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K. K. STEWART
WATER SKI TOW ROPE REEL

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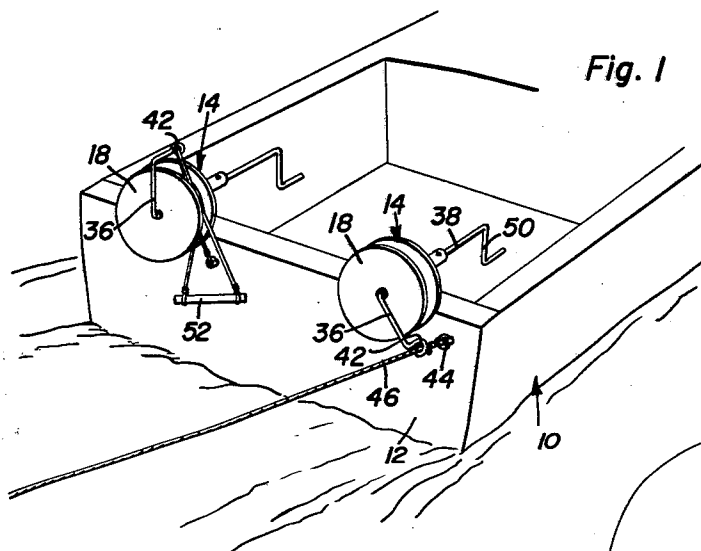


Fig. 1

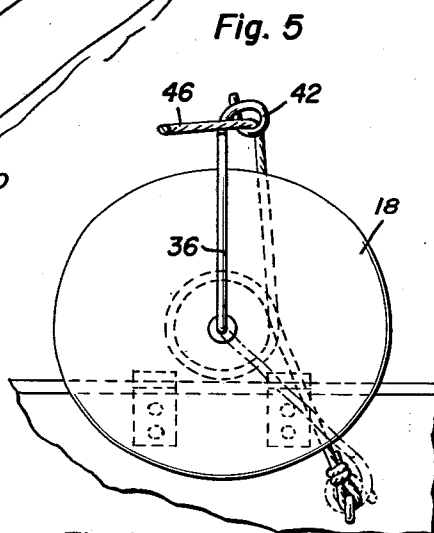


Fig. 5

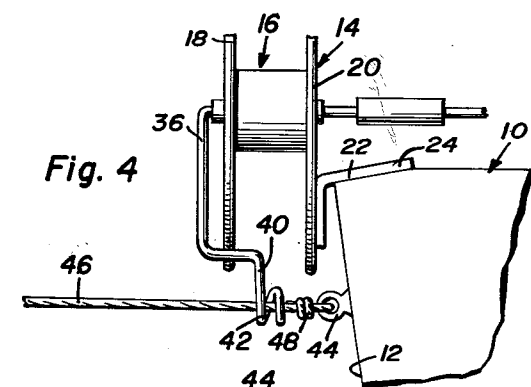


Fig. 4

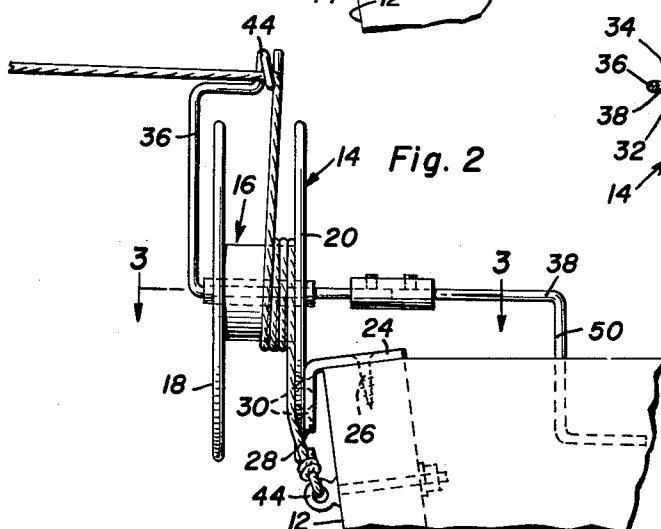
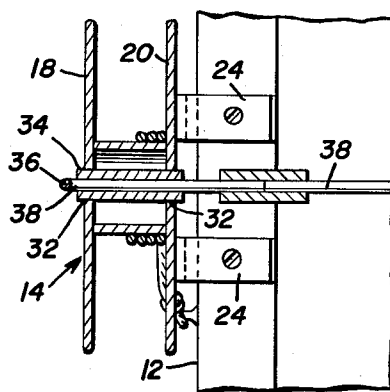


Fig. 2

Fig. 3



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WATER SKI TOW ROPE REEL

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8 Claims. (Cl. 114—235)

This invention relates to a water ski tow rope reel and more specifically to a water ski tow rope reel adapted for securement to the aft portion of a boat and which is constructed in a manner whereby a length of water ski tow rope may be wound thereabout and yet still enable the rearward pull of the water ski tow rope, when unwound from engagement with the reel, to be transferred directly to the boat in which the reel is secured without any portion of the rearward pull of the tow rope being borne by the reel itself.

While many types of reel assemblies may be utilized to wind up water ski tow ropes, the conventional types of winches and reel assemblies presently utilized on boats for the purpose of winding up water ski tow ropes must be constructed very heavily as they must necessarily also be capable of withstanding the relatively large rearward pull of a water ski tow rope when the latter is being utilized to pull one or more skiers.

Because water ski tow rope reels and winch assemblies have in the past been required to be heavily constructed, the cost of producing these winches and reels has been relatively great and accordingly the advantage of having a water ski tow rope winch or reel assembly has been realized only by those water skiers capable of buying relatively expensive accessories for the tow boat. Therefore, the average boat owner and water skier has not utilized the water ski tow rope winches and reels which have previously been commercially exploited.

It is therefore the main object of this invention to provide a water ski tow rope winch assembly or reel which may be economically produced.

A further object of this invention, in accordance with the immediately preceding object, is to provide a water ski tow rope reel which may be utilized to wind up one or more water ski tow ropes and yet which will enable the rearward pull of the tow rope associated therewith, when the tow rope is completely extended, to be transferred directly to the portion of the boat on which the reel is mounted rather than having the reel itself carry the rearward pull of the tow rope.

A final object of this invention to be specifically enumerated herein is to provide a water ski tow rope reel which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and relatively trouble-free in operation.

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 perspective view of the stern end of a boat to which a pair of the reel assemblies of the instant invention have been secured with the tow rope operatively associated with one reel being wound thereabout and the tow rope associated with the other reel being unwound therefrom so as to transfer the rearward pull of that tow rope directly to the transom of the boat;

FIGURE 2 is a fragmentary vertical sectional view taken through the transom of the boat showing the manner in which one of the reel assemblies is mounted thereon;

FIGURE 3 is an enlarged fragmentary horizontal sectional view taken substantially upon the plane indicated by section line 3—3 of FIGURE 2;

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FIGURE 4 is a side elevational view of the boat showing the manner in which the tow rope operatively associated with one reel may be completely unwound therefrom and disposed so as to transit the rearward pull on the tow rope directly to the transom of the boat; and

FIGURE 5 is a fragmentary rear elevational view of the boat showing the manner in which the reel assembly may be utilized to wind the associated tow rope thereabout.

Referring now more specifically to the drawings, the numeral 10 generally designates a conventional type of boat which is provided with a transom 12 on which a pair of the reel assemblies of the instant invention is generally designated by the reference numeral 14 are mounted.

It will be seen that each of the reel assemblies 14 comprises a drum generally referred to by the reference numeral 16 including a pair of opposite end flanges 18 and 20. The flange 20 of each reel assembly 14 is fixedly secured to the transom 12 by means of a generally L-shaped bracket 22 and it will be seen that one leg 24 of the bracket is secured to the transom 12 by means of a fastener 26 and that the other leg 28 of the bracket 22 is secured to the end flange 20 by fasteners 30. Each of the end flanges 18 and 20 is centrally apertured as at 32 and a bearing sleeve 34 is secured through the apertures 32.

A crank arm 36 is provided and has its inner end secured to the rear end of a shaft 38 rotatably and slidably supported by the bearing sleeve 34. The outer end of the crank arm 36 has a laterally directed portion 40 which is disposed in radial alignment with the approximate center of the drum 16 and has formed on its free end, guide means in the form of a coiled loop 42. An eye 44 is secured to the transom 12 and each eye 44 is disposed so that the corresponding guide means 42 may be disposed in fore and aft alignment therewith.

One end of a tow rope 46 is secured to the corresponding eye 44 as at 48 and passes through the coiled loop 42. Accordingly, the crank handle 50 secured to the end of the shaft 38 remote from the crank arm 36 may be manipulated to effect swinging movement of the guide means 42 about the drum 16 whereupon the tow rope 46 will be wound about the drum 16 as illustrated in FIGURES 2 and 5 of the drawings. However, when it is desired to unwind the rope 46 from the corresponding drum 16, a water skier may merely hold onto the handle 52 on the free end of the tow rope 46 while the boat 10 is moved forwardly. Then, as the tow rope 46 becomes taut, the corresponding guide means 42 will be disposed in fore and aft alignment with the corresponding arm 44 as viewed in FIGURE 4 and the right side of FIGURE 1.

As the shaft 38 may be shifted axially, the guide means 42 may be moved longitudinally of the corresponding drum 16 between the end flanges 18 and 20 thereof. In this manner, the corresponding tow rope 46 may be evenly wound about the drum 16.

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. In combination with a support having one end portion of an elongated flexible pull member secured thereto with the other end portion of the pull member extending in a straight line away from said support, a storage member mounted on said support alongside said straight line and about which said other end portion of said pull member may be wound, guide means mounted for swinging movement about an axis passing through said storage

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member and disposed in side-by-side relation with said straight line, said guide means slidably receiving said other end portion of said pull member and being swingable to a position substantially aligned with said straight line.

2. In combination with a support having one end portion of an elongated flexible pull member extending in a straight line away from said support, a storage member mounted on said support alongside said straight line and about which said other end portion of said pull member may be wound, guide means mounted for swinging movement about an axis passing through said storage member and disposed in side-by-side relation with said straight line, said guide means slidably receiving said other end portion of said pull member and being swingable to a position substantially aligned with said straight line, said storage member comprising a drum-like member having a pair of generally radially outwardly projecting retaining flanges spaced longitudinally thereof.

3. The combination of claim 2, wherein said guide means is swingable through a path disposed between a pair of planes in which said flanges are disposed.

4. In combination with a boat having a transom and an elongated flexible pull member having one end portion thereof secured to said transom and the other end portion thereof extending in a straight line rearwardly of said boat, a storage member mounted on said boat alongside said straight line and about which said other end portion of said pull member may be wound, guide means mounted for swinging movement about an axis passing through said storage member and disposed in side-by-side relation with said straight line, said guide means slidably receiving the other end portion of said pull member and being swingable to a position substantially aligned with said straight line.

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5. The combination of claim 1 wherein the plane through which said guide means is swingable is disposed closely adjacent the point at which said one end portion of said elongated flexible pull member is secured to said support.

6. The combination of claim 2 wherein said guide means is carried by the free end of a crank arm whose inner end is rotatably supported for rotation about an axis generally coinciding with the longitudinal axis of said drum-like member.

7. The combination of claim 2 including a shaft journaled through the center of said drum-like member, the inner end of said crank arm secured to one end of said shaft, the other end of said shaft having a crank handle secured thereto.

8. The combination of claim 2 including a shaft journaled through the center of said drum-like member, the inner end of said crank arm secured to one end of said shaft, the other end of said shaft having a crank handle secured thereto, said shaft being mounted for limited axial movement relative to said drum-like member.

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