

April 30, 1963

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3,087,278

BALL FLOATING TOY

Filed June 27, 1961

FIG. 1.

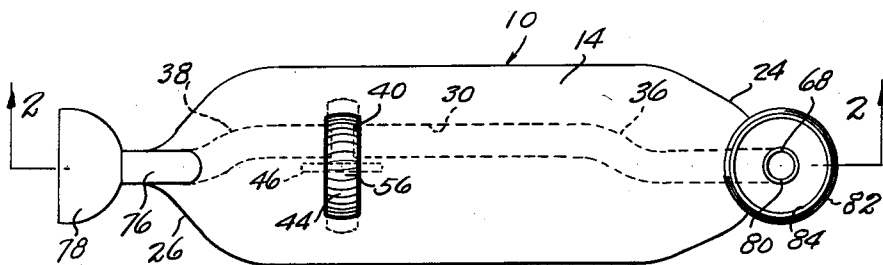


FIG. 2.

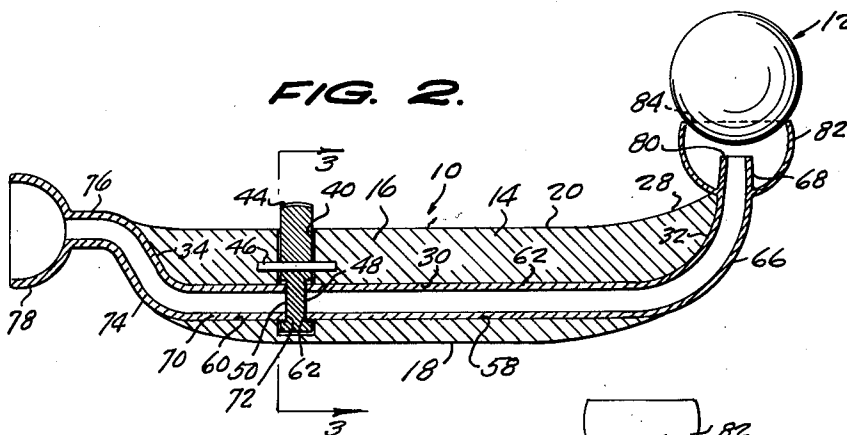


FIG. 3.

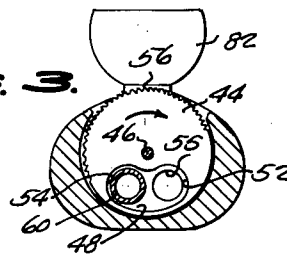


FIG. 4.

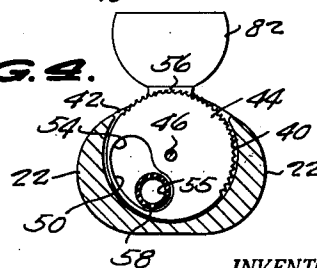
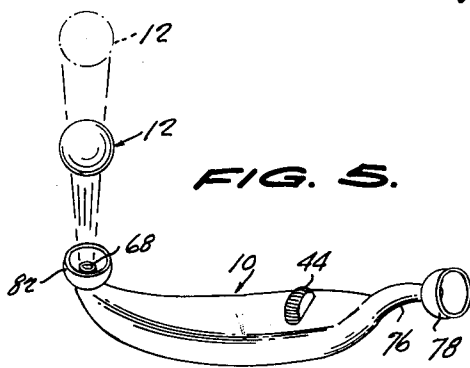


FIG. 5.



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3,087,278

BALL FLOATING TOY

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Filed June 27, 1961, Ser. No. 120,010

2 Claims. (Cl. 46-44)

This invention relates to a novel ball floating toy.

The primary object of the invention is the provision of a more attractive and amusing toy of the kind indicated, which has more efficient and effective means for the elevation and control of a lightweight ball by a vertical jet of air.

Another object of the invention is the provision of a toy of the character indicated above, which incorporates adjustable valve means for adjusting the amount of air passing through a tube, leading to the elevating and controlling means, from the air input of the toy, the input being adapted for mouth air blowing and for connection to continuous air supply.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is a top plan view of a toy of the present invention;

FIGURE 2 is a vertical longitudinal section taken on the line 2-2 of FIGURE 1;

FIGURE 3 is a transverse vertical section taken on the line 3-3 of FIGURE 2, the valve being shown in fully closed position;

FIGURE 4 is a vertical transverse section, like FIGURE 3, showing the valve in fully open position; and

FIGURE 5 is a schematic perspective view, on a reduced scale, showing the toy in operation and its ball in different controlled, elevated positions.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated toy comprises a blower body 10, and a lightweight ball 12.

The blower body 10 comprises a longitudinally elongated, preferably solid block 14, of suitable lightweight material, which has a main or middle portion 16 of substantially oval vertical cross section, having a flat bottom surface 18 for stable support of the body 10 upon a supporting surface (not shown) when desired. The block 14 has a transversely and convex curved top surface 20, which, with the convex sides 22 of the block, provide a comfortable handhold, while the user holds and manipulates the body 10.

The sides of the block 14 taper away from the forward and rear ends of the main portion 16, as indicated at 24 and 26, respectively, and the top surface 20 is upwardly curved, as indicated at 28, at the forward end 26.

The block 14 is formed with a longitudinal bore therethrough, which comprises a middle or main portion 30 which is parallel to the bottom surface 18, and is parallel to and spaced laterally from the longitudinal centerline of the block, an arcuate forward portion 32 which curves forwardly and upwardly; and an upwardly and rearwardly angled rear portion 34, the portions 32 and 34 being connected to selected ends of the main portion 30 by laterally angled portions 36 and 38, respectively.

At a location, preferably nearer to the rear end of the block 14 than to its forward end, a transverse vertical two-third cylindrical recess 40 is formed centrally in the block and opens to its top surface 20 as indicated at 42. A flat circular valve wheel 44 is conformably disposed in the recess 40 and is centrally journaled on a longitudinal pin 46, which extends across the recess. The wheel

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44 is formed with registered, concentric arcuate recesses 48 and 50, in its forward and rear sides respectively, these recesses having semi-circular ends 52 and 54. A cylindrical bore or port 55 is formed on the wheel 44 and opens to the recesses 48 and 50, and is concentric with their ends 52. The valve wheel 44 has a knurled edge 56 which is exposed in the opening 42, whereby the wheel 44 can be rotated, in either direction, by application of a finger to the knurled edge 56.

The valve wheel bore or port 55 is adapted to be registered, at times, and to different extents, with related ends of forward and rear air tubes 58 and 60, located in the block bore, with related adjacent ends thereof engaged in the valve wheel recesses 48 and 50.

The forward air tube 58 has a main straight portion 62 which is conformably engaged in the main or middle block bore portion, with the rear end 64 engaged in the recess 48 in the forward side of the valve wheel 44, and an arcuately forwardly and upwardly curved forward end portion 66, engaged in the corresponding part of the block bore, and having a perpendicular upper end portion 68 which reaches above the block 14. The forward end portion 66 forms a part of the forward end of the block 14.

The rear air tube 60 comprises a straight portion 70, conformably engaged in the main or middle bore portion 30 of the block 14 and has its forward end 72 engaged in the recess 50 in the rear side of the valve wheel 44, and an upwardly angled rear portion 74, which forms a part of the rear end of the block 14, the portion 74 merging into a horizontal portion 76 which extends rearwardly beyond the rear end of the block 14, and terminates in and opens to a concentric hemispherical air inlet 78.

The upper end portion 68 of the forward air tube 58 has fixed thereto, at a level below the open upper end 80 of the portion 68, an upwardly opening concentric air bell 82. The bell 82 is substantially hemispherical and has an upper edge 84 which is slightly inwardly angled, and which is spaced, at a substantial distance above the upper end 80 of the forward air tube 58, so that the underside of the ball 12, when seated in the upper end of the air bell 82, is spaced upwardly from the upper end 80, the ball 12 being slightly larger in diameter than the bell 82. This arrangement provides for the building up of a volume of slightly compressed air, within the bell 82, which acts against a relatively large area of the underside of the ball 12, when air is blown through the air tubes, from the air inlet 78, in such manner that the ball 12 is slidably and accurately elevated off the bell 82, in contrast to a situation wherein the ball is seated directly upon the upper end 80 of the forward air tube 58, and the ball 12 is thereby subject to being tilted sidewise, by the input of air against its underside, so that air escapes from between the ball over the upper end 80 before it is elevated, with accompanying inefficient use of and waste of air and loss of control of the ball.

The valve wheel 44 is used to control the amount of air pressing through the air tubes 58 and 60, from the air inlet 78, and thereby the height to which the ball 12 rises from the air bell 82, in instances wherein the user or operator of the toy has found a comfortable level of air expulsion into the air inlet 78 and wishes to vary the effect thereof, and in instances wherein an air pressure source of constant level is connected to the air inlet 78 and it is desired to vary the same. In such instances, the valve wheel 44 is rotated, from freely closed position, wherein the port 55 is out of registry with the ends of the forward and rear air tubes, as shown in FIGURE 4, to a fully open position wherein the wheel port 55 is in full registry with the tube ends, as shown in FIGURE 4, or to an intermediate, partially closed or open position, wherein the port 55 is only partially registered with the tube ends. In this way, the heights to which the ball 12 is elevated by air off

the air bell 82, can be constantly varied, if desired. With-
in such determined elevations of the ball 12, the ball is
held by the jet of air, issuing from the upper end 80 of
the forward air tube 58, in a well-known manner, so that
as the air jet is diminished, the ball returns gravitationally
to the air bell 82.

The enlarged diameter of the air inlet 78, as compared
to the diameter of the forward and rear air tubes 58 and
60, and the hemispherical shape, enables the user of the
toy to blow sufficient air through the tubes, for elevating
the ball 12 off the air bell 82, with less effort, either with
the inlet 78 placed against the lips or spaced therefrom, as
compared to direct expulsion of air into the rear end of
the rear air tube 60.

Although there has been shown and described a pre-
ferred form of the invention, it is to be understood that
the invention is not necessarily confined thereto, and that
any change or changes in the structure of and in the
relative arrangements of components thereof are contem-
plated as being within the scope of the invention as de-
fined by the claims appended hereto.

What is claimed is:

1. A ball floating toy comprising a blower body having
an upstanding air bell on its forward end, an air inlet on
its rear end, air tube means extending longitudinally
through the blower body from the forward to the rear ends
thereof and having spaced and adjacent ends within said
body, said air tube means being connected at its rear end
to said air inlet, said tube means having an upstanding
forward end portion rising within said air bell, said for-
ward end portion being smaller in diameter than said air
bell and having an open upper end spaced downwardly
from the upper end of the air bell, and a lightweight ball
normally seated in the upper end of the air bell, and a
hand-operable rotatable valve wheel disposed between the

spaced and adjacent ends and operatively connected there-
to for adjusting flow of air between the air inlet and the
air bell.

2. A ball floating toy comprising a blower body having
an upstanding air bell on its forward end, an air inlet on
its rear end, air tube means extending longitudinally
through the blower body, said air tube means being con-
nected at its rear end to said air inlet, said tube means
having an upstanding forward end portion rising within
said air bell, said forward end portion being smaller in di-
ameter than said air bell and having an open upper end
spaced downwardly from the upper end of the air bell, and
a lightweight ball normally seated in the upper end of the
air bell, said air tube means comprising forward and rear
tubes, said tubes having adjacent and spaced ends, said
body having a radial transverse recess opening to a side of
the body at the location of such spaced tube ends, a valve
wheel disposed in said recess between the tube ends and
having an exposed peripheral edge portion, said valve
wheel being journaled on a longitudinal axis in said re-
cess, said valve wheel having forward and rear sides
formed with arcuate recesses receiving the adjacent ends
of the forward and rear tubes, said valve wheel having an
eccentric port extending therethrough at one end of the
arcuate recesses, the valve wheel being rotatable to regis-
ter the port fully and partially with the tube ends and to
close the tube ends.

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