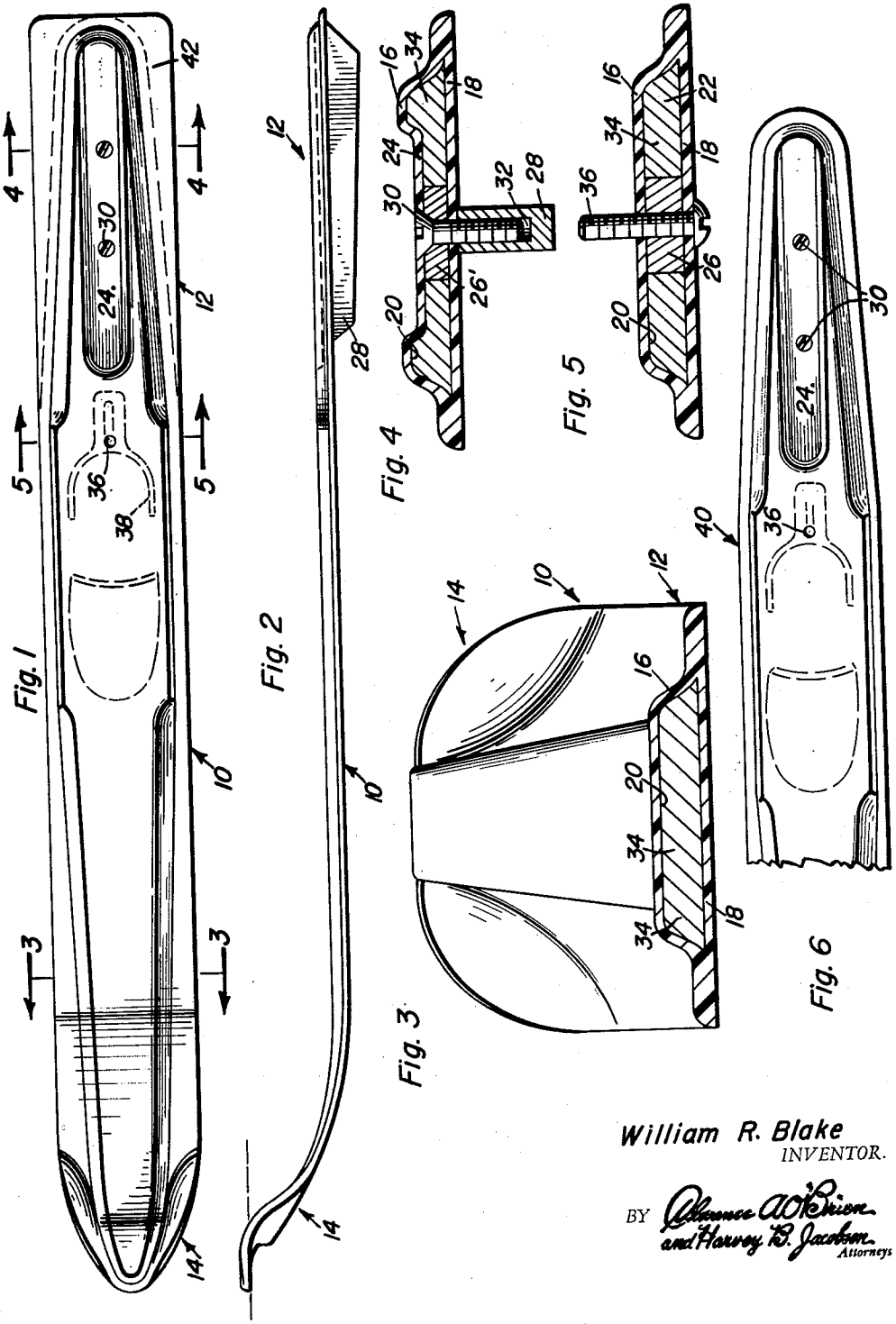
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WATER SKI

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# WATER SKI

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This invention relates to a novel and useful water ski construction, and more specifically to a water ski construction readily adapted to be constructed of molded materials and having improved construction characteristics which improve upon the durability and operation of the water ski.

There are two basic types of the more popular water skis which are each constructed differently. The conventional water ski is constructed in a manner to provide a substantially straight and panel-like body portion terminating at its forward end in an upwardly curving prow and the opposite side edges of this type of water ski are substantially straight and parallel throughout the body portion. The other main type of water ski is the slalom ski and this ski is quite similar in construction to the conventional type of ski above referred to with the exception that the rear end of the body portion of the slalom ski is tapered with the opposite longitudinal side edges of the rear portion of the body of the ski being rearwardly convergent. These convergent side edges terminate rearwardly in a rounded end portion. The tapering of the slalom ski and the provision of a rounded rear end enables the slalom ski to be maneuvered more quickly through a series of turns.

Manufacturers of water skis constructed of molded materials have found it very difficult to use one set of molds for the construction of both conventional and slalom skis. Economically, a multipurpose mold for the construction of both slalom and conventional types of skis are not feasible inasmuch as the price competition is relatively great and the use of separate molds is also not economically feasible as the demand for slalom skis is approximately one-sixth of that for conventional skis and a mold specifically designed for the construction of slalom skis would thus stand idle a major portion of the time.

Most of the water skis constructed of molded materials such as plastic and/or fiber glass must be provided with buoyancy chambers inasmuch as plastic and fiber glass used in the construction of water skis has a greater density than that of water and a skier would be confronted with the possibility of losing his ski or skis should he fall while skiing.

Water skis having buoyancy chambers and constructed of molded materials are usually formed of upper and lower panels disposed in superposed relation with the upper panel being provided with a downwardly opening and longitudinally extending recess. The marginal portions of the upper and lower panels are secured together thereby defining a water-tight buoyancy chamber extending the length of the recess formed in the upper panel of the water ski. In order to afford a maximum amount of buoyancy heretofore the marginal portions of the upper and lower panels of molded water skis having longitudinally extending sealed buoyancy chambers have been relatively narrow with the buoyancy chamber extending between these marginal portions that are secured together.

An important object of this invention is to provide the upper panel of a molded water ski with a downwardly opening recess whose rear portion is rearwardly tapered whereby the marginal portions of the water ski defined by the buoyancy chamber at the rear end of the water ski will gradually increase in width toward the rear end of the ski. By forming the marginal portions in this manner, a conventional type of water ski with substantially straight and parallel opposite side edges extending the



entire length of the water ski may readily be converted into a slalom ski by merely removing the outer portion of the opposite tapering rear marginal portions of the body of the water ski. This outer marginal portion may be removed in any convenient manner such as by stamping with a die or any convenient cutting or grinding process.

Another important object of this invention is to provide the forward end of the buoyancy chamber in a molded water ski with a greater volume than the rear portion of the buoyancy chamber whereby a water skier when wearing a ski or a pair of skis and attempting to start from deep water, will be aided by a greater buoyancy in the forward end of the ski or skis in maintaining the forward tip or prow of the ski out of the water. Although experienced skiers do not have difficulty in maintaining the forward tips of their skis above water during a deep water start, beginners are greatly assisted by water skis of this type.

Still another object of this invention is to provide the buoyancy chamber within a water ski with a substantially rigid and buoyant filler core disposed between the opposing surfaces defining the buoyancy chamber.

A further object of this invention, in accordance with the immediately preceding object, is to provide certain portions of a water ski having upper and lower panels with portions thereof being spaced apart to define a buoyancy chamber with a rigid filler and bracing member disposed in the chamber between the upper and lower surfaces thereof whereby a means may be provided for rigidly securing a heel plate and/or a keel member to the body portion of the water ski.

A final object to be specifically enumerated herein is to provide a water ski 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 an asset to beginners while learning to ski.

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 top plan view of the water ski of the instant invention;

FIGURE 2 is a side elevational view of the water ski;

FIGURE 3 is a vertical transverse sectional view on somewhat of an enlarged scale taken substantially upon a plane indicated by the section line 3—3 of FIGURE 1;

FIGURE 4 is a transverse vertical sectional view on somewhat of an enlarged scale taken substantially upon the plane indicated by the section line 4—4 of FIGURE 1;

FIGURE 5 is a transverse vertical sectional view on somewhat of an enlarged scale taken substantially upon the plane indicated by the section line 5—5 of FIGURE 1; and

FIGURE 6 is a fragmentary plan view of the conventional type of water ski shown in FIGURE 1 after the water ski has had its excess marginal portions removed from the rear end thereof in order to provide a ski suitable for slalom skiing.

Referring now more specifically to the drawings the numeral 10 generally designates the water ski of the instant invention which includes a body portion generally referred to by the reference numeral 12 and a forward upwardly curving prow portion generally referred to by the reference numeral 14.

The water ski 10 includes upper and lower panels 16 and 18 respectively disposed in superposed relation and joined or fused together at their marginal portions to form a unitary construction. The upper panel 16 is

generally inverted U-shaped in cross-section defining a downwardly opening and longitudinally extending recess 20. This recess 20 extends from the prow 14 to the rear end of the ski a spaced distance from the extreme end thereof and defines a buoyancy chamber. As the outer marginal portions of the upper and lower panels 16 and 18 are secured or fused together in fluid tight relation, the buoyancy chamber 22 is water tight.

The upper panel 16 is provided with a series of transversely extending reversing curves throughout its rear end portion defining an upwardly opening recess 24 which projects downwardly and into the buoyancy chamber 22 thereby reducing the volume of the rear end of the latter. By reducing the volume of the rear end of the buoyancy chamber 22, the forward end of the ski 10 is more buoyant and will naturally asume a forwardly and upwardly inclined position when a water skier is attempting to start from deep water. In addition to reducing the volume of the rear portion of the buoyancy chamber 22 the transversely extending reversing curves of the upper panel 16 also afford additional rigidity to the rear portion of the ski 10, which portion is required to absorb greater shock during skiing operations.

An insert or filler and bracing member 26 is disposed in the buoyancy chamber 22. The filler and bracing member 26 substantially fills the space between the confronting surfaces of the buoyancy chamber 22 and is utilized to provide a structural brace between the upper and lower panels 16 and 18. Additional filler and bracing members 26' may be utilized to assist in securing the keel 28 to the undersurface of the rear end of the ski 10 by means of fasteners 30 secured through the panels 16 and 18 and threadedly engaged in suitable threaded bores 32 formed in the keel 28.

If it is desired, a substantially rigid and buoyant filler core 34 may be disposed within the buoyancy chamber 22 in order to assure that buoyancy of the ski 10 will be maintained even in the event water should enter the buoyancy chamber 22 through the bores formed through the panels 16 and 18 for the fasteners 30 utilized to secure the keel 28 to the ski 10 and the fastener 36 secured through the panels 16 and 18 by which a heel plate 38, see FIGURE 1, may be secured to the ski 10.

With particular attention directed now to FIGURES 1 and 6 of the drawings it will be noted that the ski illustrated in FIGURE 6 of the drawing differs from the ski in FIGURE 1 of the drawings in that the outer marginal portions of the upper and lower panels 16 have been removed on the rear end of the ski 10. The area of the marginal portion of the ski 10 illustrated in FIGURE 1 which has been removed to form the ski generally designated by the reference numeral 40 in FIGURE 6 is defined by the dotted lines 42 of FIGURE 1. If the conventional type of ski illustrated in FIGURE 1 is to be modified in order to provide a slalom ski such as that illustrated at 40 in FIGURE 6, that portion of the marginal portions of the panels 16 and 18 lying outwardly of the dotted line 42 may be removed in any convenient manner such as by a cutting die or any convenient cutting or grind operation. In this manner, a single mold may



be utilized to construct both conventional and slalom skis.

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. A water ski comprising a substantially straight body portion terminating at its forward end in an upwardly curving prow and including generally parallel opposite longitudinal side edges, said body portion including upper and lower panels disposed in superposed relation and secured together along their marginal portions, at least one of said panels having a longitudinal recess formed therein and opening toward the other panel thereby defining a buoyancy chamber between the confronting surfaces of said panels, said buoyancy chamber tapering rearwardly and inwardly away from said longitudinal side edges and terminating in a rounded end portion.

2. The combination of claim 1 including a rigid insert filler and bracing member disposed in said chamber between the confronting surfaces of said panels.

3. The combination of claim 2 including a keel member, means securing said keel member to said bracing member beneath the rear end of said body portion, said securing means including fasteners secured through said panels and said filler and bracing member disposed therebetween.

4. The combination of claim 3 including an additional filler and bracing members spaced longitudinally of and extending between the confronting surfaces of said panels adapted to have a heel plate secured thereto, fastening means secured through said panels and said filler and bracing members adapted to secure a heel plate to said ski.

5. The combination of claim 1 wherein said recess is formed in said upper panel, the latter being substantially inverted U-shaped in cross section, the rear portion of said upper panel having a plurality of transversely extending reverse curves formed defining a longitudinally extending upwardly opening recess whereby the volume of the adjacent portion of said buoyancy chamber is reduced.

6. The combination of claim 1 including a substantially rigid and buoyant filler core disposed in the forward and rearward end portions of said buoyancy chamber substantially filling said chamber portions.


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