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TWO-IN-ONE TOW HANDLES

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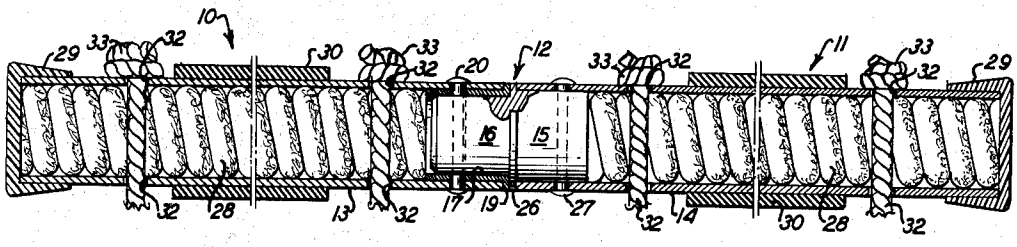
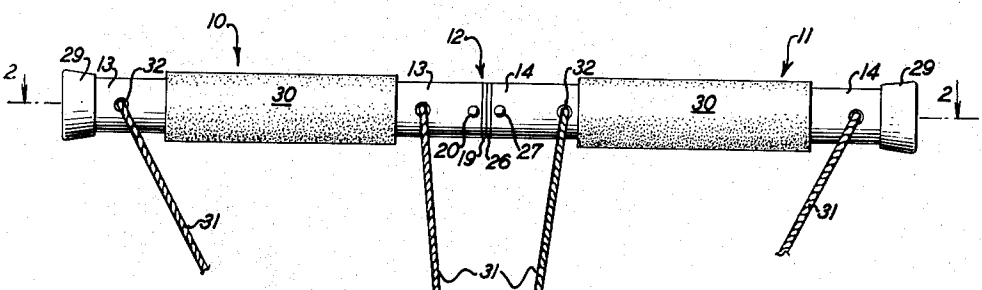


Fig. 2



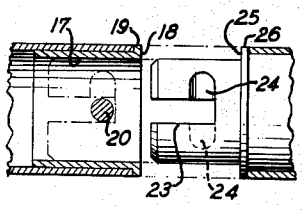


Fig. 3

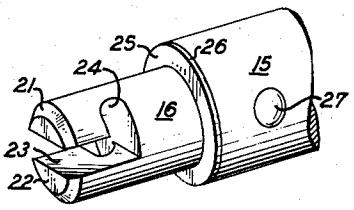


Fig. 4

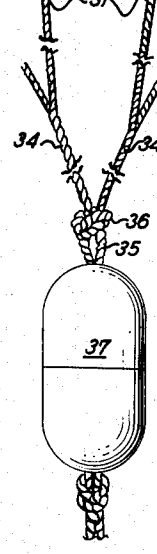


Fig. 1

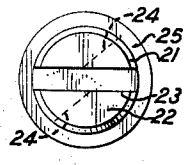


Fig. 5

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TWO-IN-ONE TOW HANDLES

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This invention relates to a towing rig for water skiing, but would be equally adaptable for use when skiing on snow.

Water skiers have become quite adept at performing various maneuvers while being towed at high speed. Some of these maneuvers result in the skier making side swings out beyond the wake caused by the towing boat, and it has even been found possible for a skier to swing out beyond the bow wave. Some skiers also find it exhilarating to execute successive swings from side to side in rapid succession in a manner resembling the type of cross-country running on snow known as slalom skiing.

In order to execute these maneuvers more expeditiously, it has been found desirable to split the conventional single bar handle into two handles, each having its own connection with the towing line. This arrangement permits the skier to execute his maneuvers more rapidly by shifting the pull of the towing line from one arm to the other.

At the same time, there are certain conditions under which it is more desirable to use the standard single elongated bar for both hands. Therefore, my invention includes an arrangement permitting the two handles to be connected together, or uncoupled, as the case may be, while the skier is in motion.

Other objects and advantages of the invention will become apparent upon reading the foregoing specification in connection with the accompanying drawing, in which:

FIG. 1 is a planned view of one form of towing rig in accordance with the present invention, with portions of the lines and bridles cut away;

FIG. 2 is a longitudinal cross-section on a slightly enlarged scale taken on the line 1—1 of FIG. 1, and with portions of the handle members cut away;

FIG. 3 is a fragmentary view, partly in cross-section, of the coupling means, on a still further enlarged scale;

FIG. 4 is a perspective view of the plug member which forms part of the coupling means, and;

FIG. 5 is an end view of the plug member.

Referring now to the invention in detail, the numerals **10** and **11** indicate a pair of handles to be gripped, one in each hand, by the skier and detachably secured together by a coupling means indicated generally by the numeral **12**. Thin-walled tubing of some lightweight metal, such as aluminum, may be used to form the handles, this tubing being cut into short sections **13** and **14** of appropriate length.

Disposed at one end of the tube **14** is a plug having a cylindrical base portion **15**, which fits snugly within the interior of the tube. The plug is also provided with a substantially solid cylindrical portion **16** of somewhat reduced diameter which projects axially outwardly from the end of the tube. One end of the tube is fitted with a cylindrical thimble **17**, the cylindrical inner surface of which forms a socket for axially sliding engagement with the projecting portion **16** of the plug. The exposed face **18** of the thimble is flat and adjacent this face there is provided an annularly extending outwardly projecting flange **19**, which, when the plug is inserted in the tube, contacts the end face of the tube and lies flush with the cylindrical surface thereof to give the device a finished appearance. The thimble may be secured in

place by means of a pin or rivet **20** which extends diametrically through appropriate openings provided in the tube and thimble.

The rivet **20** serves a double purpose in that it assists in providing a detachable connection between the two handles. In order to facilitate the insertion of the projecting portion **16** into the thimble, its forward end of the plug is provided with an annularly extending inclined bevel **21**. Extending rearwardly from the front face **22** of the plug is an axially extending diametrically positioned slot **23**, into which the pin **20** is received when the plug is inserted into the thimble as indicated by the dotted lines in FIG. 3. The inner end of the slot is provided with a pair of radially extending angularly offset notches **24**, within which the pin **20** will be received when one of the tubes **13** or **14** is slightly twisted with respect to the other tube, thus effectively locking the handles together.

At the inner end of the projecting portion **16**, an annular shoulder **25** is provided, the surface of which is flat so as to abut against the surface **18** of the thimble. The shoulder **25** is also provided with an annularly extending outwardly projecting flange **26** which abuts against the end surface of the tube **14** and whose outer cylindrical surface will lie flush with the outer surface of the tube. The plug may be retained within the tube **14** by any suitable means such as the rivet **27**, which passes through appropriate openings in the tube and plug.

Since this apparatus is primarily designed for use in water sports, it is desirable that the handles be constructed in a manner to insure sufficient buoyancy so that they will float if dropped by the user. A preferred method of accomplishing this is to substantially fill the interior of the handles with a lightweight cellular material which is unaffected by moisture. There are many such materials, but as examples, it is suggested that foamed synthetic plastics may be used such as foamed polyethylene or foamed polyurethane. Such materials could be formed in the shape of cylindrical blocks designed to fill the interior of the handle, or, as is shown in the drawing, a string of such material **28** of indeterminate length can be used by one assembling the apparatus to substantially fill the interior of the handle by coiling the material helically within the tubing.

In order to give the handles a decorative appearance and also to protect users against contact with any sharp metal edges, the outside ends of each of the tubes **13** and **14** may be covered with plastic caps **29**. In addition, in order to give the user a better grip on the handles and to relieve muscular fatigue, each of the tubes may have a portion of their exterior surface covered by a sleeve of resilient material **30**, which could be formed of a cellular plastic material.

Each handle is provided adjacent its ends with a pair of diametrically aligned openings **32** and one end of each of the bridle lines **31** may be passed through these openings and knotted as at **33**. There are two pairs of bridle lines required, and all of these lines should be of substantially equal length. The other ends of each pair of lines are joined, as by knotting or braiding, to form two rein lines **34**, which, in turn, are of substantially equal length. The rein lines, in turn, are joined at their forward ends to the tow line **35**, as by means of the knot **36**. As is conventional practice, the tow line may be provided with a float **37**.

Having described the invention in detail, it will be understood that improvements and modifications can be made which will be obvious to one skilled in the art, coming within the scope of the appended claims.

I claim:

1. In a two-piece handle means to be attached to a towing line, a pair of elongated cylindrical handle members disposed in axial alignment for detachable connection with each other, one end of said members being provided with a substantially solid plug element having a cylindrical portion of reduced diameter projecting axially outwardly of the end of the handle member, one end of the other handle member being provided with socket means to axially slidably receive said plug element in close-fitting engagement, the outer end of said plug element being circumferentially beveled to assist in said engagement, said projecting portion being provided with a diametrically disposed slot extending axially inwardly from the outer end of the plug, said socket means being provided with a diametrically positioned pin to be received within said slot, the inner end of said slot having a pair of radially extending angularly offset notches to receive said pin when the handles are relatively rotated for locking.

2. The invention as defined in claim 1, wherein said handles are fabricated of thin-walled metal tubing and said socket means comprises a thimble disposed within said other handle to receive said plug element and to reinforce the tubing.

3. The invention as defined in claim 2, wherein the handles are of identical diameter, the exposed end of the thimble is provided with a radially extending flat surface, said plug is provided with an annularly extending flat shoulder surrounding the base of the projecting portion to abut against the flat surface of the thimble, and both the thimble and plug are provided with an annularly outwardly extending flange adjacent said abutting flat surfaces, said flanges having cylindrical outer surfaces of the same diameter as the outer surfaces of the handles, said flanges being disposed to abut against the end walls of the respective metal tubes.

4. In a floating handle means for a towing rig to be used in water skiing, an elongated tubular metal handle, the interior of said tube being open to the exterior surrounding medium, means to attach a towing line to said tubular member, and a cellular material disposed within the tubular metal, said cellular material filling substantially the entire interior of the tubular member to increase buoyancy thereof, said cellular material comprising a string of foamed synthetic plastic composition, said string being generally helically and closely coiled within the handle.

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