

June 19, 1951

R. WENKE
SWIMMING DEVICE

2,557,367

Filed Feb. 21, 1948

4 Sheets-Sheet 1

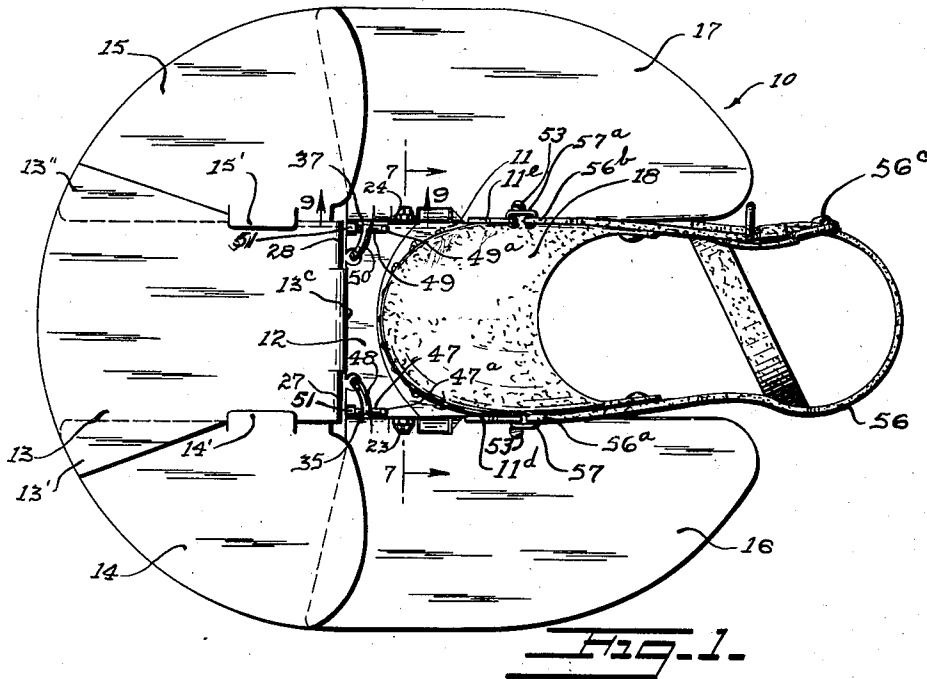


Fig. 1.

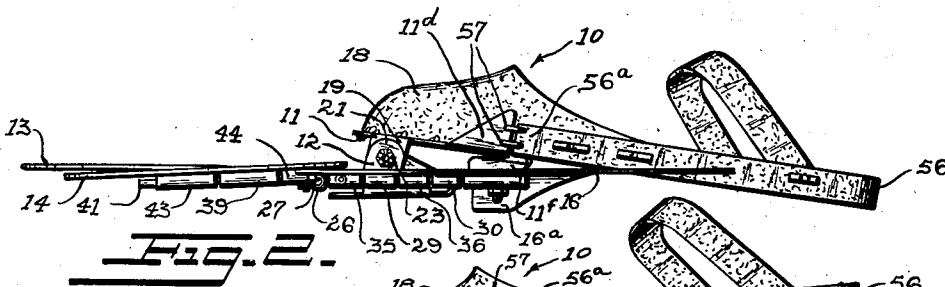


Fig. 2.

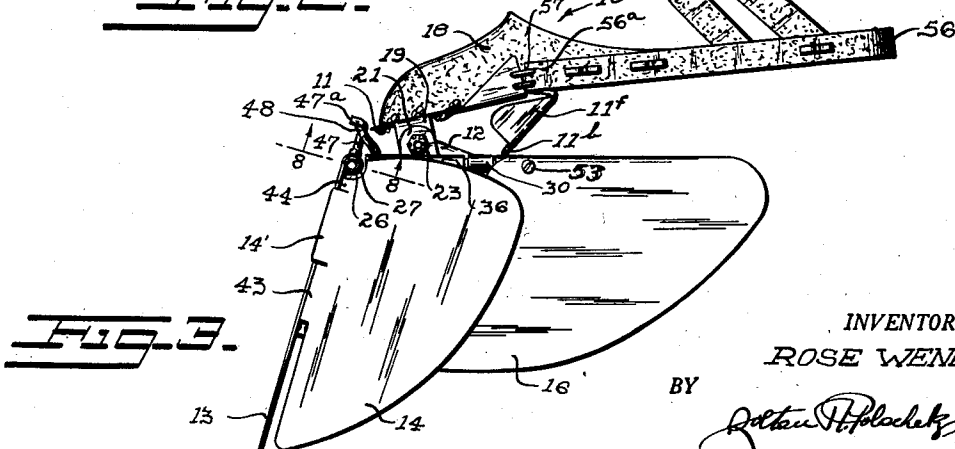


Fig. 3.

INVENTOR.
ROSE WENKE

BY

Robert H. Blockley

ATTORNEY

June 19, 1951

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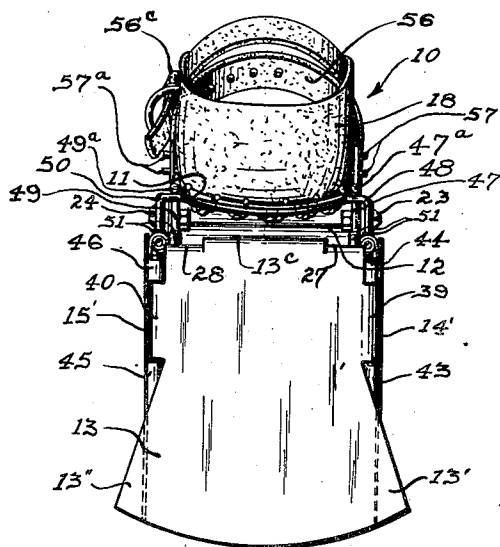


Fig. 4.

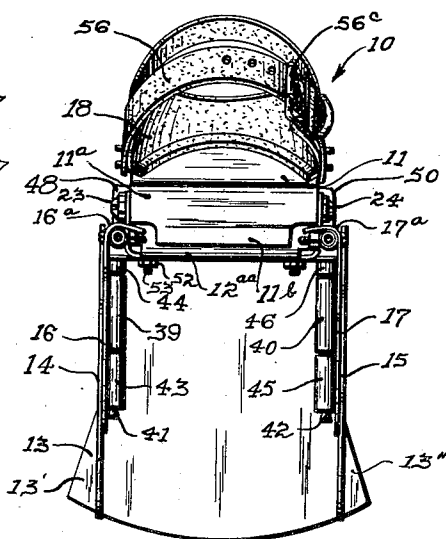


Fig. 5.

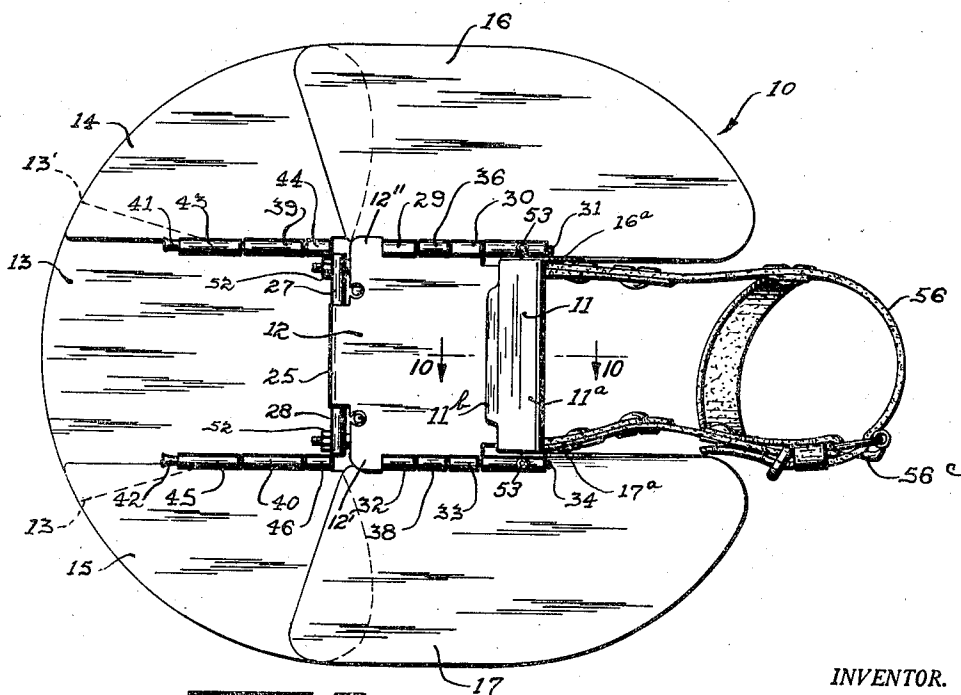


Fig. 6.

INVENTOR.
ROSE WENKE

BY

John H. Holschlag

ATTORNEY

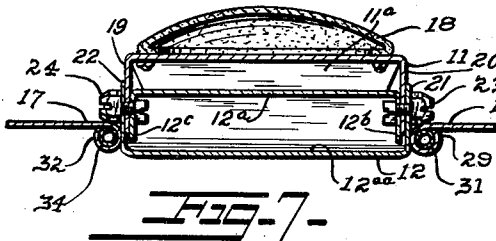
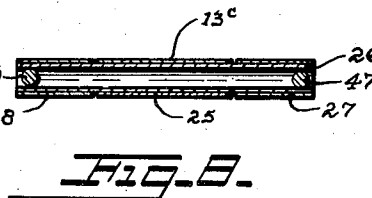
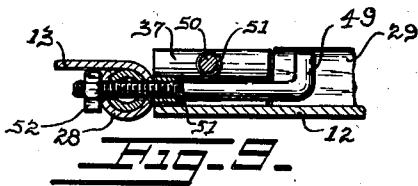
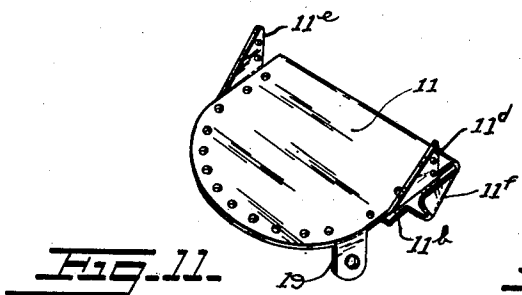
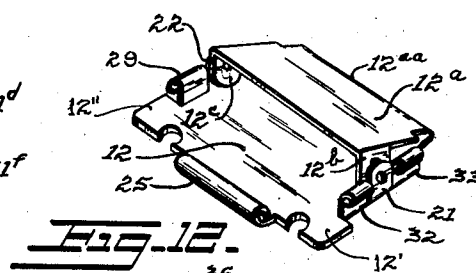
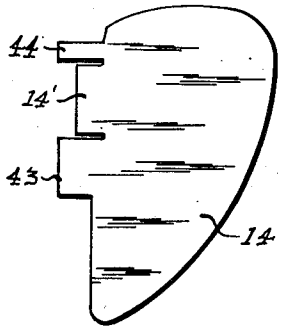
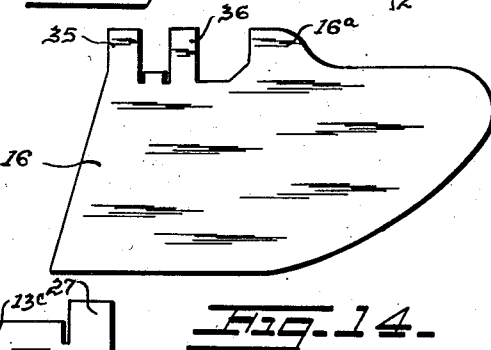
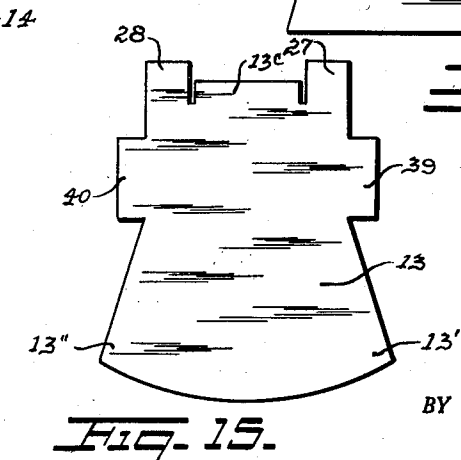
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4 Sheets-Sheet 3



INVENTOR.
ROSE WENKE

BY

Gottlieb P. Polachek

ATTORNEY

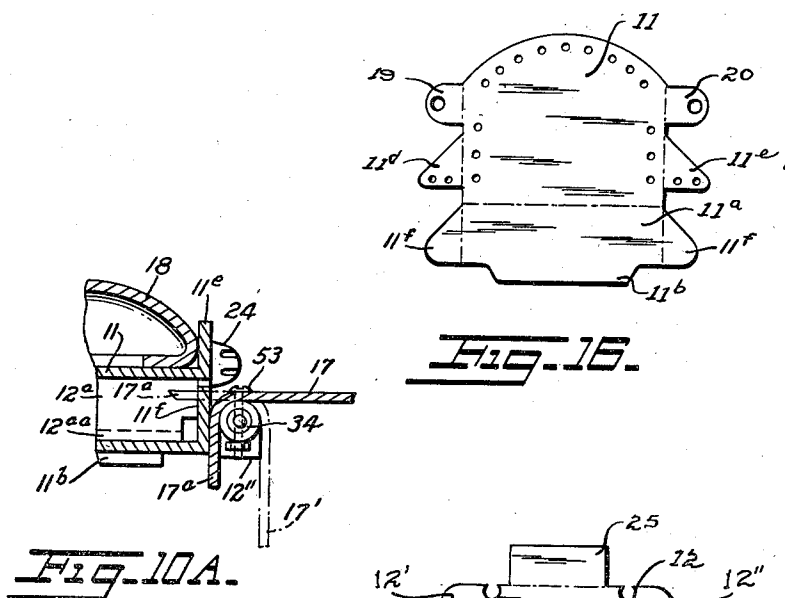
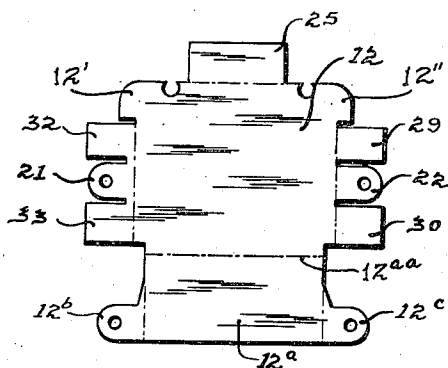
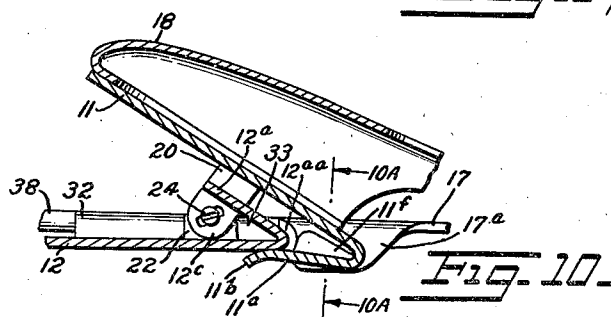
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R. WENKE
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4 Sheets-Sheet 4



INVENTOR.
ROSE WENKE

BY

Golden H. Block
ATTORNEY

UNITED STATES PATENT OFFICE

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SWIMMING DEVICE

Rose Wenke, Brooklyn, N. Y.

Application February 21, 1948, Serial No. 9,977

4 Claims. (Cl. 9—21)

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This invention relates to an improved device for assisting a swimmer to make greater progress in swimming.

One of the objects of the invention is to provide a device which may be strapped or otherwise secured to each foot of the swimmer, and which is provided with paddle members or blades hinged to open outwardly into an approximate common plane. These paddle members provide a relatively large area for pushing against the water to increase the rate of movement of the swimmer through the water, are adapted to swing into approximately vertical and inclined positions, to offer a minimum of resistance on the return stroke of the swimmer.

Another object of the invention is to provide a foot aid for a swimmer with side paddle members which fold against each other and the sides of the central supporting plate, and a forward paddle member or blade which folds downwardly into an inclined position on the reverse stroke and opens with the side paddle members outwardly to present maximum thrust area to the water.

A still further object of the invention is to provide a device of this general construction, with a foot plate mounted to rock between the side paddle members on a central plate, such foot plate being provided with means for latching the side paddle members and the forward paddle member in extended open thrust positions, and also adapted to automatically release when reverse pressure is applied on the opposite sides of the paddle members, as during the return swimming stroke.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a plan view, showing the swimming attachment in open extended condition.

Fig. 2 is a side elevational view of Fig. 1.

Fig. 3 is a view similar to Fig. 2, but showing the attachment in collapsed condition.

Fig. 4 is a front end view of the swimming attachment in collapsed condition.

Fig. 5 is a similar view showing the rear end of the attachment in collapsed condition.

Fig. 6 is a bottom plan view of the swimming attachment in open extended condition.

Fig. 7 is a fragmentary vertical sectional view, taken on line 7—7 of Fig. 1.

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Fig. 8 is a fragmentary transverse sectional view, taken on line 8—8 of Fig. 3.

Fig. 9 is an enlarged fragmentary vertical sectional view taken on line 9—9 of Fig. 1.

Fig. 10 is an enlarged fragmentary vertical sectional view taken on the line 10—10 of Fig. 6.

Fig. 10A is a partial vertical sectional view taken on the line 10A—10A of Fig. 10.

Fig. 11 is a top perspective view of the foot plate.

Fig. 12 is a detailed perspective view showing the forward central plate hinged to the foot plate of the device.

Fig. 13 is a developed view of the forward left paddle plate.

Fig. 14 is a similar view of the left rear paddle plate.

Fig. 15 is a similar view of the forward central plate.

Fig. 16 is a similar view of the foot plate.

Fig. 17 is a similar view of the supporting central rear plate.

Referring to the accompanying drawings, which illustrate a practical embodiment of my invention, 10 designates the improved swimming attachment, which includes a foot plate 11, the supporting central rear plate 12, on which the foot plate is mounted to rock, the forward central plate 13, the forward left paddle plate or member 14, the forward right paddle plate or member 15, the left rear paddle plate or member 16, the right rear paddle plate or member 17, and the shoe 18, which is mounted directly on the foot plate 11.

The foot plate 11 is formed with lateral bracket lugs 19 and 20, on opposite sides thereof, which are pivotally connected with the bracket lugs 21 and 22 of the central rear plate 12, by means of the bolts 23 and 24.

The central rear plate 12 is formed with an inclined overlying section 12^a, and the side edges of this section are formed with bracket lugs 12^b and 12^c, which are pierced by the bolts 23 and 24. The foot plate 11 is formed with an opposing underlying inclined section 11^a, having a central longitudinal latching bar 11^b, which is adapted to have latching action against the rounded edge 12^{aa} of the plate 12, see Fig. 10.

The central rear plate 12 is formed on its forward side with an integral hinge roll 25, see Figs. 6 and 12, which receives a tubular pintle rod 26, and the central forward plate 13 is provided with spaced apart hinge rolls 27 and 28, which engage the end portions of the pintle rod 26, outwardly of the hinge roll 25.

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The central rear plate 12 is also formed on one side with the hinge rolls 29 and 30, which engage a tubular pintle rod 31, and on the opposite side with hinge rolls 32 and 33, which engage a tubular pintle rod 34.

The pintle rod 31 is also engaged by the hinge rolls 35 and 36 of the side paddle plate or member 16, and the pintle rod 34 is engaged by the hinge rolls 37 and 38 of the opposing rear side paddle plate or member 17.

The rear paddle members 16 and 17 are formed respectively with right angularly disposed operating lugs 16^a and 17^a located rearward of the rounded edge 12^{aa} of the rear plate 12, as shown in Fig. 10. When the rear paddle members 16 and 17 are laterally operatively projected, as shown in Fig. 1 and in Fig. 10A in the case of the paddle member 17, the lugs 16^a and 17^a depend vertically downward. With the foot plate 11 in the operative position shown in Figs. 10 and 10A, upwardly projected lugs 11^f at the ends of the inclined section 11^a are engaged behind the lugs 16^a and 17^a and retain the rear paddle members in their operative laterally extended positions.

The front of the central rear plate at the sides thereof and outward of the hinge roll 25, is formed with laterally extending stop lugs 12' and 12'', see Figs. 6 and 17. When the rear paddle members 16 and 17 are in their inoperative positions, as illustrated by the dot and dash lines 17' for the paddle member 17 in Fig. 10A, they rest against the ends of those stop lugs 12' and 12''.

The forward central plate 13 is formed with a hinge roll 39 on one side thereof and a hinge roll 40 on the opposite side thereof. A pintle rod 41 extends through the hinge roll 39 and a pintle rod 42 extends through the hinge roll 40. The pintle rod 41 is also engaged by the hinge rolls 43 and 44 of the forward side paddle plate or member 14, and the pintle rod 42 is engaged by the hinge rolls 45 and 46 of the side forward paddle plate or member 15.

The central forward plate 13 is formed with forwardly divergent edge portions 13' and 13'' which overlie the inner edge portions of the forward side paddle plates or members 14 and 15, and the rear edges of the forward side paddle plates or members 14 and 15 are disposed in overlying relation against the rear side paddle plates or members 16 and 17. The forward side paddle plates or members 14 and 15 are also formed with struck out stop lugs 14' and 15', which engage the side edge portions of the forward central plate 13, when the paddle plates are in open position. The forward central plate 13 is also formed with a stop lug 13^c on its rear edge, which is designed to engage the forward upper portion of the central rear plate 12, to limit the opening movement of the forward central plate 13.

The central forward plate 13 is equipped on one side thereof with a rearwardly extending stop finger 47, having a right angular end portion 47^a, which is designed to engage the stop finger 48 attached to the forward inner side portions of the left rear side paddle plate or member 16. The central plate 13 is also provided on the opposite side with a stop finger 49, which has a right angular outer end 49^a, and this finger engages the stop finger 50 on the inner forward side of the right rear paddle plate or member 17. The stop finger 48 abuts against the terminal portion 47^a of the stop finger 47, when the paddle plates are in folded or collapsed condition, and thus tends to limit closing movement; and these fingers cross

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each other in physical contact when in an open position, and thus receive some of the thrust due to the opening action.

The inner end of each thrust or stop finger 47 and 49 is provided with a collar 51, see Figs. 1 and 9, which limits its bearing against the holding part. The inner end of each thrust or stop finger extends through the pintle rod of the paddle or plate member, and is held in position by a nut 52, which is threaded thereon. Each pintle rod may consist of a plurality of inter-fitting tubes. The rear side paddle members are secured by the screws 53 to their pintle rods.

The foot plate 11 is provided with the shoe part 18, suitably connected thereto, and the foot strap 56 is connected to the sides of the foot plate 11. The forward end 56^a of the foot strap 56 is connected to the foot plate 11 by means of the wire links 57, which engage the upstanding lug 11^d of this foot plate. The other forward end 56^b of the foot strap is connected by the wire links 57^a with the lug 11^e of the foot plate. The foot strap 56 is provided with a buckle 56^c, so that it may be fitted to the foot of the swimmer.

When the attachment is properly connected to the foot of the swimmer, the forward and the rear side paddle plates or members will be disposed in substantially a common plane with the forward central plate, so that maximum thrust may be developed by the swimmer against the water, when the swimmer exerts his or her foot outwardly to advance through the water. When the swimmer moves his or her foot on the return or reverse swimming stroke, the forward and rear side paddle plates or members, and the forward central plate will fold to minimum thrust positions, so that little resistance will be offered to the progress of the swimmer through the water.

When the swimmer desires to walk on the bed of the water in which he or she is partly or wholly immersed, or upon land outside of the water, the foot plate 11 is forced downwardly against the central rear plate 12, so that the latching bar or flange 11^b, will latch on the rounded edge 12^{aa} of the central rear plate 12.

This action will secure the forward central plate 13, and the side paddle plates or members in extended open positions, so as not to interfere with the walking movement of the swimmer.

When the swimmer uses the attachment in the water, a manual pull on the leg will cause the water to exert sufficient pressure on each and all of the pivotally supported paddle plates or members and the central forward plate, to cause them to break the latch connection between the foot plate and the rear central plate.

It has been found by successful use of the invention that greater speed and greater distance, and therefore, increased safety in swimming, may be obtained.

The parts of the improved swimming aid or attachment would be constructed of aluminum, or other light metal, suitably waterproofed, or suitably reinforced plastic.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

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1. A swimming device, comprising a foot plate, a rear central plate on which the foot plate is mounted to rock, a latch member carried by the foot plate to engage the rear central plate, a forward central plate hinged to the rear central plate, paddles hinged to the sides of the forward central plate, paddles hinged to the sides of the rear central plate, and means on said paddles and plates for limiting the opening movement of the paddles on each other.

2. A swimming device, comprising a central rear plate, a foot plate mounted to rock on the central rear plate, a shoe mounted on the foot plate, a central forward plate hinged to the central rear plate, paddle plates hinged to the sides of the central forward plate, paddle plates hinged to the sides of the central rear plate, the first paddle plates having overlapping engagement with the second paddle plates, and said foot plate including means for latching the paddle plates in open position.

3. A swimming device comprising a central rear plate, a foot plate having brackets pivotally connected with the central rear plate, a shoe attached to the foot plate and provided with a foot strap, a forward central plate hinged to the central rear plate, paddle plates hinged to the sides of the central rear plate, paddle plates hinged to the sides of the central forward plate and having overlapping engagement therewith, stop fingers carried by the central forward plate, stop fingers carried by the first-named paddle plates engageable with the stop fingers of the central forward plate, and latching means on said foot plate operable by the movement of the foot plate against the central rear plate.

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4. A swimming device comprising a rear central plate, a foot plate pivotally mounted on said central plate and upon which a foot is to be rested, a shoe attached to said foot plate for retaining the foot in position thereon, a central forward plate hinged to the front of said rear central plate, forward paddle plates hinged to the sides of said central forward plate, rear paddle plates hinged to the sides of said rear central plate, said forward paddle plates having overlapping engagement with the sides of said central forward plate, said forward paddle plates and said rear paddle plates having overlapping engagement, and means on said foot plate controlled by the pivoting of said foot plate relative to said rear central plate for latching said central forward plate and said paddle plates in an open position.

ROSE WENKE.

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