

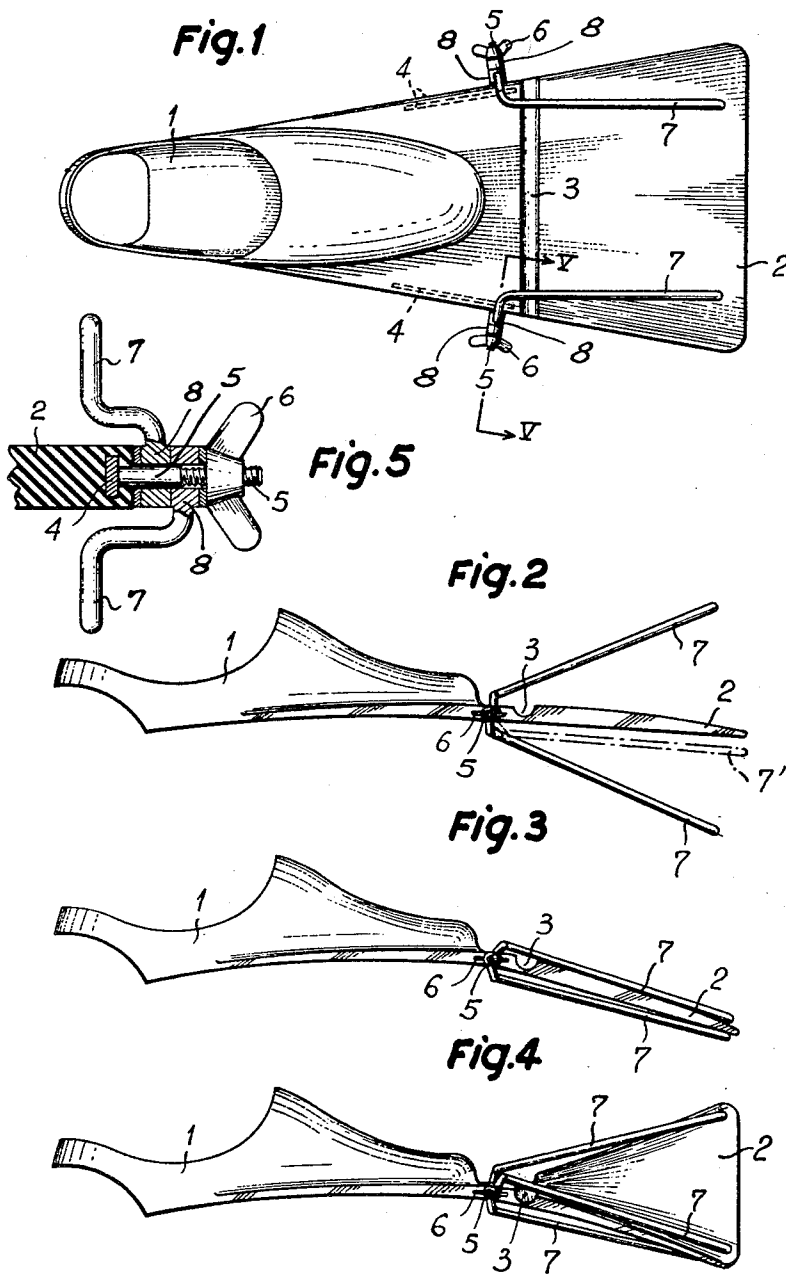
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SWIMMING SHOE

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## SWIMMING SHOE

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1 Claim. (Cl. 9—309)

The present invention concerns swimming shoes comprising a foot part conforming to the foot of the swimmer and extended by a flexible flipper.

There are known swimming shoes in which the flipper is connected to the foot part by a thinned out portion giving to the said flipper a bigger suppleness of floundering and which are provided with abutments limiting the amplitude of the stroke of the flexible flipper. This permits the obtaining in functioning when the swimmer effects normal foot strokes the automatic putting into the optimum position of the flipper, in facilitating the changing of position thereof at each dead point of the stroke without supplementary tiring work for the swimmer. But these swimming shoes are only suitable for a single type of stroke of the foot and cannot be adapted to the different types of swimming generally used.

The object of the present invention is to remedy this inconvenience and to make a swimming shoe adjustable and able to be adapted to different types of swimming generally practiced, and to the particular morphology of the swimmer for a particular type of stroke of the feet.

To this end, the invention is characterized in that the abutments limiting the amplitude of the strokes of the flexible flipper are adjustable in position, preferably independently of each other in such a manner as to adjust the amplitude of the strokes and the angles of the incidence of the flipper in its end positions.

In a preferred embodiment of the invention the abutments are constituted by two pairs of rods disposed longitudinally on each side of the flipper, the rods being pivoted at one end on a transverse axis situated approximately in the region where the flipper connects to the foot part and their free ends extending towards the free end of the flipper, each pair of rods comprising an upper rod and a lower rod situated respectively on both sides of the flipper, means being provided for locking the two rods of each pair independently of each other and independently of the rods of the other pair in any/or desired angular position.

The invention will now be described further, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a plan view of a swimming shoe in accordance with the invention;

FIGS. 2, 3 and 4 are side elevations with the abutments in different possible positions;

FIG. 5 is a detail of an enlarged scale, in section along the line V—V of FIG. 1.

The swimming shoe comprises a foot part 1 adapted to conform to the foot of a swimmer and to which is connected, by the intermediary of a transverse thinned out portion 3, a flexible flipper 2. The thinned out portion 3 gives to the flipper 2, as known in itself, greater suppleness of stroke. The assembly is made in a single piece from moulded material.

Conforming with the invention, the swimming shoe is provided with abutments constituted by two pairs of rods

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7 disposed longitudinally each on one side of the flipper, the rods being pivoted at one end on a transverse axes situated behind the thinned out portion 3, and free ends extending towards the free ends of the flipper. Each pair of rods comprises an upper rod and a lower rod situated respectively on each side of the flipper, one above it and the other below it.

The transverse pivotal axes of each pair of rods 7 is constituted by a gudgeon pin 5 secured to a plate 4 buried in the moulding of the material of the footwear. The corresponding end of each rod 7 presents two successive elbows at 90° between mutual perpendicular planes and finishes in an eyelet 8 threaded over the gudgeon pin 5. A wing nut 6, screwed on the threaded end of the gudgeon pin and clamping the eyelets 8, with the interposition of appropriate washers, permits the locking of the two rods of each pair independently of each other and independently of the rods of the other pair in any desired angular position.

Thus the rod 7 could be wedged in a manner to permit a stroke more or less strong of the flipper 2 and modify at will the angular position of the lower rods, for example, as shown at 7' in FIG. 2, or instead the upper rods independently of each other.

The flipper 2 could likewise be wedged in suitable angular positions in squeezing the flipper between the rods 7 as shown in FIG. 3. The flipper 2 could equally be given a certain bias in equally squeezing the said flipper between the rod 7, but in giving a different orientation to each pair of rods as shown in FIG. 4.

Thus it would be possible to modify the form of the flipper and to regulate the amplitude of the stroke and their end limits for adapting the swimming shoe to the morphology of the particular swimmer as well as to the different sorts of swimming used.

The invention is, of course, not limited to the embodiment described and represented which could submit to modifications of detail without departing from this and from the scope of the invention.

What I claim is:

A swimming shoe comprising a shoe portion conforming to the foot of a swimmer, a flexible flipper integral with said shoe portion and extending therefrom, a plurality of abutments serving to limit the amplitude of the strokes of said flipper, said abutments including two pairs of rods disposed longitudinally each on one side of the flipper and being pivoted by one end on a transverse axis situated approximately in the region where the flipper is connected to the foot part, the free ends extending towards the free end of the flipper, each pair of rods comprising an upper rod and a lower rod situated respectively on each side of the flipper, means being provided for locking the two rods of each pair, independently one of the other and independently of the rods of the other pair, in any desired angular position.

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