W. J. JOHNSTON.

MOTOR ATTACHMENT FOR BOATS.

APPLICATION FILED FEB. 12, 1916.

1,225,252. Patented May 8, 1917.

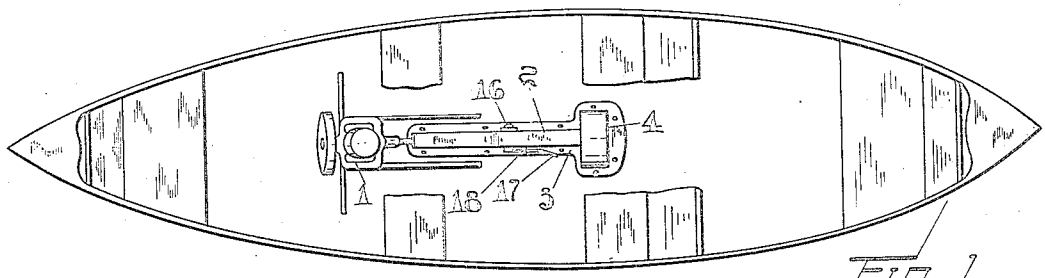


Fig. 1.

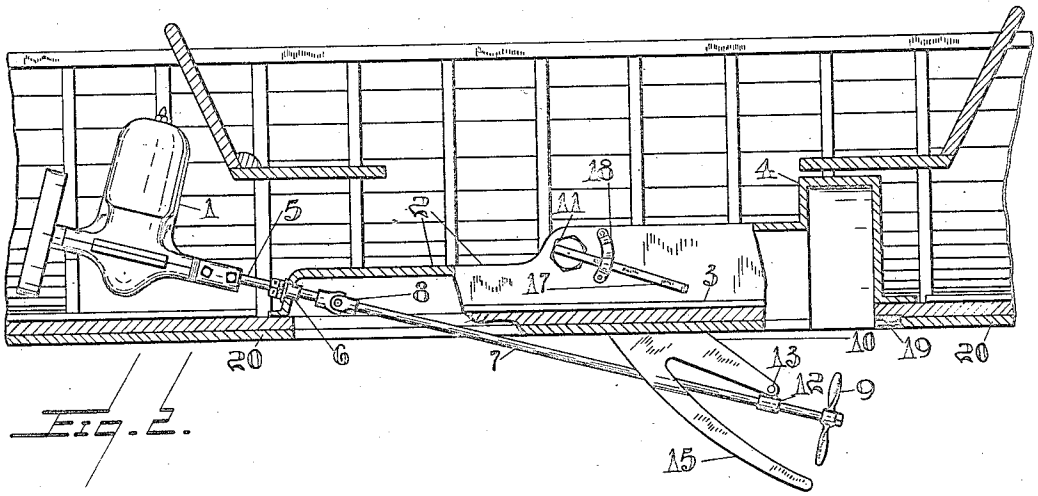


Fig. 2.



Fig. 5.

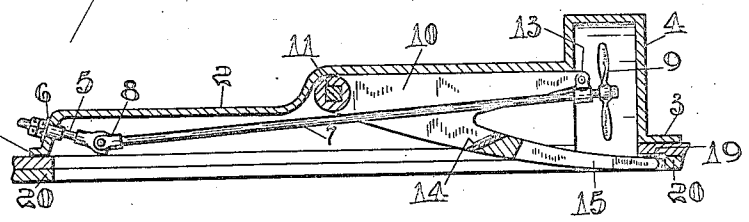


Fig. 3.

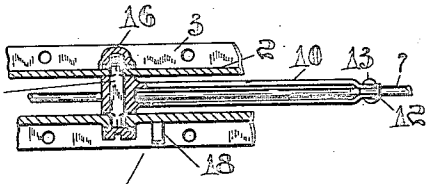


Fig. 4.

WITNESSES.

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MOTOR ATTACHMENT FOR BOATS.

1,225,252. Specification of Letters Patent. Patented May 8, 1917.

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To all whom it may concern:

Be it known that I, WILLIAM JAMES JOHNSTON, of Port Carling, in the district of Muskoka, Province of Ontario, Canada, have invented certain new and useful Improvements in Motor Attachments for Boats, of which the following is a specification.

This invention relates to means whereby skiffs and other light boats capable of being readily hauled up when not in use may be equipped with motors, and my object is to devise an attachment which will enable the motor to be placed in the usual place in the bottom of the boat while the propeller can be raised to enable the boat to be hauled out or launched.

The attachment in the main comprises a casing fitted within the boat over a slot in the keelson. The crank shaft of the motor passes through a stuffing box in the end of the casing and is connected with the propeller shaft by means of a universal joint, the propeller shaft and propeller being capable of being housed in said casing.

The present invention lies in the means for supporting and raising and lowering the propeller shaft, and for holding the same raised substantially as hereinafter described and illustrated in the accompanying drawings in which—

Figure 1 is a plan view showing a boat equipped with my improved attachment;

Fig. 2 a longitudinal section of part of the same on an enlarged scale;

Fig. 3 a longitudinal section of part of the same with the propeller shaft raised;

Fig. 4 a plan view of part of the same partly in section; and

Fig. 5 an end elevation of the spring clip for holding the end of the propeller protecting skeg.

In the drawings like numeral of reference indicate corresponding parts in the different figures.

The boat is provided with any suitable engine bed to which is secured the motor 1. While this motor may be located in any position longitudinally of the boat, it is preferably so located that the propeller on the end of the propeller shaft driven therefrom will be located not very far aft of the midship section of the boat.

2 is a casing, preferably an aluminum casting, open at its under side and adapted to receive and hold the propeller shaft and propeller. This casing is provided with the flange 3 by means of which it may be connected with the keelson or other parts of the bottom of the boat. This casing for the greater part of its length is comparatively narrow to hold the propeller shaft and propeller shaft support, and it is provided with an enlargement 4 to receive the propeller.

The crank shaft 5 of the motor extends through the forward end of the casing 2, which is provided with a suitable stuffing box 6. Within the casing the crank shaft is connected to the propeller shaft 7 by means of a universal joint 8. The rearward end of the propeller shaft carries the propeller 9 of any suitable type.

The propeller shaft is carried so that it may be raised or lowered by the propeller shaft support 10. This shaft support is pivoted within the casing by means of a bolt 11 arranged as hereinafter described. The rearward end of the support carries a suitable bearing 12 for the propeller shaft. Preferably the support 10 is double, passing on each side of the propeller shaft, and the bearing 12 is hung on a pivot 13 between the two parts of the support. The bearing turns on this pivot as the propeller shaft is raised or lowered, and at the same time slides longitudinally of the shaft.

At the junction of the two parts of the support 10 an open bearing 14 is formed, which receives the propeller shaft when the latter is in its lowest position. This bearing not only steadies the propeller shaft, but serves as a stop to prevent the latter dropping below a predetermined position. The lowest position of the propeller shaft is preferably that in which it is in alinement with the crank shaft as shown in Fig. 2.

To protect the propeller I provide the skeg 15 which extends rearwardly from the support 10 below the bearing 12. It will be seen that this skeg effectively guards the propeller from any obstruction over which the boat may run, and serves to automatically push up the propeller shaft and the propeller when the boat is being drawn out of the water.

The rearward part of the casing is higher than the forward part, as room is needed to receive the support 10 above the propeller shaft when the latter is raised, whereas the forward part is kept as low as possible to save weight and room.

The bolt 11, it will be seen particularly on reference to Fig. 4, has the inner side of its head recessed to receive a packing. The nut 16, which is preferably a closed end nut, is also provided with a similar recess so that when the nut is tightened all leakage is prevented. Within the casing the bolt is squared so that the support is non-rotatably connected with the bolt. It is evident then that by rocking the pivot bolt 11 the support may be actuated to raise and lower the propeller shaft. For this purpose a hand lever 17 is connected with the bolt. This hand lever engages a retaining quadrant 18 secured to the side of the casing 2. While any suitable quadrant may be employed, preferably a spring quadrant frictionally engaging the hand lever is employed, as the strain on the hand lever is comparatively small and it is desirable that the lever should not be positively locked in order to prevent any chance of breakage if the propeller shaft be suddenly forced up by the skeg engaging any obstruction over which the boat may be passing.

To assist in holding the parts in the folding position shown in Fig. 3, I prefer to have the end of the skeg engage the spring 19, which is secured to the under side of the casing as shown in Figs. 2 and 3. The keel 20 is, of course, cut out below the casing 2 and a suitable slot cut through the casing and garboard strakes, if necessary, for the passage of the propeller shaft and propeller. The casing, however, fully compensates for any weakening of the backbone of the boat which might otherwise result.

An important advantage in running follows from the fact that the propeller may be raised into the casing while still running, namely, that the boat may be stopped while the engine is still running. So also control of speed may be obtained independent of engine control by raising or lowering the propeller to give its blades a greater or less grip on the clear water under the boat.

The motor accessories, such as gasolene tank, spark coil, batteries, etc., may be located in any convenient position and are not shown or described as they form no part of the present invention.

From the above description it will be seen that I have devised an attachment which satisfactorily attains the object of my invention set out in the preamble to this specification.

What I claim as my invention is:

1. In a motor attachment for boats, the combination of a casing open at its underside and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; and a bearing on said support for the propeller shaft.

2. In a motor attachment for boats, the combination of a casing open at its underside and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; a bearing on said support for the propeller shaft; and an open bearing in which said propeller shaft rests when the said shaft is in its lowest position.

3. In a motor attachment for boats, the combination of a casing open at its underside and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; a bearing on said support for the propeller shaft; and a projecting skeg extending from said support to a point below the propeller.

4. In a motor attachment for boats, the combination of a casing open at its underside and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a double propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; and a bearing for the propeller shaft pivoted between the parts.

5. In a motor attachment for boats, the combination of a casing open at its underside and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a double propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; a bearing for the propeller shaft pivoted between the parts; and an open bearing in which said propeller shaft rests when the said shaft is in its lowest position.

6. In a motor attachment for boats, the combination of a casing open at its under side and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a double propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; a bearing for the propeller shaft supported by said

parts; and a solid protecting skeg extending from said support to a point below the propeller.

7. In a motor attachment for boats, the combination of a casing open at its under side and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a double propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; a bearing for the propeller shaft supported by said parts; an open bearing in which said propeller shaft rests when the said shaft is in its lowest position; and a solid protecting skeg extending from said support at said open bearing to a point below the propeller.

8. In a motor attachment for boats, the combination of a casing open at its under side and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; a propeller shaft support pivoted at one end within the casing, the pivot extending through the side of the casing; a bearing on said support for the propeller shaft; a protecting skeg extending from said support to a point below the propeller; a boat with slotted bottom over which said casing is fitted; and a spring clip secured in a recess in the bottom of said boat to receive and frictionally hold the end of said skeg when the propeller shaft is raised.

9. In a motor attachment for boats, the combination of a casing open at its underside and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; oscillatable means extending through the side of the casing for operation from without; and propeller shaft raising means operable by said oscillatable means.

10. In a motor attachment for boats, the combination of a casing open at its under side and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; oscillatable means extending through the side of the casing for operation from without; and propeller shaft raising means operable by said oscillatable means comprising a rocking member rigidly connected to said oscillatable means and adapted to engage and lift the shaft.

11. In a motor attachment for boats, the combination of a casing open at its under side and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; oscillatable means extending through the side of the casing for operation from without; and propeller shaft raising means operable by said oscillatable means comprising a rocking member rigidly connected to said oscillatable means and provided with a sliding connection with said shaft.

12. In a motor attachment for boats, the combination of a casing open at its under side and adapted to receive and house a propeller and propeller shaft; a crank shaft having a bearing in one end; a propeller shaft carrying a propeller; a universal joint connecting the two shafts; oscillatable means extending through the side of the casing for operation from without including a hand lever, and frictional retaining means tending to hold the said oscillatable means against movement; and propeller shaft raising means operable by said oscillatable means.

Signed at Bracebridge this fifth day of February A. D. 1916, in the presence of the two undersigned witnesses:

WILLIAM JAMES JOHNSTON.

Witnesses:

THOS. JOHNSON,

ALF. PLENBY GAGE.