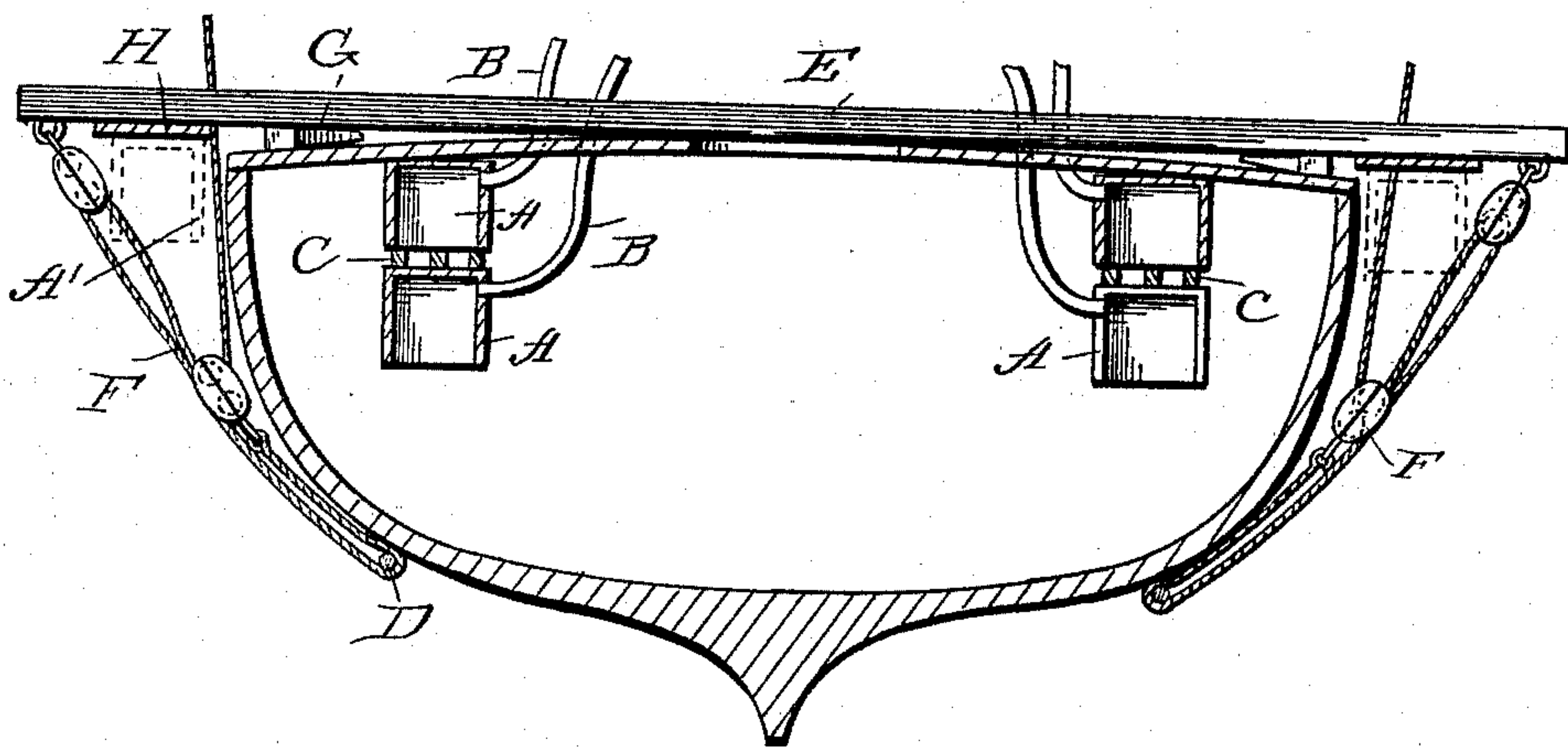


(No Model.)

J. T. KELLY.
RAISING SUNKEN VESSELS.

No. 495,494.

Patented Apr. 18, 1893.



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UNITED STATES PATENT OFFICE.

JOHN TONNER KELLY, OF NORTH FITZROY, VICTORIA.

RAISING SUNKEN VESSELS.

SPECIFICATION forming part of Letters Patent No. 495,494, dated April 18, 1893.

Application filed November 22, 1892. Serial No. 452,846. (No model.)

To all whom it may concern:

Be it known that I, JOHN TONNER KELLY, blacksmith, a subject of the Queen of Great Britain, residing at 40 Queen's Parade, North Fitzroy, near Melbourne, in the British Colony of Victoria, have invented a certain new and useful Improved Means for Raising Sunken Vessels, of which the following is a specification.

10 This invention has been devised for the purpose of providing effective means for raising sunken vessels and in doing so the well known principle of displacing water by the pressure of air has been adopted. Hitherto
15 all attempts to utilize this method have been failures, and my invention consists in certain means whereby this method may be made successful.

20 According to my invention, I lower into the various compartments of the vessel, cases, one end of which is left open, but is lined with some material which is in itself air-tight, such as zinc, tin, or any flexible material, such as canvas or diver's dress cloth.

25 The drawing shows a sectional view of a vessel in connection with my invention.

The cases A may be of any size or shape. The kind I propose to use are those that are generally used for importing and exporting
30 perishable goods, such as drapery, pianos, &c., or well-made casks or iron tanks will answer the purpose. When lowered into the compartment they are brought directly underneath the place they are meant to occupy;
35 the cask or tank is then inverted with the open end downward; the end of a hose B (which is attached to some suitable source of air supply) is then pointed into the case, cask or tank, when the air will displace the water
40 and cause the case to become buoyant, when it may be directed into its proper position underneath the top of the compartment. The hose or pipe may then be temporarily fastened into the lower end of the case and air forced
45 into it by means of a pump or air compressor until all the water in the case, tank or cask is displaced, when another may be operated on in the same manner.

50 Where the cases have to be placed in the compartment more than one tier deep, care

must be taken that the top or upper end of the lower one does not entirely close the open end of the one immediately above it. This may be easily attained by placing, say, three
55 battens, C one and a half inches thick, between the cases. The reason for keeping the lower end of the cases open is to allow the compressed air to escape rapidly as the vessel rises to the surface. In some cases it may
60 be found necessary to line underneath the deck beams with strong planks, say, Oregon, of sufficient size to stand the strain from beam to beam. The planks of course should be placed in position prior to the lowering of
65 the cases into the compartment.

The upper deck of the vessel may also be strengthened from the outside in the following manner:—Let a cable or wire D be passed round the ship from stem to stern, and made
70 fast at the ends. Let it be kept well below her bilge and quarters. Strong beams E are then laid across the ship's decks; the beams should be long enough to project outside of the ship's sides, say five feet. A block and tackle F
75 rove with chain or wire rope is then attached to both ends of the beams, and connected with the cable that has already been passed round the ship and drawn as tight as practicable. Blocks and wedges G may now be driven
80 between the beams and the deck, which will be found to strengthen the deck just in proportion to the number of beams that are laid across in the manner herein described.

Additional lifting power may be obtained from the outside of the ship by lining under-
85 neath the portion of the strengthening beams already described that project outside of the ship's sides with Oregon planks, H when tanks or cases A' may be placed under them in the same manner as they are placed under
90 the deck.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—
95

1. In an apparatus for raising sunken vessels, the combination of the air casks placed in the hold, the air pipes leading thereto, the beams extending across the deck and projecting therefrom at each side, the cable pass- 100

ing around the vessel and the connections between the said cable and the projecting ends of the beams, substantially as described.

2. In an apparatus for raising sunken vessels, the beams extending across the deck and projecting therefrom at each side, the cable passing around the vessel with connections to the beam ends, and the air casks placed un-

der the projecting ends of the beams, substantially as described. 10

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHN TONNER KELLY.

Witnesses:

WALTER SMYTHE BAYSTON,
WILLIAM GUEST HOLDEN.