March 15, 1960 V. W. MOON 2,928,365

BOAT BRAKE OR DRAG

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Fig. 1

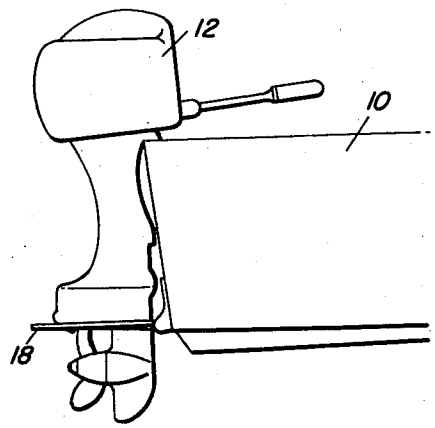


Fig. 2

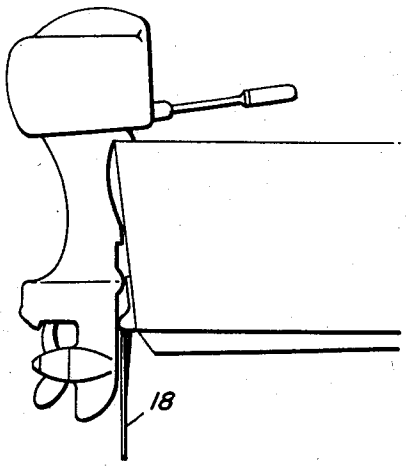


Fig. 7

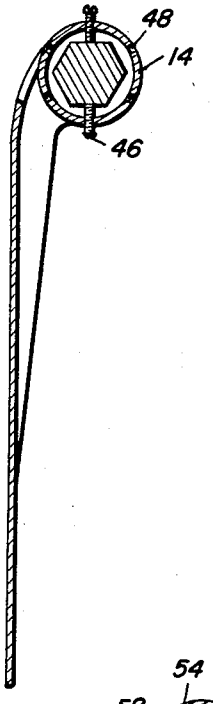


Fig. 8

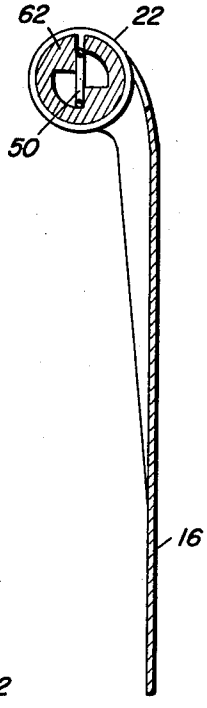


Fig. 3

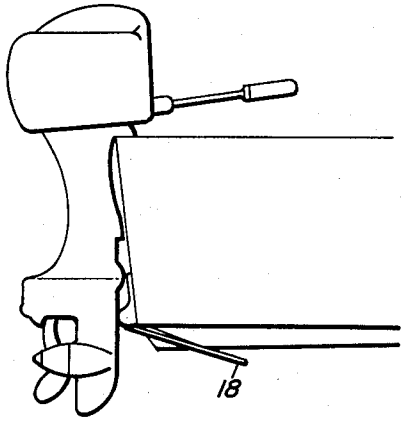
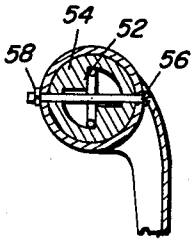


Fig. 9



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Fig. 4

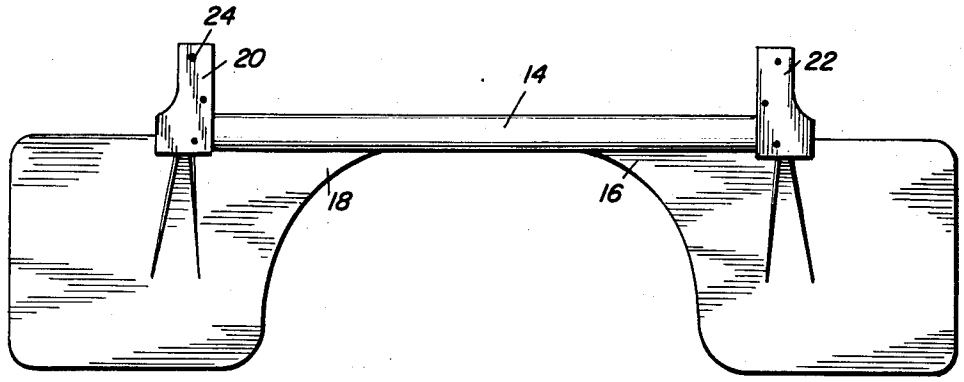


Fig. 5

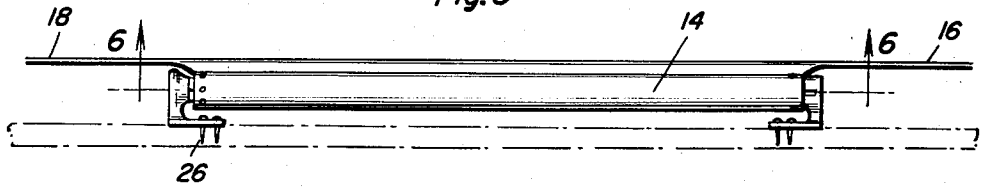
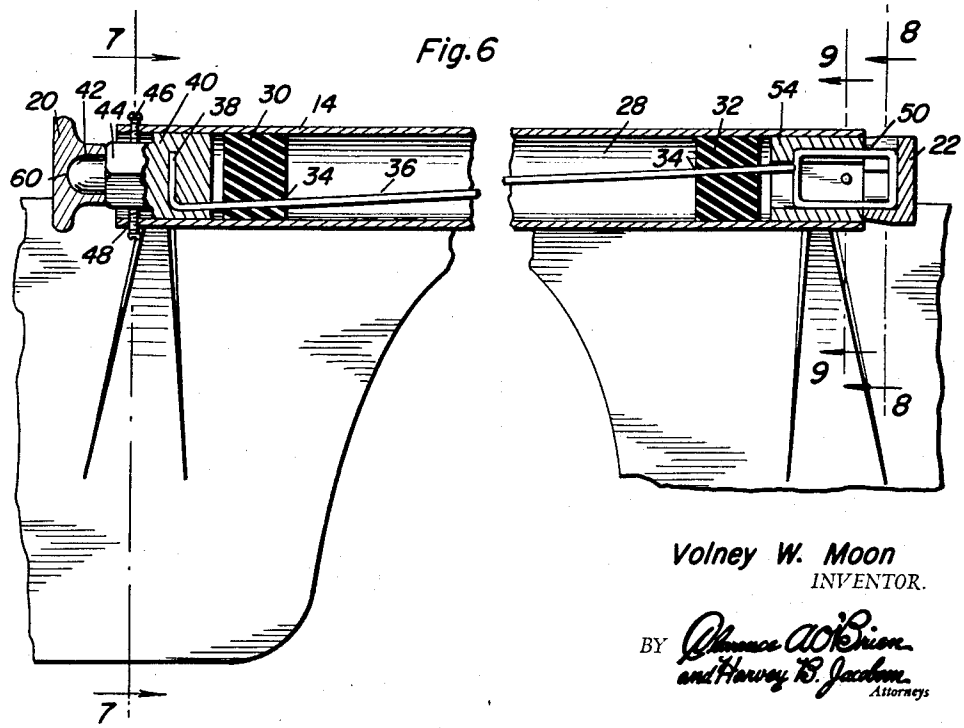


Fig. 6



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2,928,365

BOAT BRAKE OR DRAG

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Application January 8, 1958, Serial No. 707,767

7 Claims. (Cl. 114—145)

This invention pertains to an attachment for boats and more particularly for an attachment to provide a drag for boats for trolling.

It is the principal object of this invention to provide novel attachment for boats which will automatically provide means of slowing idle speeds of boats powered by large outboard motors sufficiently to produce trolling speeds for fishermen.

It is another object of this invention to provide a novel attachment for a boat which while providing proper trolling speeds for idle speeds of the boat's motor, it will not hamper the operation of the boat in either forward cruising operation or reverse operation.

A further object of this invention is to provide a novel attachment for boats including adjustable means to allow a boat to troll but which likewise reduce the drag on the boat at particular speed desired by the operator.

It is a still further object of this invention to provide means whereby the above attachment will float if it becomes unattached from the boat.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of a boat including this invention while the boat is in cruising operation;

Figure 2 shows the invention at trolling speed;

Figure 3 shows the operation of the invention while the boat is in reverse;

Figure 4 is an elevational front view of the attachment comprising this invention;

Figure 5 is an elevational plan view of the attachment of this invention;

Figure 6 is a sectional view taken substantially along the plane 6—6 of Figure 5;

Figure 7 is another sectional view taken substantially along the plane 7—7 of Figure 6;

Figure 8 is a still further sectional view taken substantially along the plane 8—8 of Figure 6; and

Figure 9 is a still further sectional view partially cut away taken substantially along the plane 9—9 of Figure 6.

Referring more particularly to the drawings, numeral 10 represents a boat utilizing an outboard motor 12 attached to the rear thereof.

The attachment comprising this invention includes a cylindrical hollow tube 14 having two depending flap portions 16 and 18 rigidly attached thereto. A pair of brackets 20 and 22 provide means for fastening the attachment to a boat 10. These means include apertures 24 in the brackets which cooperate with wood screws 26 for attachment to the boat 10.

More particularly referring to Figure 6, it can be seen that tube 14 includes a hollow portion 28 of a substantial volume enclosed by rubber bushings 30 and 32 for

providing a water-tight chamber. This water-tight chamber or volume 28 will allow the attachment to float on the surface of the water if by chance it for any reason became detached from the boat 10.

The rubber bushings 30 and 32 include apertures 34 therein for accommodating a torsion rod 36 which extends longitudinally along the length of the hollow tube 14. The tension rod 36 is bent over at one end 38 where it is permanently affixed in a body 40 which conforms to the size of the tube 14. The body 40 has an extension thereon which terminates in a knob portion 42. The knob portion 42 is formed integrally with body 40 as is the hexagonal portion 44. A pair of setscrews 46 are threadedly engaged with apertures 48 in tube 14 for lockingly positioning the portion 44 and along therewith the body 40 with a knob portion 42. It will readily be seen in Figure 7 that a plurality of apertures 48 exist around the circumference of tube 14 for accommodating setscrews 46 in a plurality of positions for selectively locking the portion 44. As will be more apparent later, these setscrews provide adjustable torsion means whereby the attachment may be made to operate at different speeds of the boat 10.

The other end of the torsion rod 36 is formed into a loop 50 having a preferably rectangular shape as shown. This loop 50 is mounted within member 54 having a top portion 52 which limits the relative rotational movement between the loop 50 and member 54. Member 54 is fixedly engaged with the tube 14 by means of the bolt 56 and cooperating nut 58. The loop 50 extends beyond the confines of tube 14 for reasons which are more fully described below.

The bracket 20 is provided with a recessed portion 60 for rotatably accommodating knob 42. It should be apparent therefore, that the bracket 20 does not impede rotation of the tube 14 in that one tube 14 is free to rotate in either direction relative to bracket 20 as the knob 42 freely rotatably cooperates with the portion 60 of bracket 20. The bracket 22, most clearly seen in Figure 8, has stop portions 62 therein which are designed to allow the loop 50 and torsion rod 36 to rotate in only one direction. That is, the torsion rod of Figure 8 can only rotate in a clockwise direction. Any tendency of the torsion rod 36 to rotate in a counter-clockwise direction would be impeded by stops 62.

In the operation of this attachment, the brackets 20 and 22 are fixed to the boat 10 by the wood screws 26. Now assuming, that the attachment is constructed in accordance with Figure 6, with the boat running at cruising speed the flaps 16 and 18 along with tube 14 will assume a position as shown in Figure 1. That is, the force exerted by the water will cause the flaps as in Figure 8 to turn counter-clockwise. As above noted, the loop 50 of torsion rod 36 cannot turn counter-clockwise. However, the turning moment of flap 16 is absorbed by the torsion rod 36. More specifically, the looped portion 50 of the rod 36 will substantially remain in its normal position due to the stops 62 of bracket 22. The tube 14 and accompanying member 54 will limitedly rotate in a counter-clockwise direction about the loop 50 until impeded by the stops 52. The remaining portion of the torsion rod 36 will assume the torsion stresses as the tube 14 and knob 42 rotate in bracket 22.

When the speed of the boat 10 is reduced somewhat the torque or moment created by the water against the flaps 16 and 18 will lessen and the torsion rod 36 will tend to assume its original unstressed condition allowing flaps 16 and 18 to assume the position shown in Figure 2. As above noted, Figure 2 will offer the occupants of the boat a proper trolling speed.

When it is desired to operate the boat in a reverse

direction, the flaps **16** and **18** along with the tube **14** are free to rotate to the position shown in Figure 3 due to the peculiar and novel construction of the bracket **20**. As above noted, the stops **62** only prevent the looped portion **50** of torsion rod **36** from rotating in a counterclockwise direction but offer no impedance to a clockwise movement.

It can now be seen therefore how the adjustment of portion **44** between setscrews **46** allows for the different positions of the flaps **16** and **18** depending on the speed of the boat **10**. This is of course accomplished by the degree of pre-torsioning of the torsion rod **36**.

It should now be apparent that the device above explained may be utilized with different size boats of different models and employing different motors. The principles taught by this invention would apply equally well to an extensive variety of water vehicles.

In summary, above has been disclosed an attachment for a boat which may be used by fishermen to develop an ideal trolling speed. This attachment is designed to be attached directly to the boat, thereby adding no weight or bulk to the motor. Furthermore, it is to be noted that once this attachment has been adjusted for the particular boat the operation of it is fully automatic and requires no further manual re-setting by the operator. It is further to be noted that the invention contemplates the use of a minimum number of simple parts thereby minimizing the cost of the invention. The simplicity of the invention along with the relatively few moving parts will provide the attachment with a long life. Furthermore, this invention has been provided to allow an ideal trolling speed while not adversely affecting the high speed or reverse operation of the boat.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A trolling attachment for boats comprising a tube, a flap depending from said tube, an elongated torsion rod within said tube, said rod lockably and rotatably fixed in said tube at a first end of said tube, said rod projecting from said tube at a second end, a pair of brackets, rotatable means for rotatably mounting said tube in one of said brackets near said first end, and torsion means for mounting said rod projecting portion in said second bracket at said second end.

2. A trolling attachment for boats comprising a tube, a flap depending from said tube, an elongated torsion rod within said tube, said rod lockably and rotatably fixed in said tube at a first end of said tube, said rod projecting from said tube at a second end, a pair of brackets, rotatable means for rotatably mounting said tube in first of said brackets near said one end, and torsion means for mounting said rod projecting portion in said second bracket at said second end, said torsion means including stop portions within said second bracket for limiting free rotational movement of said tube in one direction while permitting free rotational movement in said second direction.

3. A trolling attachment for boats comprising a tube, a flap depending from said tube, an elongated torsion rod within said tube, said rod lockably and rotatably fixed in said tube at a first end of said tube, said rod projecting from said tube at a second end, a pair of brackets, rotatable means for rotatably mounting said tube in first of said brackets near said one end, and torsion means for mounting said rod projecting portion in said second bracket at said second end, said torsion means including stop portions within said second bracket for limiting free rotational movement of said tube in one direction while permitting free rotational movement in said second direction, and adjustable means at said one end for varying the normal torsion along said torsion rod.

4. The combination of claim 3 wherein said adjustable means includes a nut in fixed relation to said first end of said rod, said nut being rotatably supported in said tube whereby a rotation of said nut will rotate said first end of said rod and setscrew means for locking said nut in a fixed position.

5. In combination with a boat having a rear outboard motor, a trolling attachment comprising a tube, a pair of flaps fixedly depending from said tube and adapted to be positioned on either side of said motor, an elongated torsion rod within said tube, said rod lockably and rotatably fixed in said tube at a first end of said tube, said rod projecting from said tube at a second end, a pair of brackets, means for securing said brackets to said boat, rotatable means for rotatably mounting said tube in one of said brackets near said first end, and torsion means for mounting said rod projecting portion in said second bracket at said second end.

6. A trolling attachment for boats comprising a tube, a flap depending from said tube, an elongated torsion rod within said tube, said rod lockably and rotatably fixed in said tube at a first end of said tube, said rod projecting from said tube at a second end, a pair of brackets, rotatable means for rotatably mounting said tube in one of said brackets near said first end, and torsion means for mounting said rod projecting portion in said second bracket at said second end, said torsion means including stop portions within said second bracket for limiting free rotational movement of said tube in one direction while permitting free rotational movement in said second direction, said rod projecting portion including a rectangular loop.

7. A trolling attachment for boats comprising a tube, a flap depending from said tube, an elongated torsion rod within said tube, said rod lockably and rotatably fixed in said tube at a first end of said tube, said rod projecting from said tube at a second end, a pair of brackets, rotatable means for rotatably mounting said tube in one of said brackets near said first end, and torsion means for mounting said rod projecting portion in said second bracket at said second end, said torsion means including stop portions within said second bracket for limiting free rotational movement of said tube in one direction while permitting free rotational movement in said second direction, said rod projecting portion including a rectangular loop, said rectangular loop normally biased in a vertical position, portions in said end of said tube similar to said stop portions within said second bracket.

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