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RETRACTIBLE DRAG DEVICE FOR BOATS

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Fig. 1

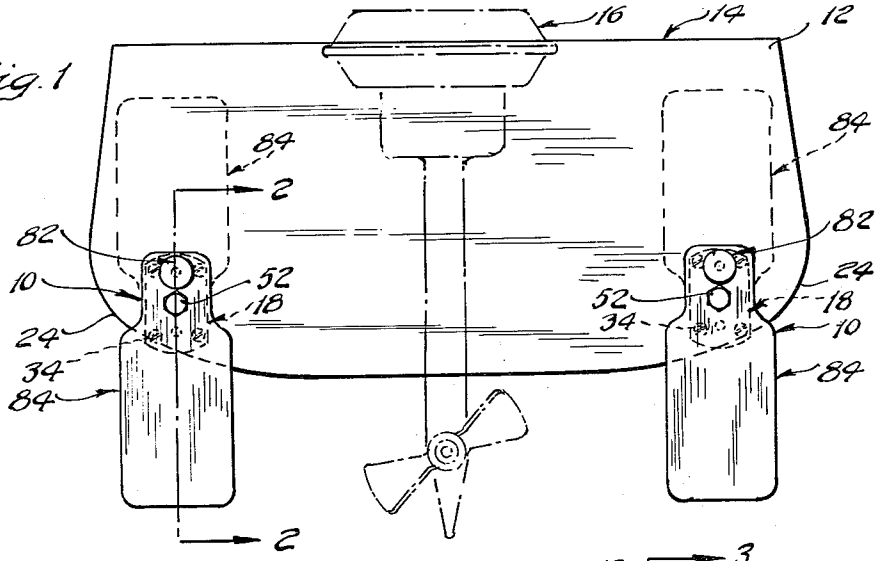



Fig. 3

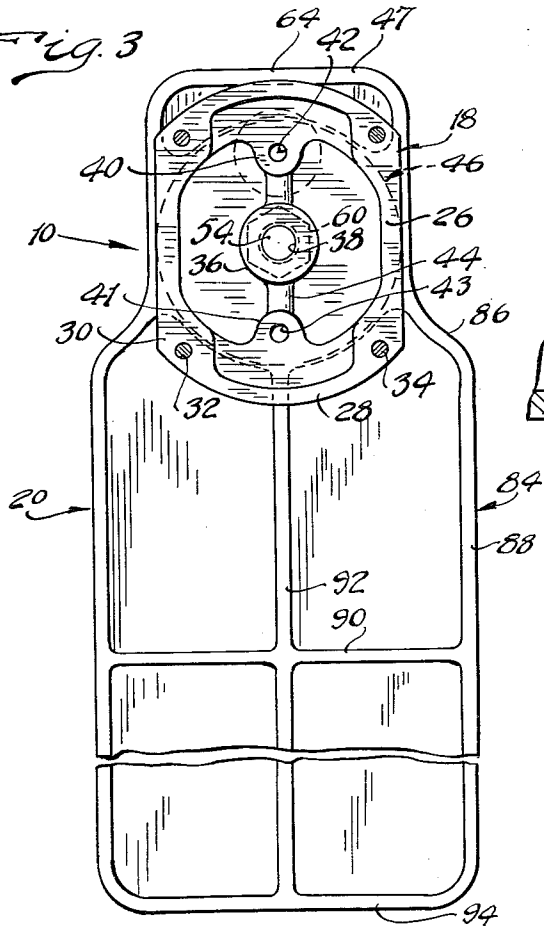
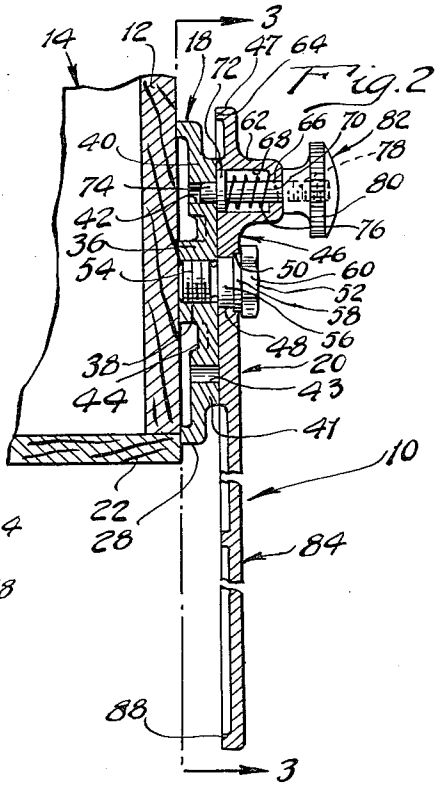



Fig. 2




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# RETRACTIBLE DRAG DEVICE FOR BOATS

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This invention relates to boats and, in particular, to equipment for boats.

One object of this invention is to provide a retractible drag device for attachment to a boat for the purpose of slowing down the speed of a boat, from its usual speeds to a speed below that normally attainable with a given hull and engine, in order to produce an abnormally slow speed for trolling or other purposes requiring such slow speed.

Another object is to provide a retractible drag device of the foregoing character which is movable quickly and easily between a drag-producing position and a drag-free position, at the will of the user.

Another object is to provide a retractible drag device of the foregoing character which is capable of being easily attached to the transom or other convenient portion of a boat where it is instantly available for use yet, when retracted, is out of the way.

Another object is to provide a retractible drag device of the foregoing character which can be firmly but releasably locked in either of its operating or retracted positions.

Other objects and advantages of the invention will become apparent during the course of the following description of the accompanying drawing, wherein:

FIGURE 1 is a rear elevation of a boat showing a pair of the retractible drag devices of the present invention attached thereto in their operating positions, with their retracted positions and the position of an outboard engine shown in dotted lines;

FIGURE 2 is an enlarged fragmentary vertical section taken along the line 2—2 in FIGURE 1, with parts of the lower portion of the device broken away to conserve space; and

FIGURE 3 is a rear elevation taken along the line 3—3 in FIGURE 2 with the lower portion broken away to conserve space.

Hitherto, the slowing down of a boat below its normal speed for trolling or other purposes has been difficult or inconvenient when it is desired to move at a slower speed than can be obtained by throttling down the engine. Previously, fishermen have improvised various drag devices which are normally kept inboard of the boat and thrown over the stern and towed at the end of a tow line when trolling is to be accomplished. One such prior drag device has consisted of a bucket having its bail fastened to the end of a tow line and having holes punched in it for the passage of water. This bucket is trailed behind the boat in a manner similar to that of a patent log and hauled into the boat when trolling is terminated and normal speed is to be resumed. Another prior drag device for the same purpose consists of a truncated hollow canvas cone somewhat resembling an airport "wind sock" or seat anchor with the tip cut off and likewise towed behind the boat on the end of a tow line. These and similar prior devices not only occupy valuable space in the boat but also in the event of a sudden squal jeopardize the safety of the boatman and put him into a precarious situation while he is hauling in the drag device.

The present invention provides a drag device which is mounted outside the boat in a position incapable of obstructing normal use of the boat and which can be swung quickly and easily from its retracted position into its drag position and vice versa.

Referring to the drawing in detail, FIGURE 1 shows a



pair of retractible trolling drag devices, generally designated 10, according to one form of the invention as mounted upon the transom 12 at the stern of a boat 14, upon which a conventional outboard engine or motor 16 is centrally mounted in the ordinary way. It will be understood that the relative positions of the engine 16 and drag devices 10 may be varied according to the particular conditions existing in the particular hull, and that in some situations only one of the drag devices 10 will be employed. In sailboats, for example, where a rudder is centralling mounted, the outboard engine 16 is mounted outboard of the rudder, hence only one drag device 10 would be used, also mounted in an outboard position. Furthermore, where twin outboard engines 16 are employed, both are ordinarily mounted outboard of the center line of the boat whereupon the drag device 10 would be most conveniently mounted in the space between the two engines.

The retractible trolling drag device 10 consists generally of a stationary mounting member or base 18 and a movable elongated drag member or paddle-shaped plate 20 pivotally mounted upon the mounting member 18, the latter in turn being secured to the transom 12 preferably near its junction with the bottom planing 22 in the vicinity of the turn of the bilges 24. The mounting member or base 18 is shown to be in the form of a casting having a central portion 26 surrounded by a rearwardly-extending peripheral flange 28 having corner bosses 30 (FIGURE 3) containing holes 32 for screws or other fasteners 34 by which it is attached to the transom 12. On its rearward side, the base 26 is also provided with a central boss 36 having a central threaded hole 38 and also has a pair of upper and lower intermediate bosses 40 extending toward and disposed on opposite sides of the boss 38. The bosses 40 and 41 have upper and lower holes 42 and 43 lying on a vertical axis passing through the axis of the bore 38. A reinforcing rib 44 conveniently interconnects the upper and lower bosses 40 and 41.

The drag member 20 includes a hub portion, generally designated 46 around a bore 48 aligned with the bore 38 but of slightly larger diameter, with a shallow counterbore 50 located at the mouth of the bore 48. Disposed in the bore and counterbore 48 and threaded into the bore 38 in the mounting member 18 is a pivot screw 52 having a threaded shank portion 54 engageable with the threads of the bore 38 and an unthreaded stepped shank portion 56 and 58 engageable respectively with the bore 48 and counterbore 50, the head 60 of the screw 52 being enlarged and preferably hexagonal or of other shape for convenient grasping by a conventional wrench (not shown).

The hub portion 46 is provided with a rearwardly-extending peripheral flange 47 and is also provided with a hollow boss 62 located near one end 64 thereof at a location spaced apart from the axis of the pivot screw bore 48. The hollow boss 62 has a bore 66 and counterbore 68 therein coaxial with either of the holes 42 or 43 when swung into a position adjacent it. Reciprocably mounted in the bore 66 of the hollow boss 62 is a locking pin 70 having an enlargement flange 72 thereon reciprocable in the counterbore 68. The flange 72 is located intermediate the opposite ends of the locking pin 70 so as to leave the rearward end portion 74 projecting into one of the holes 43 or 42 when brought into alignment therewith. A helical compression spring 76 mounted in the counterbore 68 engages the flange or enlargement 72 and urges the locking pin 70 toward its locking position so as to move the end portion 74 into locking engagement with one of the holes 42 or 43. The outer end portion 78 of the locking pin 70 is threaded to receive a knurled knob 80 which serves as a handle for the locking plunger, gen-

erally designated **82**, including the knob **80** and locking pin **70**.

The drag member **20** also includes a drag plate portion, generally designated **84**, which projects laterally from the hub portion **46** and which is in the form of an elongated plate which, as shown in FIGURE 3, for convenience is slightly wider than the hub portion **46** and which is connected thereto by the shoulder portions **86** of a peripheral flange **88** joining the peripheral flange **47** of the hub portion **46**. A cross rib **90** and a longitudinal rib **92** strengthen the drag plate portion **84** and increase its rigidity. The lower end **94** of the drag plate portion **84** extends outwardly a considerably greater distance from the pivot screw bore **48** than the upper end **64** of the hub portion **46**, as clearly shown in FIGURES 1 and 3.

In the operation of the invention, let it be assumed that the mounting member **18** of each drag device **10** has been bolted or otherwise secured to the transom **12** in any suitable manner and in any suitable location such as is shown in FIGURE 1, that the devices **10** are in their raised or retracted positions shown in the dotted line in FIGURE 1. Let it be further assumed that the boat has been moving at normal speed and that the boat user desires to slow down the speed of the boat **14** for trolling or other purposes, to an extent slower than that capable of being attained by throttling down the engine **16**. To swing the drag members **20** into their drag-producing positions, as shown in FIGURE 1, the user grasps the knob **80** of the locking plunger **82** of each device **10**, pulls outward upon it to withdraw the end portion **74** of the locking pin **70** from the lower locking pin hole **43**, then, while holding the locking pin **70** in its retracted position with the spring **76** compressed, he swings the drag plate portion **84** downward into the lowered or drag position shown in solid lines in the drawing. He then releases the knob **80**, moving the plate portion **84** slightly to one side or the other in order to permit the spring **76** to push the locking pin end portion **74** into the upper locking pin hole **42**. If a pair of the drag devices **10** is mounted on the boat, he then repeats this operation for the second drag device **10**. When the plate portion **84** is thus swung into a position projecting below the bottom planking **22** of the boat **14**, it immediately sets up a great amount of resistance to the passage of water under the boat and slows down the boat to the desired speed.

When the user wishes to terminate trolling or other slow speed motion and resume normal speed, he reverses the operation described above by retracting the end portion **74** of the locking plunger **82** from the upper hole **42**,



swings the drag plate portion **84** upward into the raised position shown in dotted lines in FIGURE 1 and releases the knob **80** when he feels the end **74** of the locking pin **70** entering the lower locking pin hole **43**.

What I claim is:

1. A retractible drag device for boats comprising a base plate having a plurality of fastener-receiving portions disposed in peripherally-spaced relationship around the periphery thereof and adapted to secure the base plate to the boat, a pivot element mounted in the central portion of the base plate remote from the periphery thereof with its pivot axis disposed substantially perpendicular thereto, and an elongated drag plate having a hub portion near one end thereof pivotally mounted on said pivot member said drag plate being disposed substantially parallel to said base plate and connected to and projecting laterally from said hub portion beyond the periphery of said base plate.

2. A retractible drag device according to claim 1, wherein said drag plate is paddle-shaped and has a relatively narrow hub portion and an elongated relatively wider drag portion projecting outwardly from said hub portion.

3. A retractible drag device according to claim 1, wherein a locking device is mounted on one of said plates and releasably engages the other plate in locking relationship in the drag-producing position of said drag plate.

4. A retractible drag device according to claim 3, wherein said locking device includes a movable locking plunger mounted on one of said plates in laterally-spaced relationship to said pivot member and a locking member keeper disposed on the other of said plates in plunger-receiving alignment with said locking plunger when said drag portion of said drag plate is disposed in its drag-producing position.

5. A retractible drag device according to claim 4, wherein a second locking member keeper is disposed on said other plate remote from said first-mentioned locking member keeper in plunger-receiving alignment with said locking plunger when said drag portion of said drag plate is disposed in its inoperative retracted position.

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