

(No Model.)

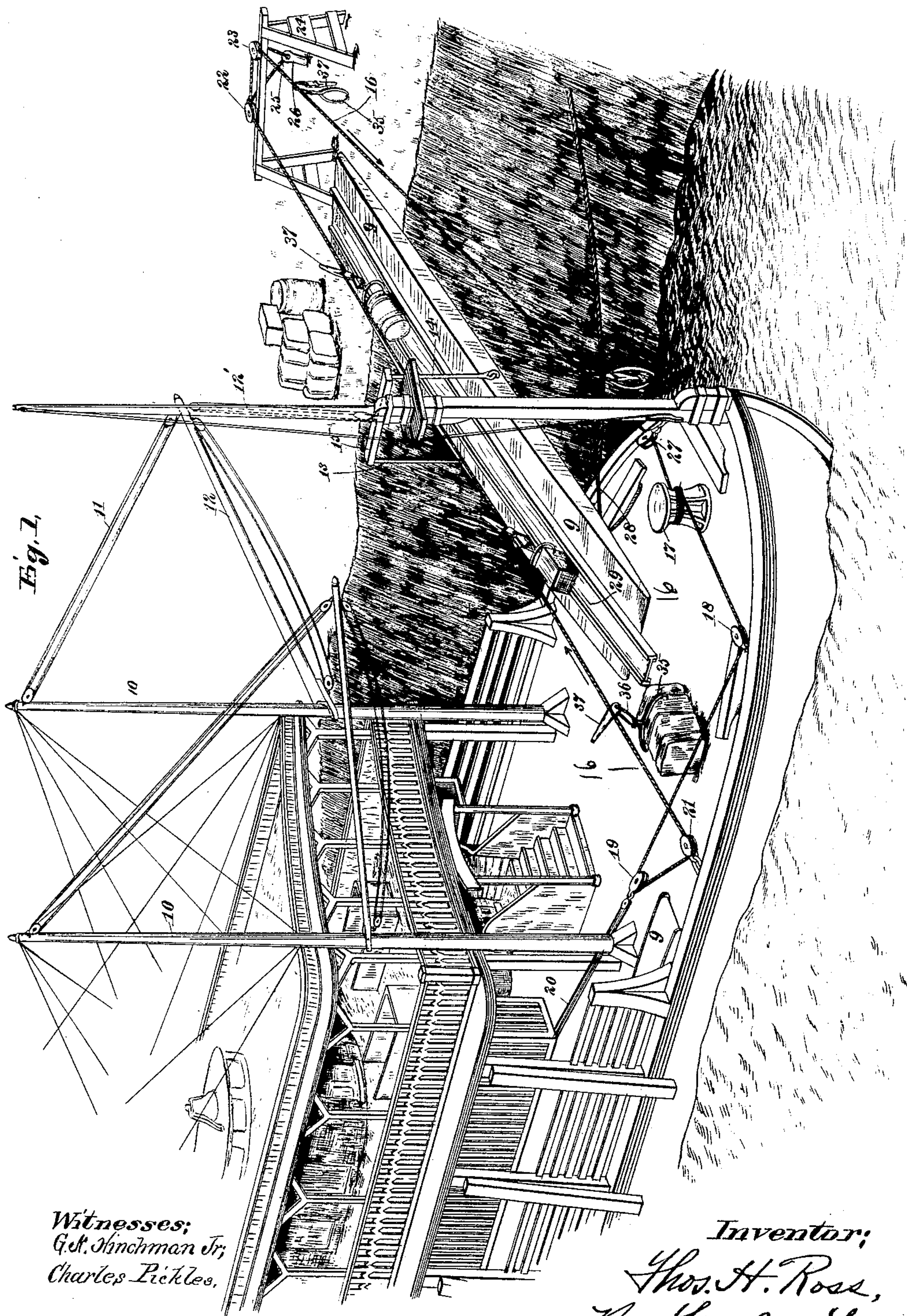
2 Sheets—Sheet 1.

T. H. ROSS.

APPARATUS FOR LOADING OR UNLOADING FREIGHT.

No. 410,737.

Patented Sept. 10, 1889.



Witnesses;
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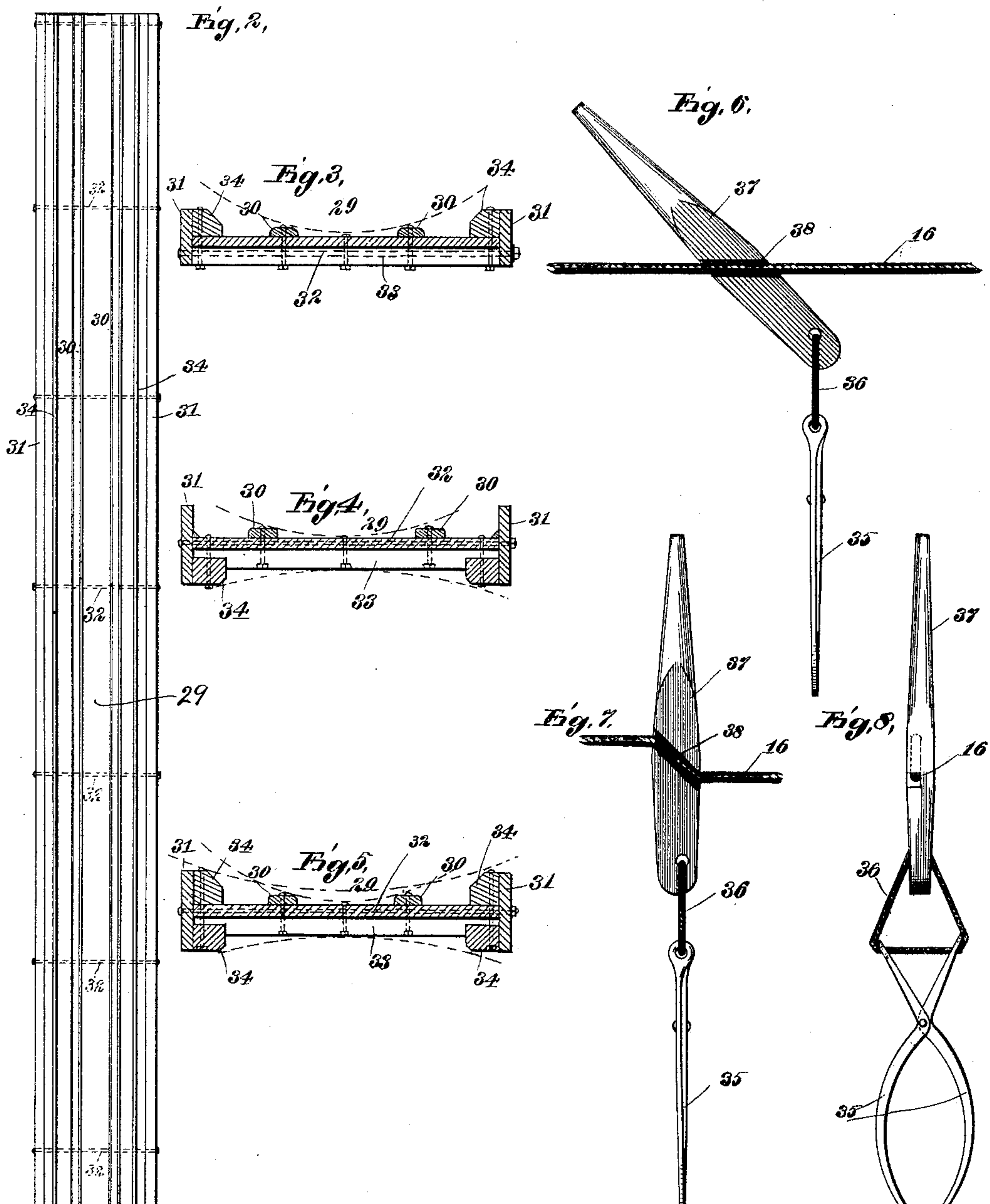
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UNITED STATES PATENT OFFICE.

THOMAS H. ROSS, OF ST. LOUIS, MISSOURI.

APPARATUS FOR LOADING OR UNLOADING FREIGHT.

SPECIFICATION forming part of Letters Patent No. 410,737, dated September 10, 1889.

Application filed January 19, 1889. Serial No. 296,847. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. ROSS, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Apparatus for Loading or Unloading Freight, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates more especially to devices for loading or unloading boats, cars, and the like.

The invention comprises an apparatus which may be carried by boats or cars from place to place, and that is adapted to be run out from the same to an objective point at a landing from where or to which the freight is to be conveyed; and the invention consists in the certain novel and peculiar construction and arrangements of the various parts of this apparatus, all as hereinafter fully described, and then pointed out in the claims.

In the accompanying drawings I have illustrated one form of apparatus made in accordance with my invention.

Figure 1 is a perspective of a vessel which is being unloaded by means of an apparatus constructed after the nature of my invention. Fig. 2 is a plan view of my skid. Fig. 3 is a cross-section of Fig. 2. Fig. 4 is a cross-section of a modified form of skid. Fig. 5 is a cross-section of still another modification of a skid. Fig. 6 is a side view of the device which carries the articles of freight, and which automatically grips the cable when weight is applied to it. Fig. 7 is a side view of the same, showing the device gripping the cable. Fig. 8 is a face view of the same.

The same figures of reference indicate the same or corresponding parts throughout the several views.

I will here remark that although I have shown my invention in the process of unloading a boat, I do not necessarily confine the same to unloading vessels.

9 is a stage which extends from the vessel to the bank, and usually from the bow of the boat. It is supported from one of the mainmasts 10 by a derrick 11 12, swung from said

mainmast through the instrumentality of rods 13 and 14 and a cross-piece 15, which is sustained at its center from the end of the derrick by means of a rope 12'. (Shown in dotted lines in the drawings.) These features are well known and make no part of my invention, the same being generally now in use in unloading vessels.

16 is an endless cable by which the freight is elevated. This cable passes around a capstan 17, which imparts motion to it, and from thence it passes over a pulley-block 18 near by to a second pulley-block 19, which is attached to a rope 20, that is secured to any suitable part of the vessel. From the pulley-block 19 the cable passes to a third pulley-block 21, secured at or near the gunwale of the vessel, and from thence said cable passes to the shore above the stage 9 to pulleys 22 and 23, that are located upon a buck 24, the purpose of which is to elevate the cable from the ground. The pulley-blocks 22 and 23 are secured in place by means of a rope 25, attached to a pin 26, which is driven in the ground. From the pulley 23 the cable passes to a pulley 27 near the bow of the vessel, which guides said cable onto the capstan 17. The pulley-block 19 and the rope 20 are used to take up the slack in the cable.

28 is the painter-line, which secures the vessel to the shore.

On the stage 9 I place a skid 29, which preferably extends a little beyond each end of the stage. Along this skid the articles of freight are drawn by the cable.

In Figs. 2, 3, 4, and 5 I have shown different forms of skids. The skid shown in Figs. 2 and 3 consists of a bottom board having two rails 30 30 at each side of the center, and side pieces 31 31 at each side of the bottom board, which are secured together by means of a bolt 32 and cross-pieces 33, of wood. The said pieces 31 31 are faced by beveled blocks 34 34, so as to protect the side pieces from wear. This form of skid may be useful in unloading boxes, small barrels, and kegs, the diameter of which is less than the distance between the bolts which secure the rails 30 30 to the bottom board of the skid, the barrels resting upon the inner bevels of the rails 30 30. For larger barrels the rails 30 are placed farther apart, as seen in Fig. 4. In this instance the bev-

eled blocks 34 are placed beneath the skid, so that the skid may be turned upside down and used to unload hogsheads, the sides of the hogsheads bearing upon the bevel of the blocks 34.

5 Fig. 5 shows the skid combining both of the foregoing, the blocks 34 being located on both sides of the same, so that one side of the skid may be used for unloading barrels, boxes, bales of cotton, &c., and the other side may be
10 used for the purpose of unloading hogsheads.

Other forms of skids may be used without departing from my invention. Any means of reducing the friction between the freight and the skids can be used, if desired.

15 To secure the articles of freight to the cable, I preferably use a pair of tongs 35, through holes in the handles of which passes a cord 36 to a hole in the end of an automatic gripping device or handle 37. The
20 handle 37 has a diagonal groove 38, which extends from one of its side faces to about the center of the handle.

The operation is as follows: The articles of freight are brought in position beneath the
25 cable, the tongs 35 applied thereto, and the groove in the gripping device 37 made to register with the cable. As the freight is drawn along, the cord 36 tends to draw the handles of the tongs together and thereby to
30 cause the tongs to grip the freight tightly. The weight of the freight draws the gripping device into a vertical position, as shown in Fig. 7, and the edges of the groove therein firmly grasp the cable, and the gripping de-
35 vice, together with the freight, is carried along by the cable. When the unloading point is reached, the gripping-handle 37 is operated in the reverse direction, so as to throw the handle into the position shown in
40 Fig. 6. A stop can be arranged in the path of said handle, so as to perform the same office, if necessary. For instance, if the gripping device were allowed to travel up the cable until it came against the buck 24, it
45 would be automatically thrown into the position shown in Fig. 6 and come to rest. The cable then passes freely through the groove in the gripping-handle, and said handle is then removed from the cable. The tongs are
50 disengaged from the freight, and the gripping device, together with said tongs, is put upon the cable beyond the pulleys 22 and 23, and is thereby returned to the vessel, where it is removed by hand before it reaches the
55 pulley-block 27. By reversing the direction of the cable the freight can be loaded and elevated upon the vessel. If required to load or unload from the other side of the vessel, the stage is extended from the other
60 side of the vessel and is sustained by means of the other derrick upon the other main-mast 10.

The apparatus which I have described is to be carried by the vessel, and when said
65 vessel is run alongside of the bank and se-

cured in position the stage 9 is thrown out from the vessel to the bank, and the cable taken ashore and secured in position upon the buck 24 by driving the pin 26 into the ground. After the goods are unloaded at any
70 station, the pin 26 is withdrawn from the ground and the apparatus replaced upon the vessel.

The apparatus is simple, inexpensive, and very durable. I can place said apparatus in
75 position and load or unload a vessel very expeditiously and with great saving of time and labor.

It will be observed that the advantage of my improved apparatus is that the entire ap-
80 paratus is carried by the boat from place to place, and when a landing is made for the purpose of discharging or receiving freight, all of the necessary parts for the proper working of the apparatus are conveniently at hand
85 on board and can be at once put in operative position, and also that the cable is driven by machinery carried by the boat from place to place. The only work required to be done on shore is the attaching of the shore-pulleys
90 to some stationary point and the adjustment of the stand or buck. Another advantage is that the conveying-cable or endless rope may be so controlled by the adjusting means
95 on the vessel as to be lengthened or shortened in its reach, and thus made to reach objective points on the shore at greater or less distance from the vessel when landings are made.

Having fully set forth my invention, what I desire to claim as new and secure by Letters
100 Patent of the United States is—

An apparatus for loading or unloading boats, cars, and the like, the same comprising a movable skid for bridging from the boat to a distant exterior objective point on the shore,
105 an endless cable provided with a set of guide-pulleys on the boat and a set of guide-pulleys removably secured in position near the objective point on the shore, a stand or buck for elevating the endless cable at the object-
110 ive point on the shore, a steam-driven drum or capstan on the boat for driving the endless cable, an adjustable pulley for regulating the reach of the cable, one line of the endless cable disposed above the skid in the direction
115 of the length thereof, and one or more gripping-handles adapted to automatically grip the cable, the entire apparatus being carried by the boat from place to place and constructed to be readily secured in position and
120 easily removed therefrom at a landing, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and affixed my seal, this 16th day of January, 1889, in the presence of the two sub-
125 scribing witnesses.

THOMAS H. ROSS. [L. S.]

Witnesses:

A. C. FOWLER,
F. M. KEZER.