United States Patent

[11] **3,633,531**

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[21] Appl. No. **5,205**
[22] Filed **Jan. 23, 1970**
[45] Patented **Jan. 11, 1972**

[54] **TROLLING DEVICE FOR BOATS**
4 Claims, 3 Drawing Figs.

[52] **U.S. Cl.** ..... **114/145 A**
[51] **Int. Cl.** **B63h 25/44**
[50] **Field of Search** ..... 114/145 A, 145

[56] **References Cited**

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ABSTRACT: A special device is provided for slowing down the rate of advance of a boat in a body of water, the boat being driven by the blades of a propeller shaft of an engine substantially independently of the speed of rotation of the shaft and hence of the blades. The device preferably is removable so that it can be installed and used when it is desired to use the boat at slow speeds, such as for trolling; and so that when the device is removed, the boat may be made to move at relatively high speeds, such as going to and from a desired fishing area. In other words, the special device permits the use of a relatively high-speed motor to operate the same boat at relatively low speeds.

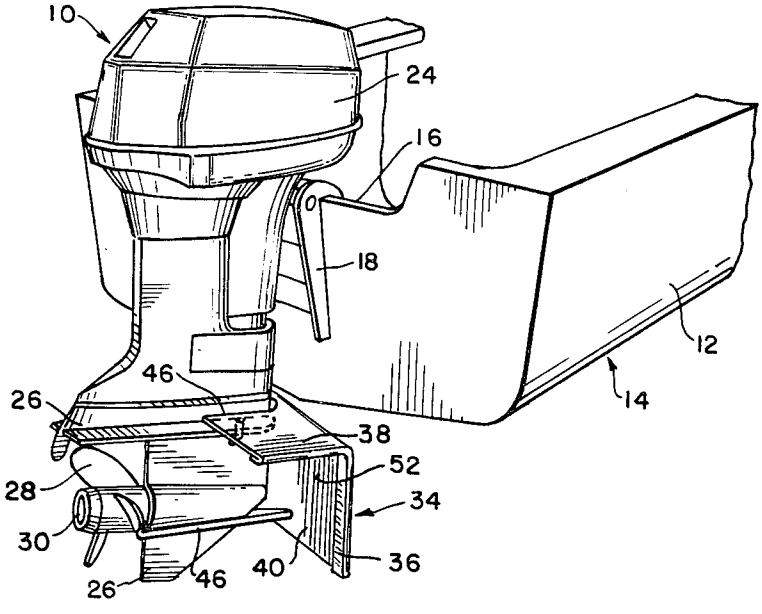


FIG. 1

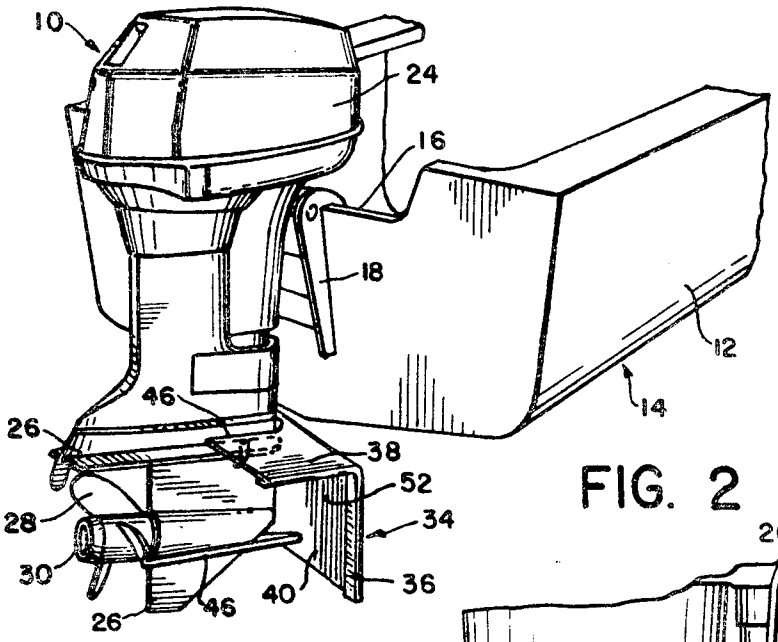


FIG. 2

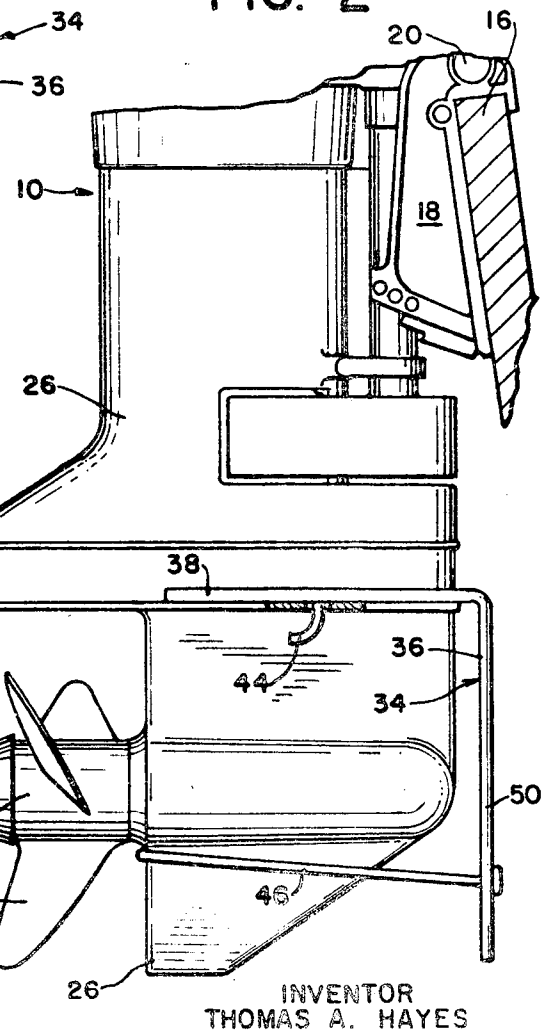
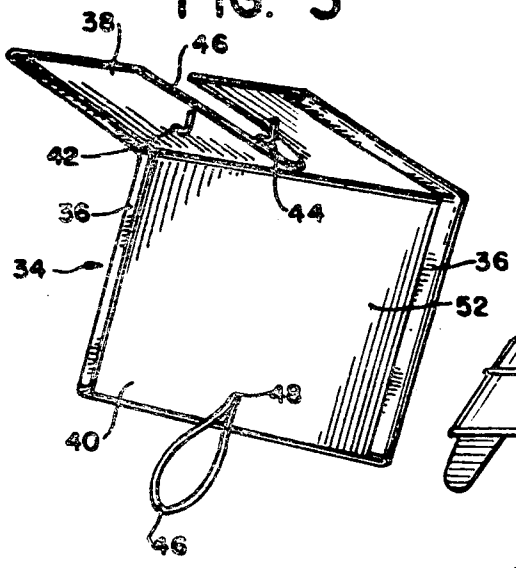


FIG. 3



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TROLLING DEVICE FOR BOATS

Boat motors of various sizes and capacities are on the market, such as 1½ to 150 and more horsepower, say for the outboard type. They are usually capable of propelling a given boat at a speed in excess of 5 miles per hour through the water. For trolling a boat speed of not more than 5 miles per hour is usually desired by fishermen. High boat speed is desired to get the boat to a desired fishing area; but to reduce a high boat speed to a low boat speed for trolling raises a number of problems. Fishermen often use a drag, such as an open ashcan depending from the stern, side or bow of the boat. Although the motor continues at its relatively high speed, the ashcan, or cans if more than one is used, offers resistance to the advance of the boat through the water; it functions as a "drag" to the forward movement of the boat.

As a result of my investigations, I have discovered that the forward speed of a boat equipped with a conventional outboard motor can be used for trolling by the use of a simple device added thereto. The mounting of an outboard motor in the transom of a boat, for example, is not disturbed. The motor's propeller shaft housing can be equipped temporarily for use with a specially designed baffle to effect the drag necessary to effect a desired slowing down of the forward speed of the boat through the water. To this end the motor can be swung up into the boat's transom to make easy access to the propeller shaft and its housing; after which the baffle is suitably secured to the housing, preferably at a plurality of spaced places. The thus altered propeller-shaft-housing baffle is turned as a unit in the transom and lowered into the water into operating position.

The baffle is fastened temporarily to the forward end of the submerged portion of the motor's lower housing, in front of the propeller blades, where it acts to cut down the bite of the blades in the water forward of, and hence the free flow of surrounding water to, the blades. In other words, the efficiency of the motor to move the boat forward is substantially impaired at a given motor speed, thus slowing down the forward speed of the boat down to a trolling speed. While the attainable trolling speed is a function of the motor speed, it can be made to vary with the size of the baffle, particularly in the amount of its effective working surface; which can be regulated, at least in part, by the width and height of the baffle as well as by its distance from the propeller blades.

The presence of the baffle does not impair control of direction of the boat; because the baffle is maintained in its drag position relative to the propeller blades when one turns the boat left or right.

The baffle being temporarily attached to the motor structure, it can be readily removed at the end of the period of trolling on raising the motor back into the transom. When it is desired to resume the normal forward speed of the boat the dismantled baffle is put aside for future use.

These and other advantages will be better understood, it is believed, by referring to the accompanying drawing, taken in conjunction with the following description, in which:

FIG. 1 is a perspective diagrammatic view of the stern of a boat with a propeller shaft outboard motor fitted with a baffle attached thereto near the transom portion of the boat, illustrating a practice of the invention;

FIG. 2 is a somewhat enlarged diagrammatic side view of the outboard motor of FIG. 1, showing the right angled conformation of the baffle, its reinforced side edges, means for fastening the baffle to the lower portion of the housing of the outboard motor, and elastic means for fastening the lower end of the baffle to the lower portion of the propeller shaft housing; and

FIG. 3 is a perspective view of the baffle.

Referring first to FIG. 1, an outboard motor **10** is attached to the stern **12** of a boat **14**. The motor extends into transom **16** of the boat. The motor is attachable to and removable from the stern in any suitable manner, such as by a bracket **18** (FIG. 3) adjustably secured to the outer end of the stern. The bracket is provided with a transverse pin or crosswise shaft **20**, about which the motor can be swiveled laterally to raise and

lower it. It will be noted the motor is provided with an upper housing portion **24** and a lower portion **26**; and that the lower portion of the housing is associated with a conventional propeller **28** with its shaft **30**.

Going to FIG. 2, it shows an isolated view of the improved baffle **34** of the invention. While the baffle may be made of any suitable material, metal, wood or plastic, the practice of the invention has thus far been confined to a copper sheet of adequate size and thickness for the motor employed. In the instant construction narrow lateral side portions **36** are bent over on themselves to make a double thickness of metal and thus substantially to strengthen the baffle in its formed angular state. This of course can be accomplished in a number of ways, such as by crimping the metal along the lateral edges, by soldering or riveting or otherwise attaching reinforcing strips onto the edges etc.

Reference may be made particularly to FIG. 2 for the shape and construction of the baffle, although the same information is disclosed in FIGS. 1 and 3. It will be noted that the upper portion **38** of the baffle is bent substantially at a right angle to the main and longer portion **40**; and that the upper portion is provided with a pair of spaced angular clips **42** and **44** integrally secured thereto. These clips are positioned to span slot **45** extending inwardly into the midportion of the upper portion of the baffle. This is to permit insertion of the baffle top into a complementary fin portion of the housing of the motor, as shown more particularly in FIGS. **1** and **3**. In the instant construction the clips are formed of angular metal rods integrally soldered to the top bent over upper portion of the baffle.

To secure the baffle to the lower portion of the motor housing, the lower portion of the baffle is provided with a strong flexible, elastic, securing member **46**, in the form of a loop, which as shown particularly in FIG. **3** extends through an opening **48** in the lower portion **40** of the baffle; and the remainder of the elastic loop extends around the lowermost portion **48** of the housing. When under tension the elastic loop **46** pulls the lower half of the baffle toward the portion **26** of the housing, thus holding the baffle in place in its mounted position.

It may be assumed that one or more fishermen are in boat **14** and that they have baffle **34** with them. On reaching the area to be fished by trolling, motor **10** is stopped and swiveled upwardly on pin or shaft **20** to swing the motor upwardly and partially into transom **16**, for example, in a horizontal or a depending position, but preferably leaving the lower portion **26** of the motor housing free of the water. Clips **42** and **44** are placed or inserted in complementary holes previously drilled in the fin of the motor. This is arranged so that the baffle is immediately forward of the propeller shaft, in its normal path of travel through the water. The baffle is then placed in right angular position, illustrated in FIGS. **1** and **3**, after which the elastic band **46** is placed around the lowermost portion **26** of the motor housing; thus assuring the mounted position of the baffle in respect of the motor housing. This necessary preliminary action having been effected, the motor is swiveled on shaft **20** to place the motor and its attached baffle in operative position in the water. The fisherman then starts the motor and the modified construction permits him to troll.

In other words, motor **10** thus equipped with baffle **34** is adapted to act as a drag in slowing down the forward speed of the boat. The baffle functions in several ways to obtain the desired lower boat speed.

The outer active surface **50** of the lower main portion of the baffle itself operates as a brake or drag on the forward movement of the boat because the propeller is required to push that portion of the baffle forwardly through the water, as already indicated; and the water offers a great deal of resistance to the advance of the baffle as a whole. The active surface of that portion of the baffle can be varied in size to adjust the amount of resistance offered by the baffle as it is forced forwardly through the water. The baffle thus offers resistance to forward movement of the boat in proportion to the amount of such ac-

tive surface. That resistance is also a function of the efficiency with which the propeller is made to operate.

Now, going to the inner active surface **52** of the baffle proper, the forward thrust of the baffle tends to create a vacuum (diminished pressure) between the inner portion of the baffle and the propeller blades. This in turn retards or reduces the flow of surrounding water to the propeller blades, thus impeding the normal efficiency of the blades and slowing down the boat. It will be appreciated that the vacuum effect caused by the forward movement of the baffle through the water helps to slow down the forward movement of the boat.

That slowing down of the boat's forward speed is not impaired by the baffle when the fisherman turns the boat's direction to the left (port) or right (starboard); because the baffle continues to exert its drag to the forward movement of the boat, even though the propeller blades are shifted for a turn.

While the horsepower of outboard motors is increasing from year to year, permitting higher and higher forward speeds of the boats propelled by such motors, that extra speed can be employed advantageously by fishermen not only to reach in shorter time the area of the body of water in which they want to do their fishing, but by using the baffle of the invention the speed of the boat nevertheless can be reduced. The normal low speed of such motors is usually so high as to move the boat forward at a speed higher than that desired for trolling. The improved baffle herein contemplated may be used with boats having such extra high speed motors so that the forward speed of the boat is low enough for trolling. The speed of the motor may be placed at its lowest, which may still move the boat too fast for trolling. That problem can be solved by the invention. To this end a baffle of suitable size is selected

to effect the result sought.

It will be clear to those skilled in this art that the baffle above described is merely illustrative of a specific practice of the invention, and that the practice of the invention lends itself to a number of useful modifications.

I claim:

1. In a motor trolling device for a boat operable with an outboard motor, the improvement comprising a substantially imperforate baffle positionable between the housing of the motor and the stern of the boat; and the baffle is provided with securing means to make it attachable to the motor housing transversely across the normal forward direction of travel of the propeller shaft of the motor, and elastic holding means associated with the baffle to secure the baffle to the lowermost portion of the motor housing.

2. A motor trolling device according to claim 1 in which said elastic holding means is a loop of elastic material one end of which is fixed centrally to the lower portion of said baffle.

3. A motor trolling device according to claim 1 in which said securing means consists of clips removably engageable with the motor housing.

4. A motor trolling device according to claim 1, in which the baffle is shaped angularly with an upper portion having said guide means attachable to the housing and a lower portion dependable transversely across said normal forward direction of travel of the propeller shaft when the boat moves forward; the upper and lower portions of the angular baffle are generally at right angles to each other; and the upper portion of the baffle has a central slot extending from the edge thereof to receive the motor housing, a clip being mounted on each side of this slot for removably engaging said housing.

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