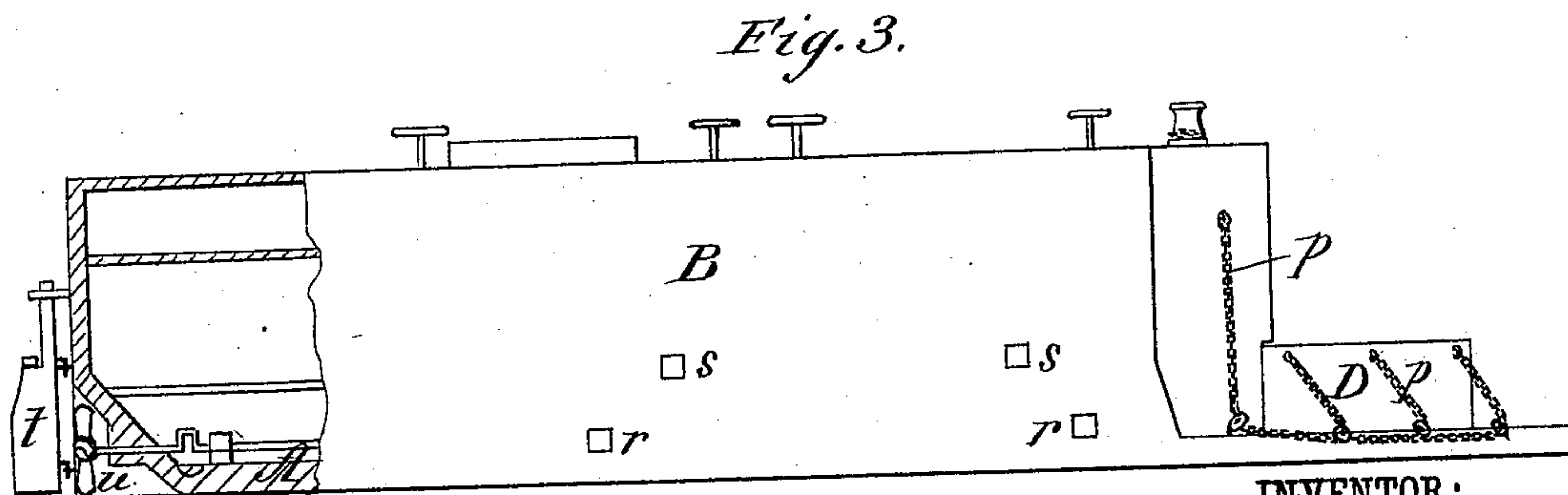
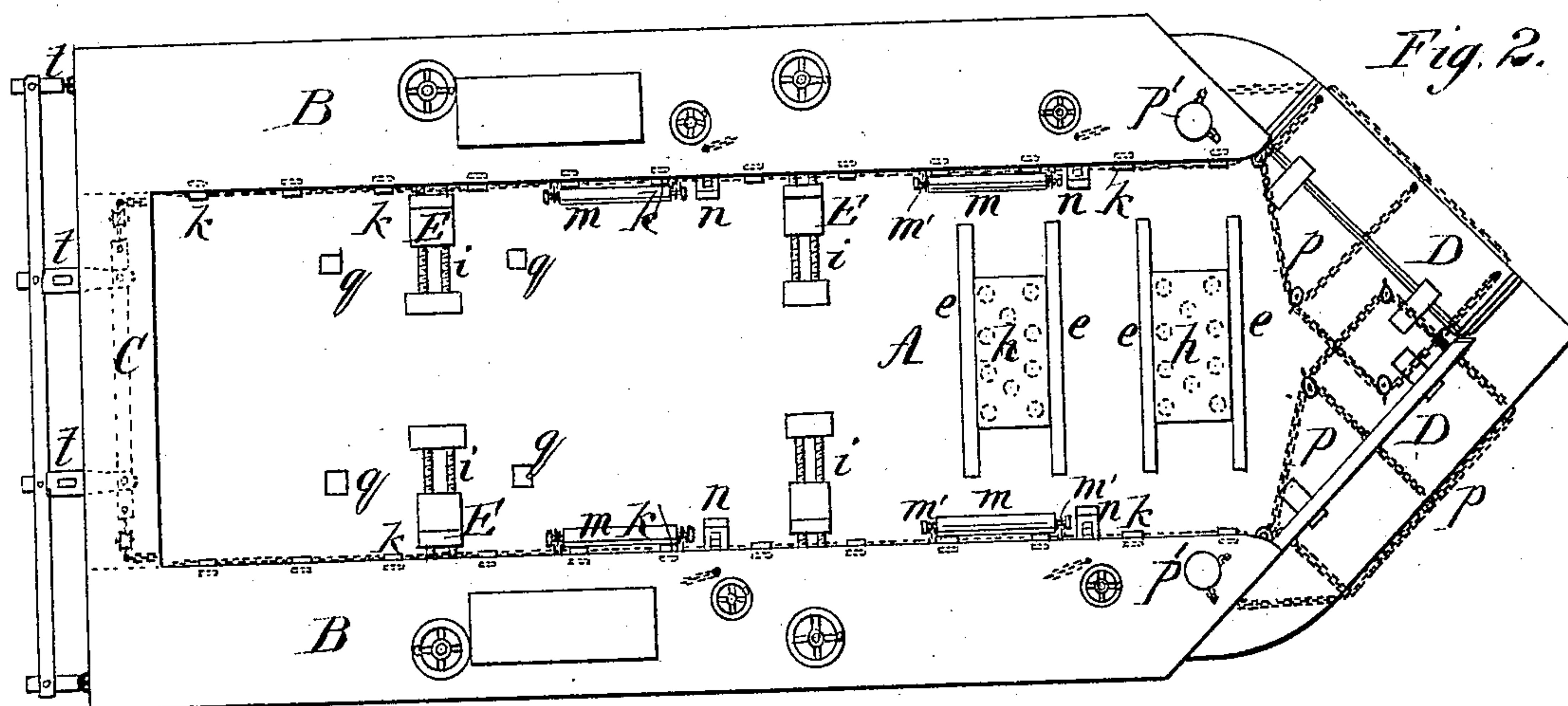
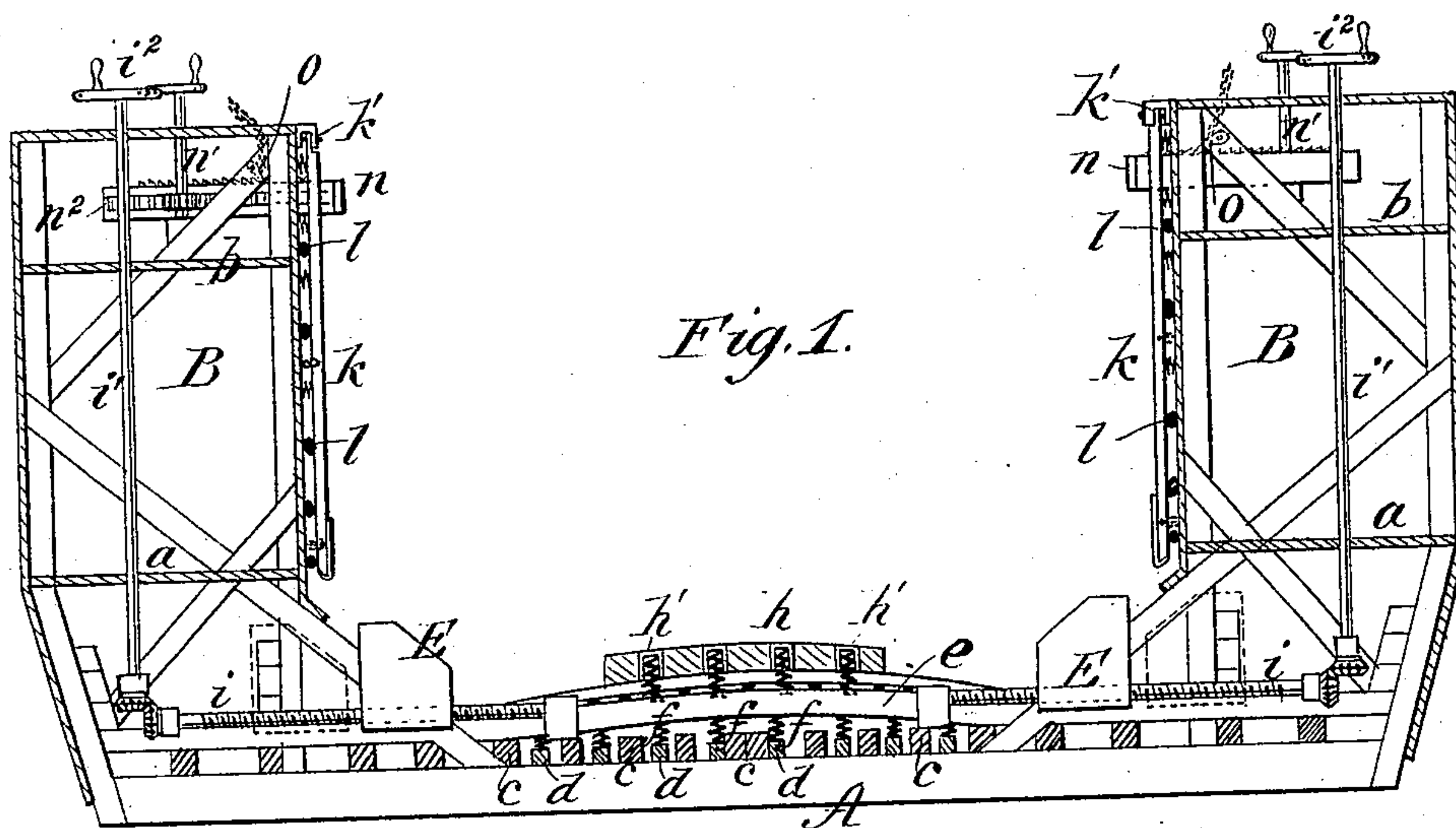


J. J. PEETZ.

Patented Oct. 23, 1883.

No. 287,156.



**INVENTOR:**

Donn Twitcheell.  
C. Sedgwick

BY

*J. J. Peetz*  
*Munn & Co*  
**ATTORNEYS.**



# UNITED STATES PATENT OFFICE.

JOHN J. PEETZ, OF GALVESTON, TEXAS.

## CAMEL FOR LIGHTENING VESSELS.

SPECIFICATION forming part of Letters Patent No. 287,156, dated October 23, 1883.

Application filed November 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. PEETZ, of Galveston, in the county of Galveston and State of Texas, have invented a new and Improved Camel for Lightening Vessels, of which the following is a full, clear, and exact description.

The object of my invention is to provide an apparatus that can be used for lifting or lightening deep-draft ships at sea or in roadsteads, for taking them over bars or through shallow water.

To that end my invention consists in a floating apparatus or dock constructed so as to be sunk for receiving the vessel, and so as to be afterward raised for lifting and carrying the vessel, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a transverse section of my improved floating dock or apparatus. Fig. 2 is a plan view of the same. Fig. 3 is a side view, partially sectional.

The float or dock consists of a dock or bottom, A, and side tanks, B B, constructed thereon lengthwise. At the rear is a bulkhead, C, of suitable height, and at the bow, which is made in V form, are two gates, D D, hinged to be turned down flat upon the deck A, or raised, as shown in Fig. 3, against the forward ends of the tanks B, so as to form a bulkhead that will exclude the water. To these gates chains *p p* are connected, which pass through guide-sheaves on the deck, and thence upward through the upper deck of the tanks to capstans *p'*, by which the gates are to be raised and lowered. There are two sets of the chains—one for raising and the other for lowering the gates—both passing to the capstans and wound in opposite directions thereon. The deck A and tanks B are to be constructed of timber suitably framed, and the tanks are to be sealed upon their sides and top, so as to be perfectly water-tight. The tanks are also to be fitted transversely with water-tight bulkheads and formed with two lower decks, *a b*. The space beneath the lower deck *a* is for the reception of water, while the spaces above the decks *a b* are for receiving the pumps, engines, and other machinery. Upon the bottom A are longitudinal stringers *c*, and be-

tween these are stringers *d*, of less height. Above these stringers are transverse beams *e*, which are arched or curved at the center, as shown in Fig. 1, and are supported upon stringers *d* by strong spiral springs *f*, the object of this construction being that when sufficient weight comes upon the transverse beams *e* to compress the springs the downward movement will be arrested by the stringers *c*, and the beams will rest solidly thereon.

Between the beams *e* are bed-blocks *h*, consisting of blocks supported by springs *h'*, that are let into the deck. The springs are contained in telescopic tubes, which are surrounded with rubber or other elastic material, the object of the tubes being to prevent the springs from cutting the rubber as they work up and down. Upon the deck A, at each side, are bilge-blocks E E, sustained upon pairs of horizontal screw-shafts *i*, that are fitted for being operated by means of beveled gearing and vertical shafts *i'*, that extend through the upper decks of the sides or tanks B, where they are provided with hand-wheels *i''* for their operation to move the bilge-blocks in and out. The bilge-blocks are to be arranged at suitable distances apart at each side of the vessel.

Upon the inner sides of the tanks B are bumpers *k k*, suspended at their upper ends by bolts *k'*, and connected together by chains fastened to the sides. Between these bumpers and the sides of the tanks are springs *l*, that may be rubber blocks or spiral springs. At intervals along the sides fenders *m m* are suspended in a horizontal position by chains, the object of these fenders and bumpers being to protect the apparatus and the vessel from injury by heavy jars. The chains *m'* allow the fenders to be raised and lowered. At the upper part of each tank B beams *n* are fitted for horizontal movement by means of shafts *n'*, carrying pinions that engage racks *n''* on the sides of the beams, so that by turning the shafts the beams can be projected more or less into the space between the two tanks. The outer ends of these beams are fitted with rubber bumpers, and their upper sides are provided with ratchet-teeth, which are engaged by pawls *o*, for retaining the beams in their projected position. These beams are arranged at suitable distances apart along the sides of



the tanks, and are used for pressing or supporting the vessel. At  $q$  upon the deck A are valves and openings for allowing the surplus water to pass into the tank from the inclosed space when the gates are closed. There are to be any suitable number of these valves.

Upon the outer sides of each of the tanks B are sinking-valves  $r$ , and at  $s$  are the discharge-valves from the pumps. The apparatus is also provided with rudders  $t$ , which are yoked together and fitted for operation by means of chains that may pass to an ordinary steering-wheel either at the bow or the stern of the vessel. The apparatus is also provided with propellers  $u$ , and suitable engines and boilers are provided for operating the propeller, and also for operating the pumps.

In the use of this apparatus or dock it is to be brought head on to the waves, the sinking-valves  $r$  then opened, and the apparatus allowed to sink deep enough to allow the vessel to float to the inside without touching the bed-blocks  $h$ . In case the dock will not sink deep enough without ballast, water is to be pumped into the tanks above the decks  $a$  until sufficient draft is obtained. The vessel is then hauled into the apparatus, and as soon as in position the discharge-valves  $s$  are opened and the pumps started. The apparatus will rise very quickly by the discharge of the ballast water, and afterward more slowly when the discharge is simply by the pumps. As the keel of the vessel rests upon the bed-blocks  $h$ , the springs of these bed-blocks and the spring-beams  $e$  serve to give a gradual resistance and elasticity, and prevent jar or concussion that might be caused by a heavy sea, so that neither the vessel nor the machine will be injured. As soon as the vessel rests fairly upon the bed-blocks, lines are to be made fast at each side and the braces  $n$  run out. At the same time the bilge-blocks E are to be moved in position beneath the vessel. When the tanks are pumped dry, the gates D are to be closed, and the valves  $q$  then opened to allow water to pass from the inclosed space into the tanks, from whence it is pumped out. In this manner the vessel is finally entirely supported in the dock

or apparatus, and raised in the water, so that a vessel of deep draft can be safely and rapidly carried over bars or shallows. The vessel is again floated by opening the gates D and sinking the dock by admission of water, as before. The water-tight bulk-head in the tanks and in the spaces beneath the deck  $a$  prevent any rush of water fore and aft.

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

1. The combination, with the bottom of a floating dock provided with transverse beams, of bed-blocks and interposed springs, substantially as herein shown and described.

2. The combination, with the bottom of a floating dock provided with longitudinal stringers, of transverse beams and springs for supporting the same, substantially as herein shown and described.

3. The combination, with the bottom of a floating dock provided with longitudinal stringers  $c$   $d$ , the stringers  $d$  being of less height than the stringers  $c$ , of the transverse beams  $e$  and the springs  $f$ , interposed between the stringers  $d$  and the beams  $e$ , substantially as herein shown and described.

4. The combination, with the bottom of a floating dock provided with the longitudinal stringers  $c$   $d$ , of the transverse beams  $e$ , the springs  $f$ , the bed-blocks  $h$ , and the springs  $h'$ , substantially as herein shown and described.

5. The combination, with the bottom or main deck, A, provided with the tanks B, of the bumpers  $k$ , suspended at the inner sides of the tanks, and the springs  $l$ , interposed between the bumpers and tanks, substantially as herein shown and described.

6. The combination, with the bottom or main deck, A, provided with the tanks B, of the rack-beams  $n$ , the shafts  $n'$ , provided with pinions on their lower ends engaging the racks of the beams, and the pawls  $o$ , substantially as herein shown and described.

JOHN J. PEETZ.

Witnesses:

P. S. WIEN,  
HUGO BROSIG, Jr.