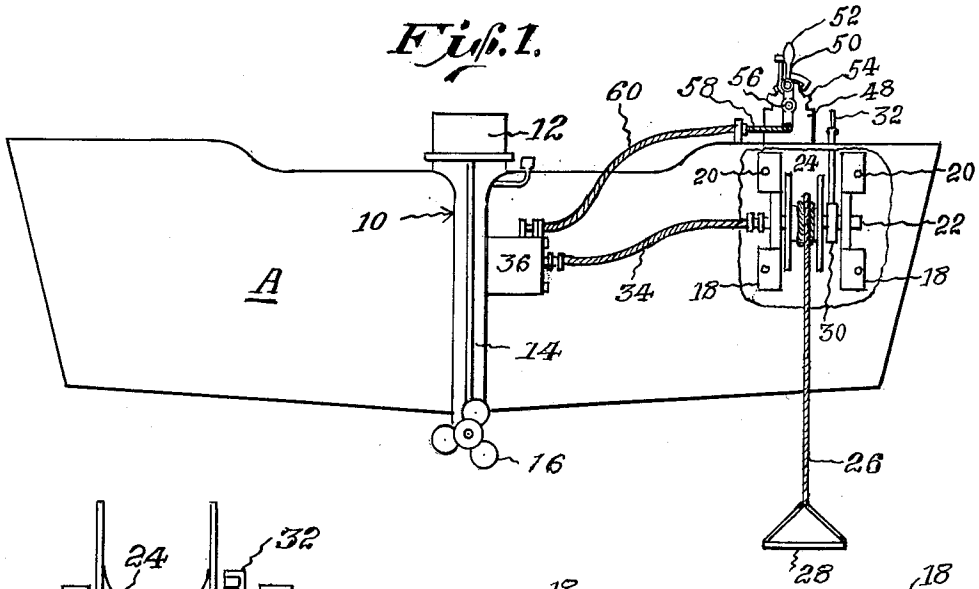
April 16, 1963 D. J. FALKNER 3,085,543

SKI ROPE RETRIEVER

Original Filed Sept. 10, 1958 2 Sheets-Sheet 1

Fig. 1.



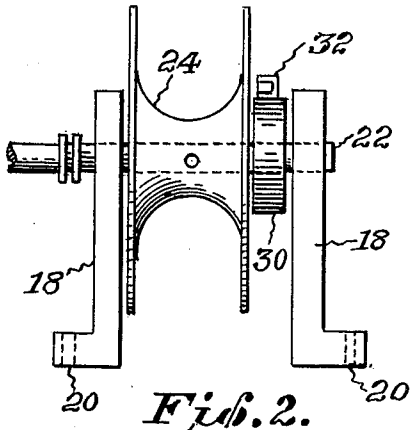


Fig. 2.

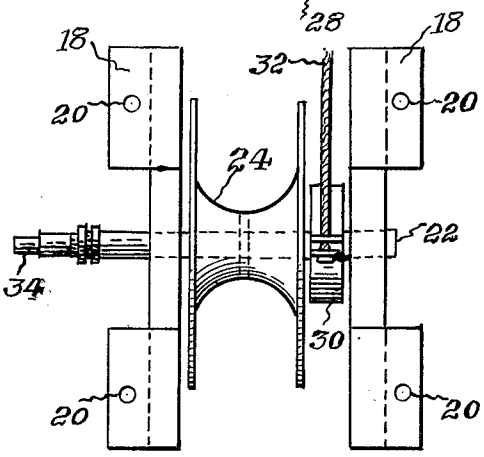


Fig. 3.

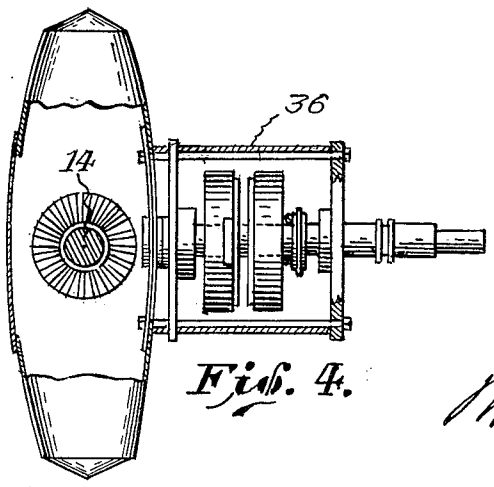


Fig. 4.

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Fig. 5.

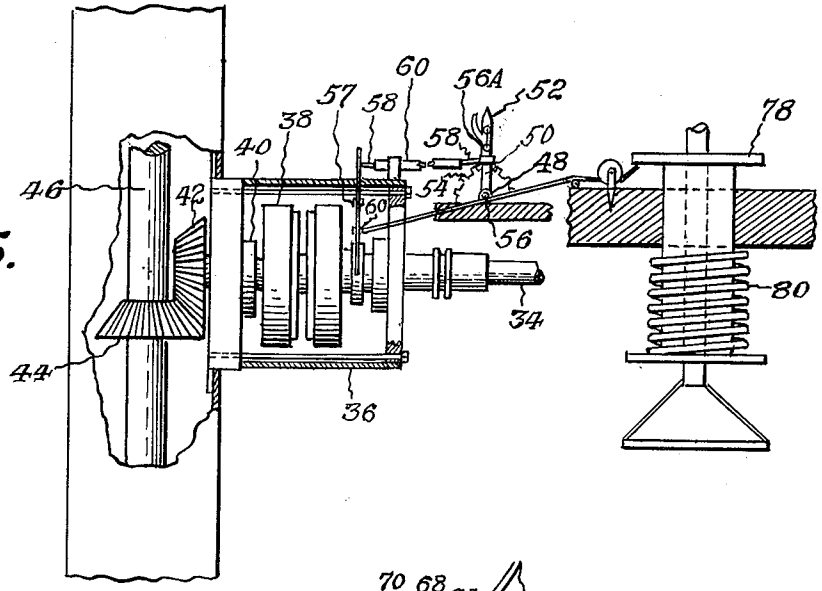


Fig. 6.

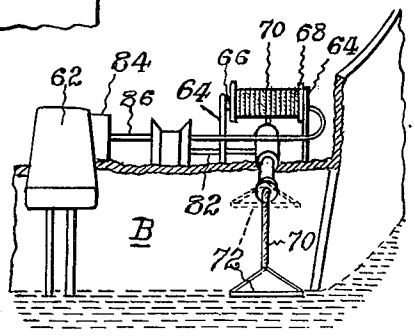
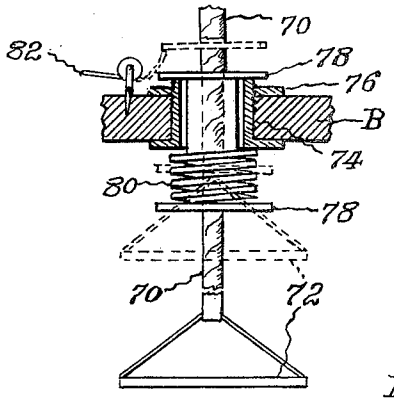


Fig. 7.



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United States Patent Office 3,085,543 Patented Apr. 16, 1963

3,085,543

SKI ROPE RETRIEVER

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Original application Sept. 10, 1958, Ser. No. 760,168, now Patent No. 3,011,469, dated Dec. 5, 1961. Divided and this application Oct. 26, 1961, Ser. No. 147,910
3 Claims. (Cl. 114—235)

This application relates to a ski rope retriever. Power boats are often used to pull water skiers at speed on the water. It often becomes necessary to quickly retrieve the ski rope and the skier as well in order to avoid a possible accident, such as when another power boat crosses or even indicates that he wishes to cross closely behind the boat pulling the skier, the operator being unaware that the first power boat has a rope attached to the end thereof either with or without a skier on the end of the rope. Other reasons may occur whereby it becomes necessary to quickly retrieve the ski rope, or the rope and skier holding the end of the rope. This application is a division of my application, Serial No. 760,168, filed September 10, 1958, now Patent No. 3,011,469, granted December 5, 1961.

An object of the invention is to provide a means for quickly retrieving from the towing craft, such as a power boat, the ski rope, or the ski rope and skier holding the paid-out end of the rope.

A further object is to provide means on the power boat driven and controlled from the engine thereof for accomplishing the foregoing object.

Yet another object is to provide a brake, operable from the towing craft, on the retrieving mechanism.

An additional object is to provide a clutch on the retrieving mechanism, operable from the towing craft, whereby to pay out to its maximum length all of the ski rope.

Other objects will appear hereinafter throughout the specification.

In the drawings:

FIGURE 1 is a rear elevation of a boat partly broken away to show some of the operating parts of the ski retrieving device;

FIGURE 2 is a top plan view of the reel and supporting means therefor;

FIGURE 3 is a front elevation of the structure of FIGURE 2;

FIGURE 4 is a top plan view, partly broken away of the motor drive means and showing in diagram a clutch;

FIGURE 5 is a top plan view of another form of the invention;

FIGURE 6 is a rear elevation of the second form of the device, the transom of the boat being partly broken away to show the position of the reel and clutch operating device; and

FIGURE 7 is an enlarged view of the clutch operating device shown in FIGURE 6.

In the drawings A indicates a transom of a boat of the type for towing skiers.

Mounted on the transom is a conventional outboard motor **10** having an engine **12**, a vertical shaft **14** and a propeller **16**.

Located on the inside or forward face of the transom are frame pieces **18** having apertures **20** by which the same may be attached to the transom by screws, bolts or other means, not shown. It will be understood, however, that the frame pieces could be supported on the rear face of the transom, but the forward position is favored as it avoids being in a position where the parts are continuously splashed by waves, either made by the boat or from other sources.

As shown in FIGURE 1, the frame pieces **18** support

a shaft **22**, upon which is keyed a reel **24**. Attached at one of its ends to the reel **24** is a ski rope **26** having a handle **28** adapted to be grasped by the skier, not shown.

The reel is provided with a brake such as the strap brake shown at **30** operated preferably by a wire rope shown at **32**. This rope may be trained over pulleys, not shown, leading to any part of the boat, or the rope may be operated by a person seated adjacent the boat transom.

The shaft **34** is a flexible drive shaft which is conventional and of which there are several types, that drives the reel shaft **22** from the outboard motor **10**. The left end of the shaft **34** as viewed in FIGURE 1 is connected to a casing **36** having a slip clutch **38** of conventional design that is coupled to a drive shaft **40** whose left end as seen in FIGURE 5 is provided with a driven gear **42** which meshes with drive gear **44** on the motor drive shaft **46**. Both gears are splined to their respective shafts.

The clutch **38** although allowing a certain amount of slippage between driven shaft **40** and flexible shaft **34**, is also provided with a manually operated means for entirely disconnecting the clutch.

As indicated diagrammatically in FIGURES 1 and 5, a support **48** may be affixed by bolts or screws to the boat transom but it may be attached to any fixed part of the boat, such as the cabin or the boat sides or to one of the boat seats. Preferably therefore the support may be attached as noted above, but under certain circumstances the support may be attached to the engine itself or immediately adjacent thereto. The support is provided with spaced teeth **54** for the engagement of a pawl **56**. The lever **50** is pivoted at **56A**.

Attached to lever **50** is a Bowden type wire **58** having a sheet or armored covering **60**, said wire **58** being attached to a lever whereby the clutch **38** may be manually engaged or disengaged by operation of the ratchet lever **50**. The lever is pivoted at **57**.

The structure shown in FIGURES 6 and 7 is slightly modified over the structure described above, although the device for automatically disconnecting the clutch when the skier's handle reaches the boat, and now to be described, may be used with the form shown in FIGURES 1 to 5 as well as to the form of FIGURES 6 and 7.

As shown in FIGURES 6 and 7 the boat transom is shown at B. Mounted on the transom is the outboard motor **62**.

Mounted on the boat seat as on the forwardly facing portion of the transom is a pair of frame pieces **64** supporting a reel shaft **66** on which is mounted a reel **68** on which may be wound a ski rope **70** having a handle **72** on its free end.

As will be seen by reference to FIGURE 7 the transom B has an opening having a collar **74**. The collar has screw threads adjacent its inner end engageable by a disk **76** having a threaded opening which screw threadedly engages the collar. Slidably mounted in the collar is a spool **78** having a greater length than collar **74**. Interposed between one end of the spool and an end of the collar is an expansible spring **80**. The effect of this spring is to always keep the spool in the full line position shown in FIGURE 7. A Bowden wire **82** connects the opposite end of the spool to the clutch **84**. When the handle **72** reaches the spool, due to winding of the reel as driven from the motor by shaft **86** through clutch **84**, the handle **72** engages the end of the spool **78**. This engagement moves the spool inwardly of the transom, or upwardly to the dotted line position as viewed in FIGURE 7 pulling the Bowden wire **82** and releasing the clutch **84**. Such action releases the clutch from the engine **62**. The position when the clutch **84** is released, of the spool **78** and its Bowden wire **82** is indicated in dotted lines in FIGURE 7.

The controls for the clutch shown in FIGURES 1 and 5 for instance and the brake shown in FIGURE 1 may be located by means of pulleys, as shown in FIGURE 1 of my patent above noted in any convenient part of the boat. It will be understood that the lever **50** will be held in unlatched position when the spool **78** is to be used as the declutching actuator. This can be accomplished (disengaging the rod **56** from the teeth **54**) either manually or otherwise.

It will be seen therefore that as soon as the handle engages the spool during the winding in of the ski rope, even with a skier holding the handle **72** while being drawn into the boat, the clutch is automatically released and the ski rope or handle is not injured, due to being drawn tightly against collar **74**.

The above description and drawings disclose several embodiments of the invention, and specific language has been employed in describing the several figures. It will, nevertheless, be understood that no limitations of the scope of the invention are thereby contemplated, and that various alterations and modifications may be made such as would occur to one skilled in the art to which the invention relates.

I claim:

1. In combination a power driven boat having an outboard motor including a vertical drive shaft, a reel having a ski rope thereon and means for mounting the same on said boat, means for driving said reel in one direction from said vertical shaft of said motor, and clutch means interposed between said reel and motor.

2. The structure of claim 1 wherein said clutch means is provided in said means for driving said reel from said motor.

3. The structure of claim 1 wherein said ski rope is provided with means for grasping by a water skier and automatic means actuated by said ski rope for operating said clutch whereby to disconnect said motor from said reel when the rope is substantially completely wound thereon.

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