

No. 736,725.

PATENTED AUG. 18, 1903.

H. F. HANSSON.  
FLOATING DOCK.

APPLICATION FILED MAR. 5, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

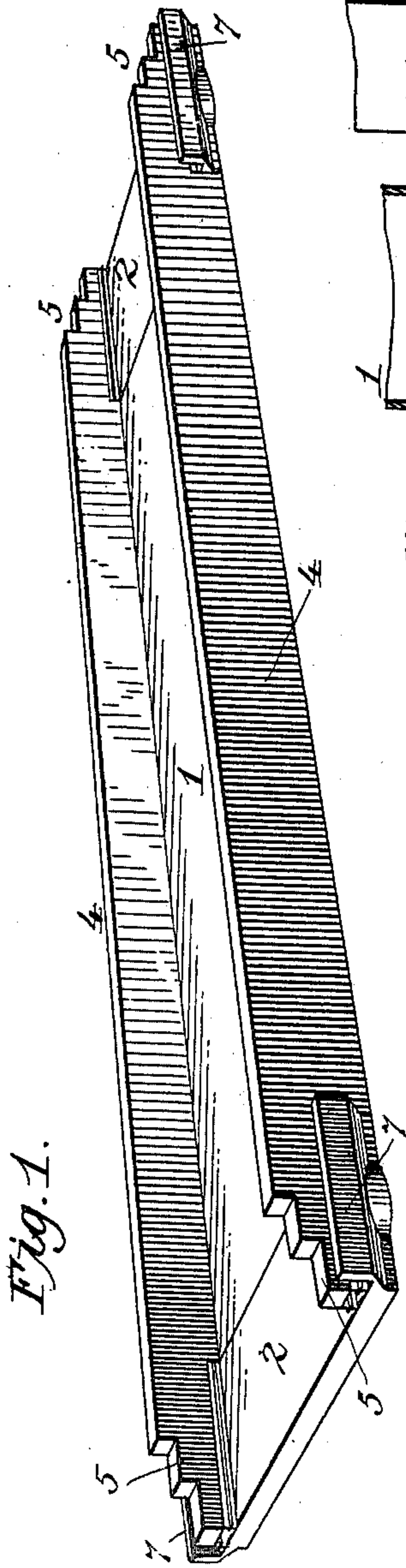


Fig. 1.

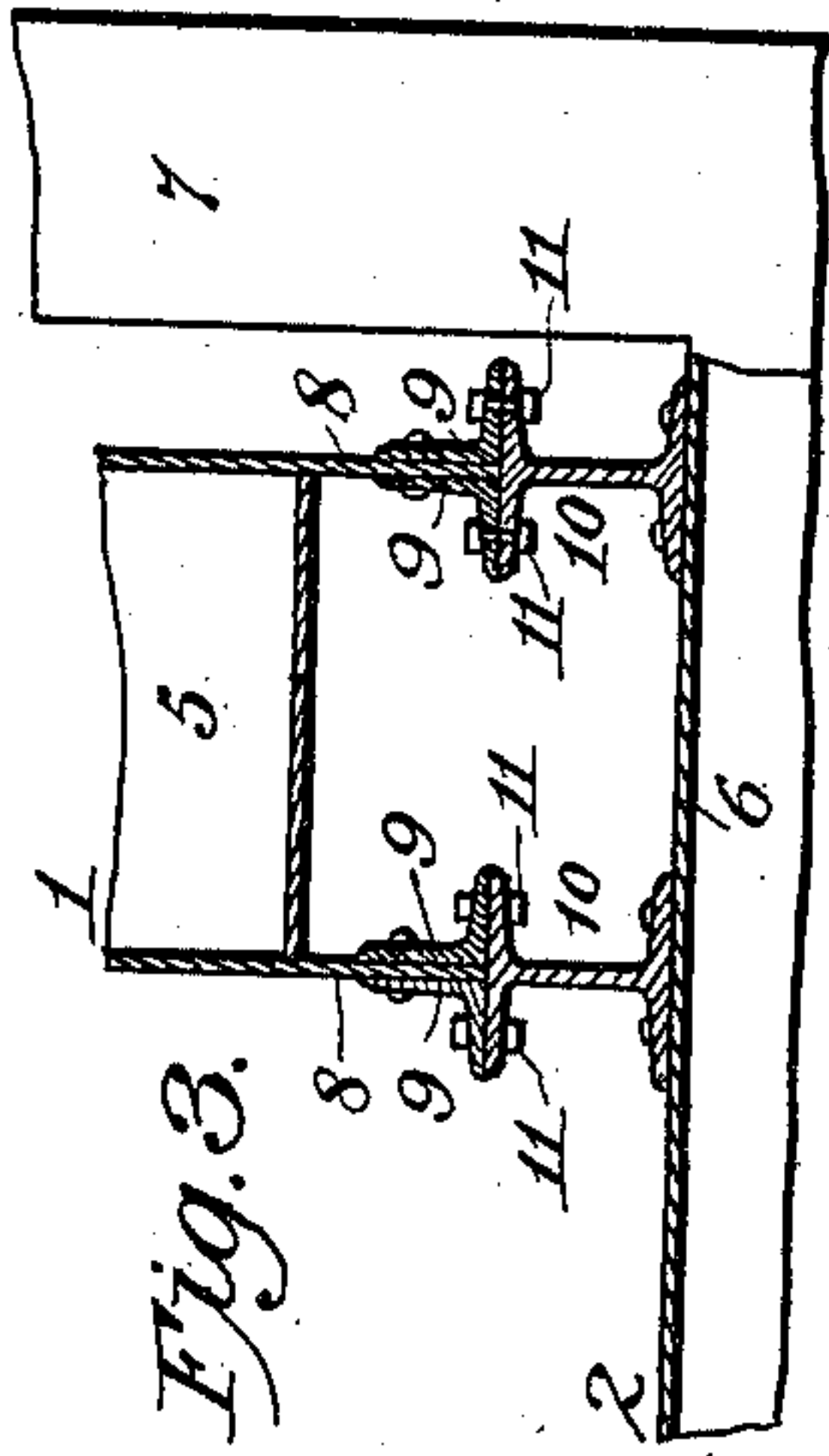


Fig. 3.

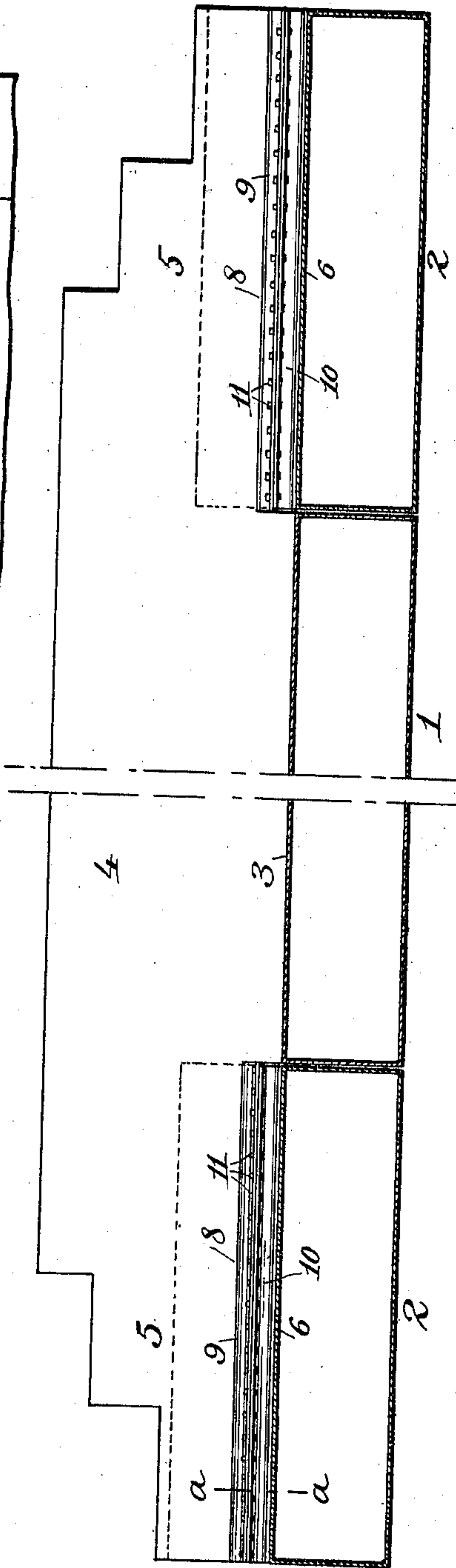


Fig. 2.

Witnesses

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3 SHEETS—SHEET 2.

Fig. 4.

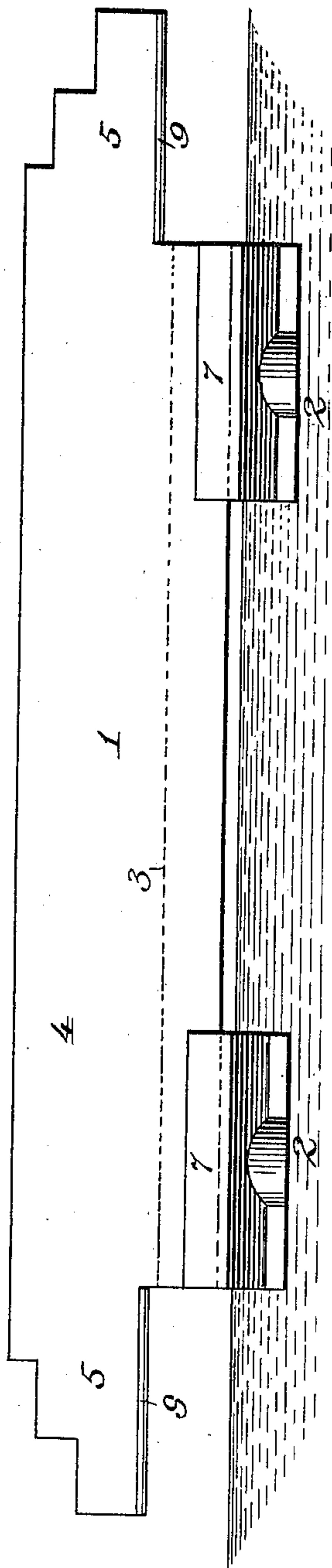
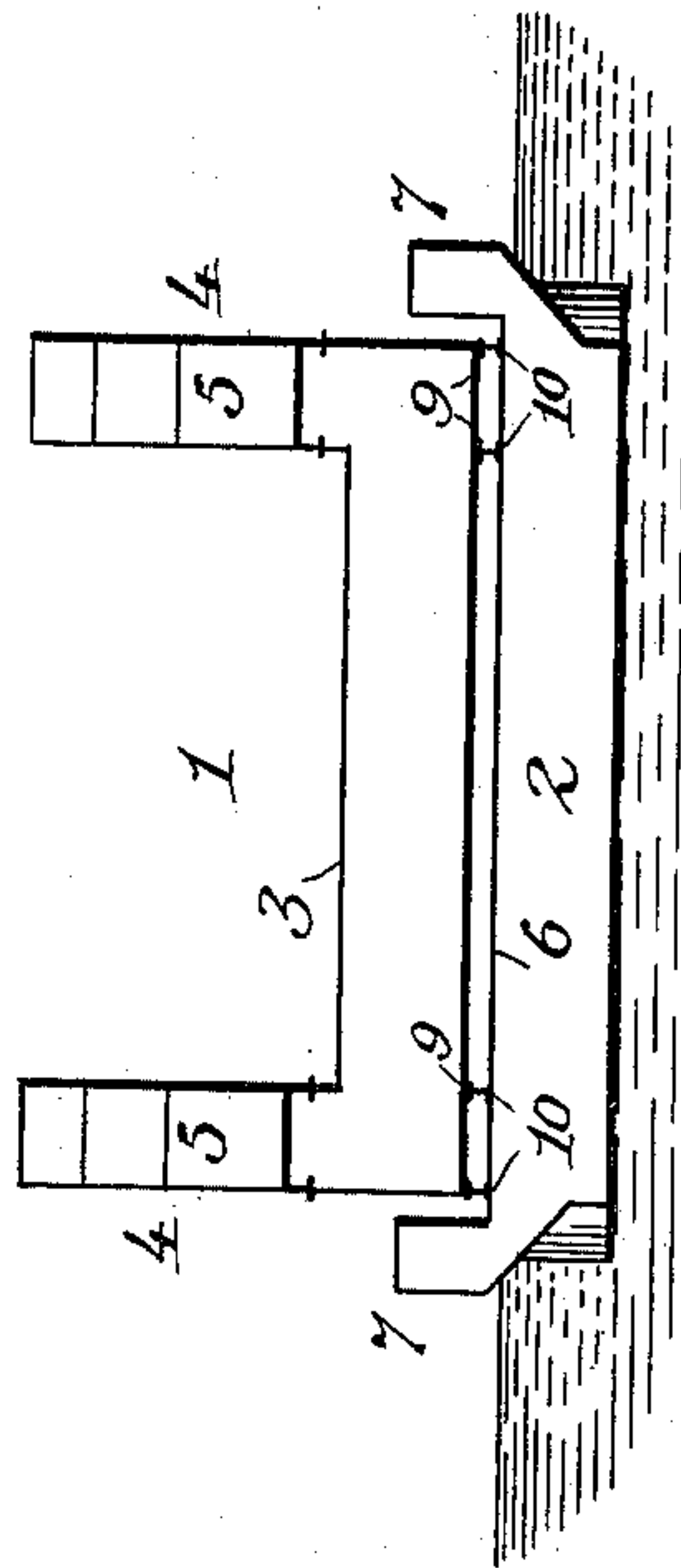


Fig. 5.



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3 SHEETS—SHEET 3.

Fig. 6.

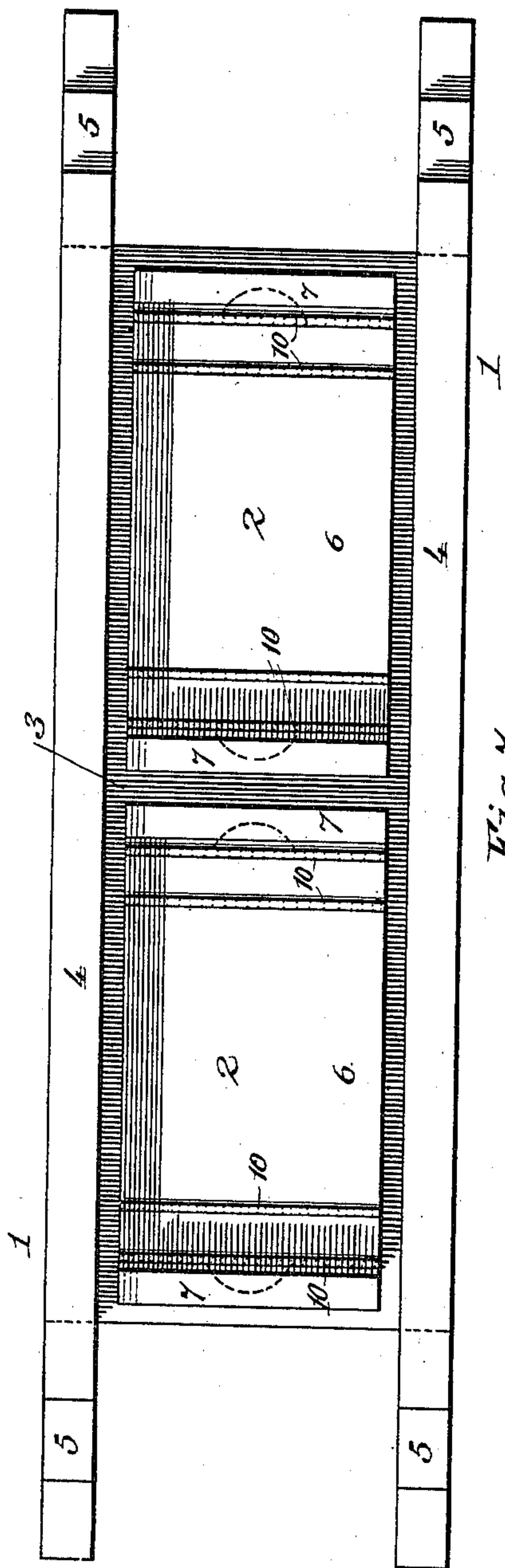


Fig. 7.

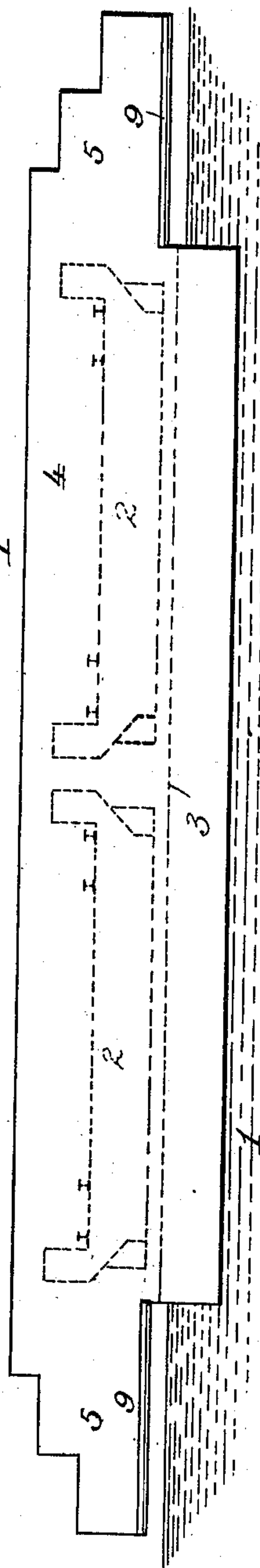
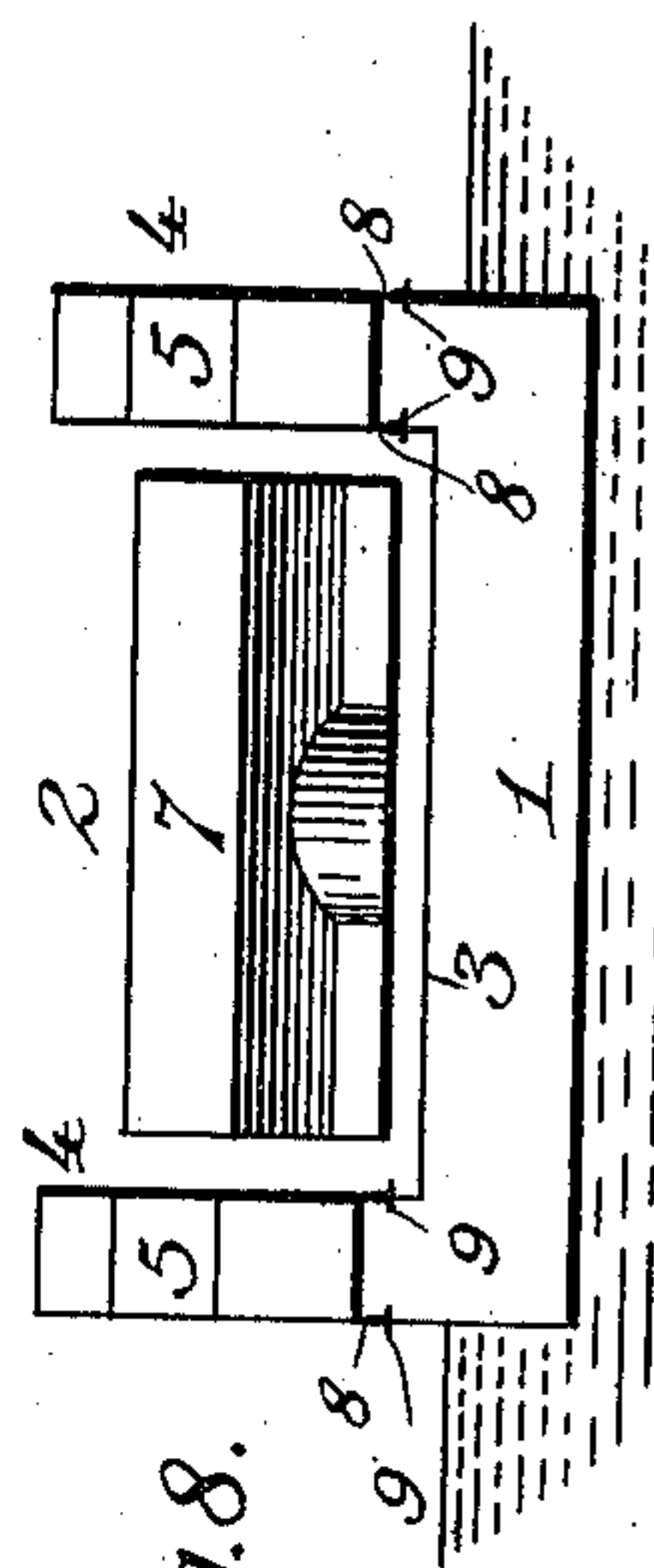


Fig. 8.



Witnesses

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# UNITED STATES PATENT OFFICE.

HENRIK F. HANSSON, OF BALTIMORE, MARYLAND.

## FLOATING DOCK.

SPECIFICATION forming part of Letters Patent No. 736,725, dated August 18, 1903.

Application filed March 5, 1903. Serial No. 146,403. (No model.)

*To all whom it may concern:*

Be it known that I, HENRIK F. HANSSON, a subject of the King of Sweden and Norway, residing at the city of Baltimore, State of Maryland, have invented a new and useful Improvement in Floating Docks, of which the following is a specification.

My invention has reference to that class of floating docks for dry-docking ships which are composed of sections adapted to be disconnected and used for dry-docking one another. Heretofore each section has been constructed with hollow side walls or towers having vertical ends, so that the sections brought together end to end were joined in vertical lines. The abutting ends were connected by a great number of horizontal bolts and other fastening devices, which demanded a great expenditure of time and labor in connecting and disconnecting the sections. The side walls, extending lengthwise of the dock, were relied upon to give it the necessary longitudinal rigidity; but owing to the vertical division between the sections the lines of union were lines of weakness, and the docks had a tendency to sag under heavy loads, with the result that the docks and the ships carried by them were subjected to unequal and dangerous strains.

The aim of my invention is to give the dock greater longitudinal stiffness, to reduce the cost of construction, and to lessen the time and labor required in connecting and disconnecting the sections, at the same time retaining their ability to dry-dock one another. To this end I construct a dock having a section or pontoon provided with continuous side walls extending endwise beyond the lower portion or pontoon and adapted to bear upon and receive support from removable end sections.

The essence of the invention lies in the employment of a continuous or unbroken side wall overlying or receiving support from a plurality of floating sections, one or more of which is removable, whereby all the advantages of the ordinary sectional dock are secured and greater longitudinal strength secured by reason of the abolition of the vertical joints or divisions in the side walls.

In the accompanying drawings, Figure 1 is a perspective view of my improved dock with its parts assembled and connected for use in

docking ships. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a cross-section through the same, on an enlarged scale, on the line *a a* of the preceding figure, showing the specific means for connecting the sections detachably together. Fig. 4 is a side elevation showing how the main central pontoon is dry-docked on the end pontoons. Fig. 5 is an end elevation of the same. Fig. 6 is a top plan view showing how the end pontoons are dry-docked on the central one. Fig. 7 is a side elevation of the same with the end pontoons indicated in dotted lines. Fig. 8 is an end elevation of the same.

My improved dock comprises three separable sections or pontoons, a long central one and two small end ones, the latter forming continuations of the central section when they are connected together end to end and being of a size sufficient to jointly support the central section, so that the latter may be dry-docked on the end sections, as will be more fully described hereinafter, or the end sections dry-docked on the central one.

The central pontoon is formed with a supporting surface or floor 3, Fig. 2, from the sides of which rise side walls or towers 4, and these side walls are extended at their ends beyond the ends of the floor, as at 5, so as to overhang the same, as shown in Fig. 1, the under sides of these overhanging ends being preferably a sufficient distance above the level of the floor to admit workmen beneath them when the end pontoons are connected with their floors, forming continuations of that of the central pontoon.

The end pontoons are each provided with a floor, which when the sections are connected together form continuations of the central floor and which extend beneath the overhanging ends of the side walls of the central pontoon, to which they are connected, as will be more fully described hereinafter.

As a result of the extension of the side walls of the central pontoon beyond its ends, so as to cooperate with the end pontoons, the connecting-joints between the pontoons are disposed horizontally or transversely of the direction of the strain exerted by the load, the result being that the central pontoon is at its ends given a long and extended support, and the weight of the load at these points being



distributed throughout the length of these supports there is little or no liability of the dock as a whole sagging.

The end pontoons have their side walls 7 extended at the outside of the overhanging ends of the walls of the central pontoon, as clearly shown in Fig. 1, which feature of construction I deem of advantage, for the reason that when the central pontoon is docked, as 10 shown in Figs. 4 and 5, the end-supporting pontoons will possess great stability and will be free from liability of tipping over. The construction is also advantageous in affording a place for the location of the pumping 15 mechanism for the end pontoons, which will at all times be sustained well above the water-line, particularly when the central pontoon is docked.

The overhanging side walls of the central 20 pontoon may be connected with the end pontoons in any appropriate manner which will admit of the separation of the sections at will; but I have illustrated a form of connection which I propose to adopt and which will answer admirably the purpose in view. 25

As shown particularly in Fig. 3, the plating of the overhanging ends of the side walls are extended downward some distance below the under sides of the same, as at 8, and 30 have firmly bolted to their opposite sides longitudinally-extending angle-irons 9, which are seated upon longitudinally-extending beams 10, firmly fixed to the flooring of the end pontoons adjacent to the side walls of the same. These angle-irons and the beams 35 are detachably connected together by fastening-bolts 11, extending at intervals through the flanges of the same. This mode of attachment forms a strong and rigid connection of the pontoons and admits of their ready 40 separation when the sections are to be dry-docked, the space between the under side of the overhangs and the end pontoons giving workmen access to the bolts in the adjacent 45 edges of the beams.

From the foregoing construction it will be seen that my dock as a whole, with the sections connected end to end, as shown, presents continuous and unbroken side walls 50 extending endwise beyond the lower portion or pontoon, which extended ends receive support from the end pontoons. As a result great longitudinal strength is secured, the connecting-joints are disposed horizontally, 55 and it will not be necessary to employ a great number of connecting-bolts. Hence the disconnection of the sections may be expeditiously effected.

In proceeding to dock the end pontoons 60 the dock as a whole is first pumped to light-water line and the connecting-bolts 11 removed to effect the detachment of the end sections, which are floated free of the middle sections. The latter is now sunk by the admission of water to bring the level of its supporting-blocks below the level of the bottom 65 of the end pontoons, whereupon the latter

are placed on the blocks, after which the central pontoon is pumped up, and rising will lift the end pontoons well above the 70 water-level, where the workmen may have access to the same, as shown in Figs. 6, 7, and 8.

To dock the central pontoon when the parts are in this position, it is first sunk, so as to 75 admit of the launching of the end sections, after which it is again pumped up and the end sections placed under it, whereupon the end sections being pumped up and rising will lift the central pontoon free, as shown in 80 Fig. 4.

Each section will of course be equipped with suitable pumping mechanism, which may be of any appropriate and well-known 85 construction adapted to effect the independent pumping of each section.

What I claim is—

1. In a floating dock the combination with a section or pontoon provided with a side wall extending at its end beyond the body, of an 90 adjacent removable section adapted to cooperate with the said projecting end of the side wall and give support to the same.

2. In a floating dock the combination with a main pontoon provided with side walls having overhanging ends, of end pontoons detachably connected with the main pontoon 95 and extending beneath the overhanging ends of its walls.

3. In a floating dock the combination with 100 a main pontoon provided with side walls formed with overhanging ends, of end pontoons adapted to extend beneath the overhanging ends, and means for detachably connecting the overhanging ends with the end 105 pontoons.

4. In a floating dock the combination with a main pontoon having side walls, of an end pontoon connected with the main pontoon and provided with side walls extending at 110 the outside of those of the main pontoon.

5. In a floating dock the combination with a main central pontoon provided with side walls, of two end pontoons detachably connected with the main pontoon and formed 115 with side walls or towers extending at the outside of the side walls of the main pontoon.

6. In a floating dock the combination with a main central pontoon provided with side 120 walls formed with overhanging ends, of two end pontoons detachably connected with the main pontoon and extending beneath the overhanging ends of the side walls, said end pontoons being formed with side walls extending at the outer sides of the overhang- 125 ing ends of the walls of the main pontoon.

In testimony whereof I hereunto set my hand, this 9th day of February, 1903, in the presence of two attesting witnesses.

HENRIK F. HANSSON.

Witnesses:

S. ANDERSON,  
G. STYRLANDER.