

[54] **SIGNAL DEVICE FOR WATER SKIING**

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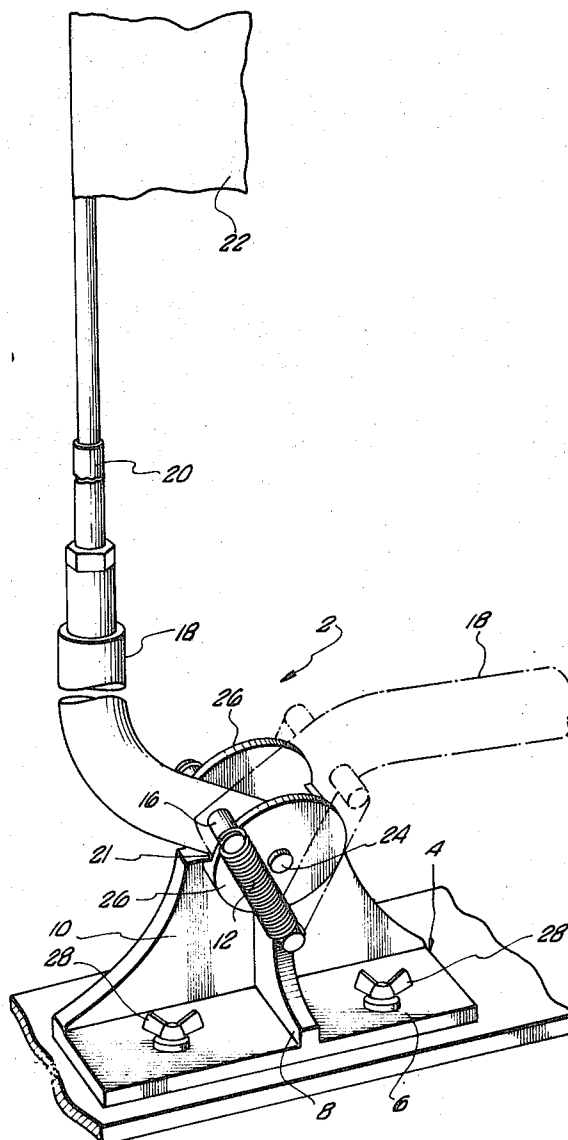
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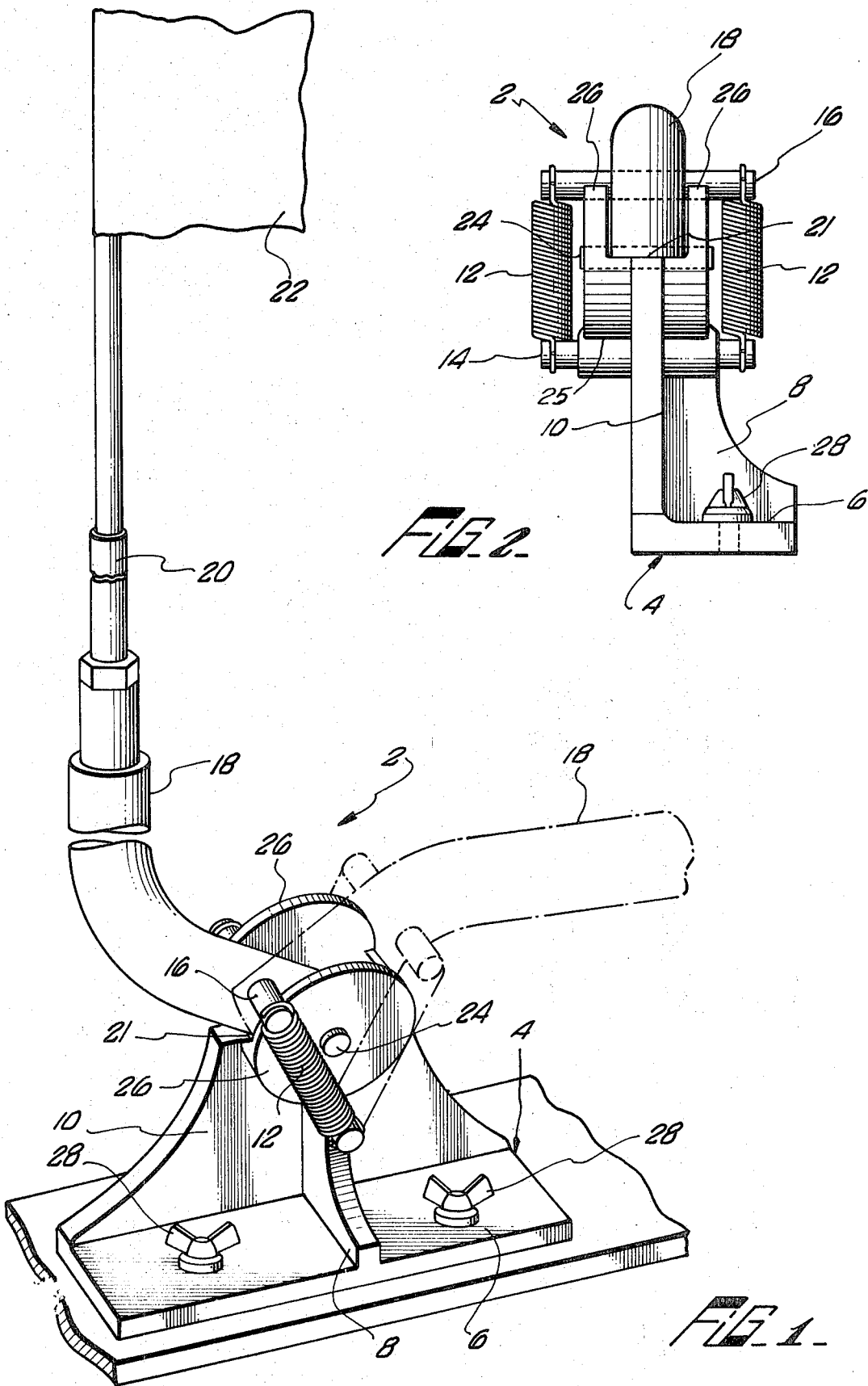
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[57] **ABSTRACT**

A pivotable flag or signal device for water skiing is provided to warn other boats when a skier is down in the water. An over centered spring mechanism securely positions the signal device in either an operative upright position or a storage horizontal position. The signal device is mounted on an extendable shaft for varying the height of the signal device and to insure a compact storage in an inoperative position.

8 Claims, 2 Drawing Figures





SIGNAL DEVICE FOR WATER SKIING

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention is directed to a signal device for use in water skiing and, more particularly, to a warning flag that can be placed in an operative position with little effort by the observer.

2. Description of the Prior Art

Recreational boating has experienced an unprecedented boom in the last decade. Accompanying this growth of recreational boating has been the sport of water skiing. This sport is conducted by towing a person wearing water skis across the surface of a body of water with a tow line affixed to the stern of a boat.

A major problem that exists in the sport of water skiing results from the heavily congested use of our waterways by numerous boats. When the skier is being towed, he is highly visible and the chance of a collision with another boat is minimal. However, when the skier is not being towed, either when he is positioning himself to start from the water or when he has accidentally fallen into the water, he presents a low profile along the water's surface that is not easily seen from a boat. This is particularly true of high-speed boats that would be found in any area where water skiing is being conducted. Thus, the sport of water skiing has had numerous tragic accidents resulting from collisions between downed skiers and boats.

The United States Coast Guard has attempted to correct this problem on the waterways that they control by issuing regulations requiring at least two people in the boat pulling the skier with one of the people being an observer. The observer is required to raise his arm or an appropriate warning device whenever the skier is down in the water. In conforming to this regulation, it becomes both burdensome and unwieldy for the observer to maintain his arm raised while frequently being required to assist the skier by, for example, recovering the tow rope.

Numerous solutions have been offered in the prior art to solve this problem. For example, the U. S. Pat. No. 3,602,188 granted on Aug. 31, 1971 provides a flag system where the flag is spring biased and connected to the tow line and is automatically raised when the tension on the tow line is released. Problems exist with this system, however, since it is necessary to drastically modify the boat to accommodate the system and the tension on the tow line does not always bear a relationship to whether the skier is downed.

Other signal devices have been utilized such as U. S. Pat. No. 3,136,289 granted on June 9, 1964.

The present invention provides a solution to warning other boats of a skier in the water in an efficient and economic manner while at the same time leaving the observer free to utilize both hands.

SUMMARY OF THE INVENTION

The present invention provides a signaling device such as a flag that can be pivotably mounted on the gunnel of a boat to warn when a skier is down in the water. This is accomplished by providing an over centered spring mechanism combined with a curved shaft base that permits the flag to be positioned securely in an operative position by simply rotating the flag from a horizontal position through the over centered spring position to an operative vertical position. Wing nuts are

provided for attaching the base of the mounting member to the gunnel of the boat to permit a ready removal of the entire unit for storage.

Finally, the shaft is extendable in a telescoping fashion to permit an adjustment of the flag to the desired height and to insure a compact storage position.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features of the present invention can be readily understood as pointed out in the description of the invention and as shown in the accompanying drawings wherein:

FIG. 1 is a perspective view of the present invention; and

FIG. 2 is a rear side view of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, the boat signaling device 2 includes a base member 4 that can be cast, for example, from aluminum or plastic. A side wall 10 extends upward from a lower flange surface 6 and is strengthened by a central rib or web member 8 which extends across the lower flange surface 6 and is connected to the side wall 10. The lower flange surface 6 preferably has a pair of bore holes on either side of the central rib 8 to accommodate fasteners such as wing nuts 28. This facilitates the connection of the base member 4 to, for example, the gunnel of a boat.

A cup-shaped member 25 having a pair of circular flanges 26 is supported by the side walls 10 and the central rib 8. Positioned within the circular flanges 26 is the staff base 18. The staff base 18 is curved to facilitate the over centered spring movement and in the disclosed embodiment in FIG. 1, is bent through an angle of approximately 45 to 50 degrees.

The staff base 18 is connected to the circular flanges 26 by a pivot shaft 24. The pivotable range of movement is determined by the stop members or abutment means 21 adjacent the forward and rearward portion of the circular flanges 26. Basically, this provides, with the thickness of the staff base 18, an operative range of movement of 90 degrees.

Lower prongs 14 can be integrally cast to the base member 4 adjacent the bottom of the circular flanges 26. Upper prongs 16 are positioned on the staff base 18. A pair of springs or biasing means 12 connects the upper and lower prongs 14 and 16 respectively on either side of the circular flanges 26 to provide a spring bias to the staff base 18. As the staff base 18 pivots about the pivot shaft 24, it will pass at roughly a 45 degree position in its 90 degree travel through the over center or maximum spring force portion of the boat signaling device 2. Thus, when the signal device 2 is in its upper operative position as disclosed in FIG. 1, or in its inoperative down position as disclosed in the trace lines of FIG. 1, the springs 12 will insure that the staff base 18 remains securely in a set position.

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Attached to the staff base 18 is an extendable shaft or rod member 20 that is capable of extending upward to any desired height. On the top of the extendable shaft 20 a signaling device 2, for example, a flag 22, is attached.

The upper portion of the staff base 18 provides a convenient hand grip for an observer to manipulate the boat signaling device 2 from an inoperative horizontal position to an operative vertical position and vice versa. The use of the wing nuts 28 permits the boat signaling device 2 to be easily removed from the gunnel of a boat.

Since various modifications can be made within the present invention by a person having artisan skill in the art, for example, by utilizing only a single spring 12, the present invention should be measured solely from the following claims.

What is claimed is:

1. A signal apparatus for use in combination with a boat to indicate the operative position of a water skier being towed by said boat comprising:

a base member for attachment to said boat including an upper member connected to said base member comprising a support means;

a pivot shaft attached to said upper member;

a staff member having a lower curved portion with a bore for mounting said curved portion on said pivot shaft and an extendable telescoping portion connected to said lower curved portion;

a signal device attached to said staff member;

abutment means laterally spaced on said upper member for supporting said staff member respectively in an operative signal position and a storage position, and

biasing means connected to said lower curved portion of said staff member and said support means for biasing said staff member with a substantially equal force on either side of an over center position

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against said abutment means whereby the operator can manually manipulate said staff member into either the operative or storage position.

2. The invention of claim 1 wherein said staff member has at least one prong positioned above said upper member for attachment to said biasing means and fastening means are provided for removably attaching said base member to said boat.

3. The invention of claim 1 wherein the biasing means includes a pair of springs connected to said upper member and staff member; a strengthening rib connects said upper member and said base member, and removable wing nuts are adaptable to fasten said base member to said boat.

4. The invention of claim 2 wherein said upper member has at least one prong for attachment to said biasing means.

5. The invention of claim 4 wherein said lower curved portion includes a lower base that is straight below said staff member prong.

6. The invention of claim 5 wherein an additional prong is positioned on the opposite side of each prong on said upper member and said staff member, said biasing means including a pair of springs respectively attached to said prongs on each side.

7. The invention of claim 5 wherein said abutment means includes four wall portions forming a cavity for receiving one end of said staff member, two of said walls being parallel and supporting said pivot shaft while the other two walls are substantially parallel to each other and traverse to said other walls to form a pair of stops thereby limiting the pivotal movement of said staff member.

8. The invention of claim 6 further including strengthening means that includes a rib member connected between said base member and upper member.

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