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SKI ROPE REEL

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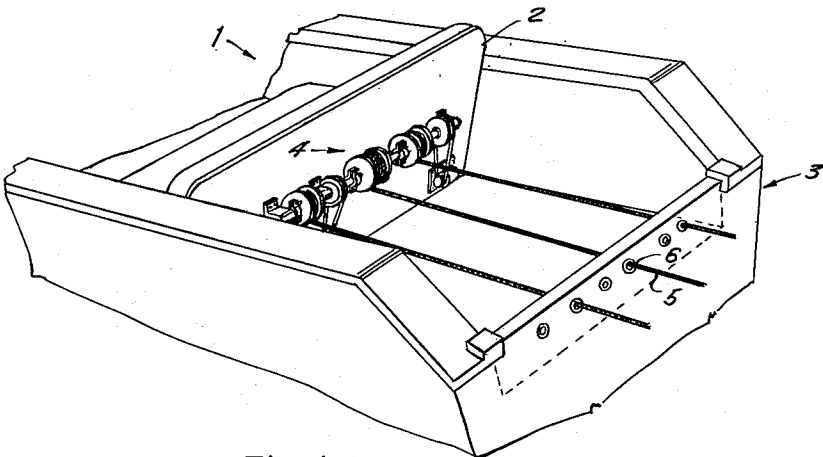


Fig. 1

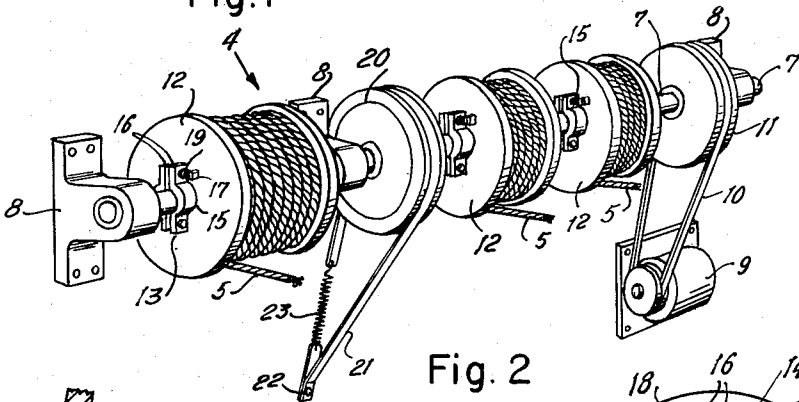


Fig. 2

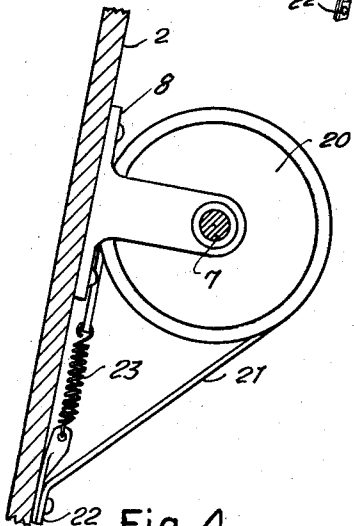


Fig. 4

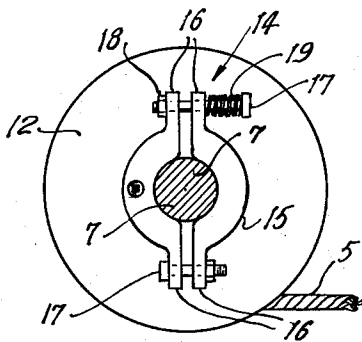


Fig. 3

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SKI ROPE REEL

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3 Claims. (Cl. 114—235)

This invention relates to a ski rope reel, and it concerns more particularly an electrically operable ski rope reel designed for one or more ropes.

In water skiing the ski ropes often become entangled with each other, particularly when two or more skiers are being towed by the same boat, or they may become entangled with the propeller of the towing boat. An object of this invention is to prevent the occurrence of slack in ski ropes.

Another object of the invention is to provide means for automatically retrieving any unused ropes which may be dropped by fallen skiers, thus preventing the danger of a rope and handle whipping into a skier or becoming entangled with used ropes.

Another object of the invention is to avoid the time which is consumed in winding and unwinding ski ropes by hand, while at the same time untangling them, for the purpose of stowing the ropes and for reuse.

The ski rope reel of the invention is adapted to rewind automatically any one of several ski ropes which may be wound thereon, or all of them together, while at the same time making each of the ropes readily available by simply pulling the handle.

Another object of the invention is to provide an automatic ski rope reel which is of simple, inexpensive construction, may be manufactured inexpensively, and is efficient in operation and durable in use.

The invention will be readily understood by referring to the following description and the accompanying drawing, in which:

FIGURE 1 is a diagrammatic perspective view of a boat having a ski rope reel embodying the invention applied thereto;

FIGURE 2 is a perspective view, on an enlarged scale, of the ski rope reel;

FIGURE 3 is a transverse sectional view showing one of the spools which comprise the ski rope reel, and showing the corresponding friction clutch whereby the spool is adapted to be rotated with the motor driven spindle on which all of the spools are journaled, independently of the other spools, to rewind the rope thereon; and

FIGURE 4 is a transverse sectional view showing the brake whereby rotation of the spindle in one direction only, to thereby unwind the ski ropes from all of the spools simultaneously, is prevented while at the same time permitting any of the ropes to be unwound, independently of the others, by pulling the handles thereof.

Referring to the drawing, the numeral 1 designates generally a boat having a back seat 2 and a rear transom 3. A ski rope reel embodying the invention, which is indicated generally by the numeral 4, is attached to the back seat 2, rearwardly thereof. A plurality of ski ropes 5, which are wound on the reel 4, extend rearwardly through openings 6 in the rear transom 3.

The ski rope reel 4 includes a spindle consisting of a rotatable shaft 7, which is normally disposed horizontally, transversely of the boat 1, in spaced apart relation to the back seat 2. The shaft 7 is journaled at its ends, and intermediate its ends, in bearings consisting of pillow blocks 8, which are attached to the back seat 2 and extend rearwardly therefrom.

An electric motor 9, which is attached to the back seat 2, rearwardly thereof, is connected by a V belt 10 to a pulley wheel 11 connected to the shaft 7, whereby the shaft 7 is adapted to be driven by the motor 9.

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A plurality of spools 12, on which the respective ski ropes 5 are wound, are journaled on the shaft 7 in spaced apart relation to each other. A plurality of stops 13 are provided for positioning the spools 12 relative to the shaft 7.

A friction clutch, which is indicated generally by the numeral 14, is attached to each of the spools 12. The friction clutches 14 each consist of a pair of semi-circular shoes 15, which embrace the shaft 7 and one of which is attached to the spool 12. The shoes 15 have mutually opposed lugs 16 on opposite sides thereof, and are clamped together by means of bolts 17, which are passed through aligned openings in the lugs 16 and have nuts 18 applied thereto. A compression spring 19, which surrounds one of the bolts 17 of each pair and is positioned between the head of the bolt 17 and the adjacent shoe 15, is adapted to bias the adjacent sides of the shoes 15 together whereby they frictionally engage the shaft 7.

A brake drum 20, which is fixed on the shaft 7 intermediate its ends, is acted on by a brake band 21. The brake band 21 partially surrounds the brake drum 20 and has one of its ends anchored to the back seat 2, as at 22. A tension spring 23, which is secured at one end to the free end of the brake band 21, is secured at its opposite end to the back seat 2 at the point of securement 22 of the fixed end of the brake band 21. The arrangement is such that the brake band 21 is operable on the brake drum 20 to secure the shaft 7 against rotation in one direction only.

In the operation of the ski rope reel above described, from one to three skiers can pull the ropes 5 from stowed positions at the rear transom 3 of the boat 1, assuming that the device has three spools 12. After about ten feet of rope has been pulled out, the driver of the boat 1 may be signaled to take up slack. The boat 1 will then taxi away until the full length of the rope is unwound, and a knot on each rope 5 will cause the ropes 5 to bear against the forward side of the transom 3. The ropes 5 will then be ready for use in water skiing, in the usual manner.

Upon dispersal of the water skiers, the driver of the boat 1 will slow down and push a button controlling the rewinding of the spools 12. All of the spools 12 will rewind simultaneously. It is possible, however, that one or two skiers will wish to continue to ski. Tension applied to the ski ropes 5 which are still in use prevents them from being reeled in, so that only the unused ropes 5 are retrieved. This arrangement is very desirable, because unused rope trailing along can be very dangerous.

The invention may be modified in various ways without departing from the spirit and scope thereof.

What is claimed is:

1. An automatic reel for use in retrieving unused ski ropes comprising a shaft having supporting means whereby the shaft is adapted to be rotatably supported in a horizontal position rearwardly of a boat, and extending transversely relative thereto, an electric motor having drive means operatively connecting it to the shaft whereby the shaft is adapted to be rotated by the motor, a plurality of spools, each adapted to have a ski rope wound thereon, journaled on the shaft and spaced longitudinally relative thereto, spring tensioned friction clutch means releasably connecting each of the spools to the shaft, independently of the others, whereby the spools are adapted to be rotated with the shaft in one direction and released therefrom in the opposite direction, and spring tensioned brake means acting on the shaft to prevent rotation of the shaft in a direction opposite the direction of rotation normally imparted thereto by the motor.

2. In combination with a motor boat providing an in-board supporting surface therefor, an automatic reel for use in retrieving unused ski ropes comprising a shaft

having supporting means whereby the shaft is adapted to be rotatably supported on the supporting surface, rearwardly of the boat and extending transversely relative thereto, an electric motor supported on the supporting surface and having drive means operatively connecting it to the shaft whereby the shaft is adapted to be rotated by the motor, a plurality of spools, each adapted to have a ski rope wound thereon, journaled on the shaft and spaced longitudinally relative thereto, spring tensioned friction clutch means releasably connecting each of the spools to the shaft, independently of the others, whereby the spools are adapted to be rotated with the shaft in a clockwise direction and released from said shaft for free rotation thereon in a counter-clockwise direction, and spring tensioned brake means acting on the shaft to prevent rotation of the shaft in a direction opposite the direction of rotation normally imparted thereto by the motor.

3. In an automatic ski rope retrieving device for boats, comprising a shaft rotatably supported in a boat and having a motor driving the same, a plurality of reels

spaced along said shaft, each adapted to have a ski rope wound thereon, means on each of said reels and embracing said shaft for frictionally connecting said reels to said shaft when the latter is rotated clockwise and releasing said reels when said shaft is rotated counterclockwise, and a braking means on said shaft to restrain its rotation in a counterclockwise direction.

References Cited in the file of this patent

UNITED STATES PATENTS

512,720	Krupicka	Jan. 16, 1894
1,357,470	Perry	Nov. 2, 1920
2,816,310	Nale	Dec. 17, 1957
2,821,726	Correll	Feb. 4, 1958
2,864,585	Gschwind	Dec. 16, 1958

FOREIGN PATENTS

11,998	Great Britain	May 27, 1909
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