Nov. 16, 1954 W. H. LIPPINCOTT 2,694,209

WATER SKI

Filed Aug. 21, 1952

Fig. 1

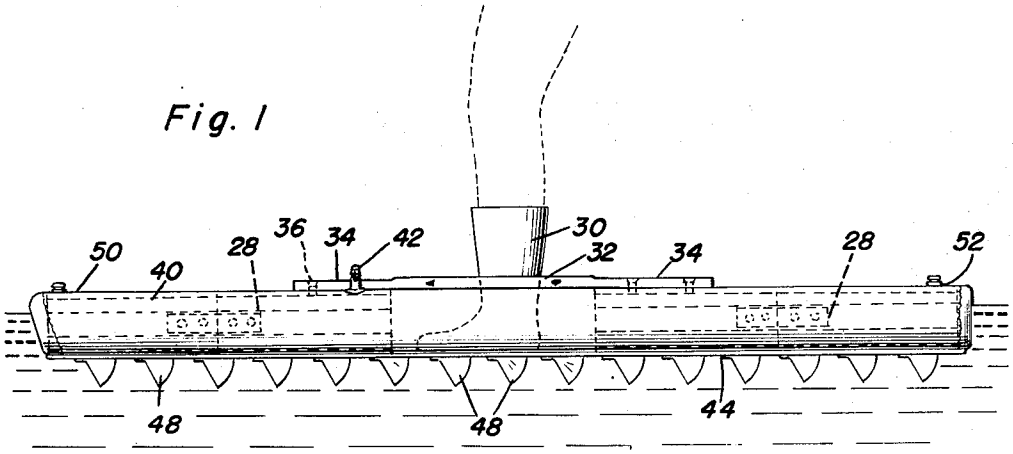


Fig. 2

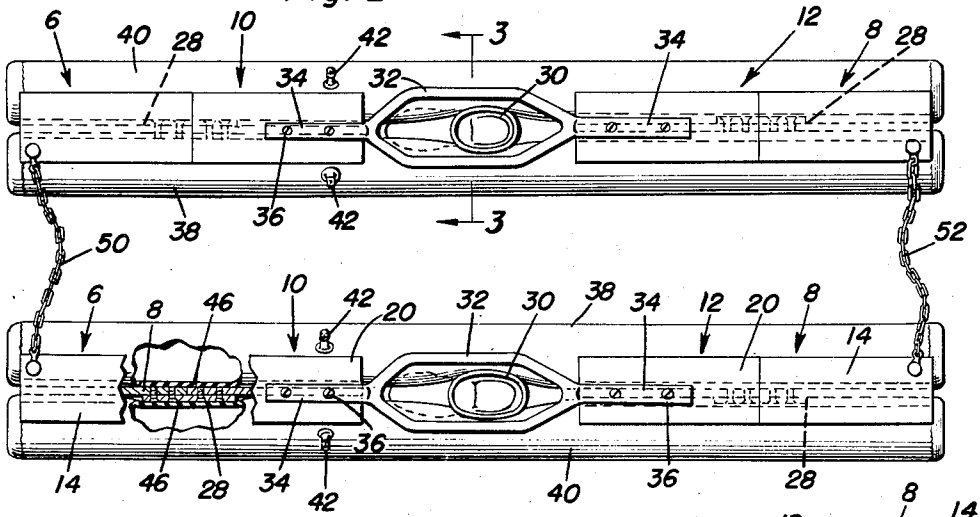


Fig. 3

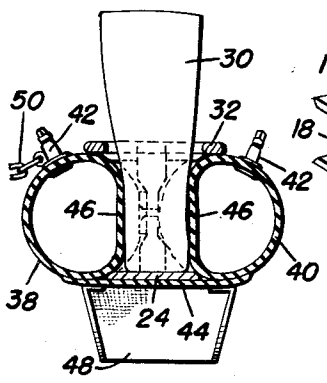


Fig. 4

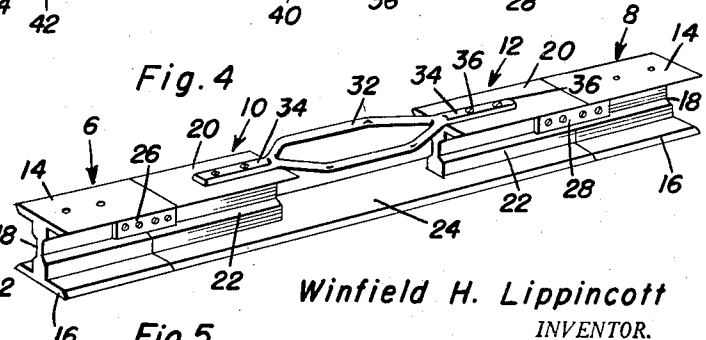
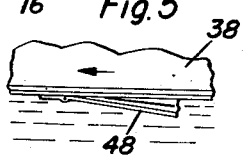


Fig. 5



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2,694,209

Patented Nov. 16, 1954

2,694,209

WATER SKI

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Application August 21, 1952, Serial No. 305,588

2 Claims. (Cl. 9—21)

The present invention relates to certain new and useful improvements in water skis which are characterized by a number of structural features and advantages which are thought to be worthy of incorporation in skis.

The skis are so constructed that they are highly adaptable for practical use in that they enable the wearer to walk on the surface of the water. They are especially, but not necessarily, useful to hunters, fishermen and boatsmen generally speaking and, in addition, may be successfully employed wholly as a novel but practical amusement device.

Another object of the invention is to provide water skis each of which comprises a structural unit which is designed to permit a pair of complemental inflatable and deflatable tubes or cells to be removably mounted thereon. The structural unit is of a sectional knockdown type and when the tubes are deflated and detached, the entire structure may be compactly arranged for ready handling, transportation and storage.

More specifically, novelty is predicated on a rigid but light weight structural unit which is made up of longitudinally aligned sections or components these having upper and lower outstanding spaced parallel flanges and the flanges defining open ended channels, said channels being adapted to receive the tubes and the tubes being lodged in the channels when inflated.

Another feature of the invention has to do with a structural unit whose median portion is provided with a flat footrest and is further provided, above said footrest with a spaced parallel yoke, the yoke and footrest providing satisfactory means to accommodate a boot. The boot, in turn, serves to accommodate the foot of the wearer.

A still further object has to do with a pair of spaced parallel inflatable and deflatable tubes or cells which are joined together at their respective bottoms by a flexibly resilient web, said web being provided on its underside with longitudinally spaced transversely disposed fin-like members and the latter being of cup form and serving as satisfactory projectible and retractable propulsion cups.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying sheet of illustrative drawings.

In the accompanying drawings:

Figure 1 is a side elevational view of a pair of water skis constructed in accordance with the principles of the present invention.

Figure 2 is a top plan view of the structure seen in Figure 1.

Figure 3 is a cross-section through one of the skis taken on the line 3—3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a perspective view of the aforementioned core or structural unit.

Figure 5 is a fragmentary elevational view showing how one of the fin-like propulsion cups folds against the web.

Attention is first invited to Figure 4 which shows the core or structural unit and, as before stated this is of knockdown sectional type and composed of rigid sections made of suitable non-corrodible light weight and non-porous material. More specifically, said unit comprises a pair of outer or endmost duplicate components or units denoted by the numerals **6** and **8** respectively and a pair of longitudinally aligned companion inner units denoted by the numerals **10** and **12**. Actually all

of the units are the same in cross-section but, conveniently, the two units **6** and **8** may be described as I-shaped in cross-section and each includes a top flange **14**, a bottom flange **16** and a connecting web portion **18**. The inner units **10** and **12** may be said to be T-shaped in cross-section and each has a top flange **20** and a web portion **22** joined to a base plate **24** whose edges function as flanges. Therefore, all of the flanges are arranged to provide longitudinally disposed open-ended channel ways. The respective sections **6** and **10** are connected together by, what may be conveniently called, a fish plate **26**. Likewise, the remaining two sections **12** and **8** are joined by a similar fish plate **28**. The inner ends of the inner sections **10** and **12** are spaced apart and that portion of the base plate therebetween provides the footrest which is flat to accommodate a boot **30** which may be removably seated on the footrest in an upright position. The boot is held in place by an embracing yoke or frame **32** which is disposed in spaced relation above the footrest and in a horizontal plane and which has shank portions **34—34** secured by fastenings **36** to the respective units. This frame bridges the space and serves to hold the boot in a successfully and accessibly useable upright position. The aforementioned coacting flanges provide open-ended longitudinal channelways on opposite sides of the over-all structural unit. Therefore, the structural unit provides an ideal core or mount for the twin-type cell. The cell takes the form of duplicate elongated inflatable and deflatable pneumatic tubes which are denoted by the numerals **38** and **40**. The tubes have suitable inflation values **42**. The bottom portions of the tubes are connected together by a flexibly resilient sheet of rubber which may be described as a connecting web **44**. With this arrangement the tubes encompass the core and are partly lodged in the channelways. That is to say, the inner walls **46—46** are forced into the channelways when the tubes are inflated in an obvious manner. The web **44** underlies the bottom portion of the structural unit and thus, the parts are properly assembled and maintained in operative relationship. The expansible and contractable fins are simple rubber aprons **48** which are cup-shaped and are vulcanized or otherwise attached to the underside of the web and depend at right angles below the web. These cups open and close in an obvious manner and they are transversely disposed and longitudinally spaced, as shown best in Figure 1. Finally, the respective keys are connected together by fore and aft chains **50** and **52** which are suitably attached to the end portions of the structural unit.

It is believed that the improved water skis herein revealed embody such structural principles that they may be said to comply with the ordinary requirements and needs of manufacturers and users.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in the shape, size and arrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

Having described the invention, what is claimed as new is:

1. A structural unit for use in a water ski comprising a plurality of sections separably joined in end-to-end axially alined relationship, said sections having upper and lower spaced flanges defining open ended channelways between themselves, there being four sections, the two inner sections being spaced apart and embodying a base plate and providing an intervening footrest, and an open frame providing a boot yoke, said frame spaced above the footrest, bridging the space between said inner sections, and being detachably joined to the latter.

2. A water ski comprising an elongated rigid knockdown structural unit embodying readily connectable and disconnectable sections, said sections each having upper and lower spaced parallel flanges, with the flanges of the respective sections aligned and defining an open-ended channel-way along each side of said unit, and inflatable and deflatable interconnected cells removably encompassing said unit, said cells being in the form of elon-

gated tubes, substantial portions of the respective tubes being seated in the respective channel-ways and lodged and maintained therein and in frictional retentive contact with the cooperating flanges when inflated, the bottom portions of the tubes being joined together by way of a flexibly resilient web underlying the bottom flanges of said unit and joining the tubes together and assisting in keeping the tubes in their respective channel-ways until deflated and intentionally displaced and also joining the tubes to each other whether inflated or deflated, and a plurality of rubber fin-like propulsion cups attached to and depending from the bottom of said web, said cups being transversely attached to the web in longitudinally spaced positions.

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