May 16, 1933. S. FEIR 1,909,259

STABILIZING SUPPORTING DEVICE FOR BODIES ON WATER

Filed June 29, 1932

Fig. 1.

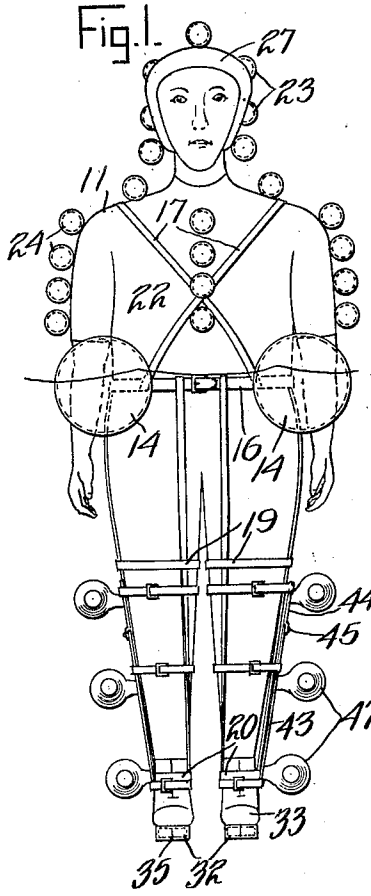


Fig. 2.

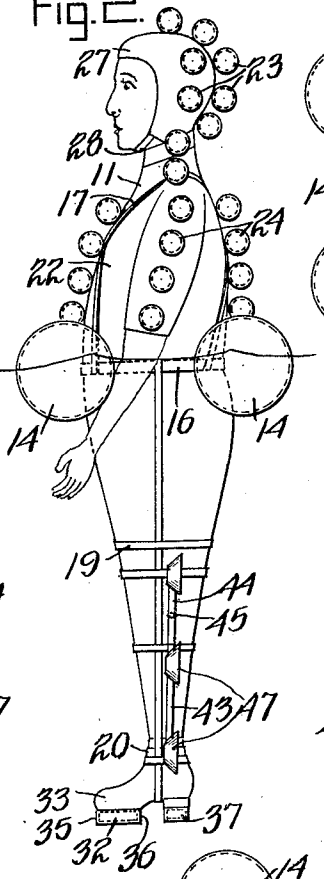


Fig. 4.

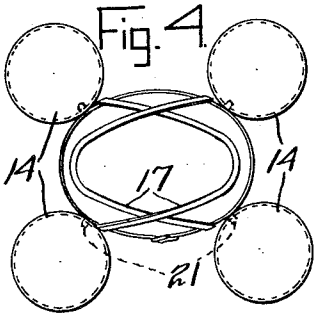


Fig. 6.

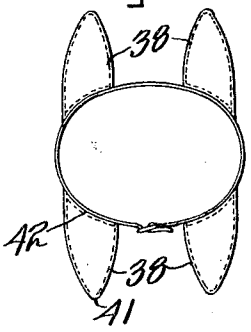


Fig. 3.

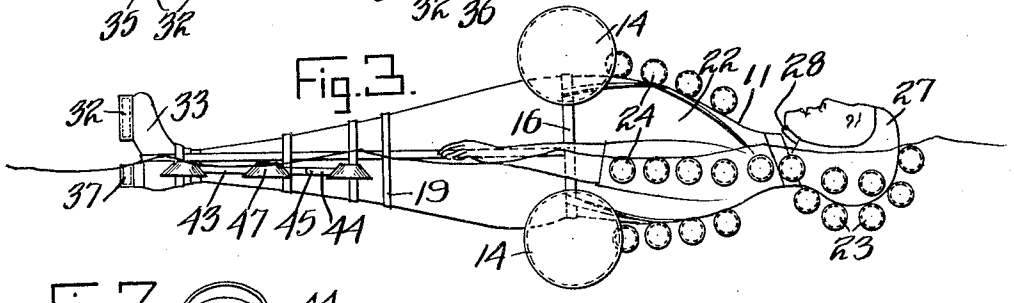


Fig. 7.

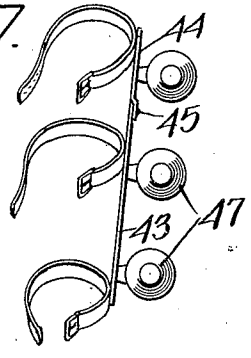
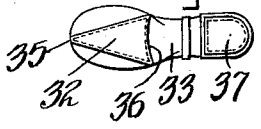


Fig. 5.



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By

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Patented May 16, 1933 1,909,259

UNITED STATES PATENT OFFICE

SAMUEL FEIR, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO ELEK SMOKE, OF BROOKLYN, NEW YORK

STABILIZING SUPPORTING DEVICE FOR BODIES ON WATER

Application filed June 29, 1932. Serial No. 619,989.

My said invention relates to stabilizing supporting devices for bodies on water as more fully set forth in my application Serial No. 596,250, filed March 2, 1932, of which this application is a continuation in part, the present application also including certain further improvements whereby the efficiency of said device is enhanced, all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawing which is made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a view in front elevation of a device embodying the invention, showing the same in upright position,

Figure 2, a side elevation.

Figure 3, a side view thereof in floating position,

Figure 4, a top plan of the device with certain parts removed,

Figure 5, a bottom plan view of a paddling device embodying a feature of the invention,

Figure 6, a top plan view of a modified form, and

Figure 7, a detail view of one of the propelling elements.

The drawing forming a part hereof illustrates a device embodying the principles of my said invention. In said drawing numeral 11 indicates in outline the body of a swimmer having means provided around his waist for supporting him in upright position in the water. The supporting means will preferably be secured about the swimmer's waist. These means may include a plurality of buoyant elements 14 suitably spaced around the body of the swimmer so as to stabilize him from every possible direction. As shown four of said buoyant elements are provided, two arranged at the front in proximity with the sides of the body and two arranged at the rear of the body. More or less elements of different form and arrangement may be employed if found desirable. Each pair of front and rear elements as shown in the preferred form provide elongated buoyant supports which permit easy movement of the person through the water. The buoyant elements 14 may be made in different shapes and of different materials for example each buoyant member may be constructed as a hollow ball as shown in Figure 4 or they may be elongated hollow elements with pointed ends extending forwardly and rearwardly from the body as shown in Figure 6. They may be made of a thin light material, either flexible or rigid in character, such as rubber or other water-proof fabric, or of metal of appropriate character. These buoyant elements 14 will be sufficiently large to give them the necessary lifting or supporting power. By constructing them of diameters of about 15 inches they have been found sufficient to support a very heavy person in the water. They may, however, be made smaller or larger as may seem desirable. Said buoyant elements 14 may be and preferably are attached to a belt 16 for securing same about the wearer's body and supplemental straps 17 may extend from the belt upward over the shoulders and other straps 18 downward along the legs and around under the feet respectively Said straps 18 may be secured to the legs of the swimmer by an additional strap or band which is adapted to surround the leg above the knee and a strap 20 at the ankle to which said straps 19 are connected. The buoyant elements 14 may be attached to the belt 16 by fastening means 21 of any appropriate character, which fastening means may permanently or detachably secure the members 14 to the belt, as desired. If desired the swimmer may also wear a suitable water-tight suit 22 which may envelope the entire body or only part from the belt upward. The buoyant elements just described are preferably mounted independently of the suit but may be attached to the suit if desired. To afford additional supports for the person supplemental buoyant elements 24 may be disposed along the wearer's body as shown. These may be buoyant elements similar in general construction and appearance to elements 14 but are preferably smaller and are arranged in one or more spaced rows extending along appropriate lines of the wearer's body, as along the sides, front and back as shown. Additional buoyant elements 23 may be attached in any suitable manner to a head

covering 27 which covering will preferably be water-proof and may be of any suitable material and may be held in position by a chin strap 28, the buoyant elements being disposed with the purpose to most appropriately support the head of the swimmer above the water.

By means of the buoyant elements described the swimmer is supported in floating position in the water and his head is kept out of the water. Due to the distribution of the elements 24 the swimmer's weight is properly distributed to insure freedom of action. To facilitate movement through the water or along the water paddle devices 32 are secured to shoes 33 and these devices are constructed with a streamline effect so as to act as paddles in the normal to and fro movement of the wearer's limbs as in walking. Specifically the members 32 may be connected to the shoe soles and may consist of thin walled metal air-tight devices, preferably triangular in shape with front edges 35 and with rear faces 36 of larger area, the rear face being convex to afford efficient paddling action. Heel portions 37 may be provided to maintain an even level of the shoes with the members 32. To provide other means for propelling the swimmer through the water, rigid straps or bars 43 and 44 may be secured to the sides of the legs, the elements 43 and 44 being hinged as at 45 to permit free bending of the leg at the knee. The elements 43 and 44 are secured by straps 46 to the swimmer's legs and propelling means 47 are secured to the outer edges of the swimmer's leg. The elements 47 are preferably formed as truncated cones with the small end directed toward the front of the body. These elements therefore provide cup-like devices which may be freely moved forward but which when moved to the rear act as paddles or oars to propel the swimmer through the water.

In Figure 6 is shown a modified form of the invention which is similar in most respects to that shown in Figure 1 except that the buoyant elements 14 are shown as elongated buoyant elements 38. When the swimmer is going forward the buoyant elements 38 may form a pontoon device and is well adapted for movement with slight resistance through the water. Each buoyant element may have a curved free end 41 and be of circular or other form in cross section with its inner end 42 relatively large in area and curved to fit snugly against the body of the swimmer.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention and therefore I do not limit myself to what is shown in the drawing and described in the specification, but only as indicated in the appended claims.

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

1. A swimming suit comprising a harness adapted to be secured about the body of the swimmer, said harness comprising a belt portion having a plurality of buoyant elements secured thereto, a pair of shoulder straps attached to the belt at the front and rear of the body of the swimmer, a pair of leg straps attached at one end to the belt at opposite sides of the body and attached at the other ends to the belt adjacent the front of the body, said leg straps passing down under the instep of the foot and having spacing straps secured thereto approximately at the knee and at the ankle, and a plurality of cup-like elements rigidly secured to said leg straps so as to lay in a plane substantially parallel to the axis of the swimmer's leg, substantially as set forth.

2. A swimming suit comprising a harness adapted to be secured about the body of the swimmer, said harness comprising a belt portion having a plurality of buoyant elements secured thereto, a pair of shoulder straps attached to the belt at the front and rear of the body of the swimmer, a pair of leg straps attached at one end to the belt at opposite sides of the body and attached at the other ends to the belt adjacent the front of the body, said leg straps passing down under the instep of the foot and having spacing straps secured thereto approximately at the knee and at the ankle, and a plurality of cup-like elements secured in spaced relation along the legs at their outer sides for propelling the swimmer through the water when his legs are moved as in the manner of walking, said cup-like elements being hollow and frusto-conical in shape, the smaller end being positioned forward to present relatively little resistance to the forward movement of the swimmer's legs but which are resisted upon rear movement of the legs to propel the swimmer through the water, substantially as set forth.

3. In a swimming suit of the kind described having buoyant elements secured thereto, a plurality of propelling elements removably attached to the swimmer's legs said elements comprising cup-like devices having their forward ends smaller than the rear ends to permit relatively unresisted forward movement but to provide resistance for rear movements to propel the swimmer through the water, substantially as set forth.

4. In a swimming suit of the kind described having buoyant elements secured thereto, a plurality of propelling elements removably attached to the swimmer's legs said elements comprising cup-like devices having their forward ends smaller than the rear ends to permit relatively unresisted forward movement but to provide resistance for rear movements to propel the swimmer through the water, said propelling elements being rig-

idly secured to bars, said bars being hinged adjacent the swimmer's knee, substantially as set forth.

In witness whereof, I have hereunto set my hand at Washington, District of Columbia, this twenty-eighth day of June, A. D. nineteen hundred and thirty-two.

SAMUEL FEIR.