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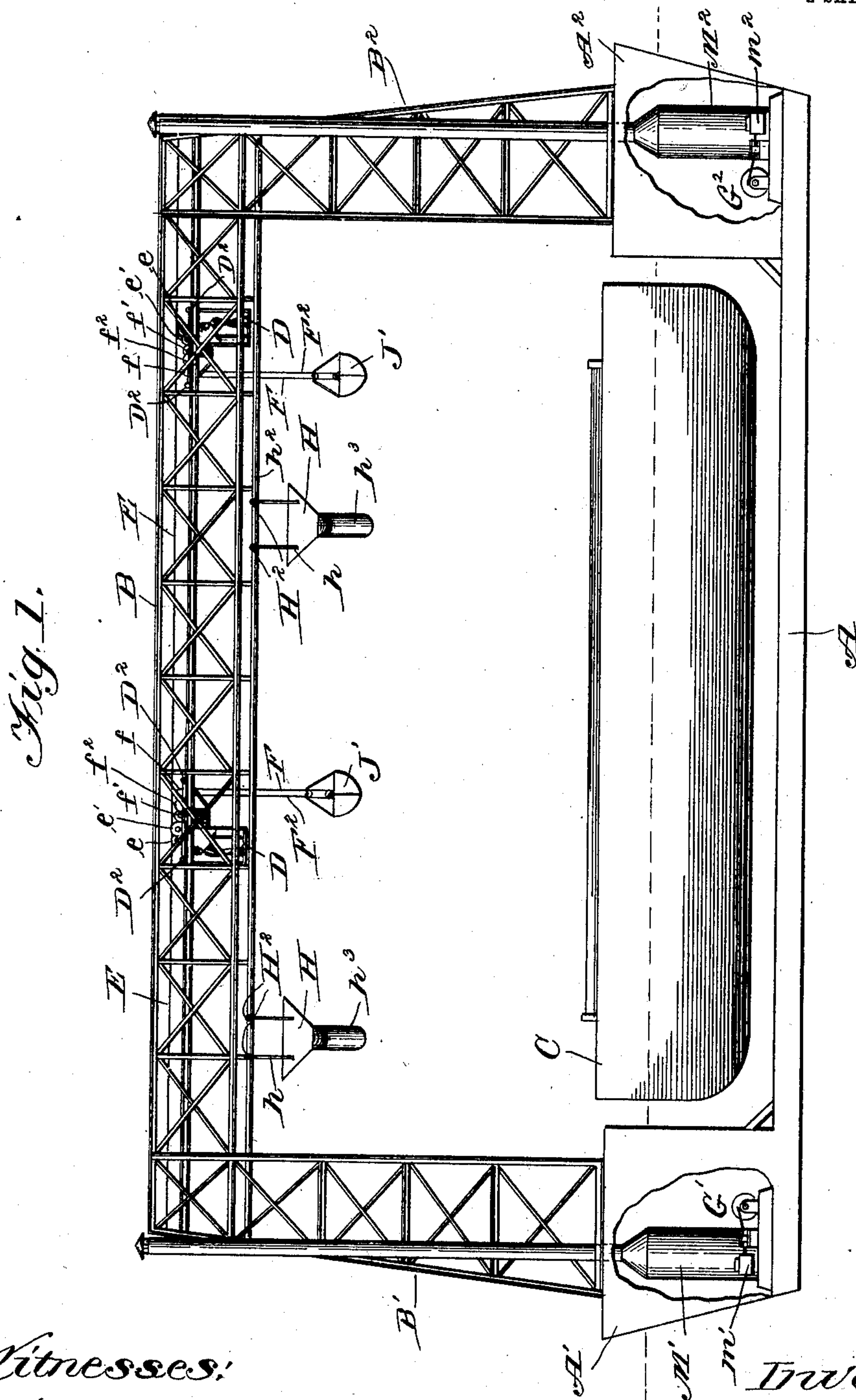
W. J. SELLECK.

## APPARATUS FOR LOADING OR UNLOADING VESSELS.

APPLICATION FILED FEB. 1, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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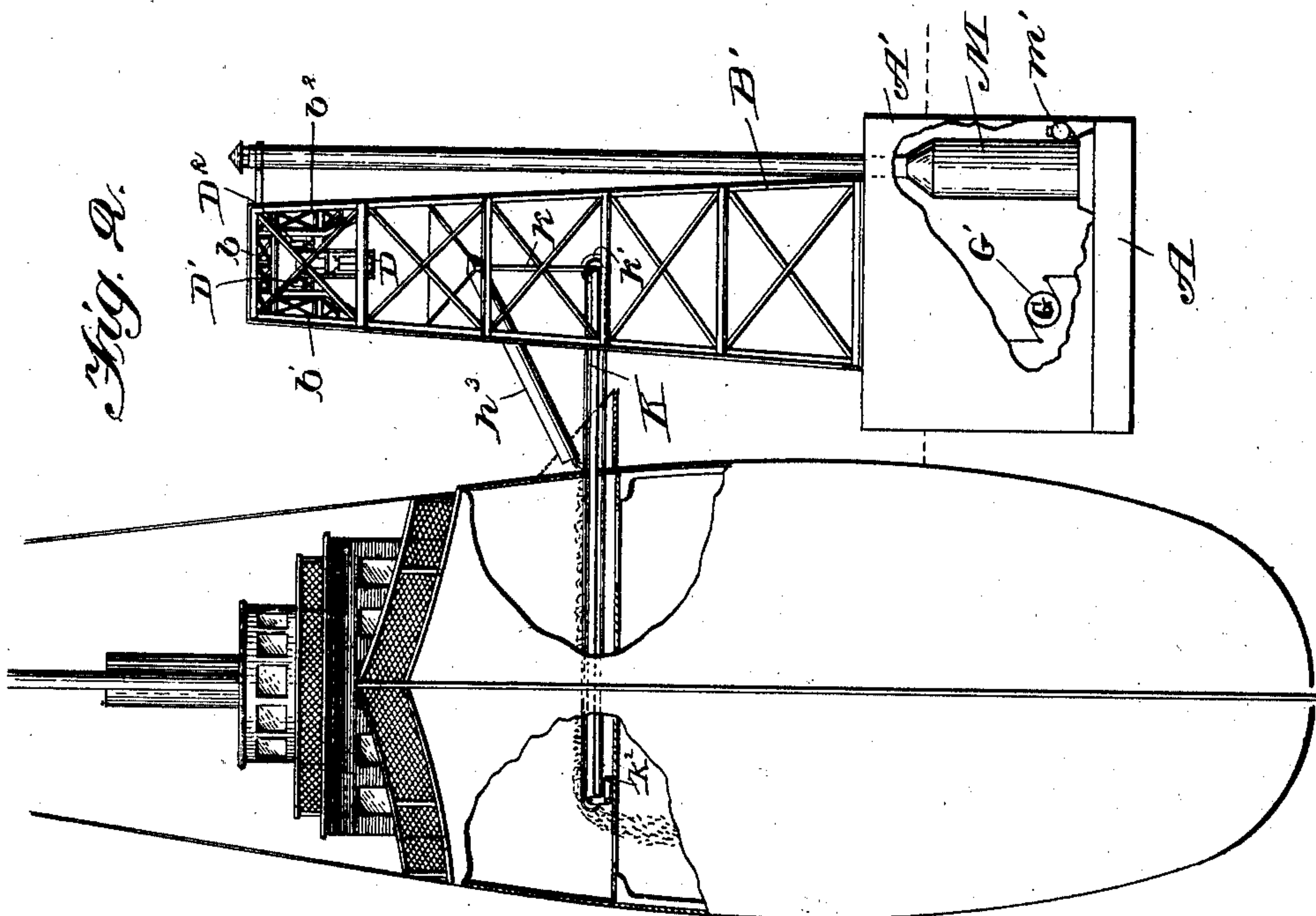
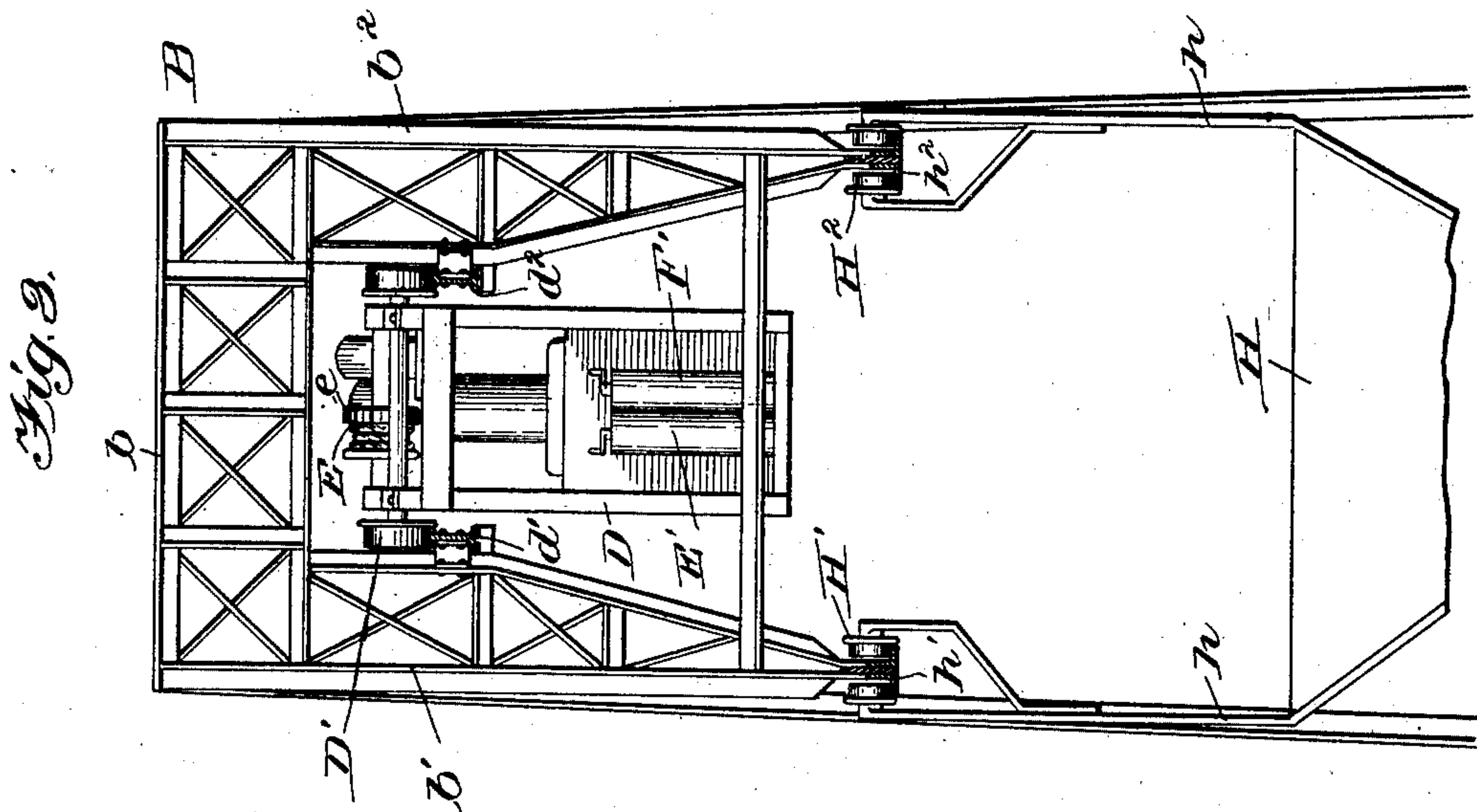
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# UNITED STATES PATENT OFFICE.

WILLIAM JACKSON SELLECK, OF RIVERSIDE, CONNECTICUT.

## APPARATUS FOR LOADING OR UNLOADING VESSELS.

SPECIFICATION forming part of Letters Patent No. 719,517, dated February 3, 1903.

Application filed February 1, 1902. Serial No. 92,176. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM JACKSON SELLECK, a citizen of the United States, residing at Riverside, county of Fairfield, State of Connecticut, have invented a certain new and useful Improvement in Apparatus for Loading or Unloading Vessels; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates generally to an apparatus for loading and unloading vessels, and more particularly to a floating apparatus primarily designed for transferring coal from a barge or lighter to the hold or bunkers of a ship.

In coaling vessels from barges hoisting machinery supported upon a float is frequently used. The float and barge are located side by side on the same side of the vessel. This manner of coaling is open to the objection that the position of the float and barge side by side takes up considerable space, which in the slip where a vessel is ordinarily coaled is quite limited. A further objection arises when the float is between the barge and the ship owing to the necessity of carrying the coal from points on the barge at one side of the float over the float to points in the ship. A still further objection to this method of coaling is due to the necessity of changing the position of the barge with relation to the ship in order to transfer the coal from any point on the barge to the desired point on the ship.

The primary object of my invention is to provide an apparatus for coaling ships which will require practically no space in addition to that occupied by the barge and which will quickly and with a minimum amount of manual labor transfer coal from any part of the barge to any point of the ship or simultaneously from a plurality of points on the barge to a plurality of points on the ship without changing the position of the barge relative to the ship.

A further object of my invention is to provide an apparatus of the character referred

to which will be comparatively simple in construction and efficient in operation.

My invention, generally stated, consists in pontoons or floats spaced apart a distance slightly greater than the length of the largest barge or lighter ordinarily used, upon which are mounted the ends of a truss for supporting one or more traveling cranes from which buckets or other conveyers are operated to transfer coal or other material from a barge located between the pontoons and delivering the same to the ship, or vice versa.

My invention will be more fully described hereinafter with reference to the accompanying drawings, in which the same is illustrated as embodied in a convenient and practical form, and in which—

Figure 1 is a side elevation of my invention, showing a barge in position between the pontoons; Fig. 2, an end elevation of my invention, showing the same in position beside a ship; and Fig. 3, an enlarged sectional view.

Similar reference characters are used to indicate similar parts in the several figures of the drawings.

Reference characters  $A'$  and  $A^2$  indicate two floats or pontoons spaced apart a distance slightly greater than the length of the largest size of barge or lighter ordinarily used to load or unload ships. These pontoons are rigidly connected at their bottoms by an interposed structure  $A$ , which may be constructed of any suitable material and in any suitable manner. Preferably, however, the structure  $A$  is formed hollow to receive ballast for varying the degree of submergence of the pontoons.

Reference-letters  $B'$  and  $B^2$  indicate standards mounted upon the pontoons  $A'$  and  $A^2$ , respectively, preferably comprising trussed portions to give the sufficient strength at a minimum weight to the standards  $B'$  and  $B^2$ . A bridge  $B$  is interposed between the upright structures  $B'$  and  $B^2$ , upon the upper ends of which the ends of the bridge are supported. The bridge  $B$  preferably comprises a top portion  $b$  and depending side portions  $b'$  and  $b^2$ . The top and sides of the bridge are preferably also formed of trussed portions, whereby the requisite rigidity may be secured. Parallel tracks  $d'$  and  $d^2$  are supported upon



the interior surfaces of the depending side portions of the bridge, upon which is supported a traveling crane D of any suitable construction. The crane for convenience is shown as comprising wheels  $D'$  and  $D^2$ , which engage the tracks  $d'$  and  $d^2$ , respectively. The crane is propelled by means of a fixed cable E, which extends the length of the bridge B and passes over a drum  $e$ , mounted upon the crane. The drum  $e$  is rotated by means of a motor  $e'$  when it is desired to propel the crane toward either end of the bridge. A controller  $E'$  is also mounted upon the crane D for controlling the operation of the motor  $e'$ .

A bucket  $J'$  of any suitable construction is adjustably suspended from the crane D in any desired manner. The bucket is shown as comprising the well-known clam-shell type and is supported by a rope F, which is wound and unwound about a drum  $f$ , which is rotated by a motor  $f'$  through an interposed speed-reducing gear  $f^2$ . The operation of the motor  $f'$  is governed by a controller  $F'$ . A second rope  $F^2$  controls the opening and closing of the bucket.

Each of the depending side portions  $b'$  and  $b^2$ , respectively, of the bridge B is provided with a pair of tracks  $h'$  and  $h^2$ , respectively, extending in opposite directions from the central gusset-plate in the lower edge of each of the side portions of the bridge. The pairs of tracks  $h'$  and  $h^2$  are engaged by pairs of wheels  $H'$  and  $H^2$ , respectively. Depending from the pairs of wheels are straps  $h$   $h$ , which are secured at their lower ends to a hopper H. A chute is secured in any suitable manner to the lower end of the hopper H, preferably, however, so as to be rotated with respect to the hopper.

An endless conveyer K is preferably provided to receive the coal or other material from the chute  $h^3$  and convey the same to the desired point within the ship. The endless conveyer may be supported in any desired manner. For convenience, however, one end thereof is shown as depending from the hopper H by means of straps  $k$ . The end of the endless conveyer opposite to the straps  $k$  is provided with a supporting-truck  $k^2$ . The endless conveyer K may be propelled by means of a motor  $k'$ , mounted upon a shaft supported in the conveyer-frame and over which an endless belt passes, which receives the coal or other material from the chute  $h^3$ .

Within the pontoons  $A'$  and  $A^2$  are located boilers  $M'$  and  $M^2$ , respectively, which supply steam for engines  $m'$  and  $m^2$  for operating dynamos  $G'$  and  $G^2$ . The dynamos  $G'$  and  $G^2$  are electrically connected to the controllers  $E'$  and  $F'$ , and they also supply energy to the motor  $k'$  for propelling the endless conveyer.

I have shown two cranes D, each operating a bucket of the clam-shell type, and I have shown two hoppers mounted upon the bridge

of my apparatus; but it will be evident that my invention is not limited as to either the number of cranes or hoppers to be employed. The employment of two or more of each, however, enables the barge to be quickly unloaded and the coal or other material to be simultaneously delivered within the ship at a plurality of points.

The operation of my invention is as follows: The apparatus is located adjacent to a ship L, which, for instance, is to be supplied with coal. A barge or lighter C, containing coal, is placed alongside of the apparatus and is then moved into position between the pontoons  $A'$  and  $A^2$  in any suitable manner—as, for instance, by warping. The depth of submergence of the portion A, which connects the pontoons  $A'$  and  $A^2$ , is greater than the draft of the barge when loaded, thereby permitting the latter to float above the connecting portion A. The submergence of the connecting portion A, if insufficient, however, may be increased by admitting water or other ballast to the hollow interior thereof. The hopper H is moved along its supporting-tracks to a position opposite the point upon the ship where the coal is to be delivered. The hopper may be conveniently propelled by connecting the same to one of the cranes D. The endless conveyer K is slid through a port-hole in the side of the vessel, so that the delivery end thereof will be located at the desired point within the ship. Where a plurality of hoppers are to be simultaneously used, they may be located in a similar manner at different desired points along the side of the ship. The controller  $E'$  is then manipulated by the operator on the crane so as to permit the clam-shell bucket  $J'$  to descend to the barge and be filled with coal in the customary manner for such buckets, after which it is lifted to a height above the horizontal plane of the top of the hopper H, when the controller  $E'$  is manipulated to effect the propulsion of the crane D toward the hopper, so that the bucket will occupy a position above the hopper, at which time the bucket is opened and the coal allowed to fall into the hopper, thence through the chute  $h^3$  to the endless conveyer K, by means of which the coal is carried within the ship to a desired point. The controller  $E'$  is again manipulated so that the crane D will be propelled to a point over the barge from which it is desired to remove coal, whereupon the controller  $F'$  is manipulated to effect another operation of the bucket  $J'$ .

It is obvious from the foregoing description that by varying the position of the crane above the barge the coal may be readily removed from every point therein and conveyed to the hopper H. It is also obvious that the position of the hopper H with respect to the side of the ship may be varied so that the coal may be delivered at various points within the ship.



By simultaneously operating a plurality of cranes D and simultaneously using a plurality of hoppers H a barge may be speedily unloaded with a minimum expenditure of manual power.

While I have described my invention as used for coaling a ship, it is evident that it may be equally as well used for transferring coal or other material from barges to points along a wharf or the shore.

The endless conveyer K is intended for use only when the coal or other material is to be delivered at points beyond the range of the chute  $h^3$ . When the coal or other material is to be delivered at points along the side of the ship adjacent to the barge, the chute  $h^3$  alone is sufficient to deliver the coal directly into the ship without the use of the conveyer.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit of my invention.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the character described, the combination with a floating vessel, of a bridge extending longitudinally above the vessel, a traveling crane guided on said bridge, and buoyant supports beneath the ends of said bridge, located in alinement with the bow and stern of the vessel.

2. In an apparatus of the character described, the combination with a floating vessel, of a bridge extending longitudinally above the vessel, a traveling crane guided on said bridge, buoyant supports for said bridge located in alinement with the bow and stern of the vessel and a submerged intermediate portion connecting said supports and extending longitudinally beneath the keel of the vessel.

3. In an apparatus of the character described, the combination with a floating vessel, of a bridge extending longitudinally above the vessel, a traveling crane guided on said bridge, a buoyant support for said bridge having the intermediate portion thereof submerged and extending longitudinally beneath the keel of the vessel, and standards interposed between said bridge and said buoyant support.

4. In an apparatus of the character described, the combination with a floating vessel, of a bridge extending longitudinally above the vessel, standards for said bridge, a partially-submerged buoyant support for said standards, a traveling crane guided on said bridge, and a bucket operatively connected to said crane.

5. In an apparatus of the character described, the combination with a floating ves-

sel, of a bridge extending longitudinally above the vessel, standards for said bridge, a partially-submerged buoyant support for said standards, a traveling crane guided on said bridge, a bucket operatively connected to said crane, and a hopper depending from said bridge.

6. In an apparatus of the character described, the combination with a bridge, of standards for said bridge, a partially-submerged buoyant support for said standards, a traveling crane guided on said bridge, a bucket operatively connected to said crane, a hopper depending from said bridge, and a conveyer located beneath said hopper.

7. In an apparatus of the character described, the combination with a bridge, of a traveling crane guided on said bridge, buoyant supports located beneath the ends of said bridge, a hopper movably supported beneath said bridge, a chute adjustably connected to said hopper, and an endless conveyer located beneath the lower end of said chute.

8. In an apparatus of the character described, the combination with a bridge, of a self-propelling crane guided on said bridge, standards for supporting said bridge, pontoons upon which said standards are mounted, and a submerged structure connecting said pontoons.

9. In an apparatus of the character described, the combination with a bridge, of a self-propelling crane guided on said bridge, standards for supporting said bridge, pontoons upon which said standards are mounted, a submerged structure connecting said pontoons, and means carried by said pontoons for supplying motive power to said crane.

10. In an apparatus of the character described, the combination with a bridge, of standards or uprights supporting said bridge, pontoons upon which said uprights are mounted, tracks secured to said bridge, a self-propelling crane guided on said tracks, a motor carried by said crane, a bucket operatively connected to said motor, a second pair of tracks secured to said bridge in a lower plane than the first tracks, and a hopper guided and depending from said second tracks.

11. In an apparatus of the character described, the combination with a bridge, of standards or uprights supporting said bridge, pontoons upon which said uprights are mounted, tracks secured to said bridge, a self-propelling crane guided on said tracks, a motor carried by said crane, a bucket operatively connected to said motor, a second pair of tracks secured to said bridge in a lower plane than the first tracks, a hopper guided and depending from said second tracks, and an endless conveyer supported at one end of said hopper and at its other end provided with a supporting-truck.

12. In an apparatus of the character described, the combination with a floating vessel, of a bridge carrying conveying appara-



tus, said bridge extending when in position parallel with the length of the vessel, and a buoyant support for the bridge independent of the vessel.

5 13. In an apparatus of the character described, the combination with a floating vessel, of a bridge conveying apparatus carried by said bridge, standards for supporting said bridge, said bridge extending when in position parallel with and directly above the length

of the vessel, pontoons upon which said standards are mounted, and a submerged structure connecting said pontoons and extending longitudinally beneath the keel of the vessel.

In testimony whereof I sign this specification in the presence of two witnesses. 15

WILLIAM JACKSON SELLECK.

Witnesses:

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