

[54] **WATER-SKI-ROPE-RETRIEVING  
DEVICE**

[72] Inventor: **Eldon L. Colton**, 366 Brentwood Drive  
N.E., Cedar Rapids, Iowa 52402

[22] Filed: **Sept. 4, 1970**

[21] Appl. No.: **69,701**

[52] U.S. Cl. .... **242/86.5 A, 242/54 R, 242/65**

[51] Int. Cl. .... **B65h 75/40**

[58] Field of Search .... **242/86.5 A, 86.5, 54 R, 68.7,  
242/65; 114/235 WS**

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*Primary Examiner*—George F. Mautz

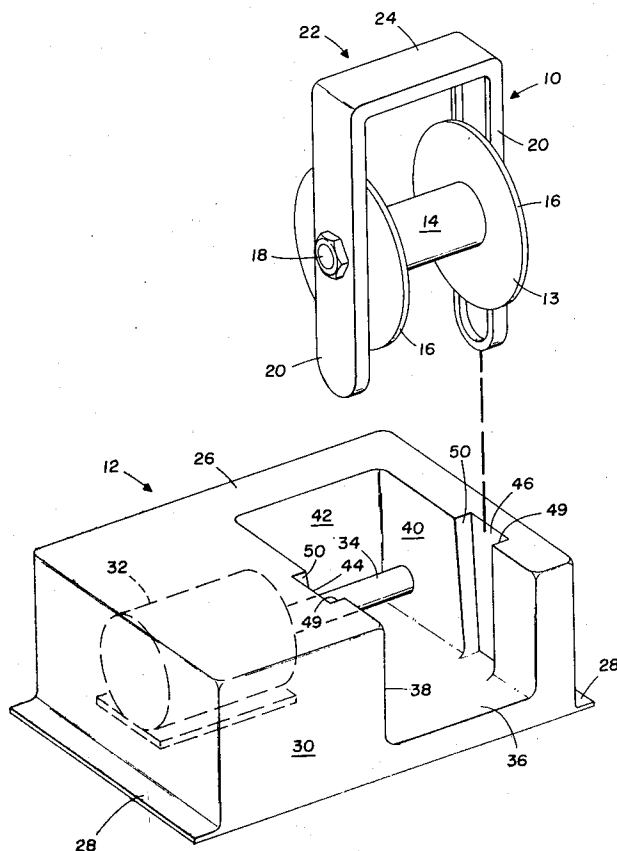
*Assistant Examiner*—Edward J. McCarthy

*Attorney*—Haven E. Simmons and James C. Nemmers

[57] **ABSTRACT**

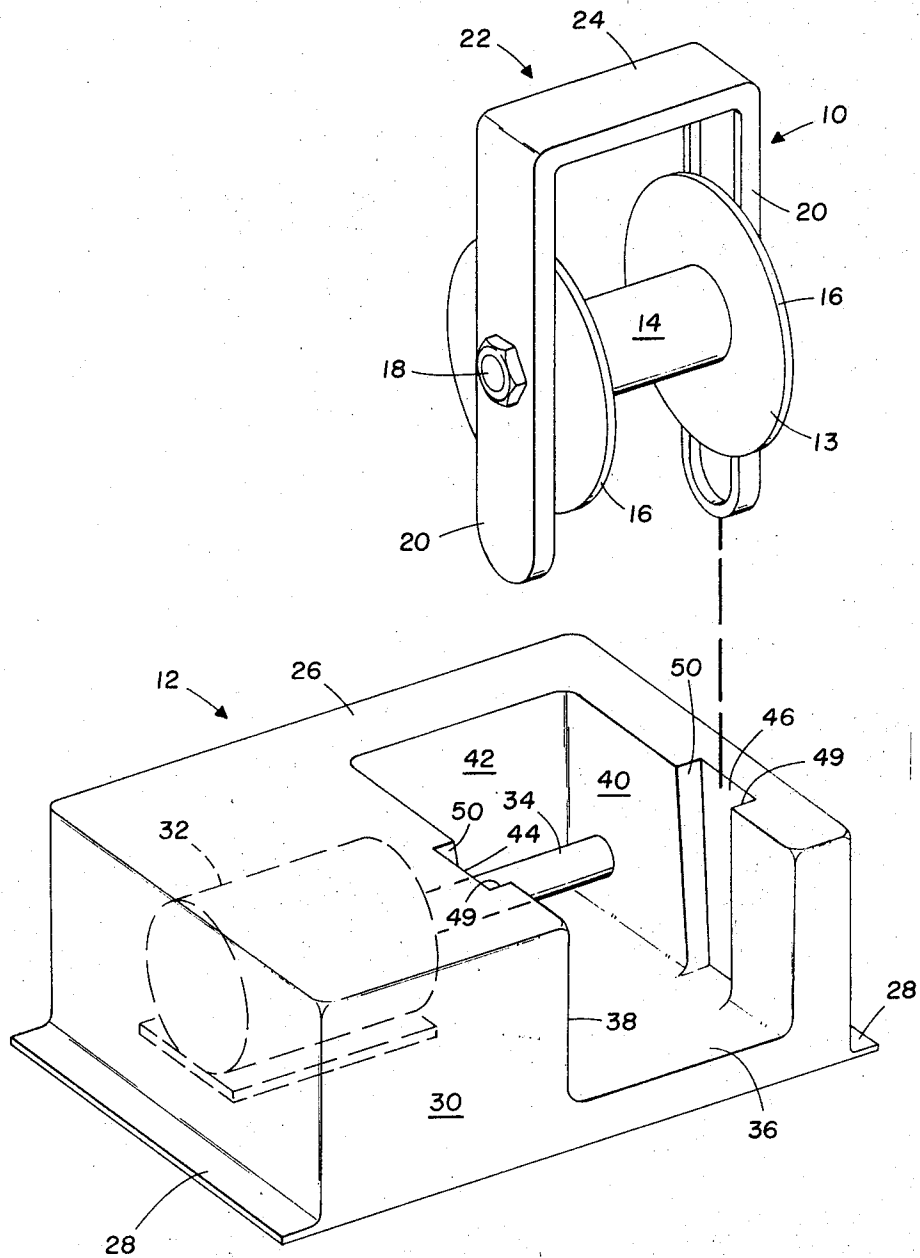
A water-ski tow-rope-retrieving device in which the tow rope is retrieved by winding it around a reel. The reel is not connected to the drive mechanism, but rather is driven by frictional engagement with a rotating shaft or drum. When the rope is to be let out, the reel is disengaged from the drum. The reel is mounted on an operating handle which is used to engage and disengage the reel from the drum and to lift the reel from the device whenever desired. Therefore, a single drive unit can be used with several reels on the same boat for retrieving several tow ropes.

**10 Claims, 1 Drawing Figure**



PATENTED FEB 22 1972

3,643,886



INVENTOR.

ELDON L. COLTON

BY

BY *James C. Nemmers*

ATTORNEY

## WATER-SKI-ROPE-RETRIEVING DEVICE

## BACKGROUND OF THE INVENTION

Water skiing is an increasingly popular sport and thus has increased the demand for equipment and accessories used in connection therewith. One of the problems associated with water skiing is the handling of the tow rope. Commonly, one or more tow ropes are attached to the transom of the boat or to a tow bar while the skier is being towed. When the rope is to be retrieved, it is manually hauled in and allowed to accumulate in the boat. This is not only time consuming but often results in tangling and knotting of the tow rope. The problem, of course, is multiplied by the fact that most boat owners own several ski ropes and often tow two or more skiers at the same time.

The prior art discloses a number of different apparatus for retrieving ski tow ropes. All of the devices in the prior art are relatively complex arrangements usually using a power unit connected to a reel through a clutch or gear arrangement in which the reel is an integral part of the unit and cannot be removed. The complexity of these devices, of course, increases their cost and results in maintenance problems, particularly since they must be designed to be workable around water. Moreover, all the prior art devices power a fixed number of reels, usually one, which are not removable. Thus, a skier must purchase a retrieving device for each tow rope which multiplies the cost depending on the number of tow ropes he wishes to handle. Thus, the greatest factor which prevents extensive use of retrieving devices by the ordinary water skier is cost. Particularly in areas where the season of water skiing is short, the cost of this accessory retrieving equipment often cannot be justified. There is to my knowledge no single retrieving device which is capable of handling any number of reels desired, which can be made and sold at a reasonable cost, and which will be substantially maintenance free. It is, therefore, an object of my invention to provide a water ski tow rope retrieving device which fulfills this need.

## SUMMARY OF THE INVENTION

My invention consists of a ski rope retrieving device that can be mounted at the rear of a boat and which includes a housing enclosing a motor driving an exposed drum or shaft. The housing contains a recess through which the driven shaft extends and into which a reel having an operating handle attached thereto can be inserted for selective engagement with the shaft. The rope is wound upon the reel which is driven by frictional engagement of the flanges of the reel with the power driven shaft. The reel is quickly and easily removed from the device once the tow rope has been completely retrieved and, therefore, the device can be used to retrieve additional tow ropes on additional reels. The retrieving device of my invention is extremely simple since the only moving parts are the motor and shaft driven by it and the reel, which is freely rotatable with respect to its operating handle.

## BRIEF DESCRIPTION OF THE DRAWING

The drawing shows an exploded perspective view of my novel device, the view showing the reel and its associated operating handle removed from the drive portion of the device.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

My novel device consists of two basic units, a ski tow rope reel and a drive unit. The reel unit, indicated generally by the reference numeral 10, is shown in the drawing removed from the drive unit which is indicated generally by the reference numeral 12. The reel unit 10 consists of a standard reel 13 having a hub 14 with a large flange 16 on each of the outer ends of the hub 14. The reel 13 is freely turnable on an axle 18 that is secured to the two legs 20 of a U-shaped operating handle 22. The crossmember 24 of operating handle 22 provides for support of the legs 20 and in addition is used to lift the reel unit 10

and also to operate the device in the manner described hereinafter.

The drive unit 12 consists of a housing 26 that is preferably molded or formed as a one-piece housing. The housing 26 has along two opposite ends thereof an outward extending ledge 28 which, if desired, can be used to affix the unit 12 in any suitable manner to the boat in connection with which the device is used. Approximately one-half of housing 26 is hollow, this being the portion shown in the drawing as the left side of the housing 26. This portion provides an enclosure 30 inside of which there is secured a motor 32. The motor 32 is of any suitable type which can be driven from the power available on a boat, such as a storage battery (not shown). The motor 32 drives a shaft 34 which is preferably made of or covered with a friction material such as rubber or the like. In the portion of housing 26 on the right side thereof (as shown in the drawing) there is formed a recess 36 which is defined by sidewalls 38 and 40 and the rear wall 42. As shown in the drawing, the shaft 34 extends across recess 36 between the sidewalls 38 and 40, shaft 34 being turnably supported in suitable bearings or bushings (not shown) in said sidewalls. If desired, motor 32 may be supported in enclosure 30 by being secured to sidewall 38.

Formed in each of the sidewalls 38 and 40 forwardly of the shaft 34 are longitudinal recesses 44 and 46, respectively. As shown in the drawing, the forwardmost edge 49 of each of the recesses 44 and 46 is substantially vertical while the rearward edge 50 slopes rearwardly. The front-to-rear width of the lowest level of each recess 44 and 46 is slightly larger than the width of the legs 20 of reel unit 10. The front-to-rear width of recesses 44 and 46 along the top, however, is greater than the width of legs 20. As shown in the drawing, the lower ends of the legs 20 of operating handle 22 are preferably rounded, and the width of the operating handle 22 between the outer surfaces of legs 20 is slightly less than the distance between the sidewalls 38 and 40 measured at the two recesses 44 and 46. Thus, when the reel unit 10 is positioned with legs 20 in recesses 44 and 46, the movement of the operating handle 22 is limited to a pivoting movement about the lower ends of legs 20. Thus, the reel 13 can be moved rearwardly by manually moving the crossmember 24 toward the rear of drive unit 12 thereby pivoting the operating handle 22 on its legs 20. The position of the shaft 34 relative to recess 44 and 46 and the diameter of the flanges 16 of reel 13 are such that when the reel unit 10 is pivoted rearwardly, the outside edges of flanges 16 will engage the shaft 34. With the motor 32 operating, the shaft 34 will thus cause the reel 13 to rotate. The reel 13 can be disengaged from the shaft 34 either by moving the crossmember 24 forwardly or by lifting the reel unit 10 out of the drive unit 12.

The operation of my novel device should be evident from the foregoing description. However, its operation will be briefly summarized. When it is desired to retrieve a ski tow rope, the tow rope is fastened in any suitable manner to the hub 14 of the reel 13. This can be done while the reel unit 10 is separated from the drive unit 12. The reel unit 10 is then inserted in the drive unit 12 by positioning the legs 20 in the recesses 44 and 46. To retrieve the rope, the crossmember 24 is moved toward the shaft 34 until the flanges 16 of reel 13 engage the shafts. If the motor 32 is running, reel 13 will be rotated and the rope will be wound on the hub 14 of reel 13. As soon as the rope has been retrieved the desired amount, the motor 32 can be turned off or the crossmember 24 can be moved away from shaft 34 to disengage the flanges 16 of reel 13 from the shaft 34. If desired, the entire reel unit 10 can be lifted out of the drive unit 12 which will, of course, disengage the reel 13 from the shaft 34.

It will be obvious that with the arrangement of my invention the same drive unit can be used to retrieve tow ropes on a number of different reels, each of which can be placed in the drive unit 12 to retrieve the rope and removed when the rope has been retrieved. The device is extremely simple and therefore can be manufactured at a relatively low cost, thereby

making it readily available to almost any person who has the problem of retrieving ski tow ropes. Since the device is so simple, it will require little or no maintenance and will operate trouble-free for a considerable period of time. The device also has other uses, and is a simple device that can be used in any application where a rope, wire, cable, etc., is to be wound on a reel. In any case, the operating handle provides a convenient carrying handle for the reel whether empty or full.

Having thus described my invention, it will be obvious to those skilled in the art that various revisions and modifications can be made in the preferred embodiment disclosed herein without departing from the spirit and scope of the invention. It is my intention, however, that all such revisions and modifications as are obvious to those skilled in the art will be included within the scope of the following claims.

I claim:

1. A device for use on a boat to retrieve ski tow ropes and the like, said device comprising a housing, a shaft rotatably supported by said housing, a power unit operatively connected to said shaft for driving said shaft, a reel unit having an operating handle and a reel rotatably supported by said handle, said reel having a hub and end flanges, and means combined with said housing for removably supporting said reel unit adjacent to said shaft and with the axis of said reel parallel to the axis of said shaft, said last mentioned means providing for movement of said reel unit toward and away from said shaft by moving said handle so that the flanges of said reel are moved into and out of engagement with said shaft.

2. The device of claim 1 in which said operating handle has substantially parallel spaced apart legs joined by a cross-member and said reel rotatably supported between said legs.

3. The device of claim 2 in which said housing has two parallel sidewalls spaced apart a distance approximately the same as the spacing of the said legs, said sidewalls defining a

large recess in said housing through which said shaft extends, and said means for removably supporting said reel unit supports said unit within said recess.

4. The device of claim 3 in which each of said sidewalls has a longitudinal recess therein for removably supporting said reel unit by receiving the legs of said operating handle, said longitudinal recess providing for positioning of said reel relative to said shaft so that the flanges of said reel are selectively engageable with said shaft.

5. The device of claim 4 in which the edge of each said longitudinal recess nearest said shaft is sloped toward said shaft so that said reel unit can be moved toward and away from said shaft thereby moving the flanges of said reel into and out of engagement with said shaft.

6. The device of claim 5 in which one of said sidewalls combined with remaining portions of said housing define an enclosure, and said power unit is contained within said enclosure, said shaft extending through said one of said sidewalls and across said large recess to the other of said sidewalls, said other sidewall providing support for said shaft.

7. The device of claim 6 in which said housing is provided with means for affixing the device to said boat.

8. The device of claim 6 in which said housing is a one piece housing.

9. The device of claim 3 in which one of said sidewalls combined with remaining portions of said housing define an enclosure, and said power unit is contained within said enclosure, said shaft extending through said one of said sidewalls and across said large recess to the other of said sidewalls, said other sidewall providing support for said shaft.

10. The device of claim 9 in which said housing is a one piece housing.

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