

G. E. TITCOMB.
BARGE.

APPLICATION FILED FEB. 19, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

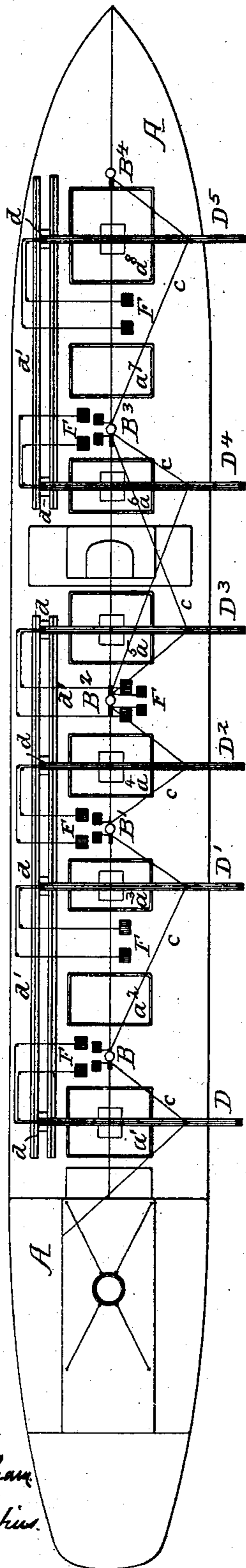
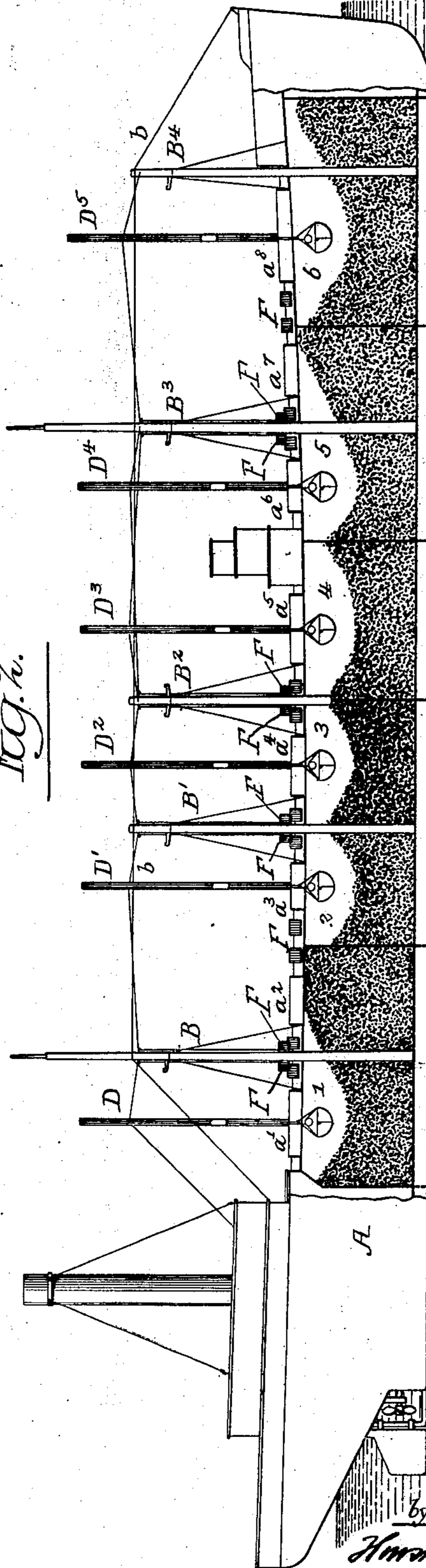


Fig. 2.



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No. 742,101.

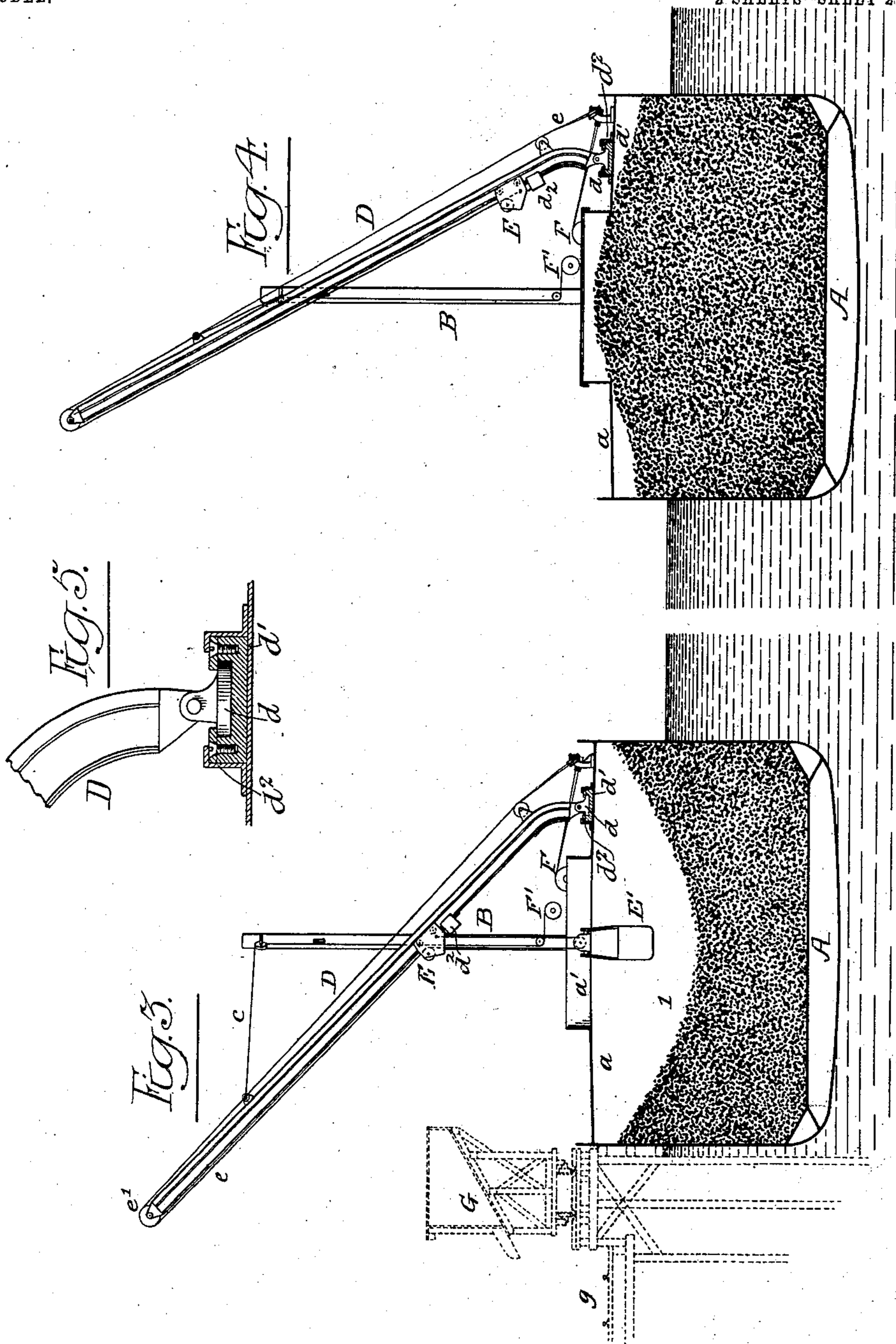
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UNITED STATES PATENT OFFICE.

GEORGE E. TITCOMB, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
THE DODGE COAL STORAGE COMPANY, OF NAUGATUCK, CONNECTI-
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BARGE.

SPECIFICATION forming part of Letters Patent No. 742,101, dated October 20, 1903.

Application filed February 19, 1902. Serial No. 94,749. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. TITCOMB, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Barges, of which the following is a specification.

The object of my invention is to provide a barge for carrying coal or other material with suitable discharge mechanism, so that the
10 barge can discharge its own load, the mechanism being so designed and arranged that the crew of the barge can readily attend to the discharge mechanism when the barge is at a wharf or alongside another vessel.

15 The wharves of large cities or ports are usually supplied with cranes or other discharge mechanism for handling coal or other material to readily discharge a barge at the wharf; but at other points where coal is delivered at
20 intervals—say at small seaports—there is no mechanism upon the wharf for the proper handling of the coal, and in these ports coal-barges only arrive at long intervals, so that the expense of equipping a wharf with proper
25 coal-handling mechanism would be too great to warrant the outlay. Heretofore at these wharves the coal or other material has been discharged from the barges by manual labor, the stevedores shoveling the coal into buckets
30 or bags and carrying them out of the hold to the wharf. In many instances barges have been delayed owing to the fact that manual labor at these ports is very scarce, as it would not be feasible to employ the stevedores on
35 the wharves all the time, and when the vessel arrives a delay of several days is often necessary before the proper number of men can be obtained to discharge the vessel.

I overcome all the above objections by
40 equipping the barge with its own coal-handling mechanism, and so arrange this coal-handling mechanism that the crew of the barge can attend to the discharge of the coal from the vessel to the wharf without the aid
45 of additional help at the wharf.

In the accompanying drawings, Figure 1 is a plan view of a barge, illustrating my invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view showing

the boom extended. Fig. 4 is a view similar
50 to Fig. 3, showing the boom lashed to the mast and out of action; and Fig. 5 is a view of a detail of my invention.

A is a barge of any ordinary type, in the present instance having the engine or other
55 propelling means at the stern, the balance of the vessel being taken up in storage-bins for coal or other material. The bins in the present instance are numbered 1, 2, 3, 4, 5, and 6 and are so proportioned as to properly bal-
60 ance the load.

B, B', B², B³, and B⁴ are the masts, which are suitably guyed and connected together by ropes b.

a', a², a³, a⁴, a⁵, a⁶, a⁷, and a⁸ are the hatch-
65 ways for the several bins.

D, D', D², D³, D⁴, and D⁵ are the booms upon which the discharge mechanism travels. Each of these booms is pivoted to a block d, swiveled in a slide d', arranged to travel on suit-
70 able rails d², secured to the deck a of the vessel, as shown clearly in Fig. 3. The booms alternate with the masts, and the slides d' can move on the rails d² toward either mast and
75 can be raised or lowered or turned laterally on the pivots, as desired. The booms are made, preferably, of channel-bars, so as to form rails on which the trolleys E can travel.

e indicates the hoisting-ropes, which pass around pulleys e' at the outer end of the boom
80 and pulleys e² near the pivot to the hoisting-engine F. In the hoisting mechanism illustrated two hoisting-ropes are used, each secured by one of its ends to the trolley, so that
85 when the bucket has been closed and elevated in contact with the trolley by hauling on both cables a continuation of their movement will cause the trolley and bucket to travel in combination up along the inclined boom, clearing the hatch-coamings and moving to the
90 out-port end, so as to be beyond the side of the vessel. The advantage of this arrangement is that the operations of closing and elevating the bucket and traversing it along the boom can be effected by the uninterrupted
95 continuous rotation of a single shaft with suitable rope drums and clutches or the like, the inclination of the jib or boom insuring

that the vertical lift of the bucket shall be completed prior to the commencement of the lateral travel. When the bucket has completed its lateral travels, it can be opened by
 5 simply slacking one of the two cables which were previously operated together to elevate it. If it should be desired that the bucket be lowered before being opened, this can be effected by slacking away both cables, the
 10 trolley being prevented from traveling along the boom by a suitable stop. The buckets may be discharged into a movable hopper G, (shown by dotted lines in Fig. 3,) and this hopper can discharge the coal into cars on
 15 tracks *g* on one side of the hopper, (also shown by dotted lines in Fig. 3,) or the material can be discharged directly onto the wharf or into cars when desired or other vessels or lighters when necessary.

20 The boom is supported in its extended position by guy-ropes *c*, which are operated in the present instance by means of a hoisting-engine *F'*, (shown in diagram,) and this rope extends from one mast to another. After
 25 the unloading of the vessel is accomplished the boom can be elevated to the position shown in Fig. 4 and moved toward the mast, where it is lashed, so that while the vessel is on a voyage it will be securely held in position,
 30 the bucket being first removed and the trolley being lowered to the position shown in Fig. 4.

Thus it will be seen that I provide a number of independently-operated hoisting mechanisms (six in the present instance) each
 35 provided with a hoisting-engine, boom, and bucket, so that the crew can readily handle the said mechanism. If there is a crew of six men, for instance, each man can operate
 40 a single hoisting mechanism. By this means the load of the vessel is gradually reduced without trimming one part of the load more than another, and by providing a number of hoisting mechanisms, as shown, the vessel can
 45 be very quickly unloaded, and thus save con-

siderable time in the transportation of material from one port to another.

I claim as my invention—

1. The combination of a vessel, a mast, a rail on the deck of the vessel, a slide adjustable on the rail, a block swiveled in the slide,
 50 and a boom pivoted to the block and guyed to the mast, with hoisting mechanism carried by the boom, substantially as described.

2. The combination of a vessel, a series of
 55 masts on the vessel, hatchways between the masts, one or more rails on the vessel, a series of slides mounted on the rails, a series of booms alternating with the masts and pivoted to the slides, said booms being guyed to
 60 the masts and each boom having a trolley and a bucket and hoisting mechanism, substantially as described.

3. The combination of a vessel having a hatchway, a mast, a rail on the deck at one
 65 side of the hatchway, a slide adapted to travel on the rail, a boom pivoted to the slide and extending over the hatchway to the opposite side of the vessel, said boom being guyed to the mast, and hoisting mechanism carried by
 70 the boom, substantially as described.

4. The combination of a vessel, a hatchway, two masts, one on each side of the hatchway, a rail on one side of the vessel, a slide
 75 arranged to travel on the rail, a block swiveled to the slide, a boom pivoted to the block and guyed from the two masts so as to extend over the hatchway and over the opposite side of the vessel, a trolley on the boom,
 80 a bucket, and means for raising and lowering the bucket and traversing the trolley, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE E. TITCOMB.

Witnesses:

WILL. A. BARR,
 JOS. H. KLEIN.