

(No Model.)

O. ARNOLD.
LIFE SAVING APPARATUS.

No. 322,149.

Patented July 14, 1885.

Fig. 1.

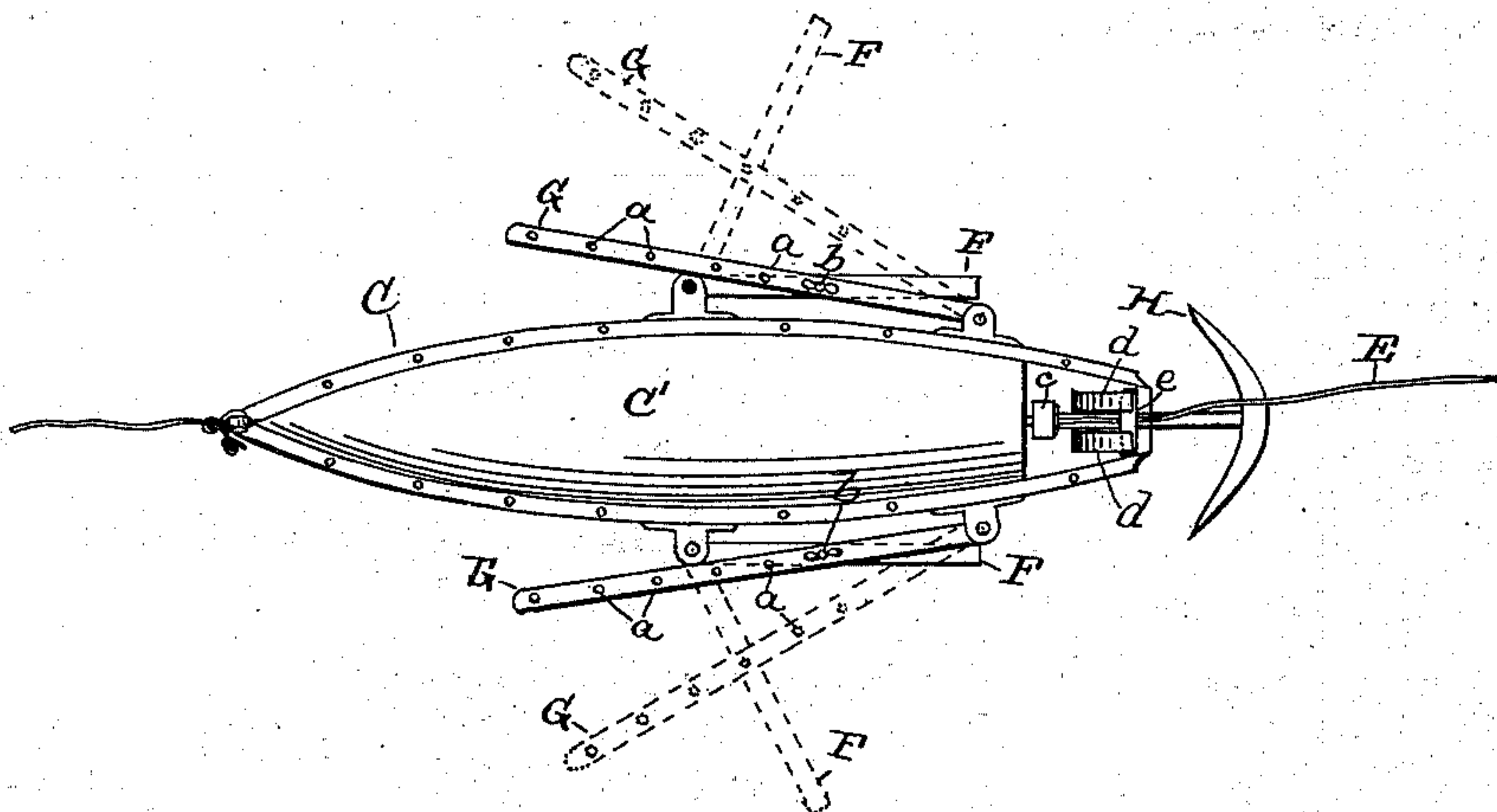


Fig. 2.

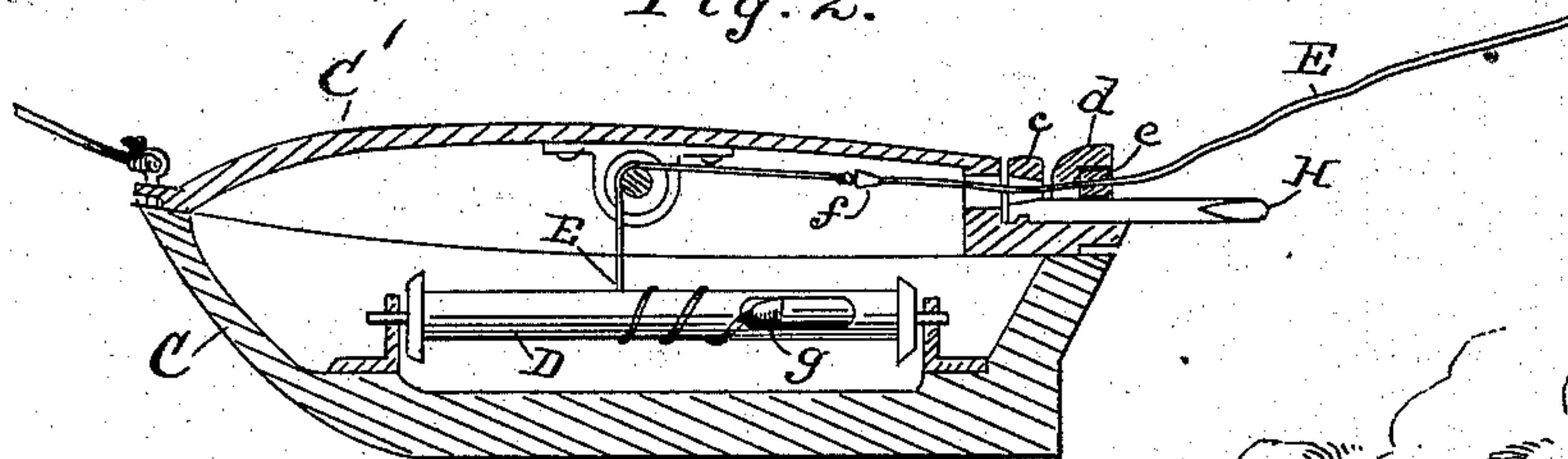
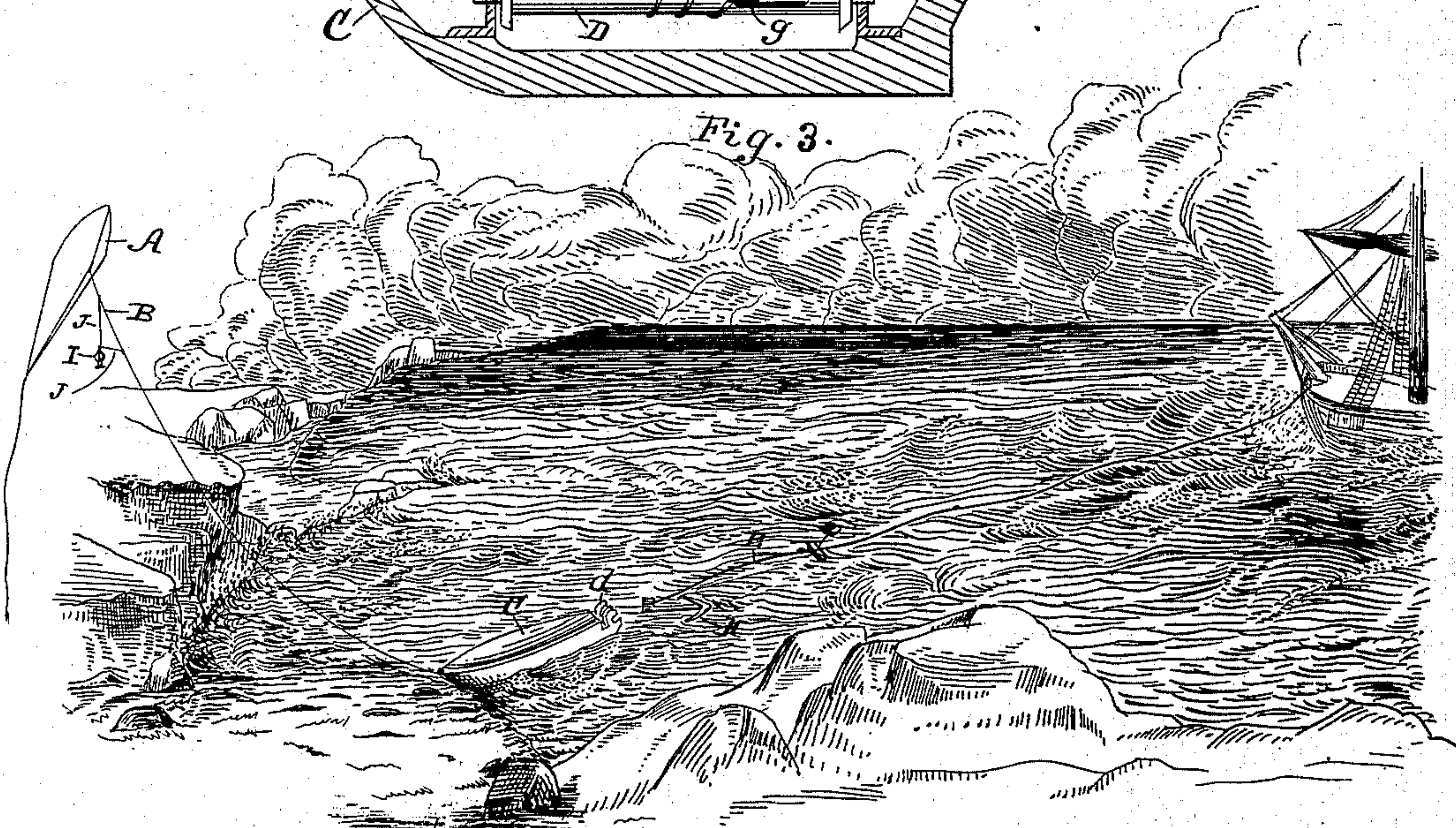


Fig. 3.



WITNESSES:

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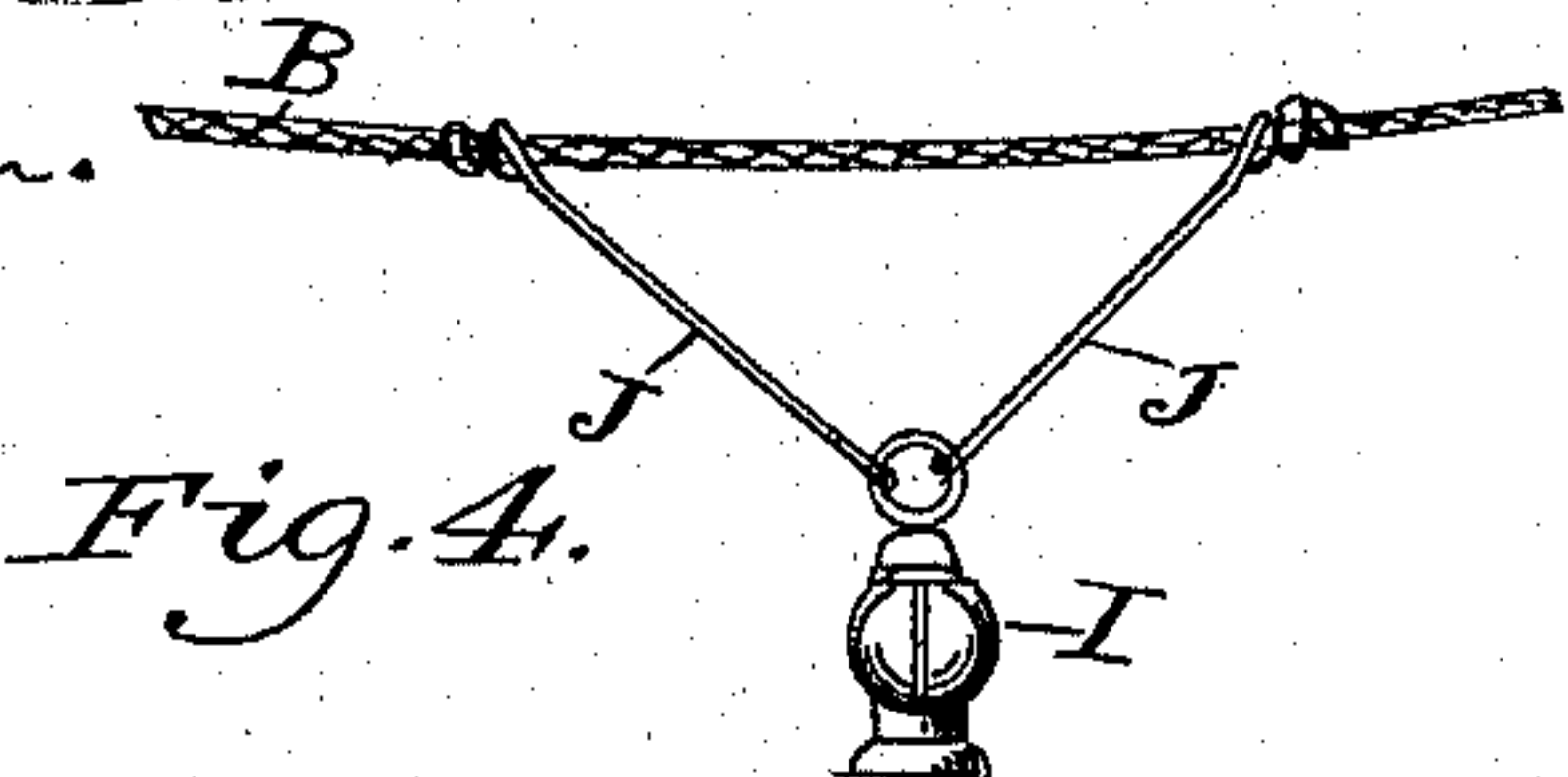


Fig. 4.

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LIFE-SAVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 322,149, dated July 14, 1885.

Application filed November 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, OLNEY ARNOLD, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Life-Saving Apparatus, of which the following is a description.

Figure 1 is a plan view of the apparatus; Fig. 2, a vertical longitudinal section; Fig. 3, a view illustrating the use of my invention, and Fig. 4 a view of the means for connecting a lantern to the kite-cord.

My invention relates to apparatus for saving life by carrying a life-line to the shore from a stranded vessel. It consists in the combination, with a kite, of a small boat of special construction, provided with a spool or bobbin carrying the life-line, one end of which is made fast to the ship, while the kite is made to drag the boat to the shore, the said boat being of such construction as to adapt it to increased or diminished resistance in the water, dependent upon the force of the wind and pull of the kite, and which same construction permits of the guiding of the boat in directions out of alignment with the direction of the wind, as hereinafter more fully described.

In the drawings, A represents the kite, which may be of any approved construction. B is its cord, which at one end is attached to the boat C. This boat is formed with a water-tight cover, C', which is fastened down by screws.

Journalled in bearings in the boat, and arranged longitudinally therein, is a spool, D, around which is wound a life-line, E, of sufficient length to cover the probable distance from ship to shore. In the cover C', above this spool, is journalled a sheave or pulley whose flanges are countersunk in its bearings, so that the line cannot get jammed between its end and its bearing, and over which guide-pulley the line E passes, and whence it emerges from the boat through a hole in the rear end of the cover, the end of said line, which passes out the stern of this boat, being designed to be attached to the stranded vessel.

When the line is to be carried to the shore, the kite is given to its flight, the boat is launched, and the pull of the kite is made to draw the boat to the shore, which causes the line contained within the boat to be paid out, thereby establishing communication with the shore.

As the wind may vary in strength, and it is necessary, in order to keep the kite up, to have a certain amount of tension on the cord, I adapt the boat to supply a greater or less amount of resistance to the kite, as follows: I arrange upon each side of the boat, about midships, a wing, F, which is hinged upon a vertical axis in bearings offsetting from the boat, and these wings are adapted to be adjusted to any desired angle to the boat, and maintained in this position by brace bars G, hinged at their back ends to the rear portion of the boat, and provided with a series of holes, *a*, through which a set-screw, *b*, passes to fasten them to the wings. Now, by adjusting these wings toward a right-angular position to the boat the resistance is increased, and sufficient tension is maintained on the cord to sustain the kite in a moderately-light wind. For a strong wind the wings are set more obliquely to the rear, so that the increased strength of the wind may be compensated for by a less resistance of the boat.

In some cases the boat may be sent ashore at points remote from human habitations, and it, in that case, would be necessary to provide means for automatically fastening the line to the shore. For this purpose I provide an anchor, H, the shank or main bar of which has an offsetting perforated lug or eye, *c*. On the stern of the boat-cover C', also, are formed or attached two hook-shaped lugs, *d d*, between which the shank of the anchor is placed, and which shank is held firmly by a block, *e*, fitting beneath the rearwardly-projecting hooks of the lugs *d d*. The rope, wound on the spool in the boat, passes through the block *e*, and also through the eye *c* of the anchor, which eye on the anchor is much larger than the hole in the block, and upon the end of the rope, wound upon the spool, are fastened two blocks, *f* and *g*, of which *f* is smaller than *g*. Of these blocks *f* is small enough to pass through the eye *c* of the anchor, but is too large to pass through the hole in the block *e*, while *g* is too large to pass through the eye of the anchor, and prevents the latter from becoming detached from the line. Now, when the boat has reached shore, as the line is paid out the first and smaller block, *f*, passes through the eye *c* of the anchor, and striking the block *e* dislodges it and pulls it out from beneath the hooked

lugs *d d*, and allows the anchor to drop clear of the boat, and the block *g* on the end of the line following cannot get through the eye *c* of the anchor, and makes a firm connection between the anchor and line, and as the former is firmly embedded in the sand or mud the shore end of the line is thus automatically made fast, so that the life-line can be used for reaching the shore.

10 In order to locate the kite at night a lantern, I, of light weight, is attached to the kite-cord, and is connected to it by two light converging rods, J J, which, when the lantern rests upon the ground, prevents the cord from resting above the lantern and becoming burned.

15 This device is designed to be used, mainly, on ship-board, and furnishes means for establishing connection with the shore without assistance from the shore, and also permits the boat to be guided in other directions than straight before the wind, for by setting one wing out and the other in the boat may be made to take a short cut to the shore, instead of scudding before the wind obliquely to the shore.

25 Having thus described my invention, what I claim as new is—

1. The combination of a kite, its flying-cord, and a boat attached thereto and provided with a spool or reel, with a life-line for attachment to the vessel, as and for the purpose described.

2. The combination of a kite, its flying-cord, a boat attached thereto and provided with a spool or reel, with a life-line for attachment to the vessel, and means for varying the resistance of the boat to the kite, substantially as shown and described. 35

3. The combination of a kite, its flying-cord, a boat attached thereto and provided with a spool or reel, with life-line for attachment to the vessel, an anchor through which the life-line reeves, and tripping device attached to the boat for disconnecting the anchor from the boat and automatically securing the shore end of the life-line, as described. 40

4. The combination, with the kite, its cord, and the boat, of the lateral wings hinged about a vertical axis to the sides of the boat, and hinged and perforated braces, with set-screws for adjusting the position of the wings, as described. 45

5. The combination, with the kite, its cord, the boat having hook-lugs, *d d*, and the spool and life-line, of the anchor having eye *c*, the block *e*, and the blocks *f* and *g*, fixed on the end of the life-line, as shown and described. 50 55

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Witnesses:

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