Nov. 24, 1959 W. M. GEWIN 2,914,019

TROLLING DEVICE FOR REDUCING THE EFFECTIVENESS OF A PROPELLER

Filed Sept. 27, 1954

Fig. 1.

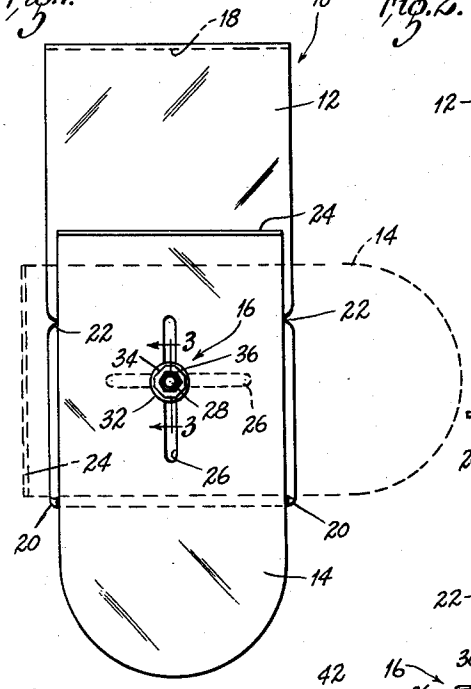


Fig. 2.

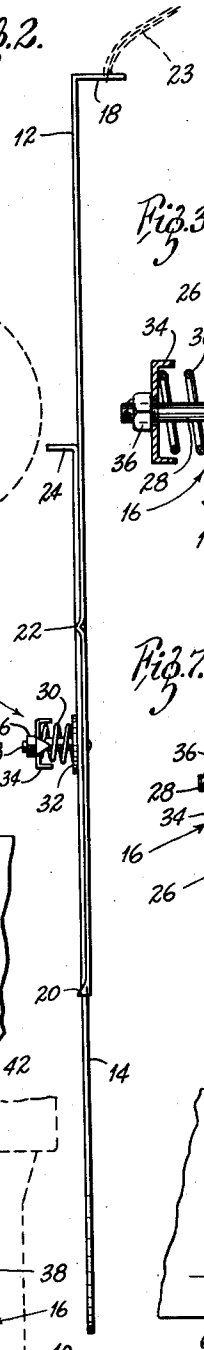


Fig. 3.

Fig. 4.

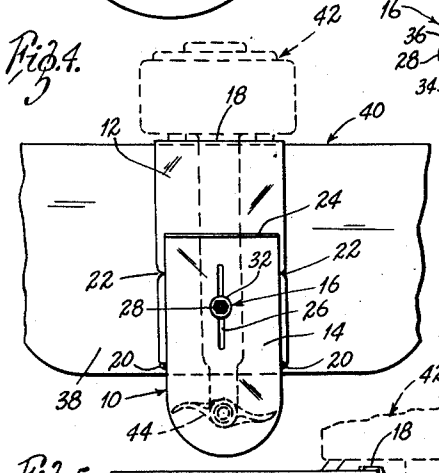


Fig. 5.

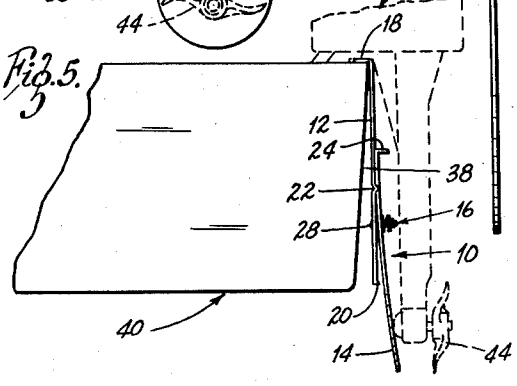


Fig. 6.

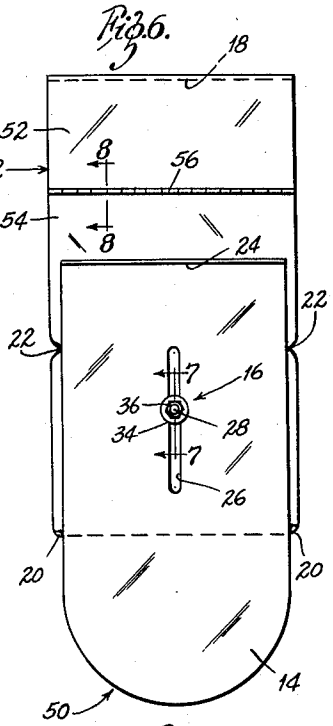


Fig. 7.

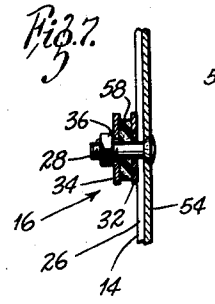


Fig. 8.

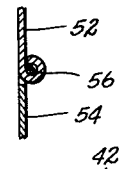
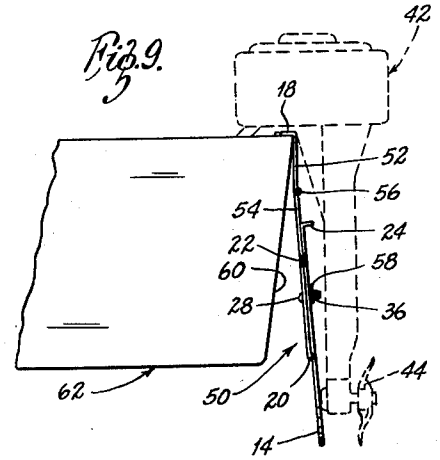


Fig. 9.



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TROLLING DEVICE FOR REDUCING THE EFFECTIVENESS OF A PROPELLER

William Miller Gewin, Dupo, Ill.

Application September 27, 1954, Serial No. 458,526

5 Claims. (Cl. 115—18)

The present device relates generally to the motor boat art, and more particularly to a novel trolling device for use with outboard motors, or the like.

It has been well known for a long time that two-cycle outboard motors, or the like, quickly foul the spark plugs when operated at idling speeds, such as that required for trolling purposes. Various means have been resorted to for overcoming this deficiency, one of which is generally known as a trolling device which operates to reduce the effectiveness of the propeller of the outboard motor. However, trolling devices heretofore devised have been unsatisfactory for a number of reasons including lack of adaptability to propellers of various effective diameters, awkward attachment to the boat, ineffectiveness at maintaining the boat at trolling speeds, and the like.

In brief, the present novel trolling device is a simple composite unit including an upper attachment plate to the lower portion of which is adjustably and pivotally connected a water diverter plate. The water diverter plate may be quickly adjusted to the desired operative position for trolling and as quickly moved to an inoperative position so that the propeller with which the trolling device is associated may move the boat through the water at desired speeds. In one embodiment of the invention, a resilient member permits the diverter plate to move rearwardly towards the propeller. In a modification, a hinge is provided which permits a portion of the device to swing rearwardly into effective relation with the motor propeller.

Therefore, an object of the present invention is to provide a novel trolling device for outboard motors, and the like, which overcomes the disadvantages existing in devices heretofore devised.

Another object is to provide a novel trolling device for outboard motors, and the like, which positively reduces the effective speed of the boat without the requirement of closing the throttle of the motor to idling speed.

Another object is to provide a novel trolling device for outboard motors, and the like, which may be readily secured to the transom of a boat in position for cooperative use with an outboard motor, or the like, and which is adjustable for use with outboard motors of different sizes.

Another object is to provide a novel trolling device for outboard motors, or the like, which will adjust itself to operative position in relation to the propeller when in use.

Another object is to provide a novel trolling device for outboard motors, and the like, which may be quickly rendered ineffective so that the propeller of the outboard motor may drive the boat through the water at desired speeds without interference from the device.

Another object is to provide a novel trolling device for outboard motors, and the like, which incorporates protective means for negotiating an unobserved sunken log or other obstruction without damage to the device.

Another object is to provide a novel trolling device for outboard motors, and the like, which is highly effective in use, yet is inexpensive and durable, which is collapsible to a relatively small package for transporting purposes, and which requires minimum instruction for installation and successful use.

The foregoing and other objects and advantages are apparent from the following description taken with the accompanying drawing, in which:

Figure 1 is a rear elevational view of a trolling device for outboard motors, and the like, incorporating the teachings of the present invention, the water diverter plate being indicated in its inoperative position by dotted lines;

Figure 2 is an end elevational view thereof on an enlarged scale;

Figure 3 is an enlarged vertical cross-sectional view taken on substantially the line 3—3 of Figure 1;

Figure 4 is a view looking toward the center portion of the transom of a boat with the present trolling device thereon in association with an outboard motor illustrated in dotted lines;

Figure 5 is a side elevational view of the rear portion of the boat shown in Figure 4 with the trolling device and outboard motor illustrated in operative relation thereto, the water diverter plate being shown against the gear casing at the bottom of the propeller shaft housing;

Figure 6 is a rear elevational view of a modified trolling device;

Figure 7 is an enlarged cross-sectional view on substantially the line 7—7 of Figure 6;

Figure 8 is an enlarged cross-sectional view on substantially the line 8—8 of Figure 6; and

Figure 9 is a side elevational view of the modified device attached to the transom of a boat, an outboard motor being indicated in dotted lines.

Referring to the drawing more particularly by reference numerals, 10 indicates generally a trolling device incorporating the principles of the present invention. The trolling device 10 includes a base or attachment plate 12, a water diverter plate 14, and a resilient pivotal connection 16 between the plates 12 and 14. Preferably, the plates 12 and 14 are of lightweight resilient material, such as spring aluminum.

The plate 12 is generally rectangular in form, and in one embodiment is approximately eight inches in width and approximately fourteen inches in depth or length. At the top of the plate 12 is a mounting flange 18 for ease of mounting on top of the boat transom, and at the bottom thereof are turned-up corners 20 which cooperate with bosses or raised areas 22 to form a guide for the plate 14 during vertical adjustment, as is more particularly pointed out below. The angle of the flange 18 with the plate 12 is shown as substantially ninety degrees, but the angle may be readily changed to suit the particular installation by bending the flange 18 with a pair of pliers, or the like. The raised areas 22 also prevent pivotal movement of the diverter plate 14 relative to the plate 12 when the device 10 is in use, as is clear from Figures 4 and 5. A safety chain 23 may be connected to the flange 18 or elsewhere for attachment to the boat with which the device 10 is used.

The water diverter plate 14 is also generally rectangular in shape with a semicircular lower end, and includes an upper flange 24 which may be grasped by the fingers of the hand in selected movement of the plate 14. A slot 26 extends centrally longitudinally of the plate 14 to permit relative movement between the plates 12 and 14. In one embodiment of the device 10, the width of the plate 14 is approximately seven and three-eighths inches and the length or depth is approximately thirteen inches.

The resilient pivotal connection 16 maintains the plates 12 and 14 in adjustable cooperative relationship and permits movement of the latter bodily away from the former,

as is clear from the drawings. A bolt **28** is mounted in a suitable aperture in the plate **12** and extends through the slot **26** in the plate **14**. A compression spring **30** surrounds the bolt **28** and bears against a washer **32** adjacent the plate **14** and against a cupped washer **34** abutting a nut **36** threadedly engaging the bolt **28**.

It will be observed from Figure 1 that the bolt **28** is mounted in relation to the lower edge of the plate **12** so that the plate **14**, when pivoted to the inoperative position shown in dotted lines, will be disposed in locking position above the turned-up corners **20** and against the raised areas **22** under the influence of the spring **30**.

In Figures 4 and 5, the trolling device **10** is shown mounted on the forwardly sloping transom **38** of a boat **40** in operative relation with an outboard motor **42** having the usual propeller **44**. As illustrated, the base or mounting plate **12** is maintained in position against the transom **38** by the usual clamps (not shown) of the outboard motor **42** which conventionally engage the top of the transom **38**. This is the simplest way to maintain the trolling device **10** in operative position at the rear of the boat **40**. However, it is to be understood that the device **10** may be maintained in position by other means, such as independent clamps, nuts and bolts, or the like. For some installations, it may engage the outboard motor for support.

In Figures 4 and 5, the trolling device **10** is in operative relation with the propeller **44** of the outboard motor **42**, that is, the water diverter plate **14** is located forwardly of the propeller **44** in position to divert forward propeller thrust to relatively ineffective balanced radial thrust. The diverter plate **14** assumes the curved position as illustrated under the force of the water. For most efficient results, the plate **14** should be adjacent the gear casing; usually, it will rest against the gear casing or the anti-cavitation plate of the motor. Hence, the outboard motor **42** may be maintained at normal driving throttle, yet the boat **40** will be moved at the desired slow trolling speed. This insures long continuous operation of the motor and avoids the plug fouling which inevitably occurs when outboard motors are operated for relatively long periods at idling speeds. As is well known, the lubricating oil for outboard motors, and the like, is applied with the gasoline, hence, fouling of the plugs occurs quickly at low speeds.

It is obvious that the connection **16** maintains the plates **12** and **14** firmly in adjusted position, yet it is a simple matter to slide the plate **14** vertically up or down as is required in relation to the plate **12** simply by grasping the flange **24** with the fingers of the hand and pulling up or pushing down as the case may be. It is also the same simple matter to rotate the plate **14** to the position shown in dotted lines in Figure 1, which is the desired position when the boat **40** is being moved about under the desired full power of the outboard motor **42**. The mounting plate **12** and diverter plate **14** are both above the bottom of the boat **40** when the plate **14** is in inoperative position which prevents drag and the throwing of water.

By reference to Figure 5, it should be noted that should the trolling device **10** strike a sunken log, or the like, when in the operative position, the resiliency of the connection **16** and of the plates **12** and **14** will permit the plate **14** to move rearwardly in pivotal manner about the upper edge thereof, thereby reducing to a minimum the likelihood of damage to the device **10**. The propeller **44** is usually mounted in a manner to permit rearward movement upon the striking of some sunken object.

In Figures 6–9 is illustrated a modified trolling device **50**, which differs from the device **10** in that the base plate **12** comprises two sections **52** and **54** hinged at **56** and the pivotal resilient connection **16** includes a shorter bolt **28** and a rubber washer **58** in place of the spring **30**. Corresponding parts of the device **50** bear the same reference numerals applied to the device **10**. It will be noted that the rubber washer **58** will give sufficiently to permit the plate **14** to be pivoted into inoperative position.

The device **50** readily adapts itself for use even with boats having transoms which slope sharply forwardly, as the transom **60** of the boat **62** in Figure 9. The hinge **56** permits the diverter plate **14** to swing rearwardly against the gear casing of the outboard motor **42** and into close operative relation with the propeller **44**, as illustrated.

The present trolling device is highly effective in accomplishing the desired trolling results. It will function with propellers **44** of different over-all diameters, it being but necessary to vertically adjust the plate **14** from the position shown in Figures 4 and 5 to function with propellers **44** of lesser diameter or disposed at a relatively higher elevation.

It is manifest that there has been provided a trolling device which fulfills the objects and advantages sought therefor.

It is to be understood that the foregoing description and the accompanying drawing have been given by way of illustration and example. It is also to be understood that changes in form of the elements, rearrangement of parts, and substitution of equivalent elements, which will be obvious to those skilled in the art, are contemplated as within the scope of the present invention which is limited only by the claims which follow.

What is claimed is:

1. A trolling device for reducing the effectiveness of a propeller comprising a flat mounting plate, and a flat water diverter plate adjustably connected to said mounting plate in contiguous overlapping relation, said diverter plate and said mounting plate being in parallel planes, said diverter plate extending downwardly from said mounting plate when in water diverting relation, said diverter plate being slidably adjustable relative to said mounting plate for determining the amount of water diverted by the former.

2. A trolling device for reducing the effectiveness of a propeller comprising a flat mounting plate, and a flat water diverter plate adjustably connected to said mounting plate in contiguous overlapping relation, said diverter plate extending downwardly from said mounting plate when in water diverting relation, said diverter plate being slidably adjustable relative to said mouting plate for determining the amount of water diverted by the former, said diverter plate being pivotally adjustable relative to said mounting plate to dispose the former in transverse relation to and above the lower edge of the latter for inoperative position of the former.

3. In combination with a boat including a transom and an outboard motor including a propeller and an adjacent gear casing mounted on said transom, a trolling device mounted upon said boat in cooperative relation with the outboard motor and propeller comprising a mounting plate for disposition between the boat transom and the outboard motor, said plate being of a length to depend a distance short of the bottom of the transom, and a diverter plate adjustably mounted on said mounting plate and depending therefrom into position forwardly of the propeller to divert water from the propeller, said diverter plate being adjacent to and in overlapping relation with said mounting plate for a substantial portion of each.

4. In combination with a boat including a transom and an outboard motor including a propeller and an adjacent gear casing mounted on said transom, a trolling device mounted upon said boat in cooperative relation with the outboard motor and propeller comprising a mounting plate for disposition between the boat transom and the outboard motor, said plate being of a length to depend a distance short of the bottom of the transom, and a diverter plate adjustably mounted on said mounting plate and depending therefrom into position forwardly of the propeller to divert water from the propeller, said diverter plate being adjacent to and in overlapping relation with

said mounting plate for a substantial portion of each, one of said plates including a transverse hinge permitting said diverter plate to swing rearwardly into engagement with the gear casing forwardly of the propeller.

5. In combination with a boat including a transom and an outboard motor including a propeller and an adjacent gear casing mounted on said transom, a trolling device mounted upon said boat in cooperative relation with the outboard motor and propeller comprising a mounting plate for disposition between the boat transom and the outboard motor, said plate being of a length to depend a distance short of the bottom of the transom, and a diverter plate adjustably mounted on said mounting plate and depending therefrom into position forwardly of the propeller to divert water from the propeller, said diverter plate being adjacent to and in overlapping relation

with said mounting plate for a substantial portion of each, said adjustable mounting including resilient means permitting bodily movement of the diverter plate away from the mounting plate to permit movement of the former into engagement with the gear casing forwardly of the propeller.

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