W. VAN WIE.

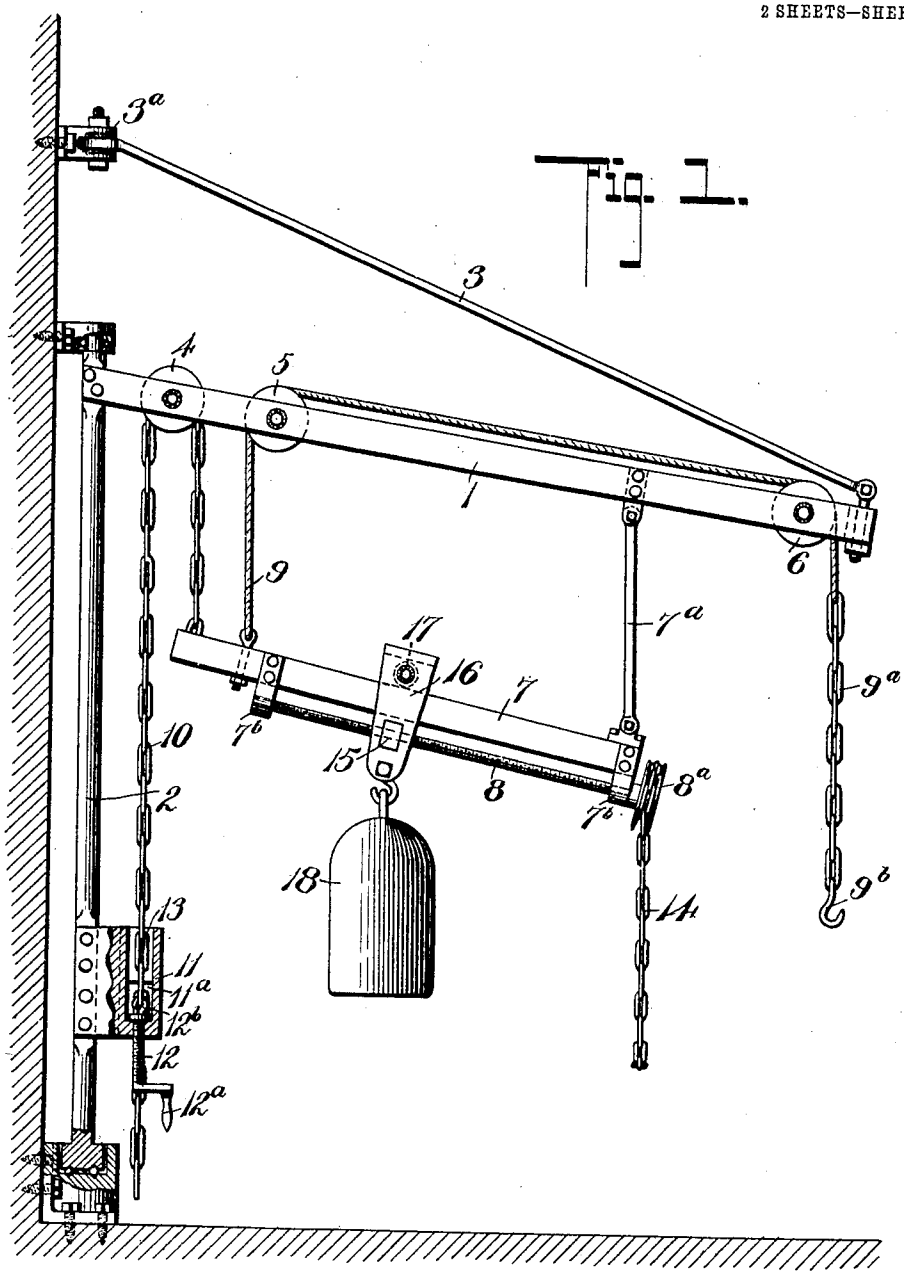
COUNTERWEIGHT JIB CRANE,

APPLICATION FILED MAR. 14, 1908.

906,587. Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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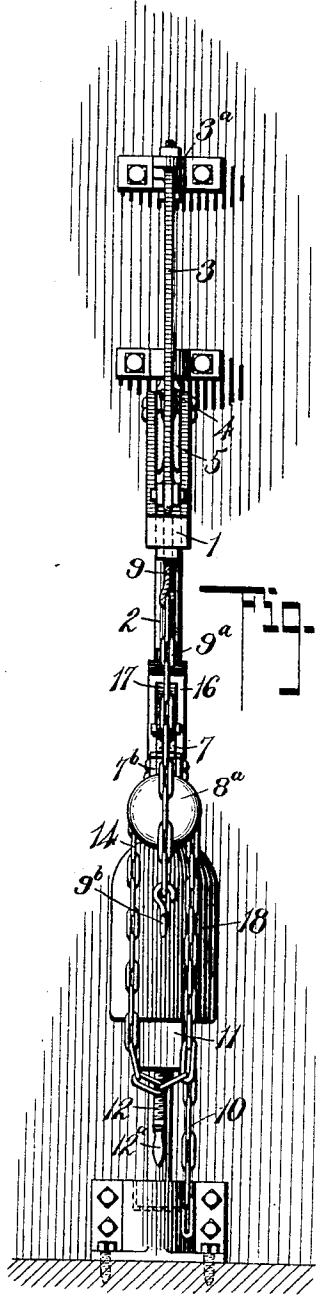


Fig. 2.

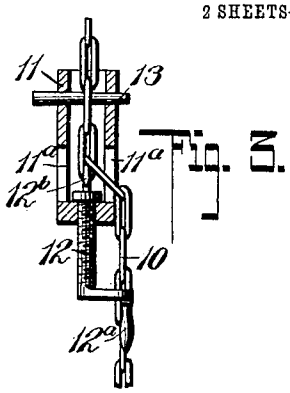


Fig. 3.

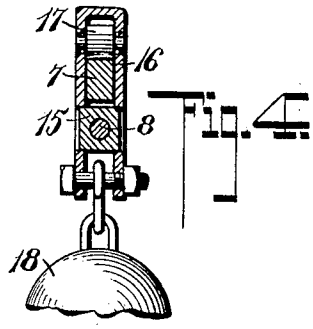


Fig. 4.

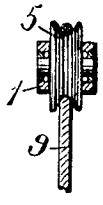


Fig. 5.

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UNITED STATES PATENT OFFICE.

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COUNTERWEIGHT JIB-CRANE.

No. 906,587. Specification of Letters Patent. Patented Dec. 15, 1908.

Application filed March 14, 1908. Serial No. 421,222.

To all whom it may concern:

Be it known that I, WALTER VAN WIE, a citizen of the United States, residing at East Oakland, in the county of Alameda and State of California, have invented a new and useful Improvement in Counterweight Jib-Cranes, of which the following is a specification.

This invention relates to a counter-weight jib crane, the object of the invention being to facilitate the handling of heavy castings or other weighty objects to be moved by means of a jib crane.

The invention consists in the novel features of construction hereinafter described, pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation illustrating the invention applied to a crane of this type. Fig. 2 is a front end view of the device. Fig. 3 is a detail sectional view of a chain tightening device. Fig. 4 is a detail sectional view illustrating the mounting of a counter-weight. Fig. 5 is a detail view showing in section the bearings for a pulley.

In these drawings 1 represents a crane carried by a vertically arranged rotatable shaft 2, said shaft being mounted at each end in ball bearings, and the crane is braced by a brace rod 3 secured at one end to the free end portion of the crane and at the opposite end journaled in roller bearings 3^a carried by a convenient wall or post. Upon the crane 1 are journaled pulleys 4, 5 and 6, the first two mentioned being adjacent the shaft 2 and the last mentioned being adjacent the free end of the crane. A suitable track-block 7 is pivotally suspended at its forward end from the crane 1 by a rod 7^a and is provided with depending brackets 7^b which form bearings for a threaded rod 8 operated by a grooved wheel 8^a. The rear end portion of the track-block 7 is supported by a cable 9 and a chain 10. The cable 9 runs over the pulleys 5 and 6 and at its free end carries a chain section 9^a having a hook 9^b. The chain 10 runs over the pulley 4 and passes downwardly into a box 11, said box being provided with side openings 11^a adjacent its lower end out through which the chain 10 can pass. A threaded rod 12 having a handle 12^a at its lower end works upwardly through the bottom of the box 11 and at its inner end carries a hook 12^b which can be engaged with any link of the chain 10. A pin 13 also works transversely through the box 11 the sides of which are perforated to receive said pin, and the pin engaging the chain links will hold the chain taut, while disengaged from the hook 12^b. A chain 14 runs over the wheel 8^a and by pulling upon said chain the wheel can be rotated thus rotating the threaded rod 8.

In operation the hook 9^b can be engaged with the casting to be lifted or the chain 9^a can be cast around said casting and secured in place by engaging the hook with one of the links of the chain. The threaded rod 8 passes through a nut 15 carried by a hanger 16 which is provided with a roller 17 which travels upon the track-block 7 and the hanger 16 carries a counter-weight 18. After the casting has been secured to the crane the rotation of the threaded rod 8 in the proper direction will cause the hanger 16 with the weight 18 to travel toward the rear end of the track-block 7, thus lowering said end and lifting the free end portion of the cable 9 swinging the work to be lifted clear of the floor. The work can be locked in lifted position by inserting the pin 13 through the box 11 through one of the links of the chain 10. When the work is to be gradually and gently lowered the hook 12^b can be engaged with a link of the chain 10 in the box 11 and the pin 13 removed. The counter-weight 18 can then be run back toward the front end of the track-block 7 and the casting or other work being handled can then be lowered gradually by rotating the handle 12^a so as to impart a vertical downward movement to the threaded rod 12 thus drawing down the lower end of said chain 10 and lifting the rear end of the track-block 7 which permits the cable 9 to run out over the pulleys 5 and 6, the descent of the work being very gradual. At any time during this operation the device may be locked by reinserting the pin 13 if it becomes necessary to get a new purchase of the hook 12^a upon a higher link of the chain 10. The various other ways in which heavy articles can be handled by a device of this kind will be obvious to those skilled in the use of tracks, cranes and other loading and unloading devices.

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

1. The combination with a swinging crane, of a track pivotally suspended at one end from said crane, a weight movable upon said track, pulleys carried by said crane and placed respectively upon opposite sides of the pivotal pomt of suspension of the track, a ca-

ble secured to the track adjacent its free end and running over said pulleys, and means for locking the free end of the track against vertical movement in one direction.

2. A device of the kind described comprising a crane, a plurality of pulleys carried by said crane, a track pivotally suspended at one end from said crane, a hanger movable along said track, a weight carried by the hanger, means for moving the weight, a cable secured to the free end portion of the track and running over two of said pulleys, said cable passing the point of suspension of the track from the crane, a chain secured to the free end portion of the track and running over the remaining pulley, and a locking pin coöperating with said chain.

3. The combination with a swinging crane, a track pivotally suspended at one end therefrom, pulleys carried by the crane and upon opposite sides of the point of suspension of the track, a weight lifting cable secured to the free end portion of the track and running over said pulleys, a third pulley, a box open at the top and sides, a chain secured at one end to the free end portion of the track, said chain running over the third pulley and passing through the box, a locking pin adapted to pass through said box and through a link of said chain and a counter-weight movable on the track.

4. The combination with a crane, a track suspended at one end therefrom, a counterweight movable on said track, pulleys carried by the crane, a weight lifting cable running over said pulleys, an additional pulley carried by the crane, a chain running over said last mentioned pulley, said chain being connected to the free end portion of the track, a box open at the top and sides and receiving said chain, a threaded rod working vertically through the bottom of the box, and means carried by the inner end of said rod for engagement with links of the chain.

5. The combination with a jib crane of a suspended track, a counterbalance weight upon said track, a lifting cable secured to a freely movable end portion of the track, a box open at the top and sides, a chain secured at one end to said track and passing freely through the box, a pulley for said chain, said pulley being mounted in a plane above that of the track, a threaded rod working vertically through the box bottom, a hook carried by the rod for engagement with the chain links, and a pin working transversely through the box and through the chain links.

6. A device of the kind described comprising a vertically arranged rotatable shaft, a crane carried thereby, pulleys carried by the crane, one of said pulleys being arranged adjacent the free end of the crane and the other two being arranged adjacent the shaft, a track-block pivotally suspended at its forward end from the crane, the point of suspension being between the first and last mentioned pulleys, a hanger traveling upon said track-block, a threaded rod working through said hanger and moving the same along the track-block, a weight carried by the hanger, a cable connected to the free end portion of the track-block and running over the first mentioned and one of the last mentioned pulleys, a chain secured to the free end portion of said track-block and running over the other pulley, a box carried by said shaft, the chain traveling through said box, a threaded rod working vertically in the box, means carried by the rod for engagement with the chain, and means carried by the box independent of the threaded rod for engaging the chain, as and for the purpose set forth.

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Witnesses:
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