J. G. A. KITCHEN.

BOAT STEERING AND REVERSING GEAR.

APPLICATION FILED FEB. 20, 1919.

1,306,913.

Patented June 17, 1919.

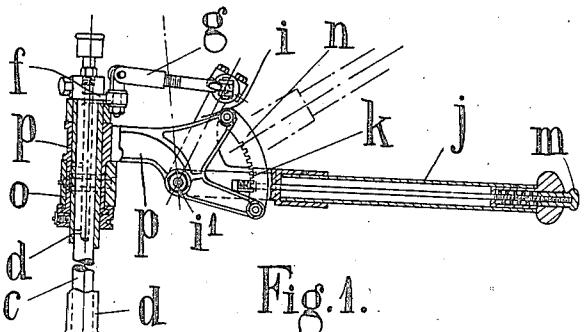
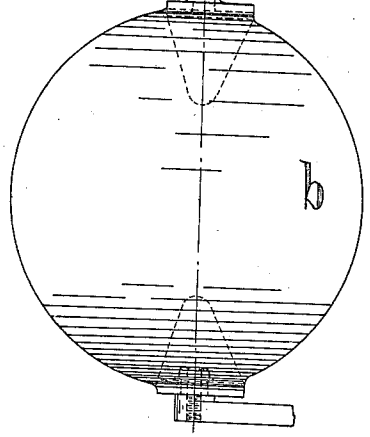


Fig. 1.



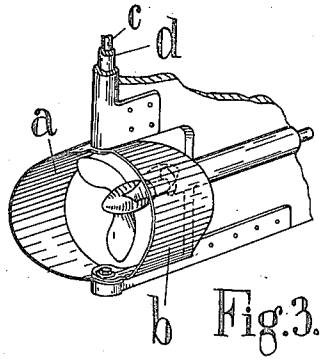


Fig. 3.

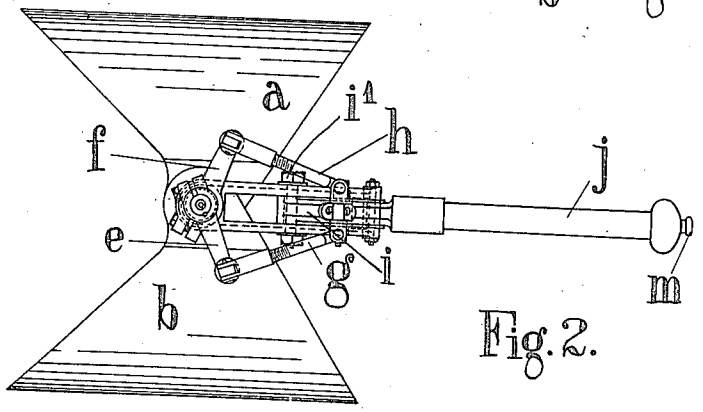


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN GEORGE AULSEBROOK KITCHEN, OF SCOTFORTH, LANCASTER, ENGLAND.

BOAT STEERING AND REVERSING GEAR.

1,306,913. Specification of Letters Patent. Patented June 17, 1919.

Application filed February 20, 1919. Serial No. 278,290.

To all whom it may concern:

Be it known that I, JOHN GEORGE AULSEBROOK KITCHEN, a subject of the King of Great Britain and Ireland, and resident of 7 Rose Bank, Scotforth, Lancaster, England, have invented certain new and useful Improvements in Boat Steering and Reversing Gears, of which the following is a specification.

This invention relates to boat steering and reversing gear of the type in which two rudders are mounted one at each side of the propeller, for the purpose of deflecting or reversing the water driven astern by the propeller in order to effect steering, reversal and speed variation of the boat.

The object of the present invention is to provide simple and convenient means for readily operating the twin rudders so as to cause them to move simultaneously and through equal angles in the same or in opposite directions.

The invention comprises the combination with a tiller bar or equivalent steering arm adapted when operated in the usual manner in a horizontal plane, to move the rudders through equal angles in the same circular direction, of means whereby when the said tiller bar is moved in a vertical plane, the rudders are moved away from or toward one another.

The invention further comprises the details of construction hereinafter described.

Referring to the accompanying sheet of explanatory drawings:—

Figure 1 is a sectional elevation of one convenient form of the rudder operating mechanism and Fig. 2 a plan of the same.

Fig. 3 is a diagrammatic perspective view of the same.

The same reference letters in the three views indicate the same parts.

The rudders *a* and *b* are constructed and arranged in the manner described in the specification of prior U. S. Patent No. 1186210, the one rudder *a* being operated by the spindle *c* and the other rudder *b* by the sleeve *d* around the spindle *c*. The upper end of the latter has a crank arm *e* secured thereon and the upper end of the sleeve has a similar arm *f*. The arms *e* and *f* are connected by adjustable links *g*, *h* with a bell crank lever *i*, fulcrumed at *i'*, one arm of which carries the tiller bar *j*. A spring catch *k* controlled by the plunger *m* engages the notched sector *n* and fixes the position of the tiller bar and bell crank lever *i* in a vertical plane.

When the tiller bar is moved in a horizontal plane, the arms *e* and *f* move simultaneously and through equal angles in the same circular direction, but if the catch *k* be released from the notched sector *n* and the tiller bar be raised in a vertical plane, the arms *e* and *f* and therefore the rudders they control, will move away from or toward one another through equal angles. The fulcrum of the bell crank lever *i*, and the notched sector *n* are carried by a bracket *p* which fulcrums about the sleeve *d* and is held in place by the fixed element *o*.

With the control gear before described, it is possible to steer the boat when traveling ahead, to vary its speed, to stop it and reverse it and also to steer it when traveling astern.

The device is simple to construct and capable of ready operation.

I do not limit myself to the details of the improved rudder control gear, but may modify the same to suit requirements.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In boat steering and reversing gear of the type specified, the combination with the rudders, rudder stocks and a pivotally mounted tiller bar, of arms connected to said stocks and to the tiller bar, the latter being movable in a horizontal and in a vertical plane, as set forth.

2. In boat steering and reversing gear of the type specified, the combination with the rudders, rudder stocks and a pivotally mounted tiller bar, of means connected to said stocks and to the tiller bar, the latter being movable in a horizontal and a vertical plane, and a catch for locking the tiller bar against movement in a vertical plane, as set forth.

3. In boat steering and reversing gear of the type specified, in combination, two rudders, rudder stocks for said rudders, arms upon the said stocks, a movable bracket fulcrumed concentrically with the said stocks, a bell crank type tiller bar pivoted upon said bracket, links connecting said tiller bar to said arms, and a hand controlled catch for holding said tiller bar against vertical movement, as set forth.

4. In boat steering and reversing gear of the type specified, in combination, two rudders, rudder stocks for said rudders, arms upon the said stocks, a movable bracket fulcrumed concentrically with the said stocks, a bell crank type tiller bar pivoted upon said bracket, links connecting said tiller bar to said arms, a notched sector upon said bracket and a hand operated toothed plunger upon said tiller bar for engaging the notches of said sector, as set forth.

In testimony whereof I have signed my name to this specification.

JOHN GEORGE AULSEBROOK KITCHEN.