Feb. 1, 1966 A. L. TEGLAND 3,231,910

SWIMMING GLOVE

Filed Jan. 16, 1964 2 Sheets-Sheet 1

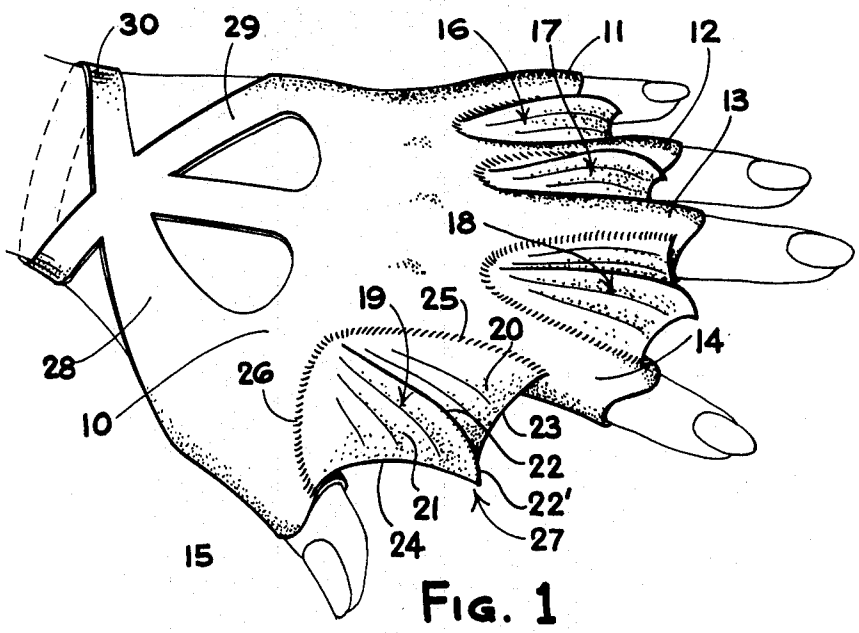


FIG. 1

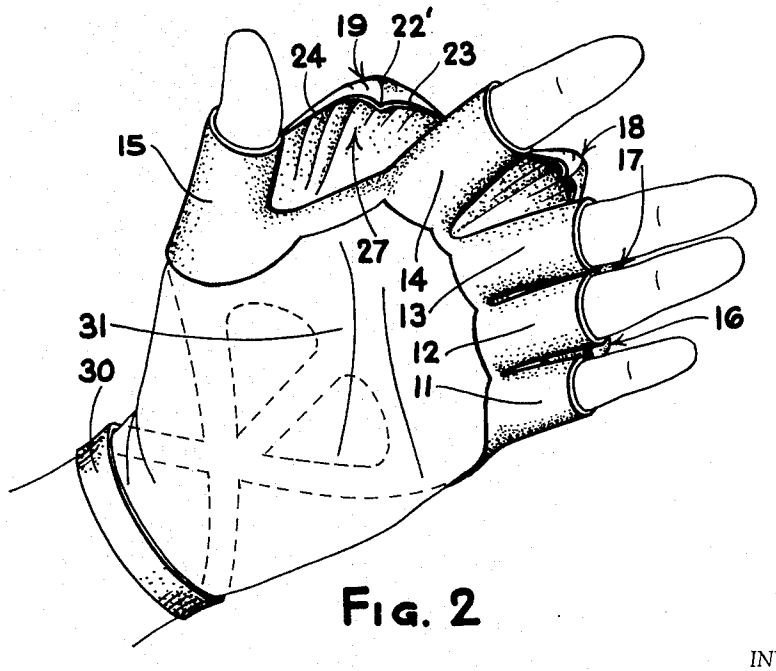


FIG. 2

INVENTOR.
ARCHIE L. TEGLUND
BY Elliott & Pastoriza
ATTORNEYS

Feb. 1, 1966 A. L. TEGLAND 3,231,910

SWIMMING GLOVE

Filed Jan. 16, 1964 2 Sheets-Sheet 2

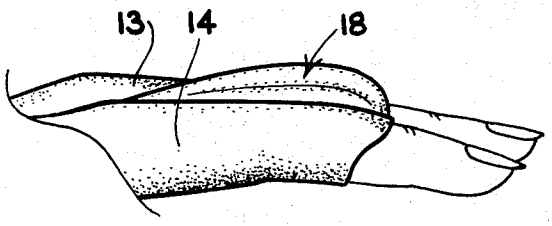


FIG. 3

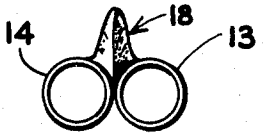


FIG. 4

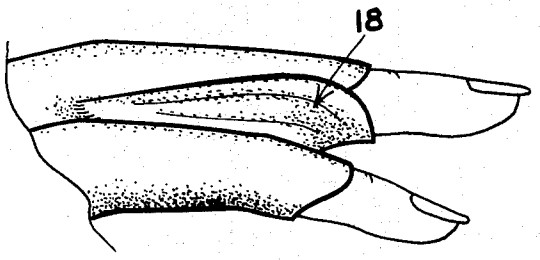


FIG. 5

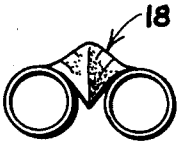


FIG. 6

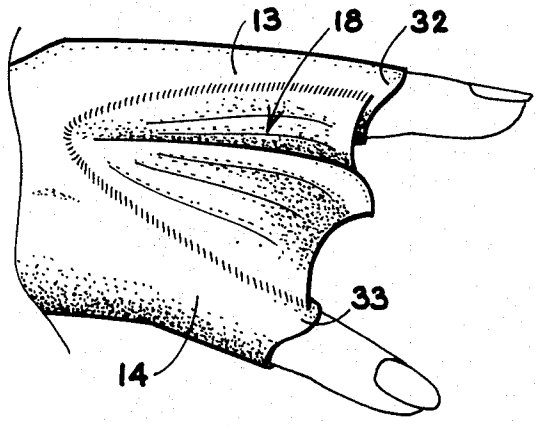


FIG. 7

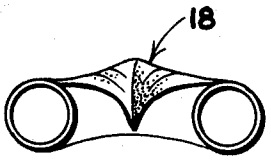


FIG. 8

INVENTOR.
ARCHIE L. TEGLUND
BY Elliott & Pastoriza
ATTORNEYS

United States Patent Office

3,231,910
Patented Feb. 1, 1966

1

3,231,910

SWIMMING GLOVE

Archie L. Tegland, 881 Chatanooga Ave., Pacific Palisades, Calif.

Filed Jan. 16, 1964, Ser. No. 338,185
4 Claims. (Cl. 9—308)

This invention relates generally to swimming aids and more particularly to an improved swimming glove or mitt for use by swimmers, skin divers, surfboarders, and the like as an aid in propelling themselves more easily and more rapidly through the water.

Many different types of swimming gloves or mitts have been proposed heretofore. Some of these prior art mitts include large webs between finger portions to effectively increase the area of the person's hand and thus enable him to propel more water rearwardly when swimming. With such gloves, when a person brings his fingers together to a "closed" position, the webs will either fold into a bulky flap with an open leading edge or in the event accordian type pleats are provided, into a bulky cluster of accordian folds between the fingers. In the first instance, when the swimmer moves his hand forward through the water, water will enter through the open leading edge and tend to billow or "balloon" the web and thus result in substantial drag or resistance. In the second situation, the user must keep his fingers tightly together to prevent a ballooning when the hand is brought downwardly through the water. This latter disadvantage may be overcome by providing a relatively heavy material more or less preformed into the accordian shape. However, with such a heavy material, the glove becomes bulky and rather awkward to wear. Further, when a person dives in the water with such a glove, he may lose control over the accordian folds.

In other types of gloves incorporating accordian type pleats as webs to increase the effective area, it is difficult for the wearer to crook or bend his fingers, the pleats themselves being difficult to "break" because of the corrugated structure. Such "breaking" that does occur tends to weaken the accordian pleats at the bend points when the fingers are curved into a fist shape.

In addition to the foregoing, many of the presently available swimming gloves incorporate finger receptacles which cover the wearer's entire finger areas, the webs themselves extending out to the finger tips. The wearer is thus prevented from using his hand and fingers in a normal manner and much sense of touch is lost. This sense of touch can be very important in skin diving when the wearer wishes to operate under water weapons or wishes to manipulate controls on his breathing apparatus.

Finally, many available swimming gloves are relatively difficult to put on and remove. This is because the glove material generally comprises a tough elastic rubber which tends to cling over the area of the hand engaged.

With all of the foregoing in mind, it is a primary object of this invention to provide an improved swimming glove in which the foregoing problems are overcome.

More particularly, it is an object to provide an improved swimming glove providing an expanded hand "surface" with which a wearer may actually cup a given volume of water and readily propel himself through the water.

Another object is to provide a "webbed" glove which does not appreciably impair the manual dexterity of the

2

wearer or his sense of touch, either in the water or out of the water.

Still another important object is to provide a swimming glove so designed that it will create a minimum amount of resistance or drag when moved through the water in any direction when the webs are in collapsed condition; that is, when the wearer's fingers are closed together.

Another object is to provide a swimming glove which can be very easily removed and put on in or out of the water.

Briefly, these and many other objects and advantages of this invention are attained by providing a swimming glove int the form of an integral elastic flexible material defining finger openings for receiving a wearer's fingers. These finger openings are in the form of cylindrically shaped finger stalls which terminate short of the end of the wearer's fingers so that the wearer's fingers will extend entirely through the openings and be free at their outer ends.

Between the various finger stalls there are provided web means of unique design such that when the web means are extended, a cup shaped elongated enclosure is defined thereunder, the front portion of this enclosure being closed off by a downwardly and forwardly extending curved dorsal fin. The arrangement is such that the fingers when closed together will collapse the web means in such a manner that the forwardly and downwardly extending curved dorsal fin structure will prevent any water from tending to "billow" or "balloon" the web portion when flowing past the fingers in a direction parallel to the fingers.

The rear portion of the elastic flexible material covers an area of the wearer's wrist and includes extending strap means passing about the wearer's wrist. The opposite portion is open so that the wearer's palm is free or exposed. With this arrangement, the sense of touch of the wearer is not lost and yet the glove fits snuggly on the wearer's hand in a natural position so that it is comfortable at all times.

In accordance with a further feature of the invention, the upper forward edge at the exit openings of the finger stalls are extended to define tabs. These tabs provide a ready means for gripping the glove to facilitate removing the same from the wearer's hand.

A better understanding of the invention will be had by now referring to a preferred embodiment thereof as illustrated in the accompanying drawings in which:

FIGURE 1 is a perspective top view of the swimming glove on a person's hand;

FIGURE 2 is a view similar to FIGURE 1 but showing the underside or palm portion of the wearer's hand with the glove positioned thereon;

FIGURE 3 is a perspective view illustrating one of the web means between adjacent finger stalls when the fingers are closed together to collapse the web means;

FIGURE 4 is a front elevational view of the web means illustrated in FIGURE 3;

FIGURE 5 is a view similar to FIGURE 3 but illustrating the web means sightly expanded;

FIGURE 6 is a front elevational view of the web means illustrated in FIGURE 5;

FIGURE 7 is a view similar to FIGURE 5 showing the fingers completely spread apart; and,

FIGURE 8 is a front elevational view of the web means shown in FIGURE 7.

Referring to both FIGURES 1 and 2, the swimming glove includes an integral elastic flexible material **10** such as strong rubber. As shown, the material is molded to define a plurality of finger openings **11**, **12**, **13**, **14** and a thumb opening **15**, each generally of an elongated cylindrical shape to form finger and thumb stalls. Between each of these stalls are provided web means indicated generally at **16**, **17**, **18** and **19**. Each of the web means is essentially the same in construction and therefore a detailed description of one will suffice for all.

Referring particularly to the web means **19** between the index finger stall **14** and thumb stall **15**, the structure is defined by web portions **20** and **21** extending from opposed surfaces of the stalls **14** and **15** and terminating in a central curved structure **22** in the form of a dorsal fin. The front portion of the dorsal fin extends forwardly and downwardly in a curved line as indicated at **22**. The leading edges of the fin portions **20** and **21** also extend forwardly and downwardly in curved paths as indicated at **23** and **24**. The rear and side portions of the webs **20** and **21** are integrally secured to the finger stalls **14** and **15** as indicated at **25** and **26**. The geometry is such that an elongated cup shaped cavity or enclosure, indicated generally by the numeral **27**, is formed beneath the web portions when the wearer's fingers are spread as shown in FIGURE 1.

To complete the securement of the glove to the person's hand, the upper portion of the material **10** includes integrally extending straps such as indicated at **28** and **29** passing into a closed loop **30** arranged to pass about the wearer's wrist.

With particular reference to FIGURE 2, it will be noted that by the foregoing arrangement, the strap **30** passing about the wearer's wrist cooperates with the elongated cylindrical like finger stalls to support the glove to the wearer's hand without any necessity for covering up the palm portion **31** of the wearer's hand.

Referring now to FIGURES 3 through 8, the operation of the swimming glove will be evident. When the wearer's fingers are closed together, the web portions will collapse as indicated for the web means **18** between the finger stalls **13** and **14** in FIGURE 3. As will be evident from the front view of FIGURE 4, the front forwardly downwardly extending dorsal fin closes the entrance to the elongated cup shaped opening so that no water can enter that may be flowing in a direction parallel to the wearer's fingers. In fact, the sloping exterior web portions meeting at the central dorsal fin are similar to the sides of a boat and will tend to be further collapsed together in response to water flowing thereover as would be the case when a person dives into the water or is moving his hand forwardly through the water.

FIGURES 5 and 6 illustrate a partially extended condition of the wearer's fingers wherein the web means **18** is partially extended to define the cup-shaped enclosure thereunder. Again it will be noted that there is very little resistance to forward movement because of the closed leading edges to the cup-shaped enclosure thereunder.

FIGURES 7 and 8 illustrate the web in completely distended or stretched condition. As is evident, a relatively large area is provided with the advantage of a cup shaped enclosure still existing. When the wearer swings his hand rearwardly through the water, he can actually "grip" a given volume of water in the cup like enclosure to urge the same rearwardly. Forward motion of his hand through the water, however, can take place with relatively little resistance as a consequence of the downwardly forwardly extending fin structure.

In FIGURE 7 as well as the other figures, it will be noted that the upper exit edges of the finger stalls include extended portions such as indicated at **32** and **33** for the finger stalls **13** and **14**. These extended portions define tabs which may readily be grasped by the wearer to facilitate removing the swimming glove. Thus, when the wearer flexes his fingers downwardly or tends to make his hand into a fist, the tabs **32** and **33** will be in a position to be readily gripped between the fingers of his other hand to facilitate removing the glove.

It will be evident that each of the various web means will function in the same manner as described for the web means **18** in FIGURES 3 to 8. Thus a wearer may navigate himself through the water in a conventional manner and dive and breast-stroke and otherwise move his hands in a forward direction with very little resistance. Yet when he purposely extends his fingers and pulls backwards, the full extended area resulting from the extended position of the webs, will be utilized to greatly facilitate his forward movements.

Because of the provision of only a single dorsal fin defining a single fold line for two web portions, the glove is relatively unbulky even when in collapsed condition. Moreover, as a consequence of the strap design and the open palm structure and as a consequence of providing an integral molded product in a condition to correspond to the wearer's hand when slightly crooked or relaxed, no wrinkles or bulkiness will result from movements of the wearer's hands from its normal relaxed position.

It will be evident, of course, that the open palm structure and free end portions of the wearer's fingers enable him to manipulate various objects in the same manner as he would in the absence of the glove so that his sense of touch and manual dexterity is not appreciably affected by the glove.

While only a particular embodiment of the invention has been set forth and described, minor modifications that fall clearly with the scope and spirit of the invention will occur to those skilled in the art. The swimming glove is therefore not to be thought of as limited to exact structure set forth merely for illustrative purposes.

What is claimed is:

1. A swimming glove comprising: an integral elastic flexible material defining finger openings for receiving a wearer's fingers and including web means between said finger openings, each web means being defined by half web portions extending towards each other in an upwardly curved direction from the inside portions of said finger openings respectively to terminate in a single dorsal fin, said dorsal fin curving forwardly and downwardly at its front end to define a cup-like cavity with said web portions, moving of said finger openings together collapsing said web portions, said forwardly and downwardly curved portion of said dorsal fin closing the front of said cup-like cavity to thereby minimize resistance of water flow past said wearer's hand when his fingers are closed together, the front portion of the web means curving forwardly and downwardly to enable holding and propelling rearwardly water captured in the cup-shaped enclosure and to block water flowing parallel to the direction of the wearer's fingers from entering into said cup-shaped enclosure when the glove is moved in the forward direction.

2. A swimming glove comprising: an integral elastic flexible member including elongated cylindrically shaped portions defining finger stalls and a thumb stall for respectively receiving the fingers and thumb of a wearer, said finger stalls terminating short of the last joint in the wearer's fingers so that the fingers extend through the stalls and are free at their far ends; web means between adjacent finger stalls, each of said web means being defined by half web portions extending towards each other in an upwardly curved direction from the inside portions of said adjacent finger stalls respectively to terminate in a single dorsal fin, said dorsal fin curving forwardly and downwardly at its front end to define a cup-like cavity with said web portions, moving of said adjacent finger stalls together collapsing said web portions, said forwardly and downwardly curved portion of said dorsal fin closing the front of said cup-like cavity to thereby minimize resistance of water flow past said wearer's hand when his fingers are closed together.

3. A swimming glove according to claim 2 in which said elastic flexible material covers a portion of the back of the wearer's hand and includes strap means integrally extending from said portion about the wearer's wrist, the wearer's palm area being free of said elastic flexible material.

4. A swimming glove according to claim 3, in which the upper edge of the exit openings of said finger stalls include integrally extending tab portions to provide easy gripping means to facilitate removing said swimming glove.

References Cited by the Examiner

UNITED STATES PATENTS

2,016,538 10/1935 Borgman ---------- 9—308

FOREIGN PATENTS

819,958 11/1951 Germany.

MILTON BUCHLER, *Primary Examiner.*

FERGUS S. MIDDLETON, *Examiner.*