

April 5, 1960

F. P. VILAREM

2,931,057

TOY BREATHING APPARATUS FOR SWIMMERS

Filed March 20, 1959

FIG. 1.

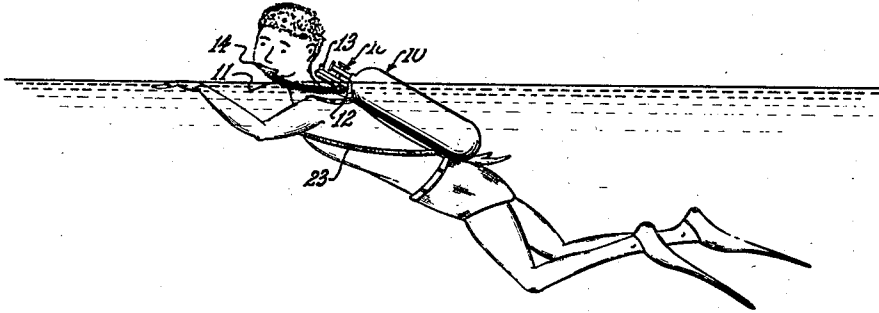


FIG. 2.

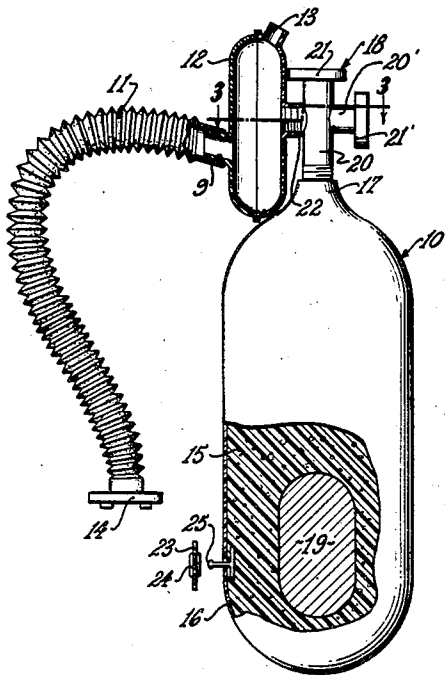


FIG. 4.

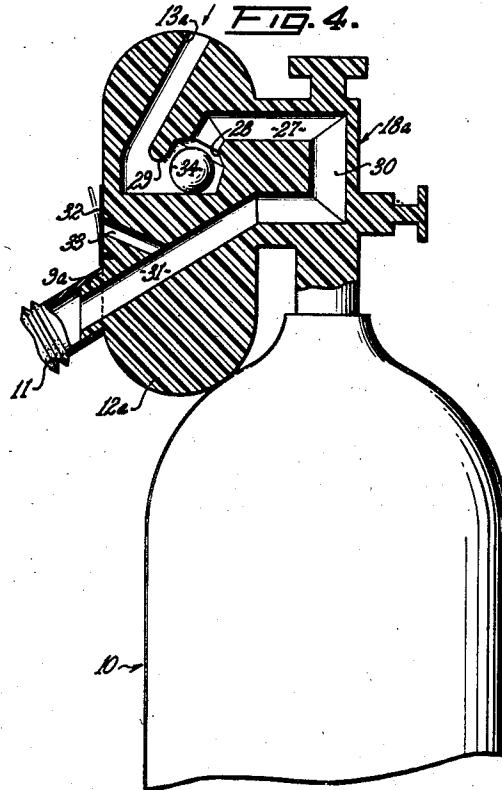
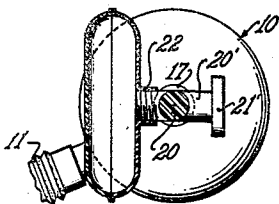


FIG. 3.



INVENTOR.
FRANCOIS P. VILAREM
BY *Lynn H. Latta*
ATTORNEY.

1

2,931,057

TOY BREATHING APPARATUS FOR SWIMMERS

François Pierre Vilarem, Los Angeles, Calif.

Application March 20, 1959, Serial No. 800,813

1 Claim. (Cl. 9—339)

This invention relates to breathing apparatus for swimmers and has as its general object to provide a toy apparatus simulating a "Scuba" type of breathing apparatus utilized by skin divers (the term "Scuba" representing "self contained underwater breathing apparatus").

More specifically, the invention provides a safety or fool-proof snorkel for use by child swimmers and resembling a Scuba apparatus so as to have the appeal, to a child, of being an underwater breathing apparatus.

In general, the invention provides a snorkel which, instead of the rigid valved tube characteristic of the usual snorkel, utilizes a flexible tube extending between a mouthpiece and an inlet which is provided with a float to maintain it at all times above the surface of the water. The float is in a form such as to simulate an air cylinder of a Scuba apparatus.

With the foregoing in mind, the invention has as a major object to provide a snorkel apparatus including buoyant means which not only simulates a Scuba air cylinder but also provides for holding the inlet of the snorkel above the water surface so as to minimize the possibility of water being drawn through the snorkel as the result of the inlet being covered by a wave.

A further object is to provide such a snorkel apparatus wherein the float is carried on the back of the swimmer exactly like the air cylinder of a Scuba apparatus and wherein the snorkel tube extends between the float and the mouthpiece as held in the swimmer's mouth, in a manner similar to that of the breathing tube of a Scuba apparatus.

A further object is to provide a snorkel apparatus combined with a float which will function, like a life jacket, to maintain a swimmer's body at the surface of the water.

Other objects and advantages will become apparent in the ensuing specification and appended drawing in which:

Fig. 1 is a side view of my improved snorkel apparatus as worn by a swimmer;

Fig. 2 is a front view of the same partially in section;

Fig. 3 is a detail sectional view taken on the line 3—3 of Fig. 2, and

Fig. 4 is a detail sectional view of a modified form of the invention.

Referring now to the drawing, and in particular to Figs. 1 and 2, I have shown therein, as an example of one form in which the invention may be embodied, a child's snorkel apparatus comprising, in general, a float 10 simulating a compressed air cylinder of a Scuba apparatus, a flexible breathing tube 11, a hollow shell 12 simulating the regulator of a Scuba apparatus and attached to one end of the tube 11 and also to one end of the float 10, an inlet neck 13 in the shell 12, and a mouthpiece 14 at the other end of the flexible tube 11, adapted to be engaged in the mouth of a swimmer. Tube 11 communicates with the interior of shell 12, as by means of an integral nipple 9 on the shell, to which it is attached.

The float 10 is buoyant. It may embody an air filled

2

hollow container for maximum buoyancy, although preferably it is a solid body of cellular material which is tough and not easily damaged, such as molded foam synthetic resin plastic of high buoyancy, indicated at 15, and having a skin 16 which is relatively non-porous. The skin 16 may be of an un-foamed resin of the same chemical composition as the cellular body 15 but in the form of a continuous non-porous skin lacking the air cells of the body 15. Thus the body 15 is encased and shielded against becoming water-logged.

At one end, the float 10 has a boss 17 simulating a neck, and into the boss 17 is molded or otherwise secured one end of a connecting device 18 simulating a valved fitting between an air cylinder and a regulator or breathing tube of a Scuba apparatus.

In the other end of the float 10, corresponding to the bottom of an air cylinder, is molded a weight 19 which causes that end of the float to seek a lowered position in the water and forces the end which carries the inlet shell 12 to extend upwardly and remain above the surface of the water due to the buoyant effect of the float as a whole. The fitting 18 comprises a pair of crossed rod-like members 20 and 20' resembling tubes, crossing one another at right angles and joined together by welding or cementing, but preferably by being molded integrally as a single part. The part 20 has one end anchored in the neck part 17, and the part 20' has an end that is secured, as by molding, into the side of the shell 12 to resemble the connection of an inlet tube to a Scuba regulator. Each of the parts 20 and 20' have disc-like heads 21 and 21' which resemble the hand wheels of valves for regulating the flow from an air cylinder to a regulator.

The shell 12 may be of molded hard plastic material (e.g. molded in two sections joined together at a peripheral seam as indicated) and it is rigidly attached to the end of connecting part 20' in any suitable manner, as by having a fitting part 22 into which the end of part 20' is molded or welded, or cemented.

Referring now to Fig. 1, the apparatus includes a pair of harness straps 23, each of which may be attached at one end to the upper end of the float 10 and each of which has at its other end (Fig. 2) a suitable fastener part 24 adapted to be attached to a suitable fastener part 25 on the float 10 near its lower end.

With the arms of the swimmer extended through these shoulder straps and with the mouth piece 14 engaged in the swimmer's mouth and the flexible tube 11 extending from the inlet part 12 around one side of the swimmer's neck, it will be apparent that the float 10 will ride in the water in an inclined position substantially as shown in Fig. 1, with its weighted lower end submerged, and with its other end supporting the inlet member 13 above the surface of the water. The swimmer can duck his face below the water at any time, the flexible tube 11 flexing to accommodate this movement of the mouthpiece, while the inlet member 12 will remain above the surface of the water.

The apparatus has the further advantage of providing a float which will support the body of a child in the water in a normal swimming position, somewhat similar to the action of a pair of waterwings on a life preserver or jacket. Thus the apparatus is a general safety apparatus in addition to providing a safety snorkel.

Modified form of the invention—Fig. 4

Referring now to Fig. 4, in lieu of the fitting and inlet construction shown in Fig. 1, the fitting 18a, as shown in Fig. 4, may embody a molded body 12a (which may be fabricated in sections cemented or bonded together) and an air passage of generally S-shape may be molded therein, including an inlet portion 13a extending diago-

3

nally toward the nipple part 9a to which the flexible tube 11 is attached, a transverse passage 27 extending from the inner end of inlet portion 13a toward the connecting fitting 18a and embodying an enlarged offset portion defining a valve chamber 29, having a valve seat 28, a goose-neck portion 30 extending from valve chamber 29 into connecting fitting 18a and thence back into the body 12a, and a connecting passage 31 communicating with flexible tube 11 through the nipple part 9a. There may also be provided, in this form of the invention, an exhalation valve in the form of a flapper 32 normally closing the external end of an exhalation outlet 33 branching from the connecting passage 31 ahead of the valve chamber 29. A float valve 34 in the chamber 29 may then be adapted to seat against the valve seat 28 so as to close the inlet 13a during inhalation, to protect the swimmer from inhaling water in the event the valve chamber should become filled with water (e.g. as the result of the inlet 13a being submerged by a wave). Exhaled gases will be discharged at a point considerably short of the inlet 13a. The exhalation outlet may be located immediately adjacent the end of the breathing tube 11 as indicated, and may be either on the upper side of passage 31 as shown or on the lower side, communicating through the bottom of the body 12a so as to provide for bubbling exhalation of air into the water to simulate the action of an actual underwater breathing apparatus.

An advantage of the modified form of the invention is in obtaining a more direct discharge of exhalation gases thence reducing the amount of stale air which is re-breathed by the swimmer at the commencement of each inhalation stage of breathing.

I claim:

In a child's snorkel apparatus resembling an underwater breathing apparatus: an elongated float of foamed plastic material resembling a compressed air cylinder; a

4

weight embedded in one end thereof corresponding to the bottom of said cylinder; harness means for attaching said float to the back of a swimmer with said one end of the float extending downwardly; a fitting attached to the other end of said float and projecting out of a body of water in which the float and the swimmer to which it is attached are supported, said fitting embodying an air inlet; a flexible tube having one end thereof attached to said fitting and communicating with said air inlet therethrough; and a mouthpiece on the other end of said flexible tube adapted to be held in the mouth of the swimmer while said flexible tube extends around one side of the swimmer's neck; said fitting comprising a body simulating a regulator of an underwater breathing apparatus and having a passage of substantially S-form extending therethrough and terminating in the periphery thereof to provide said air inlet, said passage including an intermediate valve chamber provided with a downwardly facing valve seat; and a float valve ball in said chamber adapted to be raised against said seat by water in said chamber to close said S-shaped passage and prevent inhalation thereof, said fitting further including an exhalation valve located adjacent the point of connection of said breathing tube to said fitting and communicating with said breathing tube for relief of exhaled air at a point nearer said mouth-piece than said valve.

References Cited in the file of this patent

UNITED STATES PATENTS

1,446,222	Swineford	Feb. 20, 1923
1,727,202	Greer	Sept. 3, 1929
2,660,194	Hoffman	Nov. 24, 1953
2,780,224	Wallace	Feb. 5, 1957
2,818,066	Glidden	Dec. 31, 1957
2,823,670	Page	Feb. 18, 1958