

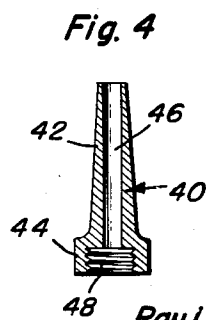
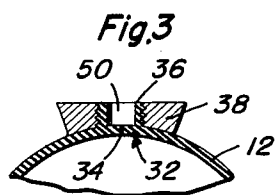
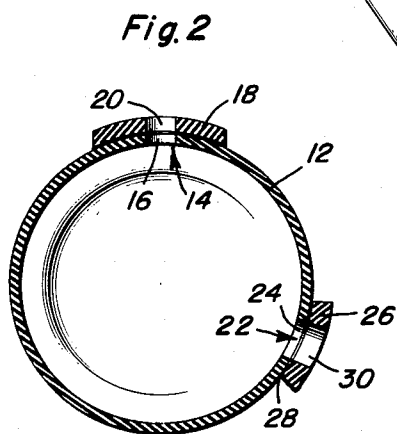
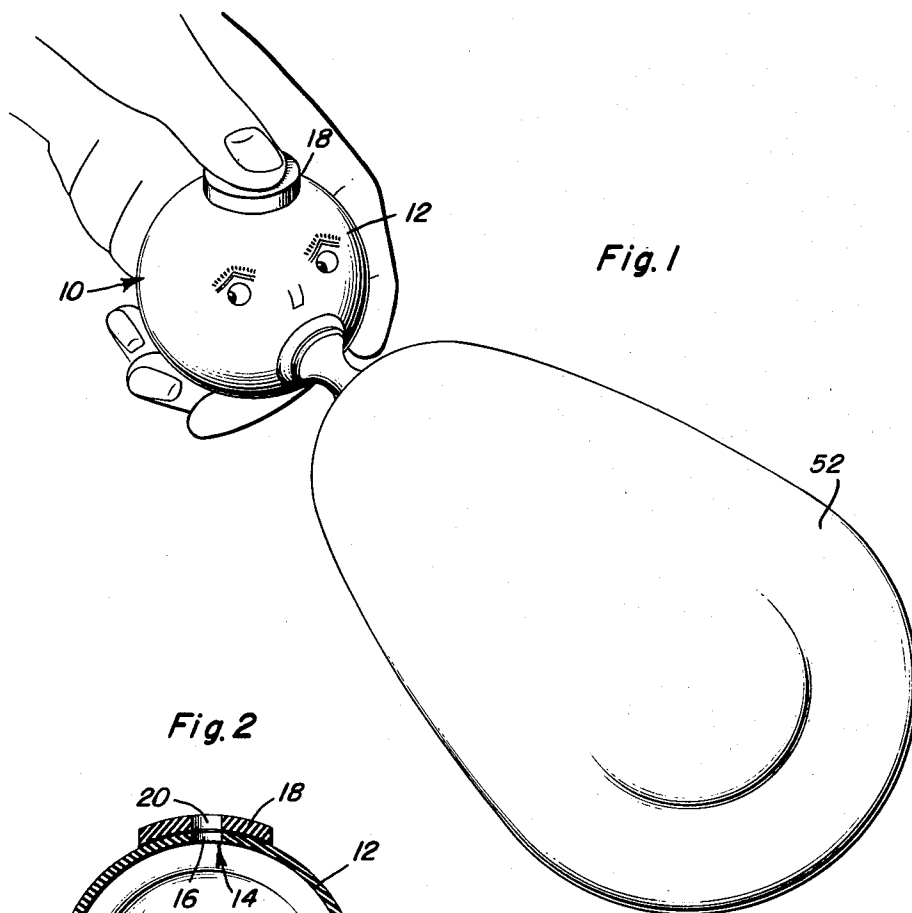
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BALL PUMP

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2,701,672

BALL PUMP

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At the present time there is lacking a satisfactory balloon pump with which small children may quickly and easily blow up balloons and other inflatable devices. As a result of the lack of such a pump, balloons are constantly being blown up by small children, as well as grown ups, with the resultant unsanitary condition existing when a balloon, which has been handled by numerous persons, is placed in one's mouth. Also, in the case of small children the balloon is often transferred from one child to the other with the result that the saliva of one child enters the mouth of another with the resultant passing of germs.

A further objection to the present method of blowing up balloons is that at times a balloon will burst while being inflated with the result that a child may have his eyes injured.

In addition to the unsanitary conditions which exist in the inflation of balloons or other inflatable objects by placing the same into one's mouth and blowing into them, there exists at the present time the problem of one producing sufficient pressure to inflate certain types of small balloons and other inflatable objects. As a result, the sale of such articles is much less than it should normally be and it is desirable to provide a simple pump for balloons and other inflatable objects which is not only relatively inexpensive but also attractive to small children.

The primary object of this invention is to provide an improved toy which may be utilized as a pump for inflating balloons and other inflatable objects.

Another object of this invention is to provide an improved toy for inflating balloons and the like, said toy having the appearance of a face with the mouth thereof being utilized as the holder for an inflatable object to give the appearance of the face blowing up the balloon or the like.

Another object of this invention is to provide an improved toy in the form of a pump for inflating inflatable toys, said pump being provided with interchangeable fittings to accommodate stems of various types of inflatable objects.

A further object of this invention is to provide an improved toy in the form of a pump, said toy being of a relatively simple construction and having extremely simple valve means whereby the same is economically feasible.

With these objects definitely in view, this invention resides in certain novel features of construction, combination and arrangement of elements and portions as will be hereinafter described in detail in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application and in which:

Figure 1 is a perspective view of the toy, which is the subject of this invention, and shows the same being utilized in the process of inflating a balloon;

Figure 2 is an enlarged vertical sectional view taken through the center of the toy of Figure 1 and showing the general construction of the valve means thereof;

Figure 3 is a rotated fragmentary vertical sectional view taken transversely of the section of Figure 2 through an exhaust valve thereof and shows a modified form of fitting for attaching inflatable objects to the toy; and

Figure 4 is a longitudinal vertical sectional view taken through the center of a fitting adapted to be utilized with the form of valve illustrated in Figure 3 for use in the

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blowing up of inflatable objects having elongated stems, such as beach balls, wading pools, etc.

Similar characters of reference designate similar or identical elements and portions throughout the specification and throughout the different views of the drawings.

Referring now to the drawings in detail, it will be seen that the toy, which is the subject of this invention, is referred to in general by the reference numeral 10. The toy 10, as best illustrated in Figure 2, is in the form of a hollow sphere or ball which forms the body portion 12 thereof. The body portions 12 may be formed of any suitable flexible material although rubber or rubber-like products are preferred.

The body 12 includes an intake valve which is referred to in general by the reference numeral 14. The intake valve 14 includes an opening 16 through the body portion 12. The opening 16 is reinforced by a reinforcing fitting 18 which is secured to the exterior of the body portion 12 by a suitable adhesive, or the same may be formed integral therewith. The fitting 18 is provided with a centrally located opening 20 which is in alignment with the opening 16 and the body portion 12 is adapted to receive incoming air through the aligned openings 16 and 20. The operation of the intake valve 14 will be explained in more detail hereinafter.

The body portion 12 also includes an exhaust valve which is referred to in general by the reference numeral 22. The exhaust valve 22 is angularly positioned with respect to the inlet valve 14 and includes a longitudinal slit 24 through the body portion 12. Secured to the body portion 12 on the exterior thereof is a fitting 26. The fitting 26 is secured to the body portion 12 by a non-hardening adhesive 28 and surrounds the slit 24, which forms the exhaust valve, and forms a reinforcing for the same. The fitting 26 has a beveled edge so as to facilitate the attachment of balloons or the like over the same and is provided with a centrally located opening 30 which communicates with the slit 24 to permit passage of air through the exhaust valve. It will be understood that inasmuch as the fitting 26 is secured to the body portion 12 by a non-hardening adhesive, the same may be replaced by other types of fittings should it be so desired.

Referring now to Figure 3 in particular, it will be seen that the body portion 12 is provided with a modified form of exhaust valve which is referred to in general by the reference numeral 32. The exhaust valve 32, like the exhaust valve 22, includes a longitudinal slit 34 which forms the actual component of the valve. However, the exhaust valve 32 differs from the exhaust valve 22 inasmuch as the exterior of the body portion 12 is provided with an externally threaded fitting 36 which is formed integrally with the body portion 12 and partially reinforces the slit 34. The fitting 36 has threadedly mounted thereon a replaceable fitting 38 which has a beveled peripheral edge to facilitate the attachment of balloons and the like to the same for the purpose of inflating them.

Referring now to Figure 4 in particular, it will be seen that there is illustrated a modified form of fitting which may be utilized to replace the fitting 38, the modified form of fitting being referred to by the reference numeral 40. The fitting 40 includes an elongated stem portion 42 which tapers outwardly from its base 44 and is provided with an air passage 46 therethrough. The portion of the air passage 46 disposed within the base 44 is enlarged and is provided with internal threads 48 for engagement with the external threads of the fitting 36. The air passage 46 is adapted to align with the air passage 50 through the fitting 36 to permit passage of air through the slit 34. It will be understood that fittings similar to the fitting 40 may be secured to the body portion 12 in the manner described with respect to the fitting 26.

Referring now to Figure 1 in particular, it will be seen that the toy 10 may be utilized as a pump by attaching an inflatable object, such as a balloon 52 over the fitting 26 or 38 so as to receive air from the interior of the body portion 12. When the balloon 52 is so positioned, the toy 10 is grasped in the hand of a person in the manner illustrated in Figure 1 with the thumb overlying the opening 20 of the fitting 18. With the thumb of the hand so positioned, the thumb acts as an intake valve and pre-

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vents the passage of air within the body portion 12 through the opening 16. When the toy 10 is squeezed in the hand, air is forced therefrom and since the only possible escape is through the slit 24, the air is pumped into the balloon 52 to inflate the same.

After the toy 10 has been pressed in the hand, the gripping action thereon is released and the thumb automatically moves out of closing relation with respect to the opening 20. At the same time flexing of the body portion 12 results in the closing of the slit 24 or 34 so as to permit air to enter the body portion 12 through the openings 16 and 20 and at the same time preventing escape of air from the balloon 52. The process is repeated until the balloon 52 is inflated to the desired size.

Referring to Figure 1 in particular, it will be seen that there is formed on the exterior surface of the body portion 12 eyes and a nose which are in alignment with either the exhaust valve 22 or the exhaust valve 32. The various components of the exhaust valves form the mouth of the face and at the same time the fitting 18 forms a cap or the like for the head of which the body portion 12 is a major part.

By forming the body portion of the toy to have different configurations, it will be seen that various types of toys may be formed without departure from the spirit of the invention.

It will be noted that the construction of the toy 10 is such that not only does it provide a satisfactory toy for a small child, but also doubles as a balloon pump in order that the parent is no longer troubled with the constant inflating of balloons. Furthermore, the construction of the intake and exhaust valves is such that the toy 10 may be economically produced.

By providing the toy 10 with a suitable outlet nozzle, the toy may be connected to a valve stem of a bicycle tube or other similar inflatable devices so as to form a suitable pump which may be utilized by bicycle users to inflate their tires to the desired pressure.

The operation of this device will be understood from the foregoing description of the details thereof, taken in connection with the above recited objects and drawings. Further description would appear to be unnecessary.

Minor modifications of the device, varying in minor details from the embodiment of the device illustrated and described here, may be resorted to without departure from the spirit and scope of this invention, as defined in the appended claims.

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Having described the invention, what is claimed as new is:

1. A toy comprising a hollow body provided with an exhaust valve and an intake valve, said intake valve being normally open and manually closable, said body being formed of flexible material with said exhaust valve being in the form of a slit therein, said slit being closed by flexing of said body, a fitting carried by said body surrounding said exhaust valve for receiving stems of inflatable articles, said fitting including an externally threaded portion having a replaceable adapter mounted thereon.

2. A toy comprising a hollow spherical body, a portion of said body being configured to have an appearance of a face and including eyes and a nose, a first valve fitting positioned relative to said eyes and nose to form a mouth, said first valve fitting having a passage therethrough communicating with a slit in said body, said slit forming a self-closing exhaust valve, a second valve fitting positioned relative to said eyes and nose to form a cap, said cap having a passage therethrough communicating with an opening in said body, said cap and said opening forming a manually controllable intake valve, said first and second valve fittings projecting from said body and secured to an exterior surface thereof.

3. A toy comprising a hollow body provided with an exhaust valve and an intake valve, said intake valve being normally opened and manually closable, said body being formed of flexible material with said exhaust valve being in the form of a slit therein, said slit being closed by flexing of said body, a fitting carried by said body surrounding said exhaust valve for receiving stems of inflatable articles, said fitting including a connecting portion having a replaceable adapter mounted thereon.

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