May 26, 1936. T. J. HOWLAND 2,042,152

SWIMMING DEVICE

Filed July 25, 1935

Fig. 1,

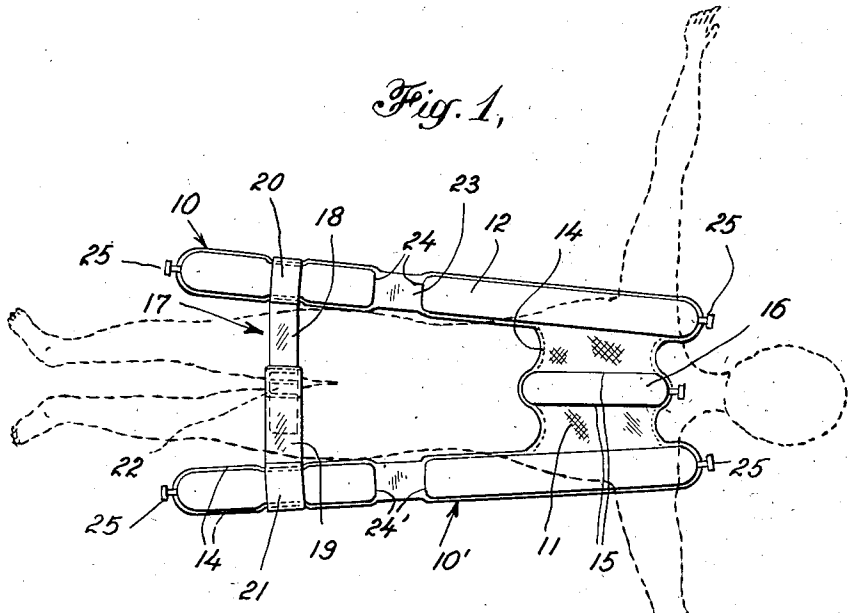


Fig. 2,

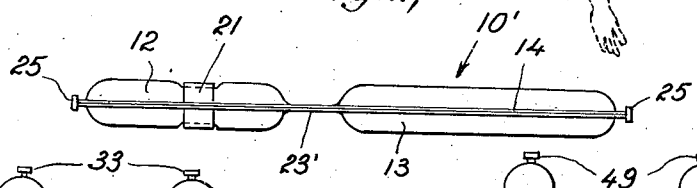


Fig. 3,

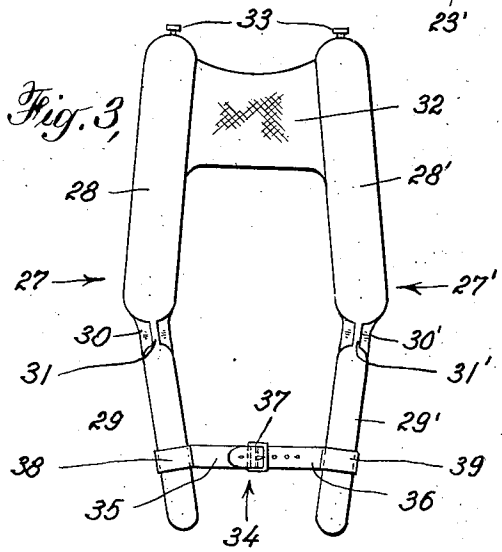
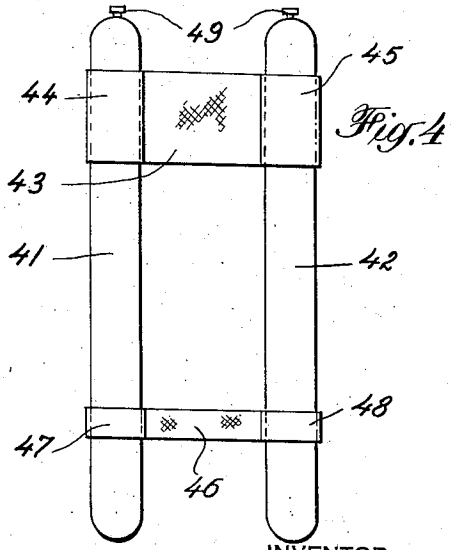


Fig. 4



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SWIMMING DEVICE

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9 Claims. (Cl. 9—21)

This invention relates to devices for use in swimming and has particular reference to a novel swimming device of the inflatable type which is especially suitable for use by beginners, although it may also be used to advantage by more experienced swimmers.

The body of a swimmer has a natural tendency to assume a substantially standing position in the water due to the fact that the most buoyant portion of the body is in the region of the chest. The tendency of the legs to sink is especially pronounced in the beginner in swimming who instinctively seeks the standing position, and it is generally desirable to provide means for counteracting this tendency in order to support the beginner in the proper position for swimming and instruct him in the different swimming strokes. Various expedients have been employed for artificially supporting the beginner while practicing swimming strokes, but so far as I am aware they are quite ineffective for maintaining the legs at the proper elevation in the water or are so cumbersome that they interfere with the freedom of movement of the legs and other parts of the body.

Among the more common devices used for supporting beginners in swimming are the so-called "water-wings" which are made up of a pair of inflatable members connected together by a band or strap adapted to pass under the body of the user. While these devices serve to prevent the head of the user from sinking below the surface of the water, they are of little use in enabling the beginner to practice the various swimming strokes for the reason that they provide no support whatever for the legs, the user being normally supported in a substantially vertical position which is improper for swimming. Another device commonly used by beginners is a flat board, similar in form to a surf-board, upon which the user reposes on his stomach with his legs extending over the rear edge of the board. Devices of this type are not only uncomfortable but are quite unstable and a considerable part of the beginner's efforts must be expended in maintaining a position on top of the board, the tendency of the board to overturn making it unsafe to strap the user in position. Moreover, the board provides a rigid support for the legs and trunk of the body which prevents the desired freedom of movement of these parts and results in a considerable strain on the back of the user.

The device of the present invention is adapted to support the swimmer in a stable and comfortable position in the water with the legs maintained at the proper elevation at all times, the device being so constructed that the parts of the body are immersed in the water to substantially the same extent as in swimming and are free to perform the various movements incident to swimming.

The new swimming device comprises a pair of elongated inflatable float units arranged in spaced, substantially parallel relation and adapted to extend along the sides of the swimmer. The float units are made of rubber or other suitable material and are joined together at corresponding ends by a substantially flat member which is positioned to provide a support for the upper part of the swimmer's torso. Connected between the opposite corresponding ends of the float units is a cross-member of webbing or the like, which is arranged in position to support the swimmer's legs, the cross-member being preferably movable along the units and having means for adjusting its length. In the preferred form of the device, each of the float units is provided intermediate of its ends with a flexible, substantially non-inflatable section, whereby the rear ends of the units when inflated may be more readily depressed in the water by the kicking movements of the legs.

It will be apparent that the new swimming device provides a stable support for the legs and torso of the body, and may be employed to great advantage in perfecting the kicking movements of the swimmer. The flexibility of the float units which is increased considerably by the non-inflatable sections, permits the swimmer's legs to be readily depressed in the water in accordance with the prescribed movements, and the legs are prevented from remaining in this position by the buoyancy of the float units. The cross-member for the legs may be adjusted lengthwise of the units to suit the individual requirements of the user, and by adjusting the length of the member the float units may be made to snugly engage the sides of the user to prevent him from being dislodged from the device, the user thus being supported in a secure position in which the legs and torso of the body are perfectly free to move in coordination with the legs.

For a better understanding of the invention reference may be had to the accompanying drawing, in which:

Fig. 1 is a plan view of a preferred form of the new device, showing the manner in which it is used for swimming;

Fig. 2 is a side elevation of the device shown in Fig. 1;

Fig. 3 is a plan view of a modified form of the device; and

Fig. 4 is a plan view of another form of the device.

In Figs. 1 and 2 of the drawing, the numeral 10 and 10' designate two elongated inflatable float-units arranged in substantially parallel relation and connected together at corresponding ends by a substantially flat member 11. Preferably, the float units and the interconnecting member 11 are made up of upper and lower rubber sheets 12 and 13, respectively, which are joined together along their corresponding edges by a continuous seam 14, the portions of the sheets forming the interconnecting member 11 being joined together along the lines 15 to form a third inflatable float unit 16.

Connected between the opposite corresponding ends of the float units 10, 10' is a cross-member 17 made of webbing or other flexible material. The cross-member is preferably made up of two strips of material 18 and 19 connected to the float units by loops 20 and 21, respectively, and joined together at their free ends by a buckle 22 for adjusting the length of the cross-member, the buckle being secured to the underside of the strip 19 which is slightly wider than the strip 18 and overlaps the end thereof, whereby the top of the buckle is completely covered.

In order to permit the float units 10 and 10' to be easily flexed when inflated, I prefer to provide substantially non-inflatable sections 23 and 23', respectively, intermediate of the ends of the units. The sections 23, 23' may be conveniently formed by joining the upper and lower sheets of the units along spaced transverse lines 24 and 24' so as to prevent the passage of air into the spaces between the joints. The float unit 16 and the ends of the units 10, 10' are provided with valves 25 for admitting air to the interior of the units.

In the use of the new swimming device shown in Figs. 1 and 2, the swimmer reposes on the device on either his stomach or back with his chest supported by the flat member 11 and his legs resting on the cross-member 17, as shown clearly in Fig. 1. The buckle 22 of the cross-member is adjusted to regulate the spacing of the units 10, 10' so that the latter snugly engage the sides of the swimmer in the region of the hips, and the loops 20 and 21 are adjusted lengthwise of the units so that the cross-member supports the legs in the desired position which will depend to some extent upon the particular swimming stroke to be used. I find that the various crawl strokes can be practiced with the best results by adjusting the cross-member 17 to engage the legs slightly above the knees, whereas in practicing the broad strokes it is generally more desirable to move the cross-member inward from the ends of the units so that it will engage the legs higher up and thus give more freedom for the knee bending and leg spreading which are incident to such strokes.

It will be observed that with this construction the upper part of the swimmer's body is well supported by the interconnecting member 11, the float unit 16 providing additional buoyancy, and that the shoulders and arms of the swimmer are free to perform the necessary movements since there are no straps or harness to bind them. The body in the region of the waist and hips is permitted to repose in the water without any direct support from the device, thereby increasing the sensation of swimming, but is prevented from sinking too deeply by the interconnecting member 11 and cross member 17 connected to the float units. Since the buoyant force for supporting the swimmer is applied almost entirely along the sides of the body by the float units 10, 10', the danger of the user overturning in the device or becoming dislodged therefrom is eliminated, and the user may have the assurance of being safely supported at all times in the proper position for swimming. While thus supported, the user may move his legs freely in the desired manner, the non-inflatable sections 23, 23' adding to the flexibility of the float units and permitting the rear ends thereof to be more easily depressed by the downward movements of the legs, and the buoyancy of the units serving to return the legs to the proper elevated position after each of such movements.

The modified form of the device shown in Fig. 3 comprises a pair of elongated inflatable float units 27 and 27' which include front sections 28 and 28', respectively, and rear sections 29 and 29', respectively, the front and rear sections of the respective float units being joined together by flexible, substantially non-inflatable elements 30 and 30'. Extending through the flexible elements 30 and 30' are air passages 31 and 31', respectively, which communicate with the interiors of the front and rear sections of the respective float units. The front sections of the units diverge slightly toward the rear sections and are joined together at their outer ends by a flexible interconnecting member 32. Each of the front sections is provided with a conveniently located air valve 33.

The rear sections 29, 29' of the float units are considerably smaller in cross section than the front sections and are inclined slightly inwardly at an angle to the latter whereby the spacing between the units is greatest in the vicinity of the flexible elements 30, 30'. Connected between the rear sections is a cross member 34 comprising two flexible strips 35 and 36 joined together by an adjustable buckle 37 and provided at their outer ends with loops 38 and 39, respectively, through which the rear sections extend.

The device shown in Fig. 3 is used in the same manner as that shown in Figs. 1 and 2, the user reposing on the device with his chest supported by the interconnecting member 32 and his legs resting on the cross member 34. The latter is adjusted by means of the buckle 37 to hold the front sections of the float units against the sides of the user, the rear sections extending slightly inwardly from the front sections so that they lie parallel to the general contour of the user's legs and thereby prevent the legs from spreading too far apart during the kicking movements. The rear sections of the units, being smaller and less buoyant than the front sections, permit the legs to settle in the water to the level of the swimmer's torso or lower, thereby preventing any strain upon the swimmer's back which might occur if the legs were supported at too high an elevation with respect to the back.

It will be observed that the device shown in Fig. 3 can be completely inflated by blowing air into the two valves 33, the passages 31, 31' permitting the flow of air from the front to the rear sections whereby the pressure is equalized throughout each of the float units.

A simplified form of the device is shown in Fig. 4. The device illustrated therein comprises a pair of spaced elongated inflatable float units 41 and 42 arranged in parallel relation and joined

together at corresponding ends by an interconnecting member 43 of flexible material. The member 43 is of sufficient width to comfortably support the chest of a swimmer and is provided at its ends with loops 44 and 45 through which extend the front ends of the units 41 and 42, respectively. Connected between the rear ends of the float units is a cross member 46, the latter being provided at its ends with loops 47 and 48 through which extend the rear ends of the units 41 and 42, respectively. Each of the float units is provided with a conveniently located valve 49 for use in inflating and deflating the device.

It will be apparent that the device shown in Fig. 4 can be constructed at a low cost since the parts thereof are few in number and are simple and inexpensive. The device may be adjusted by moving the loops of the interconnecting member 43 and cross member 46 along the float units so that the members engage the torso and legs, respectively, of the user in the desired positions, and by so adjusting the device it may be made to conform to the size of the person using it, the float units readily adapting themselves to the sides of the user by reason of their flexibility.

Devices made in accordance with this invention have been used with great success by beginners in swimming. The user is supported in the water in the proper position at all times and since there is no danger of the device overturning or the user being dislodged therefrom, very little supervision is necessary. By reducing the pressure of the air in the units from time to time during the use of the device, the beginner gradually learns to depend upon his own efforts to support himself in the water, and thereafter the device may be used to great advantage in perfecting the various kicking movements. When the device is deflated it may be folded into a flat compact form which will fit into a small package suitable for transporting the device.

Although the new device has been described as particularly adapted for use in swimming, it will be understood that its use is not restricted therein. For example, the device may be used for a variety of amusements in the water, the cross members which extend between the float units serving as a seat and foot rest for the user.

While I have described and illustrated in detail three forms of the new device, it is to be understood that the invention is not limited thereby, but that the principles thereof may be embodied in any suitable device within the scope of the invention.

I claim:

1. A swimming device comprising a pair of spaced elongated inflatable float units adapted to extend along the sides of the swimmer, a flexible substantially non-inflatable element interposed between the ends of each unit and dividing the interior thereof into two inflatable sections, each of said elements having a passage therethrough communicating with the adjacent sections, means connected between corresponding ends of said units for supporting the upper torso of the swimmer, and a member connected between the opposite corresponding ends of said units in position to support the swimmer's legs.

2. In a swimming device, the combination of a pair of elongated inflatable float units adapted to extend along the sides of the swimmer, each unit including a front section and a rear section having a smaller cross-sectional area than said front section, an interconnecting member extending between the front sections of the units in position to support the upper torso of the swimmer's body, and a cross member extending between the rear sections of the units and adapted to support the legs of the swimmer.

3. In a swimming device, the combination of a pair of spaced elongated, flexible float units, said units being freely bendable in all directions and each adapted to extend along one side of the swimmer, and of a length to extend substantially from the head to the knees of the swimmer, means connected between said units near corresponding ends thereof for supporting the upper part of the swimmer's body, and a member connected to said units extending across the space between the units near the opposite corresponding ends thereof and spaced a distance from said first mentioned connection to be in a position to support the legs substantially at the knees when a person is lying thereon, said opposite corresponding ends of the float units being free to bend downwardly and towards each other upon application of tension to the member connecting said ends.

4. In a swimming device, the combination of a pair of spaced elongated inflatable, flexible float units, each adapted to extend along one side of the swimmer, and of a length to extend substantially from the head to the knees of the swimmer, means connected between said units near corresponding ends thereof for supporting the upper part of the swimmer's body, and a flexible member connected to said units and extending across the space between the units, said flexible member being spaced a distance from said first mentioned connection to be in a position to lie beneath the legs of a person lying thereon, whereby downward pressure of the legs applies tension to said member and draws the rear ends of the units together.

5. In a swimming device, the combination of a pair of spaced elongated inflatable flexible float units each adapted to extend along one side of the swimmer, and of a length to extend substantially from the head to the knees of the swimmer, means connected between said units near corresponding ends thereof for supporting the upper part of the swimmer's body, and a strap connected across the space between said units and adjustable lengthwise with respect thereto, said strap being spaced a distance from said first mentioned connection to lie beneath the legs of a person lying thereon, whereby downward pressure of one of the legs applies tension to said member and draws the rear ends of both units downwardly in the water.

6. In a swimming device, the combination of a flexible float comprising a pair of elongated units, said units being freely bendable in all directions and each adapted to extend along one side of the swimmer, and of a length to extend substantially from the head to the knees of the swimmer, an integral interconnection near corresponding ends of said elongated units, adapted to support the torso of the swimmer, and a member connected to said elongated units and adapted to extend beneath the swimmer's legs in the region of the knees across the space between said units, the ends of said units to which said member is attached being free to bend downwardly and towards each other upon application of tension to the member connecting said units, said elongated units and said integral interconnection being formed of two superimposed sheets jointed together around the entire edges thereof.

7. In a swimming device, a pair of spaced elongated inflatable floats each adapted to extend along one side of a swimmer, and of a length to extend substantially from the head to the knees of the swimmer, each of said floats being formed of two superimposed sheets joined together around the entire edges thereof, an interconnection between said units near corresponding ends thereof for supporting the torso of the swimmer, said interconnection being formed of a pair of superimposed sheets joined together throughout at least the major portion of their width adjacent each float member, and being separated, except at their edges at an intermediate area, to form an inflatable float, and a member connected to said first-mentioned floats and extending across the space therebetween in position to support the swimmer's legs.

8. In a swimming device, the combination of a pair of spaced elongated inflatable float units adapted to extend along the sides of the user, and of a length to extend substantially from the head to the knees of the user, said units being curved inwardly toward their opposite ends, whereby the front ends of the units extend beneath the shoulders and the rear ends extend substantially parallel to the legs of the user, an interconnecting member connected between said units near corresponding ends thereof, in position to support the upper torso of the user, and a cross member connected to the units and adapted to extend beneath the swimmer's legs across the space between said units.

9. In a swimming device, the combination of a pair of spaced elongated inflatable float units each adapted to extend along one side of the swimmer, and of a length to extend substantially from the head to the knees of the swimmer, each unit having a substantially non-inflatable portion extending transversely thereacross intermediate the ends thereof, means connected between said units near corresponding ends thereof for supporting the upper part of the swimmer's body, and a flexible member connected to said units and extending across the space between the units, said member being spaced a distance from said first mentioned connection to lie beneath the legs of a person lying thereon, whereby downward pressure of one of the legs applies tension to said member and draws the rear ends of both units downwardly in the water.

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