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D. A. RAYNER ETAL

3,342,156

POWERED CRAFT

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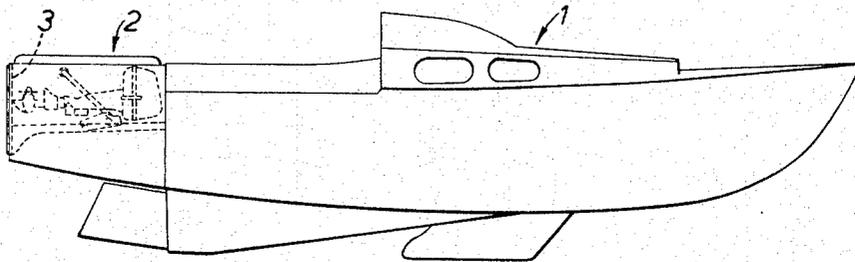


FIG. 1.

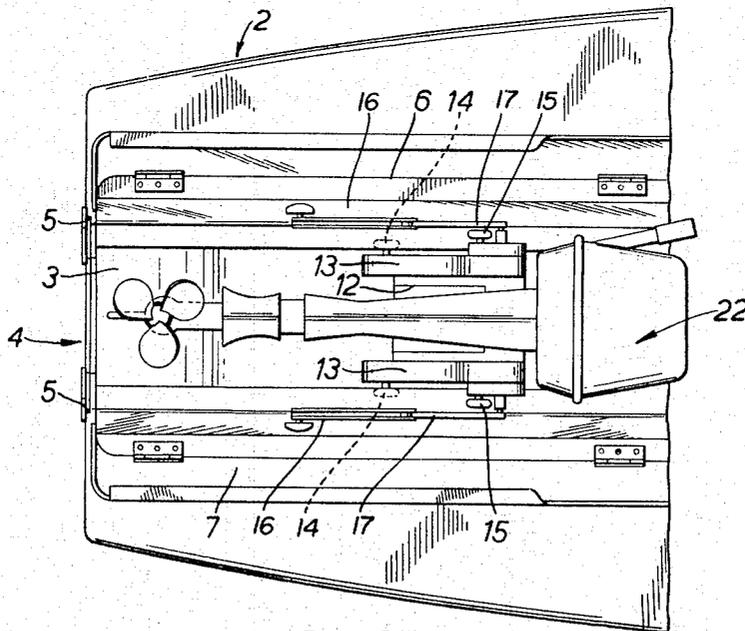


FIG. 2.

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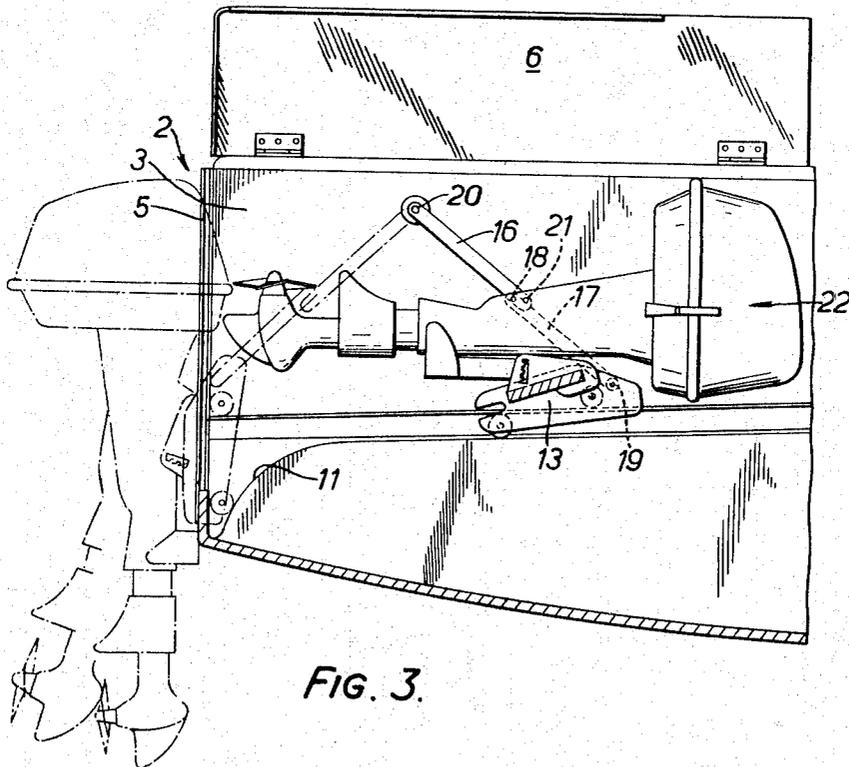


FIG. 3.

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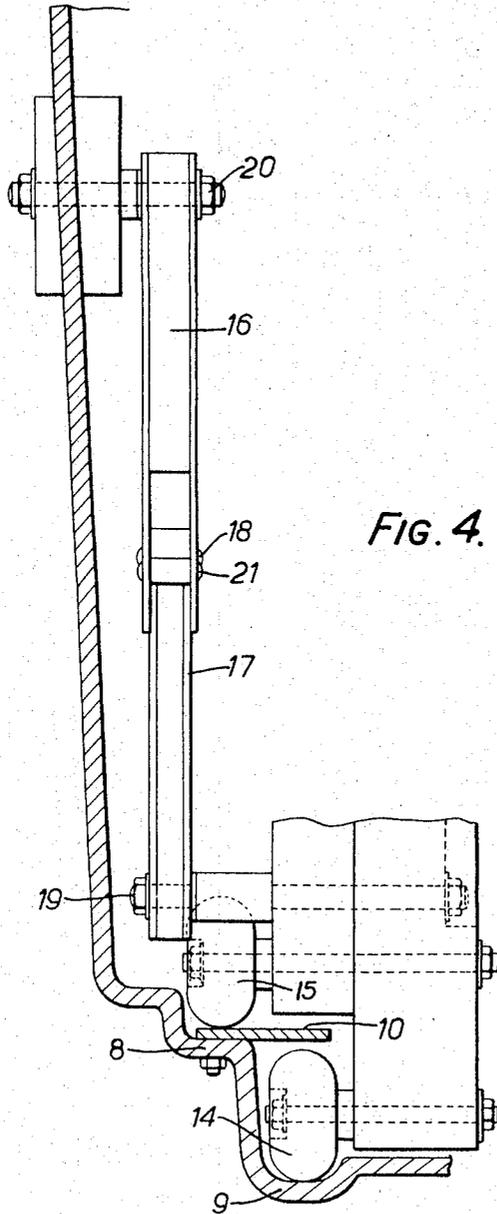


FIG. 4.

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5 Claims. (Cl. 115—41)

ABSTRACT OF THE DISCLOSURE

A trolley to support an outboard motor of a boat, the trolley being supported by pivotally linked toggle-jointed arms, which swing the trolley between a first operative outboard position and a second retracted inboard position.

This invention relates to powered water craft and has particular reference to water craft which are powered by outboard motors.

It is not always convenient or necessary to keep the outboard motor in its mounted, operative position but dismantling the motor is a time-consuming operation not always easily accomplished. When dismantled, stowage of the motor within the craft sometimes presents problems.

It is therefore an object of the present invention to provide a mechanism for facilitating movement of the outboard motor between operative and inoperative positions and to provide stowage space for the motor when in the latter position.

According to the present invention, a water craft is provided adjacent its stern with a compartment for housing an outboard motor, a trolley movable along the floor of the compartment and adapted to receive an outboard motor is provided, the trolley being movable between a first position in which an outboard motor mounted on the trolley is located within the compartment and a second position in which the motor is in an operative position for propelling the craft, and also provided is a linkage interconnecting the trolley and the craft to prevent movement of the trolley beyond the second position.

The linkage is preferably such that it prevents movement of the trolley beyond the first position also and such that it assists in holding the trolley when in either the first or second position.

The trolley may be fitted with wheels or rollers to facilitate its movement between the positions and the compartment has guiding surfaces along which the wheels and rollers move. In one embodiment of the invention, the trolley has a surface to which the outboard motor is removably secured and which is horizontal when the motor is housed within the compartment and vertical when the motor is in its operative position. In this embodiment, the trolley has two pairs of wheels or rollers, the pairs being spaced apart, while the guiding surfaces along which the wheels or rollers move are spaced in such manner that the trolley tilts whilst moving into the second position to bring the surface into a vertical orientation. Movement from the second position returns the surface to the horizontal position.

By way of example only, a craft embodying the invention will now be described in greater detail with reference to the accompanying drawings of which:

FIG. 1 is a side view of the craft,

FIG. 2 is a plan view on an enlarged scale of the stern of the craft,

FIG. 3 is a side view partly in section and on an enlarged scale of the stern of the craft, and

FIG. 4 is a view partly in section of a detail.

Only that part of the craft 1 directly concerned with the invention will be described, it being understood that the remainder of the craft will be of known form.

At its stern 2, the craft has a compartment 3 of approximately rectangular form when seen in plan and of a depth sufficient to accommodate components to be described later. The longer dimension of the rectangle is along the fore and aft axis of the craft. The compartment is open at its after end as at 4, FIG. 2, but the sides 5 of that end are constructed to receive a removable slidably mounted plate which closes the compartment when the outboard motor is not required. The compartment is covered by a suitable hatch or similar closure structure which, for ease of opening and closing, is in two parts 6, 7 each hinged to a side wall of the compartment.

Adjacent the lower edges of the side walls of the compartment are guiding surfaces, there being two surfaces adjacent each edge, one 8 arranged slightly above the other 9. The lower guiding surface 9 is a channel of semicircular transverse cross-section in the floor of the compartment while the upper guiding surface 8 is a step or shoulder formed in the side wall just above the channel and protected by a strip of metal 10, for example stainless steel. Over the greater part of their length the guiding surfaces are substantially horizontal and are parallel but as they approach the stern, the vertical distance between the upper and lower surfaces increases, the lower surface curving gently away from the upper surface as at 11, FIG. 3. All surfaces are terminated by the vertical stern of the craft.

The surfaces just described guide the four wheels of a trolley which consists of a main, motor-support member 12 disposed transversely between side members 13 in which the wheels are mounted. The positions of the wheels which are in pairs are such that the wheels 14 of one pair move along the lower surfaces whilst the wheels 15 of the other pair move along the upper surfaces. In addition, the pairs of wheels are spaced apart.

Movement of the trolley along the compartment is limited by two sets of links interconnected between the trolley and the side walls of the compartment. Each set comprises two straight links 16, 17 pivotally connected together at 18, whilst the other end of link 17 is pivotally secured at 19 to one side member 13 of the trolley, the other end of the link 16 being fixed to a pivot point 20 located on the side wall of the compartment close to the upper edge of that wall. The points of attachment of the ends of the one link 17 to the side members 13 of the trolley lie slightly forward of the wheels which move along the upper guiding surface when the trolley is at that end of its travel remote from the stern of the craft.

The pivot points 20 on the side walls of the compartment are about midway between the limits of travel of the trolley and the lengths of the links are such that at both limits the links are in line.

The pivotal attachment 18 of the links of a set is positioned at the end of one link but spaced slightly from the end of the other link. At that end of the other link is a stop pin 21 which prevents relative movement of the links of the set beyond the in-line position mentioned above.

In use, an outboard motor 22 is clamped or otherwise secured to the main support member of the trolley in a position such that when housed in the compartment with the trolley at that end of its travel remote from the stern, the outboard motor is horizontal as indicated in full lines in FIGS. 2 and 3. With the motor in that position, the compartment is secured by sliding the plate, referred to above, into position to close the open end wall and closing the hatch parts 6, 7. The motor is now protected and held in position by the sets of links which, being

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in their in-line position, hold the motor and trolley against movement.

To use the motor, the hatch is opened and the plate removed. The trolley can then be moved towards the stern of the boat, the links having been moved from their in-line position. As the trolley approaches the stern it tilts because of the increasing vertical spacing of the guiding surfaces and moves gradually towards a position in which the support member and motor are vertical as shown in dotted lines in FIG. 3. Ultimately, the trolley wheels about the stern wall, the vertical position then having been reached. The motor is then in its operative position and is locked by the links 16, 17 which are again in their in-line position.

To return the motor to its inoperative housed position, the trolley is moved back into the compartment and in so doing swings back into the horizontal position of the main support member.

We claim:

1. A powered water craft having a stern, a compartment within said stern containing guiding surfaces, an outboard motor mounted on a trolley fitted with two pairs of wheels and movable along said guiding surfaces, the wheels on said trolley being spaced apart in such manner that the trolley and outboard motor tilt whilst moving from a first extreme position in which the outboard motor is located in an inoperation position within the compartment to a second extreme position in which the outboard motor is located in an operative position for propelling the craft and in which the surface of said trolley has a vertical orientation, and means for preventing movement of the trolley beyond the second extreme position comprising a linkage interconnecting the trolley and craft.

2. A powered water craft having a stern, a compartment within said stern, an outboard motor supporting trolley and linkage means in said compartment interconnecting said trolley and said craft, said compartment having a floor, said trolley being movable along said floor between a first extreme position in which said trolley is located in an inboard position in said compartment in a position such that an outboard motor supported by said trolley would be held in an inoperative position, and a second extreme position in which said trolley is located in a position such that an outboard motor supported by said trolley would be held in an operative position to propel said craft, and said linkage means supporting said trolley for movement between said first extreme position and said second extreme position.

3. A powered water craft having a stern, a compart-

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ment within said stern, an outboard motor supporting trolley, linkage means in said compartment interconnecting said trolley and said craft, guiding surfaces in said compartment and wheels on said trolley, said wheels movable along said guiding surfaces to carry said trolley between a first extreme position in which said trolley is located in an inboard position in said compartment in a position in which an outboard motor supported by said trolley would be held in an inoperative inboard position in said compartment, and a second extreme position in which said trolley is located in a position in which an outboard motor supported by said trolley would be held in an operative position to propel said craft, and said linkage means supporting said trolley for movement between said first extreme position and said second extreme position.

4. A powered water craft as claimed as claim 2 in which said linkage means comprise two sets of links, each set further comprising a first straight link and a second straight link, a first pivotal means connecting the one end of said first straight link to the one end of said second straight link, a side wall in said compartment, a second pivotal means connecting the other end of said first straight link to said side wall, a third pivotal means connecting the other end of said second straight link to said trolley, the two links of each set being in an in-line position at both extreme positions of the trolley.

5. A powered water craft as claimed in claim 3 in which said linkage means comprise two sets of links, each set further comprising a first straight link and a second straight link, a first pivotal means connecting the one end of said first straight link to the one end of said second straight link, a side wall in said compartment, a second pivotal means connecting the other end of said first straight link to said side wall, a third pivotal means connecting the other end of said second straight link to said trolley, the two links of each set being in an in-line position at both extreme positions of the trolley.

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