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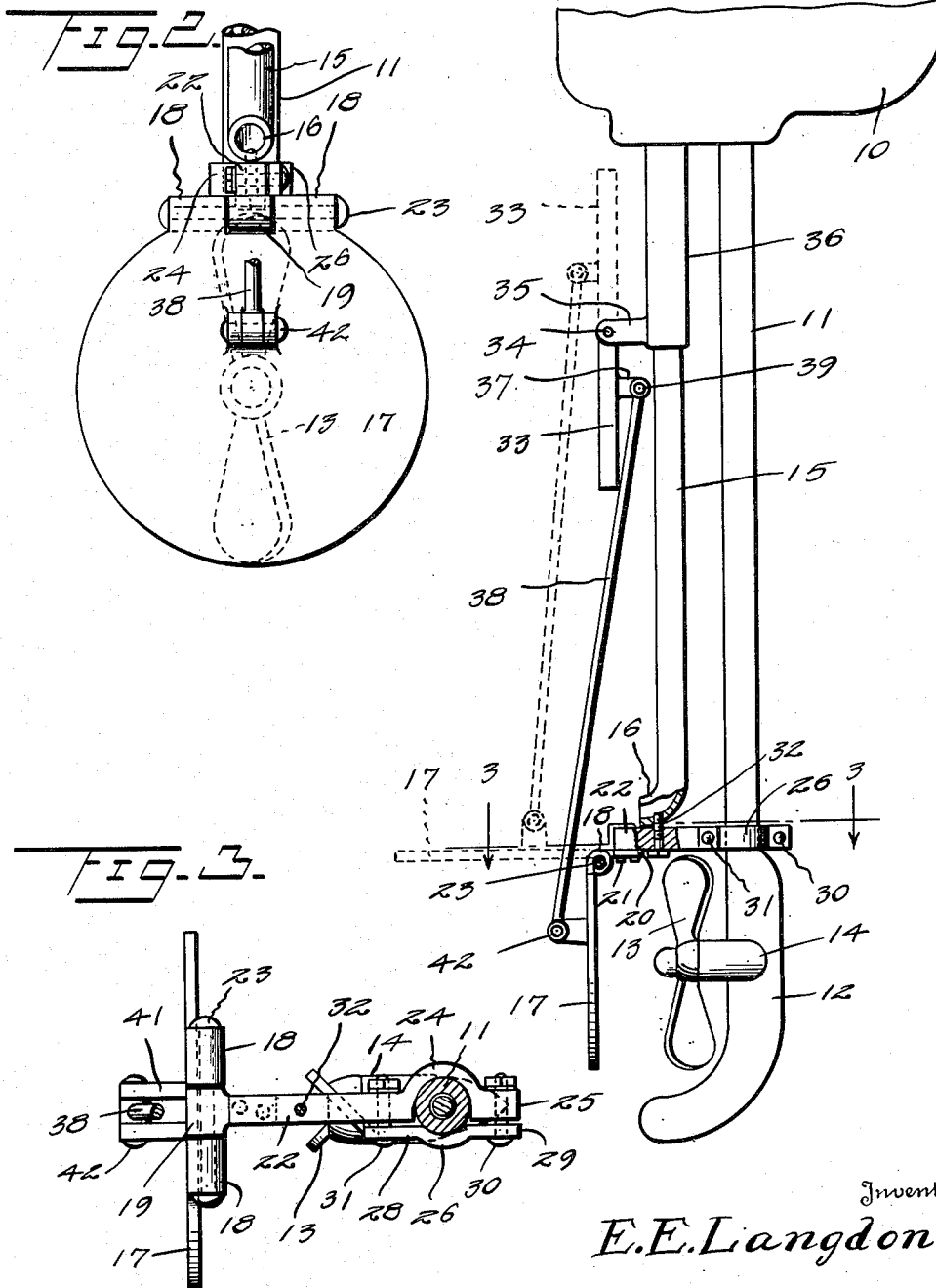
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TROLLING PLATE ATTACHMENT FOR OUTBOARD MOTORS

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Fig. 1



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TROLLING PLATE ATTACHMENT FOR
OUTBOARD MOTORS

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4 Claims. (Cl. 114—145)

This invention relates to outboard motors, and more particularly to a means in the form of an attachment for a conventional outboard motor structure, whereby the speed of the boat may be reduced to a minimum without unduly decreasing the speed of the motor.

An object of this invention is to provide in combination with an outboard motor structure an attachment which is adapted to be positioned in confronting relation to the propeller and which may be located in a confronting position relative to the propeller so as to slow up the speed or movement of the boat to which the outboard motor is attached without changing the speed of the motor and propeller.

Another object of this invention is to provide an attachment of this kind which is so constructed that it may be mounted on the present construction of an outboard motor without changing the construction of the present parts and at the same time provide braking means for slowing up the speed of the boat in order to permit trolling or the like.

A further object of this invention is to provide an attachment of this kind which will automatically lock in operative position and which when in inoperative position is held in such inoperative position by movement of the water past the device.

To the foregoing objects and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawing, wherein is shown an embodiment of the invention, but it is to be understood that changes, modifications and variations may be resorted to which fall within the scope of the invention.

In the drawing:

Figure 1 is a detail side elevation partly broken away and in section of an outboard motor structure having a device constructed according to this invention mounted thereon.

Figure 2 is a fragmentary rear elevation of the device, and

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Referring to the drawing, the numeral 10 designates generally an internal combustion motor of the type known as an outboard motor which is provided with a vertical propeller shaft housing 11 terminating at its lower end in a rudder or blade 12. A propeller 13 is rotatably carried by the lower end of the shaft housing 11 and is operatively connected to the motor 10 by means of a

shaft extending vertically through the housing 11 and connected to gearing in a housing 14 formed with the rudder structure 12. A depending exhaust pipe 15 is connected to the motor 10 and its lower end terminates in a rearwardly directed part 16 which is disposed above the propeller 13.

At the present time in the use of outboard motors where it is desired to slow up the movement of the boat, it is necessary to slow up the speed of the motor 10 and the propeller 13. The construction of outboard motors is such that where the speed is slowed up to a point where the movement of the boat is desirable for trolling, the motor 10 will stop. In order, therefore, to provide a means whereby the motor 10 may be maintained at an operative speed and at the same time reduce the speed of the boat to a point desirable for trolling, I have provided a plate 17 which when in operative position is adapted to be disposed rearwardly of and confronting the propeller 13. This plate 17 is generally annular or disc-like in configuration and has a diameter substantially equal to the diameter of the propeller 13. The plate 17 is provided with a pair of barrels 18 on its upper or top edge which are disposed in axial relation and have their inner or confronting ends spaced apart. A barrel 19 engages between the adjacent ends of the barrels 18 and is carried by and depends from the rear end of a plate 20 which is fixed as by fastening means 21 to a rear end of the plate bar 22. A pintle 23 engages through the barrels 18 and 19 so as to pivotally secure the plate 17 to the supporting plate 20.

The supporting bar 22 is provided at its forward end with an arcuate offset portion 24 within which the lower portion of the shaft housing 11 is adapted to engage. A forwardly projecting part 25 extends forwardly from the arcuate portion 24 and a clamping plate comprising an arcuate part 26 engages a portion of the shaft housing 11 and is provided with opposed ears 28 and 29. The ear 29 confronts the forward extension 25 and is secured thereto by means of a bolt or fastening member 30. The ear 28 confronts the bar 22 and is secured thereto by means of a bolt 31. The ear 28 confronts the bar 22 rearwardly of and in close proximity to said portion 24. In this manner the bar 22 is tightly clamped to the lower portion of the shaft housing 11. The bar 22 is secured by means of a bolt or fastening member 32 to the lower end of the exhaust pipe 15 so that the bar 22 will be disposed in a substantially horizontal position or in a position parallel with the axis of the propeller 13.

A plate operating lever 33 is pivotally mounted at one end on a pin or pivot member 34 supported by a pair of ears or rearwardly projecting members 35. The pivoted end of the lever 34 is arranged between the rear ends of the members 35. These rearwardly projecting supporting members 35 are secured to the lower portion of a sleeve 36 which in the present instance telescopes the upper portion of the exhaust pipe 15 and is secured at its upper end to the motor structure 10. The lever 23 is provided on the rear face thereof with a pair of right angularly disposed ears 37 which are disposed between the transverse median and the pivoted end of the lever. When the lever 24 is in active position the ears 37 extend forwardly and when in inactive position they extend rearwardly. There is correlated with the lever 33 and the plate 18 an inclined upstanding connecting rod 38 having its upper end arranged between the ears 37 and with such end pivotally mounted on a shaft 39 supported by the ears 37. The lower end of the connecting rod 38 engages between a pair of rearwardly projecting ears 41 which are fixed to the plate 17 between the axes of the latter and the barrels 18. The lower end of rod 39 is pivotally mounted on a pivot member 42 supported by the ears 41.

As shown in full lines, in Figure 1 when the plate 17 is in a vertical or operative position, the lever 33 is in a dependent relation relative to the supporting members 35 and the axis of the pivotal member 39 is forwardly offset from the axis of the pivot 34 for the lever 33. In this manner pressure on the forward side of the plate 17 will cause the connecting rod 38 to be moved upwardly, but preferably, the lower end of the lever 33 is adapted to engage the connecting rod 38 below the upper end thereof so that when the lever 33 is in a dependent position, the pressure on the plate 17 cannot shift the connecting rod 38 and the relation of the shaft 39 with respect to the pivot 34 will provide a lock so that the plate 17 will be automatically locked in its operative position. The inoperative position of the plate 17 is shown in dotted lines in Figure 1 and in this position the plate 17 is substantially horizontal and the lever 33 is substantially vertical and projects upwardly from the supporting members 35.

In the use and operation of this device, when the motor 10 is operating under normal conditions the plate or brake member 17 is disposed in a substantially horizontal position as shown in dotted lines in Figure 1. In this position the lever 33 is substantially vertical and extends upwardly from the support 35. The plate 17 is free to move up and down so that the plate 17 will not have any effect on the movement of the boat when the plate 17 is in an inoperative position. In the event it is desired to slow up the speed of the boat, the lever 33 is rocked downwardly to the full line position shown in Figure 1, thus swinging the plate 17 downwardly to a position confronting the rear of the propeller 13. In this position the pivot 39 for the connecting rod 38 will be forwardly of the pivot 34 so that pressure exerted upwardly on the connecting rod 38 through the force of the water against the forward side of the plate 17 will tend to maintain the lever 33 in its lowermost position. The speed of the motor 10 may be reduced slightly but only to a point where the motor will not stall and when this has been done the plate 17 will prevent the rearward movement of the water from the propeller 13 and thus act as a brake to slow up the movement of the boat.

The motor 10 may be operated in the normal manner, that is, to steer the boat as the plate 17 will swing horizontally with the swinging movement of the motor 10 on its pivotal mounting. The pivotal mounting for the motor 10 is not shown in the drawing, but it will be understood that the outboard motor 10 is a conventional outboard motor structure to which the braking plate 17 is connected. The braking plate and its associated parts form an attachment for the outboard motor and can be readily removed or disconnected where it is not desired to use the plate 17 with the motor.

What I claim is:

1. In an outboard motor including an engine, a drive shaft housing, a propeller and an exhaust pipe disposed parallel with the housing; a braking attachment comprising a plate, a support for said plate, means securing said support to said pipe and housing, means pivotally securing the upper end of said plate to the rear end of said support, an operating lever, means pivotally securing one end of said lever to said pipe above said support, and a connecting rod between said lever and plate, said rod having one end pivotally connected to said lever eccentrically of the latter and the other end pivotally connected to said plate adjacent the axis of the latter.

2. An attachment for an outboard motor having a motor housing, a drive shaft housing, an exhaust pipe, and a propeller at the lower end of the drive shaft housing; said attachment comprising a plate having a diameter substantially equal to the diameter of the propeller, means pivotally supporting said plate at its upper end from said pipe and housing rearwardly of and in confronting position to said propeller, an operating lever, means pivotally supporting one end of said lever from said pipe at a point above said plate and below said motor housing, a pair of rearwardly projecting ears carried by said plate, above the axis of the latter, a pair of forwardly projecting ears carried by said lever between the transverse median and its pivoted end, and a connecting rod pivotally mounted at the opposite ends thereof between the ears of said plate and said lever.

3. An attachment for an outboard motor having a motor housing, a drive shaft housing, a depending exhaust pipe, and a propeller at the lower end of the drive shaft housing; said attachment comprising a plate having a diameter substantially equal to the diameter of the propeller, a supporting means for said plate provided with an offset portion to receive said drive shaft housing, means securing said supporting means onto said drive shaft housing and exhaust pipe, means pivotally securing said plate onto the rear end of said supporting means, a tubular support extending downwardly of said motor housing and encompassing said exhaust pipe, an operating lever, a pair of rearwardly projecting ears carried by said tubular support, means pivotally securing an end of said lever between said ears, said lever pivot means being disposed in a vertical plane forwardly of said plate pivot means, a pair of ears carried by said lever between the transverse median with pivoted end thereof and adapted to project forwardly in the direction of said drive shaft housing when said lever is in a dependent operative position, a pair of ears carried by said plate on the rear side adjacent its axis, and a connecting rod pivotally connected at its ends to the ears in said plate and the ears on said lever.

4. In an attachment for outboard motors, an

upstanding plate for disposing rearwardly of and for opposing in spaced relation the propeller operated from the motor, a stationary support having means for pivotally suspending said plate from its upper end, ears on the rear face of the plate between its axis and its upper pivoted end, an upstanding operating lever arranged above said plate, a stationary support provided with means for pivotally connecting one end of said lever thereto, ears on one face of said lever between the transverse median of the latter and its pivotally supported end, an upstanding connecting rod inclined to the vertical, means for pivot-

ally connecting the upper end of said rod to the ears on the lever, and means for pivotally connecting the lower end of said rod to the ears on said plate, said attachment when active having the ears on said lever directed forwardly and the ears on said plate directed rearwardly to thereby position said connecting rod in a position inclined to the vertical with the upper end thereof forwardly of the lower end whereby pressure on the forward face of said plate will maintain said lever in plate locking position.

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