

(No Model.)

J. SAMPLE.

Automatic Disconnecting Gear for Ship's Boat.

No. 233,027.

Patented Oct. 5, 1880.

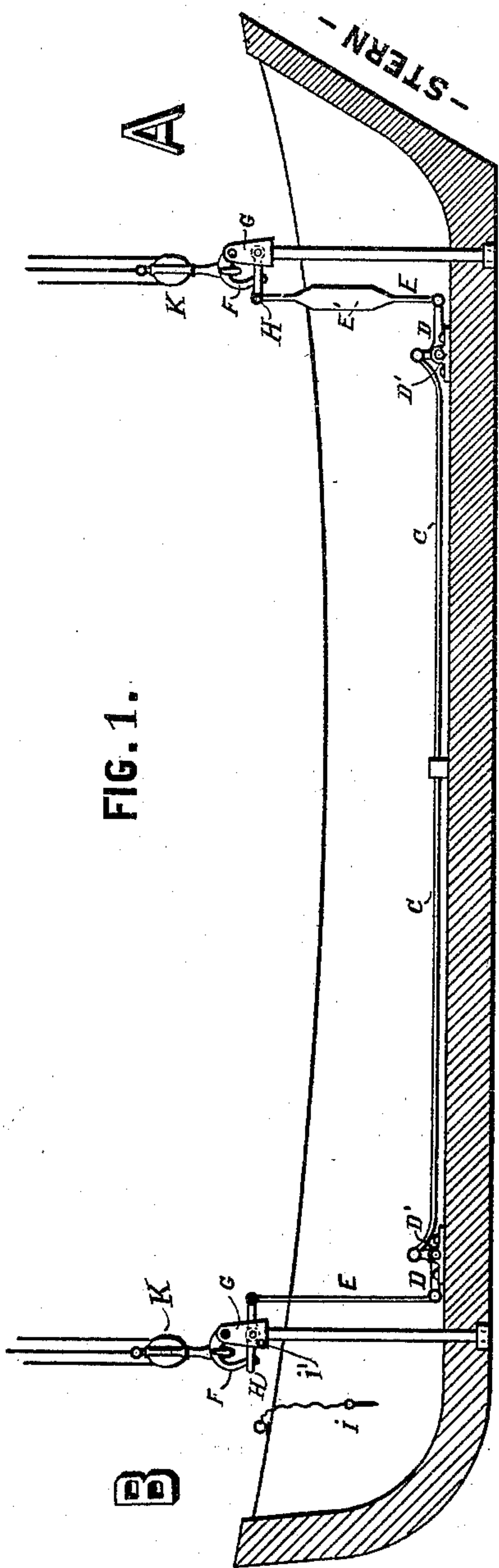


FIG. 1.

Witnesses.  
Wm. A. McClure.  
H. A. Daniels

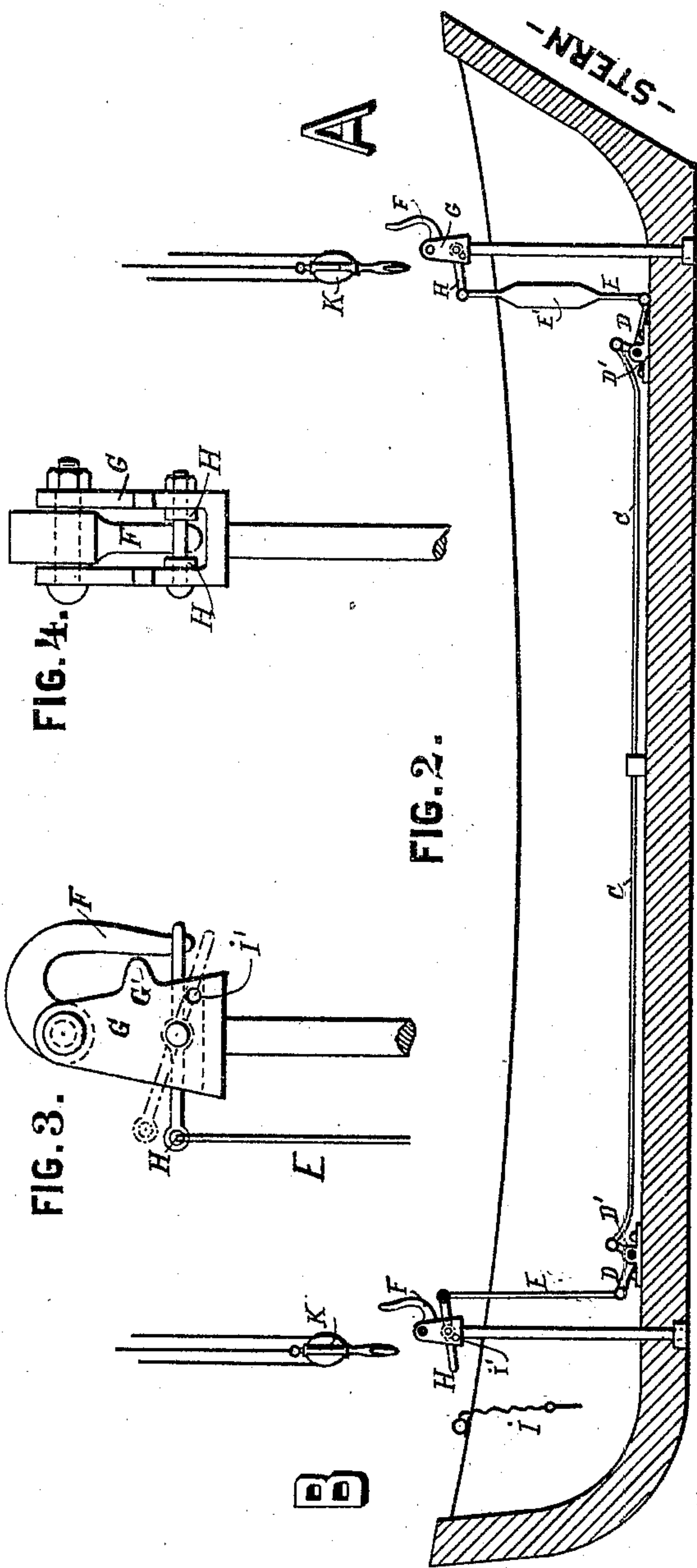


FIG. 2.

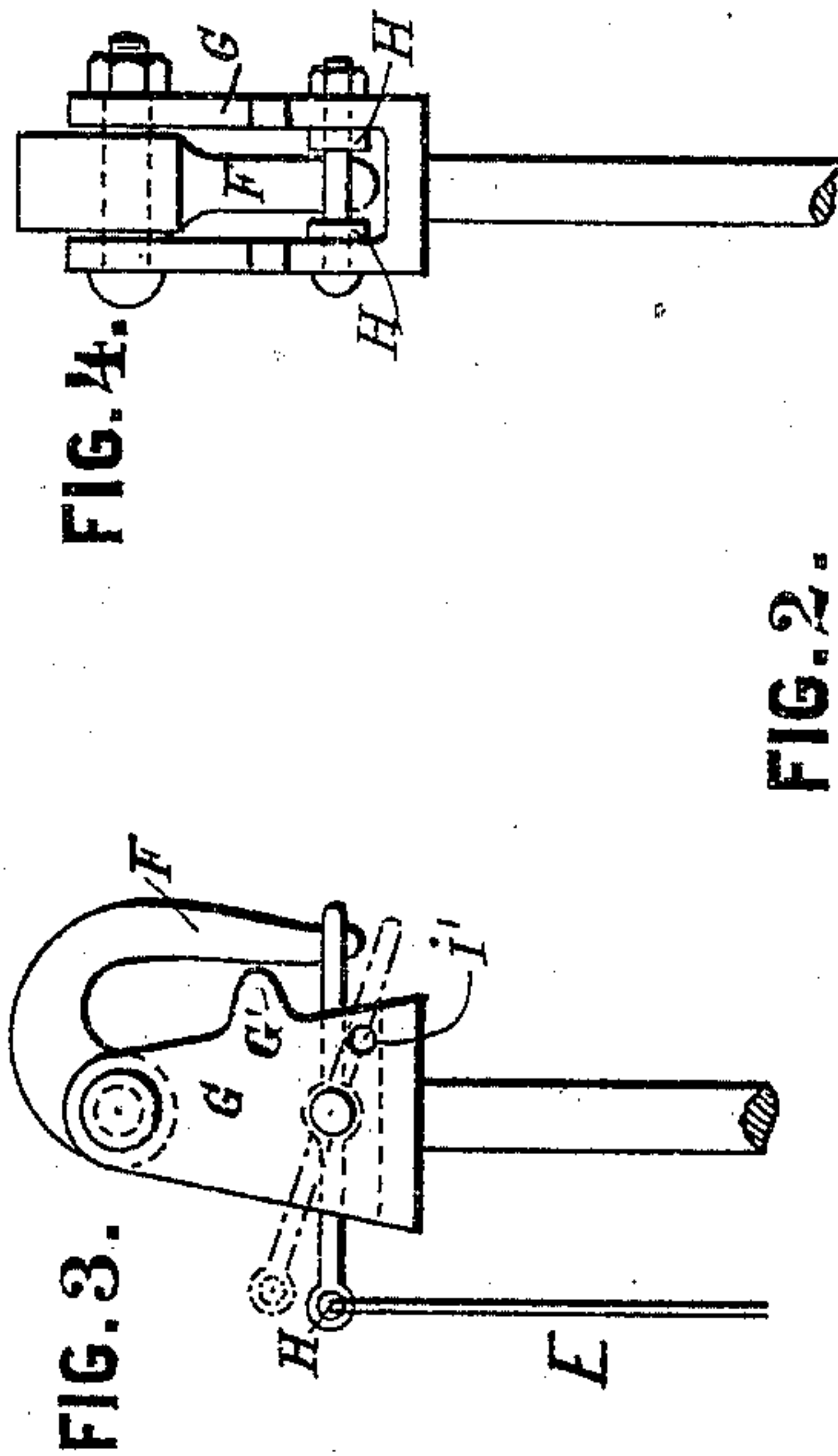


FIG. 3.

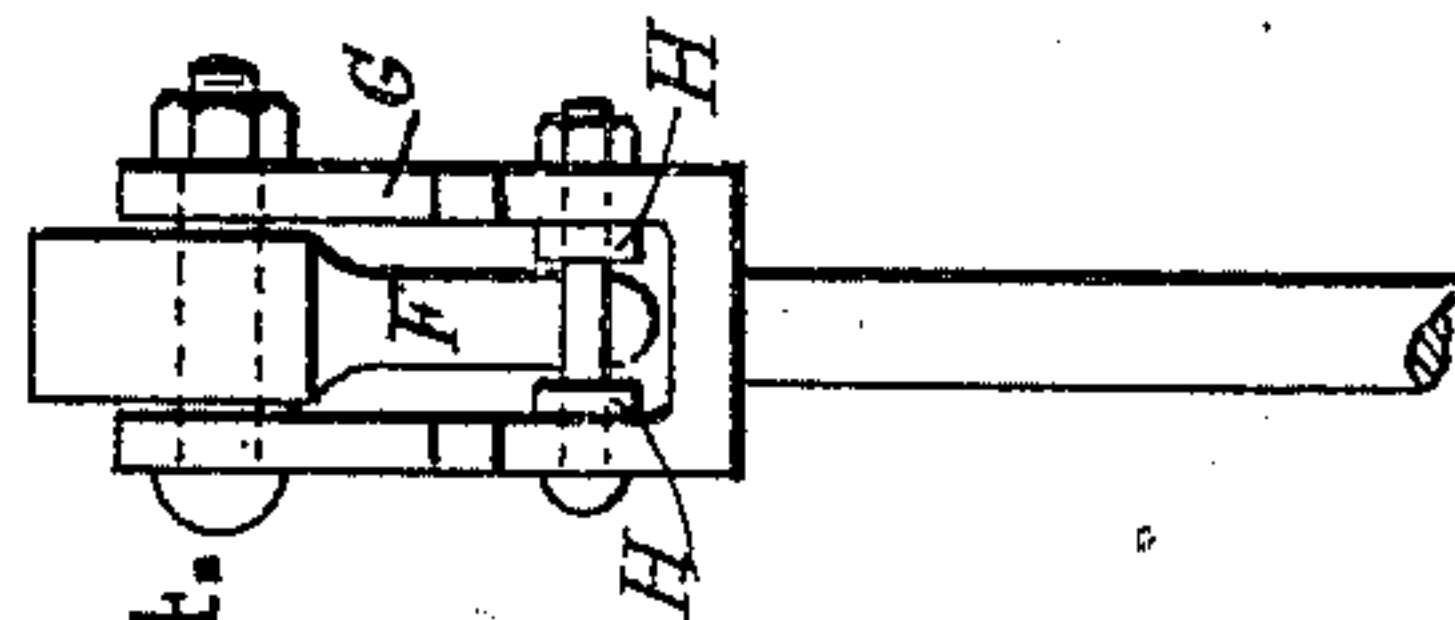


FIG. 4.

Inventor.  
James Sample  
per Henry Orth  
att'y



# UNITED STATES PATENT OFFICE.

JAMES SAMPLE, OF BLYTH, GREAT BRITAIN.

## AUTOMATIC DISCONNECTING-GEAR FOR SHIPS' BOATS.

SPECIFICATION forming part of Letters Patent No. 233,027, dated October 5, 1880.

Application filed August 19, 1880. (No model.) Patented in England June 16, 1879.

*To all whom it may concern :*

Be it known that I, JAMES SAMPLE, of Blyth, in the county of Northumberland, Kingdom of Great Britain, have invented a new and useful Improvement in Automatic Disconnecting-Gear for Ships' Boats, of which the following is a specification.

My improved gear is attached solely to the boat, and so arranged that the ordinary davits and running-gear may be used without alteration. At each end of the boat I place a hinged hook, which, with a detent, is capable of forming a loop, into which the hook or loop of the davit running-gear may take, and vice versa. Along the bottom of the boat, and preferably along its central axis, runs a rod or bar provided with suitable guides, each end being turned upward and jointed to the shorter end of a bell-crank lever working in a suitable bracket or bearing, the longer end projecting nearly or quite in the same direction as the long rod just mentioned. Jointed or hinged to the end of each of these bell-crank arms is a vertical rod, one of which—by preference that at the stern—carries a suitable weight, or is itself made heavy, and the top end of each of these vertical rods is jointed or hinged to one end of the before-named detent, said detent being pivoted so as to work with the movement of the vertical rods, and it will be noticed (and is an important feature in this invention) that should one of these detents move the other must move with it, and should one hook become detached the other must also.

Reference being had to the accompanying drawings, in which like figures represent like parts, Figure 1 is a sectional elevation of a boat fitted with this improved gear, the gear being set as when carrying a boat. Fig. 2 is a similar view, but the gear is shown detached, the ordinary davit-hooks being shown hanging free above. Fig. 3 is an enlarged side view of the bow-hook, bracket, and detent; and Fig. 4, an enlarged end view of same.

A is the stern-hook; B, the bow-hook; C, the connecting-rod at the bottom of the boat; D, the bell-crank working in brackets or bearings D'; E, the vertical rods; E', the weight upon one of the vertical rods; F, the hooks; G, the brackets; H, the detents; I, the toggle-pin, and K the running-gear blocks, hooks, &c., of the ordinary davit-fittings.

As shown in Fig. 1, the boat is securely held because the detents H have a firm hold on the ends of the hooks F, and the heavier the boat or the greater the weight the more securely these detents hold. Now, if the boat be lowered in a rough sea and one end only be held up by a wave, the hooks will not be released, because, although one end be free from weight and the ropes or chains previously supporting it quite slack, still that detent cannot fall unless the other fall with it; but this cannot happen so long as the weight of the other end of the boat is upon it. This remark applies to either end, as the weight E', which is small, (generally about ten-pounds weight,) and only required for the purpose of overcoming the friction of joints, &c., affects both detents equally. So soon, however, as the boat is fully waterborne, no matter whether upon an even keel or with one end very much raised, and the weight is thereby taken off both ends, the weight E' instantly drops, taking the detents off the hooks, which fly up, as shown in Fig. 2, and the boat is released at both ends simultaneously.

To reset the hooks, &c., ready for hooking on again, it is only necessary to throw the hooks F over into position, as in Fig. 1, raise the detents, and hook on in the ordinary manner. If the boat is to be permanently fixed, as on board a vessel going to sea, the toggle-pin I should be inserted in the hole I', which secures the detents so that they cannot drop off until wanted for use, when the pin is removed and the gear becomes automatic at once.

If preferred, loops may be substituted for the davit-hooks, so as to avoid any possibility of their slipping out of the hooks F. In practice, however, I find that the ordinary hooks do perfectly well.

The material of which I make this gear is generally galvanized iron throughout, and for the long rod C, I prefer to employ pipe. Quarter-inch iron gas-pipe, galvanized, I have used with success, and prefer it as being light, sufficiently rigid for my purpose, and easily fitted. All joints should be quite loose and the pins loose in their holes, so as to avoid all likelihood



of their sticking. Other materials, such as brass, for instance, might be used; but the galvanized iron is cheap, substantial, and durable, and for general work I prefer to employ it.

5 All, or nearly all, the parts of this apparatus can be easily boxed in with wood or metal to protect them from injury, and, though not really necessary, it is better to adopt this course.

10 The brackets G can be made either with or without the projection G'; but I prefer to have the projection, as it protects the detents from damage by the davit-hooks dropping upon them in the case of the ropes or chains becoming  
15 slack.

I am aware that the same end could be attained by several modifications of the method herein described, and shown in the drawings. One such modification is to place a rocking  
20 shaft along the bottom of the boat working in suitable bearings instead of traveling lengthwise, as in the former case. Weighted cross-levers and vertical rods carry up the motion to the detents, as before.

25 Another way of obtaining the simultaneous movement of the detents is to have the long rod in form of two levers, eye-jointed in the center of their length, each half working upon a fulcrum at or near its center, the center portion being heavier than the ends, and the  
30 outer ends connected to the vertical rods, as before. When the weight is taken off the heavy center part drops and releases the hooks by withdrawing the detents.

35 Having now described my invention and the method of performing the same, I wish it to

be understood that what I claim, and desire to protect by Letters Patent, is—

1. In an automatic boat-detaching gear, a pivoted bow and stern hook and their pivoted  
40 retaining-loops or detents, arranged as set forth, in combination with connecting-levers and rod and a weight, arranged and operating to automatically and simultaneously disengage  
45 both hooks from their retaining-loops by the slack of the supporting-tackle, substantially as described.

2. In an automatic boat-detaching gear, a horizontal vibrating bar having weighted cross-  
50 levers at its ends, forming a connection between the detents H, in combination with the hooks F F, substantially as described, and operating as set forth.

3. In an automatic boat-detaching gear, the connecting-rod C, formed of two sections, rock-  
55 ing upon a central pivot and pivoted together at their inner weighted ends, forming, with the vertical rod E, a connection between the detents H, in combination with the hooks F, substantially as described, and operating as set  
60 forth.

4. In an automatic boat-detaching gear, the combination, with the pivoted bow and stern hooks and their pivoted retaining-loops or de-  
65 tents, arranged as set forth, of the connecting-rod C, bell-crank levers D, lever E, and weighted lever E', arranged and operating as and for the purposes specified.

JAMES SAMPLE.

Witnesses:

THOMAS SMART, Jr.,  
JOSEPH TUNNEY.