F. J. CULOMER.

FLOATING DEVICE FOR SWIMMERS.

APPLICATION FILED SEPT. 6, 1911.

1,027,642.

Patented May 28, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

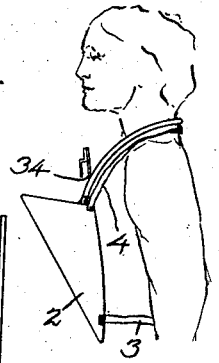


Fig. 3.

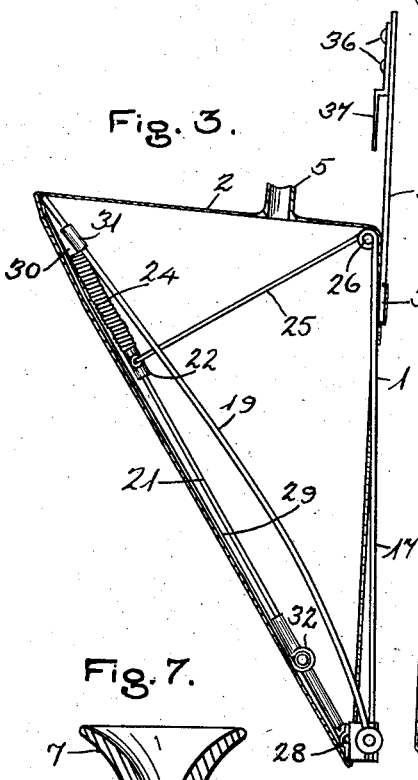


Fig. 4.

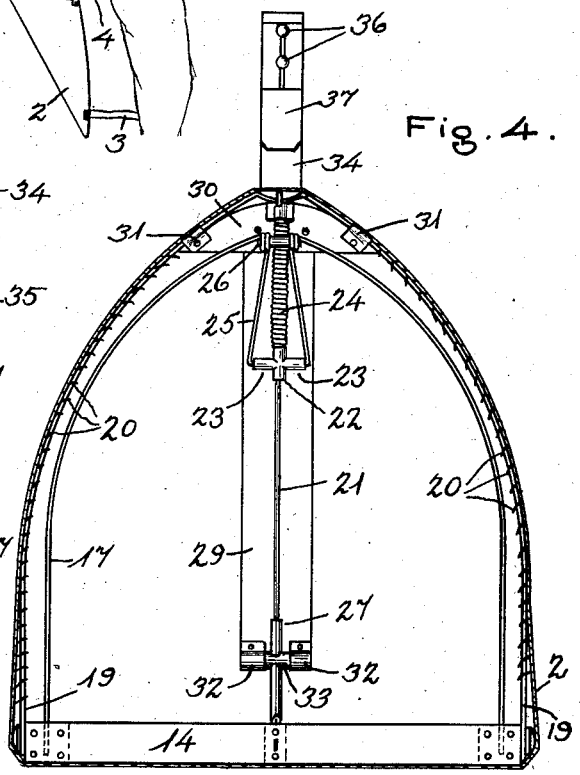
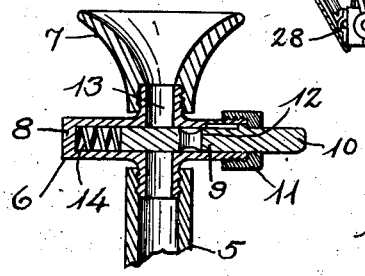


Fig. 7.



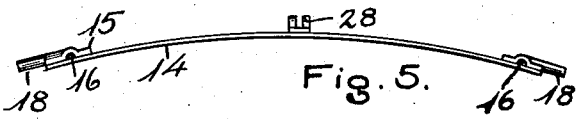
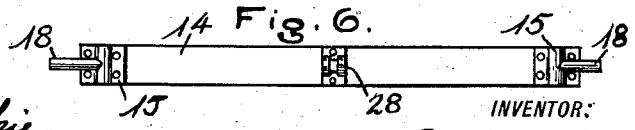


Fig. 5.

Fig. 6.



WITNESSES

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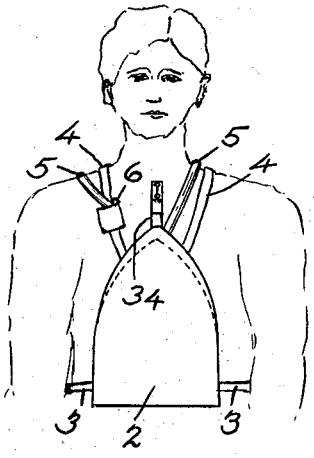
2 SHEETS—SHEET 2.

Fig. 2.



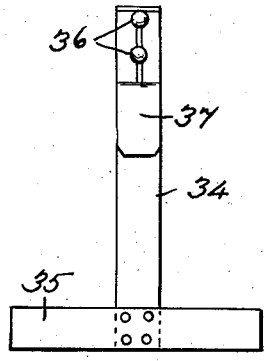


Fig. 8.

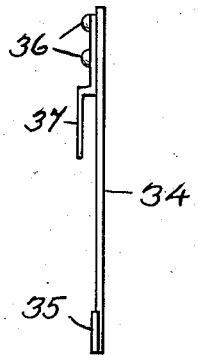


Fig. 9.

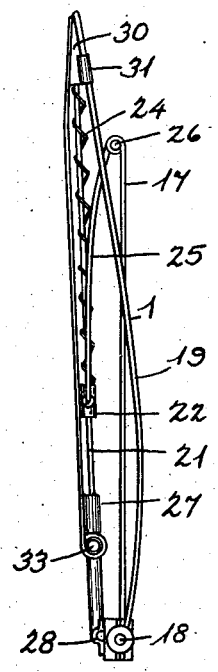


Fig. 10.

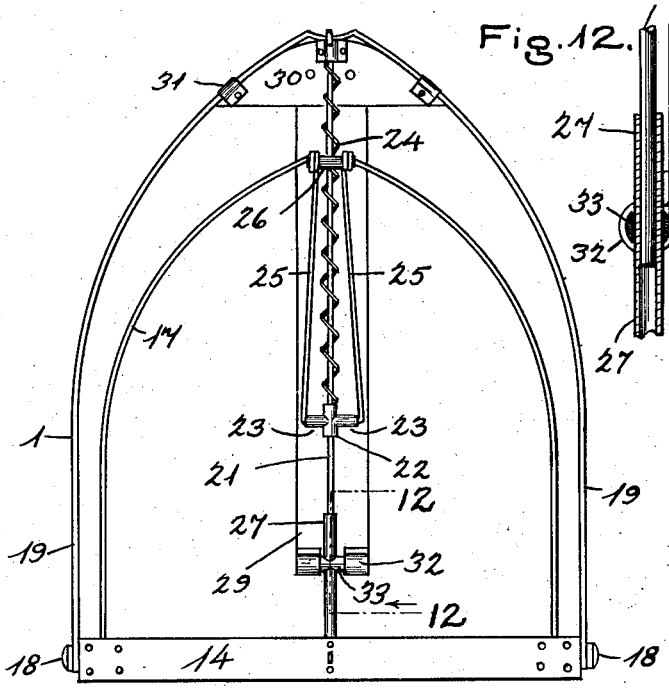


Fig. 11.

Fig. 12.

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UNITED STATES PATENT OFFICE.

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FLOATING DEVICE FOR SWIMMERS.

1,027,642. Specification of Letters Patent. Patented May 28, 1912.

Application filed September 6, 1911. Serial No. 647,906.

To all whom it may concern:

Be it known that I, FRANK J. CULOMER, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Floating Devices for Swimmers, of which the following is a specification.

The objects of this invention are to provide a device which can be worn by a swimmer without inconvenience and will support him safely in case of cramp or the like; to secure such a device which can be firmly strapped to the swimmer so as to be always ready for instant use; to obtain such a device which can be normally collapsed, so as to offer no obstruction to swimming, and yet can be instantly expanded and filled with air; to secure an automatic filling of the air chamber; to provide ample buoyancy, so as to safely support the swimmer; to provide a simple device, which shall act promptly and positively; to secure lightness and convenience, and a construction which shall adapt itself comfortably to different individuals, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate the same parts throughout the several figures, Figure 1 is a side view of my improved floating device in open or expanded position upon a person; Fig. 2 is a front view of the same; Fig. 3 is a side view upon larger scale, the cover or bag being in central section from front to rear so as to show the frame more clearly; Fig. 4 is a front view of the float in open or expanded position, the cover or bag being in central section between the front and back to show the frame more clearly; Fig. 5 is a top edge view or plan of a certain base strip; Fig. 6 is a rear view of the same; Fig. 7 is a central section of a certain air inlet or filling valve; Fig. 8 is a front view of a certain catch for holding the floating device collapsed, detached; Fig. 9 is an edge view of the same; Fig. 10 is an edge view of the frame collapsed; Fig. 11 is a front view of the same, and Fig. 12 is a detail section on line 12—12, Fig. 11.

In said drawings, 1 indicates the body portion of my improved device, consisting of a frame inclosed in a cover or bag 2 which may be of any light flexible material which is impervious to water and air, such as rubberized cloth. This bag forms the air chamber, and the said body portion is adapted to be secured in position upon the swimmer's chest by means of lower straps 3, 3 which project laterally from the lower end of the bag to extend around the waist, and upper straps 4, 4 which project from the upper part of the bag to fasten around the swimmer's neck. These straps may tie or buckle in any well-known manner.

From the bag 2, preferably from its top, a tube 5 leads upward and normally lies loose around the swimmer's neck. The end of the tube, which is thus convenient for instant use, is provided with a valve 6 and mouth-piece 7. The valve is normally closed, and the swimmer simply opens it when he wants the bag to expand, or if he is in haste he can blow up the bag through the said mouth-piece. The detail construction of the valve is immaterial, but for illustration I have shown a casing 8 in which a valve proper 9 slides transversely with a finger-piece 10 projecting through a stuffing-box 11. A port 12 is adapted to be brought into alinement with the flow passage 13 of the valve casing, but normally a spring 14 holds it out of said passage.

The frame of the body portion is arranged to normally expand or open, thus inflating the bag or air-chamber if the valve 6 is opened, and means are therefore provided for releasably holding it in closed or collapsed position, as will be hereinafter described. This means must be released by the swimmer, as well as the valve 6 opened, when he wants to inflate the bag and utilize the device to float himself. The said frame consists of a flexible base strip 14 of sheet-metal, curved to fit the body of the swimmer and having at its ends pivot pieces 15, 15. Said pivot-pieces provide vertical sockets 16, 16, for the ends of a stationary wire portion 17 of inverted U-shape adapted to lie against the swimmer's chest, and also provide horizontally projecting trunnions 18, 18 on which are pivoted the ends of a swinging wire portion 19 also of inverted U-shape, although somewhat larger than the other 17, and adapted to swing either against the swimmer's chest into substantially the same plane with the frame portion 17 or outwardly away therefrom as in Fig. 3. The bag 2 incloses said frame portions,

being sewed as shown at 20, so as to prevent displacement, and obviously when the frame portion 19 is swung away from the other, 17, as in Fig. 3, the bag will be distended, while when the frame portions close together as in Fig. 10 the bag collapses after the fashion of a bellows.

In order to swing the frame portion 19 away from the frame portion 17, a piece of wire 21 extends from the top of said portion 19 and is connected to the middle of the base strip 14, so as to form a slideway for a tubular slide 22 having arms 23, 23. This slide is drawn toward the top of the frame portion 19 by a strong spring 24 coiled on said wire slideway 21 and attached at its ends to the frame portion 17 and slide 22. To the top of the frame portion 17 are pivotally connected braces 25, 25, which are pivoted at their other ends to the arms 23, 23 of the slide 22. Thus the frame portions 19 and 17 can be pressed together, the braces 25 folding against the frame portion 17 and the slide 22 being forced toward the base strip 14, expanding the spring 24, as shown in Figs. 9 and 10, and storing up energy to open or expand the frame again when released.

I have shown the braces 25, 25 as integral ends of the sides of the frame portion 17, wound around a pin 26 at their junction with the frame portion proper, see Figs. 4 and 10. This increases the spring power tending to close the frame portions together. Preferably the slide wire 21 enters slidably loose at its lower end a tubular socket 27 which is hinged to the base strip 14, as at 28. This allows the slide to accommodate itself to any changes of distance between the base strip and top of the frame portion 17. Furthermore, to prevent the slide 22 from wearing the bag or cover 2, a strip 29 of light sheet metal is arranged between, riveted at its upper end to a piece 30 held at the top of the frame portion 19, in the plane thereof, by loops 31 around the wire of said frame portion. The lower end of said protecting strip 29 is held by ears 32 around a cross bar 33 which is transversely apertured to slide on the socket 27, as shown in detail in Fig. 12.

Obviously, the frame must be positively held in folded or collapsed position, and for this purpose I have shown a standard 34 projecting upward from a foot 35 adapted to be sewed or otherwise secured to the bag or cover 2 near the top of the frame portion 17. This standard is slotted to receive the rivets 36, 36 which hold a catch 37 slidably against the standard, the off-set lower end 38 of said catch adapted to overlie the top of the frame portion 19 when folded as shown in Figs. 10 and 11. Any other suitable form of catch might be used, if desired.

In using my invention, the swimmer wears it collapsed or folded flat on his chest, where it offers very little obstruction, until a necessity arises for using the device to float himself. He then releases the catch 37, and holding the end of the inlet tube 5 above water, opens the valve 6 by pressure thereon, when the bag or air chamber will automatically fill.

Having thus described my invention, what I claim is:

1. In a floating device for swimmers, the combination of a frame having a base strip and U-shaped frame portions connected at their open ends to said base-strip and adapted to fold together, a flexible covering inclosing said frame and forming an air chamber, a valved air inlet for said air chamber, and means for securing said air chamber upon a swimmer with the said base strip at his waist and the said frame portions projecting upward and adapted to lie against his chest.

2. In a floating device for swimmers, the combination of a frame having a base strip and front and rear normally diverging frame portions hinged to said base strip longitudinally thereof, said frame portions projecting laterally from said base strip and adapted to fold together, a flexible covering inclosing said frame and forming an air chamber, a valved inlet for said air chamber, a catch upon the upper part of one frame portion outside said covering adapted to engage the other frame portion when the frame portions are closed together and hold them releasably against opening, and means for attachment to a swimmer with the said base strip at his waist and the frame portions projecting upward and adapted to lie against his chest.

3. In a floating device for swimmers, the combination of a frame comprising a base strip, front and rear frame portions mounted on said base strip so as to fold together or open apart, a slide-way extending from the upper part of one frame portion to the middle of the base strip, a slide for said slideway, braces on the upper part of the other frame portion pivoted to said slide, a flexible covering inclosing said frame and forming an air chamber, and a valved inlet for said air chamber.

4. In a floating device for swimmers, the combination of a frame comprising a base strip, front and rear frame portions mounted on said base strip so as to fold together or open apart, a slide-way extending from the upper part of one frame portion to the middle of the base strip, a slide for said slide-way, braces on the upper part of the other frame portion pivoted to said slide, a coiled spring extending longitudinally of said slide-way fast at its opposite ends, with respect to the adjacent frame portion and

the slide respectively and tending to draw them together, a flexible covering inclosing said frame and forming an air chamber, and a valved inlet for said air chamber.

5. In a floating device for swimmers, the combination of a frame comprising a base strip, front and rear frame portions mounted on said base strip so as to fold together or open apart, a socket on the said base strip intermediate its ends, a piece of wire fast with respect to the upper part of one frame portion and extending telescopically into said socket, a slide on said wire, braces on the upper part of the other frame portion pivoted to said slide, a flexible covering inclosing said frame and forming an air chamber, and a valved inlet for said air chamber.

6. In a floating device for swimmers, the combination of a frame comprising a base strip, front and rear frame portions mounted on said base strip so as to fold together or open apart, a socket on the said base strip intermediate its ends, a piece of wire fast to the upper part of one frame portion and extending telescopically into said socket, a slide on said wire, braces on the upper part of the other frame portion pivoted to said slide, a coiled spring extending longitudinally of said wire fast at one end with respect thereto and fast at its other end with respect to said slide, and tending to draw them together, a flexible covering inclosing said frame and forming an air chamber, and a valved inlet for said air chamber.

7. In a floating device for swimmers, the combination of a frame comprising a base strip, front and rear frame portions mounted on said base strip so as to fold together or open apart, a socket on the said base strip intermediate its ends, a piece of wire fast with respect to the upper part of one frame portion and extending telescopically into said socket, a cross piece slidable on said socket, a protecting strip secured at one end to said cross piece and at its other end to the upper part of the frame portion to which the said piece of wire is fast, a slide on said wire, braces on the upper part of the other frame portion pivoted to said slide, a flexible covering inclosing said frame and forming an air chamber, and a valved inlet for said air chamber.

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Witnesses:
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E. F. RICHTER.