R. B. OWEN.

OUTBOARD MOTOR.

APPLICATION FILED FEB. 10, 1916.

1,374,095.

Patented Apr. 5, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

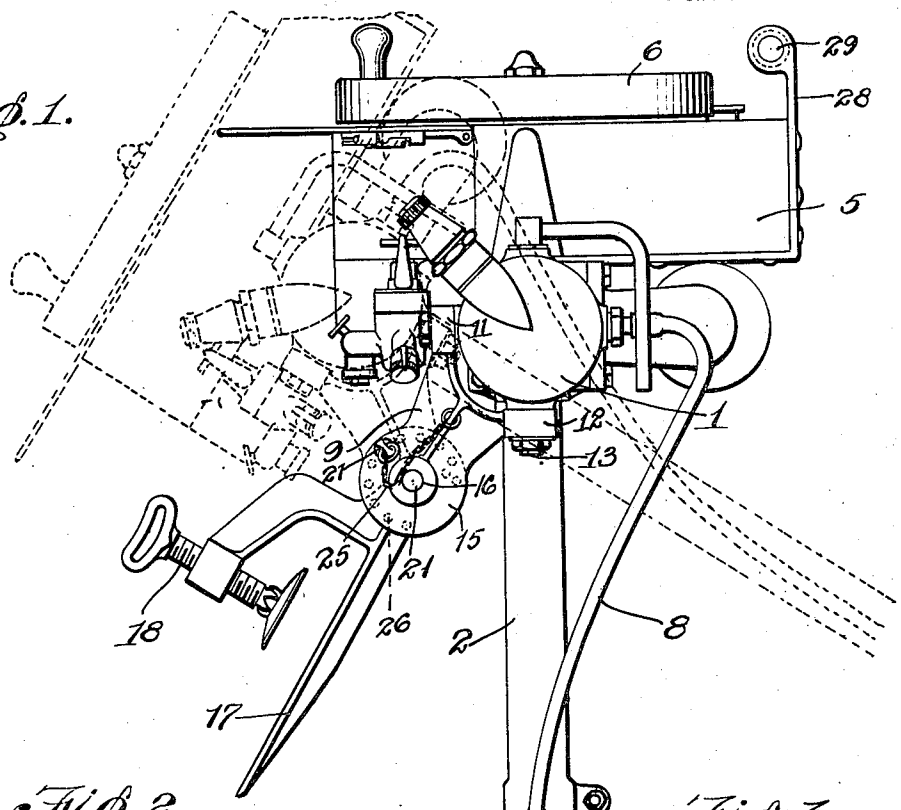


Fig. 2.

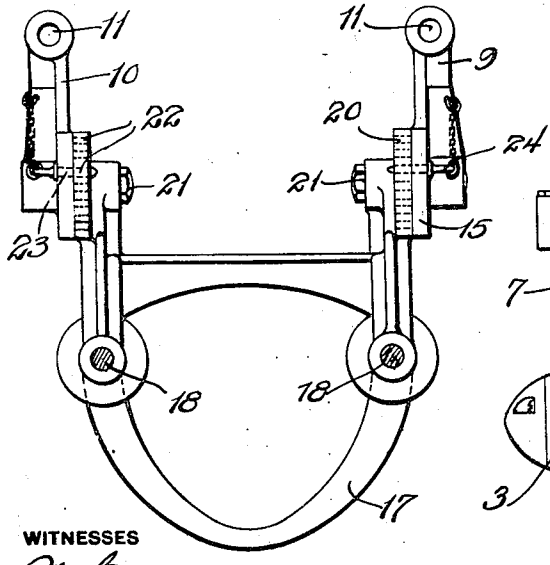
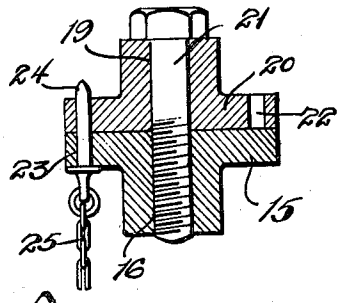
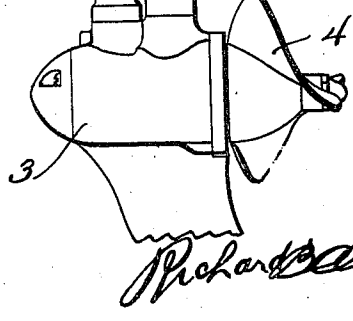


Fig. 3.





WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

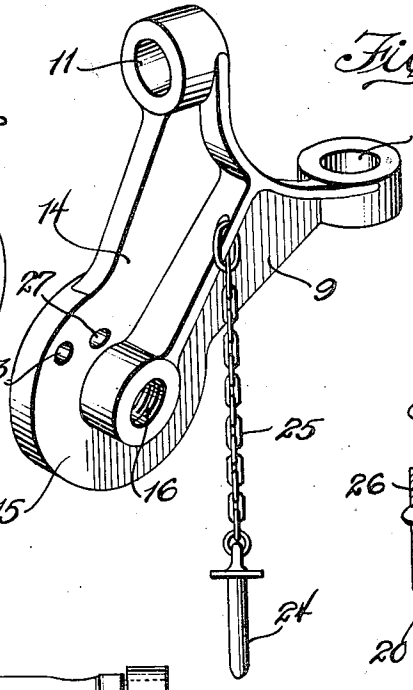


Fig. 5

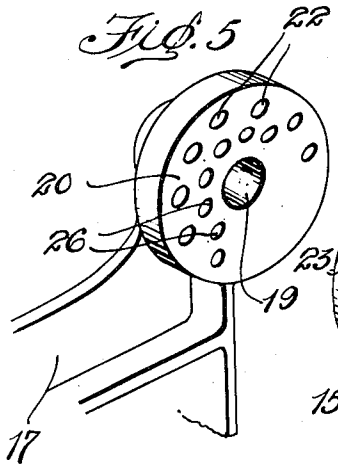
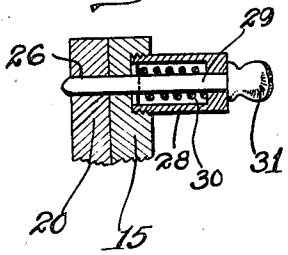


Fig. 7.



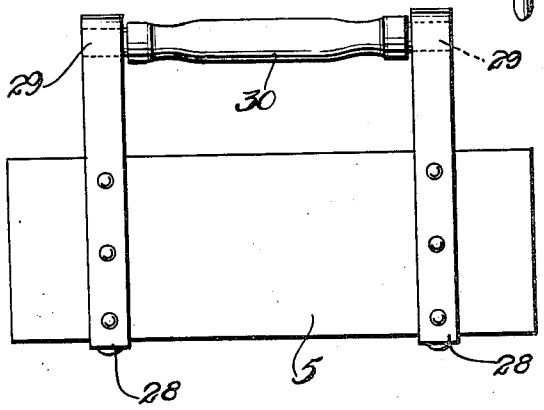


Fig. 6.

WITNESSES

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OUTBOARD-MOTOR.

1,374,095. Specification of Letters Patent. Patented Apr. 5, 1921.

Application filed February 10, 1916. Serial No. 77,504.

To all whom it may concern:

Be it known that I, RICHARD B. OWEN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Outboard-Motors, of which the following is a specification.

An object of my invention is to provide an outboard motor arranged to be capable of movement to a position in which the propeller is out of the water, without detaching the motor from the boat, with means by which the desired movement may be given to the motor.

A further object is to provide a mounting by which the motor may have swinging movement to accomplish the purpose hereinbefore set forth and which mounting is so arranged that various adjustments may be made to accommodate the motor to different angles of boat stern, and further to dispose the parts in such a relation that when the motor is brought to the raised position, it will be automatically held through its own counterbalanced weight until manually returned to the operative relation.

Yet another object is to form the mounting in such a manner that certain of the parts may shear or cut off in case of an obstruction being encountered by the propeller and damage to the main parts of the operative structure will be precluded.

With other objects in view, which will be referred to, my invention consists in still other novel features of construction and combination of parts which will be hereinafter referred to and pointed out in the claims.

In the drawings:

Figure 1 is a view in side elevation of a motor constructed after my invention with the raised position indicated in dotted lines.

Fig. 2 is a front elevational view of the boat and motor brackets connected together.

Fig. 3 is a fragmentary detail sectional view.

Fig. 4 is an enlarged perspective view of the motor bracket.

Fig. 5 is a fragmentary detail of the bearing of the boat bracket.

Fig. 6 is a view in rear elevation of the fuel tank showing the mounting of the handle or raising means thereon.

Fig. 7 is a detail sectional view showing the modification of certain of the parts illustrated more particularly in Fig. 3.

In the present adaptation of my invention, the motor or power unit is illustrated as being of the two cylinder opposed type in which the cylinders 1 are disposed on opposite sides of the crank case. The crank shaft of the engine is extended down through the housing 2 to a gear housing 3 from which the propeller 4 is driven, and a fuel tank 5 is disposed around the upper bearing of the crank shaft, the fly wheel 6 being placed to revolve above this tank if desired. Cooling water to the cylinders is supplied by a pump 7 through the tubing 8, or in any other desired manner, and it will be understood that variations of the motor structure in any member might be resorted to and that the motor may be made of the single cylinder type if desired.

The motor brackets 9 and 10, the details of construction of which are better illustrated in Fig. 4, are provided with right angularly disposed orifices 11 and 12 through which the bolts 13 or other suitable fastening means may be passed to be secured in the cylinders 1 of the motor and to thus mount the motor brackets rigidly in place. The brackets 9 and 10 are extended in the arms 14 at an angle preferably approximately midway between the angular position of the orifices 11 and 12, and are widened out into disk forms 15 which disks are disposed around the central openings 16. The boat bracket 17 is of substantially standard form in so far as the clamping screws 18 and the main parts of the structure are concerned, and around the pivot bearing 19 on the mounting arms thereof, disks 20 corresponding to the disks 15, are provided.

In the mounting of the motor on the boat bracket 17, the motor brackets 9 and 10 will be secured rigidly on the cylinders in the manner hereinbefore set forth and the mounting arms of the boat bracket 17 are spaced apart a sufficient distance that the disks 20 of the same will be received between the disks 15 of the motor brackets. In the present instance the orifices 16 of the motor brackets 9 and 10 are screw threaded and the pivot bolts 21 are passed through the orifices 19 of the mounting arms of the boat bracket and are screwed into the orifices 16 to provide a pivotal or hinged mounting

between the motor and the boat bracket which will permit tilting or swinging of the parts to the relation illustrated in dotted lines in Fig. 1, where the propeller is raised out of the water to permit the same to be cleared of weeds, to allow the boat to be drawn up on a beach without detaching the motor and for other purposes which will be apparent.

In some instances it might be found sufficient to tighten the bolts 21 to clamp the disks 15 and 20 in a frictional bearing and thus hold the motor disposed at the proper angle with respect to the boat bracket 17 which is secured on the stern of the boat. However, it is desirable that the connection between the motor brackets and the boat bracket be a free swinging pivotal mounting, and for this reason I have provided a plurality of orifices 22 through the disks 20 at a common radius from the center of the disk, and a single registry opening 23 is provided through the disk 15. A pin 24 is provided to be received through the opening 23 and fitted in one of the orifices 22 to hold the motor in its proper angular adjustment and to prevent displacement of the parts from this adjustment, and if desired this same arrangement may be used on each of the motor brackets. It is preferable that a retaining means 25 be connected with the pin 24 to prevent loss of the same, and if desired the pin may be made of a soft brass or other metal which will be sheared or cut off when unusual strain is placed thereon, as for instance, by the propeller gear housing 3 or the propeller striking an obstruction. Where it is desired to obtain finer adjustments than might be procured through the single series of openings 22, a second series of openings 26 may be provided radially around the center of the disk at spaced points between the orifices 22 and it is preferable that these openings be disposed at a different radius, therefore, a second opening 27 is provided through the disk 15 and the pin 24 when inserted through this opening 27 will register with an orifice 26 and it is thus possible to obtain a number of various angular settings of the boat bracket 17 to accommodate the motor to widely varying angles of boat stern.

The motor when swung to an operative position is disposed with its weight balanced past a dead center over the hinged or swinging mounting of the boat bracket, and for this reason it is desirable that some means be provided to raise or move the motor to a position in which the propeller is out of the water and in which the parts will take the position indicated by the dotted lines of Fig. 1. In the present disclosure I have shown the strap metal pieces 28 secured to the gasolene tank at spaced apart points to have their upper ends project above the top of the tank and provided with the ring openings 29. A cross handle 30 is fitted in the openings 29 to extend between the members 28 and this handle is thus disposed at a point that it may be readily grasped to elevate the parts while yet in operation or after the motor has been stopped, it being only necessary to remove the pins 24 to permit the motor to have free swinging movement around its points of mounting on the boat bracket 18.

In Fig. 7, I have illustrated the slightly modified form of pin which might be used in place of the pins 24 and in this illustration a casing 28 is secured to the disk 15 in line with the opening thereof. A pin 29 is mounted in this casing and in the opening of the disk 15 and a coil spring 30 is received around the pin 29 to hold the same normally in a position of projection through one of the orifices of the disk 20 of the boat bracket, a handle 31 being provided on the pin to permit manual withdrawal of the same against the tension of the spring 30 from the operative relation.

In the fitting of the motor to a boat, it will be understood that the boat bracket 17 will be hung over the stern and the clamp screws 18 will be tightened to secure the bracket rigidly in place. By grasping the handle 30 the motor may be moved around the bolts or pins 21 to adjust the same to a position that the propeller is working at the proper angle and then by inserting the pins 24 in the registering opening and orifices, the motor brackets will be rigidly secured against swinging movement with respect to the boat bracket 17 and the motor will be maintained in an operative position. As the motor is to be swung to the raised position, the handle will be grasped and the pins removed after which the motor may be raised through the handle 29, and also when the propeller or the gear housing have encountered an obstruction and the pins 24 have been sheared, the motor is left free to have swinging movement and may be returned by the use of the handle 29 to an operative position where it may be secured in the manner set forth.

While I have herein shown and described the motor as mounted to be capable of swinging or tilting movement, it will be apparent that a mounting might be provided which would permit the desired raising of the motor to a position with the propeller out of the water through a substantially vertical raising thereof, and in such a structure as this the handle would be also adaptable and equally advantageous, further it will be seen that the structure of the motor brackets and the boat bracket might be changed to adapt the same for use on a single cylinder motor and that still other modifications might be resorted to in the various parts without

departing from the spirit and scope of my invention and hence I do not wish to be limited to the exact disclosures except for such limitations as may be contained in the claims.

I claim:

1. A motor, a boat bracket, a motor bracket connected with said boat bracket to mount the motor to have swinging movement, and spring held means connected between said brackets to hold the motor in the desired adjustment.

2. A motor, a boat bracket, a motor bracket, means to connect the motor bracket to the boat bracket to mount said motor to be capable of adjusting movement, and spring held means carried by one of said brackets to maintain the parts in predetermined adjusted relations.

3. A motor, a boat bracket, having a pivot bearing and provided with a plurality of orifices placed in arcuated arrangement around said bearing, a motor bracket pivoted to said boat bracket and provided with an opening registering with the orifices of the boat bracket, and a pin received through said opening and one of said orifices to hold the motor in a predetermined adjustment.

4. A motor, a boat bracket, having a pivot bearing and provided with a plurality of orifices placed in arcuated arrangement around said bearing, a motor bracket pivoted to said boat bracket and provided with an opening registering with orifices of the boat bracket, and spring held means passing through said opening and one of said orifices to hold the motor in the desired adjustment.

5. A motor, a boat bracket, provided with a pivot bearing and having a plurality of orifices disposed therearound, a motor bracket mounted on said boat bracket to permit swinging adjustment of the motor and provided with an opening registering with the said orifices, means to move the motor to the desired adjustment, and a pin to be received through said opening and one of said orifices to hold the motor in the adjusted position.

6. A motor, a boat bracket provided with spaced apart bearings, a pair of motor brackets mounted on said bearings to permit swinging adjustment of the motor, and pins connected between said motor brackets and said boat bracket adjacent the pivotal mounting thereof to maintain the desired adjustment.

7. A motor, a boat bracket provided with spaced apart bearings, a pair of motor brackets mounted on the said bearings to permit swinging adjustment of the motor, and spring held means carried by certain of said brackets to engage with the remaining bracket to maintain the desired adjustment of the parts.

8. An outboard motor, a supporting bracket, means for adjustably mounting said motor upon said bracket, a tank supported adjacent said motor, and a handle carried near one side edge of said tank and provided with projecting portions extending under the bottom of said tank.

9. An outboard motor, means for pivotally supporting the same, a tank carried by said motor, and a handle positioned upon said tank in the rear of said supporting means and in a position outboard relative thereto, and a grip portion carried by said handle and positioned above and parallel to one side edge of said tank.

10. An outboard motor, a supporting bracket, means for pivotally connecting said motor upon said supporting bracket, a tank carried by said motor, and a handle secured to one side edge of said tank, said handle provided with reinforcing portions extending under and across the bottom of said tank.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD B. OWEN.

Witnesses:
M. E. JONES,
IDALENE T. COOK.