June 2, 1925. 1,540,368

A. B. SAMUELS

SWIMMING DEVICE

Filed May 28, 1924

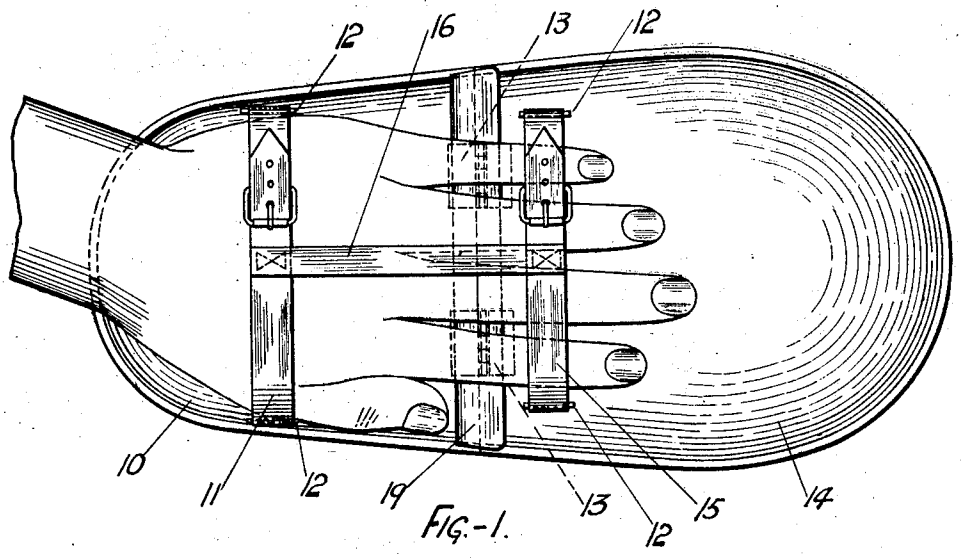


FIG.-1.

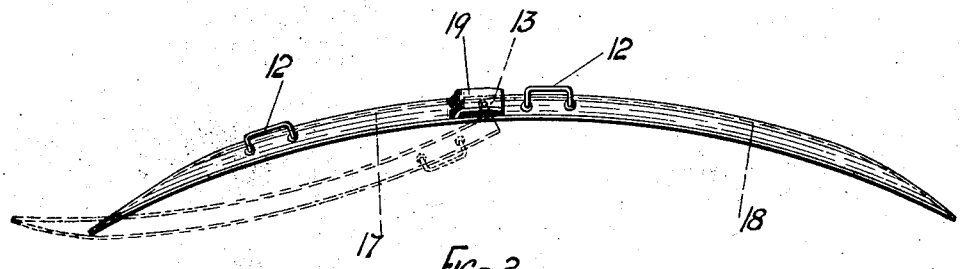


FIG.-2.

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UNITED STATES PATENT OFFICE.

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SWIMMING DEVICE.

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To all whom it may concern:

Be it known that I, ABRAHAM B. SAMUELS, a citizen of the United States, and a resident of Akron, county of Summit, State of Ohio, have invented certain new and useful Improvements in Swimming Devices, of which the following is a specification.

This invention relates to swimming devices and especially to attachments for the hands to aid in swimming.

Heretofore, swimming attachments have been used comprising a pair of plates hinged together and adapted to be attached to the hand to aid in swimming, but these devices are susceptible of considerable improvement in that prior devices have been fatiguing to the user, he being required to effect considerable force in the flexing of the device during use. In devices heretofore constructed, the flexing of the device by the hand has caused pinching or abrasion of the flesh by the hinged edges of the parts. Furthermore, in known devices of this type, the plates have been flat whereby their efficiency in use has been at a minimum due to the sliding of the water over the edges of the plates without much resistance tending to prevent the same.

It is the purpose of the present invention to provide an improved device of the character above described and particularly to provide a device for attachment to the hand which will readily collapse as the hand is drawn forward through the water, which will readily open up when the stroke is taken and which requires little or no effort on the part of the swimmer to so act in use, the device, however, permitting the manual flexing of the two parts to substantially right angles when using the overhead stroke or the like.

An important object of the invention is to form the parts to fit against the palm of the hand and to be concave on the inner surface, each part forming one-half of the general concavity of the inner surface of the whole device.

Another and an equally important object is to provide one part, i. e., that which is normally the lowest in the water, of greater area than the other to facilitate opening of the parts from collapsed condition when the stroke is taken.

Another object of the invention is to provide an improved means for preventing pinching or abrasion of the hand by the device used.

The above and other objects will become more apparent as the following detailed description is read in connection with the accompanying drawings, it being understood that the invention is not limited to the specific form thereof shown and described.

Of the accompanying drawings:

Figure 1 is a back plan view of a device embodying the invention in its preferred form, said device being shown attached to the hand; and

Figure 2 is a side elevation showing the device in opened condition in full line and in collapsed condition in dotted lines.

Referring to the drawings, 10 is the one plate forming a part of the device which is adapted to be secured on the palm of the hand by a suitable device such as the strap 11 secured in any suitable manner on the plate 10 as by eyes 12, 12 through which the strap is looped, the eyes being soldered or otherwise secured on the plate 10. Hinged on the plate 10 by hinges 13, 13 is a second plate 14 adapted to be secured onto the fingers by a strap 15 secured thereto in the same manner as the strap 11 is secured to plate 10. A third strap 16 may extend across the back of the hand between the straps 11 and 15.

The plates 10 and 14 are dished or concave on their inner surface, as indicated at 17 and 18, the cooperating portions from hinge to hinge being, however, substantially straight to permit operation of the hinges. The concave surfaces 17 and 18 cooperate to produce a general concavity adapted to facilitate the swimming by greatly increasing the resistance of the plates to motion backwardly through water and by greatly decreasing the resistance to motion forwardly through the water, the plates being also collapsible together for this purpose.

The plate 14, it is to be noted, is much larger in area than the plate 10. This is to the end that when drawing the collapsed plates backwardly, the resistance of the water will be effective on the larger plate to separate it from the smaller and thereby open the plates to a position of maximum resistance.

The plate 10 has secured on its hinged edge, as by soldering or otherwise, a metallic strip 19 which extends over the hinged joint between the plates and is curved downwardly against the plate 14. This strip prevents rubbing of the hinged edges of the

plates over the hand and also prevents pinching of the hand between the hinged edges.

In use, as the hand is drawn backwardly through the water on the stroke, the resistance of the water on the plates, which is greatly increased by dishing the same, as described, is such as to give the swimmer a considerable impetus through the water. At the completion of the stroke and as the hand is drawn forwardly through the water for the next stroke, the plates 10 and 14 collapse completely together, offering a minimum resistance to the water not only because of their collapsed condition but because of their convex outer surfaces. Just as the next stroke is started, the resistance of the water on the greater area and on the dished inner surface of the plate 11 is such that the plate 11 is opened outwardly from the position shown in dotted lines to the position shown in full lines in Figure 2.

It is apparent from the foregoing that the invention has greatly improved existing devices and it will also be apparent that modifications of the structure disclosed may be resorted to without departing from the spirit or losing any of the benefits thereof and without departing from the scope of the appended claims.

What I claim is:

1. Swimming attachments for the hands, comprising a pair of plates hinged together and formed with inner concave surfaces cooperating to form a general inner concavity, one of said plates having a rigid strip secured on its outer surface, said strip overlying the hinged joint, and means on the outer surfaces of each plate to secure the same to the hand.

2. Swimming attachments for the hands including a pair of plates connected together, one plate being adapted to be flexed toward the other by the fingers, said plate being of greater area than said other plate, and said plates having inner surfaces so formed as to provide in cooperation a generally concave surface for action on the water.

3. Swimming attachments for the hands, comprising a pair of plates hinged together and a rigid strip secured on one plate and extending over the hinged joint into overlapping relation to the other plate.

ABRAHAM B. SAMUELS.