

(No Model.)

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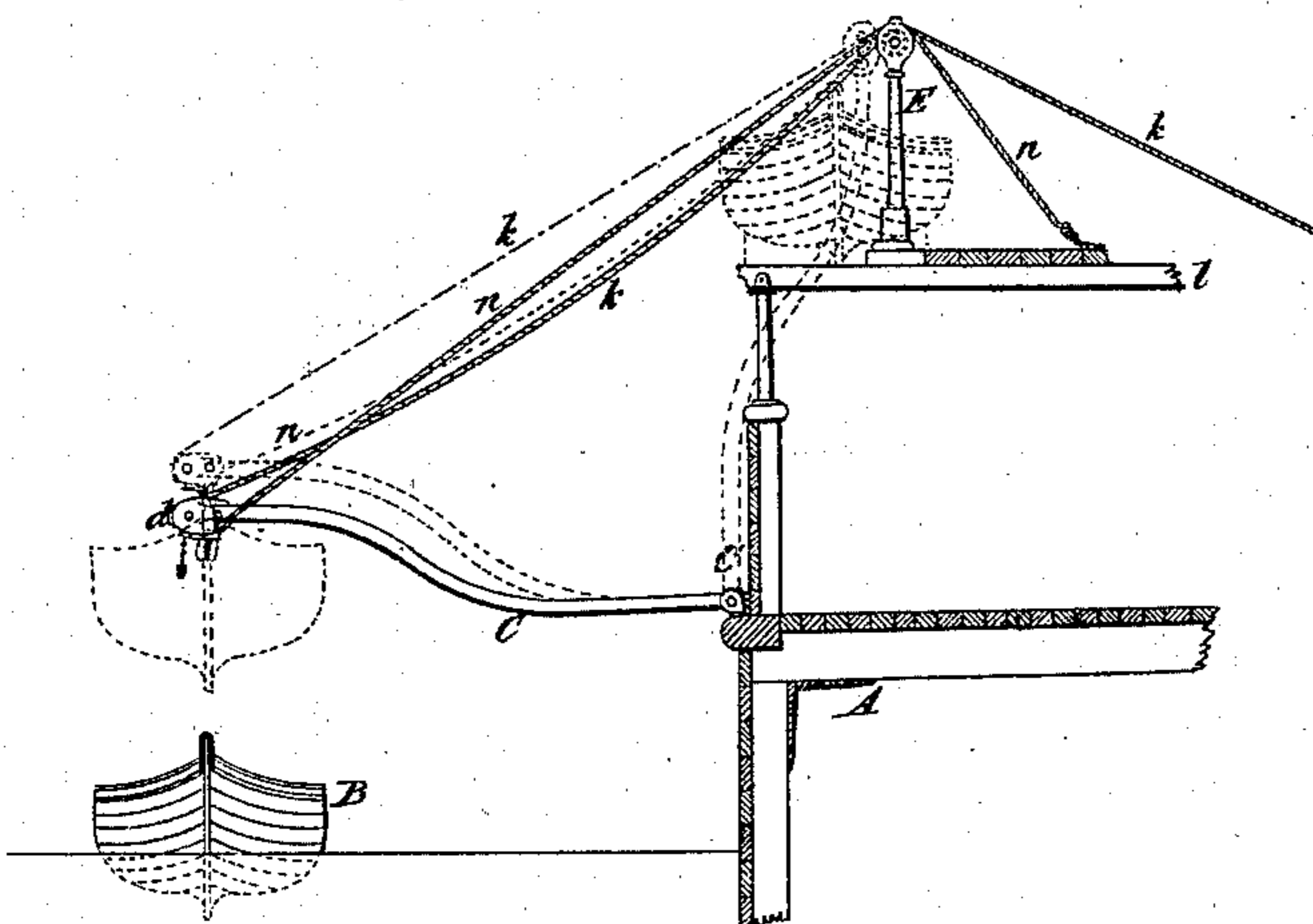
G. G. LAURENCE.

APPARATUS FOR RAISING, LOWERING, AND DETACHING BOATS.

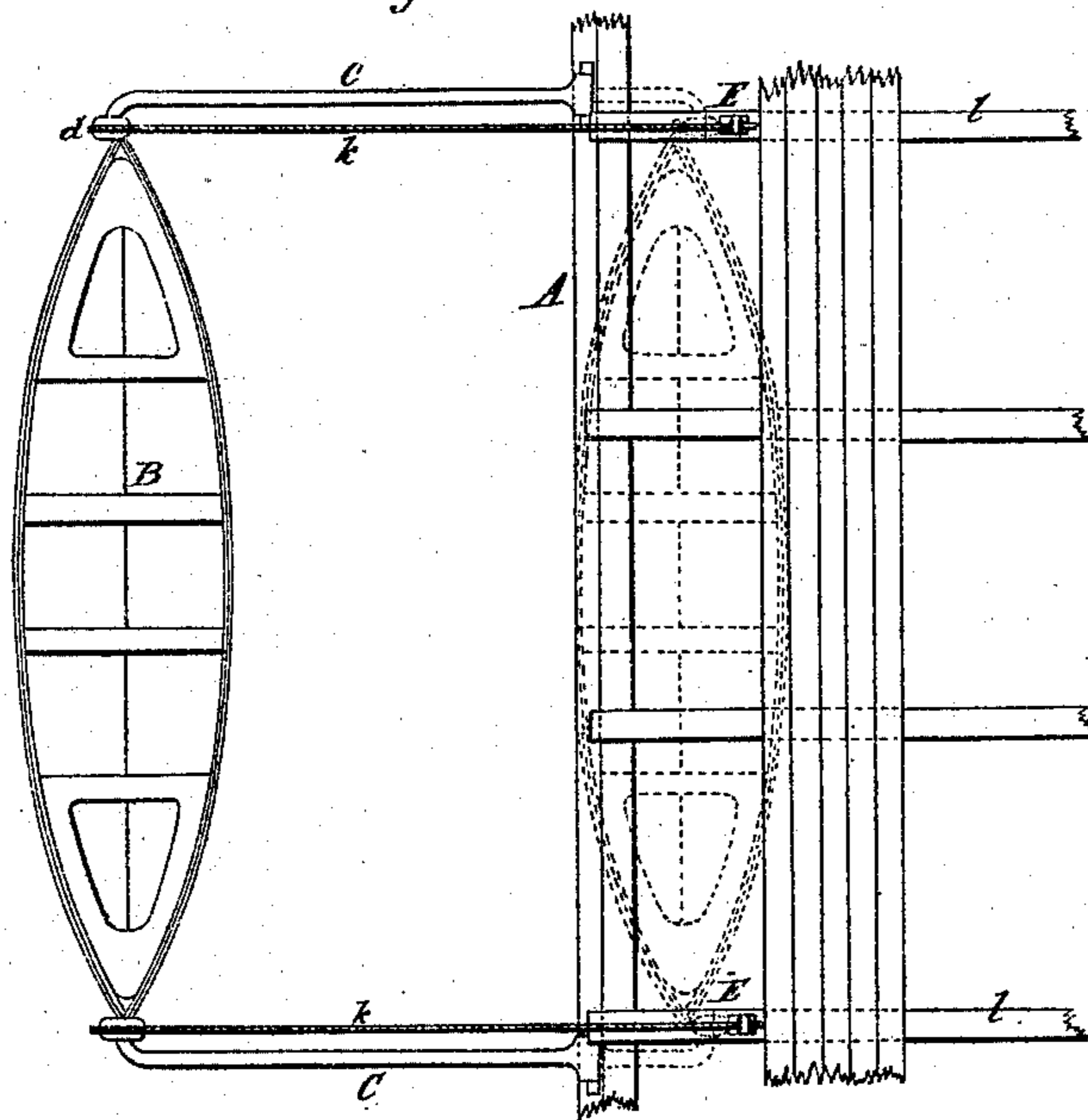
No. 252,480.

Patented Jan. 17, 1882.

*Fig. 1.*



*Fig. 2.*



Witnesses.

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*Robert Everett*

*Inventor:*

*Godfrey G. Laurence.*

*By James L. Norris.*  
*Atty.*

(No Model.)

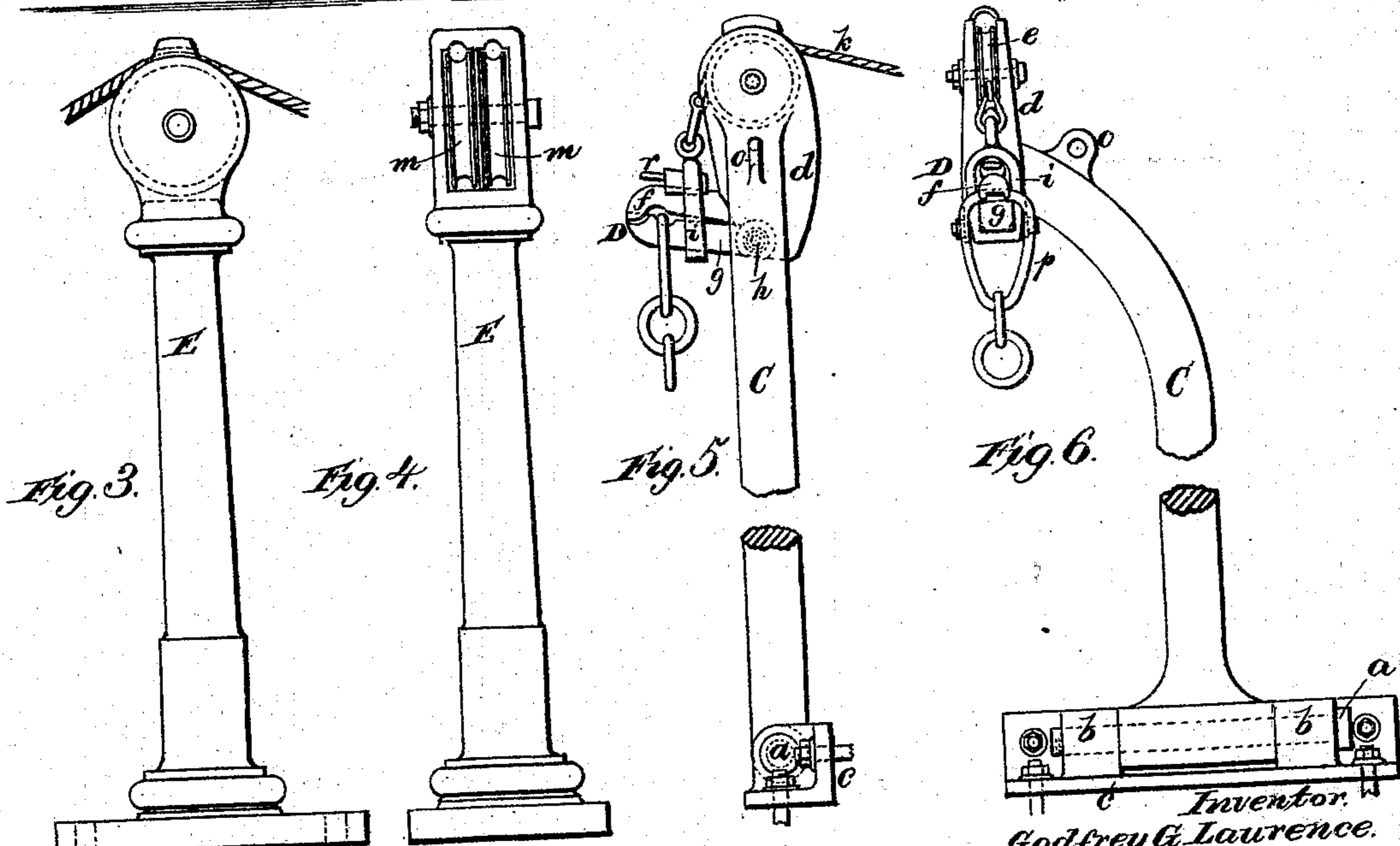
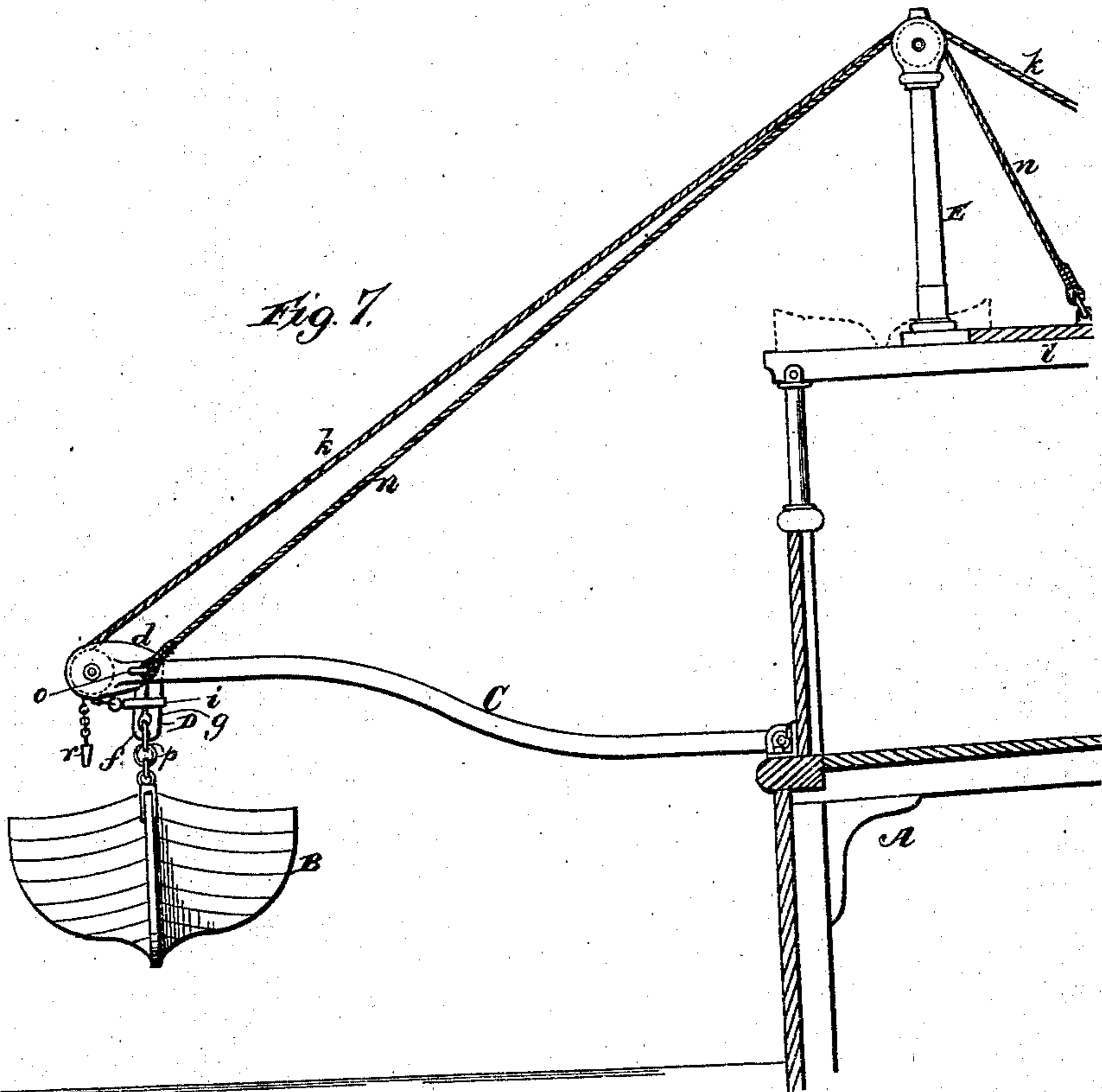
2 Sheets—Sheet 2.

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APPARATUS FOR RAISING, LOWERING, AND DETACHING BOATS.

No. 252,480.

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Witnesses:  
*Robert Everett*  
*J. A. Rutherford*

Inventor:  
*Godfrey G. Laurence.*  
By *James L. Norris.* atty.

# UNITED STATES PATENT OFFICE.

GODFREY G. LAURENCE, OF LONDON, ENGLAND, ASSIGNOR TO PHILIP THOMAS BLYTH, OF SAME PLACE.

## APPARATUS FOR RAISING, LOWERING, AND DETACHING BOATS.

SPECIFICATION forming part of Letters Patent No. 252,480, dated January 17, 1882.

Application filed August 10, 1881. (No model.) Patented in England June 24, 1876, in France August 3, 1878, and in Belgium March 11, 1879.

*To all whom it may concern:*

Be it known that I, GODFREY GIOVANNI LAURENCE, of London, England, have invented new and useful Improvements in Apparatus for Lowering, Disengaging, and Raising Ships' Boats and for Similar Purposes, (for which I have obtained a patent in Great Britain, No. 2,605, bearing date June 24, 1876, in France, No. 125,970, bearing date August 3, 1878, and in Belgium, No. 47,618, bearing date March 11, 1879,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates principally to the davits employed in the raising and lowering of ships' boats, and has for its object to facilitate such operations, and also to enable boats to be readily stowed without disconnection from the davits. These objects I accomplish by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents an elevation of the invention applied to a ship or vessel, a portion of the latter being shown in section; Fig. 2, a plan view of the same; Figs. 3 and 4, detail views of the standard which supports the falls for raising or lowering the davit; Figs. 5 and 6, detail broken views of the davit; and Fig. 7, a view similar to Fig. 1, on an enlarged scale.

In these figures, A is a portion of the upper deck of a vessel. B indicates a ship's boat, and C C are the said improved davits. The form and construction of each davit will be more clearly understood by reference to Figs. 5 and 6, Fig. 5 being taken on the same plane as Fig. 1, and Fig. 6 on a plane at right angles therewith. In both figures, for obvious reasons, the davit is represented as broken. The lower end of each davit is formed with a foot, which projects on each side and is bored or otherwise prepared to receive a pin, *a*, which passes through lugs *b*, formed or fixed on a bracket-piece, *c*, which is securely bolted to the side of the vessel. The form of the bracket-piece and the method of attachment to the vessel may be varied to suit the circumstances of any particular case. The pin *a* may be fixed in the said lugs and be loose in the davit-foot,

or be fixed in the said foot and be loose in the said lugs, or be loose in both foot and lugs, as preferred. I consider that the best effect will be obtained by fixing the pin in the davit-foot and fitting it to turn in the lugs; or, in lieu of the pin, trunnions may be formed on the foot and be fitted to turn in suitable bearings formed or fixed on the said bracket-piece or fixed to the ship's side.

The upper end of each davit in a pair is bent sidewise and inward, the two davits being formed right and left—that is to say, the upper ends of the two davits project toward each other. A head, *d*, is formed on the upper end of each davit. Each head is formed to receive a sheave, *e*, and is also formed and fitted with a pair of jaws, *D*. One jaw, *f*, is fixed, being formed in one piece with the head, or being firmly fixed thereto, and the other jaw, *g*, is hinged at *h* to the said head. A shackle, *i*, is formed to slip over the two jaws, and is formed with an eye for attachment to a fall, *k*. The end of the said fall in the case of each davit is attached to a spring hook, which hooks into the said eye. The said hook is of the ordinary safety-hook form, but, if not considered to be necessary, an ordinary form of hook may be employed; or the said shackle may be otherwise connected with the end of the fall by any suitable means.

When using in any part hereof the term "fall" I must be understood to mean any appliance suitable for my purposes—such, for example, as a rope of wire, hemp, or other suitable material, or a chain. The fall *k* passes over the sheave *e*, and also over one of two sheaves, which are mounted in the head of a standard, *E*, which is secured to a skid-beam, *l*. The said standard is represented by Figs. 3 and 4 in Sheet 2, wherein *m m* are the two sheaves which are mounted in the head of the standard. The form of this standard is not material, as the sheaves may be carried by any suitable standard, bracket, or framing fixed to any suitable part of the vessel. The fall *k* is led from the said standard to a winch, or to a suitable form of apparatus for obtaining a purchase. The said winch is fixed in

any suitable position on deck, or is fixed to a post, beam, or part of the vessel, and if necessary or advisable the said fall is led over or through other sheaves or blocks to the said winch.

The two falls *k* from both davits are led to the same winch or purchase, or to winches or purchases connected together or arranged to act in unison, the intention being that both falls shall be let out or hauled home simultaneously, and as much as possible to an equal extent. One end of a second fall, *n*, is attached to an eye formed on the davit at *o*, or is otherwise secured to or connected with the upper part of the davit. This fall is led over the other of the two sheaves *m*, and is attached by the other or inner end to a ring-bolt or to a fixed part of the vessel, or is led through a dead-eye or block, or is otherwise so arranged that it can be lengthened or shortened, and can be secured or made fast to a fixed point, or the ends of the falls *n* from both davits may be connected. In the drawings the inner end of the fall *n* is represented as being tied to a ring-bolt secured to the skid-beam.

The jaws *D* are so suitably formed that when closed a link, *p*, can hang freely within the jaws and be retained therein so long as the movable jaw is closed against the fixed jaw. The said link is connected by means of a short chain with an eyebolt attached to the end of the boat, or is otherwise connected with the boat. As there is a corresponding arrangement in all respects in connection with both davits the boat is suspended between the two davits, as indicated in Fig. 2, the inward projection of the davit-heads permitting the boats to swing clear between the two davits when they are hauled inboard. In lieu of the said inward projection, the davits may be curved to pass below and behind the boat when the boat is stowed. It will be seen that when so suspended the weight of the boat is sustained by the hinged jaws, and that when these jaws are permitted to open the boat will be released.

To prevent the jaws from opening when not required to open, I employ a wedge, *r*, which is inserted into the shackle above the fixed jaw; but I do not confine myself to this arrangement, as a pin or any other suitable appliance may be adopted in lieu of the wedge, and it is possible to dispense with the use of such an appliance.

The method of lowering the boat may be described in manner as follows: I will suppose the boat to have been unshipped from the skid-beams, and pushed off so that the davits are kept from falling outward by the falls *k k*. The said falls are now slackened off, and the davits are thereby permitted to fall outward, the lower ends turning on their hinges and swinging the boat well out and clear of the ship's side. As the upper ends of the davits move over, the loose wedges *r* fall out of or are drawn out of the shackles; but as the strain

due to the load is borne by the shackles the said shackles press the movable jaw toward the fixed jaw, and the jaws are therefore not at liberty to open. When the boat is nearly low enough to be released the two sets of falls will be as indicated in the dotted lines in Fig. 1, the falls *n* being so adjusted in length that they will tighten when the boat is low enough to be released. The lowering of the boat continuing, the falls *n* take the load, whereby the falls *k* slacken, and the closing strain being taken off the movable jaws, they are no longer able to sustain the load, and the boat is released and drops into the water, as indicated by the full lines in Fig. 1. According to this method, and supposing the falls *n* to have been adjusted at some previous time, it would be simply necessary to run out the falls *k* until the boat became released by the tightening of the falls *n*; but this method may be varied—as, for example, both sets of falls may be run out, and when the boat has been lowered sufficiently the falls *n* may be hauled tight. The falls *k* being then slackened or let off, the boat would immediately be released. When the boat is to be raised the davits are lowered until the links *p* can be shipped within the jaws, which are kept closed until the falls *k* take the strain, and the said falls are then hauled in, so as to bring home the davits which swing the boat aboard and land it on the skid-beams. The said jaws may be kept closed during the hauling in by inserting the wedge in the shackle, and it may be of advantage to employ a pin or other contrivance to keep the said wedge from falling out while the boat is being raised. Other methods of working the davits may be preferred to the methods hereinbefore described—as, for example, when raising the boat the safety-hooks may be hooked into rings attached to the boat, and the boat be raised by hauling in the falls *k*, as before. In such a case I should prefer to ship the links *p* into the jaws before landing the boat on the skid-beams. This may be effected by tightening the falls *n*, so as to take the weight of the load and davits. The said links may then be shipped, the wedges be inserted in the shackles, and the safety-hooks be hooked into the eyes on the shackles.

Various other modifications may be made in the forms of the parts than those herein indicated, so long as the main feature of my invention is retained—namely, the holding jaw or jaws kept closed by the strain upon the fall employed to raise and lower the load, and which is or are permitted to open, so as to release the boat by transferring the said strain to a second fall.

What I claim is—

1. The combination, with the vertically-swinging davit, of the sheave arranged in its head, the jaws *f g*, the shackle arranged to be slipped over the said jaws, and the fall connected with the said shackle and passing over

the sheave in the head of the davit, substantially as described.

2. In an apparatus for raising and lowering ships' boats, the combination, with the vertically-swinging davits C and the standards E, of the falls *k* and *n*, the heads *d*, provided with the jaws *f g*, the shackle *i*, with a wedge, *r*,

arranged between it and the jaw *f*, and the link *p*, all substantially as above set forth, and for the purposes specified.

GODFREY GIOVANNI LAURENCE.

Witnesses:

WILLIAM CROSS,  
LEWIS SANDERSON.