

(No Model.)

J. L. KNIGHT.
Boat Detaching Apparatus.
No. 231,179. Patented Aug. 17, 1880.

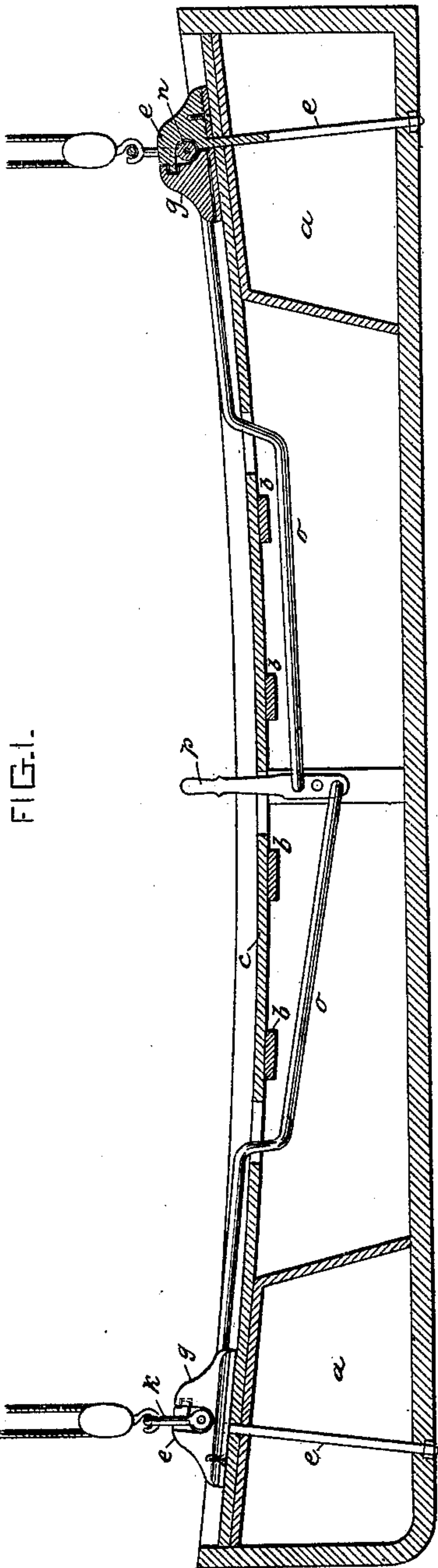


FIG. 1.

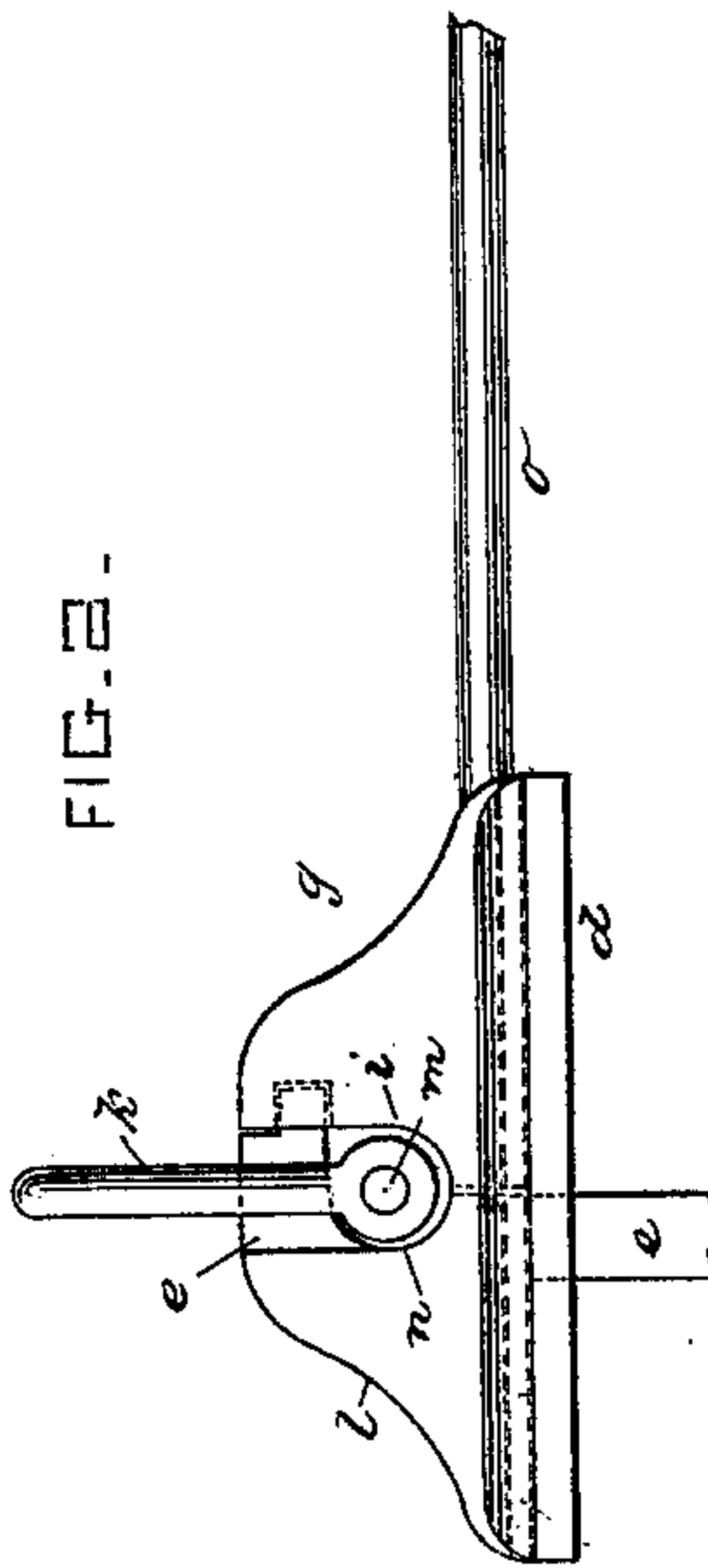


FIG. 2.

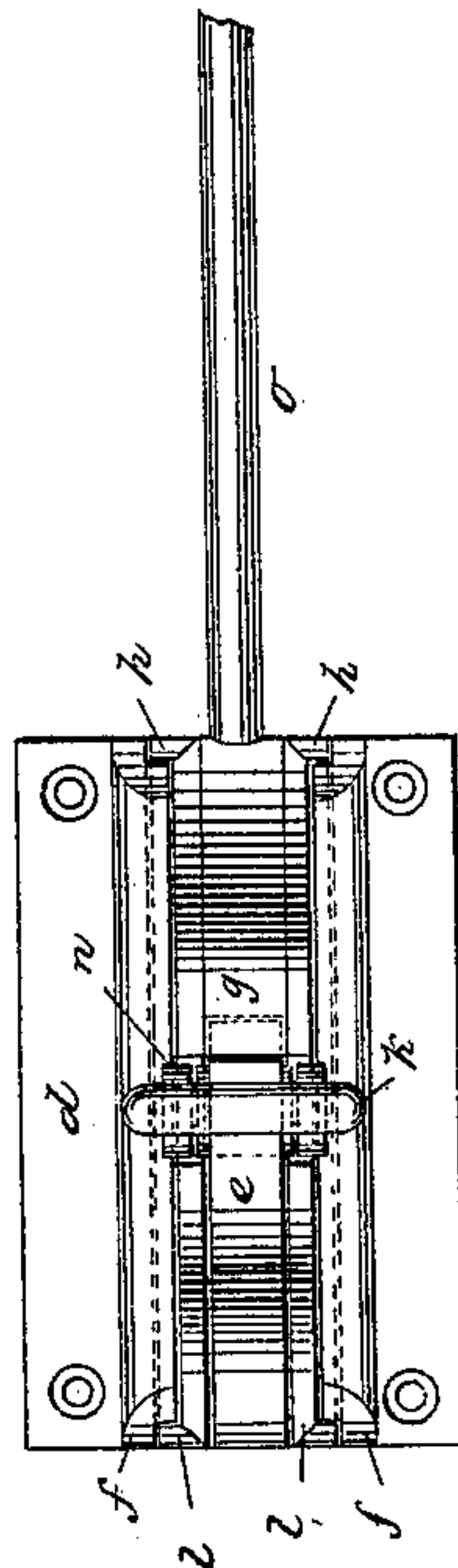


FIG. 3.

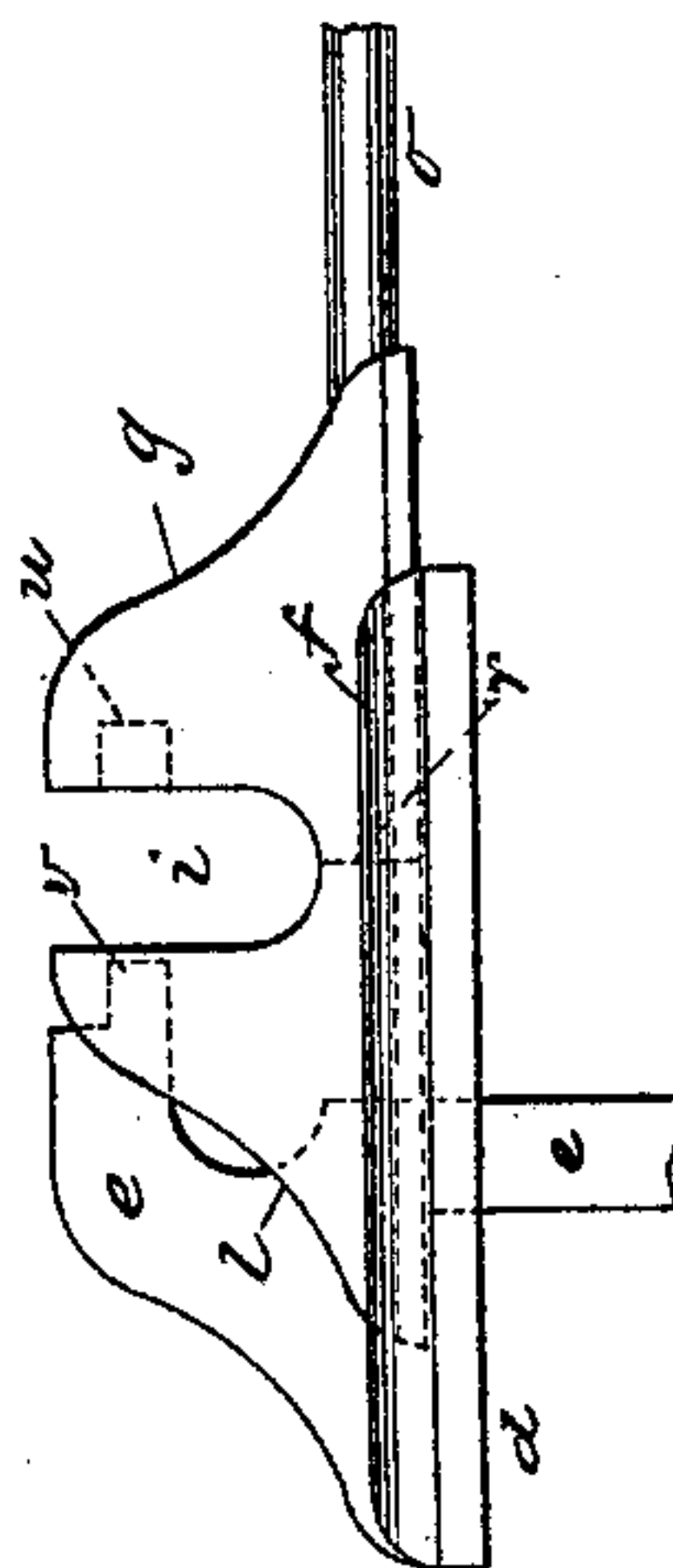


FIG. 4.

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BOAT-DETACHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 231,179, dated August 17, 1880.

Application filed June 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. KNIGHT, of New York city, county and State of New York, have invented certain new and useful Improvements in Boat-Detaching Apparatus, of which the following is a specification.

My invention aims to provide a strong and simple means for detaching ships' boats from the davit-tackle, which will operate in an easy, silent manner, without shock or undue friction, and which will insure the quick and certain detachment of the boat simultaneously at stem and stern; and to this end my invention is embodied mainly in an improved form of locking-hooks fixed in the stem and stern of the boat to engage the davit-tackle, with a means for positively and simultaneously opening the hooks and removing the tackle, and thus detaching the boat in a safe, quick, and easy manner, as hereinafter fully set forth.

Figure 1 of the drawings annexed presents a central longitudinal section of a ship's life-boat provided with my improved suspending and detaching devices. Fig. 2 is an enlarged side elevation of my improved suspending and detaching hook, shown closed or locked, with the suspending-shackle of the davit-tackle shown engaged therewith. Fig. 3 is a plan view of Fig. 2. Fig. 4 is a similar view to Fig. 2, with the hook open or unlocked, as having released the shackle.

In the drawings, *a a* indicate the air-chambers in each end of the boat; *b b*, the thwarts or seats; and *c* the gang-plank, extending centrally and lengthwise over the same.

As may be observed from the drawings, my invention relates to that class of boat-detaching apparatus in which the tackle of the davits engages with a special form of hook or catch fixed respectively in the stem and stern of the boat, and so constructed and operated that by means of a tripping or releasing device, actuated usually from the center of the boat, both hooks may be simultaneously disengaged to safely detach the boat. In my invention, however, these detaching-hooks are of improved and novel construction, and constitute the substance of my present invention.

The hooks are shown in Fig. 1 fixed in the usual position in each end of the boat, and attached in about the usual manner thereto.

Each hook consists of a base-plate, *d*, which is preferably rectangular, and is secured to the top of the air-tanks by screws or bolts at the corners, or otherwise, (see Fig. 3,) and these plates are preferably made of brass or other non-corrosive metal; but galvanized cast-iron may also be employed.

e indicates the engaging and suspending part of the hook, or hook proper, which is preferably made of wrought-iron or phosphor-bronze to obtain the greatest strength, and its base is fastened centrally on one end of the plate *d* by a bolt or screw, as seen best on the right of Fig. 1, while it is formed with a projecting rod, *e'*, in about a line with the bearing-point of the hook, which rod projects through the base-plate and extends through the keel, where it is secured by a nut in a manner similar to other devices of this class, so that the main suspending-strain is thus borne by the rod and the keel or frame-work of the boat, thus obtaining necessary strength. The rod *e'* is square where it extends from the base of the hook, and fits snugly in a square hole in the base-plate to render the attachment more immovable. Now, the base-plate is formed with a guide, *f*, on each side of the fixed hook, which guides are cast solid on the plate and have dovetailed or rabbeted guiding-grooves, as seen best in Fig. 3.

g indicates a sliding locking and releasing jaw, which closes against or recedes from the fixed hook-jaw *e*, (see Figs. 2 and 4,) and whose base is formed with ribs or ways *h h*, which are engaged by and slide in the grooves of the guides *f*. This sliding jaw is of twice the length horizontally of the fixed hook-jaw *e*, and its contour at each end is similar to the contour of the back of the fixed jaw, as seen in Figs. 2 and 4.

At the center of the sliding jaw is formed a deep gap or slot, *i*, to admit the shackle *k* of the suspending-tackle, and half of the jaw is solid from the center of the base of the gap, as indicated by the dotted line *r* in Fig. 4, while the other half is forked into two wings, *l l*, which embrace and slide over the sides of the fixed hook-jaw *e*, as seen best in Figs. 2, 3, and 4. Now, the suspending-shackle *t* of the davit-tackle is preferably formed in the shape of a staple, with a pin, *m*, joining the two ends

thereof, on which pin a roller, *n*, is free to revolve, as seen on the right of Fig. 1, and this roller engages with the hooked jaw, as seen in Figs. 1, 2, and 3. It may now be readily observed that when the sliding jaw is slid outward from the fixed jaw, as seen in Fig. 4, the shackle may be freely inserted in the gap *i*, and when the sliding jaw is slid in and closed against the fixed jaw, as seen in Figs. 1, 2, and 3, the roller of the shackle will be forced under the overhanging hook of the jaw, thus locking the shackle into engagement with the hook, so that the boat may be securely suspended thereby.

To render the engagement of the two jaws more secure, a recess, *u*, is formed in one to receive a projection, *v*, on the other, which more effectually prevents any springing of the jaws from each other when engaged. On the other hand, if, while the shackle is engaged with the fixed jaw, the sliding jaw be slid away from the fixed jaw the wings *l l* will press against the shackle and positively remove the same from under the hook, (see Fig. 4,) and as the shackle bears upon the jaw by the roller only, the shackle will thus move off the jaw with an easy rolling motion, yet in an absolutely positive manner, thus rendering the detachment of the shackle from the hook, and consequently the boat from the tackle of the ship, not only certain and instantaneous, but almost frictionless, noiseless, and free from jar or shock.

It will be seen from Fig. 1 that my improved locking-hooks are fixed in each end of the boat, as usual, with the sliding jaws directed inward, and that these sliding jaws are connected by bent rods *o o*, preferably of wrought-iron, to the opposite arms of a hand-lever, *p*, in the center of the boat, by which both hooks may be opened simultaneously to detach each end of the boat at the same instant, as usual with apparatus of this kind.

The bent rods *o o* pass through slots in the gang-plank and extend under the same to the hand-lever, thus protecting the rods, and this lever is pivoted on a post supporting the gang-plank, and it projects upward through a slot in the gang-plank, as seen in Fig. 1.

The hand-lever is preferably provided with a catch (not shown) to hold it in the engaged position, and thus prevent the opening of the hooks except by an intentional movement of the lever.

It will be seen from Fig. 1 that when the hooks are locked on the shackle and the boat suspended thereby the strain tends to keep the shackle in the bight or curve of the hook, so that no strain bears on the sliding jaw, and there is hence no tendency of the same to open. The overhanging part of the hook-jaw is preferably so inclined, however, with reference to the base-plate as to be nearly horizontal, but slightly beveled or rounded near its outer end, so that while there will be no tendency for the shackle to move out when the hook is locked,

still the unlocking or outsliding movement of the sliding jaw will have little or no work to do in unshipping the shackle from the hook, but the latter will itself tend to move out when started by the movement of the unlocking-jaw, thus rendering the detaching movement quite smooth and easy.

Without any further statement, those acquainted with nautical matters will now readily appreciate the advantages of my invention in strength and simplicity of design, and smoothness, quickness, ease, and certainty of action, which are qualities essential for boat-detaching apparatus.

What I claim as my invention is—

1. A boat suspending and detaching hook formed of a fixed hook-jaw arranged to engage the suspending-tackle, in combination with a sliding jaw arranged to approach to and close the opening of the hook-jaw and to recede therefrom to open the same and admit the disengagement of the tackle, substantially as herein set forth.

2. A boat suspending and detaching hook, consisting of a fixed hook-jaw arranged to engage the suspending-tackle, in combination with a sliding locking and unlocking jaw, having a gap to receive the shackle of the tackle and embrace the same fore and aft, whereby the movement of the sliding jaw toward the fixed jaw positively engages the shackle therewith, while its opposite movement positively removes the shackle from engagement with the hook, substantially as herein shown and described.

3. The combination of the fixed base-plate *d*, with the guides *f* and fixed hook-jaw *e*, and the sliding locking and unlocking jaw *g*, substantially as and for the purpose set forth.

4. The combination, in a boat suspending and detaching apparatus, with a fixed hook-jaw and a sliding locking and unlocking jaw, of a suspending-shackle provided with a suspending-roller to engage upon the hook-jaw, whereby the movement of the sliding jaw in or out rolls the shackle into or out of engagement with the hook-jaw in an easy, smooth, and frictionless manner, substantially as herein set forth.

5. The combination, in a boat-detaching apparatus, of two locking and unlocking hooks, each consisting of a fixed hook-jaw to engage the suspending-tackle and a sliding jaw to lock or unlock the same, and each fixed in opposite ends of the boat, with an operating device situated between them, at or about the middle of the boat, with connections extending therefrom to each sliding jaw, whereby both sliding jaws may be withdrawn simultaneously to detach the tackle from each end of the boat at the same instant, substantially as herein shown and described.

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