

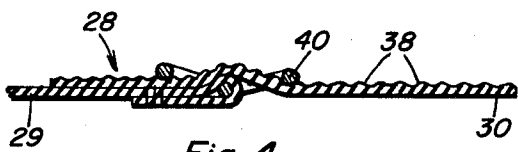
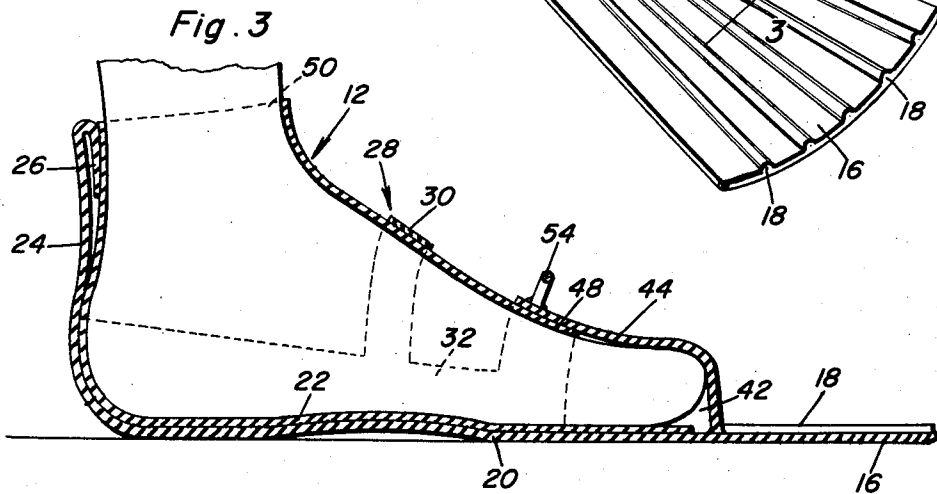
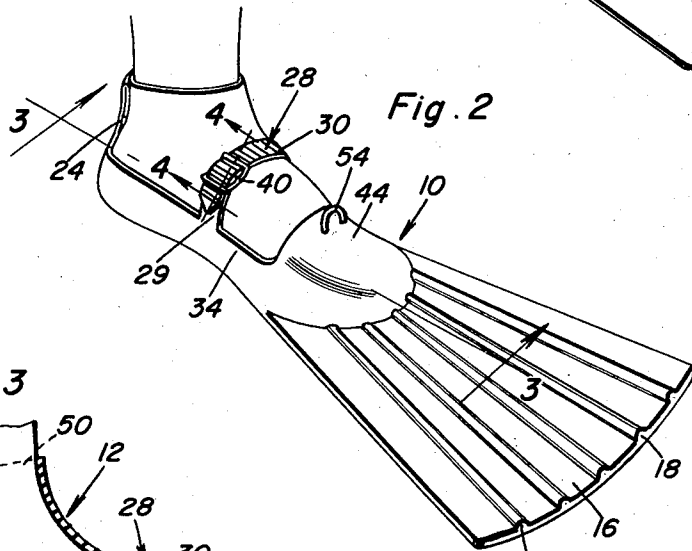
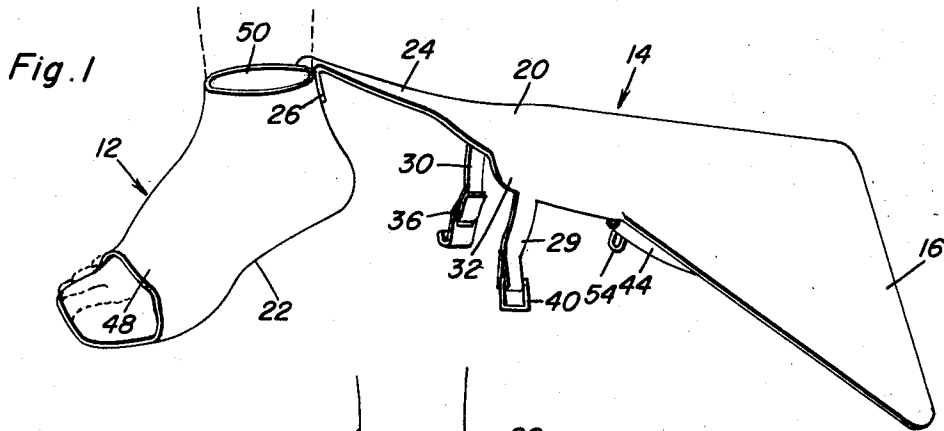
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J. L. WOZENCRAFT

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SWIMMING FIN

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John L. Wozencraft
INVENTOR.

BY *Alance A. O'Brien*
and Harvey B. Jacobson
Attorneys

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SWIMMING FIN

John L. Wozencraft, Pascagoula, Miss.

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8 Claims. (Cl. 9—21)

This invention relates to swimmers' aids adapted to be connected to the swimmer's feet.

An object of this invention is to provide a swimmer's aid of the type which includes a fin projecting forwardly of the swimmer's foot and which includes means attaching the fin to the foot in such manner that the fin may be swung rearwardly of the swimmer's foot to a position where it does not act as a serious hindrance while climbing a ladder or walking under water or out of the water. In using swimming aids of the general type which include fins projecting in advance of the swimmer's feet, material difficulty is encountered in climbing ladders, especially in pools or in other places where the ladders are of reasonable dimensions in that the fins are large and cumbersome. In addition, skin divers desire to walk along the ocean floor in the normal course of work. During this time, swim fins are material handicaps and it is completely impractical to attempt to remove the fins and then replace them for subsequent swimming.

A more specific object of the invention is to provide a swim fin which has an advance portion adapted to project forwardly of the swimmer's foot, an intermediate portion which underlies the swimmer's foot, and a rear portion that constitutes a hinge in that it is connected to the back part of the swimmer's foot attachment device and permits the swim fin to swing hingedly therearound from the usable position to the non-usable position of trailing rearwardly of the swimmer's foot.

A further object of the invention is to provide a swim fin with a hinge connection to footwear, as a snugly fitting resilient shoe in which the swimmer's foot is placed, the swim fin being fitted with means which extend over the arch of the footwear and means in which the swimmer's toe fits in order to hold the swim fin attached to the footwear so that it projects forwardly of the swimmer's foot during swimming operations, the swim fin having a strip at the trailing or rear edge thereof that is attached to the rear part of the footwear so that, upon releasing the fastening devices, the swim fin may be hinged rearwardly of the swimmer's foot and permitted to trail therebehind as the swimmer walks or climbs.

These, together with other objects and advantages which will become subsequently apparent, reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the swimmer's foot attachment showing it in position where it trails behind the swimmer's foot while he is walking or climbing;

Figure 2 is a perspective view of the swimmer's foot attachment in the position for swimming;

Figure 3 is a fragmentary enlarged sectional view taken substantially on the line 3—3 of Figure 2 and in the direction of the arrows; and

Figure 4 is an enlarged fragmentary sectional view

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taken on the line 4—4 of Figure 2 and in the direction of the arrows.

The swimmer's foot attachment 10 which constitutes a propulsion aid for the swimmer comprises two main parts. One part is the device 12 which attached to the foot of the swimmer and the other part is the fin 14 connected with the device 12. It is preferred that the device 12 be a snugly fitting, resilient shoe in which the foot of the swimmer is disposed. This shoe is preferably made of rubber or a rubber-like plastic in order to conform to the contours of the foot and girdle the same. The shoe has an open toe in order that it may more snugly fit about the arch and instep of the swimmer's foot.

The fin 14 has a first, forwardly extending, outwardly flared portion 16 with longitudinal ribs 18 adding strength and rigidity to the fin. This fin is preferably made of rubber or a rubber-like plastic material. In addition to the front, first portion 16 there is an intermediate second portion 20 which is tapered inwardly with regard to the first portion, this second, intermediate portion being shaped similarly to the bottom 22 or sole part of the foot-conforming shoe. The final, third portion of the fin 14 consists of a strip 24 whose returned end 26 is firmly united to the rear part of the foot-engaging device 12 as by vulcanizing, molding as one piece, or otherwise attaching. The third portion 24 of the fin 14 constitutes a hinge about which the remainder of the fin swings when moving from the position shown in Figure 2 to the position shown in Figure 1; that is, the swinging condition of the swimmer's foot attachment to the trailing condition of the attachment.

The means for releasably attaching the fin in the swimming position are strap 28 having parts 29 and 30 which extend from the edges of sides 32 and 34. These sides 32 and 34 rise from and constitute a part of the intermediate portion 20 of fin 14. One part 30 of the strap 28 is adjustable as to length, having a standard adjustment device 36 therein. A number of ribs or serrations 38 are formed on one surface of the strap part 30 and are engageable with the buckle 40 carried by the other strap part 29. Strap 28, when in the engaged condition (Figure 2), extends over the instep of device 12 and the swimmer's foot.

Forming a portion of the fin-retaining means and co-acting with strap 28 to hold the fin in the effective swimming position are the pocket 42 and forward portion of the shoe on the foot of the swimmer. Pocket 42 is formed by a panel 44 which is closed toward the front of the fin and opens rearwardly thereof, the edges of the panel being fixed as by being formed integral or by being otherwise connected to the upper surface of fin 14. The sides 32 and 34 merge as a continuation of and with panel 44. Pocket 42 is sufficiently deep for the swimmer's toes and the portion of the foot thereadjacent to enter the pocket. The front part 48 of device 12 also enters the pocket 42, as does the sole part 22 beneath the toes.

In use, the swimmer inserts his foot into the open top 50 of the foot-girdling device 12. With this attachment made, the swimmer is free to walk with the fin 16 trailing his foot. This same condition exists when the swimmer, under water, decides to walk on the bottom or decides to climb ladders or engage in other activities where he does not desire to have the swim fin in the swimming position.

In order to arrange the swim fin in swimming position, the foot-girdling device 12 is attached to the intermediate portion 20 of the swim fin 14. This is done by inserting the toes of the swimmer, together with the parts of the device 12 as described previously, into the pocket 42. To aid in this operation, the small bail 54 or an equivalent

is attached to the pocket panel 44. Then the strap 28 is brought over the instep of the swimmer's foot and fastened in place. This retains the swim fin securely in place with the front portion 16 protruding in advance of the swimmer's foot as is required to serve and function as an aid for the swimmer's propulsion.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In a swimmer's aid which includes a resilient fin and a device attachable to the swimmer's foot, the improvement comprising means for hingedly connecting one end of said fin to said device for movement to a walk position behind said device, and means for releasably retaining said fin in a swim position in advance of the swimmer's foot for use during swimming, said connecting means comprising a flexible strip extending from one end of said fin as a continuation thereof to said device.

2. A swimmer's foot attachment comprising a fin, a form fitting shoe adapted to be attached on the swimmer's foot, said fin having a first portion which is adapted to project forwardly of said device, a second portion which is disposed under said device, and a third portion attached to the back of said shoe, said third portion being flexible and constituting a hinge connection for the other portions about which they swing to move said fin to the rear of said shoe and the swimmer's foot whereby said fin trails the swimmer's foot for climbing and walking, and means connected to said fin and extending from opposite edges thereof for releasably securing said fin to the swimmer's foot in position where said second portion is under the foot and said third portion projects in advance of the foot.

3. A swimmer's foot attachment comprising a resilient fin, a shoe adapted to be fitted on the swimmer's foot, said fin having a first portion which extends forwardly of said shoe, a second portion which is disposed under said shoe, and a third portion attached to the back of said shoe, said third portion constituting a hinge connection for the other portions about which they swing to move said fin to the rear of said shoe and the swimmer's foot so that said fin is movable to a position where it trails the swimmer's foot for climbing and walking, and means connected with said fin and engageable with the toe of said shoe for releasably retaining said fin fastened in position on said shoe with said first portion of said fin extending forwardly of said shoe.

4. The attachment of claim 3 and means secured to opposite edges of said fin for assisting in retaining said

fin with said first portion extending forwardly of said shoe.

5. In a swimmer's propulsion aid, a fin of resilient material, a shoe, a portion of said fin attached to the rear of said shoe and forming a hinge about which the remainder of said fin is movable between a swim position in advance of said shoe and a walking position rearwardly of said shoe for swimming and walking respectively, and means connected with said fin and engageable with said shoe to releasably hold said fin in said position wherein said fin projects forwardly of said shoe.

6. In a swimmer's propulsion aid, a fin of resilient material, a shoe, a portion of said fin attached to the rear of said shoe and forming a hinge about which the remainder of said fin is movable between a swim position in advance of said shoe and a walking position rearwardly of said shoe for swimming and walking respectively, and means connected with said fin and engageable with said shoe to hold said fin in said position wherein said fin projects forwardly of said shoe, said holding means including a pocket in said fin into which the toe portion of said shoe is adapted to be inserted.

7. In a swimmer's propulsion aid, a fin of resilient material, a shoe, a portion of said fin attached to the rear of said shoe and forming a hinge about which the remainder of said fin is movable between a swim position in advance of said shoe and a walking position rearwardly of said shoe for swimming and walking respectively, and means connected with said fin and engageable with said shoe to hold said fin in said position wherein said fin projects forwardly of said shoe, said holding means including a pocket in said fin into which the toe portion of said shoe is adapted to be inserted, a portion of said fin underlying said shoe having sides which rest against the sides of said shoe in order to help retain said shoe fastened with said fin, and a strap secured to said sides and extending over the arch of said shoe for holding said fin firmly fastened in place thereon.

8. The combination of claim 7 wherein said strap has means for adjusting the effective length thereof and locking means to hold said strap firmly latched.

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