J. Custis.

App's. for Raising Sunken Vessels.

No. 2,378. Patented Dec. 10, 1841.

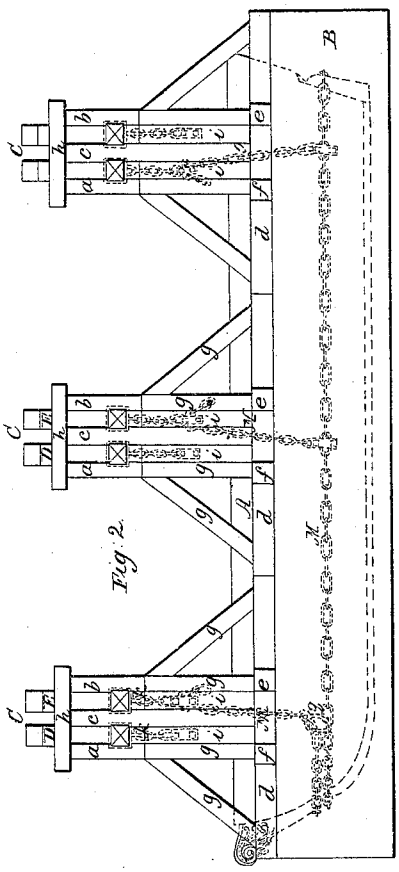

Fig. 2.

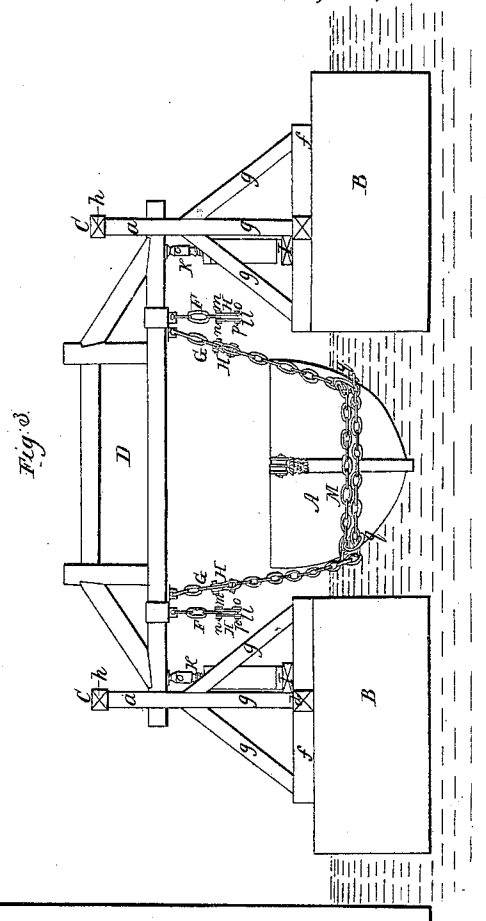

Fig. 3.

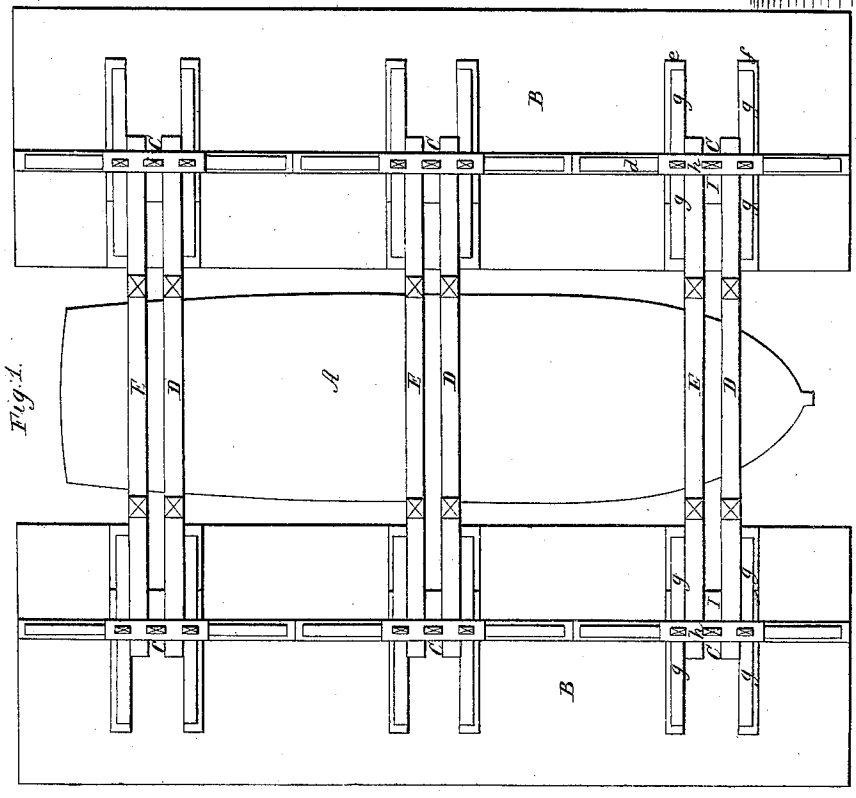

Fig. 1.

UNITED STATES PATENT OFFICE.

JNO. CUSTIS, OF YARMOUTH, MASSACHUSETTS.

MACHINERY FOR RAISING SUNKEN VESSELS.

Specification of Letters Patent No. 2,378, dated December 10, 1841.

To all whom it may concern:

Be it known that I, JOHN CUSTIS, of Yarmouth, in the county of Barnstable, in the State of Massachusetts, have invented new and useful Improvements in Machinery for Raising Sunken Vessels, of which the following is a full and exact description, reference being therein had to the accompanying drawings, which combined herewith form my specification, and in the same I have set forth the principles of my improvements, by which they may be distinguished from others of a similar character, together with such parts or combinations of the same as I claim to be my invention and for which I solicit an exclusive property for fourteen years to be secured to me by Letters Patent.

Figure 1, of the above mentioned drawings represents a top view of my machinery as applied to the hull of a vessel. Fig. 2, is a side elevation and Fig. 3, is an end view of the same.

A is the vessel to be raised, and B, B, represent two hulks, scows or tanks for supporting the elevating machinery. They are arranged, one on each side of the vessel, and floating on the surface of the water as seen in the drawings. Any sufficient number of suitable standards or frames C, C, C, C, C, C, are erected upon the decks of the scows. These standards are each composed of vertical posts or timbers *a*, *b*, *c*, resting upon horizontal sills *d*, *e*, *f*, the two latter of which cross the former at right angles. The posts *a*, *b*, *c*, are further supported by diagonal braces *g*, *g*, *g*, and they are connected together at their tops by cap timbers *h*, *h*, &c., extending over each, and into mortises of which the tops of the posts are tenoned. The spaces between the posts for about two thirds their height are filled by timbers *i*, *i*, the tops of each of which abut against the underside of a timber *k*, connecting the two adjacent posts. Two truss frames D, E, Figs. 1, 2, 3, extend from each of the standards of one of the scows, to that which is directly opposite on the other scow. The ends of the horizontal bottom timbers of these truss frames, pass through spaces between the upper parts of the posts *a*, *b*, *c*, and rest when not in action, upon the tops of the cross ties *k*, *k*. From each of these truss frames and at a short distance in front of them, two short chains F, F, or G, G, depend, each having a hook or connecting link H on their lower ends. These connecting links consist of two plates *l*, *l*, one being placed on each side of the last link of the chain (see Fig. 3) and hung to the same by a screw *m*, passing through them and the links and confined by a nut *n*. A similar screw *o* and nut *p*, are arranged in like manner at the lower ends of the plates *l*, *l*, of each hook as seen in the drawing. A strong plank I, is bolted on the top faces of the timbers *e*, *f*, in front of and in apposition with the posts *a*, *b*, *c*, and upon each of these planks a bed screw *k* is placed which acts against the under side of one of the truss frames so that when the screw is turned in the right direction, it will elevate the end of the truss frame over it, and vice versa.

M is a strong chain which is passed from bow to stern on one side, and thence from stern to bow on the other side of the vessel, the said chain resting on or just above the ground or bottom upon which the vessel is sunk. This chain has two suitable loops or strong rings *q q* attached to it, one being on each side of the bow abaft of the cutwater. Each end of the chain is passed through the loop on the opposite side of the vessel and extends upward and is connected to the short chains F, F, by the connecting links of the same, one of the links of the chain being inserted between the plates *l*, *l*, of each link and the screw O passed through the three and there confined by the nut *p*. The chain M is connected at points under each of the other double set of truss frames, by chains N, O, Fig. 2, on each side of the vessel, so that when the descending chains are drawn up the vessel is suspended by them in connection with the bottom chain M. The bed screws, under the truss frame to which the chains are hung, are then put in operation and the vessel elevated a certain distance, or until the tops of the ends of the horizontal timbers of the truss comes in contact with the transverse caps *h*, *h*. The depending chains of the other truss frames, or those which now occupy the lowest position are next to be attached to the links of the descending chains N, O. The bed screws may then be removed and placed under the ends of each of the said latter truss frames, which are in their turn to be raised, thus elevating the vessel still farther. The first mentioned truss frames may then be lowered and their depending links H again connected to the

vertical chains, and the same operation continued until the vessel is elevated as high as may be necessary.

Although I have described the method of construction of the several parts, it is evident that they may be varied in details as occasion may require, so long as the same principles in their operation are observed. There may be more or less standards and truss frames, according to the size of the vessel to be raised, all of which will be understood by the mechanic who manufactures the machinery.

Having thus set forth my invention I shall claim—

The peculiar combination of the two truss frames, extending between two opposite standards, each having depending chains with links or hooks, by which said truss frames may be alternately connected to the vertical chains which are attached to the horizontal chain, or tending around the vessel or about the bottom of the same as above explained, by which arrangement of the apparatus the vessel may be raised by bed screws as described. Also the combining with said truss frames the horizontal chain, whose ends are passed through loops or strong wings attached to it where it comes in contact with each side of the bow abaft of the cutwater, by which disposition of loops upon the chains, the chains can be fitted to vessels of different sizes, and be caused to bind tightly around the bottom so as not to slip over the same, the whole being arranged, constructed and operating substantially as above explained.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature this twenty first day of October in the year eighteen hundred and forty one.

JOHN CUSTIS.

Witnesses:

R. H. EDDY,

EZRA LINCOLN, Jr.