114-253. XR 3,358,304 SR

SEARCH ROOM

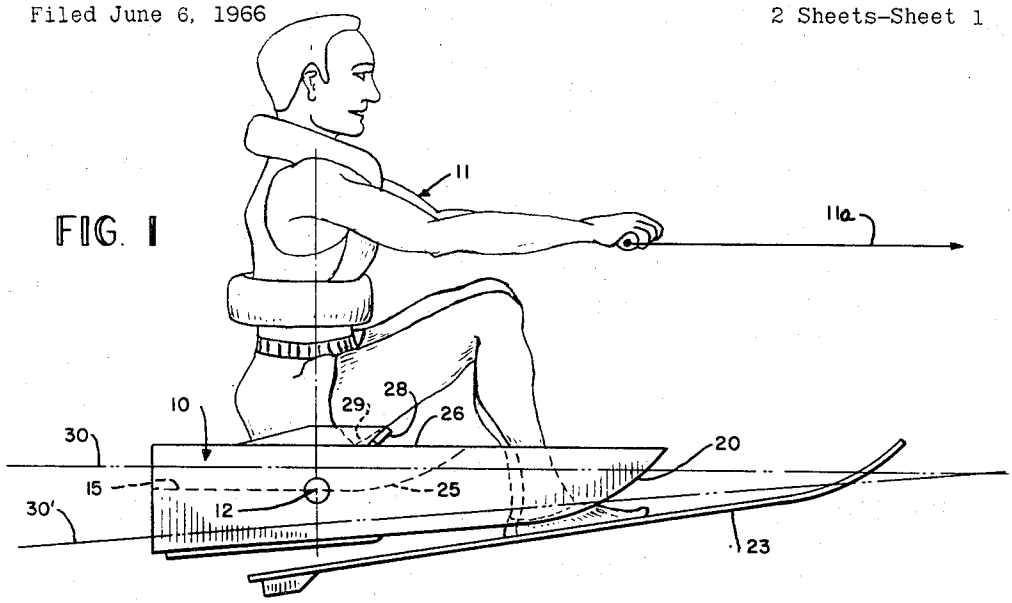
5/5/86

Dec. 19, 1967 E. N. ESMAY 3,358,304

LAUNCHING DEVICE FOR WATER SKIERS

Filed June 6, 1966 2 Sheets-Sheet 1

FIG. 1



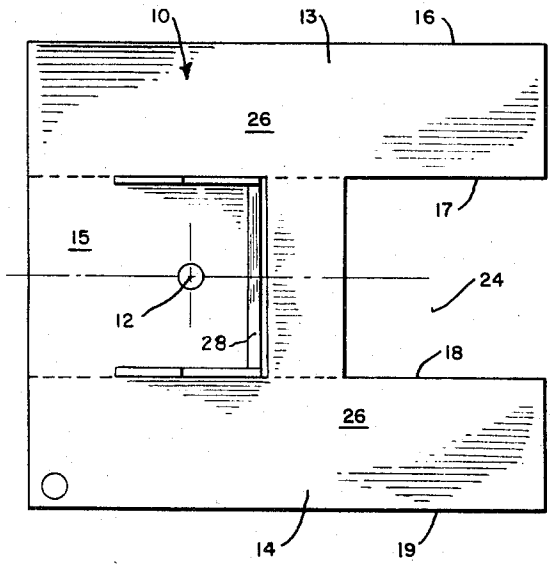


FIG. 3

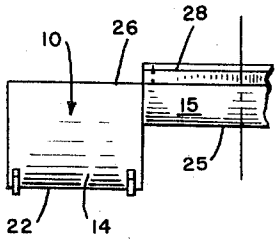


FIG. 4

EDWARD N. ESMAY
INVENTOR.

BY Arthur A. Nelson

ATTORNEY

Dec. 19, 1967 E. N. ESMAY 3,358,304

LAUNCHING DEVICE FOR WATER SKIERS

Filed June 6, 1966 2 Sheets-Sheet 2

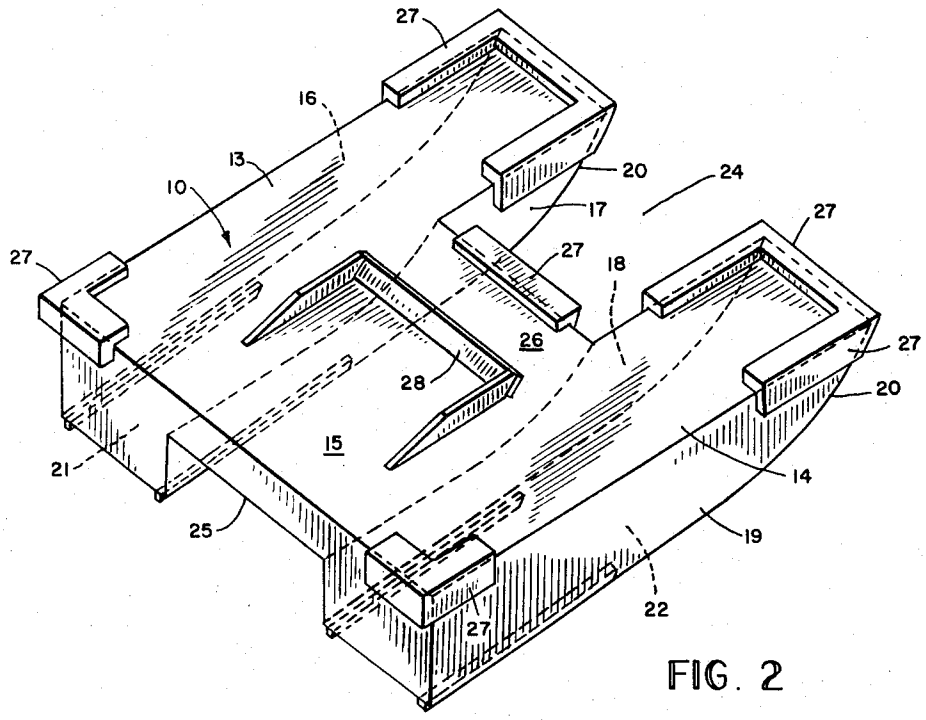


FIG. 2

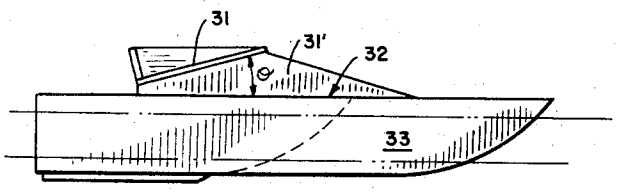


FIG. 5

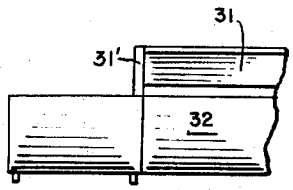


FIG. 6

EDWARD N. ESMAY
INVENTOR.

BY Arthur L. Nelson

ATTORNEY

United States Patent Office 3,358,304 Patented Dec. 19, 1967

3,358,304

LAUNCHING DEVICE FOR WATER SKIERS

Edward N. Esmay, Brighton, N.Y. (301 Fair Oaks Ave., Rochester, N.Y. 14618)

Filed June 6, 1966, Ser. No. 555,631
4 Claims. (Cl. 9—310)

ABSTRACT OF THE DISCLOSURE

A buoyant aquatic launching device on which a water skier sits during the early part of his launching maneuvers, said device comprising a pair of parallel elongated hull members which are spaced away from each other by an interpositioned fixed deck member on which the skier sits, said deck member extending over the center of flotation of said device fore and aft but terminating forwardly near said center so as to provide a frontally open space between the hull members so that the operator may hold his skis in the water and gradually shift his weight to the skis.

The present invention relates to a launching device for water skiers and more particularly it relates to a self-buoyant device on which a skier sits during the early stages of his ride but rises free of the device as the ride progresses.

Among those skilled in the art, it is well known that one of the more difficult maneuvers to master in water skiing is the take-off. In this maneuver, the transition in the position of the skier from a squatting position at near zero speed to a standing position at planing speed ordinarily requires a change of speed of about 25 m.p.h. in a relatively short time accompanied by a considerable shift of weight and muscle strain on the skier. Considerable effort and skill is required on the part of the skier to perform the launching maneuvers and although some launching devices are proposed in the prior art, none have achieved any satisfactory degree of success in all the essential requirements of such a device

In view of the above-mentioned considerations, it is an object of the present invention to provide a novel launching device for water skiers which is strong and rugged to withstand overloading and considerable rough use during routine operation of the craft, especially in windy weather.

A further object is to provide such a device which enables the skier to assume an easily held position prior to and during the launching maneuver.

It is a further object to provide such a device which does not require sudden acceleration of the towing craft and is relatively light so that the lower powered towing craft may be used, the skier furthermore not being called on for any considerable physical exertion during the launch.

A still further object is to provide such a device which facilitates skiing in comparatively cold water since the skier does not need to be submerged therein, said device being useful furthermore as a swimming or diving float and otherwise.

It is a still further object to provide such a device having a steady directional characteristic while under tow at any speed, free of fishtailing, but nevertheless being steerable under the control of the operator to a sufficient degree.

Further objects and advantages of the present invention will be apparent regarding the combination and arrangement of the parts and in the constructional details thereof, as set forth hereinafter and as shown in the accompanying drawings, wherein:

FIG. 1 is a side elevation showing one form of the

present invention in use by a water skier at a starting position;

FIG. 2 is a rear perspective view of the device shown in FIG. 1;

FIG. 3 is a plan view of the device shown in FIG. 1;

FIG. 4 is a partial front view of the device shown in FIG. 1;

FIG. 5 is a side elevation showing a modified launching device; and

FIG. 6 is a partial front view of the launching device shown in FIG. 5.

The most successful form of the present invention is shown with regard to its essential features in FIGS. 1 and 2 wherein the hull per se is designated by numeral 10. As shown in FIG. 1, the rider 11 sits more or less erectly on a substantially level hull 10 above the center of flotation 12 thereof, ready for take-off. In his hand, the skier 11 grasps the end of the tow rope 11*a* which serves as the sole towing connection from the tow boat to the hull 10 during the launching exercise.

The hull 10 per se consists of twin float chambers 13 and 14 in all forms of this invention, said chambers being spaced from each other but joined together by an interpositional deck member 15. This structure is best constructed rigid and unitary for obtaining superior strength and should include proper trussing to withstand the stresses imposed by jumping onto the craft, etc. The interior space may be filled with cellular flotation material if desired.

In the form of the invention shown in FIG. 1, the side plates 16, 17, 18 and 19 of the float chambers 13 and 14 are wedge-shaped, the blunt part being the trailing edge considering the direction of tow. Said side plates 16–19 terminate at the front in an upswept curved portion 20 which produces bottom surfaces 21 and 22 corresponding generally to the contour of the skis 23.

With particular reference to FIGS. 2 and 3, it will be seen that the float chambers 13 and 14 are separated from each other by a sufficient space 24 at the front side to allow the skier 11 to put his skis 23 in the water, the space 24 in any case being wider than either float chamber to allow plenty of room for manuevering the skis during take-off.

Of considerable advantage in reducing drag in this form of the invention, is the raised under surface 25 of the deck member 15. By such a construction, the turbulent water produced by the leading surfaces 20 of the float chambers 13 and 14 flows with minimum displacement back through the tunnel so formed and prevents in a large measure the rider from being struck by bothersome foam and spray resulting from fast starts and choppy water. Furthermore, said tunnel provides more freedom of movement of the skis for steering purposes and lowers the towing forces (by preventing accumulation of foam under surface 25).

One characteristic feature of the present launching device is the continuous flat top 26 of the hull 10 and intervening deck 15 which improves the safety of operation for beginners by eliminating all possible protrusions. For improving the safety of operation of the device, all sharp corners and edges may be covered with cushioning material 27 of suitable characteristics.

Centrally on the flat surface 26 over the approximate center of flotation is secured a rudimentary seat in any desired manner for the skier, said seat having an inclined front rail 28 which engages the buttocks 29 and serves as the sole means of connecting the tow line pull through to the launching device.

When the launching device is at rest in the water, as shown in FIG 1, the water line 30 is about parallel to the top plate 26 whereas the water line moves to a position

30' when the towing operation gets under way. Since the water line 30' is near the bottom edge of the hulls 10, the towing force on the tow rope drops to a minimum, and in fact the towing force then required is considerably less than the force required to tow the skier by himself.

It is important that the leading curved surfaces 20 be constructed as wide as the top plate 26 so that sufficient area is provided to prevent "diving" during acceleration. Skegs 31, or keels, similar to the skegs commonly used on the skis are made of any preferred material and dimension and are added to the bottom edges of the hulls 10. Said skegs may be used to control directional stability and determine the amount of effort required for turning.

A second form of the present invention is shown in FIGS. 5 and 6 wherein the front rail 28 of the seat is superseded by seat board 31 which is raised off the flat top plate 26 of the launching vehicle and is inclined thereto. The angle θ at which the seat board 31 is fixed is sufficient to prevent the rider from being unseated except when he rises on his skis for take-off. It will be observed that the side boards 31' have been extended forwardly of the seat along the float chambers 13 and 14 to provide additional exterior bracing and increase the strength of said chambers.

Another distinctive feature of the device shown in FIGS. 5 and 6 is the shape of the deck member 32, the deck member 32 being as deep as the hull 33. Although the aforementioned "tunnel" construction together with its advantages has been eliminated, the deck structure in the midsection is considerably strengthened and more planing area is added. This feature is well shown in FIG. 6 where the bottom panels are coplanar.

In using either form of the present invention, the skier may attach his skis after stepping aboard from a boat, or he can first attach his skis and then pull the launching device up to him. With his skis 23 positioned in the open space 24, the skier lines up the twin hulls 10 with the tow boat and grasps the tow line 11*a*. The pull of the tow boat on the line may be increased gradually since flotation of the launching device is not dependent on speed. Consequently this launching operation is safer than the customary way and is better adapted for training purposes but as long as the skier allows the major portion of his weight to rest on the seat, the device 10 will remain with him. Lower-powered towing boats may be used with the present device.

Although only certain forms and arrangements of apparatus have been shown and described above, changes may be made in the details of construction and combination of parts, reference being had to the claims herebelow for defining the scope of the invention.

I claim:

1. An aquatic launching device for water skiers comprising the combination of

a pair of similar hull members arranged in parallel and spaced relation to each other,

each hull member comprising a pair of substantially vertical side plates and a flat bottom plate connected along its marginal longitudinal edges to said vertical plates,

each hull further comprising means joining the upper edges of said side plates from end to end,

the forward portion of said bottom plate being continuously upcurved to meet said means along a common front edge,

a terminal rear wall in each hull member fixed to the rear ends of the side, and bottom plates and joining means,

said combination further including an interposed deck member of shorter length than said hull members which is rigidly fixed to and between said hull members at a distance rearwardly of said common front edges,

said deck member defining a supporting structure for the body of a skier over the center of flotation of said device and permitting the positioning of the ski-supported legs of the skier in an open space located between the forward portions of said hull members, and

towing means fixed to said deck member and adapted for frictionally engaging the body of the skier while grasping a tow line to thereby transmit a towing force to said launching device.

2. An aquatic launching device for water skiers as set forth in claim 1 further characterized by the bottom surface of said deck member being substantially coextensive with

said flat bottom plate on each of said hull members in the proximity of said deck member.

3. An aquatic double hull type of launching device for water skiers as set forth in claim 1 further characterized by

a bottom plate on said deck member which extends between and is fixed to the side walls of each of said hull members, said bottom plate being located parallel to said top plate of the deck member at a vertical distance therefrom which is less than the depth of side plates of the hull member whereby an open channel is provided below said deck member between said side plates.

4. An aquatic double hull type of launching device for water skiers as set forth in claim 1 further characterized by

said supporting structure including a seat which is elevated above said deck member and is rearwardly inclined relative thereto, the forward portion of said structure being close to the center of flotation of said device so as to properly distribute the weight of the rider.

References Cited

UNITED STATES PATENTS

3,046,926	7/1962	Miller	114—61
3,145,399	8/1964	Jackson	9—310
3,177,836	4/1965	Salamin	114—61

FOREIGN PATENTS

1,371,864	8/1964	France.
932,071	7/1963	Great Britain.

MILTON BUCHLER, *Primary Examiner.*

P. E. SAUBERER, *Assistant Examiner.*