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CARGO HANDLING APPARATUS.
APPLICATION FILED JULY 14, 1911.

1,064,384.

Patented June 10, 1913.

Fig. 2.

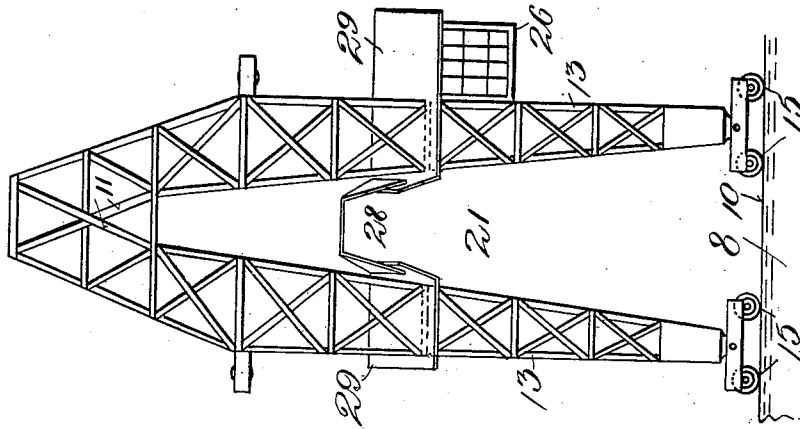
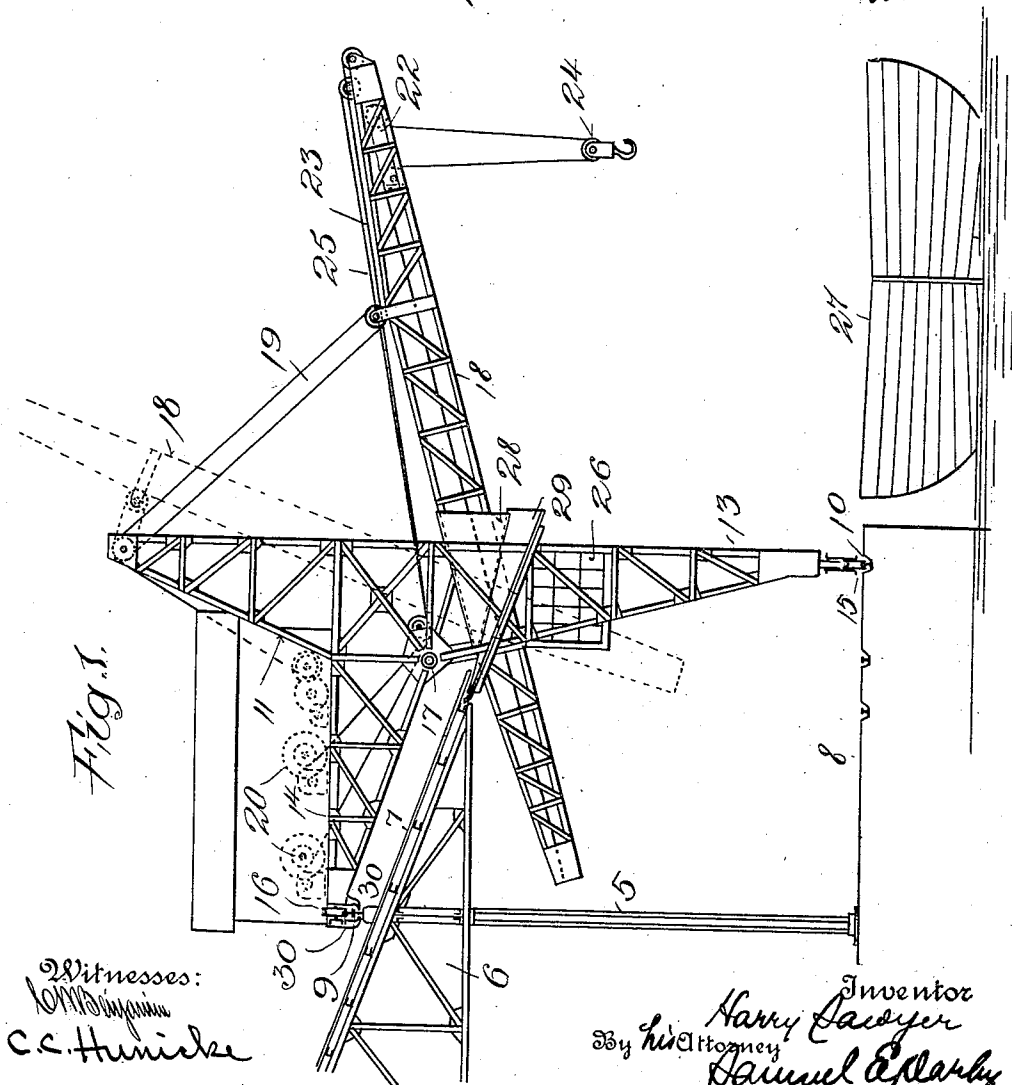


Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRY SAWYER, OF MUSKEGON, MICHIGAN.

CARGO-HANDLING APPARATUS.

1,064,384.

Specification of Letters Patent.

Patented June 10, 1913.

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To all whom it may concern:

Be it known that I, HARRY SAWYER, a citizen of the United States, residing at Muskegon, county of Muskegon, and State of Michigan, have made a certain new and useful Invention in Cargo-Handling Apparatus, of which the following is a specification.

This invention relates to cargo handling apparatus, and particularly to cranes designed for use in connection with wharves, piers, docks, freight-sheds, warehouses or the like, for loading and unloading or handling freight, merchandise or other cargoes.

The object of the invention is to provide a construction of cargo handling apparatus in which it is not necessary to rock the crane, jib or boom toward vertical position in order to permit the crane structure to be shifted from one point to another along the dock, pier, shed or other building floor.

Other objects of the invention will appear more fully hereinafter.

The invention consists substantially in the construction, combination, location, and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawing, and finally pointed out in the appended claims.

In the accompanying drawing, Figure 1 is a view in side elevation, parts broken off, of a cargo handling mechanism embodying the principles of my invention. Fig. 2 is a view in front elevation of the crane structure, the crane boom or jib being omitted.

In the practical use of cranes, employed for handling cargoes in loading and unloading ships, barges, cars or the like, in connection with adjacent dock, pier, shed or warehouse buildings, it is frequently necessary to shift the crane structure from point to point along the floor of the dock, pier, or shed, and parallel to the edge thereof, in order to facilitate access to the point where the cargo is to be reached or delivered. The shifting of the crane for this purpose is frequently interfered with by the side walls or supporting columns of the building, thereby necessitating the raising of the crane-boom or jib toward vertical position in order to effect a clearance of such side wall or vertical supporting column, particularly where the freight is handled through doors, windows or other openings in the side wall of the building.

It is among the special purposes of my present invention to provide an apparatus for handling cargoes wherein the crane-boom or jib when in position for use, clears the side walls of vertical supporting columns, or other supports for the overhead structure and is therefore permitted to be shifted from one point to another along the floor of the pier, wharf or shed without necessitating the rocking or swinging of the boom into or toward vertical position for that purpose.

In carrying out my invention, I provide an elevated supporting structure including vertical columns or supports 5, and supporting framework 6, which, if desired, may be used for supporting the roof 7, of a dock, wharf, freight-shed, warehouse or other building. 8 is a dock, pier, shed or other building floor upon which the supporting structure is erected. Carried by the supporting structure 5, 6, and above the roof 7, where such roof is employed, is a supporting track 9. A cooperating supporting track 10 is arranged in the floor 8 of the pier, shed, or other building, and preferably adjacent to and parallel with the extreme edge thereof. Operating along the tracks 9, 10, is a crane structure which, in the drawings, I have shown in the form of a tower portion 11, having vertical legs 13, and a horizontal portion 14, the vertical legs 13, carrying wheels 15 arranged to rest upon and operate along the floor rail 10, while the horizontal portion 14 is elevated and extends over the supporting structure 5, 6, and carries wheels 16 arranged to rest upon and operating along the elevated rail 9. Suitably suspended upon the crane structure upon a pivotal axis 17, thereon is the crane jib or boom 18, adapted to be rocked or swung into substantially horizontal or working position for use, as indicated in full lines in Fig. 1, and toward vertical position, as indicated in dotted lines in Fig. 1, a suitable tackle 19, serving to effect the rocking or swinging movements of the boom, being operated from one of the motor mechanisms 20 carried by the crane structure. In its vertical swinging movements the boom 18 is designed to operate in the space 21 between the vertical legs 13 of the crane tower.

A suitable truck or other carrier 22 is designed to operate lengthwise of the boom 18

being operated by suitable tackle 23 from a motor mechanism 20. The carrier 22 is equipped with the hoisting mechanism 24, designed to be operated by a tackle 25 from a motor mechanism 20, in the usual or any convenient or ordinary manner. The crane tower is shown provided with a cage 26 from which the crane operations are controlled. The inner end of the crane boom 18 is arranged to extend well under the roof 7 but not to a distance sufficient for the vertical columns or walls 5 of the shed or other building wall to interfere with the travel of the boom, while in position for use, when the crane is shifted or progressed along the rails 9, 10. The outer end of the jib or boom extends outwardly beyond the edge of the floor 8 of the wharf, dock, pier or shed, into position over a barge, ship, car or other transporting device, indicated at 27, lying alongside the edge of said floor.

If desired and in order to protect that portion of the floor 8 beneath the place at which the crane is in operation and which extends beyond the protection of roof 7, as well as the cage 26, from rain, or the drippings from the eaves of roof 7, at such point, an auxiliary roof section 28, is provided which is arranged directly over the jib or boom and forms a continuation of the roof 7, when the jib is in position for use, while auxiliary roof sections 29, are arranged on opposite sides of the crane jib and are suitably supported upon the crane structure to form a continuation of the roof 7 but which auxiliary sections 28, 29 move with the crane structure, being carried thereby.

If desired, or necessary, the inner end of the horizontal portion 14 of the crane structure may be provided with an engaging device 30 adapted to engage the rail 9, or other convenient part to resist any tendency of the crane to tilt under the strain of excessive loads imposed upon the boom 18.

Having now set forth the objects and nature of my invention, and a construction embodying the principles thereof, what I claim as new and useful, and of my own invention, and desire to secure by Letters Patent is:—

1. In an apparatus for handling freight, a floor, an elevated structure erected thereon, a roof carried thereby, track rails respectively carried by said floor and above said roof, a crane structure having wheels respectively operative along said rails, a boom pivotally suspended intermediate its ends from said crane structure at a point adjacent the edge of said roof, said boom when in position for use extending inwardly at its in-

ner end underneath the roof, and a truck or carrier arranged to travel lengthwise of the boom from end to end thereof.

2. A floor, an elevated structure erected thereon, a roof carried by said elevated structure, track rails respectively carried by the floor and above the roof, a crane structure having portions respectively resting upon and operating along said track rails, and a roof section carried by said crane structure.

3. In a cargo handling apparatus, a floor, an elevated structure erected thereon, a roof carried by said structure, track rails respectively carried by the floor and above the roof, a crane structure having an elevated portion resting upon and operating along the elevated rail, and a tower portion resting upon and operating upon the floor rail, a boom pivotally suspended upon the crane structure, and a roof section carried by the crane structure and arranged over said boom.

4. In a cargo handling apparatus, a floor, an elevated structure erected thereon, a roof carried by said structure, track rails respectively carried by the floor and above the roof, a crane structure having an elevated horizontal portion resting upon and operating along the elevated rail, and vertical tower legs resting upon and operating along the floor rail, a boom pivotally suspended between the tower legs, a roof section arranged over said boom, and an additional roof section carried by the crane structure and extending laterally to one side of the boom.

5. In an apparatus for handling freight, a floor, supports erected thereon, an elevated structure carried by said supports, said structure including a roof arranged to overhang said supports, track rails respectively carried by said floor and above said roof, a crane structure having wheels respectively operating along said rails, a boom carried by the crane structure the inner end of said boom when the latter is in position for use, extending underneath the overhanging portion of the roof but terminating outside of the elevated structure supports and a truck or carrier arranged to travel lengthwise of the boom from end to end thereof.

In testimony whereof I have hereunto set my hand in the presence of the subscribing witnesses, on this 23d day of June, A. D. 1911.

HARRY SAWYER.

Witnesses:

FLORENCE M. EDENHOLM,
CLARENCE C. HUNICKE.