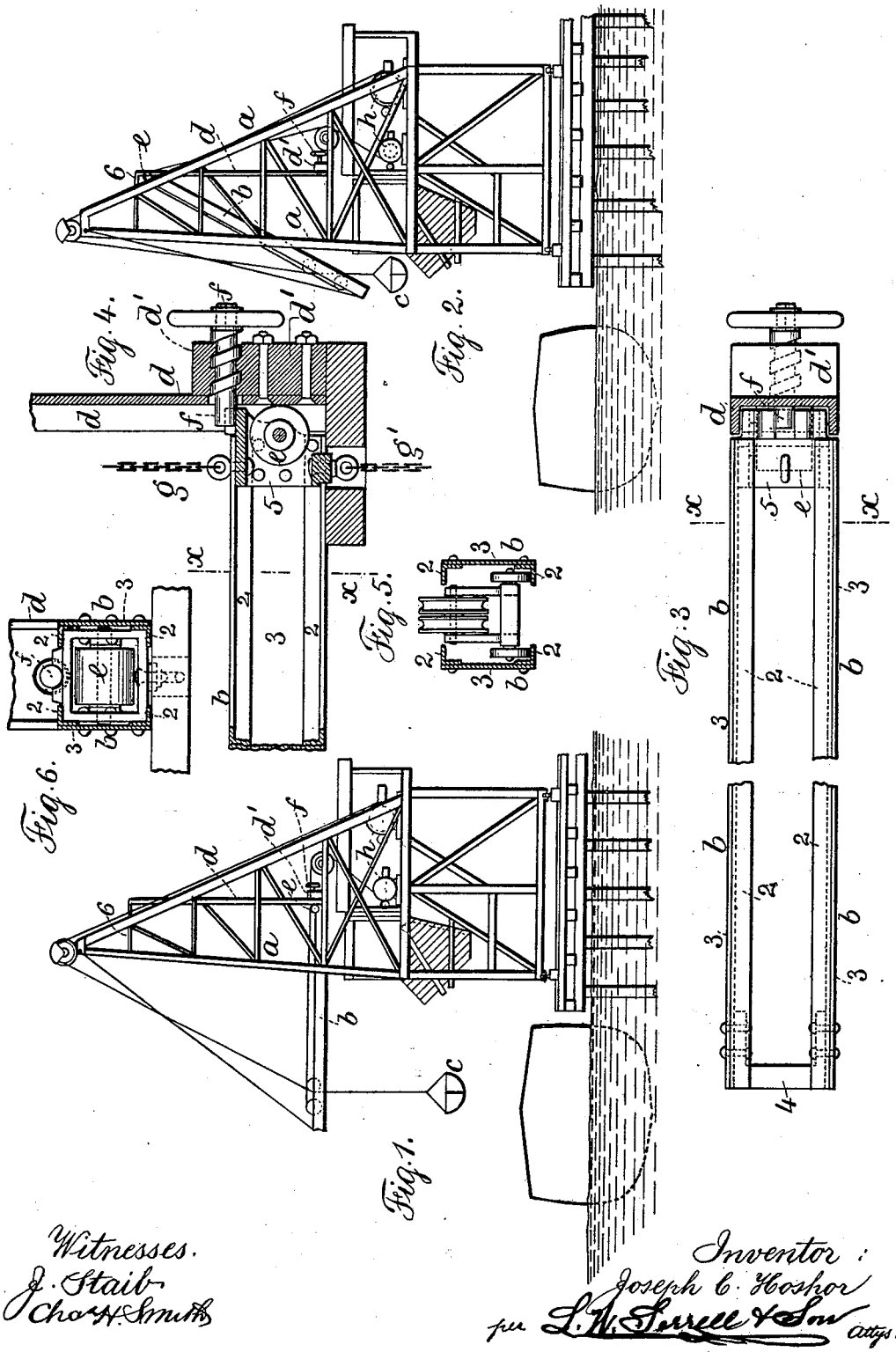
No. 676,626. Patented June 18, 1901.

J. C. HOSHOR.

HOISTING BOOM.

(Application filed Oct. 11, 1900.

(No Model.)



Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH C. HOSHOR, OF PATERSON, NEW JERSEY, ASSIGNOR TO HIMSELF AND THOMAS E. PLATT, OF SAME PLACE.

HOISTING-BOOM.

SPECIFICATION forming part of Letters Patent No. 676,626, dated June 18, 1901.

Application filed October 11, 1900. Serial No. 32,679. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. HOSHOR, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented an Improvement in Hoisting-Booms, of which the following is a specification.

My invention relates especially to hoisting-booms employed upon towers for operating clam-shell buckets. Heretofore these hoisting-booms have usually been pivoted to the tower at the inner end and they were in the way of the masts and rigging of vessels being docked to load or of loaded vessels leaving the dock unless the boom was raised up on the end with the suspended bucket, which action increased the strain on the parts as well as on the hoisting-ropes, all of which it is the object of my invention to overcome.

In carrying out my invention I provide for elevating the inner end of the boom so that the outer end of the boom and bucket descend and by their weight assist the upward movement of the inner end of the boom. The boom is thus quickly removed from the path of vessels coming to or leaving the dock. I prefer to provide the inner end of the boom with one or more rollers and the tower with a vertical track therefor and a latch device for holding the boom down to place in a substantially horizontal position and a rope and engine for lifting and drawing back the inner end of the boom.

In the drawings, Figure 1 is an elevation of a tower, illustrating my improvement with the boom in position for use. Fig. 2 is a similar elevation, but with the inner end of the boom elevated. Fig. 3 is a broken plan of the boom and a cross-section of the vertical track. Fig. 4 is a vertical section at the inner end of the boom and the vertical track, showing in elevation the device for holding the boom down in place. Fig. 5 is a cross-section of the boom, showing the trolley or carriage within the boom and the sheaves thereon; and Fig. 6 is a cross-section and partial elevation at $x\,x$ of Figs. 3 and 4. Figs. 3 to 6, inclusive, are shown of exaggerated size for clearness.

The tower a (shown in Figs. 1 and 2) may be of any desired construction, and in these figures I have shown in connection therewith a support for the tower, a representation of water, and a boat.

b represents the boom; c, the bucket, preferably of the well-known clam-shell form; d, a vertical track supported upon the tower, connected thereto and rising therefrom. This boom b is preferably made of longitudinal angle-iron members 2, with side plates 3, to which the same are riveted, and with a front plate or connection 4 and a rear or inner plate 5, securing the members 2 and plates 3 at the inner end, and to which plate 5 are connected a roller e and a rope or chain g. A vertical track d is employed for the roller e at the inner end of the boom, and this track is made of elongated-U form, with the lower end secured to the tower and the track secured at intervals to the framing of the tower and preferably provided with a horizontal member 6 at the upper end and a back block d' at the lower end.

I provide a latch f, which may be of any desired form adapted to come above the inner plate or connection 5 at the end of the boom, so as to hold the boom down in a horizontal position. This latch I have shown with a screw-thread and wheel, so as to move the same quickly to place with the end above the plate 5 and to remove the same from contact with the plate when it is desired to elevate the inner end of the boom, although I do not limit myself in any respect to the construction of the latch.

The engine h upon the tower is to be not only provided with proper ropes for operating the bucket, but for operating the rope or chain g, secured to the plate 5 at the inner end of the boom, so as to raise the inner end of the boom when the latch f is removed from the position Fig. 1 to the position Fig. 2. In the position Fig. 1 the outer end of the boom projects over the vessel and the bucket is in line to descend into the hold of the vessel to remove merchandise; but in the position Fig. 2, with the inner end of the boom raised and the outer end of the boom and the bucket drawn in close to the tower, vessels are free to leave the dock loaded and to come up to the dock for the purpose of being loaded without the boom or bucket interfering with the masts or rigging. I have also shown and

prefer to employ a chain or rope g', secured to an eye projecting from the under side of the inner end of the boom, the said rope passing to the engine or other operative device. The object of this rope is to insure the descent of the inner end of the boom from the inclined to the horizontal position, or from the inclined position shown in Fig. 2 to the horizontal position shown in Fig. 1.

I claim as my invention—

1. The combination with a hoisting-boom and a tower, of a vertical track attached to the tower and receiving the inner end of the boom, and means for elevating the inner end of the boom as the same moves along the track to bring the outer end of the boom into close proximity to the tower, substantially as set forth.

2. The combination with a hoisting-boom, of a roller at the inner end of the boom, a tower and a vertical track carried thereby and receiving the roller at the inner end of the boom, and means connected to the inner end of the boom and to the vertical track for holding the inner end of the boom down when the boom is in a horizontal position and for raising the inner end of the boom when released, substantially as set forth.

3. The combination with a hoisting-boom, of a roller at the inner end of the boom, a tower and a vertical track carried thereby and receiving the roller at the inner end of the boom, a latch device extending through the vertical track and adapted to engage the inner free end of the boom to hold the same down in position, and a rope or chain connected to the said inner free end of the boom for raising the same when released by the latch, substantially as set forth.

4. The combination with a hoisting-boom and a roller at the inner end of the boom, a tower and a vertical track carried thereby and receiving the roller at the inner end of the boom, a latch device adapted to engage the inner free end of the boom to hold the same down in position, said latch device extending through the vertical track and through the back block, in which block said latch has its bearing, a rope or chain connected to the said inner free end of the boom for raising the same when released by the latch, and a second rope depending from the under side of the boom at the inner end and means for operating the said ropes or chains, substantially as and for the purposes set forth

Signed by me this 5th day of October, 1900.

JOSEPH C. HOSHOR.

Witnesses:

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