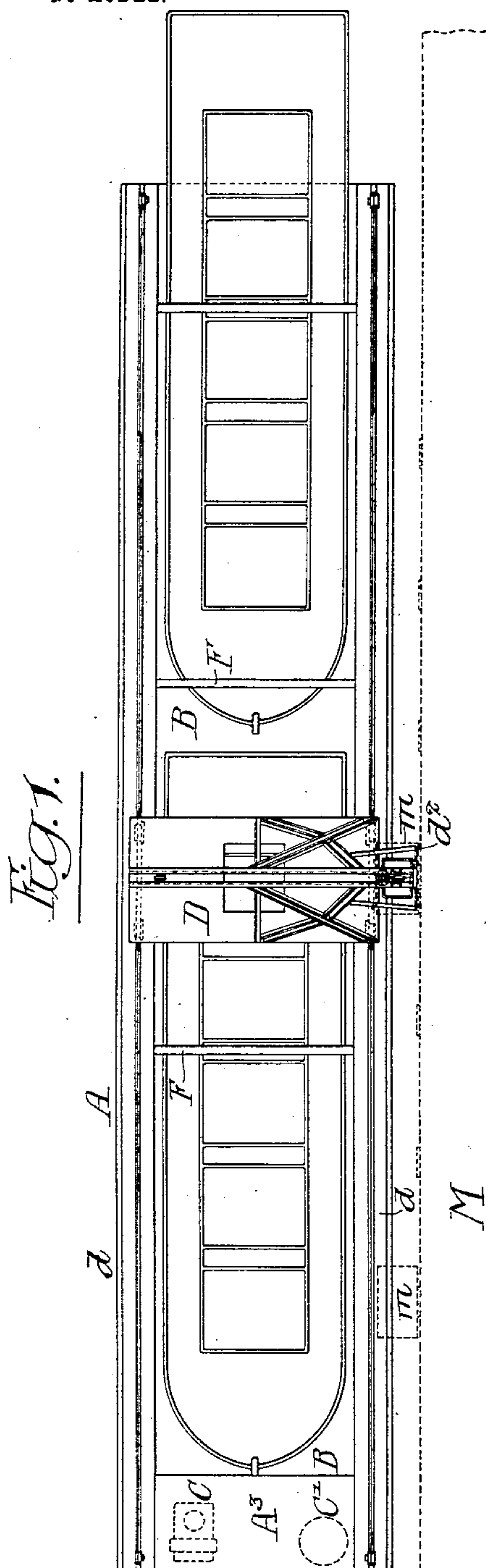


G. E. TITCOMB.
FLOATING DOCK.

APPLICATION FILED JAN. 18, 1902.

NO MODEL.

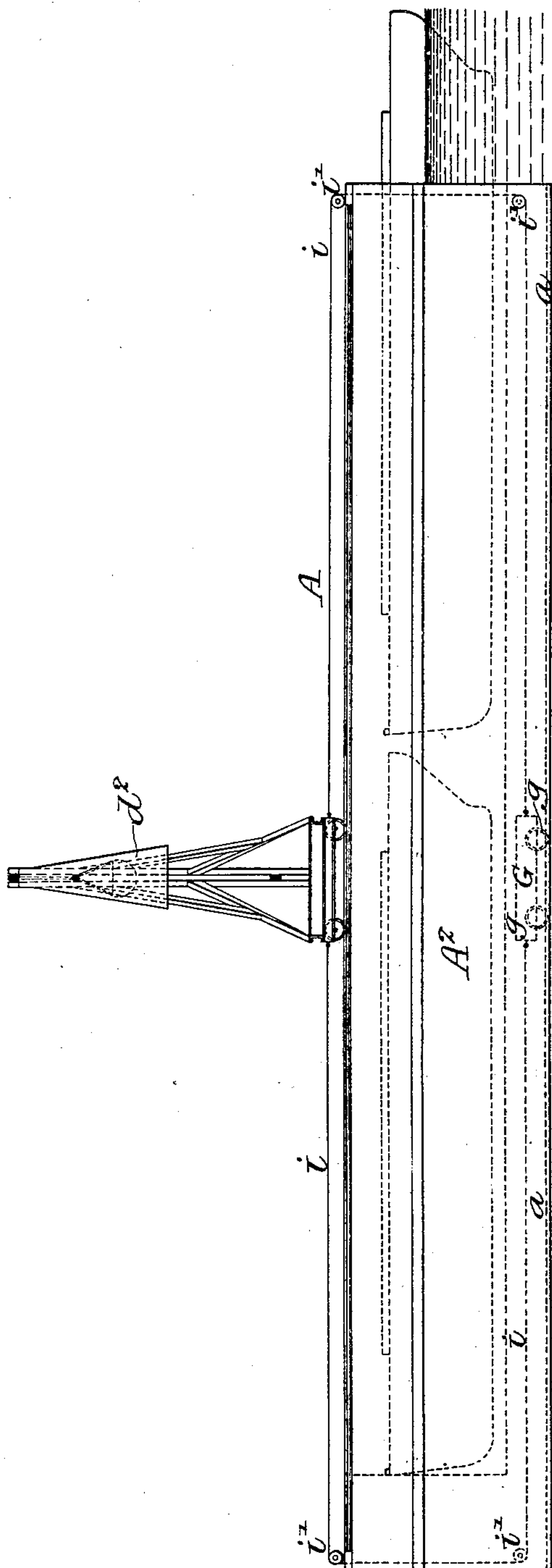
3 SHEETS—SHEET 1.



Witnesses:-

Frank S. Lyman.

Herman E. Metcalf.



Inventor:

George E. Titcomb,

by his Attorneys;

Howard Howard

No. 738,084.

PATENTED SEPT. 1, 1903.

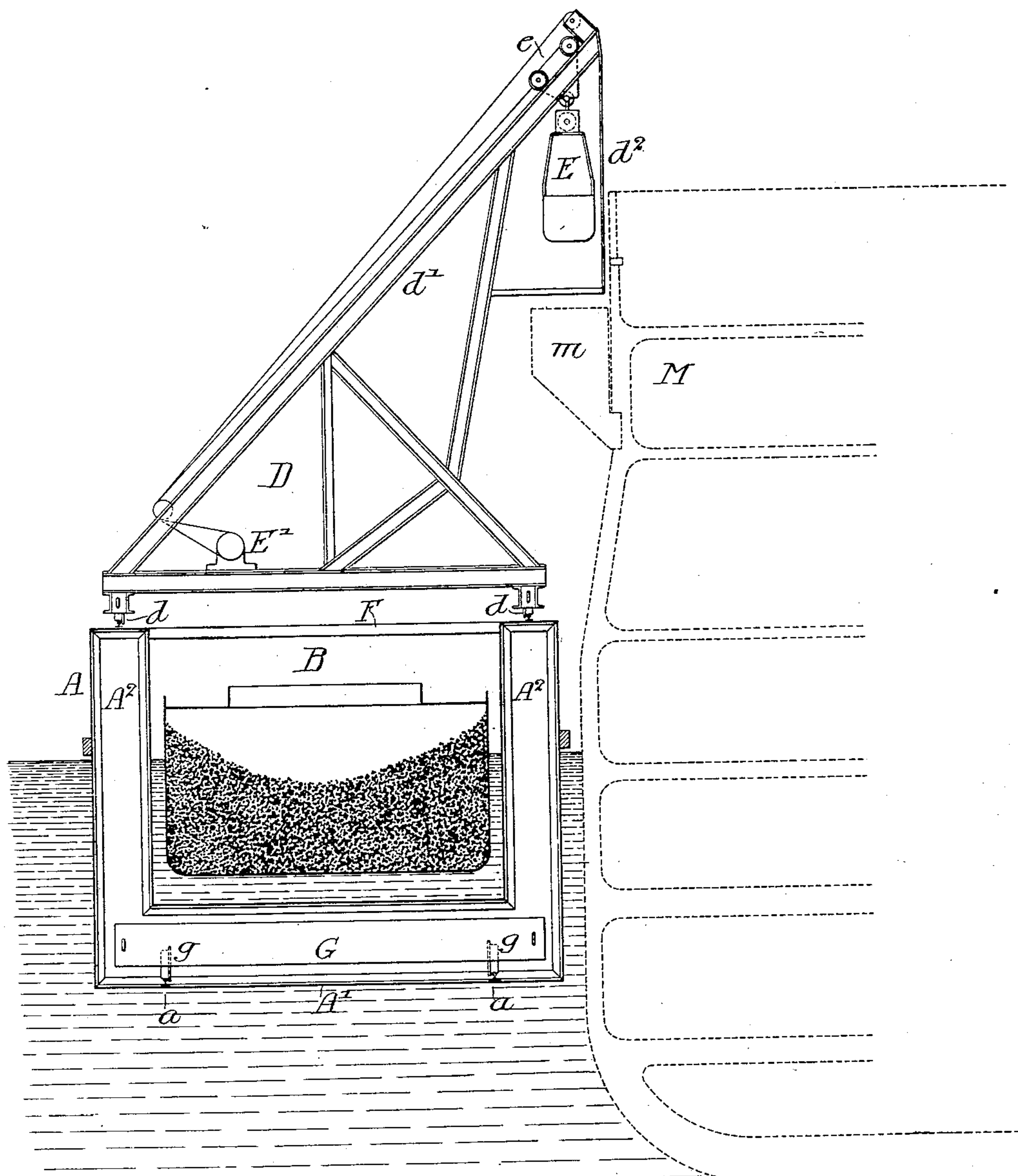
G. E. TITCOMB.
FLOATING DOCK.

APPLICATION FILED JAN. 18, 1902.

NO MODEL.

3 SHEETS—SHEET 2.

Fig. 3.



Witnesses:

Frank T. Graham
Herman E. Metius

Inventor:

George E. Titcomb

by his Attorneys:

Howson & Howson

No. 738,084.

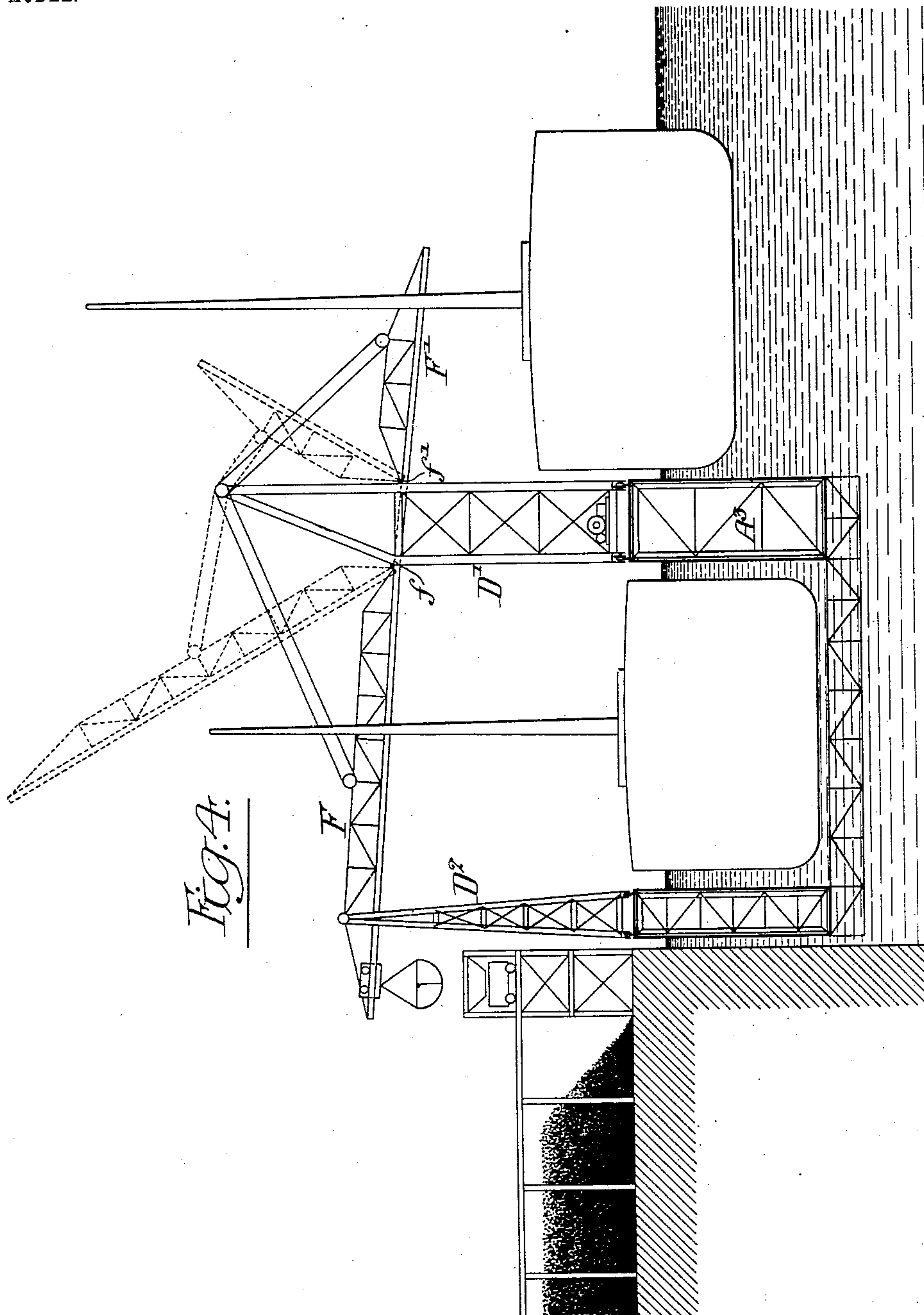
PATENTED SEPT. 1, 1903.

G. E. TITCOMB.
FLOATING DOCK.

APPLICATION FILED JAN. 18, 1902.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses:-

Frank H. Graham
Norman E. Metcalf

Inventor:-

George E. Titcomb
by his Attorneys;
Howson & Howson

UNITED STATES PATENT OFFICE.

GEORGE E. TITCOMB, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
THE DODGE COAL STORAGE COMPANY, OF NAUGATUCK, CONNECTI-
CUT, A CORPORATION OF CONNECTICUT.

FLOATING DOCK.

SPECIFICATION forming part of Letters Patent No. 738,084, dated September 1, 1903.

Application filed January 18, 1902. Serial No. 90,346. (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 Floating Docks, of which the following is a specification.

The main object of my invention is to provide means whereby steamships can be readily
10 coaled from barges or canal-boats without using the hoisting mechanism of the steamship. This object I attain by providing a floating dock into which the canal-boat can be run, the dock having crane or other hoisting
15 mechanism for discharging the coal from the canal-boat and delivering it to the steamship.

A further object of the invention is to provide means for counterbalancing the crane when shifted from one position to another on the dock.

20 While my invention is especially applicable for the coaling of steamships, it will be understood that my improved floating dock can be used for discharging other materials from boats either to steamships or to wharves or
25 storage-houses.

By my invention I dispense with the large number of laborers employed and can readily transfer the coal or other material from the canal-boat to the steamship without using the
30 hoisting mechanism of the steamship, which can be used for loading merchandise and for other purposes.

In the accompanying drawings, Figure 1 is a plan view of a floating dock, illustrating my
35 invention. Fig. 2 is a side view. Fig. 3 is a transverse sectional view showing the dock alongside a steamship, and Fig. 4 is a view of a modification which may be used to discharge barges or other vessels having masts.

40 A is a pontoon, which is quadrangular in shape in the present instance and has a bottom A^1 , sides A^2 , and one end A^3 , the other end being open for the passage of a canal-boat or barge. The pontoon can be made of any
45 suitable material, having sufficient space at the bottom, sides, and one end so that it will have buoyancy enough to float at the proper depth. The bottom of the pontoon is sufficiently below the surface of the water to allow
50 a loaded canal-boat, for instance, to pass

freely into the dock B without striking the sill, and there is sufficient room at one end of the pontoon surrounding the dock for the accommodation of a generator C and, if necessary, an engine C'.

55 On each side A^2 is a track d , on which travels the crane D. This crane can be of any form desired, but I preferably make it as shown in the drawings, having an inclined boom d' , on which travels the trolley e , from which is suspended the bucket E. This bucket can be of any type desired. The ropes for raising, lowering, and operating the bucket lead to a hoisting-engine E' on the crane, and this
60 hoisting-engine may receive power from the generator C at one end of the pontoon. It will be noticed that the crane extends from one side of the pontoon to the opposite side, spanning the dock, and can travel the full length thereof, so that it can be moved opposite any
70 of the hatches of the steamship and can also be moved over any of the hatches of the canal-boat. If it is found that the hatches of the steamship and canal-boat do not aline, the canal-boat can be readily shifted so as to
75 bring its hatches in line with the hatches of the steamship. Supported from the crane in any desired manner is a guard or shield d^2 of metal or woodwork, which extends over the coal-hopper m of the steamship M and acts
80 as a guard for the bucket, so that it will not injure the vessel during the operation of coaling. In order to counterbalance the crane when it is shifted from one position to another on the pontoon, I provide a traveling coun-
85 terweight G, which has wheels g arranged to travel on tracks a in the bottom A^1 of the pontoon. This counterweight G is connected to the crane D by ropes or chains i , which pass around guide-sheaves i' at each end of the
90 pontoon. When the crane is in the center position, as shown in Fig. 2, then the counterbalance-weight is directly under the crane; but should the crane be shifted toward one end the counterweight moves the same dis-
95 tance toward the opposite end, thus counterbalancing the weight of the crane.

I preferably provide removable struts F, which extend from one side A^2 to the opposite side, as shown in Fig. 3, so as to stiffen the
100

pontoon; but I find that these struts in some instances are not absolutely necessary.

In the drawings I have shown a pontoon of sufficient length to accommodate two canal-boats; but it will be understood that the pontoon may be of a length only sufficient to accommodate one boat or may be made of a length to accommodate more than two canal-boats if necessary, and in place of one crane two cranes may be used, and if two cranes are used the counterweight may be dispensed with, as one crane may act as a counterbalance for the other.

While I have shown a crane arranged to travel on the pontoon, the pontoon may be provided in some instances with a fixed crane and the pontoon adjusted in respect to the hatches of the steamship and the canal-boat shifted in the dock to bring its several hatches in line with the crane; but I prefer the construction shown in the drawings, owing to the fact that the pontoon can be fixed in relation to the steamboat and its crane can travel so as to be in line with any of the hatches.

I have shown in Fig. 1 a fixed boom-crane; but it will be understood that I may use any form of crane—such, for instance, as a swivel-crane—or I may use a double boom-crane, so as to load from either side of the pontoon.

In Fig. 4 I have shown a bridge type of crane which can be used in connection with a barge and may be used for transferring material from a boat at one side of the pontoon over the pontoon to a fixed dock or to another boat, or the material may be discharged into a barge or canal-boat in the dock of the pontoon. A^3 is the pontoon, and one side of the pontoon is of greater width than the other, and on the widest part in the present instance is the main standard D' of the crane. Pivoted at f is a truss structure F in the form of a bridge, which extends across the dock in the pontoon and overhangs the opposite side. This bridge F is supported at its outer end by a standard D^2 on the pontoon. Both the standards D' and D^2 may travel on suitable rails on the pontoon, as shown in Fig. 4. Pivoted at f' to the standard D' is a truss structure F' , which can be lowered, as indicated by full lines in Fig. 4, so as to be a continuation of the bridge F . The truss F' is arranged to extend over a vessel or wharf; but both pivoted structures F F' can be raised so as to allow a vessel having masts to readily pass into the dock of the pontoon or alongside of the pontoon, as shown.

I claim as my invention—

1. The combination of a pontoon inclosing a dock, an adjustable crane thereon and an automatically-adjustable counterbalance for the crane, substantially as described.

2. The combination of a pontoon inclosing a dock open at one or both ends and arranged to receive a canal-boat or barge, two sets of rails on the pontoon, a crane arranged to travel on one set of rails and a counterbalance constructed to travel on the second set of rails, substantially as described.

3. The combination of a pontoon containing a dock for the reception of a canal-boat or barge, a crane arranged to travel on the deck of said pontoon, a counterweight at the bottom of the pontoon and connected to the crane so that when the crane is moved toward one end of the pontoon the counterweight will move toward the opposite end, substantially as described.

4. The combination of a pontoon having a hollow bottom, hollow sides and one end and open at the other end to form a dock in which a canal-boat or barge can float, rails on the sides of the pontoon, a traveling crane mounted thereon, a counterweight within the bottom of the pontoon, and ropes connecting each end of the counterweight with each end of the crane, so that when the crane is moved toward one end of the pontoon the counterweight will move toward the other end, substantially as described.

5. The combination of a pontoon inclosing a dock, a crane on the pontoon, a bucket suspended from said crane, and a shield on the crane so as to protect the vessel being loaded, substantially as described.

6. The combination of a pontoon inclosing a dock, a main standard carried on one side of said pontoon and an auxiliary standard carried on the other side thereof, with a truss structure pivoted to the main standard and constructed to be engaged and be supported by the auxiliary standard when in operative position, substantially as described.

7. The combination of a pontoon inclosing a dock, a main standard carried on one side of said pontoon and an auxiliary standard carried on the other side thereof, two truss structures pivoted to the main standard, one of the same being constructed to engage and be supported by the auxiliary standard when in an operative position, substantially as described.

8. The combination of a pontoon inclosing a dock, with a crane on the dock having a movable boom or bridge that can be raised so as to allow a vessel to freely enter the dock of the pontoon, 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.