(No Model.) 3 Sheets—Sheet 1.

C. J. F. DE VOS.

MEANS FOR SECURING AND RELEASING BOATS ON BOARD SHIPS.

No. 550,700. Patented Dec. 3, 1895.

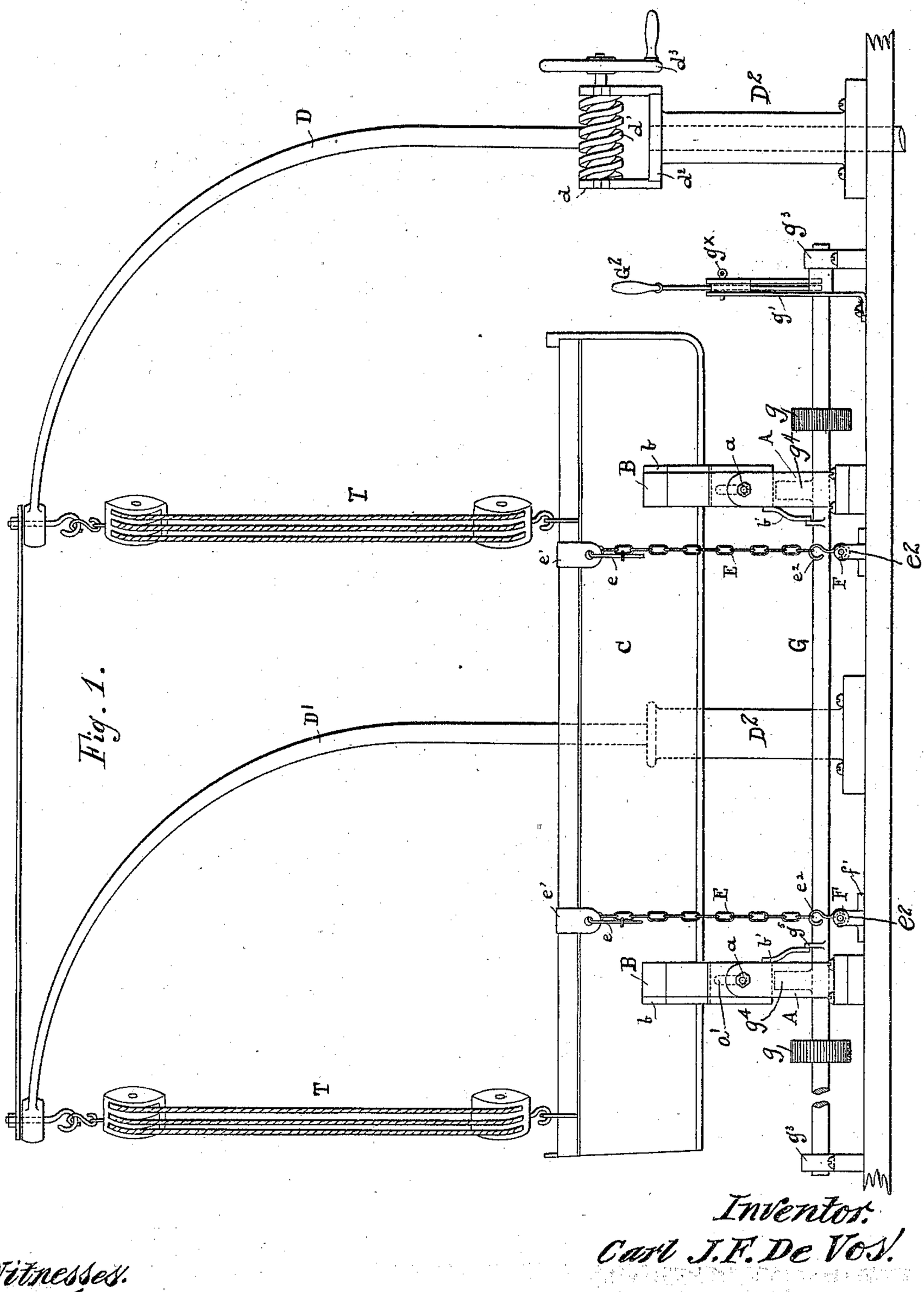

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

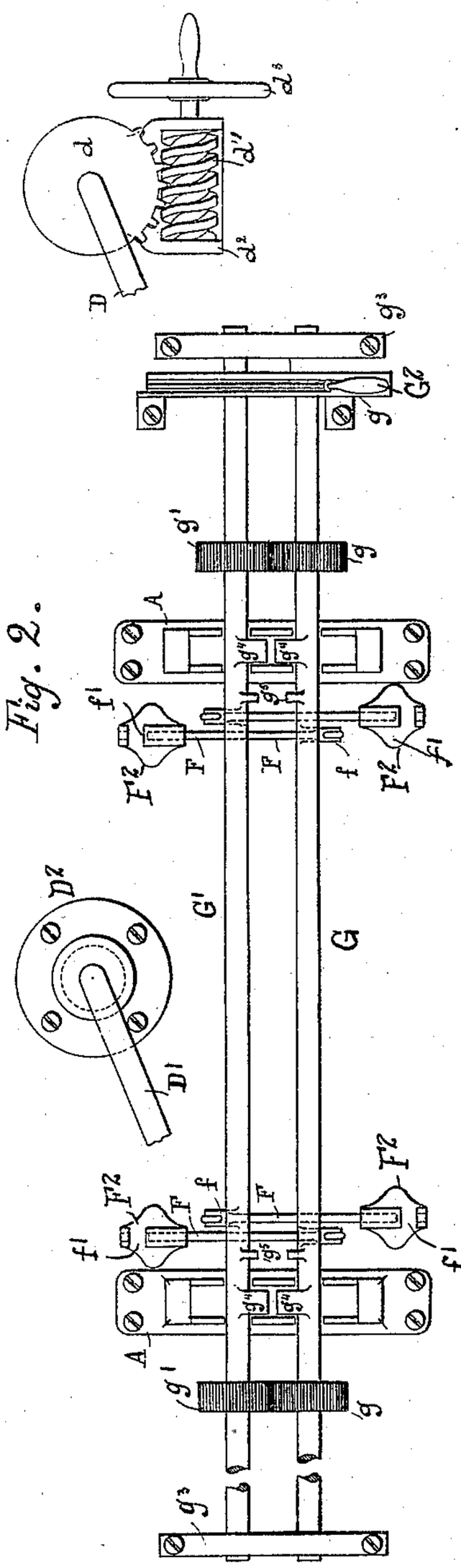


Fig. 5.

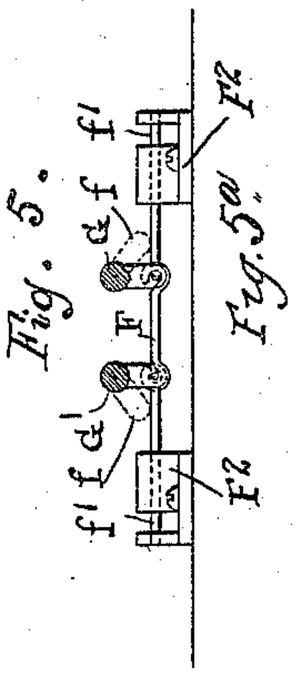


Fig. 5a.

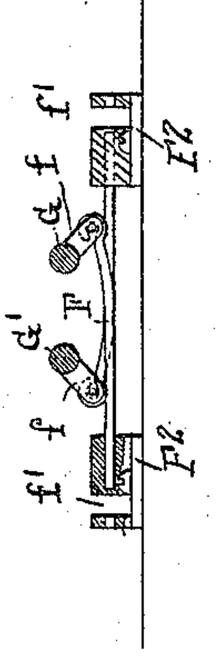


Fig. 4.

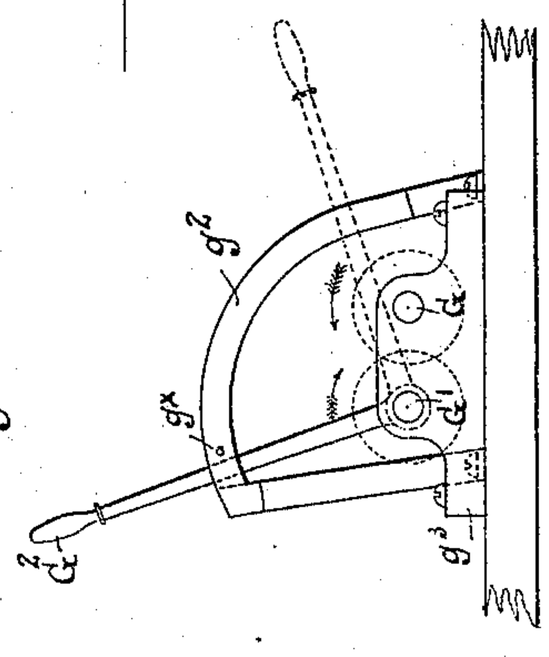
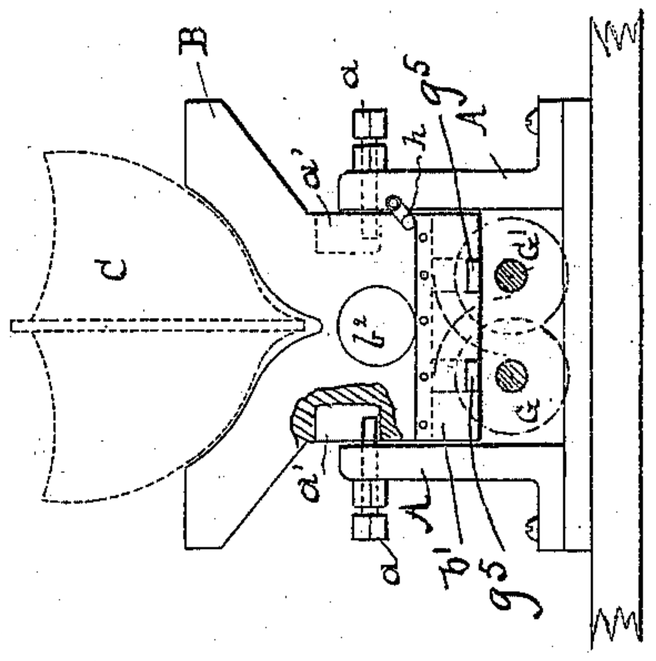


Fig. 3.



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(No Model.) 3 Sheets—Sheet 3.

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Fig. 4.

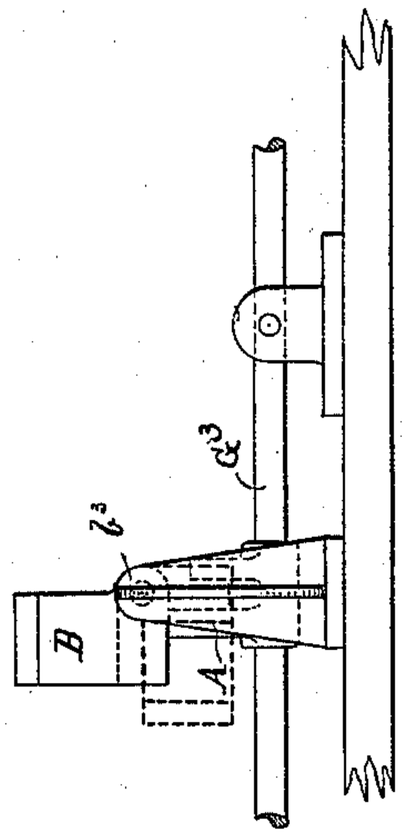


Fig. 6.

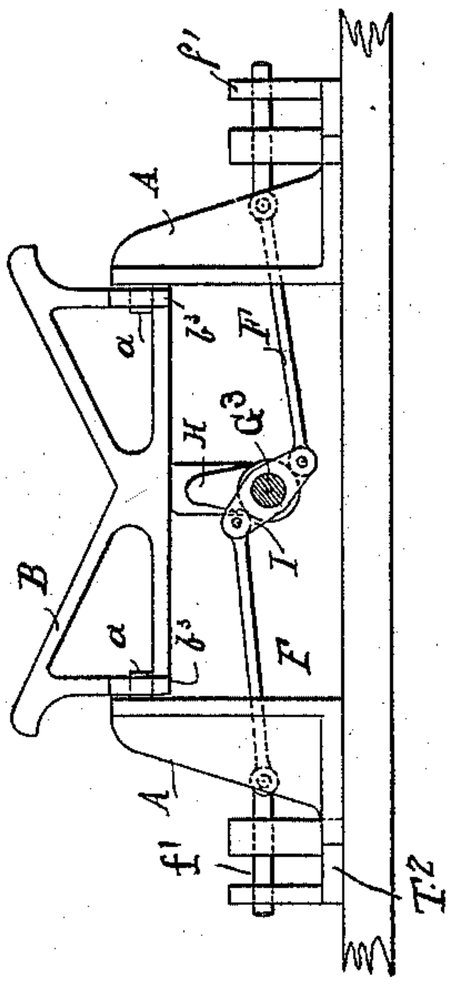
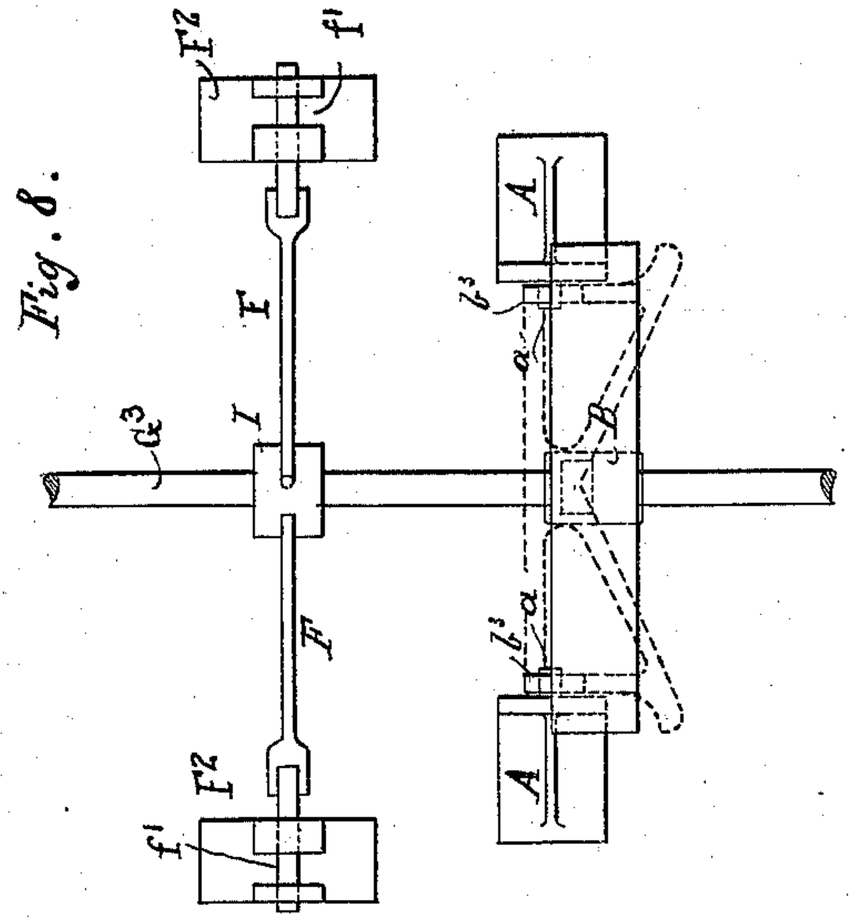


Fig. 5.



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UNITED STATES PATENT OFFICE.

CARL JOHANN FRIEDRICH DE VOS, OF ROTTERDAM, NETHERLANDS.

MEANS FOR SECURING AND RELEASING BOATS ON BOARD SHIPS.

SPECIFICATION forming part of Letters Patent No. 550,700, dated December 3, 1895.

Application filed June 6, 1895. Serial No. 551,811. (No model.) Patented in England October 24, 1893, No. 20,073; in Belgium November 23, 1893, No. 107,319; in France April 19, 1894, No. 237,899, and in Germany May 2, 1894, No. 79,228.

To all whom it may concern:

Be it known that I, CARL JOHANN FRIEDRICH DE VOS, a citizen of the Netherlands, residing at Rotterdam, in the Kingdom of the Netherlands, have invented certain new and useful Improvements in Means for Securing Boats on Board Ship and Elsewhere and for Expeditiously Releasing and Rendering them Ready for Lowering, (for which I have obtained Letters Patent in England, dated October 24, 1893, No. 20,073; in Belgium, dated November 23, 1893, No. 107,319; in France, dated April 19, 1894, No. 237,899, and in Germany, dated May 2, 1894, No. 79,228;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has relation to appliances for clearing a ship's boat from its supporting-blocks preparatory to launching.

The importance of rapidly clearing a ship's boat from its blocks preparatory to launching the same is well understood, and in the manner in which these boats are now manipulated considerable time is required to hoist and swing them clear of their blocks after having been disengaged from the boat's grips or lashings. The time usually required to perform these operations, swing the boat clear of the ship's sides, and launch the same, either before or after receiving the human freight, has in many cases proven fatal.

My invention has for its object the provision of means whereby a ship's boat may not only be instantaneously cleared of its supporting-blocks but simultaneously therewith released from its grips or lashings, so as to swing free from the davits ready for clearing the ship's sides and for launching, as will now be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation illustrative of the appliances whereby a ship's boat may be instantaneously cleared from its blocks and grips or lashings. Fig. 2 is a top plan view of said mechanism, the davits being broken away. Fig. 3 is an end elevation, partly in section, of one of the blocks and its supports; Fig. 4, a like view of the operating-lever and locking and releasing shafts. Fig. 5 is a side elevation of the devices for releasing the boat from its grips or lashings, the operating-shafts being shown in section; and Fig. 5ª is a transverse section of the devices shown in Fig. 5. Fig. 6 is a sectional end elevation, and Figs. 7 and 8 a fragmentary side elevation and a plan view of a modification of the locking and releasing mechanism.

Similar symbols of reference indicate like parts wherever such may occur in the figures of drawings above described.

Referring more particularly to Figs. 1 to 5ª, C indicates the ship's boat, D D′ the davits, which are adapted to revolve in suitable standards D^2, the davit D extending to the deck below and seating in a sector (not shown) that serves to limit its rotary movement in either direction for obvious purposes. The boat C is, as usual, suspended fore and aft from its davits by well-known tackle T, and is likewise supported from blocks B B of appropriate construction. The outward or divergent faces of the blocks B are weighted, preferably by means of a plate or body of metal, as a plate of lead *b*, while the inner or proximate faces of said blocks are provided with a lock-plate *b′*, projecting downwardly therefrom. The blocks B B are provided in their opposite ends with vertical recesses *a′*, Fig. 3, into which project pins or bolts *a*, secured in suitable standards A, said bolts serving as a fulcrum or pivot, on which thé blocks B can swing and move in a straight line.

G and G′ indicate two rock-shafts extending longitudinally of the boat below its blocks and having their bearings in standards $g^3\,g^3$, each shaft carrying two gear-wheels *g g* and *g′ g′*, one near each end arranged in intermeshing pairs, Fig. 2. To one end of the shaft G′ is secured a hand-lever G^2, that is guided in a slotted standard g^2 and held in a normal position by a locking-pin $g^\times$, Figs. 1 and 4, so that when said lever is moved from its said normal position, Fig. 4, into the position shown in full lines in Fig. 2 and in dotted lines in said

Fig. 4 the shafts G and G′ will revolve toward each other, as indicated by arrows in the last-named figure.

Each rock-shaft G G′ has three radial arms or lugs. (Indicated at g^4, g^5, and f, Figs. 2, 5, and 5ª.) The radial arms g^4 are of such a length as to engage the under side of the blocks B B when in their normal or elevated position and support the same. The radial arms or lugs g^5, when in their normal or elevated position, lie in front of the plates b and lock the blocks against tilting, while the radial arms f are pivotally connected to one end of two rods F, that have sliding motion in guide-bearings F^2, in which is formed a hiatus or slot f'.

The boat grips or lashings consist of four chains E, having at one end a hook-plate e', adapted to hook over the gunwale of the boat and connected to one end of the chain by a hook-coupling e, Fig. 1. The other end of the chains E is provided with a hook adapted to be locked to that part of the rods F intersecting or crossing the hiatus or slot f' in their guide-bearings F^2 when said rods are in their normal position, Fig. 5. On the standard D^2 for the davit D is secured or formed a bearing d^2 for a worm d', one of the journals of which carries a fly-wheel d^3, provided with a suitable handle, said worm meshing with a toothed wheel or sector on the davit, whereby said davit and therethrough its companion are revolved in their bearings to swing the boat in or outward, as may be required.

The operation of the above-described mechanism is as follows, the devices being in their normal positions, as shown in Fig. 1: By removing the lock-pin $g^\times$ and depressing the lever G^2 into the position shown in full and dotted lines in Figs. 2 and 4, respectively, the shafts G and G′ are revolved toward each other, which partial rotation has for its results the withdrawal of the supporting-arms g^4 g^4 on said shaft from under the blocks B B, the withdrawal of the radial lugs g^5 from in front of the lock-plates b', and the inward motion of the rods F F, whereby the boat-lashings E E are disengaged from said rods, the blocks B B allowed to drop slightly to clear the boat and allow them to tilt inwardly and out of the way of such boat, which, after unhooking the lashing-chains from its gunwales, may be at once swung clear of the ship through the medium of the worm-gearing above described. It will be seen that all these operations, except the swinging out of the boat, take place simultaneously and, I may say, instantaneously, while the operation of swinging the boat clear of the ship's sides also requires but a very short time, so that the boat can be brought into position for launching in the briefest possible time. Now if such a boat is provided with any of the well-known detaching devices the floating of the same can be effected almost instantaneously.

To each of the standards A is pivoted a locking-latch h, Fig. 3, by means of which the blocks B B are temporarily locked into their upright position before the lever G^2 is moved into its normal position, thereby revolving the shafts G G′ in a direction opposite to that indicated by the arrows, Fig. 4, whereby the arms g^4 and g^5, as well as the rods F F, are moved back into their normal positions, Figs. 1 and 5, the hooks e^2 on chains E being first inserted into the slots f', so as to be engaged by the said rods F F, as will be readily understood, after which the said latches may be turned out of the way of the blocks B.

In Figs. 6 to 8 I have shown a modification of the appliances for clearing the boat from its blocks and for releasing the same from its grips or lashings, in that but a single operating-shaft G^3 is employed, the blocks having pivotal connection with the standards A in a plane outside of their center of gravity, said blocks being provided with perforated lugs or ears b^3, formed on or secured to and projecting from one of the lower edges thereof or from a point proximate to said edges, into which lugs or ears project the pivot pins or bolts a in standards A, the shaft G^3, carrying a radial arm or cam H, adapted to support the blocks and a double cam I, to which is connected one end of the rods F F, that lock the lashing-chains E E. Of course the shafts G G′, described in reference to Figs. 1 to 4, may be used with blocks B B, constructed as described in reference to Figs. 6 to 8; but the lock-plates b' and the locking dogs or arms g^5 are here dispensed with.

I do not desire to limit myself to the exact details of construction and relative arrangement of the operating devices as shown and described, as these may be varied without departing from the nature or spirit of my invention, the essential feature of which lies in means for instantaneously freeing a ship's boat from its supports and lashings, having it ready to be swung clear of the ship's side.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination with a ship's boat, the davits, and suspension tackle, of fixed bearings, boat supporting blocks journaled in said bearings, rocking lug supports adapted to impinge on the under side of and hold the block in a normal position, and means for rocking said supports to move the same from under their blocks, for the purpose set forth.

2. The combination with a ship's boat, the davits and suspension tackle, of fixed bearings, boat supporting blocks journaled in said bearings, rocking lug supports adapted to impinge on the under side of and hold said blocks in a normal position, and means for rocking the lug supports simultaneously to move the same from under the blocks, for the purpose set forth.

3. The combination with a ship's boat, the davits and suspension tackle, of standards provided with vertically elongated bearings, boat supporting blocks journaled in said bear-

ings, rocking lug supports adapted to impinge upon the under side of and hold the blocks in a normal position with their journals at the lower end of their bearings, and means for rocking the lug supports to move the same from under their blocks for the purpose set forth.

4. The combination with a ship's boat, the davits and suspension tackle, of fixed bearings, boat supporting blocks journaled in said bearings and provided with a lock plate projecting below their lower edge, rocking lug supports adapted to impinge upon the under side of and hold the blocks in a normal position, rocking locking devices adapted to engage the lock plates on the blocks, and means for rocking said supports and locking devices to release the blocks, for the purpose set forth.

5. The combination with a ship's boat, the davits and suspension tackle, of fixed bearings, boat supporting blocks journaled in said bearings and weighted to automatically tilt in their bearings, rocking lug supports adapted to impinge upon the under side of the blocks, and means for rocking said supports and moving the same from under their blocks, for the purpose set forth.

6. The combination with a ship's boat, the davits and suspension tackle, of fixed bearings, boat supporting blocks journaled in said bearings and intergeared rock shafts provided with radial arms adapted to impinge upon the under side of the blocks and support the same in a normal position, for the purpose set forth.

7. The combination with a ship's boat, the davits and suspension tackle, of standards provided with vertically elongated bearings, boat supporting blocks journaled in said bearings and adapted to tilt automatically, said blocks provided with a lock plate projecting beyond their lower edge, and intergeared rock shafts provided with radial arms adapted to impinge upon the under side of the blocks and hold the same in a normal position with their journals at the lower end of the bearings therefor, said shafts also provided with radial arms adapted to engage the lock plates on the blocks, for the purpose set forth.

8. The combination with a ship's boat, its support, and boat grips provided at one end with a hook adapted to be hooked to the gunwale of the boat and at the other end with an eye; of a rod for each grip adapted to pass through the eye thereof stationary guide bearings for said rods, and means for imparting endwise motion to the latter in one or the other direction to engage or release the grips, for the purpose set forth.

9. The combination with a ship's boat, its support, and fore and aft boat grips provided at one end with a hook and at the other with an eye, of a rod for each grip adapted to pass through the eye thereof, stationary guide bearings for the rods, and means for imparting endwise motion in one or the other direction to said rods simultaneously to engage or release the grips, for the purpose set forth.

10. The combination with a ship's boat, its support, and fore and aft grips for each side of the boat, said grips provided at one end with a hook adapted to be hooked to the gunwale of the boat, and at the other end with an eye; of a rod for each grip adapted to pass through the eye thereof, stationary guide bearings for said rods and two intergeared rock shafts provided with cranks or radial arms connected with the inner end of the rods, whereby when said shafts are rocked in one or the other direction a corresponding endwise motion is imparted to the rods moving them into and out of the grip eyes for the purpose set forth.

11. The combination with a ship's boat, the davits, supporting tackle and boat grips provided at one end with a hook adapted to be hooked to the gunwale of the boat and at the other with an eye; of standards provided with vertically elongated bearings, automatically tilting boat supporting blocks, journaled in said bearings, rocking lug supports, a rod for each of the grips, fixed guide bearings for and in which said rods are adapted to reciprocate, and means adapted to simultaneously rock the lug supports and impart endwise motion to the grip rods in one or the other direction, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CARL JOHANN FRIEDRICH DE VOS.

Witnesses:

HERMAN A. REQUE,

AIRE H. VOORWINDEN.