

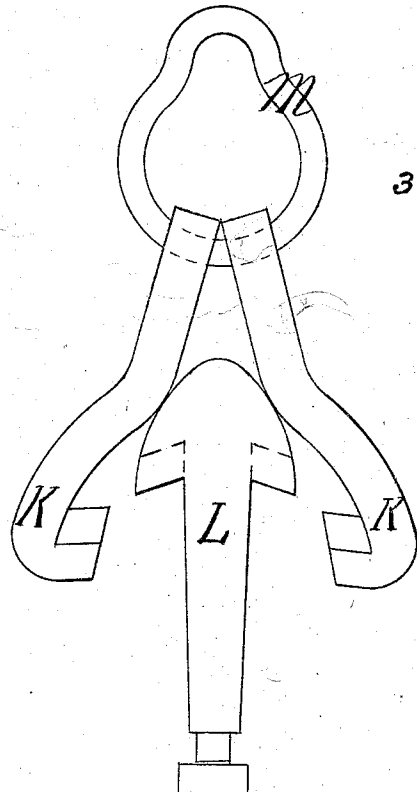
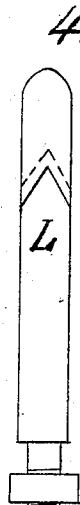
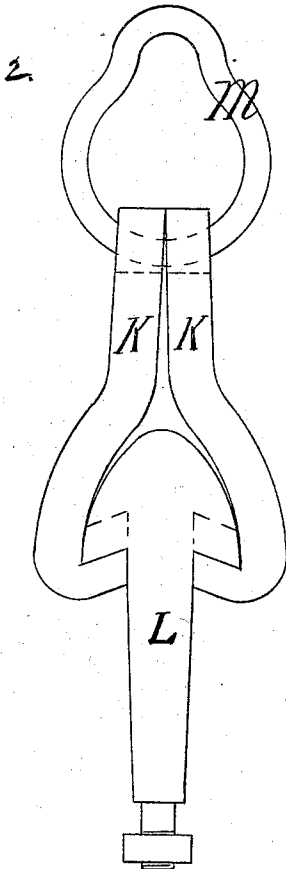
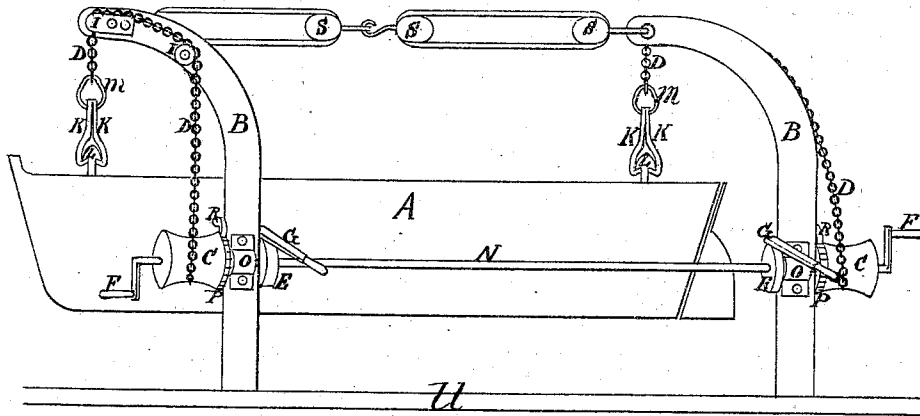
C. A. ENELL.

Boat-Detaching Apparatus.

No. 138,386.

Fig. 1.

Patented April 29, 1873.



Witnesses:

August Albrecht
Samuel A. Bunker

Inventor:

Charles A. Enell.

UNITED STATES PATENT OFFICE.

CHARLES A. ENELL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BOAT-DETACHING APPARATUS.

Specification forming part of Letters Patent No. **138,386**, dated April 29, 1873; application filed February 4, 1873.

To all whom it may concern:

Be it known that I, CHARLES A. ENELL, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain Improvements in Automatic Slip-Hooks and Apparatus for Lowering Boats, of which the following is a specification:

Nature and Object of my Invention.

My invention consists of automatic slip-hooks and bolt, in combination with a brake and winch, for the purpose of lowering boats quickly and safely; the said slip-hooks releasing the boat as soon as it rides on the water, thereby preventing accidents, so common in the ordinary manner of lowering boats. The whole time required for the lowering of said boats is reduced to a minimum, which is of the utmost importance when the vessel is in distress.

Figure I is a side elevation of an apparatus embodying my invention. Fig. II is an enlarged side view of my improved slip-hooks and bolt when closed. Fig. III is the same view, showing the slip-hooks and bolt disengaged. Fig. IV is an end view of the bolt.

A represents the boat. B B are the davits, from which the boat A is suspended by means of winches or chain-drums C C and chains D D. The latter are secured to the boat A by slip-hooks K K, bolts L L, and rings M M, the bolts L L being strongly secured to boat A. I I are guide-pulleys for chain D. E E are brakes. G G are brake-levers. F F are cranks. N is the shaft, to which are secured the brakes E E and chain-drums or winches C C. P P are ratchet-wheels, also fastened to shaft N. R R are pawls to hold the boat in position after it is hoisted up, which is done in the usual manner by blocks and tackles S S. O O are brackets or journals secured to davits B B for the shaft N. U represents the top rail of the vessel.

When the boat is to be lowered in a great hurry the pawls R R are lifted out of the ratchet-wheels P P, whereby the weight of the boat A is released, and it will now descend as rapidly as desired. The brake D and lever G are applied to check the downward motion, should it become too rapid. As soon as the boat rides

on the water the slip-hooks K K will disengage themselves from the bolts L L, and consequently from the boat A, as the bolts L L are securely fastened to the boat A, one near each end. The slip-hooks K K, which move loosely on the ring M, are so constructed that the hook-part is made a V-shape, which fits and hooks into a corresponding recess or recesses in bolt L, as shown in Figs. II, III, and IV. As long as there is any weight attached to the bolt L the hooks and bolt will be tightly locked, as shown in Fig. II; but as soon as the weight is stopped in its descent, and the hooks are still continued to be lowered, then the upper part of bolt L will strike against the shanks of the slip-hooks K K and spread them, as shown in Fig. III, and thereby release the boat A, which is then at liberty to follow the motion of the waves. The grooves on the under side of the head of the bolt L are V-shaped, and extend upwardly, and the ends of the hooks K are V-shaped, and likewise project upwardly. These features prevent vertical as well as lateral displacement of the hooks. It is impossible to disengage the hooks until the boat is fairly afloat, and thus any intentional or unintentional blows or action on the hooks, while the boat hangs above the water, cannot throw off the hooks, since to do this the boat would have to be lifted in the air to clear the bolt of the hooks.

It is well known that in the excitement incident to wrecks and other dangers ship-boats are often cleared by force; and, unless the hooks and bolt have protective features, the hooks can be knocked off of the bolt by a hatchet, or pried out of place by bars and other devices always found on ship-board. Again, by the peculiar construction stated, the rocking or swaying of the boat as it descends cannot work or disengage the parts and free the boat, and such disengagement cannot occur if the lowering boats bound or strike forcibly against the ship.

It is not necessary that the hook part should be exactly V-shape, as this may be somewhat modified, and still be effective. The shaft N can also be used for the boat's gripes when not in use otherwise.

I do not confine the application of my im-

proved automatic slip-hooks and bolt to the lowering of boats only, as they may be used to advantage for various other objects—as, for instance, lowering stones for building and other purposes.

I am aware that the lowering apparatus is not new, and therefore lay no claim thereto; and I am also aware that hooks have been made to engage with a spear-head or bolt, but there is no provision therein for preventing lateral displacement of parts vertically, transversely, and laterally. I therefore disclaim, broadly, the hooks and bolt; but

What I do claim as new, and desire to secure by Letters Patent, is—

The combination of the bolt L having locking-grooves on the under side of its head extending upwardly into the head, and the hooks K having upwardly-projecting locking-ends, when constructed, arranged, and operating together as herein set forth.

CHARLES A. ENELL.

Witnesses:

AUGUST ALBRECHT,
SAMUEL A. BUNKER.