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AQUANAUT TOY

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Fig. 1

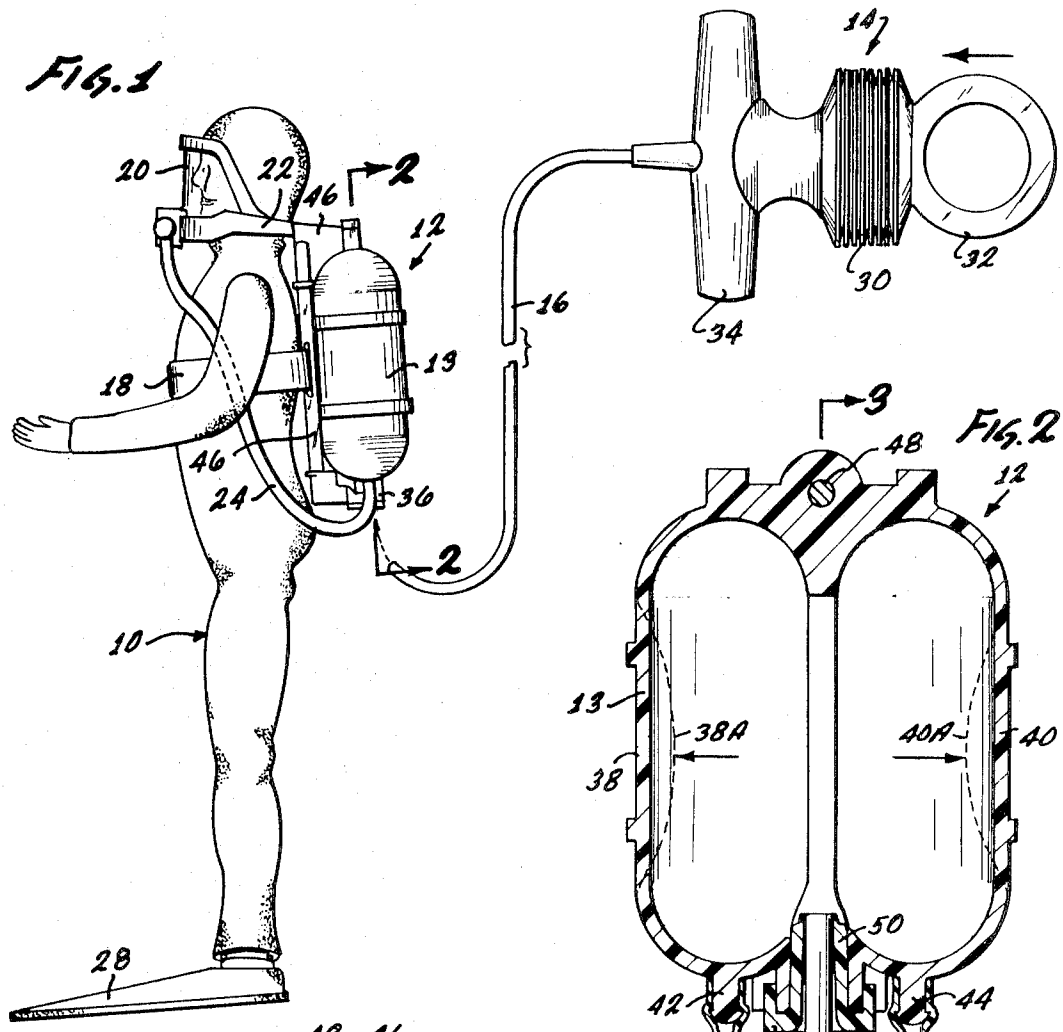


Fig. 2

Fig. 3

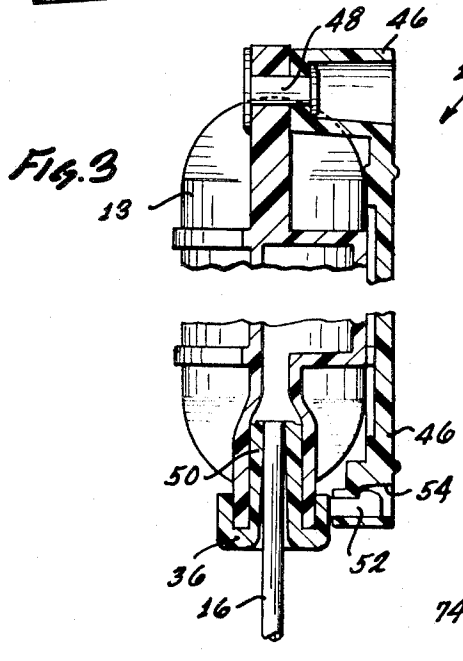
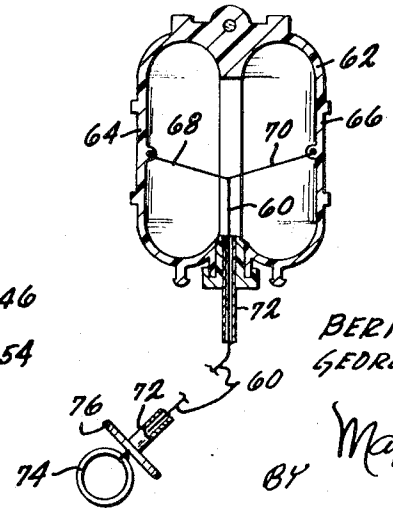


Fig. 4



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AQUANAUT TOY

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ABSTRACT OF THE DISCLOSURE

Toy apparatus that can be attached to a toy figure to make it sink or float in water comprising a hollow backpack with flexible walls that can contract or expand when air is pumped out or in. A hand pump is coupled through a long hose to the backpack to enable a child to pump air into or out of the pack. The pack is attached to the figure by a strap that extends around the figure's body, and a hose extends from the pack to a face mask that is attached to the figure's head.

BACKGROUND OF THE INVENTION

(1) Field of the invention

This invention relates to toy apparatus for controllable sinking and swimming in water.

(2) Description of the prior art

Toy figures representing soldiers, astronauts, aquanauts, and the like often provide entertaining toys for children. Such figures can often be made more entertaining by providing apparatus that can be used in conjunction with a figure to animate it in a realistic manner.

OBJECTS AND SUMMARY OF THE INVENTION

An object of the present invention is to provide apparatus for realistic use with a toy figure to controllably sink or float it in water.

Another object is to provide a toy representing a skin diver with air tanks, which can be animated in a realistic manner.

In accordance with the present invention, toy apparatus is provided for realistic play in water. In one embodiment of the invention, the apparatus comprises a toy backpack for attachment to an astronaut figure in a realistic manner, to enable a child to control sinking or floating of the figure. The backpack is hollow and has flexible walls that can be moved inwardly or outwardly by air pumped into or out of the pack, to decrease or increase its buoyancy, respectively. A hand pump is coupled through a long tube to the backpack, to enable a child to pump air out of the backpack or into it. To provide a realistic assembly, the backpack is provided with a strap that represents a belt which fits around the figure's waist, and with a face mask attached by a pair of hoses to the backpack, the mask fitting over the figure's head. The backpack is of realistic appearance and is attached in a realistic way to the figure. The controlled animation in water provides an entertaining toy for a child. After play in water, the backpack can be removed from the figure to enable the figure to be played with independently of the pack apparatus.

The novel features of the invention are set forth with particularity in the appended claims. The invention will be best understood from the following description when read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation view of apparatus constructed in accordance with the invention;

FIG. 2 is a sectional view taken on the line 2—2 of FIG. 1;

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 2; and

FIG. 4 is a partial sectional view of apparatus constructed in accordance with another embodiment of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 illustrates a toy figure **10** in the form of a skin diver or aquanaut who is equipped with a form fitting suit and flippers **28**. A backpack **12** is provided which includes a chamber portion **13** in the form of a pair of oxygen tanks of the type which are often carried by skin divers. The tank portion **13** is constructed of flexible material and is hollow so that it can contract and expand. A hand pump **14** is provided which is connected by a tube **16** to the tank. When a child expands the pump **14**, air is drawn out of the tank and it contracts, while compression of the hand pump causes the backpack to expand. As the backpack contracts or expands, its buoyancy decreases or increases, respectively, and it and the figure sink or float in the water.

The backpack includes a strap **18** which represents a belt of the type that is typically used to hold a pair of oxygen tanks to a skin diver. The pack is also provided with a face mask **20** with a ring portion **22** that fits over the figure's head to hold the mask in place on the figure. The mask **20** is coupled by a pair of elongated flexible members **24**, **26** representing air hoses of the type typically used to carry oxygen from a tank to a diver. The elongated members **24**, **26** not only add realism, but keep the face mask **20** permanently attached to the rest of the backpack so that it cannot be lost.

The FIG. 10 is constructed so that it can be played with independently of the backpack **12**. The flippers **28** may be constructed so that they can be removed, and the figure can be played with by itself or in connection with other apparatus such as toy boats and submarines. The figure may be constructed of a material such as plastic, and in a manner so that it has a buoyancy almost equal to that of water so it does not readily float or sink. When a child wishes to control its sinking and swimming, he installs the backpack in the manner shown in FIG. 1, slipping the strap **18** over the figure's body and the mask **20** over the figure's head.

The hand pump **14** comprises a series of bellows **30** forming an expandable chamber. One end of the bellows has a ring **32** and the other end has a hollow cross-bar handle **34**. A child can place his thumb through the ring **32** and his index finger and forefingers between the handle **34** and the closest end of the chamber **30**. He can then move his thumb and other fingers together and apart to collapse and expand the chamber **30** so as to pump air into the tanks **13** and out of them. As shown in FIG. 2, the tanks are hollow and are connected to each other. A coupling **36** is provided which holds the tube **16** in place on the tank **13**. When air is drawn out of the tanks through the tube **16**, its side walls **38**, **40** collapse to the position shown at **38A**, **40A**, to create a smaller volume in the tanks and make them less buoyant. When air is pumped into the tanks through tube **16**, the side walls of the tank expand to positions **38**, **40** or even bulge outwardly slightly to make the tank buoyant and cause it and the figure to float.

The tanks are molded with a pair of protrusions **42**, **44** at their bottom to facilitate the attachment of the elongated members **24**, **26** that represent hoses. The members **24**, **26** are in the form of tubes, so they can be stretched to fit over the protuberances **42**, **44** to hold them in place. As shown in FIG. 3, the backpack also includes a bracket

46 for holding the tanks 13 stably against the back of the toy figure. The bracket 46 is joined to the tanks by a rivet 48 at the top and by the coupling member 36 at the bottom. The coupling member 36 has a tubular portion 50 that fits into a hole in the tank and which receives the air tube 16, and it has a pin-like portion 52 that is force-fitted into a hole 54 in the bracket 46, to couple the lower end of the tanks 13 to the bracket. Thus, the opposite ends of the tanks are held securely to the bracket 46.

While a tube 16 which carries air to or away from the tanks can be used to expand or contract the tanks, other means can be used to perform the same function. FIG. 4 shows another embodiment of the invention, wherein a wire 60 is employed to expand or contract an air tank 62. The air tank 62 has a pair of flexible walls 64, 66 which tend to assume the positions shown in FIG. 4, but which can be deflected inwardly. A pair of wire ends 68, 70 coupled to wire 60 are tied to the inside of the walls 64, 66. When the wire 60 is pulled, the walls 64, 66 are deflected inwardly, thereby decreasing the buoyancy of the backpack and causing it and the figure to which it is attached to sink. When the wire 60 is released, the sides 64, 66 spring back to their original positions to increase buoyancy and float. The wire 60 extends through a tube 72 and has an outer end 74 in the form of a ring. A child can pull the ring against the outer end 76 of the tube to cause the tanks to collapse, and can release the ring 74 to allow the tanks to expand. Of course, the tube 72 must be constructed so that it does not easily collapse when the wire 74 is pulled outwardly.

Thus, the invention provides a simple and realistic accessory for a toy figure to control sinking and floating of the figure in water. The accessory is in the form of a backpack which can be quickly attached to a figure or detached from it to allow the figure to be played with independently of the pack.

Although particular embodiments of the invention have been described and illustrated herein, it is recognized that modifications and variations may readily occur to those skilled in the art, and consequently, it is intended that the claims be interpreted to cover such modifications and equivalents.

What is claimed is:

1. A toy comprising:

a figure representing a skin diver;

a removable backpack including a portion in the form of at least one air tank, said tank being hollow and having a flexible wall for expanding and contracting;

means for coupling said backpack to said figure;

a compressible chamber for receiving hand forces to vary its volume; and

an air tube connecting the inside of said tank to said compressible chamber.

2. The toy described in claim 1 wherein:

said means for coupling comprises a strap attached to said backpack and extending around the body of said figure, a head-engaging member representing a breathing mask, and an elongated member representing an air hose extending between said mask and said tank.

3. The toy described in claim 1 wherein:

said backpack includes a figure-holding bracket member connected to said figure, said bracket member having an aperture therein, an opening provided in said tank, and a coupling member, said coupling member having a tubular portion installed in said opening in said tank, said coupling member receiving an end of said air tube to couple it to the inside of said tank, and said coupling member having a pin-like portion projecting into said aperture in said bracket member to fasten said tank to said bracket member.

4. In combination with a toy figure, apparatus to control floating and sinking of said figure in water comprising:

(A) a hollow backpack with flexible walls for expanding and contracting;

(B) means for attaching said backpack to said toy figure;

(C) operating means for receiving hand forces; and

(D) means extending between said operating means and said backpack for expanding and contracting said backpack in accordance with forces applied to said operating means,

(1) said means for expanding and contracting comprising a tube extending between said backpack and said operating means, and a flexible wire having first and second ends, and means for coupling said first end of said wire to the inner walls of said backpack for moving them in and out;

(2) said operating means comprising means attached to said second end of said wire for moving it further in and out of said tube.

References Cited

UNITED STATES PATENTS

2,783,731	7/1955	Wilhelm	114—54
1,243,287	10/1917	Haigh	46—94
3,392,483	9/1965	Beatty	46—92
3,466,798	10/1931	Speers et al.	46—243
1,863,732	4/1931	Schwager	114—54
2,749,658	11/1951	Neumann	46—94
3,010,251	4/1960	Derdowski	46—94
3,204,596	10/1960	Fallon	114—16

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