR ROWS.

Specification of Letters Patent No. 31,197, dated January 22, 1861.

To all whom it may concern:

Be it known that we, G. B. VROOM, of Jersey City, in the county of Hudson and State of New Jersey, and SOLOMON KINZIE, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Hoisting Apparatus; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the improved tiering apparatus represented as in the operation of raising a barrel on the first tier of barrels. Fig. 2 is a front view of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures

The object of this invention is to obtain a simple apparatus which is easy of manipulation, by which barrels or any unwieldy cylindrical vessel may be tiered with very little labor.

Our invention consists in the employment of a derrick with a movable jointed leg, in combination with a prop, as will be hereinafter described, whereby the barrels etc. will be raised perpendicularly to the desired height, and then rolled over on the first tier with a comparatively short derrick.

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

A A A are supposed to be the first tier of barrels on which it is desired to put a second tier.

B B are two upright posts with spikes projecting from their lower ends, for keeping them from slipping out of a perpendicular position. These posts are slightly higher than the barrels A A and they are secured at a suitable distance apart by transverse bars. To the upper ends of the uprights B B, two arms B' B' are jointed, which project out at or nearly at right angles (depending much upon the height of the barrel A) to the uprights B, B and rest on top of the first barrel as shown in Fig. 1. This frame or prop may be moved from one tier of barrels and applied to another tier at pleasure.

C is a bar having hooks formed on each end by means of which hooks this bar is securely attached to the ends of the barrel, on top of the barrel, and to this bar the

ropes or chains D, D are hooked, which ropes pass to the top of the derrick frame E, J, and through eyes *a, a*, or over pulleys which are attached thereto, thence down between the two uprights E, of the derrick frame E, J, and around the drum or windlass F, which is arranged across the front part of the uprights E E, a suitable height from the base of the frame to be conveniently operated. This drum F is operated by means of cranks *b, b*, through the medium of the pinion spur wheel *c*, and the large spur wheel *d*, so as to wind up the two ropes D, D, simultaneously, and to raise the barrels which are placed on the two ropes and roll them over on the barrels A, A, one at a time.

The crank shaft with its spur pinion *c*, is allowed to have a lateral or endwise play in its bearings so that when desirable, the pinion *c*, may be thrown into or out of gear with the spur wheel *d*. The two uprights E E of the derrick are furnished with spikes on their lower ends, which prevent this frame from slipping during the operation of tiering barrels.

J, J are two beams which are somewhat longer than the uprights E, and which are secured together at a suitable distance apart by cross bars. The top ends of these beams J, J, are passed between the derrick posts E, E and jointed to the front side of these posts near the top of the derrick. The lower ends of the beams J, J are mounted on small rollers or wheels *e, e* as shown in Figs. 1, and 2, which allow the beams to move freely on any floor or base on which they may be placed. These beams J, J will in this manner form a rolling leg for the derrick and keep the derrick off from the barrel while it is being raised, as will be hereinafter described.

The operation of the entire apparatus is as follows:—The prop frame B, B', is put up against the first barrels A, in the lower tier and the rod C, is hooked over the ends of this barrel. The derrick, E, J, is now placed as near as possible to the prop, leaving a space between it and the prop sufficient to receive a barrel. The ropes D, D, are then passed under this barrel each side of the bilge and carried over the top of the uprights B, B, of the prop and hooked to the rod C. The ropes D D are now wound on the drum F by turning the cranks *b, b*, and as these ropes are wound up the barrel is

elevated perpendicularly until it reaches the top of the prop B, B when it will roll over the arms B' on the lower barrels.

5 In raising the barrels as has just been described the inclined legs J J keep against the barrel which is being raised, as represented in Fig. 1, and keep the barrel up against the perpendicular pieces B, B, instead of allowing it to swing up against the
10 derrick. It will thus be seen that the jointed legs J, J, will keep the derrick nearly perpendicular, while the barrel is being raised to the height of the prop. A comparatively short derrick may thus be used
15 and less time will be occupied in tiering the barrels.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:—

In combination with a derrick resting on 20 four legs or supports, two of which are stationary and the other two supported on wheels as described, the frame B and B' when the whole is constructed and applied substantially as herein described for the pur- 25 pose set forth.

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Witnesses:

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