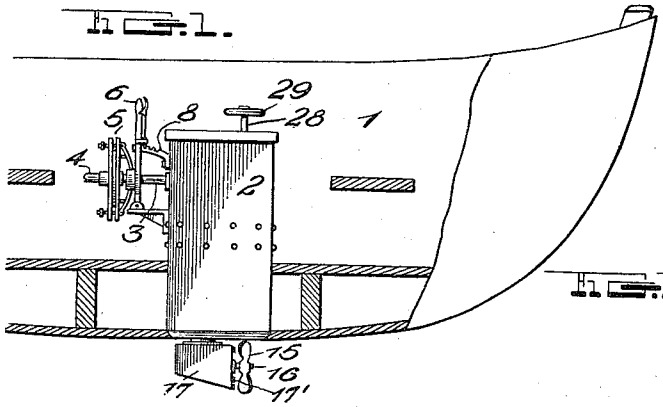
C. S. OVERTON.

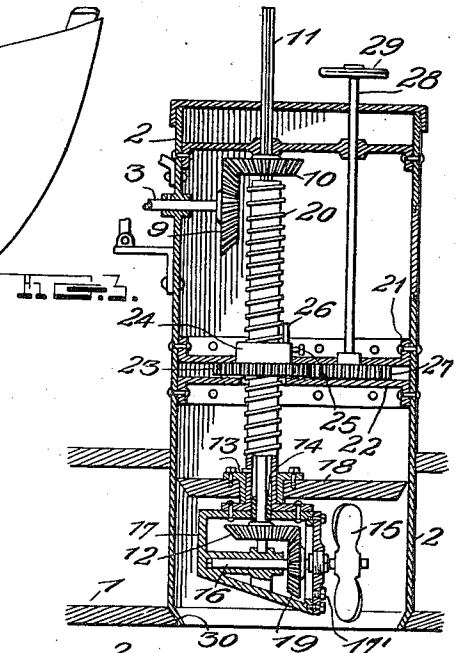
STEERING AND PROPELLING MECHANISM FOR MENHADEN FISHING BOATS.

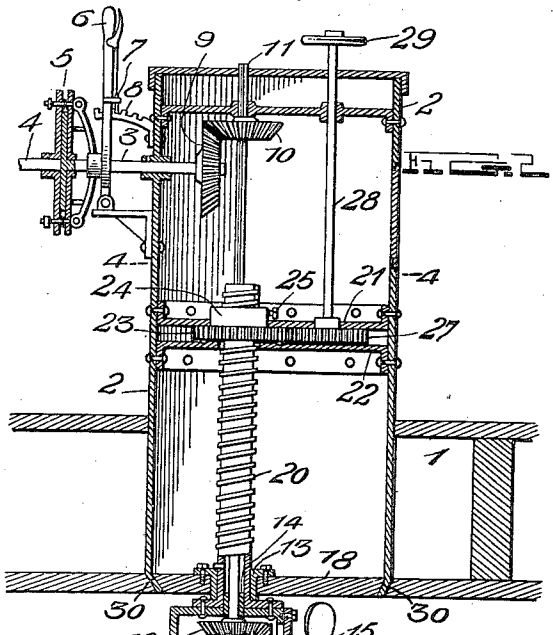
APPLICATION FILED FEB. 5, 1914.

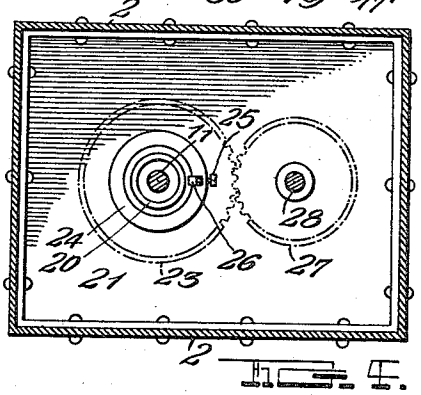
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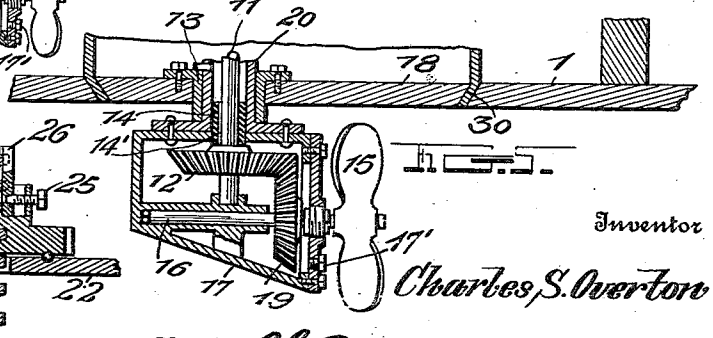
Patented Jan. 12, 1915.

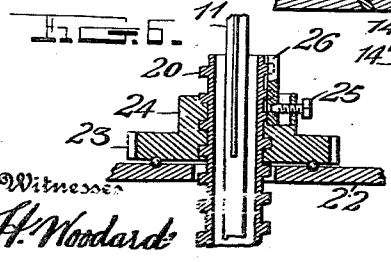












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UNITED STATES PATENT OFFICE.

CHARLES S. OVERTON, OF SOLOMONS, MARYLAND.

STEERING AND PROPELLING MECHANISM FOR MENHADEN-FISHING BOATS.

1,124,645. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed February 5, 1914. Serial No. 816,781.

To all whom it may concern:

Be it known that I, CHARLES S. OVERTON, a citizen of the United States, residing at Solomons, in the county of Calvert and State of Maryland, have invented certain new and useful Improvements in Steering and Propelling Mechanism for Menhaden-Fishing Boats; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in propelling and steering mechanism for boats and is especially adapted for use in connection with menhaden fishing boats.

The object of the invention is to provide a boat of this class with simple and efficient means for withdrawing and projecting the propelling and steering mechanism to either house it entirely within the boat when not in use or to project it below the bottom thereof when desired.

Another object is to provide simple means for quickly changing the position of the steering and propelling mechanism whereby the course of the boat may be quickly and easily changed, which is especially necessary in boats used in work of this character.

Menhaden fishing is accomplished by means of large seine, the ends of which are carried by two small boats. This seine is held up against the bottoms of the boats while being drawn, thus necessitating that the bottoms of the boats be perfectly smooth to avoid tearing the nets. The menhaden fish run in schools and two boats are used to encircle them, half of the net being in each boat. These fish also frequently vary the direction of their course and necessitate the quick turning of the boats to complete the catch.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings:—Figure 1 represents a side elevation partly in section of the bow of a small fishing boat equipped with this invention; Fig. 2 is a vertical longitudinal section through a portion of the boat and the casing in which the propelling and steering mechanism is mounted, said mechanism being shown in side elevation and with the propeller projected below the bottom of the boat ready for use; Fig. 3 is a similar view with the propeller in withdrawn position to dispose it out of the way of the nets; Fig. 4 is a transverse section of the well or casing taken on the line 4—4 of Fig. 2; Fig. 5 is an enlarged detail sectional view of the propeller showing it projected into operative position; and Fig. 6 is an enlarged sectional detail.

In the embodiment illustrated, this improved mechanism is shown mounted in the bow of a small boat 1, the propeller being turned in position for backing the boat. In this boat 1 a casing or well 2 is shown in which the propelling and steering mechanism is housed and through one side wall of which a shaft 3 extends preferably near the top thereof and is designed to be connected at the will of the operator to a driving shaft 4 shown arranged in alinement therewith by means of any suitable clutch 5 adapted to be operated by a lever 6, which lever may be locked in adjusted position to hold the clutch 5 either in operative or inoperative position by means of a dog 7 on said lever and a rack 8 on the casing as is shown clearly in Figs. 1 and 2.

Secured to the inner end of the shaft 3 is a beveled gear 9 adapted to mesh with a similar gear 10 mounted on a shaft 11 which extends longitudinally through the casing 2, being mounted in suitable bearings therein, and which is designed for driving the propeller 15 which is mounted on a shaft 16 rotatable in suitable bearings in a casing 17 swiveled on a plate 18. This shaft 16 has a beveled gear 19 thereon which meshes with a similar gear 12 on the lower end of the shaft 11 which extends into the casing 17.

A bushing 13 is mounted in an opening in the plate 18 to form a suitable bearing for a tubular screw 20 the lower end of which extends beyond the plate 18 and is secured to the casing 17 in which the propeller shaft 16 is mounted. This tubular screw is mounted at its other end in longitudinally spaced plates 21 and 22 mounted in the casing 2 intermediately of its ends preferably at a point midway thereof and which form guides for the tube 20 and supports for a gearing to be described. The shaft 11 extends through this hollow screw

20 and is surrounded at its lower end where it passes from said screw into the casing 17 by a sleeve or bushing 14 to hold it against wabbling in said screw.

Mounted between the plates 21 and 22 on the screw 20 is a gear wheel 23 having a collar 24 extending upwardly through the plate 21 which has a set screw 25 mounted transversely therein for a purpose now to be described. A key 26 is mounted in a recess in said collar 24 and is adapted to be moved laterally toward and away from the screw 20 for connecting it to or disconnecting it from the gear 23 as may be desired and for a purpose to be described. A gear 27 is also mounted between the plates 21 and 22 and meshes with the gear 23 and is provided with an upwardly extending operating shaft or rod 28 which projects through the top of the casing 2 and is provided at its outer end with an operating wheel or handle 29 and is designed for a purpose to be described.

The plate 18 in which the tubular screw 20 is mounted and to the lower face of which the propeller casing 17 is secured, is made angular in configuration to fit the angular lower end of the casing 2 and the edges thereof are beveled to adapt them to closely fit the beveled seat 30 at the bottom of said well or casing 2 whereby when the plate is moved downwardly to project the propeller below the bottom of the boat, said plate will snugly fit in the bottom of said casing, it being understood that the plate is secured to the screw 20 in any suitable manner to hold it in fixed relation and adapt it to move therewith and to be firmly seated in the bottom of the casing against the pressure of the surrounding water.

In the operation of this mechanism, when the boat is to be used for encircling the fish, during which operation its course will need to be changed many times, the propeller and steering mechanism having first been projected below the bottom of the boat, the set screw 25 is turned to engage the key 26 with the tubular screw 20 so that when the steering wheel 29 is operated, the gear 27 connected with the shaft 28 thereof will be turned and impart its motion to the gear 23. This turning of the gear 23 will turn the hollow screw 20 with it and thereby shift the propeller casing 17 in the desired direction to position the propeller for driving the boat in the desired direction. It will thus be obvious that the direction of the propeller may be quickly changed simply by turning the steering wheel 29 in the proper direction.

After the school of fish has been caught in the net and it is desired to draw the net for completing the catch, the screw 25 is turned to disengage the key 26 from the hollow screw 20 and to adapt the gear 23 which has a threaded engagement with the screw 20 to operate as a nut on the turning of the steering wheel 29 for elevating the screw 20 to withdraw the propelling mechanism into the position shown in Fig. 3, the weight of the steering mechanism carried by said screw 20 serving to hold said screw and prevent its rotation with the gear 23. When in this position, the net may be drawn close against the bottom of the boat without danger of its becoming entangled. To lower the propelling mechanism, the steering wheel 29 is turned in the opposite direction from that above described and the gear 23 operating as a nut, will lower the screw 20 and project the mechanism into the position shown in Figs. 2 and 5. The mechanism of this device being connected to the driving engine by a friction clutch gear which may be thrown in gradually, will render it impossible to impart any unnecessary shock or strain to the mechanism. From the above description, it will be obvious that this mechanism may be revolved to turn the propeller at any desired angle from right ahead to right astern and thus the boat may be caused to move in any desired direction without altering the engine, and when not in use, the steering and propelling mechanism may be withdrawn into the lower part of the boat as shown in Fig. 3. This well or casing 2 is preferably located on the off side of each keel to avoid the necessity of cutting through the keel.

The casing 17 is made fluid tight and is designed to be filled with oil for lubricating the gears and other members mounted therein. The oil is fed to this casing through the hollow screw 20 and passes into the casing 17 through a duct 14' formed in the bushing 14. When desired the oil may be drawn off from the casing 17 through an opening in one end closed by a plug 17'. The end of the casing in which the propeller 15 is mounted is shown removable to afford access to the interior of the casing. All parts of this gearing are preferably constructed of brass, bronze or any other material on which water has no effect.

It is understood that these fishing boats are designed to be carried by fishing steamers which are equipped with davits and engines capable of hoisting the small boats and their seines above deck where they are kept when not in use and this affords ample time for examination of the gear both inside and out.

What I claim is:—

1. A boat having a well or casing therein opening through the bottom thereof, steering and propelling mechanism, means for actuating said mechanism, means for raising and lowering said mechanism into and out of said casing comprising a screw connected with said mechanism, a nut mounted

in said casing and having threaded engagement with said screw, and means for turning said nut to raise or lower the screw.

2. A boat having a well or casing therein opening through the bottom thereof, steering and propelling mechanism, means for actuating said mechanism, means for raising and lowering said mechanism into and out of said casing comprising a screw connected with said mechanism, vertically spaced plates secured in said casing through which said screw extends, a nut arranged between said plates and having threaded engagement with said screw and means for turning said nut.

3. A boat having a well or casing therein opening through the bottom thereof, steering and propelling mechanism, means for actuating said mechanism, coöperating means arranged in said casing for raising and lowering said mechanism, means for fixing said raising and lowering means to said screw to adapt it to turn therewith when desired, and means for actuating said raising and lowering means.

4. A boat having a well or casing extending upwardly from the bottom thereof and having an opening in its bottom, a closure removably mounted in said opening, a casing mounted on the lower face of said closure, a propeller having a shaft mounted in said casing, a shaft extending through said well into the casing on the lower face of said closure, coöperating means carried by said propeller shaft and said well-carried shaft for driving said propeller, means under the control of the operator for driving said well-carried shaft, a tubular screw encircling said well-carried shaft and connected with the casing on the lower face of the closure, said tubular screw being revolubly mounted in said closure, and means for revolving said screw to turn the propeller casing at any desired angle.

5. A boat having a well or casing extending upwardly from the bottom thereof and having an opening in its bottom, a closure removably mounted in said opening, a casing mounted on the lower face of said closure, a propeller having a shaft mounted in said casing, a shaft extending through said well into the casing on the lower face of said closure, coöperating means carried by said propeller shaft and said well-carried shaft for driving said propeller, means under the control of the operator for driving said well-carried shaft, a tubular screw encircling said wheel carried shaft and connected with the casing on the lower face of the closure, said tubular screw being revolubly mounted in said closure, means for revolving said screw to turn the propeller casing at any desired angle, said means comprising a gear fixed to said screw and a coöperating gear meshing with said screw carried gear, and means for turning the latter.

6. A boat having a well or casing extending upwardly from the bottom thereof and having an opening in its bottom, a closure removably mounted in said opening, a casing mounted on the lower face of said closure, a propeller having a shaft mounted in said casing, a shaft extending through said well into the casing on the lower face of said closure, coöperating means carried by said propeller shaft and said well-carried shaft for driving said propeller, means under the control of the operator for driving said well-carried shaft, a tubular screw connected with the casing on the lower face of the closure, said tubular screw being revolubly mounted in said closure, means for revolving said screw to turn the propeller casing at any desired angle, said means comprising a gear having threaded engagement with said screw, a laterally movable key carried by said gear, means for engaging said key with said screw for locking the gear in engagement with the screw to adapt it to turn therewith, and means for turning said gear.

7. A boat having a well or casing extending upwardly from the bottom thereof and having an opening in its bottom, a closure removably mounted in said opening, a casing mounted on the lower face of said closure, a propeller having a shaft mounted in said casing, a shaft extending through said well into the casing on the lower face of said closure, coöperating means carried by said propeller shaft and said well-carried shaft for driving said propeller, means under the control of the operator for driving said well-carried shaft, a tubular screw connected with the casing on the lower face of the closure, said tubular screw being revolubly mounted in said closure, means for revolving said screw to turn the propeller casing at any desired angle, said means comprising a gear having threaded engagement with said screw, a key laterally movable in said gear and adapted to be engaged with or disengaged from said screw for locking the gear to the screw or permitting the screw to turn independently thereof, and means for turning said gear.

8. A boat having a well or casing extending upwardly from the bottom thereof and having an opening in its bottom, a closure removably mounted in said opening, a casing mounted on the lower face of said closure, a propeller having a shaft mounted in said casing, a shaft extending through said well into the casing on the lower face of said closure, coöperating means carried by said propeller shaft and said well-carried shaft for driving said propeller, means under the control of the operator for driv-

ing said well-carried shaft, a tubular screw connected with the casing on the lower face of the closure, said tubular screw being revolubly mounted in said closure, means for revolving said screw to turn the propeller casing at any desired angle, said means comprising a gear having threaded engagement with said screw, said gear having an upwardly extending collar with a recess formed therein, a key mounted in said recess to move laterally toward and away from said screw, means for locking said key in engagement with said screw, and means for actuating said gear.

9. A boat having a well or casing extending upwardly from the bottom thereof with an opening in its bottom, a closure removably mounted in said opening, propelling and steering mechanism carried by said closure, means under the control of the operator for retracting or projecting said closure and the propeller carried thereby into and out of said casing, and means for converting said retracting and projecting means into the propeller shifting means for turning the propeller at any angle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES S. OVERTON.

Witnesses:
HALVOR H. HELLEN,
JAMES H. MARSH.