

(No Model.)

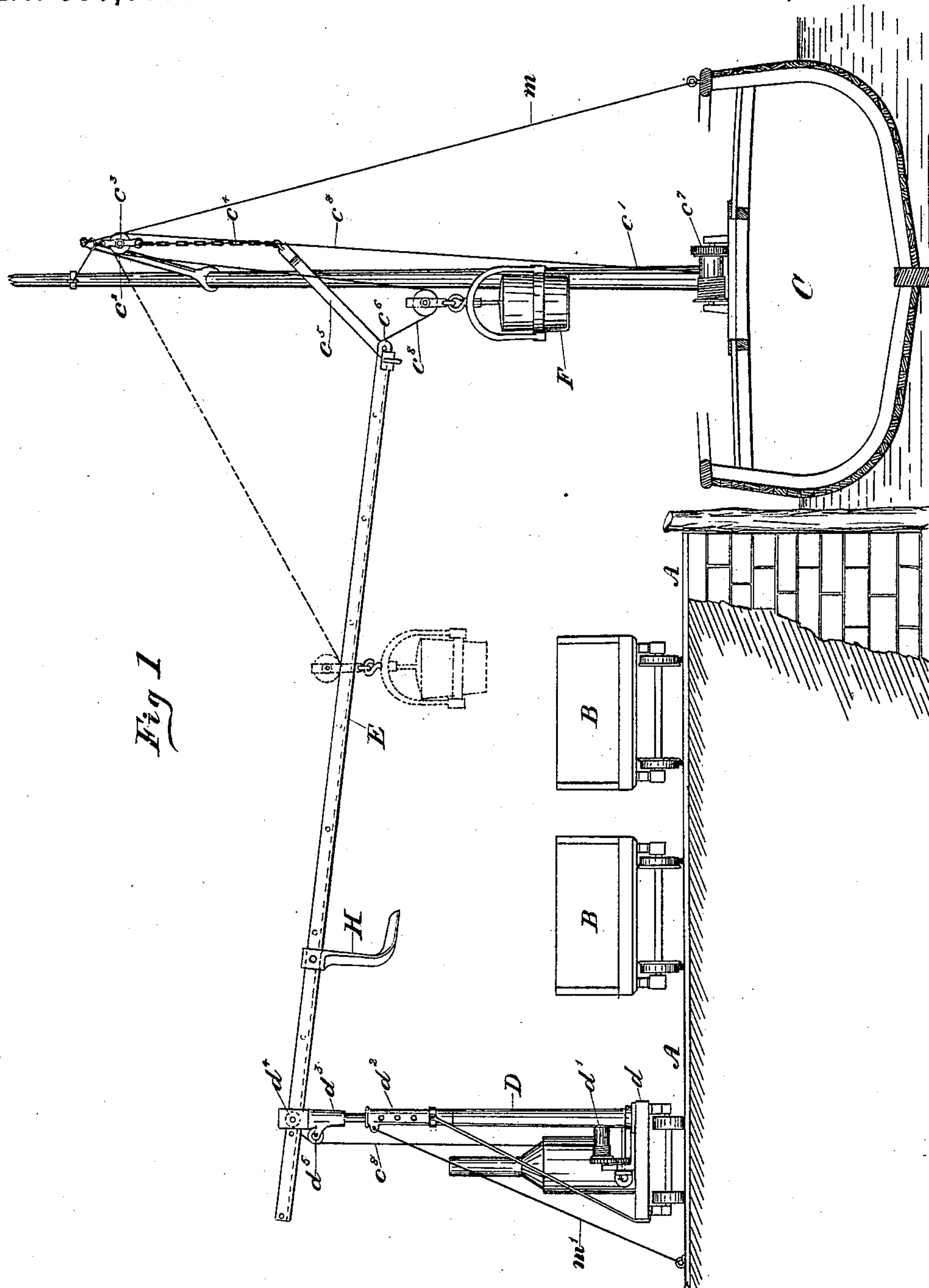
2 Sheets—Sheet 1.

G. W. PRICE.

APPARATUS FOR LOADING VESSELS.

No. 350,501.

Patented Oct. 12, 1886.



Witnesses

G. B. Thomas
J. M. Hyson

Inventor

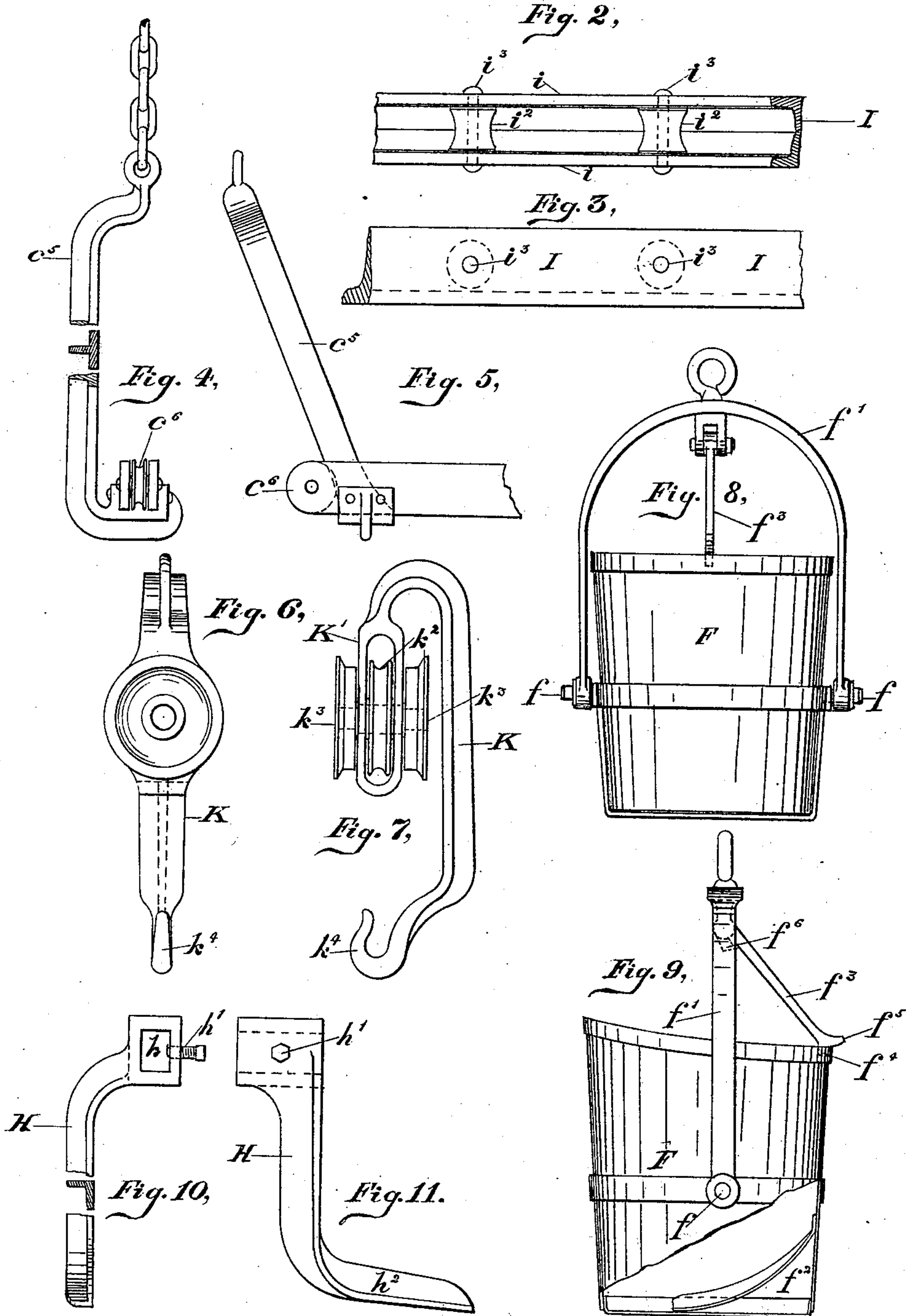
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UNITED STATES PATENT OFFICE.

GEORGE W. PRICE, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-THIRD
TO JOSEPH R. FORD, OF SAME PLACE.

APPARATUS FOR LOADING VESSELS.

SPECIFICATION forming part of Letters Patent No. 350,501, dated October 12, 1886.

Application filed March 16, 1886. Serial No. 195,396. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PRICE, of the city of Baltimore and State of Maryland, have invented a new and useful Apparatus for Discharging or Loading Vessels.

The following is a full description of my invention, illustrated by the accompanying drawings, of which—

Figure 1 is a side view of the discharging apparatus, and shows a dock or wharf, cars upon tracks laid upon the wharf, and a vessel from which the cargo is to be discharged into the cars. Fig. 2 is a top view of a double track, the two sides being braced and bolted together. Fig. 3 is a side view of the same. Fig. 4 is an end view of a device for sustaining one end of the track-beam, and bent at its lower end to give room for the discharging device to pass. Fig. 5 is a side view of the same; Fig. 6, a front view of block and hook upon which the discharging-bucket is swung. Fig. 7 is a side of the same, showing the sheave and wheels which roll upon the track-beam. Fig. 8 is a back view of the discharging-bucket. Fig. 9 is a side view of the same, with part broken away, also showing the trigger, which sustains the bucket in an upright position until released. Figs. 10 and 11 are front and side views of the trigger for releasing the latch of the bucket.

The illustration of my invention in Fig. 1 shows the device as arranged for discharging the cargo of the vessel into the cars. For loading from the wharf to the vessel the device should be reversed, or turned end for end. A is the wharf; B B, loading-cars; C, a vessel lying up to the wharf. Upon any suitable part of the wharf I erect an upright standard, D, as shown in Fig. 1. This standard is erected upon a car, d , which also carries a windlass, d' . Arranged in this way the standard is portable and may be carried about to different wharves, or to any part of the same wharf. The upper end of the standard D is provided with the socket piece or bar d^2 , so that it may turn easily when required. The upper end of this bar is slotted or forked to receive the end of the carriage-beam, which is held in its place by a pin, d^4 . This arrangement allows a move-

ment of the carriage-beam up and down about the pin d^4 .

E is the carriage-beam.

c' is the mast of the vessel, having the usual gaff, c^2 . From this gaff is suspended the block c^3 , with its sheave; suspended from this block by means of a chain or rope, c^4 , is a solid block or piece of wood or metal, c^5 . This block is bent at its lower end, as shown in Fig. 4, and is secured to the carriage-beam E, near its end. To this end of the carriage-beam is journaled the pulley c^6 . The carriage-beam is thus supported by the block c^5 at one end and the bar d^4 at the other. c^7 is a windlass on the vessel.

The discharging-bucket F may be made of metal or of strong wood, with suitable bands or hoops, and is provided with pivoted trunnions f , which are journaled in the ends of the arched handle f' . These trunnions are placed below and behind the center of the bucket. In Fig. 9 a portion of the lower rear part of the bucket is broken away, showing within a load or weight, f^2 . When the bucket is empty, this weight will overcome the tendency of the bucket to tip forward, and maintains it in an upright position. When the bucket is full, the weight, which lies forward of the trunnions, will cause it to tip and discharge its load. Attached to the handle and pivoted thereto is a latch, f^3 , the other end of which is provided with the shoulder f^4 , which enters the edge of the bucket and rests against the rim. A projection, f^5 , furnishes the means for releasing or lifting the latch to allow the bucket to tip and dump its load. When dumped, the weight f^2 returns it to place, when it is again caught by the projection on the trigger f^4 . The handle of the bucket is provided with the projection or stop f^6 , to prevent the latch from falling too far inward when released.

In Figs. 1, 10, and 11 is shown a device, which I will call a "trigger," for lifting the latch. It is marked H in the drawings. This device, as shown in Fig. 10, has an opening, h , large enough to allow the track-beam to enter, so that the trigger may slide upon it and be secured at any desired point thereon

by the screw h' . At the lower end the trigger is bent in the form of an L at h^2 . The upper edge of this bent portion forms an inclined plane. This edge strikes against the projection f^5 of the latch when the bucket is propelled forward, lifts the latch from the rim of the bucket, and allows the load to be dumped. It will be observed that the bucket travels along the track sidewise, and when the latch is released dumps in line with the length of the car, and by sliding the trigger H upon the track it may be secured at any point where it is desired to make the dump.

The track-beam I, as shown in Figs. 2 and 3, may be constructed of any material with a single track or with two tracks, as represented at i i , Fig. 2. When constructed in this way, it should be properly braced. A good way to brace it is shown at i^2 . These braces may be of any material, having an opening through them, and also an opening through the tracks, to admit the bolts i^3 , to hold the tracks securely in position.

Figs. 6 and 7 represent a combined block and hook. Viewing Fig. 7, this device shows a strong piece of iron or other suitable material, (marked k ,) bent at the top, so as to form a forked or slotted hanger, k' , within which is pivoted the sheave k^2 . Upon the same shaft may be secured or pivoted the wheels k^3 . These wheels run upon the track i i . The lower part of the device is bent around and terminates in the hook k^4 . The socket of the hook should be practically plumb with the sheave k^2 . Upon this hook the handle of the discharging-bucket is hung. This device may be called the "carriage" of the apparatus.

When ready for discharging, the rope c^8 from the windlass c^7 passes up first through the block c^3 , then under the hook-sheave k^2 , then over the pulley c^8 on the end of the track-beam, then along the top of the track-beam, then over the pulley d^3 on the bar d^3 , and down to the windlass on the car d^4 ; or its end may be fastened in any suitable way.

The mode of attaching the track-beam at the

bar d^3 permits the beam to swing up or down or sidewise, and allows the track to be adjusted to suit the circumstances, and when the position of the apparatus is ascertained it may be fixed by the guy-ropes m m' .

The operation of the device is as follows: The bucket F is lowered to the hold of the vessel and filled with the material to be discharged, and the latch f^3 placed in position. The windlass c^7 is then operated, and the bucket is hoisted until it reaches the receiving end of the track-beam. The wheels k^3 drop upon the track i i , and as the windlass continues to turn run along the track, carrying the bucket, until it arrives at the discharging-point. The projection f^5 of the catch comes in contact with the inclined plane of the trigger h^2 , releasing the latch. The bucket dumps its load, and the weight f^2 returns it to its normal position. The bucket is then allowed to return to the vessel by its own weight. The receiving end of the track-beam should be somewhat lower than its point of discharge, to allow the empty bucket to return to the vessel.

The apparatus may be worked just as well by the windlass on the wharf or on the car d , in which case the windlass on the vessel may be dispensed with.

What I claim is—

1. In a loading or discharging apparatus, a track-beam, E, forming an inclined plane with its receiving end lower than the other, in combination with a carriage impelled by the rope from the windlass, forming an inclined plane behind the carriage, and changing its angle of inclination as the carriage is impelled upon the track.

2. In a loading or discharging apparatus, the carriage, substantially as herein shown and described, provided with the sheave k^2 , the wheels k^3 , and the hook k^4 .

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Witnesses:

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