May 15, 1962 A. C. ABAJIAN 3,034,157

WATER WALKING SKIS

Filed April 3, 1958 4 Sheets-Sheet 1

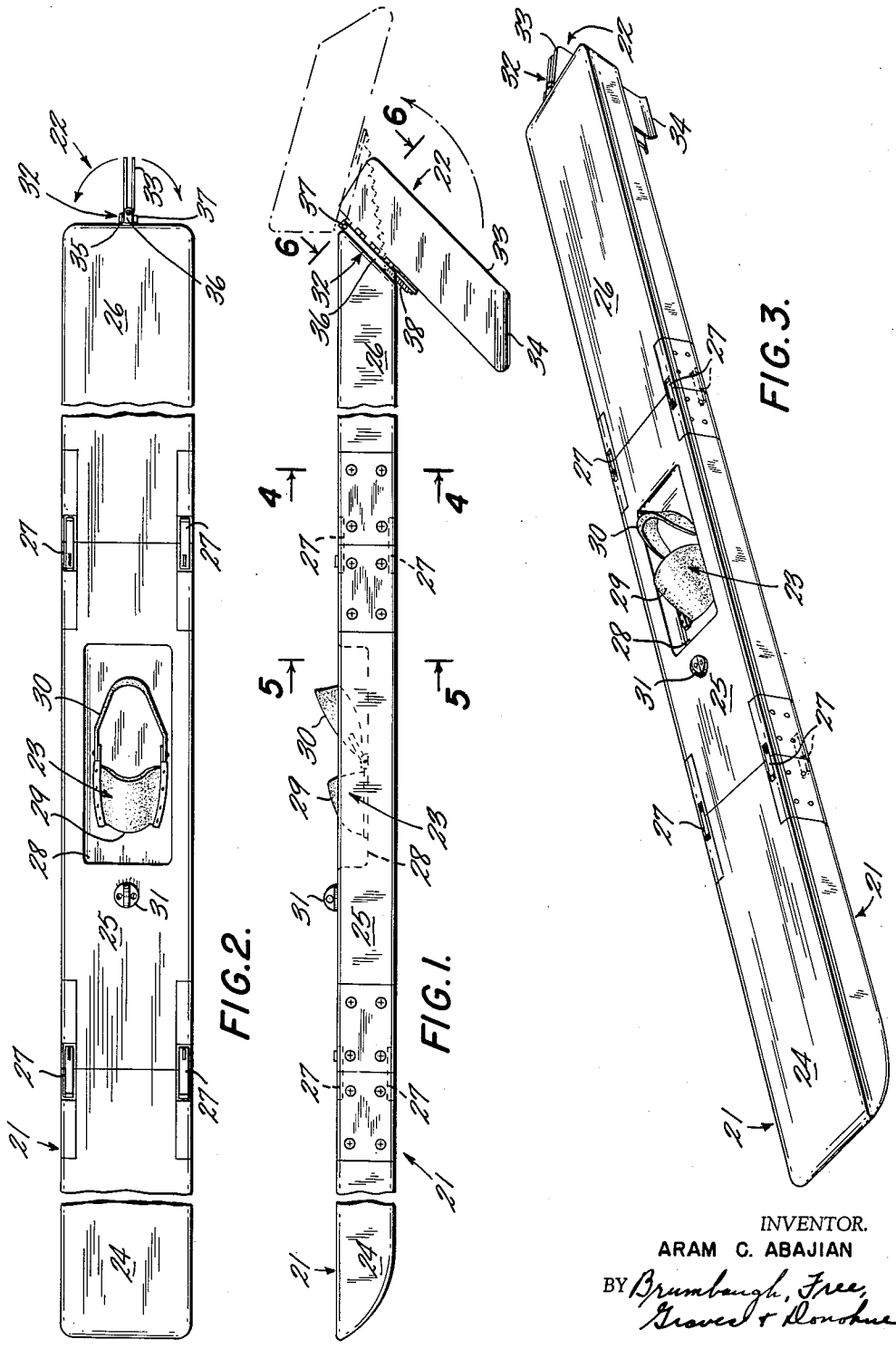


FIG. 2.

FIG. 1.

FIG. 3.

INVENTOR.
ARAM C. ABAJIAN
BY Brumbaugh, Free, Graves & Donohue
his ATTORNEYS.

May 15, 1962 A. C. ABAJIAN 3,034,157

WATER WALKING SKIS

Filed April 3, 1958 4 Sheets-Sheet 2

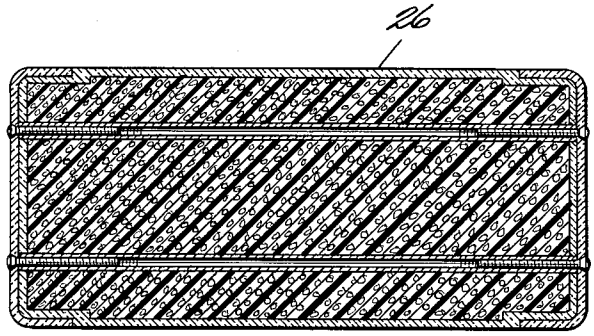


FIG. 4.

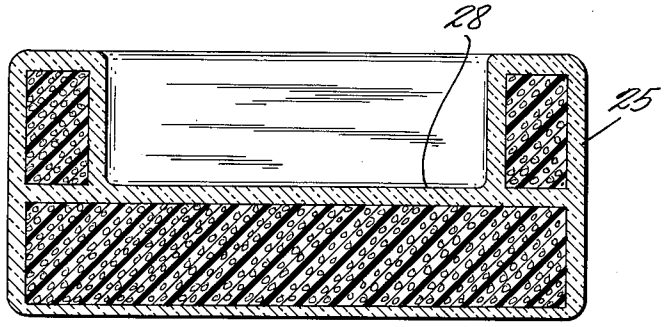


FIG. 5.

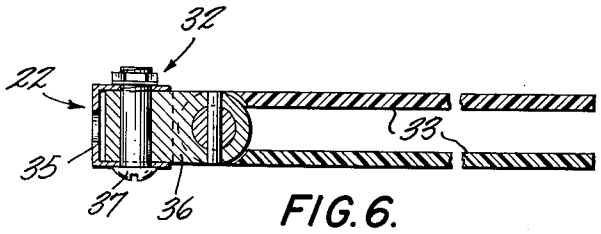


FIG. 6.

INVENTOR.
ARAM C. ABAJIAN
BY Brumbaugh, Free, Graves & Donohue
his ATTORNEYS.

May 15, 1962 A. C. ABAJIAN 3,034,157

WATER WALKING SKIS

Filed April 3, 1958 4 Sheets-Sheet 3

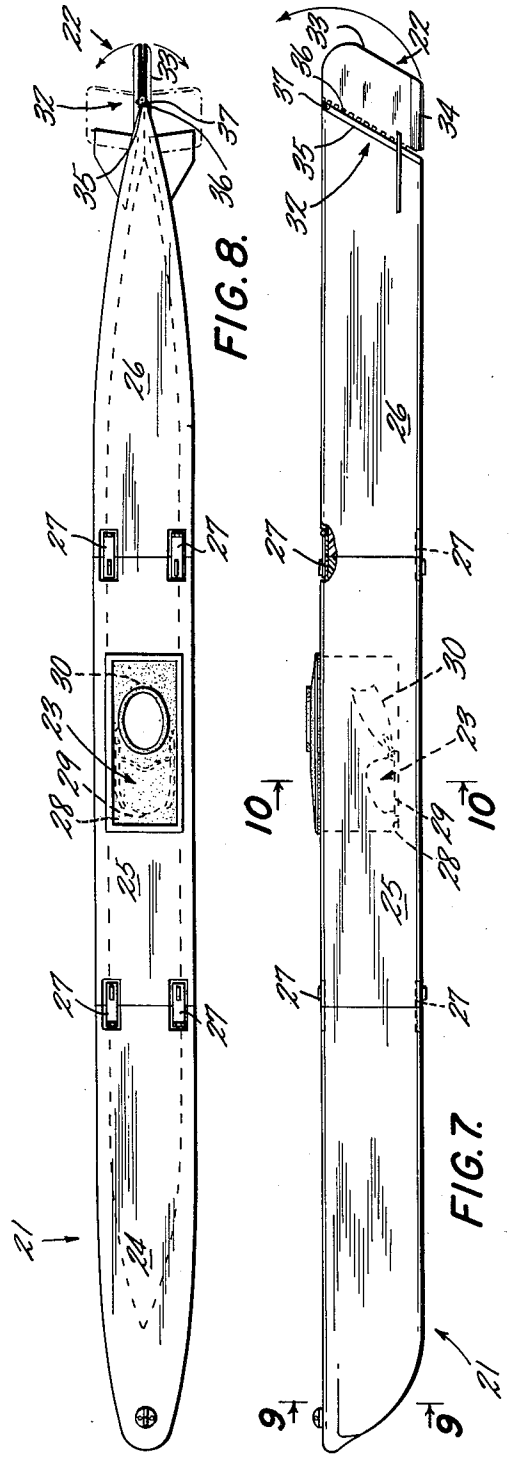


FIG. 8.

FIG. 7.

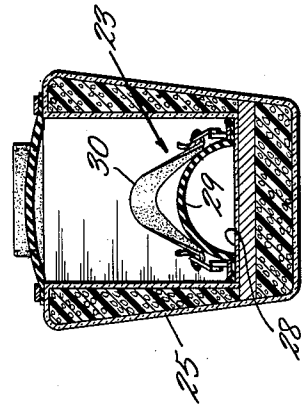


FIG. 10.

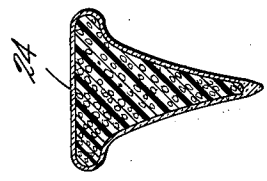


FIG. 9.

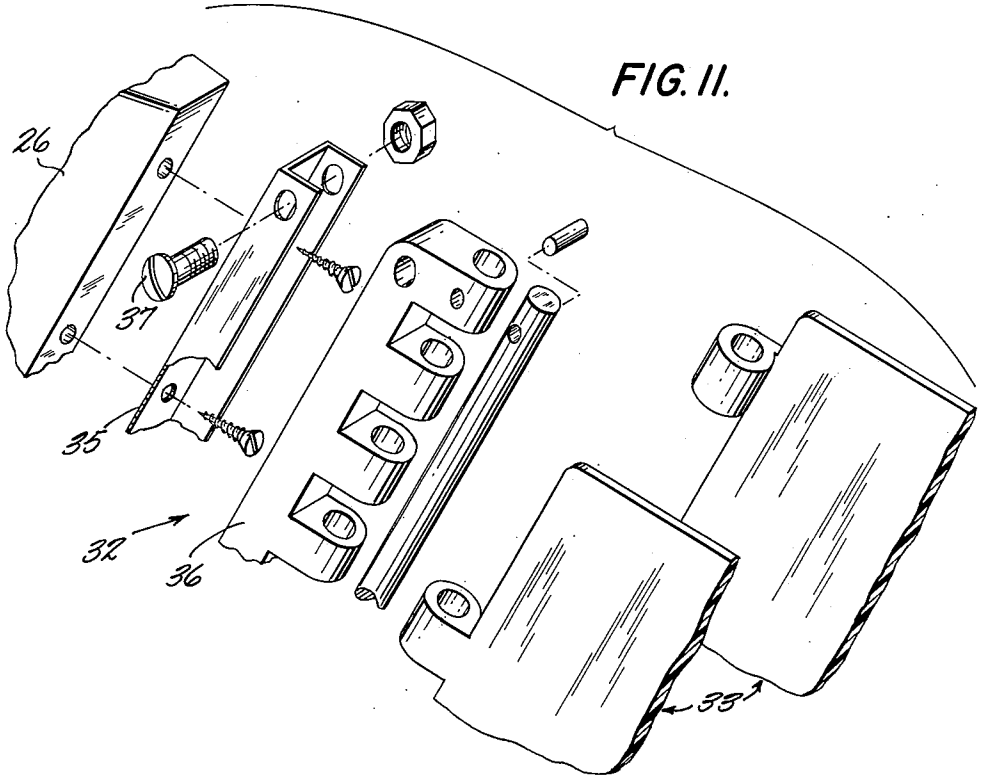
INVENTOR.
ARAM C. ABAJIAN
BY Brumbaugh, Free, Graves & Donohue
his ATTORNEYS.

May 15, 1962 A. C. ABAJIAN 3,034,157

WATER WALKING SKIS

Filed April 3, 1958 4 Sheets-Sheet 4

FIG. 11.



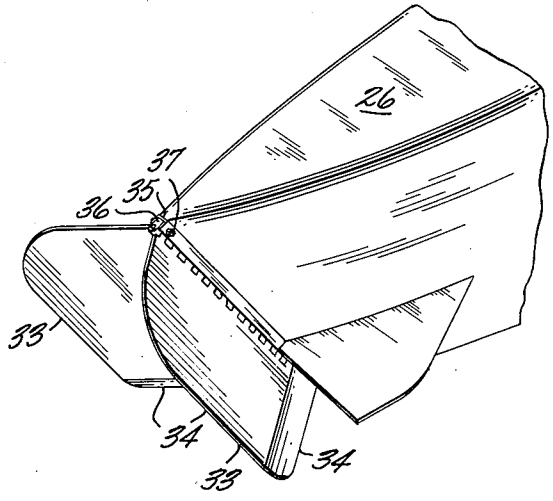


FIG. 12.

INVENTOR.
ARAM C. ABAJIAN
BY Brumbaugh, Free, Graves & Donohue
his ATTORNEYS.

United States Patent Office 3,034,157
Patented May 15, 1962

3,034,157

WATER WALKING SKIS

Aram Christian Abajian, 110 East End Ave., New York 38, N.Y.

Filed Apr. 3, 1958, Ser. No. 726,238
2 Claims. (Cl. 9—310)

The present invention relates to water walking skis, and more particularly to water skis adapted to permit a water skier to propel himself and glide along the surface of a body of water.

Water skis used in conjunction with an outside towing agency are well-known in the art, and water skiing had become a popular sport long before the conception of the present invention. Water walking, on the other hand, is practically unknown because the few rudimentary devices developed on an experimental level prior to this invention were impractical, inefficient and unsafe. It is the primary object of the present invention to provide hunters, fishermen, boatsmen, and persons interested in amusement with a practical, safe, and efficient water walking device.

More specifically, it is an object of this invention to provide pontoons having sufficient buoyancy and stability to support a water skier on the surface of a body of water without danger of capsizing.

A second object of this invention is to provide pontoons with blades pivotally connected in such a way that the thrust of a skier's leg will cause engagement of the blades and thus propel the skier forward, while during forward or on the gliding motion the blades disengage presenting only minimum resistance to the gliding motion.

A third object of this invention is to provide blades adapted to open on the downward thrust of a skier's leg, so that the blades will be open during the entire rearward thrust which follows.

A fourth and further object of this invention is to provide a means for counteracting the sinking tendency of a pontoon resulting from a skier's propelling thrust.

A fifth object of this invention is to provide water skis capable of being used for land walking, thus eliminating the necessity of entering the water before attaching the skis.

A sixth object of this invention is to provide an attachment for a skier's foot which does not interfere with water walking motion and which at the same time permits a skier to make a quick and safe escape in the event of a capsize.

A seventh object of this invention is to provide water walking skis with a sturdy, light, knockdown construction which affords convenient handling, transportation and storage.

These and further objects residing in the combination of elements and arrangement of parts are fully described and will become more apparent from the following description in conjunction with the accompanying drawings wherein two preferred embodiments are set out:

FIGURE 1 is a view in side elevation of the first preferred embodiment.

FIGURE 2 is a plan view of the first embodiment.

FIGURE 3 is a perspective view of the same embodiment.

FIGURE 4 is a view in cross section of the device shown in FIGURE 1 taken on line 4—4, looking in the direction of the arrows.

FIGURE 5 is another view in cross section of the device of FIGURE 1 taken at line 5—5, and looking in the direction of the arrows.

FIGURE 6 is a detailed plan view of the hinge and blade assembly shown in FIGURE 2 and FIGURE 8.

FIGURE 7 is a view in side elevation of a second embodiment of the invention.

FIGURE 8 is a plan view of the embodiment shown in FIGURE 7.

FIGURE 9 is a view in cross section of the device of FIGURE 7 taken at line 9—9 and looking in the direction of the arrows.

FIGURE 10 is a view in cross section of the device of FIGURE 7 taken at line 10—10 and looking in the direction of the arrows.

FIGURE 11 is an exploded view of the hinge and blade assembly shown in FIGURE 2 and FIGURE 8.

FIGURE 12 is a perspective view of the hinge and blade assembly shown in FIGURE 7.

Since the arrangement of both preferred embodiments is essentially the same, identical numerals have been used to identify similar portions of each embodiment.

Attention is directed to FIGURES 1–6 and 11 which show the detailed construction of the first embodiment of the invention. The water walking ski consists of a pontoon 21, a hinge and blade assembly 22 attached to the rear end of the pontoon 21, and a footholder 23 located in the mid-portion of the pontoon 21.

The pontoon 21 is flat and has a broad shallow construction which affords maximum stability and lessens the danger of capsizing. There are three water-tight sections, including a front section 24, a middle section 25 and a rear section 26. These three sections are detachably joined end to end by plates and suitable fasteners 27. Each section is made from Styrofoam and has a molded fiberglass covering (FIGURES 4 and 5), affording light sturdy construction. The detachable arrangement of the sections affords convenience for transportation and storage.

The footholder 23, located in a well 28 in the middle portion of the pontoon 21 slightly below water level, contributes to the stability of the ski and consists of a toe cup 29 and pivotally appended harness 30 permitting the substantial freedom of foot movement necessary to propelling activity. At the same time, the particular arrangement affords the means for quick escape in case of emergency.

A clip 31, fixed to the pontoon 21 in front of the footholder 23, can be used as a sail attachment when a skier wishes to sail rather than to walk along the surface of the water.

The blade assembly 22, consisting of a pair of blades 33 and a hinge assembly 32, is attached to the rear end of the pontoon, facing downward at an angle of approximately 45° to the longitudinal axis of the pontoon 21. The blades 33, pivotally fastened to the hinge assembly 32, extend below the pontoon 21 and flare outwardly at their lower edges 34. The hinge assembly 32 consists of a hinge plate 35 rigidly mounted on the rear end of the pontoon 21, a hinge body 36 pivotally fastened to the hinge plate 35 at its upper end by a single bolt 37, and a spring 38 uniting the lower portion of hinge body 36 with the hinge plate 35.

With the apparatus described above and by employing suitable leg motion, a water skier can propel himself along the water's surface. Forward motion is induced by a thrust of the leg downward and to the rear. The downward thrust causes the blades 33 to open while the rearward thrust propels the skier forward. On the downward thrust the ski sinks a few inches causing water to flow against the flared lower edges 34 of the blades 33, thus initiating the opening action of the blades 33. Further opening action on the downward thrust results from the angle of the blade assembly 22. Water acts against the inner surfaces of the blades 33 in partially open position causing them to open all the way. In open position the blades 33 resist any further sinking tendency and per-

mit the skier to propel himself during the entire rearward thrust of his leg. As the thrust motion ends, water flows against the outer surfaces of the blades **33** causing them to swing into closed position which offers relatively little resistance to the forward or gliding motion of the ski. To continue the forward motion, the skier next thrusts his other leg downward and to the rear. The second ski operates in exactly the same fashion as the first, and by alternately repeating the leg motion a skier can propel himself and glide along the surface of the water indefinitely.

It is often desirable and more convenient to attach the water walking skis before entering the water, but, as indicated above, the blades **33** extend below the skis and interfere with land walking. Relatively large blades must be used because of the tendency of the ski to slide to the rear and when shallow skis, such as described in the first embodiment, are employed, the blades must necessarily extend below the ski. As part of the present invention, the water walking ski is designed for land walking. The hinge body **36** is pivotally fastened at its upper end to the hinge plate **35**. During land walking the blade mechanism **22** swings to the rear and out of the way as indicated by the dotted lines in FIGURE 1. In the water, however, the blade mechanism **22** is pulled into its normal operating position by the spring **38**.

Attention is next directed to FIGURES 7–10 and 12 which reveal the construction of a second embodiment. Since the arrangement of the second embodiment is essentially the same as that of the first, and since the parts have been correspondingly numbered, a detailed discussion of overall construction is unnecessary.

In the second embodiment the pontoon **21** is narrow and deep and has a streamlined shape designed for maximum gliding efficiency. The footholder **23**, located in a well **28**, receives the skier's foot substantially below water level, thus affording stability to the ski.

The depth of the pontoon **21** eliminates any need for a pivotally connected hinge and blade assembly adapted to permit land walking, because the blades **33** do not extend below the pontoon. However, if maximum propelling action is desired, longer blades must be used and a pivotally attached hinge and blade assembly may be employed.

It will be understood that the above-described embodiments of the invention are only illustrative and that modifications will occur to those skilled in the art. Therefore, the invention is not to be limited to the specific apparatus disclosed herein but is to be defined by the appended claims.

I claim:

1. A water walking ski, comprising a broad shallow pontoon formed with a well in the middle portion and transversely divided into a plurality of detachably joined water-tight sections, a toe cup and pivotally appended harness mounted in the well, a hinge plate rigidly mounted on the rear end of the pontoon and forming an angle less than 90° with respect to the longitudinal axis of the pontoon, a hinge body pivotally fastened by its upper end to the upper portion of the hinge plate, a spring uniting the lower portions of the hinge body and hinge plate, and blades pivotally fastened to the hinge body and formed with portions lying at an angle to the plane of the blades and extending below the pontoon.

2. A water walking ski, comprising a pontoon, a means carried by the pontoon adapted to receive a skier's foot, a hinge plate rigidly mounted on the rear end of the pontoon and forming an angle less than 90° with respect to the longitudinal axis of the pontoon, a hinge body pivotally fastened by its upper end to the upper portion of the hinge plate, a spring uniting the lower portions of the hinge body and hinge plate, and blades pivotally fastened to the hinge body and formed with portions lying at an angle to the plane of the blades and extending below the pontoon.

References Cited in the file of this patent

UNITED STATES PATENTS

986,979	Hellman	Mar. 14, 1911
1,475,031	Sheldon	Nov. 20, 1923
1,719,059	Krupka et al.	July 2, 1929
1,853,159	Welsh	Apr. 12, 1932
1,983,609	Hudson	Dec. 11, 1934
2,694,209	Lippincott	Nov. 16, 1954

FOREIGN PATENTS

338,500	Italy	Mar. 31, 1936
578,474	France	July 3, 1924
584,076	France	Jan. 29, 1925