United States Patent [19]

Lavallee

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[54] **SWIMMING ACCESSORY**

[76] Inventor: **Viateur Lavallee,** 5305 Forget St. Louis de, Terrebonne, Quebec, Canada

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[52] **U.S. Cl.** **9/303**

[51] **Int. Cl.** **A63b 31/06**

[58] **Field of Search** 9/301, 303, 304

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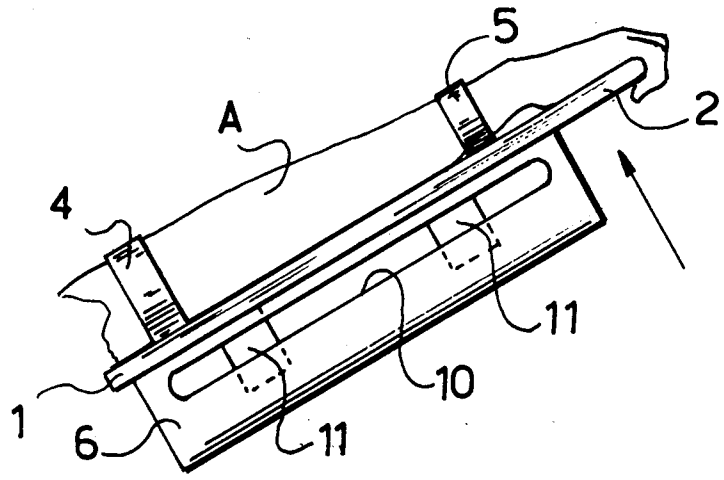
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Primary Examiner—Duane A. Reger
Assistant Examiner—Gregory W. O'Connor

[57] **ABSTRACT**

A swimming accessory adapted to be secured to one's limb, such as an arm, and including a pair of fins which are apertured to allow the water to pass therethrough during the negative or back stroke and which are of buoyant construction to supplement the buoyancy of the user thereof. A swimming limb accessory including an elongated board, bands secured to the board to attach the same to a limb, leg or arm, a pair of fins each having an aperture therethrough and integrally constructed and hinged to the board to cause the apertures to close during the positive stroke and to cause the same to open during the back stroke to then reduce the negative water action thereon, and spring blades arranged to resiliently restrain the pivoting of the fins away from the board.

4 Claims, 8 Drawing Figures



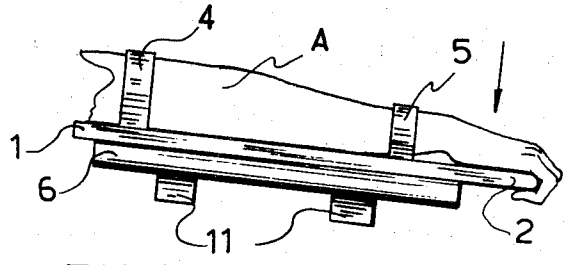


FIG.1

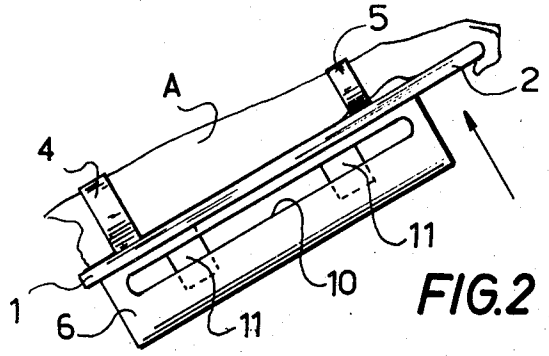


FIG.2

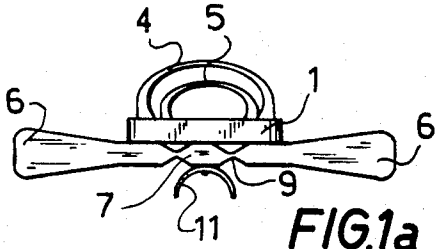


FIG.1a

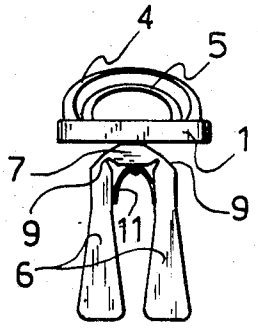


FIG.2a

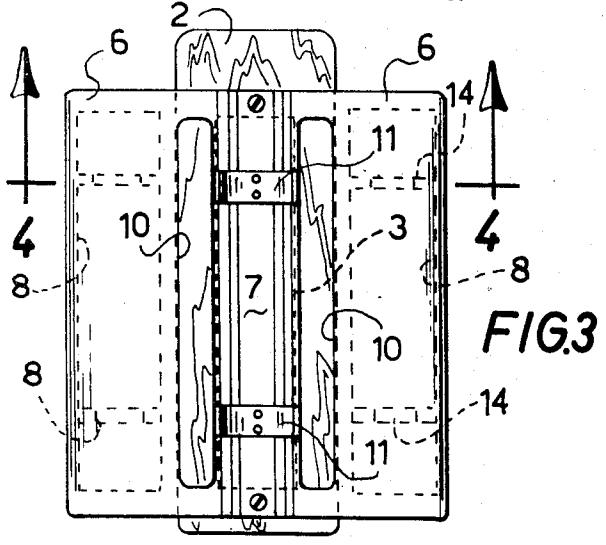


FIG.3

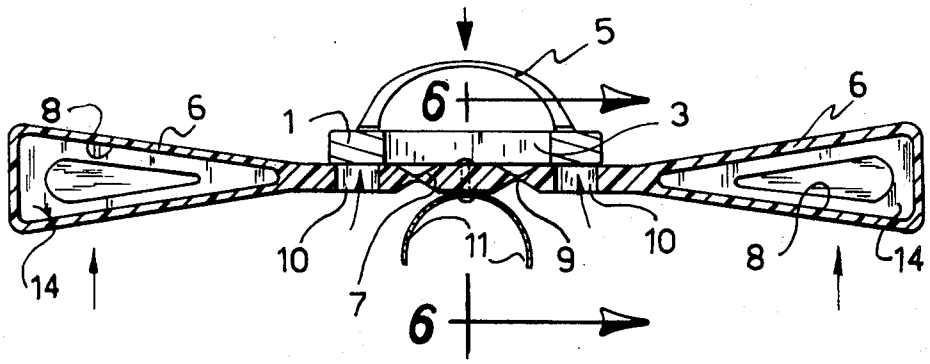


FIG.4

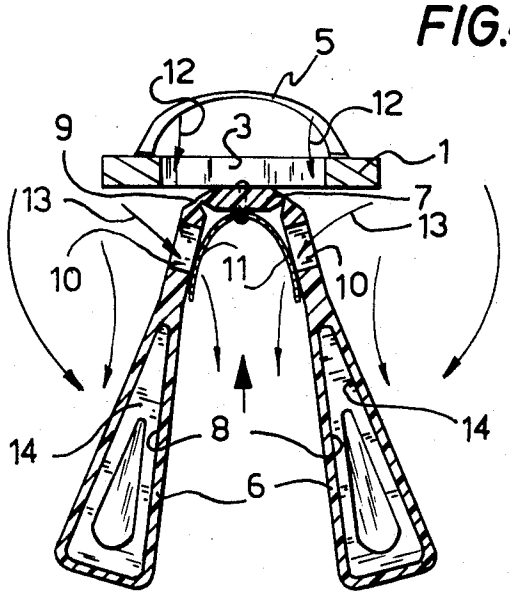


FIG.5

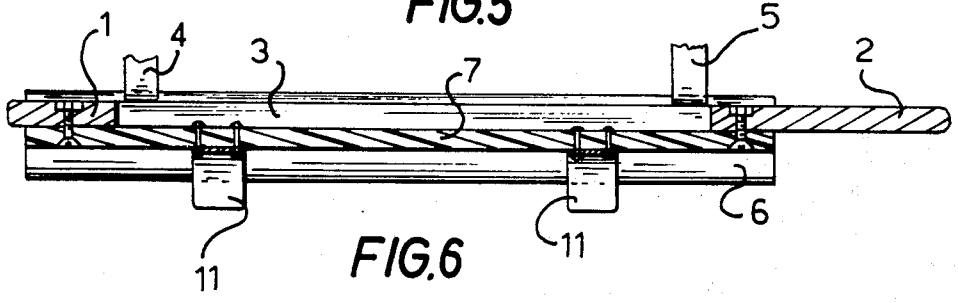


FIG.6

SWIMMING ACCESSORY

This invention relates to a swimming accessory, more particularly of the type including fins and adapted to be secured to a limb, such as the arm, to boost the swimming efficiency thereof.

Swimming accessories of the above type have been proposed so far including a pair of fins arranged to extend longitudinally along the opposite sides of one's arm.

The heretofore proposed swimming accessories of the above type have been found lacking efficiency and also failing to supplement the buoyancy of the users. This lack of efficiency results from the fact that the water during the back stroke must flow around the fins and therefore produces a negative effect.

It is a general object of the invention to provide a swimming limb accessory of the above type which is relatively more efficient and which supplement the buoyancy of the user.

It is a more specific object of the invention to provide a swimming limb accessory which includes fins arranged along the laterally opposite sides thereof and constructed to reduce the negative effect heretofore produced by the back stroke and hence provide an increased swimming efficiency.

It is a further object of the invention to provide a swimming link accessory which may be conveniently secured to one's limb and which includes fins provided with apertures arranged to be closed during the positive stroke to allow the water to flow therethrough.

It is another object of the invention to provide a swimming link accessory which includes fins of simple, integral, and buoyant construction arranged to supplement the buoyancy of the user thereof.

The invention will now be described in detail with reference to a preferred embodiment thereof which is illustrated, by way of example only, in the accompanying drawings, wherein:

FIG. **1** is a side view of a swimming accessory according to the invention during the effective or positive stroke thereof.

FIG. **1***a* is an end view of the swimming accessory in the position of FIG. **1**.

FIG. **2** is a side view of the same swimming accessory as in FIG. **1** but during the back or negative stroke thereof.

FIG. **2***a* is an end view of the same swimming accessory this time in the position of FIG. **2**.

FIG. **3** is a bottom view of the swimming accessory as seen from underneath in FIG. **1**.

FIG. **4** is a cross-sectional view as seen along line **4—4** in FIG. **3**.

FIG. **5** is a cross-sectional view as in FIG. **4** but with the fins pivoted away from the arm as shown in FIGS. **2** and **2***a*.

FIG. **6** is a longitudinal cross section of the swimming accessory as seen along line **6—6** in FIG. **4**.

The illustrated swimming limb accessory includes an elongated board **1** arranged to extend substantially coextensive with one user's arm A such as to have a free end **2** resting into the corresponding hand of the user. The board **1** is provided with an elongated opening **3** therethrough to allow water to pass through the board **1** and thereby minimize the negative or braking action of the latter during the back stroke. A pair of bands **4** and **5** are secured onto the upper side of the board **1**

and extend transversely of the latter. Each band **4** and **5** forms a closed loop and the loop **4** is larger than the loop **5** to insert the forearm therein while the loop **5** receives the wrist.

A pair of swimming fins **6** are secured against the other side of the board **1** by means of an intermediate strip **7** which extends lengthwise of the latter. The fins **6** extend lengthwise along the opposite lateral edges of the intermediate strip **7** and are integrally formed therewith of a plastics or rubber material. Each fin **6** is hollow forming an internal chamber **8** which provides buoyancy to the swimming accessory to supplement the buoyancy of the user thereof. The fins **6** are hinged to the intermediate strip **7** by linear portions of reduced thickness or fold lines **9**.

Each fin **6** also includes an elongated aperture **10** extending lengthwise thereof and arranged to be closed by the board **1**, as shown in FIGS. **3** and **4**, when the fins **6** operatively abut against that board.

A pair of U-shape spring blades **11** are secured against the outwardly facing side of the intermediate strip **7** and extend transversely thereof with the free ends of the spring blades projecting away from the board **1** and forming resilient stops restraining the displacement of the fins **6** away from the abutment with the board.

The swimming accessory according to the invention is used by inserting one arm A through the loop **4** and thereafter through the loop **5** and gripping the free end portion **2** of the board **1** with the corresponding hand, as shown in FIGS. **1** and **2**.

The effective or positive stroke is produced by downward pivoting of the arm A, as shown by the arrow in FIG. **1**. This causes the water to pivot and to abut the fins **6** against lateral edge portions of the board **1** in which case, the apertures **10** are closed by these portions and the full combined width of the two fins is effectively used.

During the back or negative stroke which is produced by the upward pivoting of the arm A, the water pushes the fins away from the board about their hinge. Both the opening **3** and the apertures **10** are then allowed to let water to pass through the board **1** and through the fins **6**, as shown by the arrows **12** and **13** in FIG. **5**. The U shape spring blades **11** resiliently limit the pivoting of the two fins **6** toward each other such as to manage a gap between the outer edges of the latter which will readily allow the water to urge the fins back toward the board upon reversal to the positive stroke.

Partitions **14** are provided into the hollow space **8** of each fin **6** to reinforce the latter. Each partition has an aperture therethrough to allow fluid communication from one side to the other of the same.

I claim:

1. A swimming accessory comprising a rigid elongated member having opening means made therethrough, attaching means fixed to said rigid elongated member and arranged to secure the same lengthwise to a limb with the limb applied to one side of said member, a pair of swimming fins hinged to said rigid elongated member on the other side of the latter about hinge axes extending longitudinally of said member to pivot between a first position in which said fins operatively overlap and abut the opposite lateral edges of said member, and a second limit position pivoted away from said opposite lateral edges, said fins each having apertures therethrough which are offset relative to said

opening means when said fins are in said first-named position, so as to be closed by said member, liquid being allowed to flow through said fin apertures when said fins are displaced away from said first position.

2. A swimming accessory as claimed in claim **1**, wherein said opening means consist of a central opening in said elongated member, whereby the latter define solid lateral portions, the apertures of said fins registering with said solid lateral portions when said fins are in said first position.

3. A swimming accessory as claimed in claim **2**,

wherein said elongated member has a free end arranged to be grasped by a user's hand and said attaching means include spaced bands secured transversely to said member and extending on said one side thereof and adapted to surround the user's arm and hand.

4. A swimming accessory as claimed in claim **3**, wherein said fins further include U-shaped spring blades secured transversely of said elongated member and located intermediate said fins to resiliently restrain pivoting of said fins towards said second limit position.

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