A. B. Page. Sheet 1, 2 Sheets.

Raising Sunken Vessels.

No. 48,091. Patented Jun. 6, 1865.

Fig. 1.

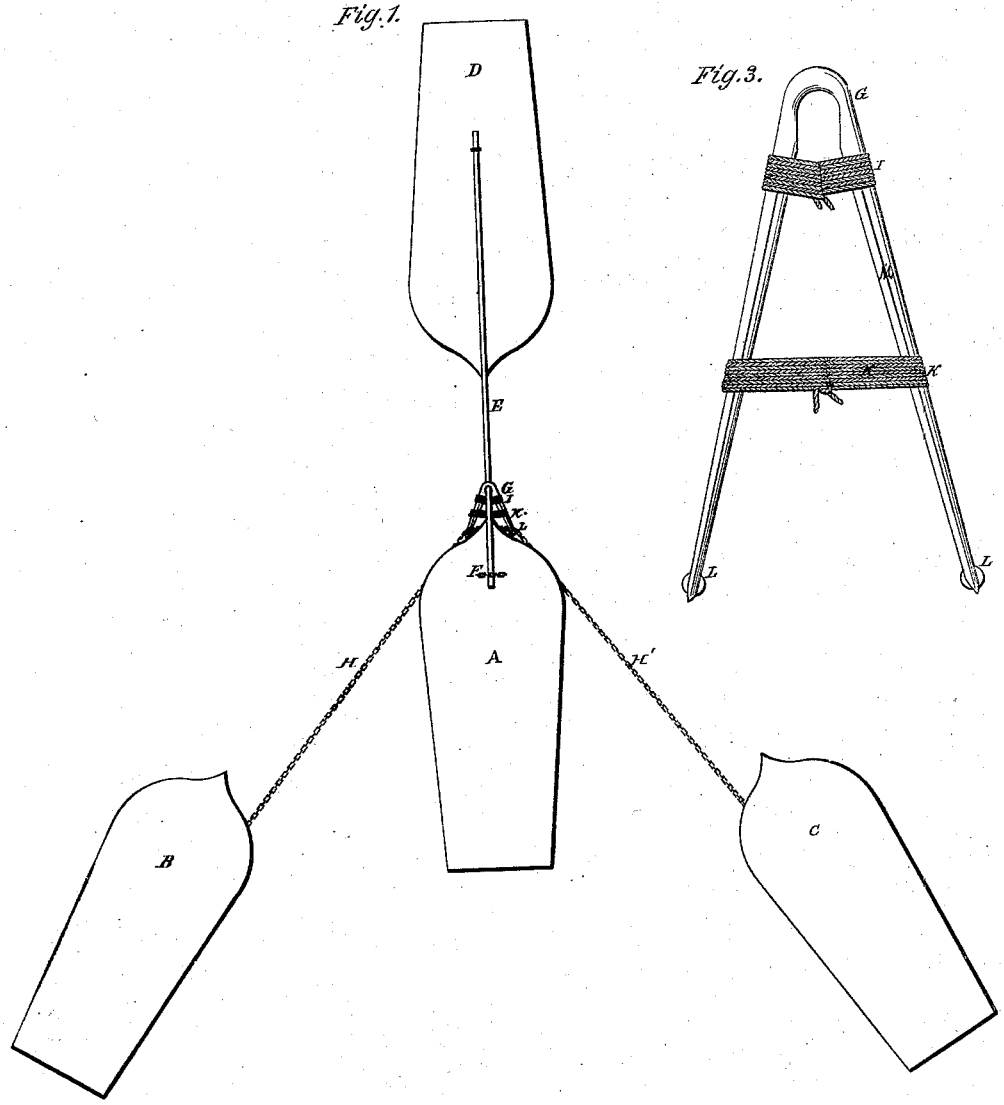
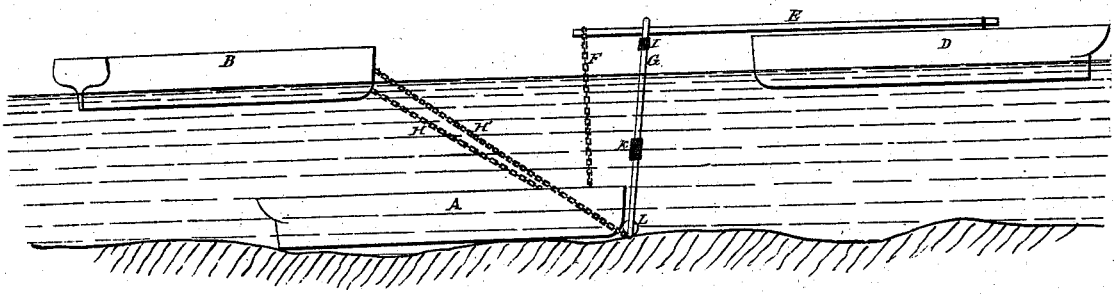


Fig. 3.

Fig. 2.



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A. B. Page. Sheet 2, 2 Sheets.

Raising Sunken Vessels.

No. 48,091. Patented Jun. 6, 1865.

Fig. 1.

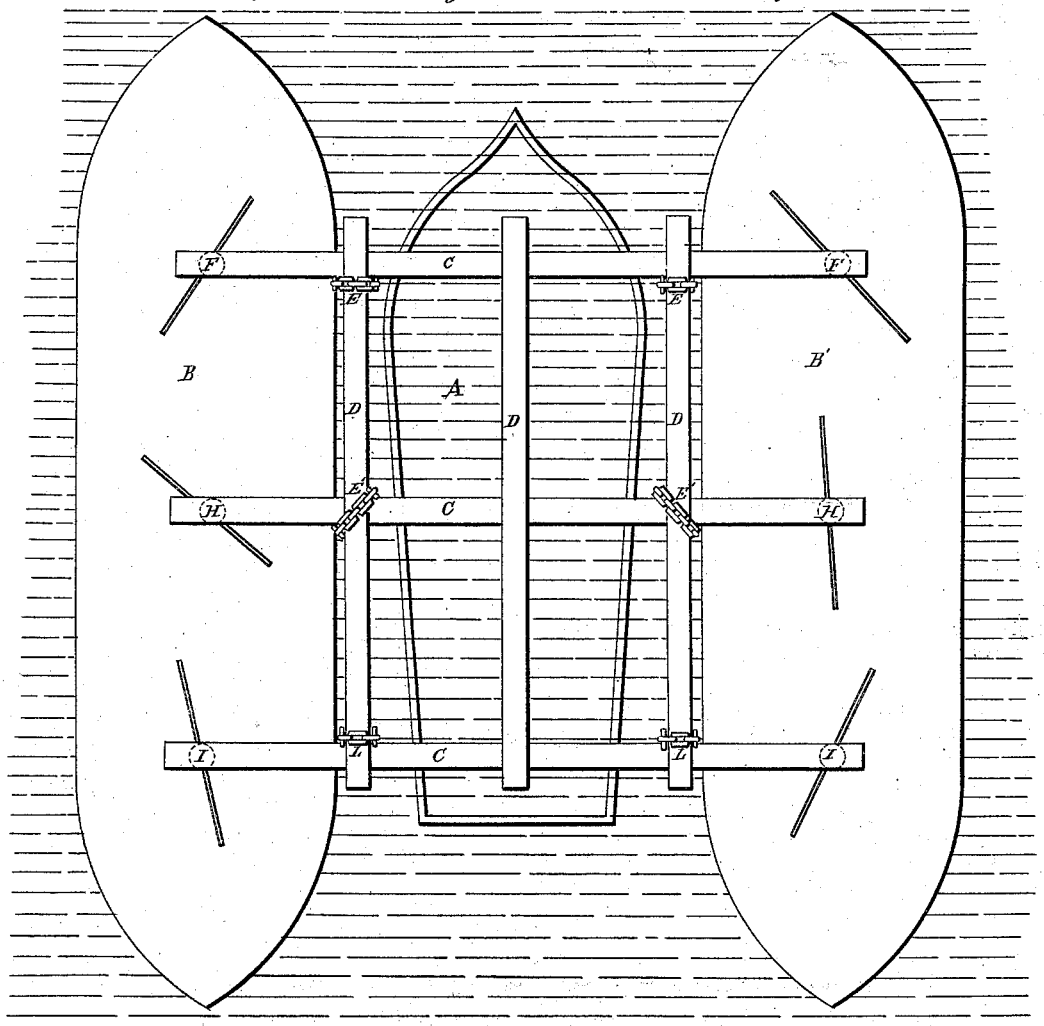
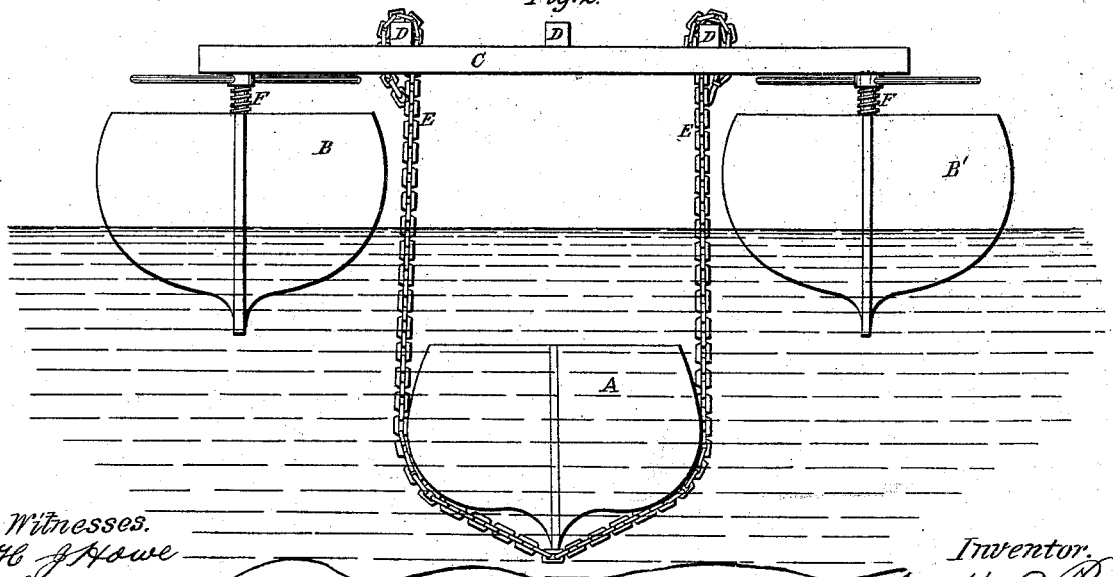


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

AUSTIN Z. PAGE, OF WEAVERVILLE, CALIFORNIA.

IMPROVED MODE OF RAISING SUNKEN VESSELS.

Specification forming part of Letters Patent No. 48,091, dated June 6, 1865.

To all whom it may concern:

Be it known that I, AUSTIN Z. PAGE, of Weaverville, California, have invented a new and useful Improvement for Raising Sunken Vessels, called "Page's Method for Raising Sunken Vessels;" and I do hereby declare that the following specification, with the accompanying drawings, is sufficient to enable any person skilled in the art or science to which it most readily appertains, to construct and use the same without further invention or experiment.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, referring to the drawings, in which—

Figure 1, Plate 1, is a plan. Fig. 2 is a side view. Fig. 3 is a plan of the crutch or fulcrum. In Plate 2 Fig. 1 represents a top view of apparatus. Fig. 2 is an end view, showing the chains in position for raising the vessel.

The same letters of reference indicate like parts in each of the figures.

The nature of my invention consists in sinking chains at the bow or stem of a sunken vessel by means of a lever, in order to facilitate dragging them under the keel by a to-and-fro motion, and using these chains alternately, in pairs or singly, to support the hull during the process of raising it to the surface.

For carrying the first part of my invention into effect, I employ a camel, D, Plate 1, Fig. 1, or other vessel, (constructed square or otherwise,) of sufficient capacity to furnish a support for the purchase-block D, to work the lever E, Plate 1, Fig. 1. This is to be moored at a convenient distance from the vessel for working the lever. For the lever E, Plate 1, Fig. 1, a mast or other stout timber is to be used, and is to be secured at the end projecting over the stem of the camel to the ship to be raised by means of chains passed through the hawse-holes, or otherwise, so that the bow or stem under which chains are to be dragged may thus be connected with it, and may also supply a point of resistance or fulcrum when the lever is brought into action simultaneously with the sawing or to-and-fro motion of the chains H H, Plate 1, Fig. 1. Divers are to be employed for connecting the lever in this way. The other arm of the lever is the end of the mast or timber, laid over the deck of the camel D, Plate 1, Fig. 1, and is to be worked by purchase, screw, or hydraulic presses in a downward direction, as if to start the vessel upward. Attached to this lever and maintained in position by it by means of the ropes I, Plate 1, Fig. 3, is the double frame or crutch for sinking the chains H H′, Plate 1, Fig. 1, in the mud &c., below the vessel, and guiding them during their to-and-fro motion across the pulleys or guide-wheel L L′. The chains are kept in place in the guide-wheels by means of ropes M M, Fig. 3, Plate 1, which at a proper angle are let loose for the better effecting this purpose. As the lever is depressed it bears downward with it the crutch, Plate 1, Fig. 3, and the cross-connections K serve to return the crutch in position by lying athwart the stem or stern post and preventing it rising. Chains are then successively to be sunk at the end of the vessel to be operated on, and their ends made fast to the capstan on board the camels B and C, Plate 1, Fig. 1, on each side of the sunken vessel, which are securely moored in the most convenient situation for dragging the chains. The crutch is then to be placed across the chains, which are confined to the pulley-grooves by means of ropes M M, Fig. 3, Plate 1, and let down to the bow of the sunken vessel, as shown at L L′, Fig. 1, Plate 1, and the chain is then tightened and drawn to and fro from the capstan on board B to the other on board C, and continued pressure is maintained with the lever until the chain is depressed below the keel, when the lever may be raised and the chain removed from the crutch by loosening the ropes M M, and the same to-and-fro motion may be continued by the aid of the crutch as a fulcrum until the chain is brought sufficiently far under to serve for a support in connection with another chain, as shown at I C I, Plate 1, Fig. 1, and F C F, Plate 2, Fig. 1. A second chain is sunk and forced below the keel, and brought into the position, as shown at H C H′, Plate 2, Fig. 1, and similarly the third chain into the position F C F, Plate 2, Fig. 1.

For effecting the second part of my invention, I also employ camels (constructed square or otherwise) B B′, Plate 2, Fig. 1, moored securely alongside the sunken vessel, as shown, by the chains forward and aft. Also, a frame of stout timber, F F′ D L D L′, Plate 2, Fig. 1,

at right angles to one another, and maintained in position by the cross-pieces D, Plate 2, Fig. 1, rigidly connected to F F and I I or H H. The end of the chains E E′ L L′, Plate 2, Fig. 1, must then be made fast to the frame F F and I I at the several points E′ E′ and L L, Plate 2, Fig. 1. I then raise the jackscrews or hydraulic presses F F I I forward and aft, so as to lift the vessel from the bottom. I then haul taut and make fast the middle chain to the timber-beam under the frame, and this will serve by raising the center jackscrews or hydraulic presses H H, Plate 2, Fig. 1, to lift the vessel still farther. The chains E E′ and L L, forward and aft, are then made taut, and the jackscrews or presses H H, Plate 2, Fig. 1, are then lowered in the center, and with them the center beam, H C H, Plate 2, Fig. 1, which is again to be made fast to the center chain when hauled taut, and by raising the screws or presses H H, Plate 2, Fig. 1, the vessel receives a third lift. The weight is to be taken off the forward-and-aft chains, which are to be hauled in and made fast, when taut, as before, to the beams F C F and I C I, Plate 2, Fig. 1. The center beam is then again to be lowered and raised, and the slacking and hauling in the forward-and-aft chains is to be repeated until the vessel is sufficiently raised. The beam H C H, Plate 2, Fig. 1, is to be detached from the frame when in action.

Having thus described my invention, I do not claim the manner of raising vessels by means of jackscrews or hydraulic presses. I am well aware that this device is already known and used.

What I do claim as my invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the lever E and the crutch G, (or their equivalent,) together with the cross-timbers I C I, H C H, F C F, and D D D, substantially as and for the purposes herein specified and set forth.

AUSTIN Z. PAGE.

Witnesses:
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