

No. 733,469.

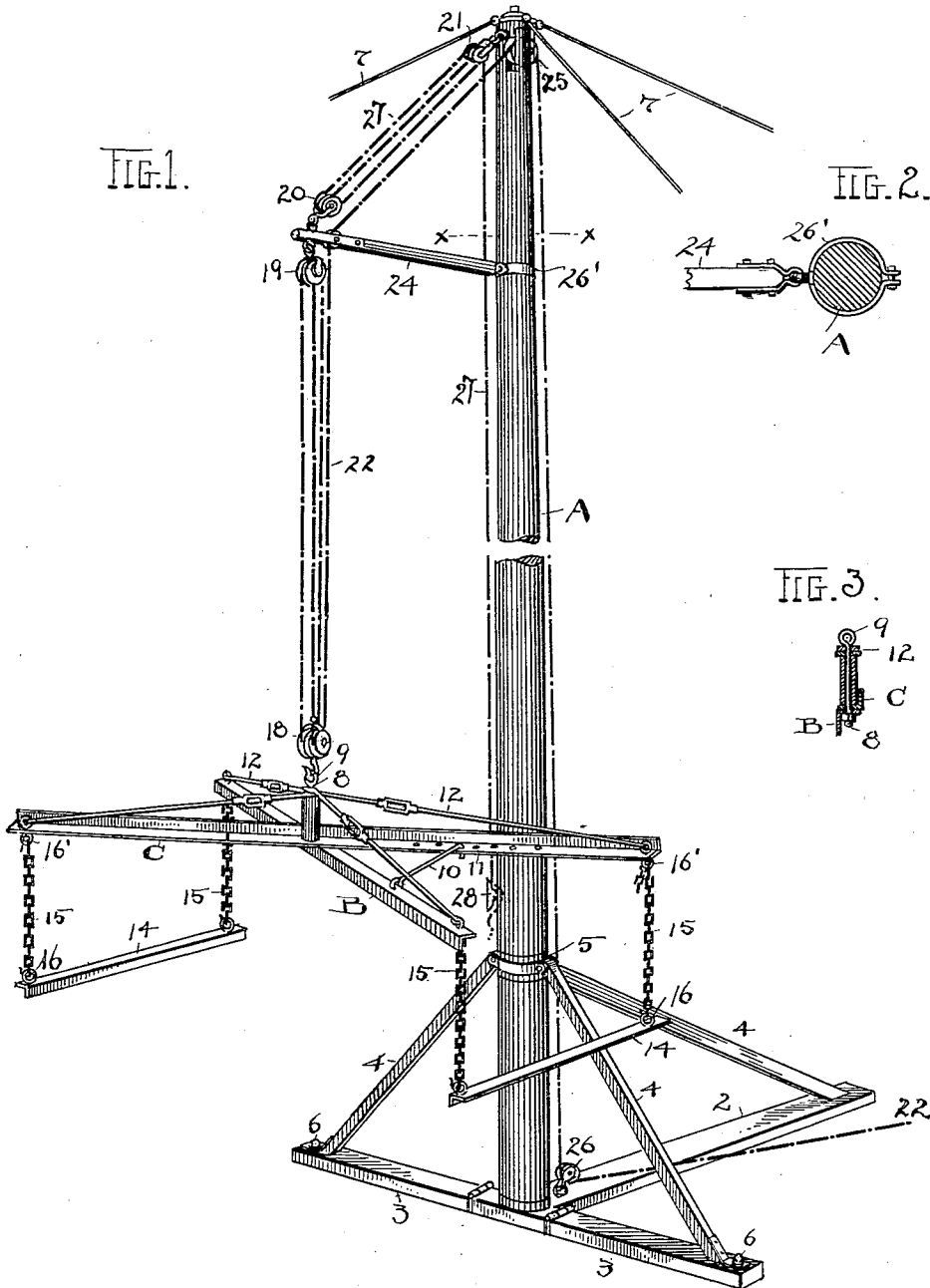
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HOISTING APPARATUS.

APPLICATION FILED MAR. 12, 1903.

NO MODEL.



WITNESSES.

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FRANK DUNBROOK AND WILLIAM W. MEAD, OF CLEVELAND, OHIO.

HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 733,469, dated July 14, 1903.

Application filed March 12, 1903. Serial No. 147,440. (No model.)

To all whom it may concern:

Be it known that we, FRANK DUNBROOK and WILLIAM W. MEAD, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Hoisting Apparatus; and we do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to a hoisting apparatus for delivering a load of lumber bodily from a wagon or other conveyance to the top of a pile or stack of lumber in a lumber-yard or other place, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective elevation of our improved hoisting apparatus in a complete and operative form. Fig. 2 is a cross-section of the mast on line $x x$ looking down, and Fig. 3 is a sectional elevation of the immediate suspensory mechanism for the lifting device itself.

As above indicated, this apparatus is designed to be used in lumber-yards and other places where lumber is stacked or piled and where the piles sometimes are very high, as in yards when lack of space requires going up with the lumber, and in which case the handling of the lumber piece by piece from the wagon to the top of the stack or pile, as hitherto done by hand, has required many men and expensive hand labor for doing the work.

Our invention does away entirely with hand labor for raising the lumber to the top of the stack, and instead thereof we are enabled to convey an entire wagon-load bodily to the top of the stack and swing it right or left to piling position. This works great economy and speed in handling lumber, as is obvious. To these ends we employ a mast A, which may be of any required height—say thirty or forty feet or more—and which stands upon a suitable base, adapting it to be moved, and consisting in this instance of base-pieces 2 and 3, respectively, arranged here in the form of a cross and provided with braces 4, running to a collar 5 about the mast higher up. The base-pieces 3 are hinged in line at

the bottom of the mast, and their braces 4 are likewise hinged to collar 5, and pins 6 or their equivalent serve to fasten the said braces on the base-pieces, so as to make them rigid with the mast. Base-piece 2 and its brace 4 are here shown as rigid with the mast; but they, too, might be hinged and foldable, if desired. The pieces 3 are parallel to the line of the drive for the wagon, so that the wagon can come close to the mast and directly beneath the lift for the lumber, as will be seen. Suitable stay ropes or cables 7 serve to steady the mast at its top, so that it becomes a fixed and rigid elevation, well adapted to bear the mechanism and the load placed thereon.

The lift or lift mechanism comprises two cross-pieces B and C, which are pivoted together on a supporting-bolt 8, having eye 9 at its top, and a hooked cross-rod 10 connects the said bars, as here shown. Bar C has a series of holes 11, which are engaged by hook-rod 10 and adapt said bars to be adjusted in relation to each other for bringing them nearer together or farther apart at their ends, according to the width of load to be handled and possibly other conditions in the operation of the device. Truss-rods 12 connect the outer extremities of bars B and C with the upper portion of eyebolt 8, and the said bars themselves are preferably of angle-iron, to make them strong and rigid, although differently-constructed bars may be used.

Two angle-iron lift-bars 14 are suspended at their ends by chains 15 from the extremities of bars B and C, and the said chains hook in eyes 16 in the ends of said lift-bars, whereby said chains may be lengthened or shortened, according to the drop they may require to engage under a load of lumber. Now, having the lift for the load placed in lifting position and desiring to raise the load to its place on a pile of lumber, we use any suitable hoist mechanism, which in this instance comprises suitable tackle-blocks or pulleys 18 and 19 and 20 and 21 in series. A rope or cable 22 engages over blocks 18 and 19, and the block 18 is hooked directly in eye 9 of eyebolt 8. Thence cable 22 goes over sheaves 19 and 25 and down at the side of the mast A to the base thereon beneath sheave 26, and from this point there may be

a suitable power connection to draw up the load—such as a drum, if power be applied—or a horse may be hitched to the end of cable 22 and pull up the load.

- 5 An arm 24 is pivotally supported on a collar 26, clamped on the mast near the top thereof, and tackle-block 19 is hooked to the bottom of the outer end of this arm, while block 20 is hooked to its top, and a cord 27 runs over blocks 20 and 21.

The block 21 is hung from the top of the mast A, and the cord or cable 27 runs down from block 21 to the fastening device 28 within reach of a person on the ground to fasten 15 said cord. By these latter means, comprising cable 27 and its supporting-blocks and pivoted arm 24, we are enabled to bring the load nearer or farther from the mast, according as the conditions of unloading may require, and 20 such adjustment may be made through cable 27 as shall be needed; otherwise arm 24 is a stationary part in use and keeps the load away from the mast, except as it is adapted to swing from side to side.

- 25 What we claim is—

1. In a hoist mechanism for lumber, a lift device to take the load from the wagon comprising a set of cross-pieces adjustable to widen the space between their ends, and 30 cross-bars and chains connected with the extremities of said cross-pieces; and means to raise said lift device, substantially as described.

2. The lifting device for lumber comprising a set of cross-pieces pivotally connected 35 at their center and means to fix their relation

to each other laterally, said cross-pieces being provided with truss connections for their outer ends, cross-bars to engage under the load of lumber and chains connecting their 40 ends with the ends of said cross-pieces, and hoist mechanism for said lifting device, substantially as described.

3. In a hoist mechanism for lumber, a lifting device comprising a set of bars arranged 45 in substantially X form and cross-pieces to carry the lumber suspended from the corresponding ends of said bars, in combination with a supporting-arm from which said lifting device is suspended at its center, tackle- 50 blocks and a cable connecting said device with said arm, and sheaves over which said cable passes to apply power and lift the load, substantially as described.

4. The lifting device for lumber consisting 55 of a frame comprising a pair of bars, truss connections for the ends of each bar and a central support 8 and 9 on which said bars and truss connections are engaged at different elevations respectively, and cross-pieces 60 to carry the lumber suspended from the ends of said bars, in combination with an arm and means engaged over the outer end of said arm to raise and lower said lifting device, substantially as described. 65

Witness our hands to the foregoing specification this 5th day of March, 1903.

FRANK DUNBROOK.
WILLIAM W. MEAD.

Witnesses:

R. B. MOSER,
R. ZBORNIK.