

(No Model.)

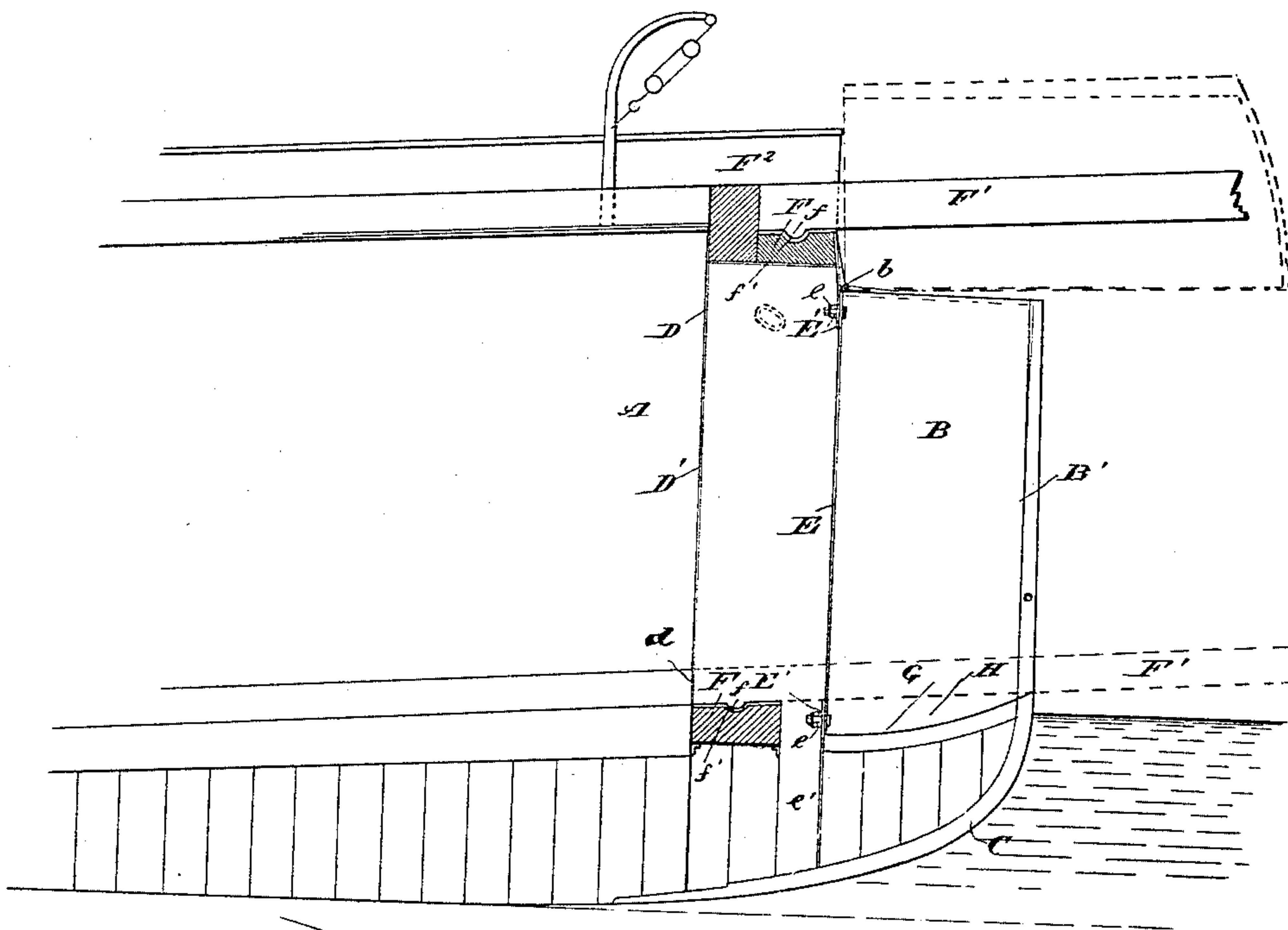
2 Sheets—Sheet 1.

M. H. MURCH.  
BOW FOR TRANSFER BOATS.

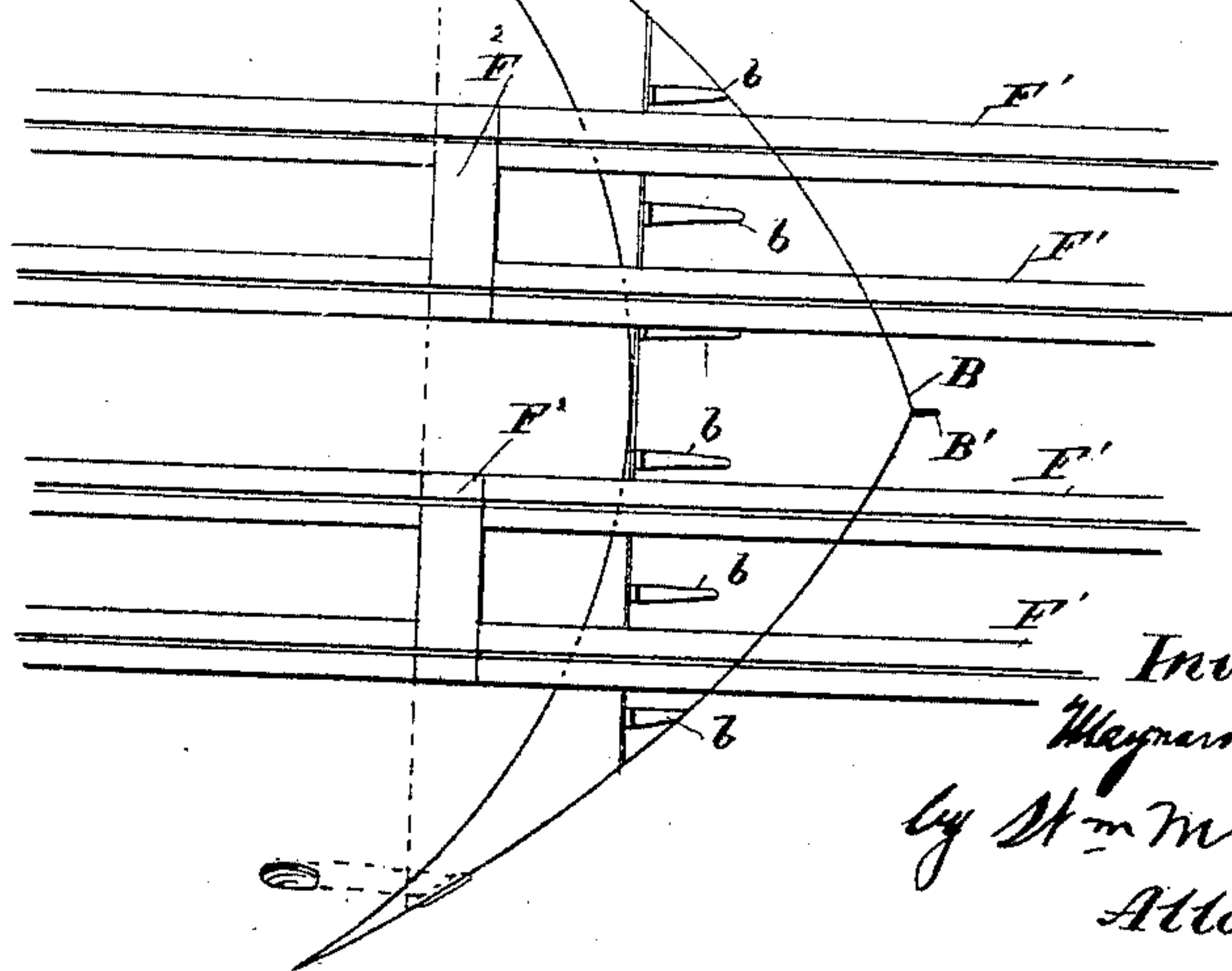
No. 461,119.

Patented Oct. 13, 1891.

*Fig. 1.*



*Fig. 3*



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(No Model.)

2 Sheets—Sheet 2.

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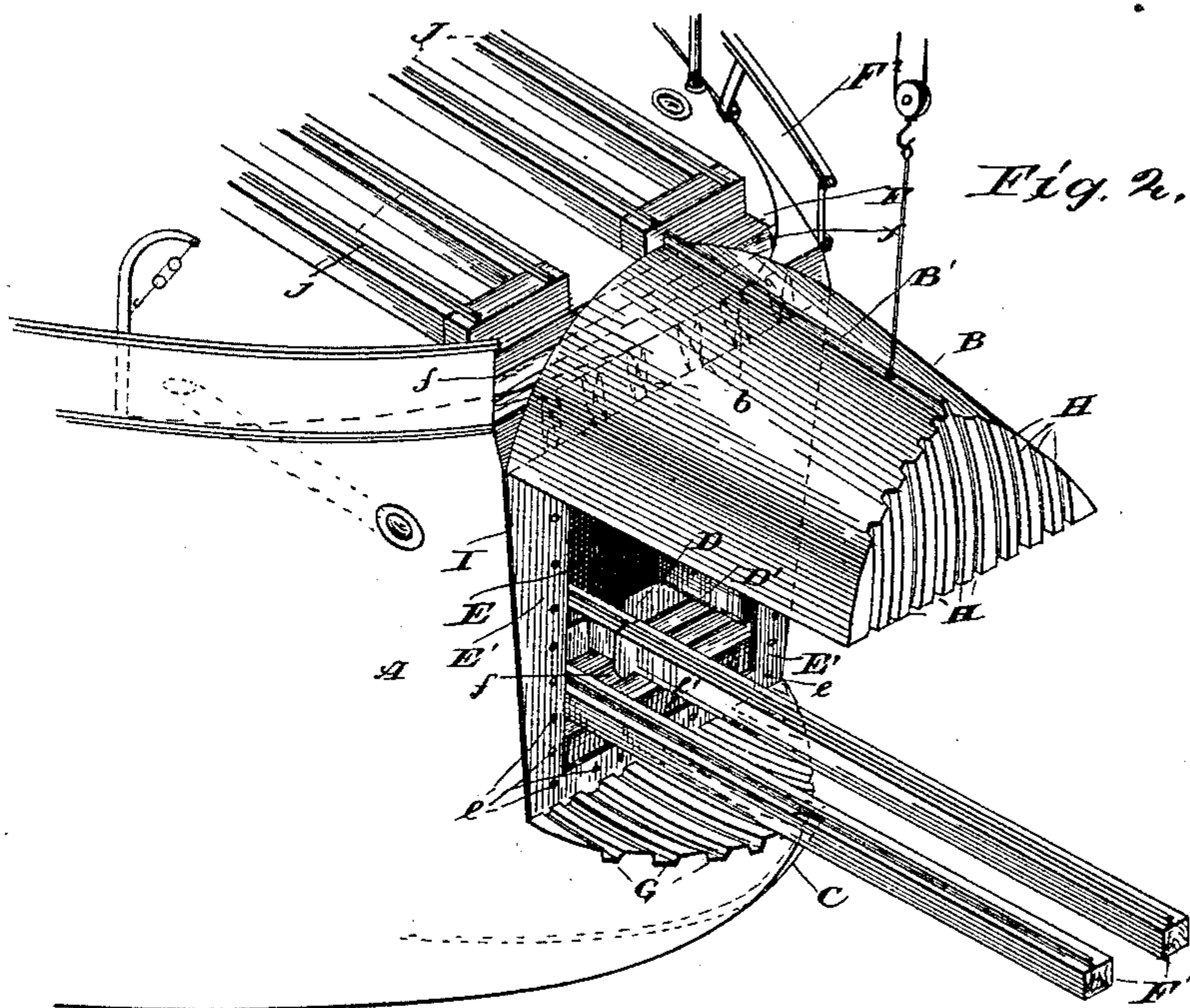


Fig. 5.

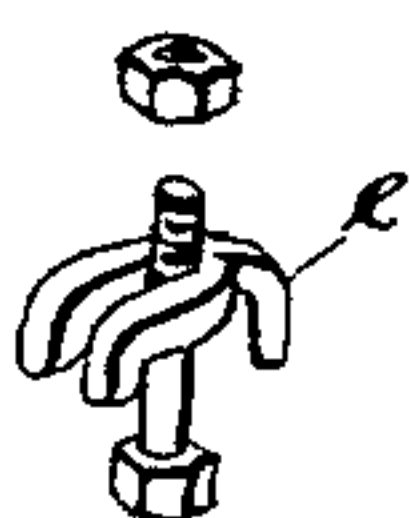
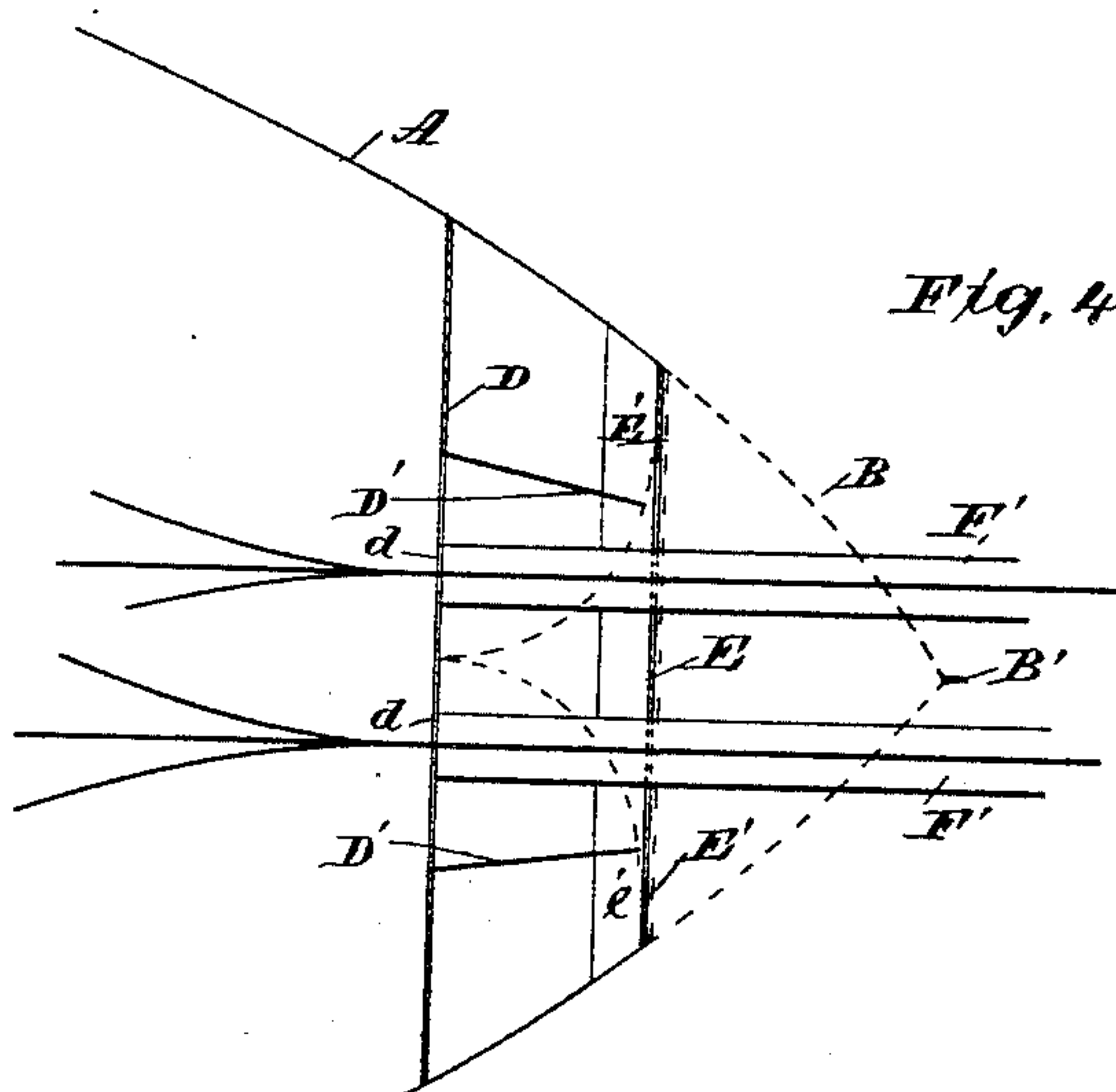


Fig. 4.



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# UNITED STATES PATENT OFFICE.

MAYNARD H. MURCH, OF CLEVELAND, OHIO.

## BOW FOR TRANSFER-BOATS.

SPECIFICATION forming part of Letters Patent No. 461,119, dated October 13, 1891.

Application filed March 6, 1891. Serial No. 383,994. (No model.)

*To all whom it may concern:*

Be it known that I, MAYNARD H. MURCH, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Bows for Transfer-Boats, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same.

My invention relates to improvements in bows for railway transfer-vessels, and its objects are to provide a bow, through which railway-trains may pass to and from the landing  
15 in the lower hold and which can be afterward closed to keep out water and prevent filling the vessel through the bow-opening.

My invention consists in a removable portion of the stem of the vessel and adjacent  
20 parts above the water-line, and in the manner of attaching, raising, and securing the same to the hull of a vessel with the arrangement and construction of the various parts, as hereinafter described, shown in the following drawings, and more specifically pointed  
25 out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of the bow of a railway transfer-vessel with my improved bow  
30 closed and adapted to receive freight upon the upper deck. Fig. 2 is an isometric view of the same, showing the bow opened to receive freight in the hold of the vessel. Fig. 3 is a plan of the upper deck. Fig. 4 is a plan  
35 of the lower deck; and Fig. 5 is a detail of locking-dogs.

In the drawings, A is the hull, from the fore part of which the rectangular portion B is taken, which also includes the section of the  
40 stem B', taken above the water-line. The portion B is hinged at its upper edge to the fore part of the hull a short distance below the upper deck, leaving sufficient space for the hinges *b b* of sufficient strength to bear its weight.  
45 The lower face of the portion B is curved in the arc of a circle with its radius from the hinges *b b* and is heavily plated on all sides to enable it to resist pressure. The lower face is cut longitudinally into ridges H, which en-  
50 gage with similar depressions G in the beak

C, which forms the continuation of the prow of the vessel under water. These ridges are preferably cast upon separate plates, which are then placed in position and serve to prevent misplacement of the bow under shocks  
55 from waves. In the rear of the detachable portion will be seen the rectangular opening E in the bulk-head E', against which the detachable bow rests when down and to which it is secured by means of locking dogs and  
60 bolts *e*<sup>2</sup>, shown in detail in Fig. 5. In addition to these dogs are shown the rubber gasket I to insure a water-tight joint, which is clamped between the parts when closed.

In order to have the upper edge of the de-  
65 tachable part and bulk-head E' come closely together, it is necessary to have the hinge-bearings oval to permit a slight movement of the pins, as in detail at Fig. 6. In the rear of this bulk-head E is shown the collision  
70 bulk-head D, provided with folding doors D', which can be securely fastened closed. Between these bulk-heads is shown a rest-block F for the extremity of the gangway F'. In the gangway is shown a slight projection *f*  
75 and in the block a slight corresponding depression *f'*, the gangway F' being kept rigid by this means, while in addition the extremity of the gangway abuts against the  
80 lower portion of the bulk-head D at *d*. The arrangement for the upper deck for this purpose is similar, with the exception that the block F<sup>2</sup> is placed at the extremity of the gangway in lieu of the bulk-head D.

In loading the vessel the detachable portion  
85 of the bow is first raised by cranes, and the land-plank being put in place the hold is first loaded with freight, the vessel being so designed as not to ship water while loading. Afterward when the detachable portion is  
90 down and secured in place the upper deck can be loaded, as seen in Fig. 1, when the lower opening will be submerged. On unloading the reverse order must be employed, the upper deck being first unloaded till the  
95 opening is above water and then the lower deck. Heretofore trains have been admitted to the upper deck but not into the hold.

The advantage of the device is seen in the ease with which two or more decks can be  
100

loaded with trains entering at different levels, the gangways leading from corresponding levels on land.

The detachable bow may be used without  
5 hinges and lifted directly up.

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

1. In a transfer-vessel, a detachable bow  
10 pivotally attached to the hull at its upper edge and provided with ridges on its lower edge, in combination with a projecting beak C under said detachable bow and corresponding ridges in the beak, substantially as and  
15 for the purpose set forth.

2. In a transfer-vessel, an upper deck provided with tramways and rest for a gang-plank, in combination with a lower deck provided with tramways and similar rest, bulk-

heads D and E', and detachable portion of 20 the bow B, substantially as described.

3. In a transfer-vessel, means for admitting trains into the lower hold, consisting of a detachable section of the bow, bulk-heads to cover the opening, and openings in the bulk- 25 heads, substantially as described.

4. In a transfer-vessel, means for admitting trains into the lower hold, consisting of a detachable section of the bow, bulk-heads to cover the opening, doors in one or more of 30 the bulk-heads, and means for securing the detachable section to the outer bulk-head substantially as described.

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Witnesses:

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