Dec. 4, 1928. 1,693,867

P. REINWALD

WATER SHOE

Filed June 20, 1927 2 Sheets-Sheet 1

FIG. 1.

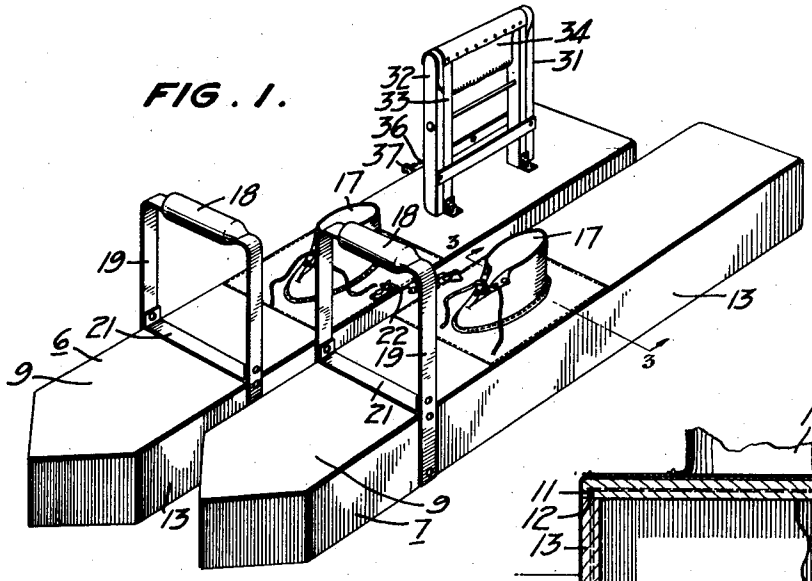


FIG. 3.

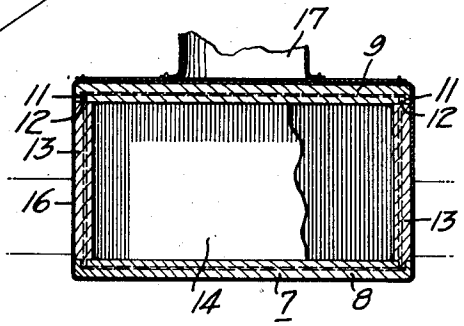


FIG. 2.

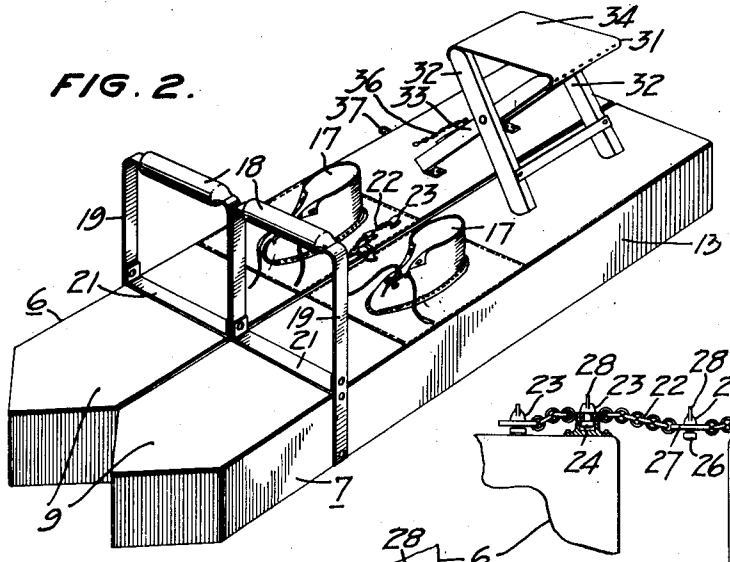
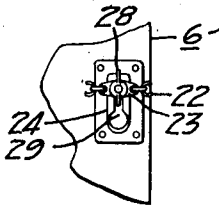


FIG. 4.

FIG. 5.



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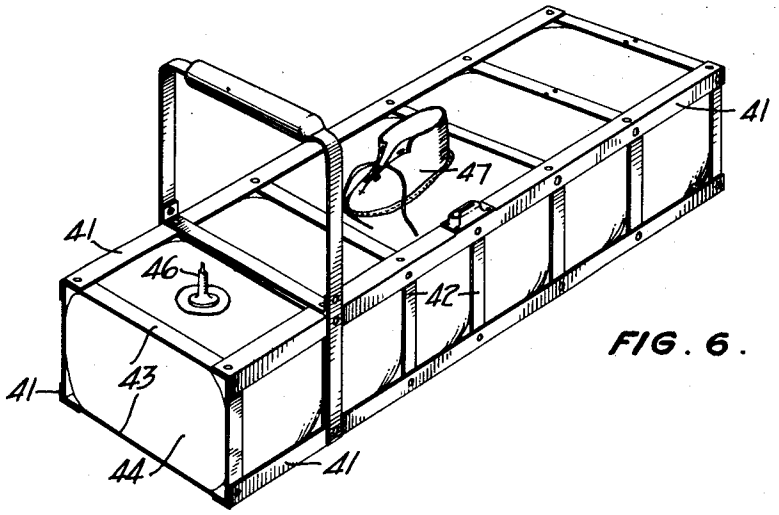


FIG. 6.

FIG. 7.

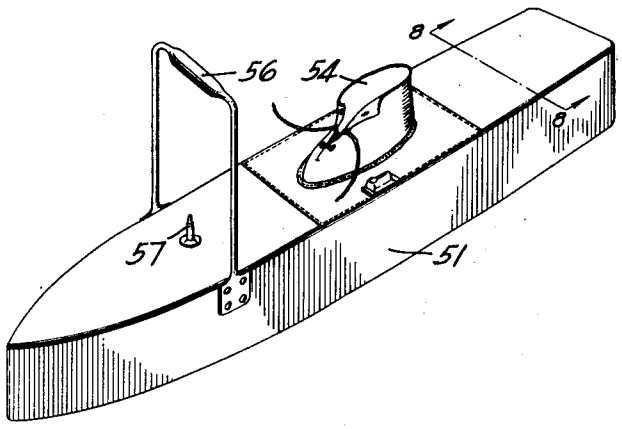


FIG. 8.

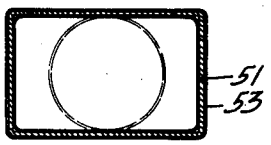
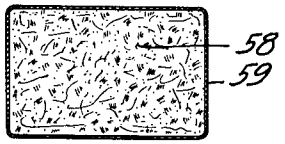


FIG. 9.



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Patented Dec. 4, 1928. 1,693,867

UNITED STATES PATENT OFFICE.

PAUL REINWALD, OF SAN FRANCISCO, CALIFORNIA.

WATER SHOE.

Application filed June 20, 1927. Serial No. 200,025.

My invention relates to means for permitting persons to walk on the surface of water and particularly relates to pontoons adapted to be attached to the feet of the wearer to support his weight on the surface of water.

An object of my invention is to provide means for permitting a person to walk on the surface of water.

Another object of my invention is to provide light, wieldy pontoons adapted to be worn by a person to enable him to walk on the surface of water.

A further object of my invention is to provide means for regulating the stride of a person utilizing my water shoes.

An additional object of my invention is to provide means to permit the relaxation of a person utilizing the water shoes of my invention.

My invention possesses other advantageous features, some of which with the foregoing will be set forth at length in the following description where I shall outline in full those forms of the water shoes of my invention, which I have selected for illustration in the drawings accompanying and forming part of the present specification. In said drawings I have shown forms of water shoes embodying my invention, but it is to be understood that I do not limit myself to such forms since the invention, as set forth in the claims, may be embodied in a plurality of other forms.

In the drawings:

Fig. 1 shows in perspective one form of the water shoes of my invention as they are utilized in walking on the surface of water.

Fig. 2 shows in perspective the same form of the water shoes of my invention as they are arranged when the user thereof is resting.

Fig. 3 is a cross section of a pontoon as shown in Fig. 1, the plane of section being indicated by line 3—3 of Fig. 1.

Fig. 4 is a detail showing the chain joining the two water shoes of Fig. 1, a portion of the chain securing device being indicated in section.

Fig. 5 shows in plan the fastening device for the chain.

Fig. 6 shows in perspective a modified form of water shoe of my invention.

Fig. 7 shows in perspective an additional modified form of water shoe of my invention.

Fig. 8 is a cross section on the line 8—8 of Fig. 7 disclosing the structure of the form of shoe shown in Fig. 7.

Fig. 9 is a cross section showing the internal arrangement of a modified form of water shoe.

In the preferred embodiment, the water shoes of my invention preferably comprise a pair of pontoons adapted to be attached to the feet of an operator and having means for variably spacing the pontoons by means of a connecting chain to regulate the stride of the wearer.

In the form of the invention disclosed in Figs. 1 to 5, inclusive, I preferably provide a pair of displacement pontoons 6 and 7 which are adapted to be worn by the operator. The construction of the two pontoons is alike in its major aspects and each pontoon preferably comprises a shell made of wood or similar material and includes a bottom 8 and a top 9 which are preferably parallel and are provided with longitudinal grooves 11 to receive suitable tongues 12 on the sides 13. A shell rectangular in cross section is thus provided and preferably the forward portion of each pontoon is pointed to lessen its resistance to movement in water. The pontoons are strengthened by the provision of transverse braces 14 which are in the form of bulkheads extending across the interior of the hollow shell and are preferably tongued to fit into corresponding grooves.

Each shell preferably is joined and secured in the usual way either by glue or nails and screws and in addition is treated with a substance, such as white lead, to render it more nearly waterproof. The entire surface of the shell is preferably covered with a suitable water-proofing paint over which a flexible material 16 such as canvas is stretched. The convas in itself preferably is a waterproof material and in addition is covered with a water-proofing paint so that the pontoon when finished is thoroughly waterproof.

To provide a firm support for the operator, each pontoon is provided with a shoe 17 which can be of any suitable flexible material, such as leather or canvas, and preferably is joined to the flexible canvas covering 16. The shoe 17 can either be in the nature of an overshoe to encompass the usual leather shoes of the operator or can be a shoe to replace his usual shoes. In either event, it joins the material of the pontoon with a water-tight junction so that adequate protection is provided the operator against contact with the water.

To assist in the operation of my water shoes, I have equipped each pontoon with a

handle-bar 18 which is a suitably fastened grip mounted on a yoke 19 which preferably extends down the sides 13 and is secured thereto. A suitable cross brace 21 aids in positioning the yoke on the shell.

When the user operates my water shoes he alternately displaces each of them axially with respect to the other in order to progress on the surface of the water and for limiting the length of his stride I have provided a flexible junction between the two pontoons 6 and 7. A chain 22 is affixed at one end to pontoon 7 and carries at intervals throughout its length fasteners 23 adapted to cooperate with a socket 24 secured to the other pontoon 6 to permit a variable spacing to be had between the pontoons and to permit a variable stride by the operator. Each fastener comprises the head of a bolt 26 projecting below a plate 27 forming a link in the chain and adjustable with respect to the plate by a wing nut 28. The heads 26 are adapted to be seated in a slot 29 in the socket 24 and can be clamped in position by tightening the appropriate wing nut 28. Preferably, one of the fasteners 23 serves to hold the pontoons 6 and 7 in contact while the other fasteners permit of increased strides and an increased distance between the two pontoons. This distance can easily be regulated by the operator at his convenience.

To permit the operator to relax after operating the water shoes of my invention after an extended period, I preferably have provided a seat for him which is adapted to be used when the pontoons 6 and 7 are secured closely together by the chain 22. To one of the pontoons 6 a folding chair 31 is attached. The chair includes two similar pairs of cross legs 32 and 33, one of which is hinged to one pontoon 6 and the other of which is adapted to rest on the other pontoon 7. The upper ends of the two pairs of legs are joined by a canvas sheet 34 which permits the chair to be folded up when not in use, as shown in Fig. 1, or to be extended and supported by both pontoons as disclosed in Fig. 2. In its folded position, the seat preferably is retained in place by a chain 36 engaging a hook 37 on the side of the pontoon 6.

In a modified form of water shoes, one of which is disclosed in Fig. 6, I preferably provide a frame work or shell made of aluminum shapes. The corners are provided by aluminum angles 41 joined by suitable side strips 42 and top strips 43. Within the shell provided by the metallic strips, I position an inflatable bag or container 44 preferably of rubber or rubberized fabric. The bag 44 is equipped with a valve stem 46 similar to the usual automobile tire valve stem through which a suitable gas, such as air, can be introduced. The bag is distended by inflation to fill up the entire framework provided by the metallic angles and strips and gives buoyancy to the pontoon so formed. A shoe 47 is preferably joined to the material of the bag and forms a water-proof junction therewith. A handle-bar is also provided on the pontoon in a manner similar to those in Fig. 1. Otherwise this form of pontoon is identical with that first described and can be provided with a restraining chain and also with a seat for the relaxation of the operator if so desired.

In the variation shown in Fig. 7, I preferably provide a shell or frame 51 which is carefully stream lined in contour to afford the least resistance possible to the movement of the pontoon through the water. The shell preferably is made of thin metal and the hollow pontoon is provided with a sheet 53 of flexible material, such as canvas, preferably affixed in a water-proof manner to the upper surface of the pontoon and forming a water-tight juncture with a shoe 54. Forward of the shoe a light handle-bar 56 is installed for the use of the operator. This type of pontoon can be filled with cork or can alternatively be provided with an interior bag of rubber or rubberized material to be inflated through a stem 57 with a suitable buoyant gas. In addition, this type of pontoon can be provided with the stride limiting chain and also with a seat but preferably they are omitted from this model as it is intended primarily for racing purposes.

An alternative form of pontoon is shown in section in Fig. 9, in which a body of suitably reenforced cork 58 is wrapped with waterproof canvas 59 to provide a pontoon of the desired shape and requisite buoyancy. This form also can be provided with the previously described adjuncts if desired.

I claim:

1. A water shoe comprising a pontoon having a flat bottom, a shoe secured adjacent the center of the top of said pontoon, and a handle-bar secured to the sides of said pontoon and extending over the top thereof forward of said shoe.

2. A water shoe comprising a pontoon, a shoe secured to the top of said pontoon, and a handle-bar secured to the sides of said pontoon and extending over the top thereof forward of said shoe.

In testimony whereof, I have hereunto set my hand.

PAUL REINWALD.