A. B. CRUICKSHANK.

BOAT-DETACHING APPARATUS.

No. 183,143. Patented Oct. 10, 1876.

Fig. 1.

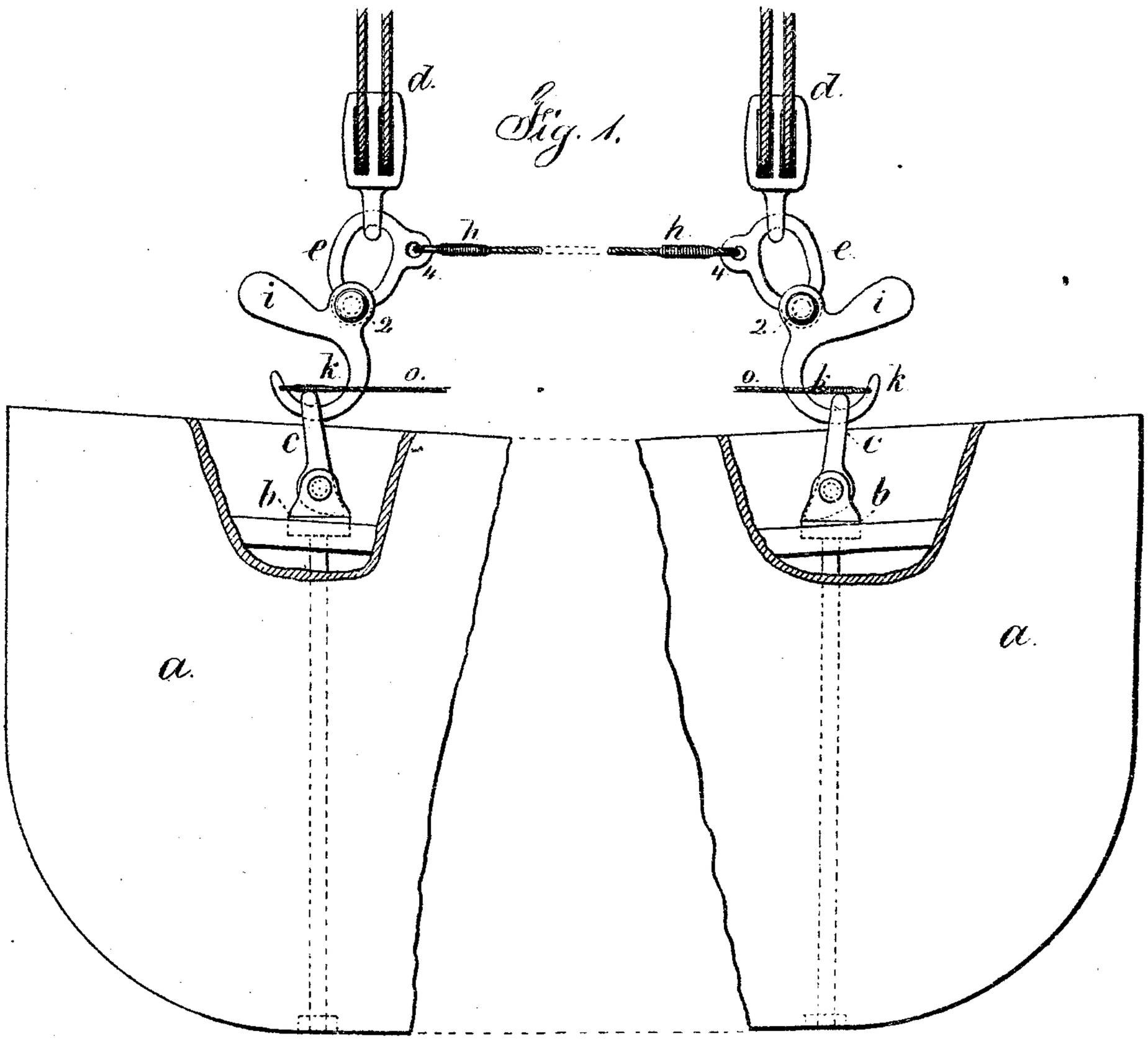


Fig. 3

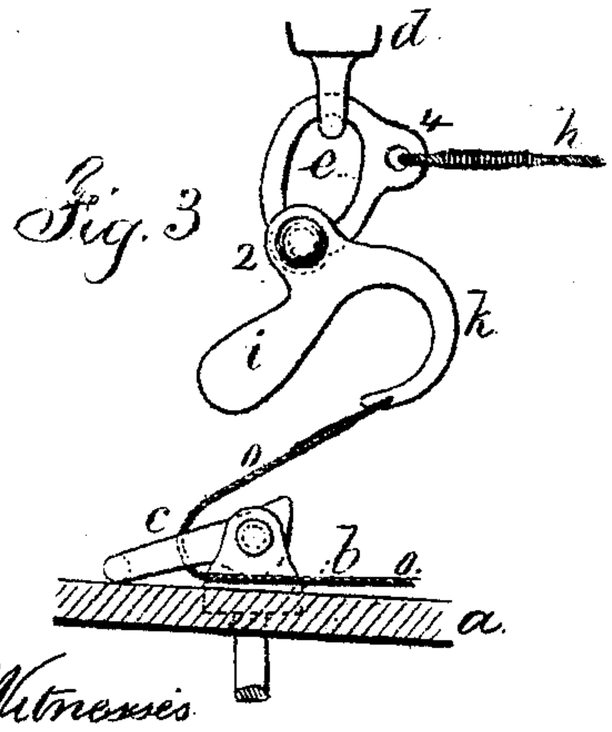
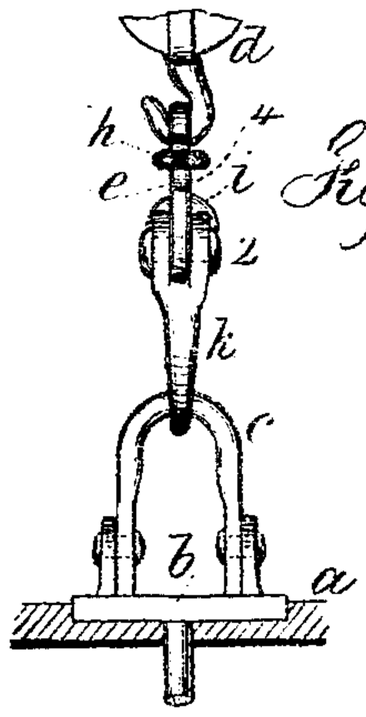


Fig. 4



Witnesses

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ARTHUR B. CRUICKSHANK, OF DUNDEE, SCOTLAND, ASSIGNOR TO HIMSELF AND JOHN G. WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BOAT-DETACHING APPARATUS.

Specification forming part of Letters Patent No. **183,143**, dated October 10, 1876; application filed September 11, 1876.

To all whom it may concern:

Be it known that I, ARTHUR BENJAMIN CRUICKSHANK, of Dundee, Scotland, have invented an Improvement in Boat-Disengaging Apparatus, of which the following is a specification:

Devices have been made for disengaging the tackle from the boat when it is borne up by the water; but there is risk of one fall remaining connected after the other fall is disconnected.

My present invention is similar to that for which Letters Patent in Great Britain were granted to me May 30, 1876.

I make use of a weighted self-acting hook at each fall, connecting with the boat by a leaning shackle, the parts being arranged so that when the boat is floated and the weight taken off the falls the hook and shackle separate automatically, the leaning shackles falling in a direction opposite to that of the movement of the weighted hooks; but if one end of the boat only is floated, the hooks do not separate, because there is a connection between the two hooks, whereby the weight at the end that is not floated draws the hooks into such positions that neither can disengage.

In the drawing, Figure 1 is an elevation representing the disengaging devices at the two ends of the boat. Fig. 2 is a rear view of one of hooks and shackles, and Fig. 3 represents the positions of the parts as they disengage.

The boat *a* is of any size or character, the other parts being in proportion. *b b* are shackle-plates, securely bolted to the boat, as usual. The shackles *c* are not of usual character, but each has a stop or knee, whereby it is retained in a leaning position, so that it may fall toward the end of the boat when relieved of the weight of the boat. The falls *d d* are single or multiple, according to the size of the boat. To each fall there is a link, *e*, connected, having three points of connection—one for the fall, the other for the pivot 2 of the swinging hook, and the third, by preference, an eye, 4, for the bridle-line *h*, that connects the links to each other. Each hook *k* is made to swing freely upon the pivot 2, and it is provided with a weight, *i*.

It will now be understood that the weights *i* tend to swing the hooks *k* backwardly from the shackles and unhook them; but this movement cannot take place until the boat is borne up by the water, because the friction consequent upon the weight of the boat hanging by the hooks upon the falls prevents this; but so soon as the boat is borne up by the water and the strain taken off the hooks, they swing by their weights *i* backwardly, unhooking from the shackles, and, at the same time, the inclined shackles fall forwardly in the opposite direction toward the ends of the boat, and insure the entire disconnection of the hooks and shackles.

If one end of the boat is lowered faster than the other, so as to be floated, the fall at that end does not disengage, because the other fall, and the pivot 2, and the point of contact of the hook and shackle all draw into line vertically, and the bridle-line *h* is pulled so that the link and hook at the other end are drawn back farther than their normal position, and in so doing the hook is swung so that the point rises and holds the shackle, to prevent either the shackle falling or the hook unhooking.

These operations result principally from the falls being nearer together than the shackles and the bridle-line remaining tight. When both ends of the boat are floated and the weight on both hooks relieved, they disconnect instantly.

A line, *o*, passed through a hole near the point of the hook and passed back over the shackle serves to prevent the boat being unhooked accidentally while hanging at the davits, or before the proper time arrives. These lines *o* are to be held by the seamen while the boat is being lowered in a heavy sea, so as to prevent either fall unhooking by the boat being raised at one end by a wave. These lines are to be dropped when the boat reaches the water, and they draw up through the shackles after the falls unhook, as aforesaid.

I claim as my invention—

1. In the boat-detaching apparatus, the combination of the weighted hook and inclined shackle, substantially as set forth.

2. The combination, with the fall *d*, of the

link *e*, weighted hook *k*, shackle *c*, and bridle-line *h*, substantially as described.

3. The line *o*, in combination with the weighted hook *k* and swinging shackle *c*, substantially as set forth.

4. The combination, in the boat-detaching apparatus, of the falls *d*, links *e*, weighted hooks *k*, inclined shackles *c*, bridle-line *h*, and line *o*, substantially as set forth.

Signed by me this 8th day of September, A. D. 1876.

ARTHUR B. CRUICKSHANK.

Witnesses:
GEO. T. PINCKNEY,
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