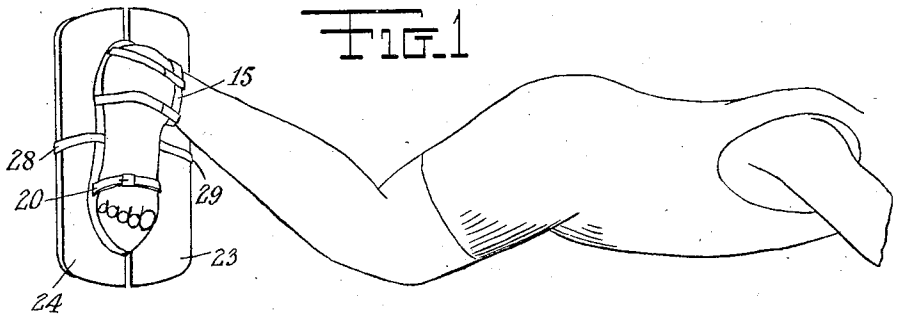
April 26, 1927. 1,626,175

J. ZIMMER

SWIMMING SHOE

Filed Oct. 11, 1926

FIG. 1



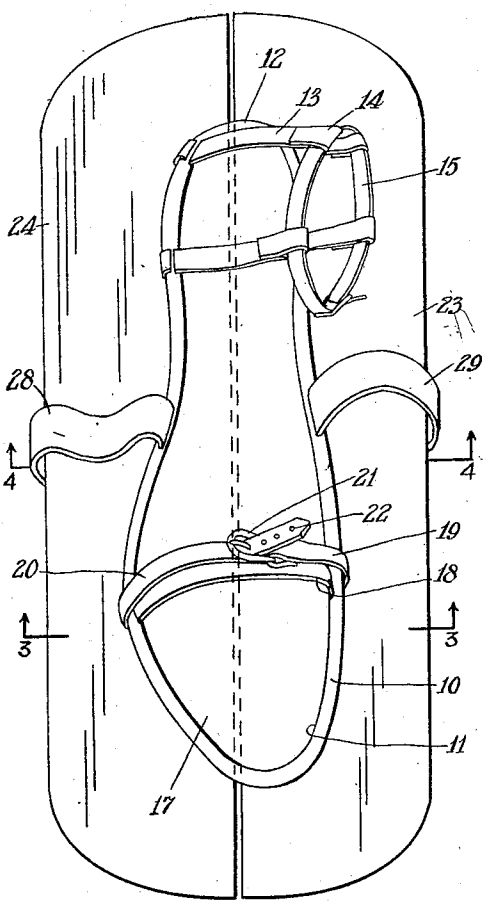


FIG. 2

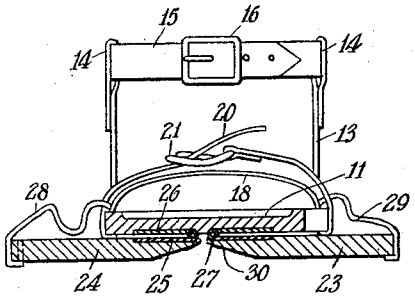


FIG. 3

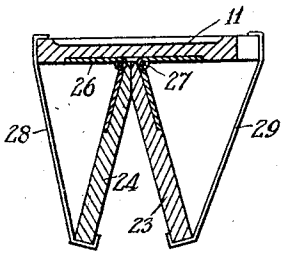


FIG. 4

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UNITED STATES PATENT OFFICE.

JOSEPH ZIMMER, OF BROOKLYN, NEW YORK.

SWIMMING SHOE.

Application filed October 11, 1926. Serial No. 140,707.

The main object of this invention is to provide a swimming shoe having a plurality of fins thereon which are pivotally attached to a sole and are rotatable in one direction so that when the foot is thrust rearwardly, the fins are extended and present their greatest area and when recovery of the foot movement is made, these fins are rotated to a position where they present the least amount of resistance.

The above and other objects will become apparent in the description below, in which characters of reference refer to like-named parts in the drawing.

Referring briefly to the drawing, Figure 1 is a view illustrating an application of a swimming shoe to one foot.

Figure 2 is a top plan view of the swimming shoe.

Figure 3 is a cross sectional view of the swimming shoe taken on line 3—3 of Figure 2.

Figure 4 is a cross sectional view of the fins in folded position, the section being taken on line 4—4 of Figure 2.

Referring in detail to the drawing, the numeral 10 indicates the plate or sole upon which the foot rests. The sole is dished-out, as indicated by the numeral 11 thruout its length to more conveniently position the bottom of the foot when placed upon the sole. At the heel end 12 of the plate, a plurality of straps 13 are fixed around the marginal rim at spaced-apart positions. These straps have loops 14 at their upper ends and thru the bight of all of the loops of these straps, an encircling band 15 passes. This encircling band is provided with a buckle 16 so that the circumference of the band may be adjusted to suit the dimensions of the ankle of the wearer. Near the toe end 17 of the plate 10, a strap is adjustably mounted so that the forepart of the foot may be secured in place upon said plate. This strap consists of two links, a lower one 18 whose extremities pass thru channels on opposite sides of the plate 10 downwardly and then turn upwardly so that the extreme ends 19 and 20 of the strap are above the portion 18 forming a loop between the plate 10 and member 18 into which the foot is inserted. The end 19 of said strap has a buckle 21 fixed thereto which cooperates with the perforations 22 in the opposite end 20 of said belt for the purpose of securing said strap about and around the upper part of the front portion of the foot. A pair of fins 23 and 24 are positioned beneath the sole of the swimming shoe. These fins extend lengthwise of the sole of the swimming shoe and project beyond said sole at both ends. The fins consist of longitudinal members to which one of the hinge plates 25 of hinges are secured by screws or any other desirable means. The opposite hinge plates 26 are secured to the underside of the sole 10 of the swimming shoe and both plates 25 and 26 have sleeves at one of their edges which cooperate to form pivoted joints about pins 27. Movement limiting bands 28 and 29 are secured in channels formed in the fins intermediate the length of the same. The adjacent corners of the fins 23 and 24 are chamfered, as indicated by the numeral 30 so that said fins may be folded toward each other to an angle of 60 degrees.

In fixing the swimming shoe to the foot, the fins are laid flat upon a beach or the like. The buckles 16 and 21 are disengaged from the cooperating and opposite ends of their respective members and the forepart of the foot is inserted beneath the strap section 18 and then slid rearwardly so that the ball of the foot lies within the cage formed by the straps 14 and the band 15. The band 15 and strap at the forepart of the sole are then tautened about the foot, after which the device is ready for use. The swimming shoe may be used in performing a float or in any of the well known swimming strokes. As the foot is thrust rearwardly when equipped with the shoe, the resistance of the water upon the back surfaces of the fins 23 and 24 rotate said fins to a position where they lie parallel to the sole of the swimming shoe, this position being indicated in Figure 3. Upon recovery of this rearward thrust of the foot, resistance is offered to the fins on their opposite surfaces. This rotates said fins 23 and 24 in an opposite direction about the pins 27 to the position shown in Figure 4 in which position very much less resistance to forward progress is offered by the surfaces of the swimming shoe. It will be noted therefore that a device for swimming is provided which offers the greatest amount of resistance upon the rearward thrust of the foot with the aid of fins and the minimum amount of resistance to forward progress upon recovery of the foot with the fins folded. The bands 28 and 29 are provided for the purpose of definitely

limiting movement of said fins to their non-resisting positions, so that the fins will not become damaged when striking against the chamfered surfaces 30 upon recovery of the stroke.

It is to be noted that certain changes in form and construction may be made without departing from the spirit and scope of the invention.

I claim:—

A swimming shoe comprising a sole shaped similar to the foot, a cage at the rear end of said sole, a strap at the forward end, a pair of fins larger than said sole pivotally mounted on the latter, said fins comprising a pair of longitudinal flat members, individual hinges arranged side by side secured to said sole and each fin, said fins being adapted to lie parallel to said sole in the thrust stroke, the mutually adjacent corners of said fins being chamfered angularly to permit said fins to be rotated from an aligned position to a position substantially parallel to each other, and limiting straps mounted on said fins intermediate their length and connected to said soles, said straps being adapted to limit the movement of said fins from the thrust stroke to the recovery.

In testimony whereof I affix my signature.

JOSEPH ZIMMER.