D. T. LEWIS.

EMERGENCY RUDDER.

APPLICATION FILED FEB. 24, 1911.

1,040,363. Patented Oct. 8, 1912.

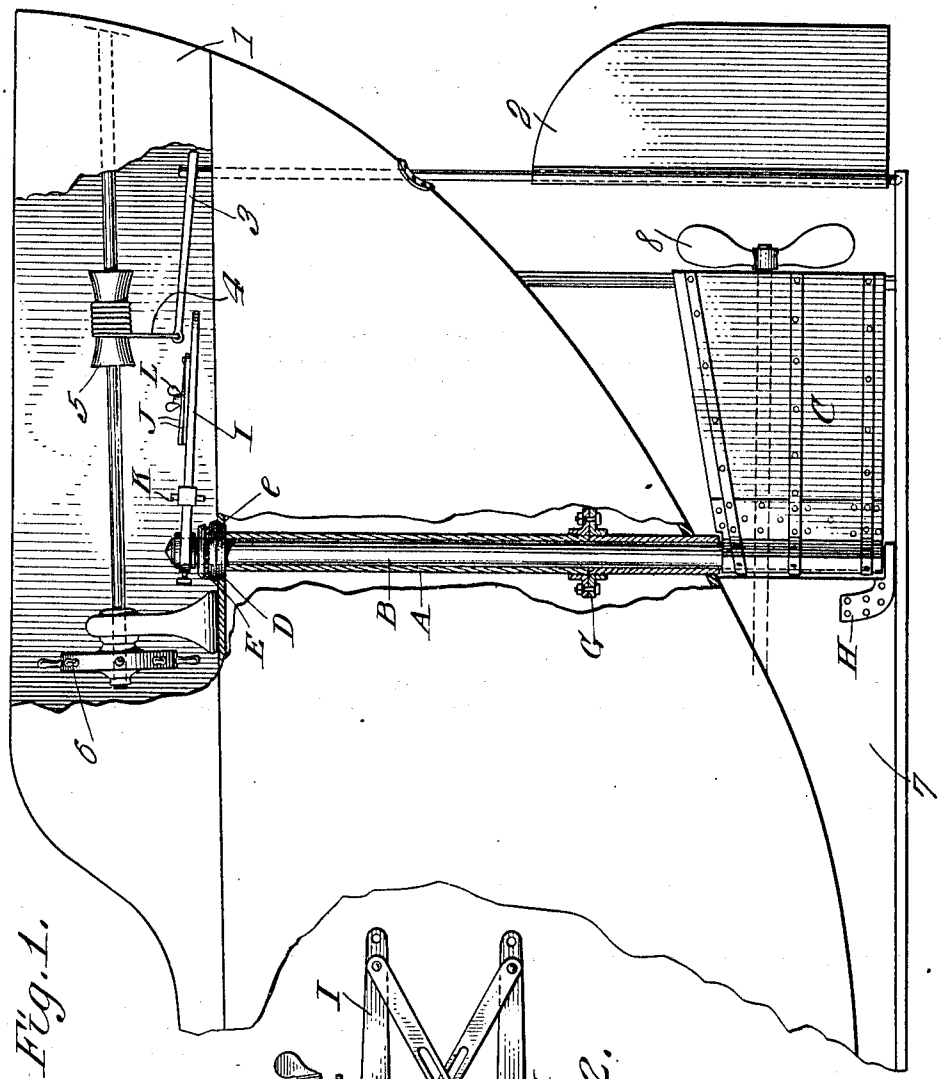

Fig. 1.

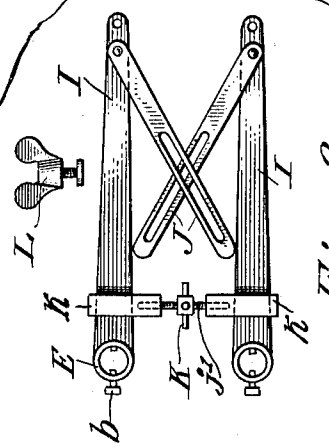

Fig. 2.

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DAVID T. LEWIS, OF AMHERST, NOVA SCOTIA, CANADA.

EMERGENCY-RUDDER.

1,040,363. Specification of Letters Patent. Patented Oct. 8, 1912.

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To all whom it may concern:

Be it known that I, DAVID T. LEWIS, a subject of the King of England, residing at Amherst, in the Province of Nova Scotia and Dominion of Canada, have invented a new and useful Emergency-Rudder, of which the following is a specification.

This invention relates to emergency rudders adapted for use when the main rudder of a boat becomes disabled, one of the objects of the invention being to provide twin rudders located at opposite sides of the keel and at points where they cannot be easily injured inasmuch as they are protected both by the hull and the keel of the boat.

A further object is to provide emergency rudders which can be actuated by the usual steering wheel simply by disconnecting the steering chains from the tiller of the disabled rudder and attaching them to the tillers of the emergency rudders.

Another object is to provide means whereby the emergency rudders can be held against the keel when not in use, additional means being employed for holding the rudders in operative positions.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view partly in section and partly in elevation of the stern of a boat having the present improvements applied thereto. Fig. 2 is a plan view of the tillers of the emergency rudders and the parts combined therewith, the binding screw being shown disconnected therefrom.

Referring to the figures by characters of reference 1 designates a portion of the hull of a boat, and 2 designates the ordinary rudder used in connection therewith, the tiller 3 of the rudder being connected, by a chain 4, to a drum 5 adapted to be rotated, as usual by a steering wheel 6.

The emergency rudders constituting the present invention are adapted to be placed at opposite sides of the keel 7 of the boat close to and directly in front of a propeller 8. Both rudders are of the same construction and one of them has been indicated at C and extends from the lower end of a shaft B journaled, at its lower end, on a bracket H connected to the keel. This shaft B extends upwardly into the hull 1 and is mounted to rotate within a sectional tubular casing A the parts of which are connected by a coupling G. A collar D is carried by the upper end of the casing A and another collar E is carried by the upper end of the shaft B and bears downwardly on anti-friction elements such as balls *e* mounted on the collar D. The collar E is secured to the shaft B by means of set screws *b* or the like and a tiller I extends from the collar at a point above the deck of the boat. The two tillers of the two emergency rudders carry sleeves *k* detachably engaged by the ends of an adjusting screw *j'*, the two ends being oppositely threaded so that, when the screw is rotated by means of a head K, the ends of the screw will be caused to move into the sleeves *k* and draw them toward each other whereas, when the screw is rotated in the opposite direction, the sleeves *k* will be moved apart until the screw has been completely withdrawn from engagement therewith.

Longitudinally slotted bars J are pivotally connected to the tillers *i* close to the free ends thereof and the slots *j* in said bars are adapted to receive a binding screw L.

It is to be understood that under normal conditions and when the emergency rudders C are not in use, said rudders are folded inwardly against the keel 7 and are held in such position by the screw *k'* which prevents the tillers I from moving apart and, consequently, prevents the rudders C from moving apart. Should the rudder 2 become disabled, the screw *k'* is rotated so as to become disengaged from the sleeve *k* after which the bars J are brought into parallel relation and held by means of the screw L, thereby moving the rudders to positions diverging from the keel. The ends of the chain 4 are then attached to the free ends of the tillers I so that, by rotating the steering wheel 6 as ordinarily, the two tillers I will be simultaneously shifted and thus correspondingly move the rudders C which will, therefore, steer the boat.

What is claimed is:—

1. The combination with the hull and keel of a boat, of an emergency rudder suspended from the hull at each side of the keel, shafts extending from the rudders and into the hull, tubular casings within the hull, said shafts being extended through the casing, tillers upon the shafts, means detachably connecting the tillers for holding the rudders folded against the side of the keel, and means carried by the tillers for holding them apart with the rudders in operative positions.

2. The combination with the hull and keel of a boat, of an emergency rudder suspended from the hull at each side of the keel, shafts extending from the rudders and into the hull, tubular casings within the hull, said shafts being extended through the casings, tillers upon the shafts, means detachably connecting the tillers for holding the rudders folded against the sides of the keel, means carried by the tillers for holding them apart with the rudders in operative positions, and steering mechanism including a flexible element.

3. The combination with the hull and keel of a boat, a rudder mounted back of the keel, and mechanism for actuating the rudder, of emergency rudders below the hull and at opposite sides of the keel, means for holding the emergency rudders normally folded against the keel, and means for holding the rudders along lines diverging from the keel, said actuating mechanism being shiftable into position to actuate the emergency rudders.

4. The combination with the hull and keel of a boat, a rudder back of the keel, and mechanism for actuating the rudder, of shafts extending into the hull, emergency rudders at the lower ends of the shafts and at opposite sides of the keel, tillers extending from the shafts, means connecting the tillers for holding the emergency rudders normally folded against opposite sides of the keel, and means for holding the rudders along lines diverging from the keel, said actuating mechanism being shiftable into engagement with the tillers to actuate the emergency rudders.

5. The combination with the hull and keel of a boat, of tubular casings within the hull, shafts journaled within the casings, emergency rudders at the lower ends of the shafts and at opposite sides of the keel, tillers at the upper ends of the shafts, means connecting the tillers for holding the emergency rudders normally folded against opposite sides of keel, means connecting the tillers for holding the emergency rudders out of normal position and in parallel relation, and means for actuating the tillers.

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