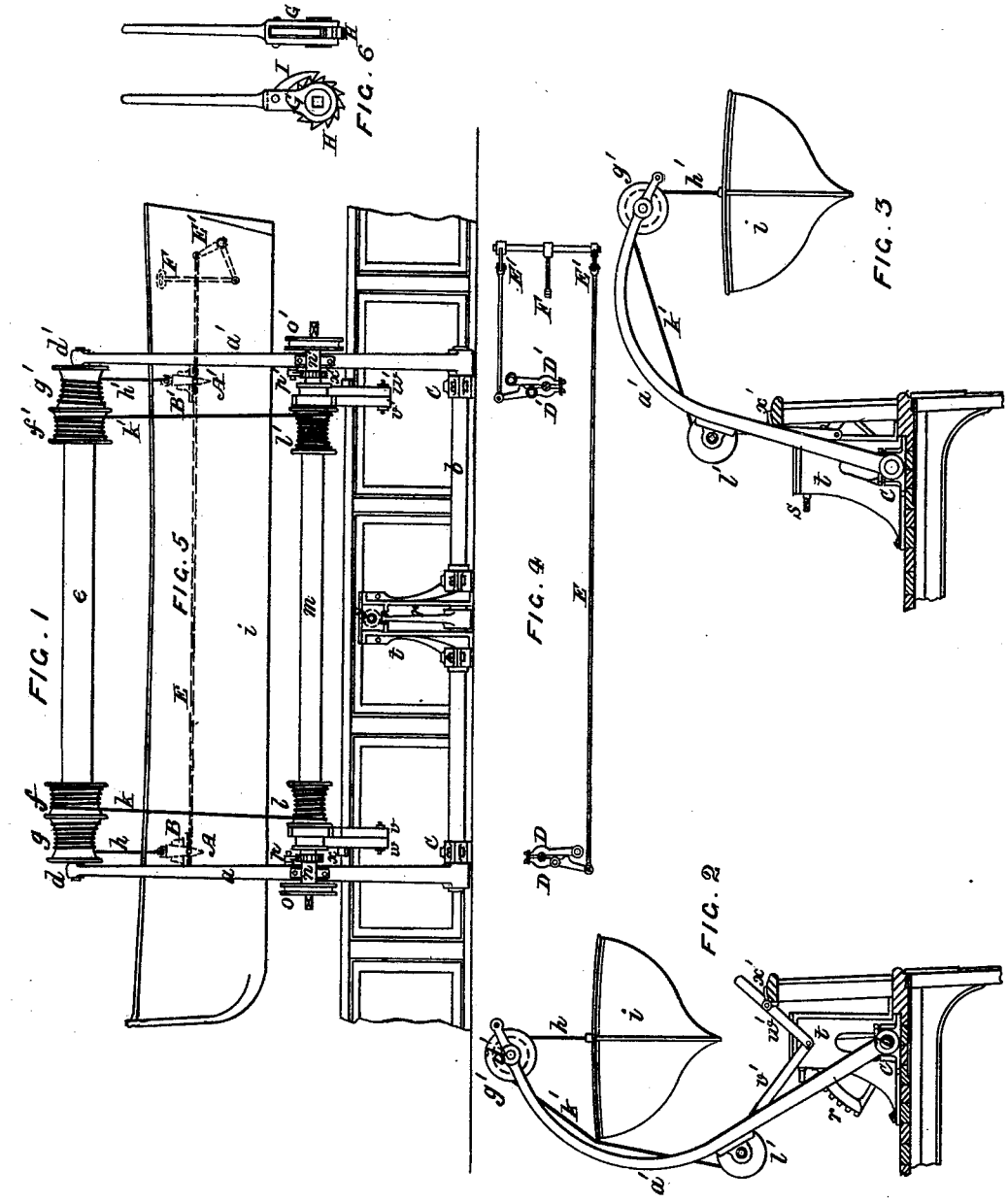
J. CARPENTER.

BOAT-DETACHING APPARATUS.

No. 187,963. Patented March 6, 1877.



Witnesses.
Edmund Edwards
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UNITED STATES PATENT OFFICE.

JAMES CARPENTER, OF SOUTHAMPTON, ENGLAND.

IMPROVEMENT IN BOAT-DETACHING APPARATUS.

Specification forming part of Letters Patent No. **187,963**, dated March 6, 1877; application filed August 21, 1876.

To all whom it may concern:

Be it known that I, JAMES CARPENTER, of Southampton, in the county of Hants, England, have invented Improvements in the Construction and Arrangement of Apparatus for Supporting, Lowering, Attaching, and Detaching Ships' Boats, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a side view (from inside) of the apparatus applied to a ship. Fig. 2 is an end view of the same, showing the boat raised and about to be lowered into the cradle which supports it. Fig. 3 is an end view of the same, showing the boat about to be lowered into the water. Fig. 4 is a plan of the detaching apparatus within the boat. Fig. 5 is a side view of the same. (Shown in dotted lines in Fig. 1.) Fig. 6 shows the ratchet-lever, by means of which the apparatus is worked for the purpose of raising or lowering the boat.

Similar letters of reference indicate corresponding parts in the several figures.

In the accompanying drawing, *a a'* are curved supports or davits, keyed upon the horizontal bar *b*, which turns in the bearings *c c c c*. At the upper overhanging ends of the davits *a a'* are formed bearings *d d'*, in which revolves the axle of the roller *e*, upon which are fixed the barrels *f f'* and *g g'*. The ropes *h h'* are coiled round the barrels *g g'*, and to them is suspended the boat *i*. Round the barrels *f f'* are coiled the ropes *k k'*, the other ends of which are wound round the barrels *l l'* upon the shaft *m*, which revolves in bearings *n n'*, attached to the davits *a a'*. The shaft *m* is worked by means of handles or levers, (shown in Fig. 6,) which can be fitted to its ends, and may be provided with brake-drums *o o'*, and has ratchets and pawls *p p'*, Fig. 1, for the purpose of regulating the descent of the boat. The horizontal bar *b* has fixed upon it a tangent toothed segment, *r*, which is driven by an endless screw, S, fitted in the frame *t*, so that the upper ends of the davits *a a'* may be brought more or less inside or outside the ship's side, as shown in Figs. 2 and 3. The bars *v v'* are jointed at their upper ends to the shaft *m* onto the davits *a a'*, and their lower ends are jointed at the lower ends of corresponding bars *w w'*, the upper parts of which are jointed to the bulwark or rail at *x x'*. The bars *v w* form an adjustable cradle, and the bars *v' w'* form another similar cradle, in which the boat *i* rests and can be fixed.

In Figs. 4 and 5 is shown the method by which the boat *i* is attached to or detached from the ropes *h h'*. A A' are necked conical bolts, to which the ropes *h h'* are fastened. B B' are tubular holes or sockets fixed to the thwarts of the boat, and into which the bolts A A' fit. D D D' D' are levers or jaws turning upon centers, and so connected by the rods E and the levers E' E' that when the handle F is raised the jaws underneath the tubular sockets B B' are opened. When closed by means of springs or weights they form holes, into which the conical bolts A A' are thrust until a grooved or neck portion formed round the latter is griped by the jaws, and when opened they release the conical bolts, and with them the ropes *h h'*, and the boat becomes detached.

Fig. 6 shows the levers or hand-spikes used for working the shaft or axle *m*. One end of the lever has a jaw, G, within which works the ratchet-wheel H, having a square hole fitting the ends of the shaft *m*. A hooked pawl, L, is hinged to the lever, and engages in the teeth of the ratchet-wheel H.

The operation of the apparatus is as follows: The davits *a a'* having been arranged so as to hang over the ship's side by means of the tangent-segment and screw *r* and S, and the lower ends of the ropes *h h'* having been attached to the boat which is to be raised by means of the conical bolts A A' and the movable jaws D D D' D', the ropes *k k'* are coiled round the barrels *l l'* by causing the shaft *m*, upon which the latter are fixed, to revolve by means of the ratchet-levers, Fig. 6. The barrels *f f'* are thus made to revolve, and they turn with them the barrels *g g'*, to which the upper ends of the supporting-ropes *h h'* are fixed. The boat is thus raised sufficiently high without any possibility of one end rising more quickly than the other. When the boat is sufficiently high, as shown in Fig. 3, the davits *a a'* are brought to the position shown in Fig. 2 by turning the tangent-segment and screw *r* and S, and the boat is then lowered

into the cradle formed by the bars *v w* and *v′ w′*.

In order to lower the boat into the water, it is first raised off the cradle; the davits are then turned outward, and the boat is then lowered, and the suspending-ropes are then detached by raising the handle F, and thus opening the jaws D D D′ D′.

Instead of the tangent-segment and endless screw *r* and S, a rack and pinion, or levers and ropes, may be used for the purpose of altering the position of the davits *a a′*; and instead of the barrels *l l′* and *f f′* and the two ropes *k k′*, one rope only may be used and one each of such barrels.

What I claim is—

1. The movable davits *a a′*, turning upon centers *c c*, in combination with the self-adjusting bars *v w v′ w′*, forming a cradle for a ship's boat, substantially as described, and shown in the drawing.

2. The combination of the movable davits *a a′* and the self-adjusting cradle *v w v′ w′* with the shaft revolving in bearings *d d′* at the ends of the davits, and carrying the ropes *h h′*, to which the boat is suspended, and with the shaft *m* and the ropes *h k′*, by which the shaft *e* is made to revolve, substantially as and for the purposes described, and shown in the drawing.

3. The davits *a a′*, fastened to the rod *b*, which turns in its bearings, in combination with the tangent-segment *r* on said shaft and the screw S, substantially in the manner, and for the purpose described.

4. The combination of the davits *a a′*, the davit-shaft *b*, drum-shafts *e* and *m*, drums *f g f′ g′*, the ropes *h k h′ k′*, substantially in the manner and for the purpose described.

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

JAMES CARPENTER.

Witnesses:

EDMUND EDWARDS,

CHARLES JAMES WINTERSGILL.