M. Joyce,
Boat Detaching.

No. 69,220. Patented Sept. 24, 1867.

Fig. 1.

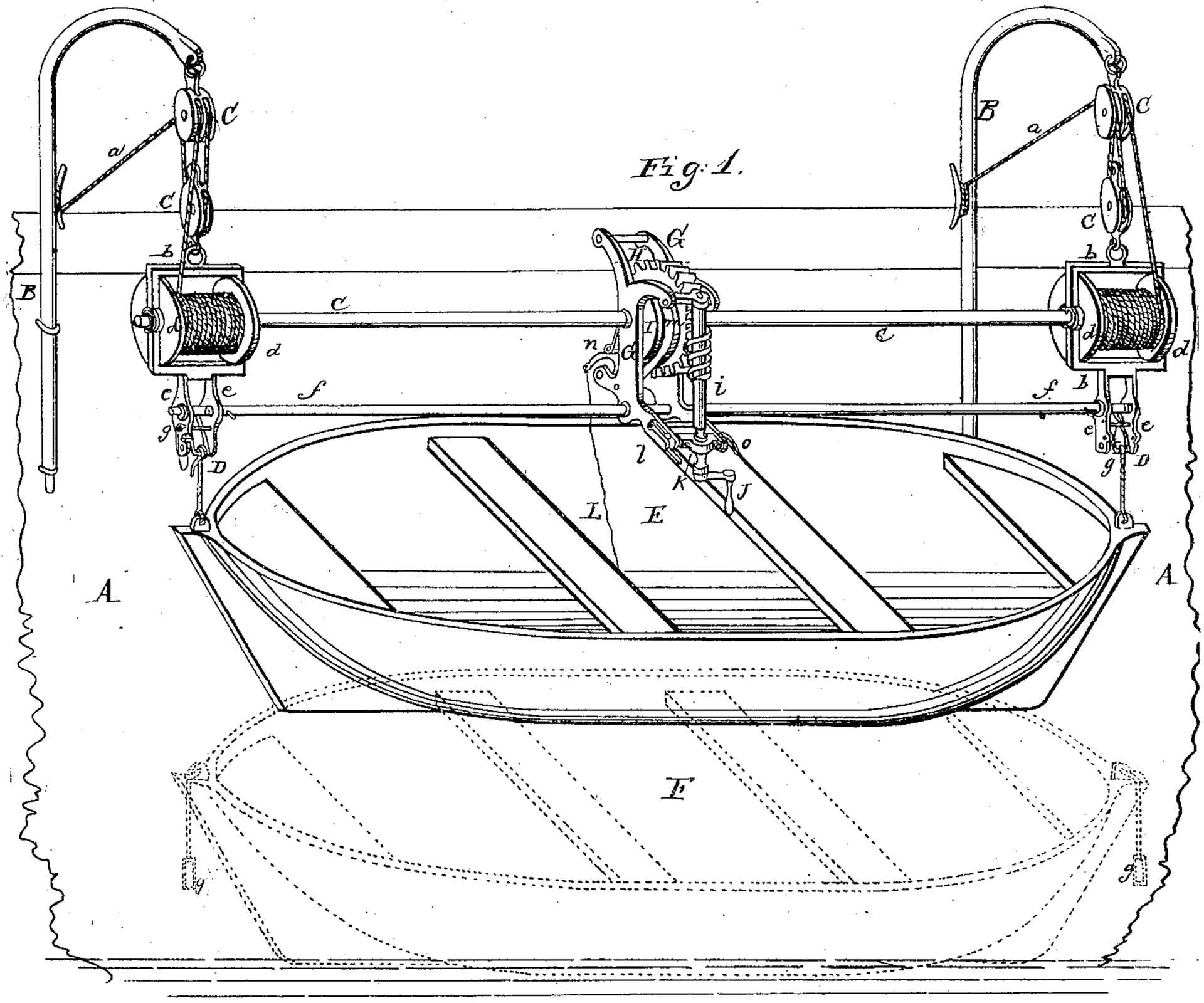


Fig. 2.

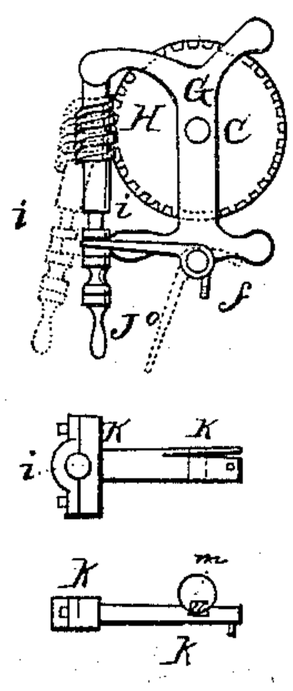


Fig. 3.

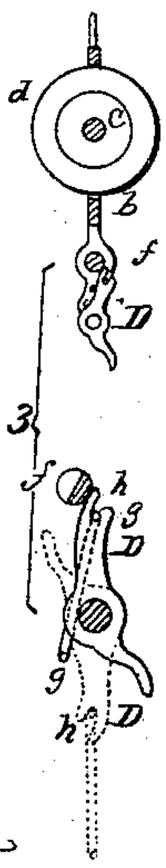
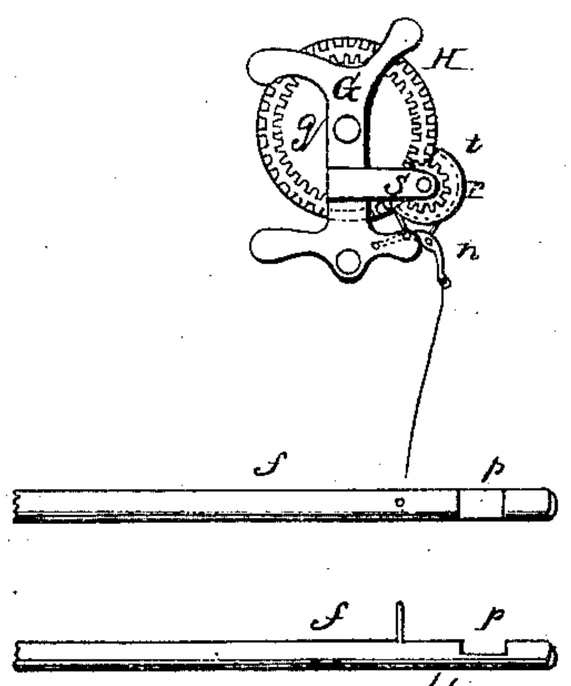


Fig. 4.



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MAURICE JOYCE, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 69,220, *dated September* 24, 1867.

IMPROVED BOAT-LOWERING AND DETACHING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, MAURICE JOYCE, of the city and county of Washington, in the District of Columbia, have invented a certain new and useful Improvement in Hoisting, Lowering, and Detaching Boats; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in constructing an apparatus, to be hereafter described, for raising, lowering, and detaching boats, suspended from or hung to a vessel.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Like letters represent like parts in the several figures.

In the drawings, A represents a part section of a vessel, B the davits, properly secured to the same either outside or inside. To these are secured such blocks and tackles C *a* as may be desired, one or more. These engage with frames *b*, which support a shaft or rod, *c*, carrying at each end a spool or windlass, *d*, around which the rope *a* winds or unwinds. Each of the frames *b* has two lower projections *e*, which also support a rod, *f*, running parallel to and below *c*. These ears or projections *e* also support bifurcated arms D, which are pivoted below *f* to said projections *e*. E is the suspended boat, having at each end a rope attached, with a hook or loop, *g*, at its outer end, intended to take into the forked recesses *h* in vibrating arms D. F represents the boat detached, or in the water. Between the pulleys or spools *d* is a framework, G, consisting of two plates, and through which pass the shafts *c* and *f*, which rotate. To the upper shaft *c*, which carries the windlasses *d*, is secured a worm-wheel, H, as also a brake, or friction-wheel, I. The former, H, engages with a worm, *i*, capable of being revolved, having a handle, J, and it being secured at top and bottom, as seen, in frame G, so that the worm *i* can be turned easily by hand. The lower end of worm *i* passes through a piece, K, slotted, and having a spring and a recess, *k*, and can be pushed in or out at pleasure, as seen in Figure 2. By turning a lever, *l*, attached to a cam or eccentric, *m*, which engages with the slot *k* at pleasure, I can secure or disengage the worm when desirable. Connected with friction-wheel I is a brake, *m*, operated in any ordinary manner. In this case, by pulling a rope, L, a lever, *n*, pivoted to frame G, tightens the band or brake *m* surrounding I, and the revolutions of wheel H, or the speed of lowering the boat, can be regulated by pulling on rope L. Opposite the cam-lever *l*, on the other side of the frame G, there is a lever, *o*, attached to rock-shaft *f*, for the purpose of turning it when desired, that is, detaching the boat by the same being suddenly lifted by a wave while lowering it.

The operation is as follows: Supposing the boat to be in its raised or normal position, as shown by E, one person can lower and detach it, as also attach and raise it as follows: Say the occupant of the boat simply turns crank J, which turns the worm *i*, and it turns the wheel H and shaft *c*, and the rope is unwound, and the boat is lowered. If it be necessary to lower more rapidly, turn the lever *l*, disengaging its cam from recess *k* of piece K, when this latter can be pulled outward, and the worm *i* be disengaged from worm-wheel H, as seen in red outlines, fig. 2. Before this is done, the rope L must be seized, and the friction-brake *m* be pressed, by means of lever *n*, upon friction-wheel I. The holder of the rope can thus let himself down as fast or slow as he pleases. Previously he must remove pin or pins *g*, and when near the water, by turning crank *o*, which revolves shaft *f*, its recesses *p* are brought into a certain position as to the arm D, which will rotate and take the position as shown by red lines in Figure 3, dropping the hooks *g* and the boat. A reverse operation will hoist the boat, one man being sufficient.

One or more blocks may be used; the davits may be inside the vessel, if desired, and the boat can be easily put inside the vessel also, these not being points of invention, but of suitability. Near G, on shaft *f*, I have a projection to prevent its turning too much, by coming into contact with lower point of frame G, and I have attached to shaft *f* a spring near said frame, which presses against lever *o*, and by means of which *f* is revolved, and hook G discharged from recess *h*, when near or about touching the water. To this end also there are recesses *p* in shaft *f*, one at each end; and when this is turned into a certain position in regard to slot *k*, the boat can be readily detached, that is, the bifurcated arms D, carrying rock-shaft *f*, when released from pins or other detents, will turn downward, as seen in red lines, fig. 3, and empty the hooks or eyes *g*, detaching the boat.

Figure 4 shows a modification of the central works in frame G, a mere mechanical equivalent, having, beside the worm-wheel H, a toothed wheel, *q*, attached like H to shaft *c*, and engaging with it is the small toothed

wheel *r* on the shaft *s*, with a friction-pulley or brake-wheel, *t*, on the same shaft *s*, to be operated like I, or equivalently.

When the boat is hoisted up, or about to be so, the hooks or eyes *g*, being placed in the recesses *h* of arms D, they are held there more securely by means of pins *y* passing through the ears or projections *e* of frame *b*, at one or both ends, and there may be also a spring or suitable detent, to keep *g* from being detached from said recess in arm D.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The combination of frames *b b*, spools or windlasses *d*, shaft *c*, frame *G*, wheels H and I, or their equivalents, and worm *i*, arranged, constructed, and operating in the manner substantially as shown and described, and for the purpose set forth.

2. The combination of brake *n*, wheels I and H, shaft *c*, worm *i*, and cam-lever *k*, arranged, constructed, and operating in the manner substantially as shown and described, and for the purpose set forth.

3. The combination of frames *b*, having the ears *e e*, with shaft *f* and bifurcated arms D D, arranged, constructed, and operating in the manner substantially as shown and described, and for the purpose set forth.

MAURICE JOYCE.

Witnesses:

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