April 17, 1951 E. C. KIEKHAEFER 2,549,485

OUTBOARD MOTOR PROTECTING RIM

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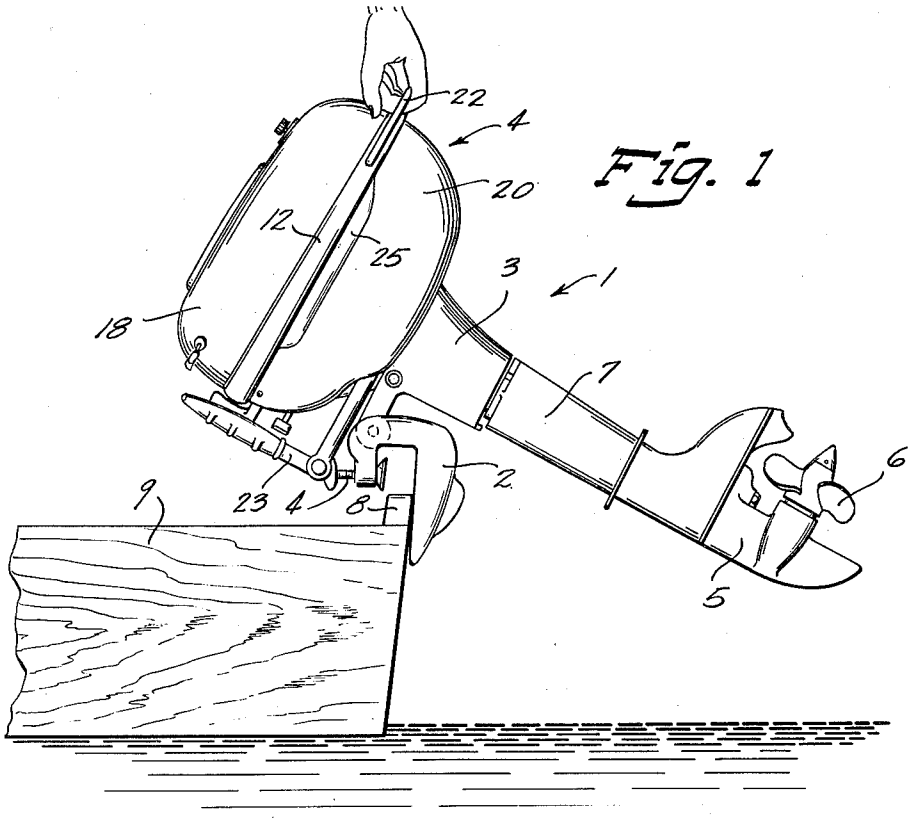
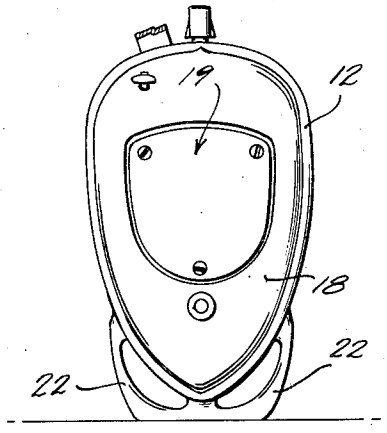


Fig. 1

Fig. 2



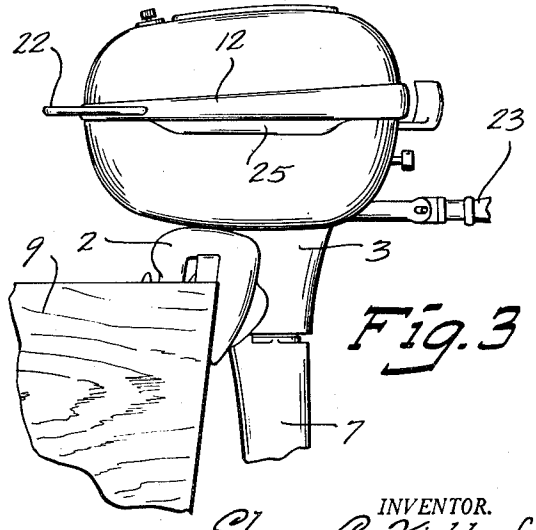


Fig. 3

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Fig. 4

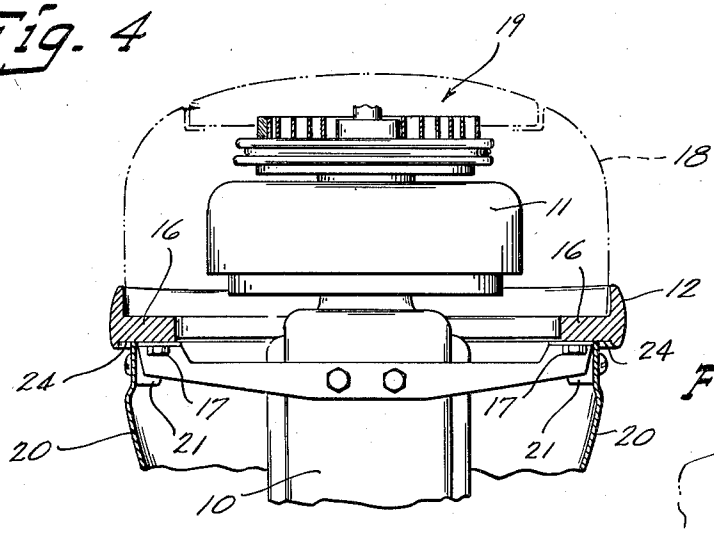


Fig. 5

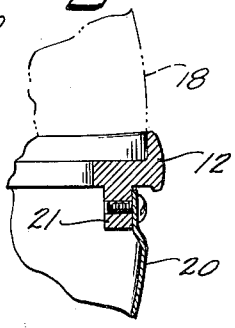
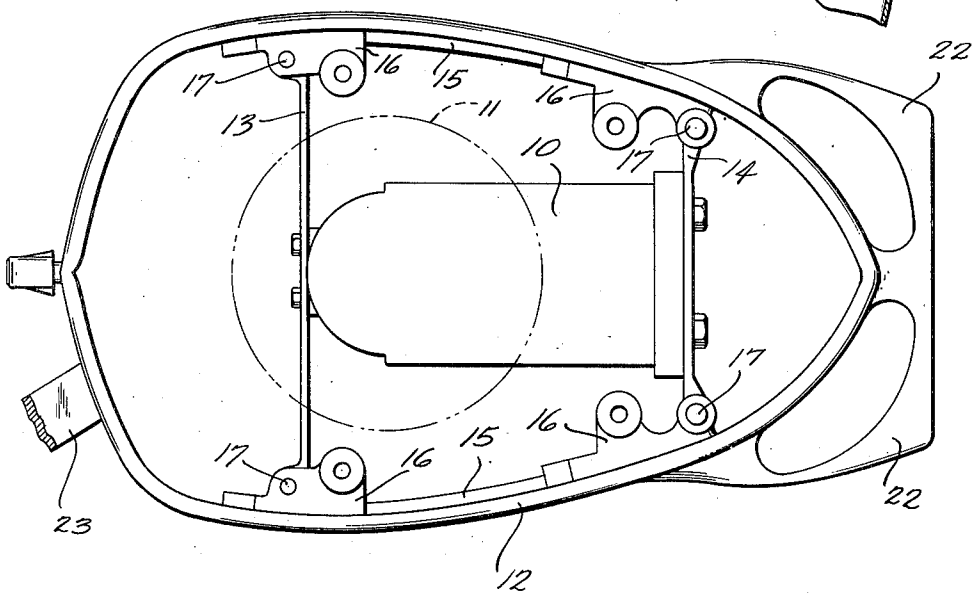


Fig. 6



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UNITED STATES PATENT OFFICE

2,549,485

OUTBOARD MOTOR PROTECTING RIM

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Application January 6, 1950, Serial No. 137,235

1 Claim. (Cl. 123—195)

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This invention relates to outboard motors and more particularly to the motor protecting rim, and is a continuation in part of the copending application of the present inventor filed April 8, 1949, Serial No. 86,144, for Tilt Handle.

The invention provides a rim in addition to supporting and protecting against damage the fuel tank and certain other accessory parts of the motor which affords a number of conveniently disposed handles by which the motor may be manipulated in mounting the same on a boat or removing the motor therefrom, or in operating the motor as in a full reverse position.

A principal object of the invention is to carry more easily the motor particularly as in placing the motor on a boat.

Another object is to provide more convenient handle means for manipulating the motor.

Another object is to provide more convenient handle means for lifting the motor.

Another object is to provide handle means which will conveniently support the motor lengthwise as when placed on a platform.

These and other objects and advantages will be more fully set forth in the following description of a preferred embodiment of the invention as illustrated in the accompanying drawings.

In the drawings:

Figure 1 is a side elevation of an outboard motor as suspended and lowered manually over the transom of a boat shown in part for mounting on and securing to the boat;

Fig. 2 is a top plan view of the motor as disposed lengthwise on a platform showing the supporting handles as supporting the upper end of the motor;

Fig. 3 is a side elevation of the motor showing the handles disposed for use in maneuvering the motor in reverse;

Fig. 4 is an enlarged front elevation of the upper end of the motor with parts thereof removed or broken away and sectioned;

Fig. 5 is a fragmentary transverse cross-section through the rim and one of the flanges supporting the motor cowl; and

Fig. 6 is a view similar to Fig. 4 showing the motor in plan view.

The outboard motor 1 shown in the drawings is supported by the clamp bracket 2 and the swivel bracket 3 and comprises the upper power head 4, the lower underwater housing 5 carrying the propeller 6, and the intermediate drive shaft housing portion 7 which joins the power head and underwater housing as a single unit. The motor unit referred to is pivotally supported

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by bracket 3 on a vertical axis for turning of the unit and steering of the boat as propelled by the motor.

Bracket 2 includes the screw clamps 4 by which the outboard motor is removably secured to the transom 8 of the boat 9 shown in the drawings and pivotally carries bracket 2 to permit tilting of the motor as when the lower housing 5 strikes an underwater object.

Power head 4 includes the engine 10 which is supported directly on housing 5 and the flywheel 11.

The protecting rim 12 to which the present invention is directed comprises a cast, integrally formed ring or hoop which is supported by the forward and rear cross-bars 13 and 14, respectively, and extends around engine 10 at its girth. Bars 13 and 14 are bolted directly to engine 10, as shown, to support rim 12.

The inwardly extending flange 15 of rim 12 includes the spaced enlarged bosses 16 provided to receive the bolts 17 which secure rim 12 to the opposite ends of bars 13 and 14. The fuel tank 18 connected by means, not shown, to engine 10 to supply fuel thereto is preferably disposed and secured directly within rim 12. Tank 18 extends around and over engine 10 to enclose the latter and supports the starter mechanism 19 immediately above flywheel 11.

The cowl 20 below rim 12 encloses the lower portion of engine 10 and is secured by screws or other suitable means to the spaced brackets 21 extending downwardly from rim 12 and on the inside of cowl 20.

Rim 12, tank 18 and cowl 20 are preferably of streamlined or of well appearing proportions and substantially completely enclose engine 10.

To protect tank 18 and cowl 20 particularly as when the motor is placed lengthwise on a dock or platform, rim 12 projects outwardly of both the tank and cowl at all points so that rim 12 supports the upper end of the motor on whatever side the motor is disposed.

According to the invention, rim 12 is provided with a number of handle means by which the motor may be conveniently lifted and carried and serve to support the motor as on a platform with the front of the motor facing upwardly.

The handles 22 are formed integrally with rim 12 and extend rearwardly of the motor. Handles 22 are located with respect to the center of gravity of the motor so that in suspending the motor by either or both handles the motor is disposed in a tilted position, as shown in Figure 1, and may be conveniently lowered as from a dock to the boat

with bracket 2 arranged to move directly down and over transom 8 of the boat and with the lower end 5 and propeller 6 well disposed to clear the boat and to be submerged only partially thus avoiding striking bottom when the boat is in extremely shallow water.

Handles 22 are formed to provide a base to support the upper end of the motor, as shown in Figure 2, particularly where the streamlined dimensions of the upper end ordinarily provide no base upon which the motor may be disposed with any degree of stability.

Outboard motors, such as motor 1, which are arranged to be turned 180° in steering providing for operation in a reverse position, as shown in Figure 3, are ordinarily provided with a steering handle 23 secured to the motor which projects rearwardly of the boat in such instances. Handles 22 are conveniently disposed for steering such motors and maneuvering the boat in reverse.

Furthermore, handle 23 projecting forwardly of the motor affords relatively inconvenient grasp of the motor for lifting and by which the motor is suspended awkwardly for handling.

According further to the invention rim 12 is disposed to provide additional handling ledges as at 24 on opposite sides of the motor. In motor 1, cowl 20 is preferably indented as at 25 to expose a substantial portion of the lower side of rim 12 on each side of the motor affording a convenient additional location for grasping the motor and lifting in an upright position.

Rim 12 is particularly adapted to prevent damage to the various parts of engine 10 by reason of its rigid connection to engine 10 and substantial construction. The additional handle means formed by or secured directly to rim 12 is provided with the same rigidity and strength and provides grasping means on each side of the motor and at the rear thereof affording the greatest convenience.

The handles additionally serve as a trussed framework reinforcing rim 12 against collapse, allowing the rim to be constructed correspondingly lighter than would ordinarily be required for the adequate protection of the fuel tank, and the combined structure has sufficient strength to provide for lifting of the motor by either of the handles.

If desired, rim 12 may be dimensioned or disposed to provide handle means entirely about the motor.

Various embodiments of the invention may be employed within the scope of the following claim.

I claim:

In an outboard motor having an engine at its upper end and a drive shaft and gear housing extending downwardly from the engine and carrying a propeller normally positioned under water, said outboard motor being manually portable and adapted to be lifted out of the water and laid upon a dock or the like, a sheet metal cowl covering and encircling the engine to provide a streamlined appearance therefor and enclose the mechanism thereof, a hoop encircling said cowl and engine at the girth, bracket means on said engine disposed to rigidly support said hoop in respect to said engine whereby the engine is supported by the hoop when the outboard motor is laid upon either side or upon its stern, said bracket means constituting at least in part a rigid rear cross member to the outer ends of which said hoop is secured, and a pair of rearward extensions integral with said hoop on opposite sides thereof adjacent the points of securement of said hoop to the ends of said rear cross member, said rearward extensions being joined across the rear of said hoop to provide with said hoop and cross member a truss reinforcement strengthening the rear part of the hoop, and said joined rearward extensions additionally providing at least one closed-loop handle for manual lifting and manipulation of the outboard motor with the major stress loads for the handle being transmitted directly to said cross member and engine without distortion of said hoop, and providing a transverse seat upon which the motor rests when laid stern down upon a dock.

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