

No. 668,660.

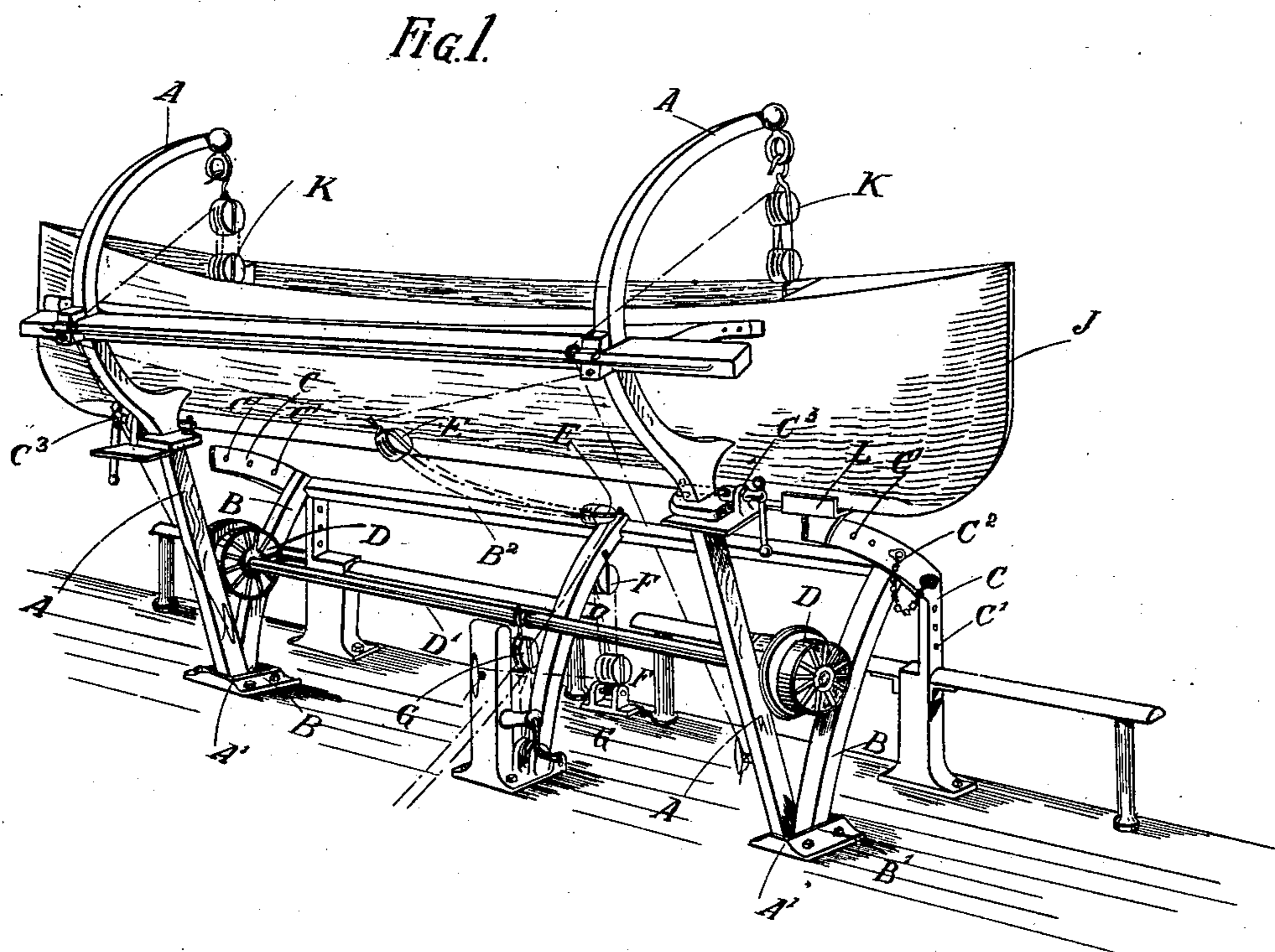
Patented Feb. 26, 1901.

D. ROCHE.
BOAT LOWERING GEAR.

(Application filed June 19, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

W. K. Boulter

A. E. Boulter

Inventor:

David Roche

By W. K. Boulter

Attorney

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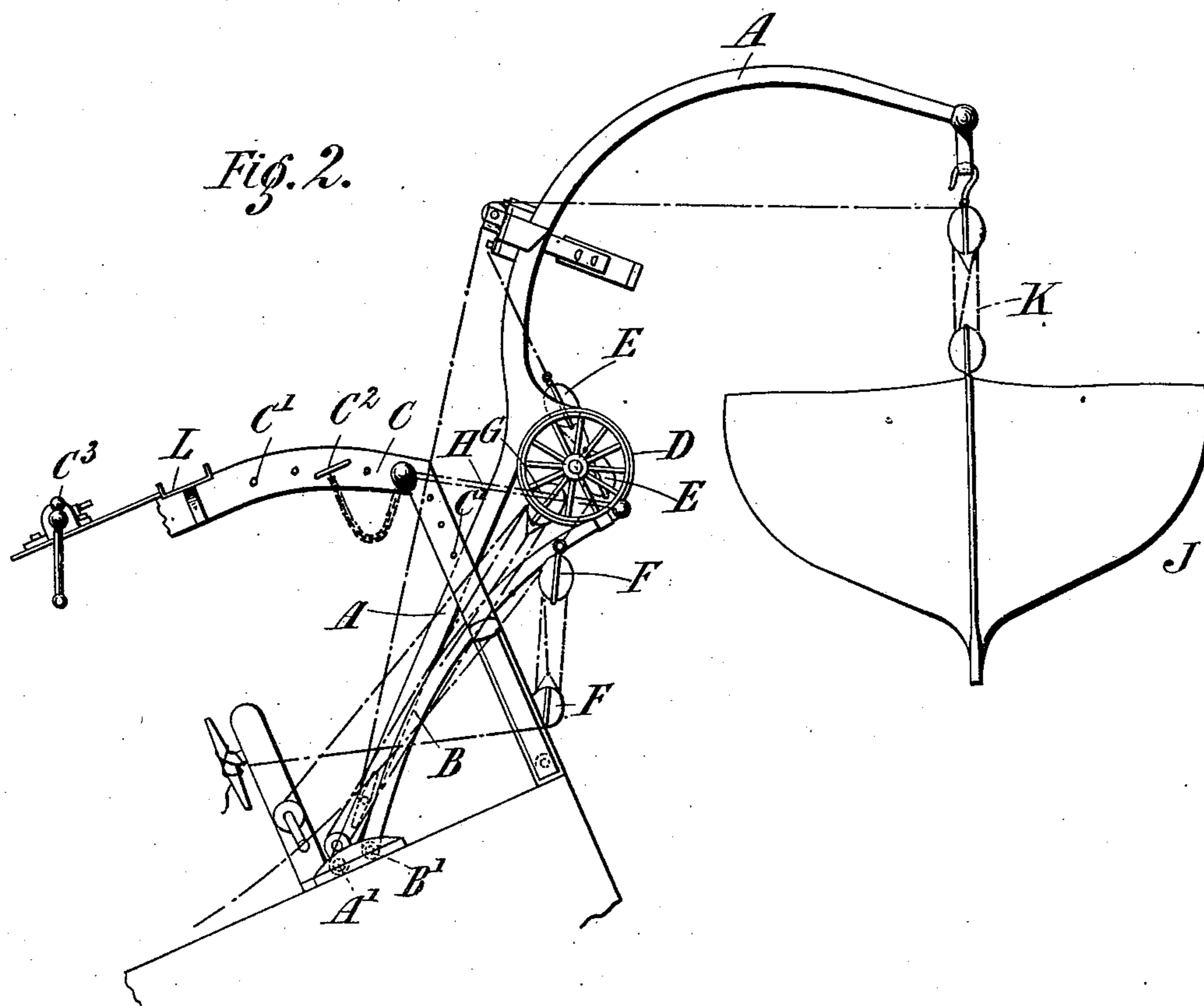
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Witnesses

W. K. Boneter

A. E. Boulter.

Inventor:
David Roche
By *Wm. E. Boulter*
attorney

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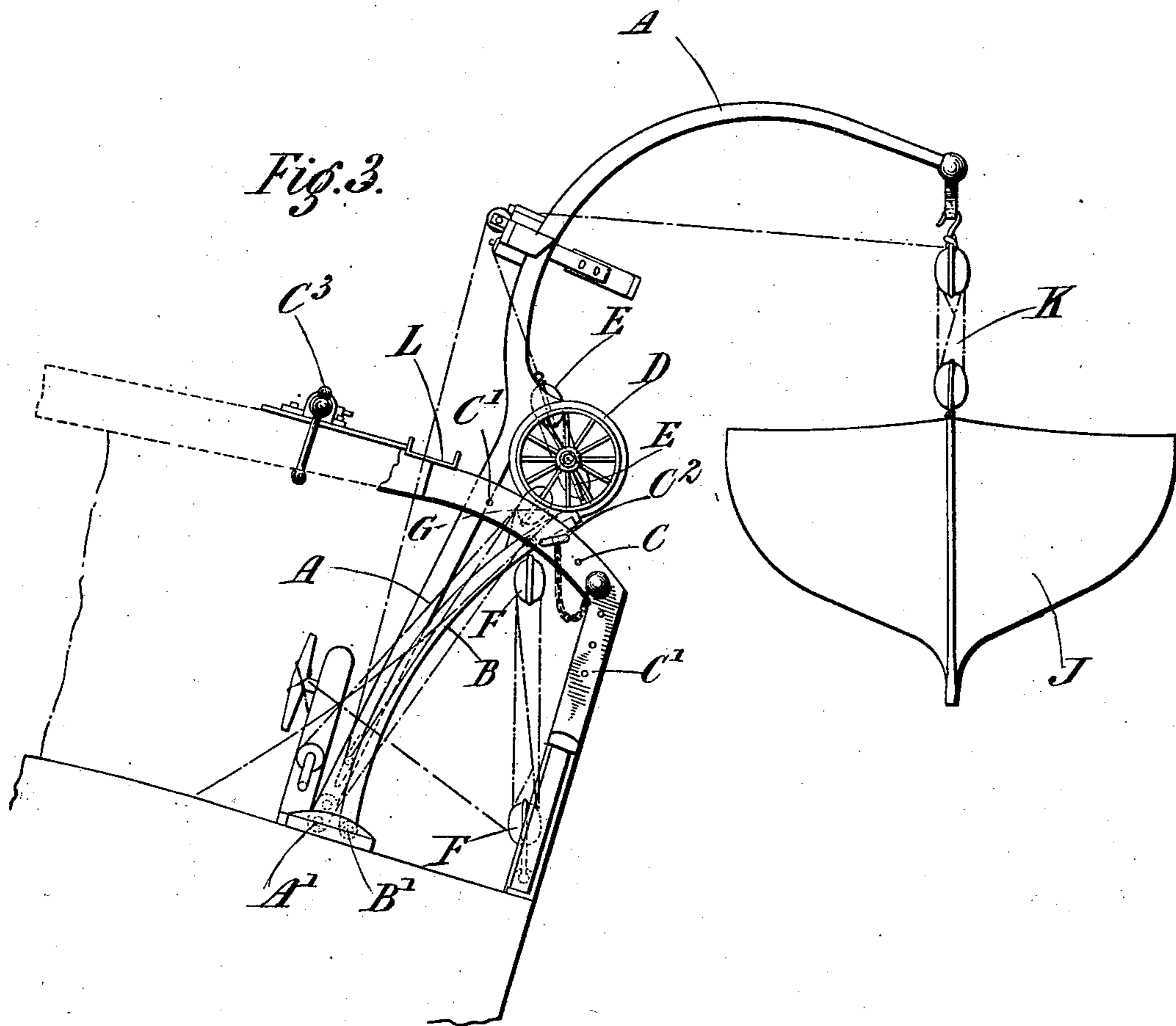
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3 Sheets—Sheet 3.



Witnesses
H. H. Bonet
A. E. Boulton.

Inventor:
David Roche.
By Wm. E. Saulter,
attorney

UNITED STATES PATENT OFFICE.

DAVID ROCHE, OF LONDON, ENGLAND.

BOAT-LOWERING GEAR.

SPECIFICATION forming part of Letters Patent No. 668,660, dated February 26, 1901.

Application filed June 19, 1900. Serial No. 20,891. (No model.)

To all whom it may concern:

Be it known that I, DAVID ROCHE, a subject of the Queen of England, residing at London, England, have invented certain new and useful Improvements in or Relating to Boat-Lowering Gear, of which the following is a specification.

This invention relates to boat-lowering gear, and has for its object the provision of means for adjusting the devices of a kind hereinafter described by which the movement of pivoted davits outboard is retarded more or less, as desired. Such adjustment is necessary when the ship heels or acquires a list, for under such circumstances the action of these retarding devices as heretofore arranged is inconveniently modified by alteration of the trim of the vessel.

Boat-lowering gear has been made in which the weight of the davits when inclined outboard has been balanced by means of a weighted roller or other traveling strut situated in the angle between the davit and a fixed inclined guide; but this arrangement operating in the manner hereinafter described has the defect of not being in balance should the ship have a list to either side. According to the present invention this difficulty is obviated by making the inclined guides adjustable as regards the angle they make with the davits and the deck, so that the davits and the boat may be wholly or partially balanced as regards their weight irrespectively of the list of the ship. Moreover, it will be seen from what follows that the inclined guides can be made to extend sufficiently far over the vessel's side to act as an outrigger by which the boat can be pulled out with the aid of a tackle attached to the outboard portion of the inclines. Further, the inclined guides when thus extended beyond the ship's side afford, together with the traveling strut run out to their ends, an outboard-support for the davit intermediate of its ends, so that the excessive bending moment which would otherwise come upon the davits in their extreme outboard position, if no such support were provided, is materially counteracted. Whether the inclined track be so far inclined as to project over the ship's side or not, it is desirable that it should be so adjusted that with the davits in their extreme position and

the boat ready for lowering the traveling strut should be at the end of the incline. By this means the maximum support for the davit is obtained in any case.

In the accompanying drawings, which illustrate one method of applying this invention, Figure 1 is a perspective view of the boat-lowering gear with boat in place. Fig. 2 is an end view of the gear with boat ready for lowering, the ship having a list, as shown. Fig. 3 is also an end view of the gear with boat ready for lowering, but with the ship listed in a direction opposite to that indicated by Fig. 2.

Like letters indicate like parts throughout the drawings.

A represents davits pivoted to the deck at A'. At B', also pivoted to the deck, are inclined guides B, which are joined at their upper ends by a bar B².

C' represents holes in beams C to enable the inclined guides B to be fixed at various degrees of inclination by means of pins C².

C³ represents bolts for locking the davits A to the beams C when the boat J is in the chocks L.

D represents rollers constituting traveling struts and borne on an axle D', which move up the inclined guides B when the davits A are canted outboard.

E is a tackle for canting the davits A outboard when the guides B have been secured to the beams C or for raising the guides B when the davits A are clamped to the beams C.

F is a tackle for operating the inclined guides B.

G is another tackle for pulling the axle D', on which are mounted the rollers D, downward.

Ties H may be provided between the beams C and the inclined guides B to partly support the weight of the gear and a boat J when placed in their extreme outboard position, as shown in Fig. 2.

K is a tackle for hoisting or lowering the boat J.

L represents chocks for the boat J to rest on when it is in the position shown in Fig. 1.

The operation of this known type of boat-lowering gear is as follows, presuming the boat J to be in position on the chocks L, as shown in Fig. 1, and that it is required to in-

cline the davits A outboard preparatory to lowering the boat J: The boat J is let go by slipping the chocks out. As the center of gravity of the gear is slightly on the outboard side of the pivots A', on releasing the tackle G the davits A, together with the boat J, will move outboard, the speed with which they travel being checked by the weighted rollers D, which are at the same instant forced in an upward and outboard direction between the davits A and the inclined guides B until the boat J is brought into a position in which it is ready for lowering. This operation can be satisfactorily repeated as long as the vessel does not heel. Difficulty has, however, been experienced when the vessel heels, as, on the one hand, when the inclined guides B approach the horizontal the weight of the davits A and the boat J will overcome the retarding effect of the rollers D owing to the center of gravity of the gear being farther on the outboard side of the pivots A than before and also owing to the incline up which the weighted rollers D travel having a smaller angle with the horizontal plane than before. On the other hand, when the inclined guides B approach the vertical the center of gravity of the gear will be brought to the inboard side of the pivots A and the incline up which the weighted rollers travel will have a greater angle with the horizontal than before. Consequently the retarding effect which the rollers exert on the davits A and the boat J will be increased. In the construction illustrated according to this invention this difficulty is overcome by pivoting the inclined guides B to the deck at B', so that they may be set at various degrees of inclination, being retained in the positions required by fixing them to the beams C by means of the pins C². Thus should the ship have a list to either side, and consequently the action of the rollers D relatively to the davits A be modified, as heretofore shown, the gear may be adjusted again by altering the inclination of the guides B either one way or the other, according to which side the ship is listed. The inclination of the guides B may be altered by operating the tackle E, F, or G, the davits A first being fixed to the beam C by means of the bolts C³. The guides B having been altered to the desired inclination and fixed in relation to the beam C by the pins C² and the davits A having been released from the beam C, the davits A, together with the boat J, may now be canted outboard and the boat J made ready for lowering, as hereinbefore described.

From the foregoing it will be seen that when the ship has a weather list the inclines can be lowered to lessen the drag of the traveling struts which is exerted when the boat is pulled over the higher side of the ship.

On the other hand, when the ship has a lee list the inclines are raised to increase the drag of the traveling strut and to be of greater support to the davits. Moreover, with a lee list the boat when my invention is employed is kept nearer to the ship's side than would be possible with any other type of boat-lowering gear with which I am acquainted, and this facilitates the safe shipment of passengers.

It will be seen that without departing from the nature of the invention different methods from those shown in the accompanying drawings may be used for raising or lowering the inclined guides B or the rollers D—as, for instance, in place of the tackle E, F, or G a worm and worm-wheel may be used or the position of the inclined guides B may be altered by manual labor instead of by a mechanical device. Again, other devices than those shown may be used for relatively fixing the davits A or the guides B to the beam C.

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

1. In a boat-lowering gear the combination with a davit hinged at its heel to the deck, a track inclined upward and outboard from the lower portion of the davit and adjustable as to its degree of inclination to the davit, means to retain the track in positions to which it is thus adjustable, and a traveling strut, situated in the angle between the track and the davit, substantially as set forth.

2. In a boat-lowering gear the combination with a davit hinged at its heel to the deck, a track inclined upward and outboard from the lower portion of the davit and adjustable as to its degree of inclination to the davit, means to retain the track in positions to which it is thus adjustable, means to lock the davit a tackle secured at one end to the track and at the other end to the davit, and a traveling strut situated in the angle between the track and the davit substantially as set forth.

3. In a boat-lowering gear the combination with a davit hinged at its heel to the deck, of a track inclined upward and sufficiently long to be able to project beyond the ship's side, adjustable as to its degree of inclination to the davit, means to retain the track in positions to which it is thus adjustable, and a traveling strut situated in the angle between the track and the davit and movable to the extreme upper end of the track for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID ROCHE.

Witnesses:

HARRY B. BRIDGE,
T. G. GLADWIN.