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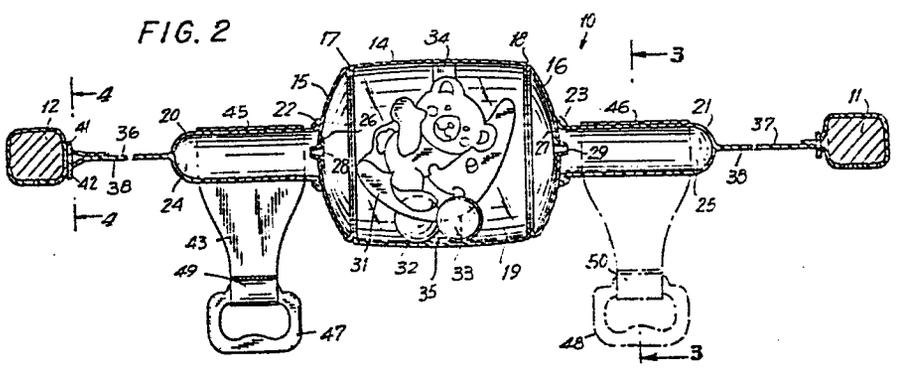
(54) Exercising toy arrangement for infants.

(57) An exercising toy arrangement for infants includes an inflatable central body (13) of a larger diameter, two axial extensions (20;21) of a smaller diameter extending axially beyond the central body to form axial extensions thereof, and two straps (36;37) each secured to one of the extensions (20;21) and operative for mounting the toy arrangement on a different one of supporting rails. Two actuating straps (43;44) are respectively secured to the top portions of the extensions (20;21) in a use position of the toy arrangement to be partially wrapped around, and to partially depend from, the respective extensions (20;21) at opposite sides of a vertical plane extending through the main axis of the toy arrangement in the use positions, so that downward pull on one of the actuating straps (43;44) causes the toy arrangement to turn around the main axis in one direction, while downward pull on the other actuating strap causes turning in the opposite direction.

FIG. 2



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EXERCISING TOY ARRANGEMENT FOR INFANTS

The present invention relates to toys in general, and more particularly to an exercising toy arrangement for use by infants or small children.

It is known to mount mobiles and similar nursery toys on the upper region of a crib or a playpen, i.e. generally above the child and usually outside the reach of the child, to visually and/or auditorily attract the attention of the child for amusement purposes, or to keep the child occupied. It is also known to use overhead crib-supported gym-type or exercise arrangements to encourage the child, especially an infant, to manipulate the same and thereby develop muscular strength, manual dexterity, and coordination. Although the known crib-supported toys are generally satisfactory for their amusement and muscle-development purposes, they have not proven to be altogether satisfactory.

So, for instance, there is known, from a commonly owned U.S. patent No. 4,335,538, issued on June 22, 1982, an inflatable overhead crib gym toy including a central body and two axial extensions, which toy is to be mounted on the opposite side rails of the crib by means of mounting straps, such as to extend substantially horizontally across the crib above the child. Two handles in the form of actuating straps are mounted on the extensions, thus enabling the child to pull on these actuating straps with resultant up-and-down movement of the toy arrangement. This particular arrangement can also be instrumental in helping the infant in developing the strength and coordination needed for the child to sit up, with the

aid of the actuating straps, from the prostrate position. However, experience has shown that this particular toy or exercise arrangement leaves something to be desired in terms of variety of activities and motions permitted by its construction, and thus of attractiveness to the child.

Accordingly, it is a general object of the present invention to overcome the disadvantages of the prior art.

More particularly, it is an object of the present invention to develop an exercising toy arrangement for use by infants, which does not possess the disadvantages of the conventional arrangements of this type.

A further object of the present invention is so to construct the arrangement of the type here under consideration as to increase the amount of activities in which the child can engage and thus the range of different muscular movements which the child can perform while playing with the toy arrangement.

It is yet another object of the present invention to so design the arrangement of the above type as to be visually attractive to the child playing with the same not only when out of use, but also, and primarily, when in use.

A concomitant object of the present invention is to devise a toy exercising arrangement which is simple in construction, inexpensive and safe to use, attractive to the child for a long time, and generally reliable in operation.

In pursuance of these objects and others which will become apparent hereafter, one feature of the present invention resides in an exercising arrangement, particularly for use by infants, which arrangement is to be mounted on spaced supporting structures, such as side rails of a crib, wherein the arrangement comprises an elongated body centered on a main axis and having longitudinally spaced end portions; means for mounting the body on the supporting structures for angular displacement about the main axis, the mounting means including two mounting straps each secured to one of the end portions of the body and detachably connected to one of the supporting structures in a use condition of the exercising arrangement in which one portion of the body is on top and another portion of the body is at the bottom of the body; and at least one elongated element connected to the body at a circumferential spacing from the other portion of the body in the use position and operative for turning the body about the main axis when pulled substantially downwardly.

An important advantage of the arrangement as described so far is that the downward pull on the elongated element causes the body to be angularly displaced about its main axis, with resultant presentation of different portions of the body to view of the infant. This prospect is especially attractive when the body is at least partially hollow and transparent, and when movable toy objects are situated within the same, since then the child will be able to observe the movement of the toy objects within the body as a result of the pulling action and subsequent release of the actuating element. Also, the infant will benefit from the recognition of the cause and conse-

quence, that is, the relationship between pulling on the elongated element and the turning of the body.

Advantageously, the elongated element is flexible. It is particularly advantageous when the flexible elongated element is connected to the one portion of the body, that is, to that portion that is situated on top in the use condition. In this case, the flexible elongated element is partially wrapped around, and partially depends from, the body, thus increasing the possible range of angular displacement of the body about its main axis.

A particularly advantageous construction according to the present invention is obtained when the arrangement further comprises an additional elongated element similar to the aforementioned one elongated element and connected to the body at substantially the same circumferential spacing from the other portion of the body as the one elongated element, but disposed in the opposite circumferential direction than the one elongated element. When this expedient is used, it is possible to so arrange the elongated elements that each of them will depend from a different side of the body, so that pulling on one of them will result in displacement in one circumferential direction, while the pulling on the other elongated element will result in displacement in the opposite circumferential direction.

It is contemplated and currently preferred to so construct the arrangement that the elongated body includes a central body section of a larger diameter, and two extensions of a smaller diameter extending axially beyond the central body section to form

continuations therefor. Then, it is advantageous when the one elongated element is connected to one of the extensions, and the additional elongated element is connected to the other of the extensions. It is particularly advantageous when the elongated element, or each of the elongated elements, is constructed as an actuating strap.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The exercise toy arrangement of the present invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of a certain specific embodiment when read in connection with the accompanying drawing.

In the drawing :

Fig. 1 is a top plan view of a toy exercising arrangement of the present invention as mounted on two upper side rails of a crib or a similar enclosure in a use condition;

Fig. 2 is a longitudinal sectional view of the toy exercising arrangement in its use position, taken on line 2 - 2 of Fig. 1;

Fig. 3 is a partially sectioned end view of the toy exercising arrangement, the section being taken on line 3 - 3 of Fig. 2; and

Fig. 4 is an enlarged, partially sectioned, view of a detail of the toy exercising arrangement, the section being taken on line 4-4 of Fig. 2.

Referring now to the drawing in detail, and first to Fig. 1 thereof, it may be seen that the reference numeral 10 has been used therein to identify the exercising device according to the present invention in its entirety. The exercising device 10 is soft and inflatable and constructed as a nursery toy that is useful for encouraging children, particularly infants, to develop their motor skills by performing exercise-type manual movements using the toy 10 while playing with the same. The exercise device or nursery toy 10 is supported, while in use, across the upper region of an enclosure, such as a crib, of which only parts of two opposite upper rails 11 and 12 have been indicated in the drawing for the sake of clarity. The term "enclosure" as used in this specification and in the claims, however, is not intended to be limited to a crib; rather, it will be understood that it denotes any structure capable of supporting the nursery toy 10 above the child and at least partially enclosing the area at which the child or infant is located while playing with the toy 10. Non-limiting additional examples of such enclosures include a cradle and a playpen.

In its position of use, the nursery toy 10 is substantially tautly suspended between the rails 11 and 12 above, but within the reach of, the child assuming a prostrate position on the back. For reasons which will become apparent later, the toy or exercise device 10 assumes a predetermined orientation or angular position about its main axis when it is

intended that the child play with it in the most efficient way contemplated by the present invention. This currently preferred orientation of the nursery toy 10 is depicted in the drawing.

The nursery toy 10 includes, as one of its main component parts, an air-inflatable, tubular central body 13 which is centered on, and elongated along, the aforementioned main axis of the toy 10. The central body 13 includes a substantially cylindrical circumferential wall portion 14, and two substantially dome-shaped end wall portions 15 and 16 which are shown in the drawing to be air-tightly secured to the circumferential wall portion 14 at opposite axial ends of the latter, by seams 17 and 18, respectively. However, it will be appreciated that, if feasible and economical from the manufacturing point of view, or for any other reason, the wall portions 14, 15 and/or 16 could be made of one piece with one another. The wall portions 14, 15 and 16 are made of relatively thin, sheet-like synthetic plastic material, such as polyvinyl chloride. The material of the circumferential wall 14 is preferably transparent, while the material of the end wall portions 15 and 16 is advantageously opaque and preferably coloured, as opposed to the material of the circumferential wall portion 14 which is preferably clear. The circumferential wall portion 14 and the end wall portions 15 and 16 together bound an internal main chamber 19 (see particularly Fig. 2).

Two axially extending, air-inflatable, generally tubular extensions 20 and 21 axially adjoin the central body 13 at opposite axial ends of the latter. The extensions 20 and 21 extend axially away from the

respective end wall portions 15 and 16 of the central body 13 to form axial continuations of the same. Each of the extensions 20 and 21 is made of a sheet-type synthetic plastic material, such as polyvinyl chloride, which is preferably opaque and is capable of being air-tightly connected to the material of the respective end wall portions 15 and 16. Preferably, the extensions 20 and 21 are air-tightly joined to the respective end wall portions 15 and 16 by resorting to thermal fusion, also referred to as thermal welding, which is a technique so well known as not to require any explanation or elaboration here. The same technique is preferably also used for connecting the end wall portions 15 and 16 to the circumferential wall portion 14 of the main body 13 at the seams 17 and 18. To protect the areas of joinder of the extensions 20 and 21 to the end wall portions 15 and 16, there are provided protective collars 22 and 23 which cover such areas. The protective collars 22 and 23 are preferably made of a thin synthetic plastic material and are secured in place preferably by being thermally welded to one or both of the respective associated end wall portions and extensions 15 and 20, or 16 and 21.

Each of the extensions 20 and 21 bounds an internal compartment 24 or 25, respectively. The respective internal compartments 24 and 25 are in air communication with the internal chamber 19 of the central body 13 via respective openings 26 and 27 provided substantially centrally, as shown in Fig. 2, in the respective end wall portions 15 and 16 of the central body 13. Squeaker or similar air-operated noise-making devices 28 and 29 are arranged, and held in position, in the respective openings 26 and 27,

in such a manner that most, and preferably all, of the air flow between the compartments 24 and 25 and the chamber 19 takes place through the respective one of them, with attendant noise generation. The construction of the devices 28 and 29 is so well known in the art of toy manufacture that it is deemed to be unnecessary to provide any description thereof herein. Suffice it to say that the devices 28 and 29 may be of the well-known whistle type, or of the reed type. Any passage of air through the device 28 or 29 at a speed sufficient to activate the device 28 or 29, that is, to vibrate the reed, for instance, will result in generation of the corresponding sound or noise by the device 28 or 29. Of course, such forcible passage of air results from deformation of the respective extension 20 or 21 or of the central body 13, by external forces applied thereto by the child.

As mentioned before, the nursery toy 10, that is the central body 13 and the extensions 20 and 21, is inflatable. Such inflation is accomplished by means of an inflation valve 30 which again is of a well known construction not calling for explanation herein, and thus has only been diagrammatically indicated in Fig. 1 of the drawing. The inflation valve 30 can be used for inflating the toy 10 from its initial collapsed storage condition or configuration into its inflated condition or configuration of use. Then, the valve 30 can be sealingly closed to keep the air introduced into the interior of the toy 10 in the compartments 24 and 25 and in the chamber 19. Yet, when it is desired to put the toy 10 away for storage, the valve 30 can also be used, after having been opened, to let the air

escape from the interior of the toy 10 and thus to deflate the latter into its collapsed configuration.

Toy objects 31, 32, and 33 are mounted and/or received in the main chamber 19 of the central body 13 for at least limited movement relative to the central body 13. The toy objects 31, 32 and 33 are visible through the transparent circumferential wall portion 14 of the central body 13. The toy object 31 is an animal-like mobile figure, which is suspended by a plastic strip 34 from the top of the central body 13, and is attached to the bottom of the central body 13 by another plastic strip 35. Thus, the toy object 31 is capable of performing swinging movements to the extent permitted by the flexibility and dimensions of the strips 34 and 35, basically about an axis extending vertically in the illustrated position of the toy 10. The mobile figure constituting the toy object 31 is preferably a three-dimensional figurine which is filled with foam and covered by sheet plastic material. However, preferably, the front-to-back dimension of the toy object 31 is quite small, so that the object 31 is basically flat. The toy objects 32 and 33 are balls received in the chamber 19 for unimpeded rolling movement therein. However, when any one of the balls 32 and 33, during its rolling motion, contacts the flat object 31, it will cause the latter to conduct the aforementioned swinging motion.

As shown in Figs. 1 and 2, the toy 10 is mounted on the rails 11 and 12 by means of straps 36 and 37. In use, each of the straps 36 and 37 is looped around the respective rail 11 or 12. The straps 36 and 37 are preferably made of a synthetic plastic material, once

more preferably of polyvinyl chloride, and are respectively connected, preferably by thermal welding, to the respective free ends of the respective extensions 20 and 21. Of course, here again, the straps 36 and 37 could be unitary or of one piece with the respective extensions 20 and 21. The straps 36 and 37 are provided with a plurality of through openings 38 each. These openings 38 serve for adjustably connecting the toy 10 to the rails 11 and 12. This may be accomplished, for instance, in the manner particularly illustrated in Fig. 4. A connecting element 39 is provided for this purpose and includes a central separating portion 40 and two bifurcated substantially T-shaped connecting portions 41 and 42. The openings 38 are shown to be elongated in the longitudinal direction of the strap 36 and are so dimensioned that the connecting portions 41 and 42 can pass therethrough when oriented longitudinally of the strap 36. On the other hand, when the connecting portions 41 and 42 extend transversely of the strap 36, as they do in the connecting orientation of the connecting element 39, they contact the zones of the strap situated adjacent the openings 38 and thus confine such zones between themselves and the separating portion 40. In this manner, it is assured that the connecting element 39 will not inadvertently or accidentally reorient itself and thus permit one or the other of the connecting portions 41 and 42 to slip out of the respective opening 38. The connecting elements 39 are used in conjunction with such of the openings 38 that the combination of the toy 10 with the straps 36 and 37 will be substantially taut, as shown in Figs. 1 and 2. Of course, the straps 36 and 37 will extend along a substantially horizontal plane each, at least

initially, but they will also permit limited angular rotation of the toy 10 about the aforementioned main axis thereof.

To cause such rotation, elongated actuating elements 43 and 44, shown as actuating straps which may again be made of a synthetic plastic material, such as polyvinyl chloride, are connected to the extensions 20 and 21, preferably as shown, at regions 45 and 46 that are disposed at the uppermost regions of the extensions 20 and 21. Gripping handles 47 and 48 are attached to the actuating straps 43 and 44 at the free ends of the latter which are looped around portions of the handles 47 and 48 and secured to themselves after such looping. Such securing, as well as the securing of the actuating straps 43 and 44 to the extensions 20 and 21 can again be accomplished by means of thermal welding or fusing.

As shown particularly in Fig. 3, each of the actuating elements 43 and 44 is partially wrapped around the respective extension 20 or 21, and partially depends downwardly therefrom to within the reach of the child, provided that the toy 10 is mounted at the proper elevation. Also each of the actuating elements 43 and 44 is shown to be disposed at a different side of the toy 10. Because of this, when the child pulls on one of the actuating straps 43 and 44, the wound portion of this strap 43 or 44 will unwind itself from the extension 20 or 21, with attendant turning of this extension 20 or 21 and thus of the entire toy 10, while an additional portion of the other strap 44 or 43 will become wound around the respectively other extension 21 or 20. When the pulling on the straps 43 and 44,

preferably by means of the handles 47 and 48, is alternated, the toy 10 will conduct turning motion about its main axis.

Of course, if so desired, the toy 10 could also be suspended by means of the straps 36 and 37 in the opposite orientation, that is, with the bottom portion above, in which case the actuating straps 43 and 44 would merely depend down from the extensions 20 and 21, respectively. In this case, the pulling on the straps 43 and 44 would not result in any rotation of the toy 10, but this could be useful for other purposes, for instance, to enable the infant to raise himself or herself into the sitting position. Thus, it may be seen that the purpose for which the toy 10 is to be used largely determines the orientation in which it is mounted.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of constructions differing from the types described above.

While the invention has been illustrated and described as embodied in an inflatable overhead crib exercise toy, it is not to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features

that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

CLAIMS

1. An exercising arrangement, particularly for infants, to be mounted on spaced supporting structures, comprising an elongated body (13, 20, 21) centered on a main axis and having longitudinally spaced end portions; means, for mounting said body on the supporting structures for angular displacement about said main axis, including two mounting straps (36, 37) each secured to one of said end portions of said body (13, 20, 21) and detachably connected to one of the supporting structures in a use condition of the exercising arrangement in which one portion of said body is on top and another portion of said body is at the bottom of said body; and at least one elongated element (43; 44) connected to said body at a circumferential spacing from said other portion of said body in said use position and operative for turning said body about said main axis when pulled substantially downwardly.

2. An exercising arrangement, as claimed in claim 1, wherein said elongated element (43; 44) is flexible.

3. An exercising arrangement, as claimed in either of claims 1 and 2, further comprising an additional elongated element (43; 44) similar to said one elongated element and connected to said body (13) at substantially the same circumferential spacing from said other portion of said body as, but disposed in the opposite circumferential direction than, said one elongated element.

4. An exercising arrangement, as claimed in claim 3,

wherein said elongated body includes a central body section (13) of a larger diameter, and two extensions (20, 21) of a smaller diameter extending axially beyond said central body section to form continuations thereof; and wherein said one elongated element (43) is connected to one, and said additional elongated element (44) to the other, of said extensions (20,21).

5. An exercising arrangement, as claimed in any one of claims 1 to 4, wherein the or each said elongated element (43; 44) is an actuating strap.

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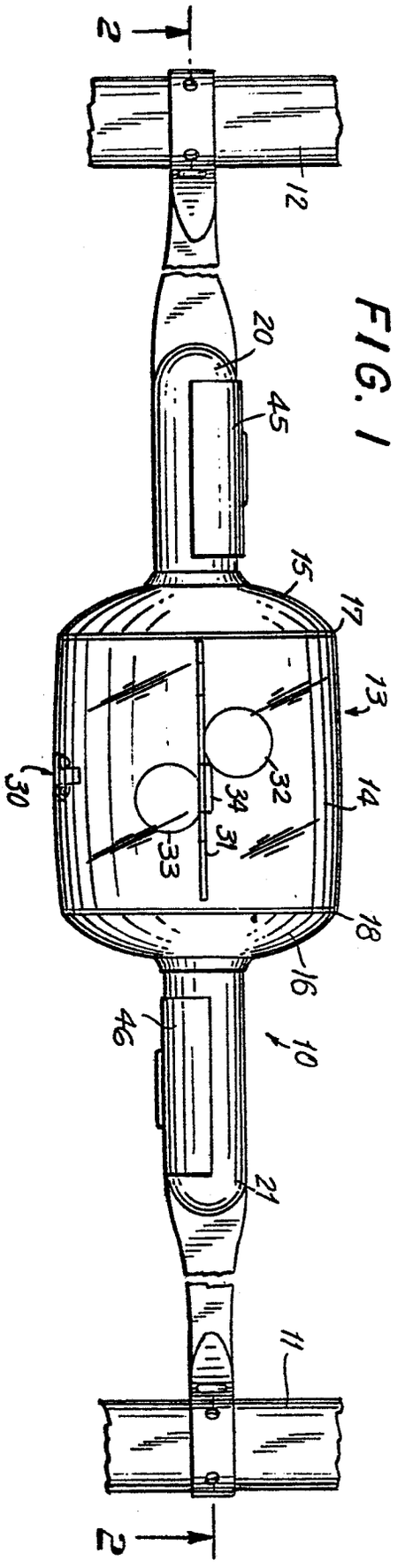

FIG. 1

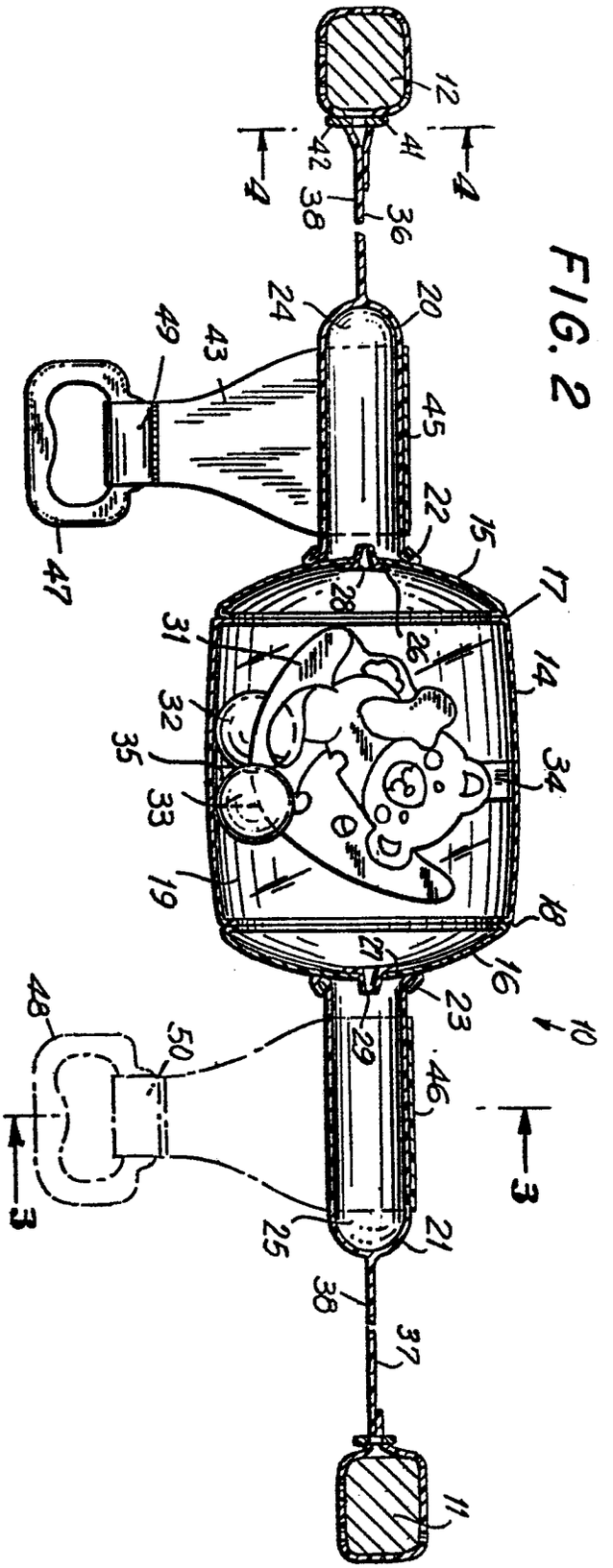

FIG. 2

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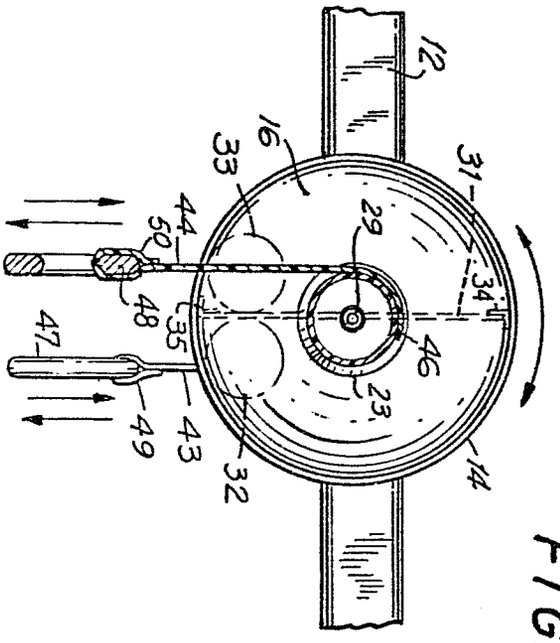

FIG. 3

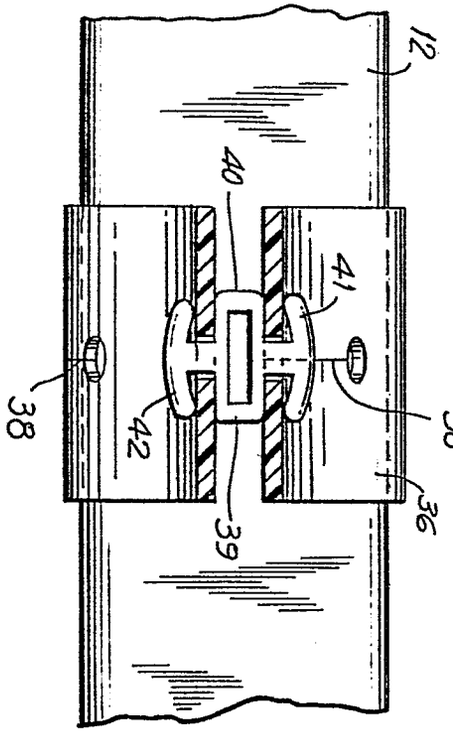

FIG. 4