

No. 741,958.

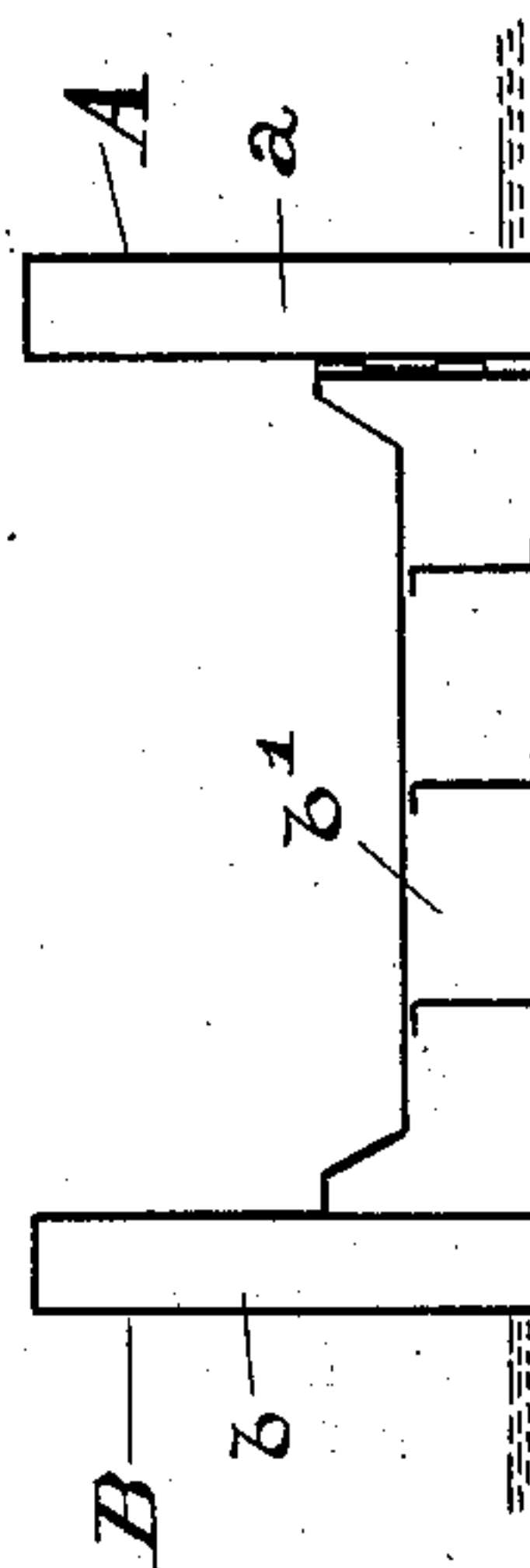
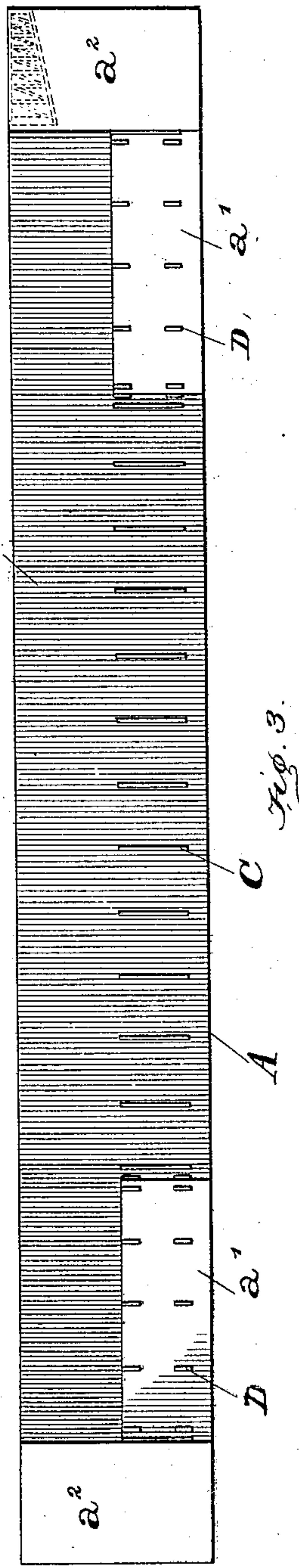
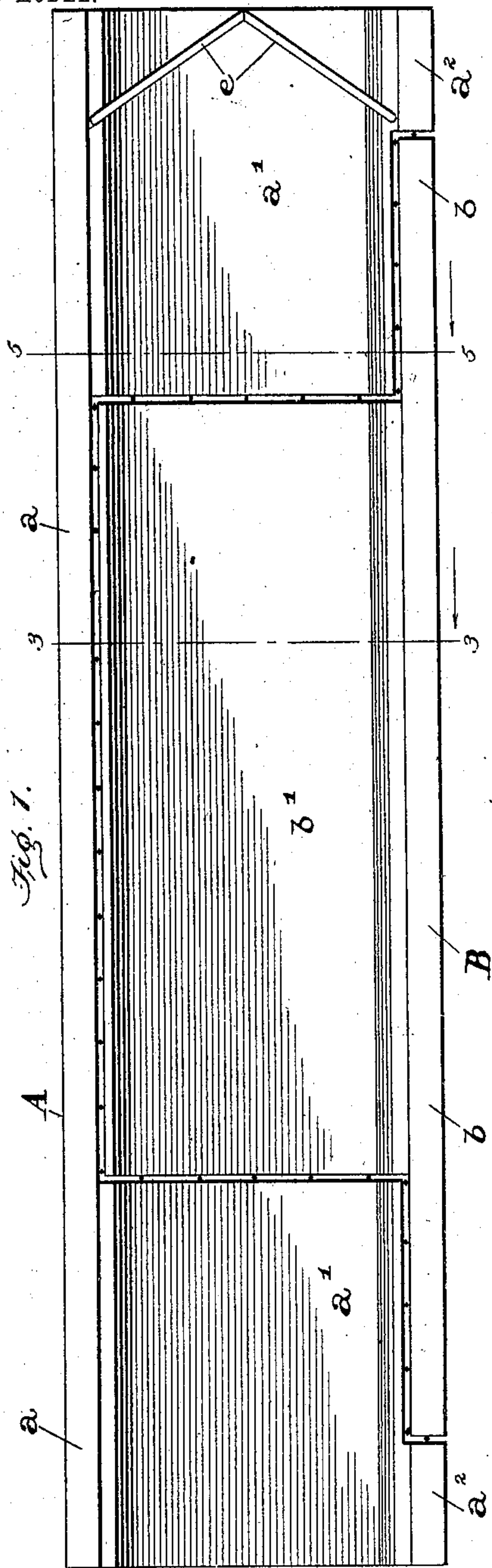
PATENTED OCT. 20, 1903.

O. H. EHLERS.  
FLOATING DOCK.

APPLICATION FILED AUG. 5, 1903

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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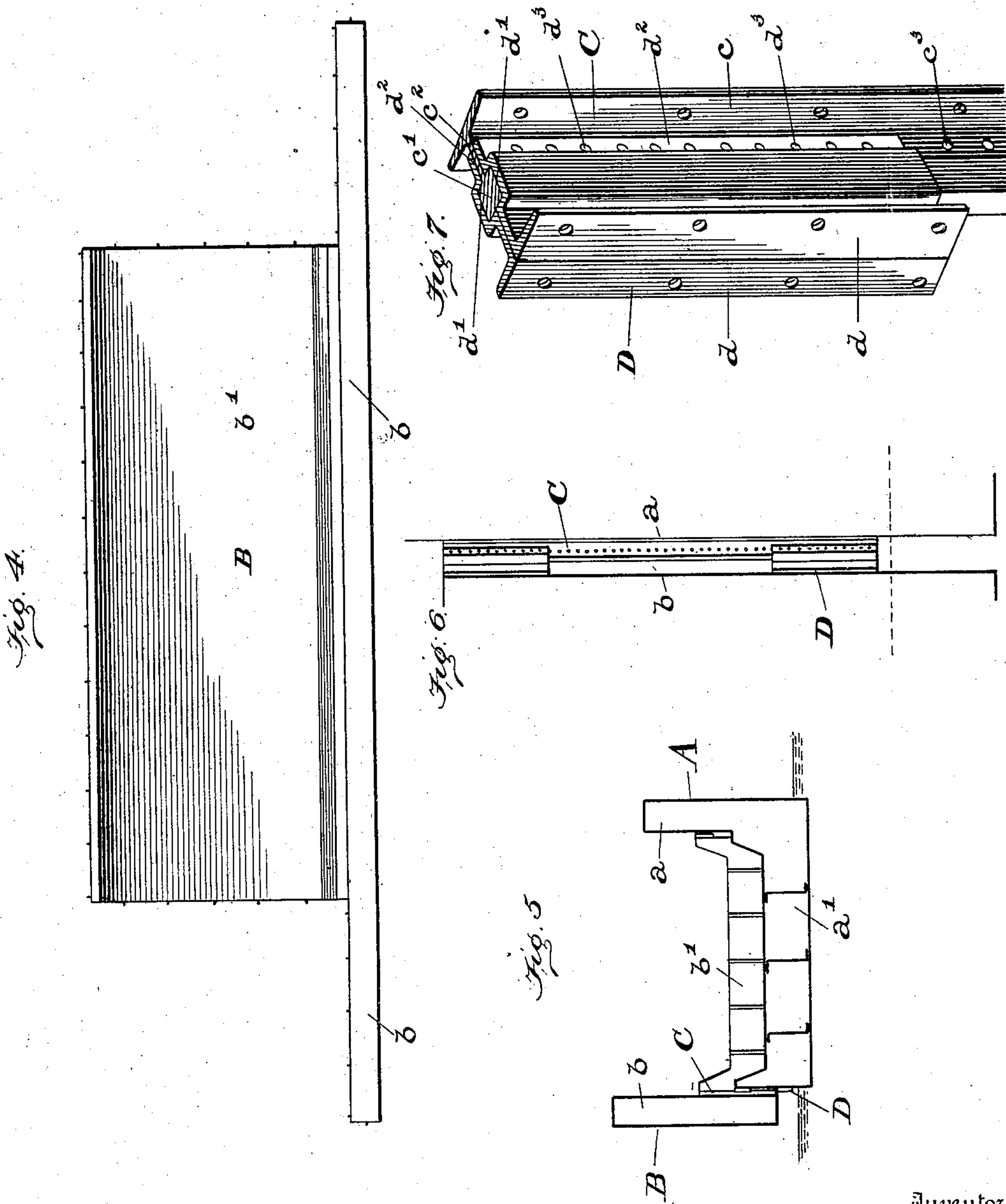
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# UNITED STATES PATENT OFFICE.

OTTO H. EHLERS, OF BALTIMORE, MARYLAND.

## FLOATING DOCK.

SPECIFICATION forming part of Letters Patent No. 741,958, dated October 20, 1903.

Application filed August 5, 1903. Serial No. 168,254. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO H. EHLERS, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Floating Dry-Docks, of which the following is a specification.

My invention relates to floating docks, and has for its object to provide a dock of simple construction and which may be quickly and readily self-docked for the purpose of painting or repairing.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 illustrates a top plan view showing one form of the improved dock; Fig. 2, a side elevation of one dock-section; Fig. 3, a vertical cross-section on line 3 3 of Fig. 1; Fig. 4, a top plan view of the dock-section which contacts with the dock-section shown in Fig. 2; Fig. 5, a vertical cross-section of the dock on line 5 5 with one of the dock-sections raised above the water-line for painting or repairing. Fig. 6 is a side elevation of the vertically-movable joint. Fig. 7 is a perspective view of the joint on a larger scale.

Referring to the drawings, it will be seen that the floating dock is composed of two independently-movable sections A and B. In the present instance A comprises a side wall  $a$ , which extends, preferably, the entire length of the dock and is provided with a plurality of integrally-connected pontoons  $a'$ , which extend laterally or at right angles to said side wall. In the present instance the dock-section A is provided with two of these pontoons, one at each end of the said side wall; but it is to be understood that said section may be provided with more than two pontoons. As is shown in the drawings, the said section has the end pontoons provided at their opposite sides with a short vertical wall  $a^2$ , which latter are also integral with the pontoons  $a'$ , but in the present example are shorter than the latter. It will thus be seen that the dock-section A comprises a long side wall, two short side walls, and a plurality of pontoons, all of which are integral or rigidly connected.

The dock-section B comprises a side wall  $b$ , which may be of any length, but in the present example is shorter than the main wall  $a$

of the other dock-section A, and one or more rigidly-connected pontoons  $b'$ , which extend laterally or at right angles to said wall  $b$  and take between the pontoons  $a'$  of the other dock-section A. It is to be understood that the number of pontoons  $b'$  on the one section B is to be regulated by the number of pontoons  $a'$  employed by the other section A, so that when the two dock-sections are in the proper position with respect to each other for receiving a ship the pontoon rigidly secured to one section shall project toward the wall of the other section and fit in between or overlap the pontoon rigidly secured to the said other section.

It is to be understood that the engines, boilers, pumps, and other paraphernalia usually employed in floating docks may be installed as preferred. It is also to be understood that a dock thus consisting of only two sections may be secured together by joint devices of any suitable or convenient construction; but one feature of my invention contemplates such construction of joint as to permit either of the two dock-sections to be moved or adjusted vertically independently of the other without completely disconnecting the joint. When it is desired to "self-dock" one section, the bolts of the joint must be removed, and the other section will be lowered by the admission of water. The joint-bolts will then be replaced to secure the two sections together. The water will then be pumped out of the lowered dock-section, and the section which it is desired to self-dock will thereupon be lifted by the other dock-section out of the water, as shown in Fig. 5.

A joint device suitable and adapted to be operated as just described is illustrated in Figs. 6 and 7. This joint comprises a rail member C, having a flange  $c$ , by means of which the same may be secured to the vertical sides of either the pontoons or walls. This rail has a head  $c'$  and a web  $c^2$ , connecting the head with the flange, and the web is provided with a series of perforations or holes  $c^3$ , which extend in a line parallel with respect to said rail. Coacting with the rail member C is a clamping member D, which is also adapted to be secured to the vertical sides of said pontoons or side walls. It is obvious that the clamping member must be



secured to the vertical wall of one dock-section, while the rail member must be attached to the other dock-section. This clamping member D comprises two plates  $d$ , each of which is provided with a channel or depression  $d'$ , shaped to fit around one side of the head  $c'$  of the rail member, so that when the said two plates are placed side by side the two channels or depressions will register and form a guideway, which surrounds the said head  $c'$  of the rail member and permits vertical movement of either the rail or clamp with respect to each other. The two plates have flanges  $d^2$ , which bear on the web  $c^2$ , and these flanges are each provided with a series of perforations or holes  $d^3$ , which are so spaced as to register with the holes  $c^3$  of the rail member, whereby a plurality of bolts may be inserted in said perforations and secure the clamp and rail rigidly together. In the present instance the clamps are illustrated as being shorter than the rails and two clamps are provided for each rail, which should be long enough for a dock-section to be fully raised; but it is to be understood that the clamps and rails may, if preferred, be of the same length, in which case only one clamp would be provided for engaging each rail. The construction of these joints is such that either dock-section may be raised relative to the other to effect self-docking without at any time permitting either dock-section to have independent lateral movement.

It is advantageous and desirable to provide a swinging bridge  $e$  at one or both ends of the dock, whereby workmen and others engaged on a vessel may cross from the wall at one side to the wall at the other side. The short wall  $a^2$  at each end of the dock-section A secures this advantage.

It will be seen that a floating dock of the construction herein described—that is, comprising two sections which are movable independently of each other and each section having a vertical side wall and one or more pontoons integrally connected with said side wall—entirely dispenses with the undesirable feature of disconnecting the numerous drain-pipe connections between the side wall and pontoon which are necessary in other docks having the side walls and pontoons independent of each other. It also avoids the use of disconnecting valve-operating gear of the pumping system, which is necessary in some decks when self-docking.

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

1. A floating dock consisting of two sections which are vertically movable independently of each other and each section comprising a vertical side wall and one or more pontoons integrally connected with said side wall and extending at right angles from said wall.

2. A floating dock having two sections which are movable independently of each

other and each section comprising a vertical side wall and one or more pontoons integrally connected with said side wall and extending at right angles from said wall and the pontoons on the section which has a plural number of pontoons being spaced apart or separated from each other, whereby the pontoon on the other section will fit in said space between the pontoons of the opposite section.

3. A floating dock having two sections independently movable with respect to each other, one of said dock-sections having a side wall which is provided at each end with a rigidly-connected laterally-extending pontoon, and the other dock-section also having a side wall provided at its center with a rigidly-connected laterally-extending pontoon fitting between the end pontoons of the other section.

4. A floating dock consisting of two sections independently movable with respect to each other, and each section having a vertical side wall, and the side wall of one section being longer than the side wall of the other section.

5. A floating dock having two sections one of which is provided with a side wall having a rigidly-connected pontoon at each end and the other section having a side wall which is shorter than the side wall of the first-named section and also having a pontoon which takes between the two end pontoons of the said first-named section.

6. A floating dock having two sections independently movable with respect to each other, and one section having a single side wall extending lengthwise of the dock and which is provided at each end with an integrally-connected pontoon and each of said pontoons having at its opposite side an integral side wall which is shorter than the pontoon to which it is attached, and the other dock-section having a side wall which fits between the two short side walls of the first-named section.

7. A floating dock comprising side walls of different lengths and pontoons formed integrally with one or the other of said side walls, and the pontoons secured to one wall dovetailing or taking between the pontoons secured to the other wall.

8. A floating dock composed of two sections, each having a wall and integrally-connected pontoons, and the two sections independently movable with respect to each other, one of said sections having a side wall longer than the wall of the other and the shorter wall on one section overlapping pontoons on the other section.

9. A floating dock comprising two sections vertically movable with respect to each other and each section comprising a side wall and one or more pontoons formed integrally with said side walls, the pontoons of one section taking between the pontoons of the other section, and a plurality of joints connecting said walls and pontoons to permit either side wall and its pontoons to be moved vertically



with respect to the other side wall and its pontoons for self-docking and at the same time retain the two sections in their relative positions laterally.

- 5 10. In a floating dry-dock the combination with the sections, of a two-member joint—one member being a vertical rail having a head and long enough to permit a dock-section to be fully raised for self-docking, and  
10 the other member being a clamp which grasps said rail-head and movable along the rail

without disengaging, whereby either dock-section may be raised relative to the other to effect self-docking at the same time maintaining the connection of the two dock-sections. 15

In testimony whereof I affix my signature in the presence of two witnesses.

OTTO H. EHLERS.

Witnesses:

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