Aug. 2, 1966 O. WENDORF 3,263,248

SWIMMING GLOVE

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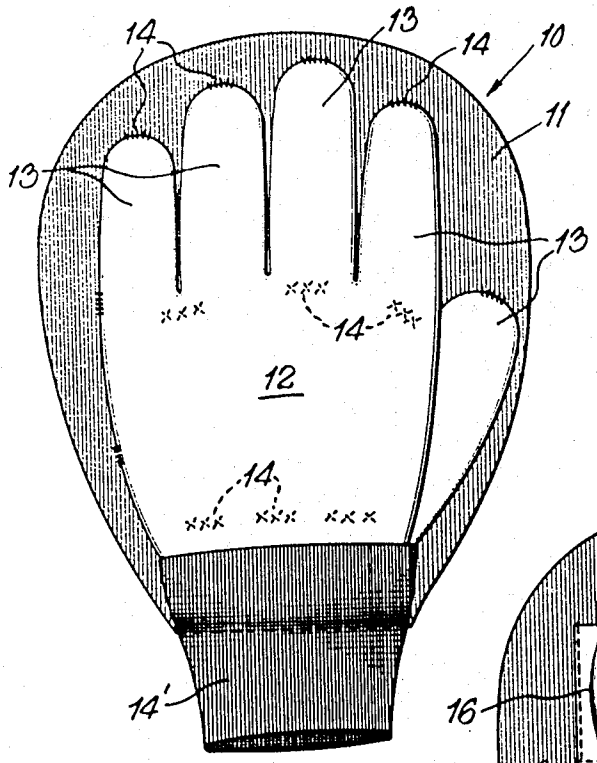


Fig. 1.

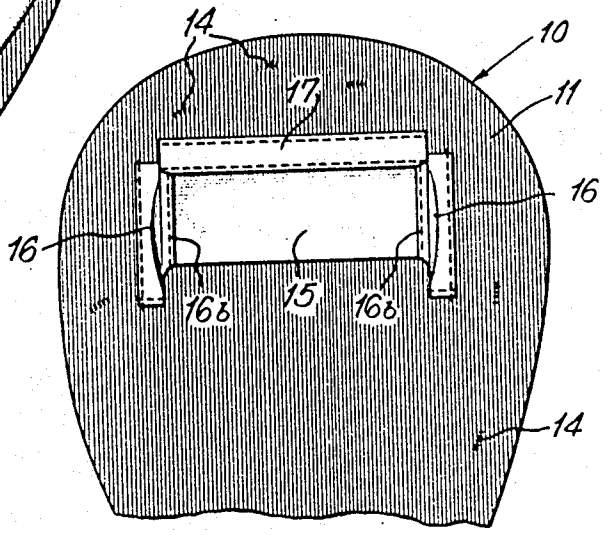


Fig. 2.

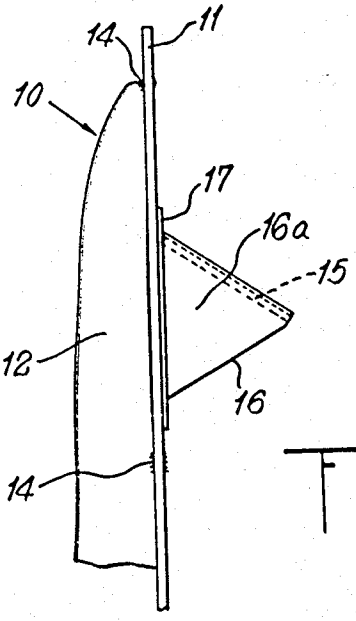


Fig. 3.

INVENTOR.
OVALDO WENDORF
BY Benj. T. Rauber
ATTORNEY

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SWIMMING GLOVE

Ovaldo Wendorf, 325 Broadway, Newark, N.J.

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This invention relates to swimming gloves and more particularly to such gloves constructed on the principle of a webbed glove.

One object of the invention is to provide a glove adapted primarily for swimming and other aquatic activity having a large paddle area adjacent the hand. Another objective of the invention is to provide means in a swimming glove to increase the effective paddle area in the form of a collapsible pocket which increases the resistance and thus the propelling force during the operative swimming stroke.

This invention consists of certain features of construction and mode of operation and in the combination and arrangement of the several parts, to be described and illustrated in the accompanying drawing.

In describing my invention in detail, reference will be made to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

FIGURE 1 is a rear view of the glove which forms the subject of the present invention;

FIGURE 2 is a fragmentary front view of so much of the glove to illustrate the pocket in collapsed position; and

FIGURE 3 is a side fragmentary view illustrating the pocket in expanded position.

Referring to the drawing, the swimming glove 10 comprises a generally flat relatively stiff planar member 11 of natural or synthetic rubber, plastic or cloth material of oblong shape following generally the projection of a hand of sufficient dimensions to cover the area of a hand with fingers extended and spread apart.

A hand portion 12 having finger and thumb forming portions 13 and a collar which provides a wrist portion is secured to the planar member 11 by stitching, or the like, 14. The hand portion 12 may be formed of any known material, preferably flexible, such as sheet rubber, cloth, fabric, plastic, or the like. The wrist portion 14' may be made of elastic material and may include a buckle mechanism to tighten the collar securely about the user's wrist.

Secured to the front face of planar member 11, is a pocket with a main wall 15 and side-walls 16. Main wall 15 is preferably connected to the member 11 by a hinge 17 of flexible material, stitched or otherwise, suitably connected to the wall 15 and the member 11. The wall 15 is preferably of the same material as the material of planar member 11 and for that reason wall 15 will usually be relatively non-flexible. If the material for wall 15 is suitable such that a separate hinge is not necessary, the hinge 17 may be eliminated and its function may be integrally a part of the wall portion connected to member 11.

Side walls 16 are made of flexible material, such as cotton ducking or plastic. The material may be of triangular shape, the side 16*a* of which determines the limit of pivot action of wall 15 away from the closed or collapsed position substantially parallel with member 11

to the fully opened or operative position. Therefore, the opened position determines as a limit an acute angle therebetween.

The side wall 16 can also be fabricated from a rectangular shaped material and attached to wall 15 such that one short side is connected to wall 15 at 16*b*. The opposite end of the rectangular piece is folded so as to form a pocket in the side wall with the recess facing inwardly and connected to the planar member 11 along a line projection of the wall 15. This form of side wall increases the drag or resistance effect the pocket has while in use.

It is apparent that a right hand and a left hand glove are mirror images of each other and constructed accordingly. The embodiment described is a right hand glove.

In operation the user's hand is inserted into the glove and appropriately tightened at the wrist. The effect of the glove when used to aid a swimmer is to provide a greater area for producing the paddle effect needed to cause propulsion through the water.

It is known that the maximum force of propulsion by paddle action through water will be with the plane of the paddle normal to the direction of movement. This principle is significant to a swimmer. It is awkward and difficult, if not impossible, for a swimmer to orient his hand so that the effective propulsion-producing area of which, functioning as a paddle, is always normal to the direction of movement. The skilled swimmer cups his hand in order to effectively present a plane portion of his hand normal to the direction of his desired movement. It will be appreciated to those skilled in this art that the maximum propulsion force is usually produced by the swimmer during the operation of the swimming hand stroke when the arm and hand are perpendicular to the body, assuming of course, that the body is horizontal to the surface of the water and is parallel to the direction of travel. The minimum propulsion effect is of course obtained when the hand is extended or being extended edgewise so that it is in a flat attitude. The swimming glove of the present invention by its extended planar member 11 provides a paddle area much greater than the hand of the swimmer. During those portions of the swimming stroke during which the member 11 is not normal to the direction of movement of the swimmer, the effective area and therefore the effective propulsion force is less than the maximum. In order to enhance or effectively extend the area of the glove, the pocket comprising wall 15 restricted in movement to an acute angle functions to increase the resistance and therefore increases the propulsional effect by the glove during the operative portion of the stroke. It will be understood that the operative portion of the swimming stroke is that portion during which the hand is being carried from the fully extended and horizontal position forward of the swimmer downwardly in the arc of the movement of the arm through the water to a position adjacent the swimmer's hip or leg portion. During the operative portion of the stroke, the orientation of the paddle portion of paddle 11 is such as to have its back face in a direction opposite the direction of travel. During the return stroke by the swimmer during which the resistance must or should be a minimum, the edge of the glove is guided by the hand such as to minimize the reaction of its move-

ment through the water. During this portion of the stroke the pocket collapses, thereby effectively eliminating the resistance of movement of the glove through the water.

What I claim is:

1. A swimming glove comprising hand receiving means including thumb, finger and wrist portions, a planar member secured to the hand receiving means by connection to at least one of said finger portions, a collapsible pocket having a wall pivotally connected to the inner face of said planar member near the periphery thereof remote from said wrist portion, means to limit the movement of said wall through an acute angle, said pocket and said wall being oriented to pivot outwardly from a substantially parallel position with respect to said member as the user moves the glove through water in a withdrawing operative swimming stroke exerting thereby resistance to the movement of said glove in a direction abnormal to the plane of said planar member and to pivot inwardly toward said member to a position substantially parallel thereto in a forward inoperative swimming stroke thereby reducing the resistance to said latter movement of said glove.

2. A glove according to claim 1, wherein the wall movement limiter means is generally triangular side walls of said pocket, said walls being of flexible material connected to said planar member said pocket wall.

No references cited.

MILTON BUCHLER, *Primary Examiner.*

A. E. CORRIGAN, *Assistant Examiner.*