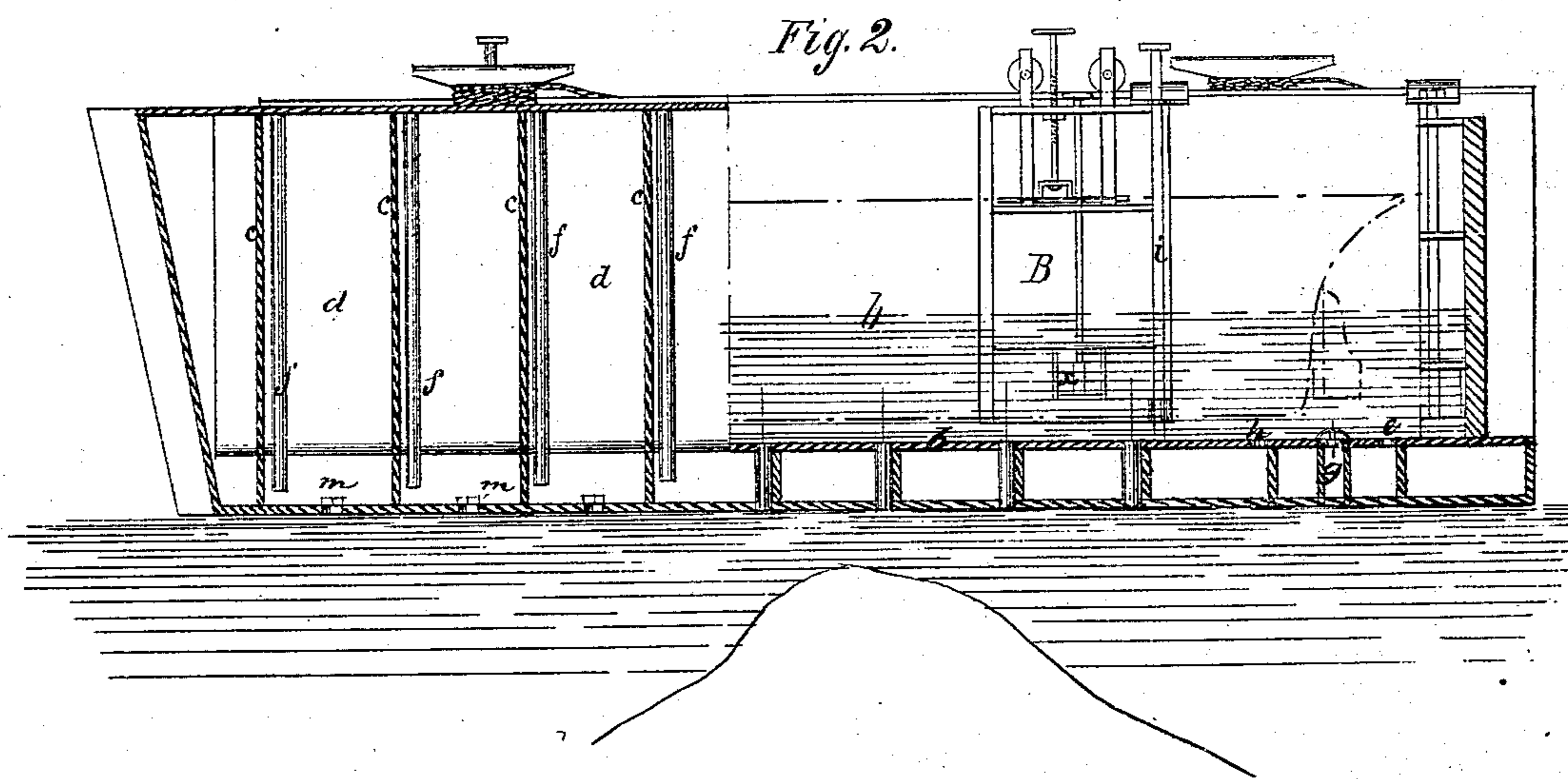
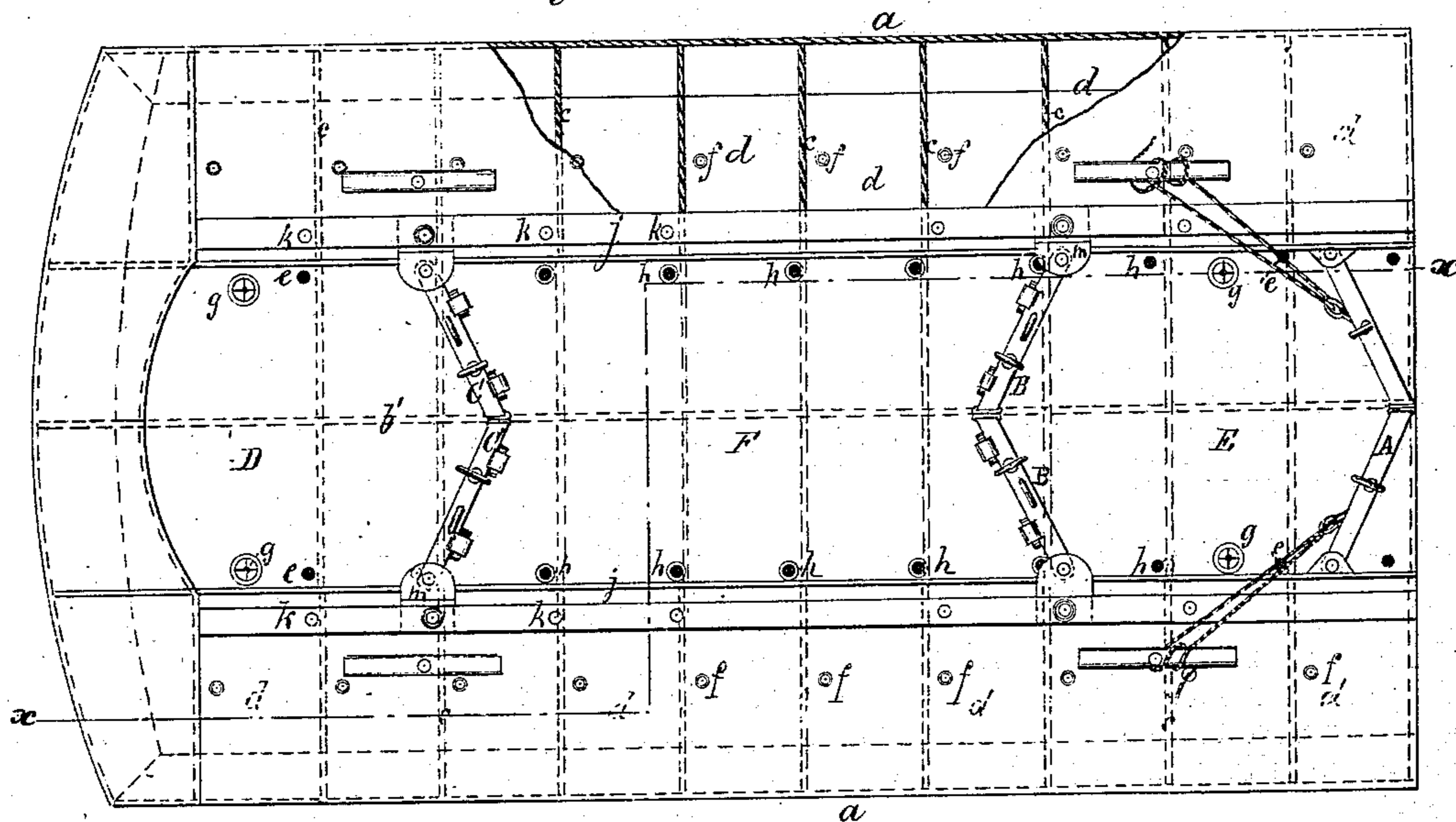


JOHN E. WORTHMAN.
Improvement in Lighters for Vessels.
No. 125,873. *Fig. 1.* Patented April 16, 1872.



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JOHN E. WORTHMAN, OF MOBILE, ALABAMA.

IMPROVEMENT IN LIGHTERS FOR VESSELS.

Specification forming part of Letters Patent No. 125,873, dated April 16, 1872.

Specification describing certain Improvements in Apparatus for Transporting Vessels over Bars, invented by JOHN E. WORTHMAN, of Mobile, in the county of Mobile and State of Alabama.

Figure 1 is a top view, and Fig. 2 is a sectional elevation in the line *x x*, Fig. 1.

This invention relates to a floating apparatus designed for taking in vessels without unloading, and transporting them over bars, shallows, &c., where there is not sufficient depth of water to allow the vessel to pass when loaded.

Referring to the drawing, *a b* are the outer and inner skins of a floating dock, built of iron or other suitable material, and of any required dimensions. The space between these skins is divided by transverse partitions *c* into watertight compartments *d*. A longitudinal partition, *b'*, running under the bottom of the inner skin *b*, prevents all communication between the compartments *d* on each side of the dock. Each compartment is provided with a water-way, opening through the outer skin, to let in water, said ways being furnished with upwardly-opening valves *m*. Each compartment is also provided with a vertical pipe, *f*, extending from its top nearly to its bottom, which pipes are connected with pumps for the purpose of drawing the water out of the compartments *d*, when required. The space within the inner skin, which is called the lock, is provided with three pairs of gates, whereof the pair *A* are at the stern, and the pairs *B* and *C* are adjustable, and may be placed at any desired points between the bow and stern, according to the length of the vessel in the lock. The gates *B* must always be astern of this vessel, and the gate *C* in front of her. The space *D* between the bow of the lock and the gates *C* is provided with a pair of water-ways, *g*, leading down through both the inner and outer skins, and provided with upwardly-opening valves. The space *D* is likewise provided with pipes *e e*, leading below the inner skin into the adjacent side compartments *d*. The gates *C* and *B* are built with flood-gates *x*. The space *E* between the gates *A B* is provided with water-ways *g*, valves, and pipes *e* the

same as the space *D*. Along the bottom of the lock, close to the sides of the same, sockets *h* are made in the inner skin, which sockets receive the lower ends of the pivot-rods *i* of the gates *B C*. Along the top of the dock, close to the upper edges of the inner skin, are laid grooved plates *j*, each having a series of holes, *k*. Lugs *m* are seated in the grooves of the plates *j*, and may be slid to any position therein, being confined in any one place by means of pins passed through the holes *k* and lugs *m*. The latter project over the sides of the lock, and receive the upper ends of the pivot-rods *i*. By these means the gates *B C* can be moved to any desired point of the lock.

By opening all the water-ways and flood-gates by any suitable means the compartments *d* and spaces *D E F* will all be filled evenly with water, and the dock will therefore sink. When the dock has sunk so deep that the lock has sufficient depth of water to float the vessel that is to be transported across the bar, the valves of the water-ways are closed by suitable means, and the dock consequently stops sinking. Then the gates are all opened and the vessel floated into the space *F*, after which the gates are closed. The water is then pumped out of the compartments *d* and spaces *D E*, leaving it, however, in the space *F* or lock where the vessel is. The gates *B* and *C* stand to each other like the halves of the letter *V*, so as to enable them the better to resist the pressure of the water in the space *F*. When the water is all pumped out of the spaces *D E* and the compartments *d*, the dock will float shallow enough to enable it to transport the vessel with all her stores and cargo across the bar.

The partitions *c* prevent the water from rushing from end to end of the dock, and thus destroying the evenness of her keel.

To discharge the vessel from the lock, the dock is sunk, the gates opened, and the vessel floated out. The lock is also furnished with a supply-pipe and a waste-pipe independent of all the water-ways hereinbefore named, the supply-pipe being connected to a suitable pump to keep a sufficient quantity of water in the lock to float the vessel, in case of leakage at any

of the gates, and the waste-pipe to discharge all surplus water, both pipes being necessary to keep a due and only a due quantity of water in the lock.

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

A floating dock, built with an inner skin, *b*, an outer skin, *a*, side compartments *d*, parti-

tions *c*, non-adjustable gates *A*, adjustable gates *B C*, valved water-ways, and flood-gates, as specified.

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Witnesses:

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