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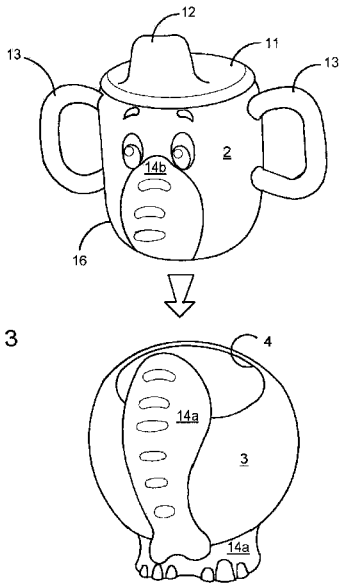

FIGURE 3

(57) Abstract: The present invention relates to a cup holder (3) and a cup (2), particularly a holder for a trainer cup or the like.

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Cup Holder

The present invention relates to a cup holder and a cup, particularly a holder for a trainer cup or the like.

Trainer cups (that is a cup having a lid with a mouthpiece, typically a spout, connected thereto) are well known and are used to bridge the gap between a baby's use of a feeding bottle or breastfeeding and the use of a standard cup or glass. Trainer cups with means to prevent spillage of liquid from the cup associated with the mouthpiece when the cup is inverted are also well known, for example by means of valve assemblies (e.g. WO 93/19718).

As will be appreciated, it is not only young children who experience difficulties in drinking from standard cups. The "term trainer cup or the like" is accordingly intended to include use by a young child or a person with feeding problems associated with physical or mental impairment.

It is a self-evident problem that there are situations when a carer is unable to provide a trainer cup or the like to a young child or other user at the time it is required. One example is when the carer is a driver of a vehicle in which the user is seated. There are laws in many countries which require children and other vulnerable passengers to be seated and restrained in the rear of a vehicle for reasons of safety; in this situation a carer who is driving the vehicle cannot pay adequate attention to the road ahead and simultaneously pass a cup to the intended user in the rear of the vehicle. A further example is when a child or other user awakens during the night and requires the cup whilst the carer is asleep.

Whilst, trainer cups or the like are known which do not spill liquid when discarded by its user (intentionally or otherwise), it is a problem with such cups that once discarded, the cup needs to be retrieved by a carer, if the user is unable to do so, when the user requires to use the cup again.

The present invention provides a cup holder and a cup configured to be retained within the cup holder in use, the cup holder having a cup receiving element which defines an opening to receive the cup ,a stop element and a mounting element, wherein the opening and stop element cooperate together in use to retain the cup within the cup receiving element, and the mounting element is adapted to retain the cup holder in a desired location, wherein the cup receiving element comprises a pressure sensitive signal emitter such that a signal is emitted when the cup is located in the cup

receiving element.

When the cup is correctly located or relocated in the cup receiving element comprising a pressure sensitive signal emitter , a signal is emitted. Such an arrangement has numerous advantages: the user receives a signal when a cup is correctly relocated, which furthermore encourages the user to relocate the cup within the cup receiving element because they are rewarded with the signal; and the carer receives a signal which confirms that the cup has been relocated in the cup receiving element and therefore remains within reach of the user.

In one embodiment, the signal emitted is audible.

In a particular embodiment , the audible signal emitted by the pressure sensitive signal emitter is an animal noise or vehicle noise.

In a further embodiment, the signal emitted is visible light. A skilled person will appreciate that visible light is that part of the electromagnetic spectrum which is visible by the human eye, having a wavelength of about 390-750nm. Wherein the signal emitted is visible light, this includes in this context any of the following on activation of the pressure sensitive emitter: an emission of visible light where previously there was none; an increase in light intensity; or a decrease in light intensity. It is a particular advantage of this assembly that it serves to illuminate the cup thereby enabling a child or other user to easily retrieve it if they awaken during the night when the surrounding light levels are typically very low. In a particular embodiment, the cup holder emits visible light of a significantly higher intensity when the cup is removed from the cup receiving element; the light becoming less intense when the cup is correctly relocated within the cup receiving element and the pressure sensitive signal emitter is reactivated. The advantage of this particular assembly is that it provides a higher level of illumination when the cup is in not in the cup holder, thereby enabling the child or other user to more easily find the cup holder in order to relocate the cup therein after use, even when surrounding light levels are low. Moreover, less intense light when the cup is correctly relocated is both more restful for the child or other user and more energy efficient.

In embodiments where light is emitted in response to the pressure sensitive signal emitter being activated, the light may be emitted continuously for a pre-determined duration or it may be emitted in a sequence of pulses and/or flashes in accordance with a predefined pattern.

Thus, the pressure sensitive signal emitter may include a controller which is adapted to emit the signal in accordance with a pre-determined sequence or programme.

In a further embodiment, the pressure sensitive signal emitter may be selectively deactivated by means of a switch, i.e. it may contain an on/off override switch.

In this context, a mounting element includes any element which is capable of securing the cup holder to a surface. This may include one or more suckers or a clamp to secure the cup holder to a suitable surface or base element or it may simply comprise one or more non-slip feet, suitably formed from a polymeric material, or a flared base portion to reduce the risk of the cup holder unintentionally being knocked over when placed on a horizontal surface.

In one embodiment, the mounting element includes an elongate extension arm located between the cup receiving element and a releasable securing element. This enables a carer to locate a trainer cup or the like in a holder in a given position which is within direct reach of the intended user for use at later point in time, when the carer may, for example, be otherwise occupied driving a vehicle. A cup is located in the holder which is releasably secured to an anchor point and hence the holder may be positioned and removed as required.

In a further embodiment, the extension arm is adjustable for length. Adjustability of the length of extension arm allows a cup to be placed within reach of an intended user for a plurality of distances between the anchor point and the user. Hence, the holder may be sited in a wider of range of positions wherein a cup retained within the cup receiving element remains within reach of the intended user.

In a further embodiment, the extension arm is telescopic or has a scissor-type arrangement to permit axial displacement. Such an arrangement provides an extension arm wherein the length of the arm is continuously variable within a range along its axis, and hence allows the holder to be sited in a wider of range of positions wherein a cup retained within the cup receiving element remains within reach of the intended user.

In yet a further embodiment, the extension arm is articulated. Articulation of the extension arm allows the cup receiving element to move freely along more than one axis, and hence allows the

holder to be sited in a wider of range of positions wherein a cup retained within the cup receiving element remains within reach of the intended user.

In an embodiment, the securing element includes a suction cup or a clamp. The clamp typically has a release position and a clamp position. The clamp may be biased towards a clamping position or it may include an element, such as a threaded element, which is operable to move the clamp between the release and clamp positions.

In a further embodiment, the securing element includes a suction cup. Such an arrangement is useful if the cup holder is to be secured to a surface such as a window or metal or plastic surfaces that are planar.

In yet a further embodiment, the securing element includes a plurality of suction cups. Such an arrangement allows the cup holder to be more firmly, yet still releasably, secured to a surface

It will be appreciated that young children and the physically or mentally impaired may experience difficulties relocating a cup within the cup retaining means owing to limited motor skills.

In another embodiment, the cup receiving element includes a tapered channel which provides both the opening and stop element. Such a tapered channel enables a cup to be easily located within the cup receiving element.

In an alternative embodiment, the opening of the cup receiving element also forms the stop element when a cup to be retained within the cup receiving element itself includes a tapered portion.

In another embodiment, the cup holder and the cup both carry indicia such that when the cup is retained in the cup receiving element in a specific orientation, the cup and cup receiving element indicia together provide the user with a visual reward.

In another embodiment, the receiving element is configured such that a cup may be retained therein only when the cup is in a specific orientation.

It should be appreciated that the terms "embodiment" and "an embodiment of the invention" should be understood to refer to any embodiment or aspect of the invention as defined or described

herein. Therefore, it should be understood that the features of specific embodiments can be combined with one or more other specific features described herein or be combined with any aspect or embodiment of the invention described herein. All such combinations of features are considered to be within the scope of the invention defined in the claims.

The terms "connected" and "operatively connected" should be construed as meaning that the two components are connected in such a way that an action by one of the components causes a reaction in the second component. However, the two components do not need to be directly connected one to the other; they can be connected by one or more intermediate components which are capable of transmitting motion, energy or a force from one component to the other component.

An embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a first embodiment of a cup holder with a cup retained therein.

Figure 1a is a perspective view of a second embodiment of a cup holder with a cup retained therein.

Figure 2 is a perspective view of a securing element of the first embodiment.

Figure 3 is a perspective view of a cup holder and a cup.

Figure 4 is a perspective view of a third embodiment of a cup holder with a cup retained therein.

For the avoidance of doubt, the skilled person will appreciate that in this specification, the terms "up", "down", "front", "rear", "upper", "lower", "width", etc. refer to the orientation of the components as found in the cup holder when installed for normal use as shown in the Figures

A view of a cup holder 1 according to the invention is shown in Figure 1. Cup 2 is retained in a cup receiving element 3 which defines an opening 4. The cup 2 includes a tapered body portion 16 (shown in more detail in Figure 3), which engages the portion of the cup receiving element 3 which defines the opening 4 when the cup 2 is properly inserted in the cup holder 1. The engagement of the tapered body portion 16 with the cup retaining element 3 forms a stop for the cup 2. The cup 2 has a releasably secured lid 11 with a spout 12, and a pair of opposed handles 13. The cup holder 1 and cup 2 carry indicia, respectively, 14a and 14b such that when the cup 2 is retained in the cup

receiving element 3 in a specific orientation, the cup and cup receiving element indicia 14a and 14b together form a representation of an elephant. Of course, the skilled person will appreciate that an elephant is just one example of a very large number of representations that together the cup 2 and the cup holder 1 can form.

The cup receiving element 3 is connected to an extension arm 6. The extension arm 6 is of fixed length. The extension arm 6 is connected to three suction cups 8 via an end plate 7 (shown in more detail in Figure 2). The suction cups 8 are releasably secured to anchor point 10, such as a vehicle window or the like. Although not visible in Figure 1, the cup receiving element 3 has a pressure sensitive audible signal emitter 15 which emits an elephant noise when the cup 2 is relocated therein. More specifically, the pressure sensitive emitter 15 includes a pressure switch operably connected to an audible emitter which includes a microprocessor, a power source in the form of a battery and a speaker, such that when the pressure switch is activated by the cup 2, the microprocessor emits the pre-programmed noise of an elephant through the speaker.

A view of an alternative embodiment of a cup holder 1 according to the invention is shown in Figure 1a. As with the first embodiment, the cup 2 is retained in a cup retaining element 3. The cup retaining element 3 defines an opening 4. The cup 2 has a releasably secured lid 11 with a spout 12, and a pair of opposed handles 13. The cup holder 1 and cup 2 carry indicia , respectively, 14a and 14b such that when the cup 2 is retained in the cup receiving element 3 in a specific orientation, the cup and cup receiving element indicia 14a and 14b together form a representation of an elephant. The cup retaining element 3 is connected to an extension arm 6. The extension arm 6 has a scissor type arrangement formed by a plurality of hingeably coupled elements 6a. The extension arm 6 is connected to a suction cup 8. The suction cup 8 is releasably secured to anchor point 10. Although not visible in Figure 1, the cup retaining element 3 has a pressure sensitive audible signal emitter 15 which emits an elephant noise when the cup 2 is relocated therein. The audible signal emitter 15 is the same arrangement as described above in connection with the first embodiment.

A view of a cup holder 1 and cup 2 according to the invention is shown in Figure 3. As mentioned above, the cup 2 has a tapered body portion 16 which may be retained in the cup receiving element 3, such that the engagement of the tapered body portion 16 with the cup receiving element 3 forms the stop element for the cup 2

A view of a third embodiment of a cup holder 101 and cup 102 according to the invention is shown in Figure 4. The cup 102 is retained in a cup receiving element 103 which defines an opening 104. The cup receiving element 103 includes a pressure sensitive switch 115 which is operably connected to a controller (not shown). The controller includes a microprocessor and a power source in the form of a battery. The microprocessor is in turn connected to a light source in the form of an LED light unit 117. The microprocessor is programmed such that visible light is emitted from the light unit 117 of a pre-determined intensity when the cup is located in the holder and the pressure switch 115 is depressed and that visible light of a significantly higher intensity is emitted from light unit 117 when the cup is removed from the cup receiving element 103 (i.e. when the pressure switch is in a non-depressed configuration). In other words, the light becomes less intense when the cup is correctly relocated within the cup receiving element 103 and the pressure sensitive signal emitter 115 is depressed.

The skilled person will appreciate that the cup holder 101 in this embodiment may be powered by mains electricity. In such an embodiment, the battery power source will be replaced by a mains electrical lead including a plug. The controller in this case may include a voltage regulator to regulate the input voltage to a desired level to power the light unit 117.

Claims

1. A cup holder and a cup configured to be retained within the cup holder in use, the cup holder having a cup receiving element which defines an opening to receive the cup ,a stop element and a mounting element, wherein the opening and stop element cooperate together in use to retain the cup within the cup receiving element, and the mounting element is adapted to retain the cup holder in a desired location, wherein the cup receiving element comprises a pressure sensitive signal emitter such that a signal is emitted when the cup is located in the cup receiving element.

2. A cup holder and cup according to claim 1 wherein the emitted signal is audible.

3. A cup holder and cup according to claim 1 or 2, wherein the emitted signal is visible light.

4. A cup holder and cup according to any preceding claim wherein the mounting element includes an elongate extension arm located between the cup receiving element and a releasable securing element.

5. A cup holder any cup according to claim 4 wherein the elongate extension arm is adjustable for length.

6. A cup holder and cup according to claim 5 wherein the elongate extension arm is telescopic or has a scissor-type arrangement to permit axial displacement.

7. A cup holder according to any of claims 4 to 6 wherein the elongate extension arm is articulated.

8. A cup holder and cup according to any of claims 4 to 7, wherein the releasable securing element includes a suction cup or a clamp.

9. A cup holder and cup according to claim 8, wherein the releasable securing element includes a suction cup.

10. A cup holder and cup according to claim 9, wherein the releasable securing element includes a plurality of suction cups.

11. A cup holder according to any preceding claim, wherein the opening of the cup receiving element also forms the stop element.

12. A cup holder and cup according to any preceding claim wherein the cup is a trainer cup or the like.

13. A cup holder and cup according to any preceding claim, wherein the cup holder and the cup both carry indicia such that when the cup is retained in the cup receiving element in a specific orientation, the cup and cup receiving element indicia together provide the user with a visual reward.

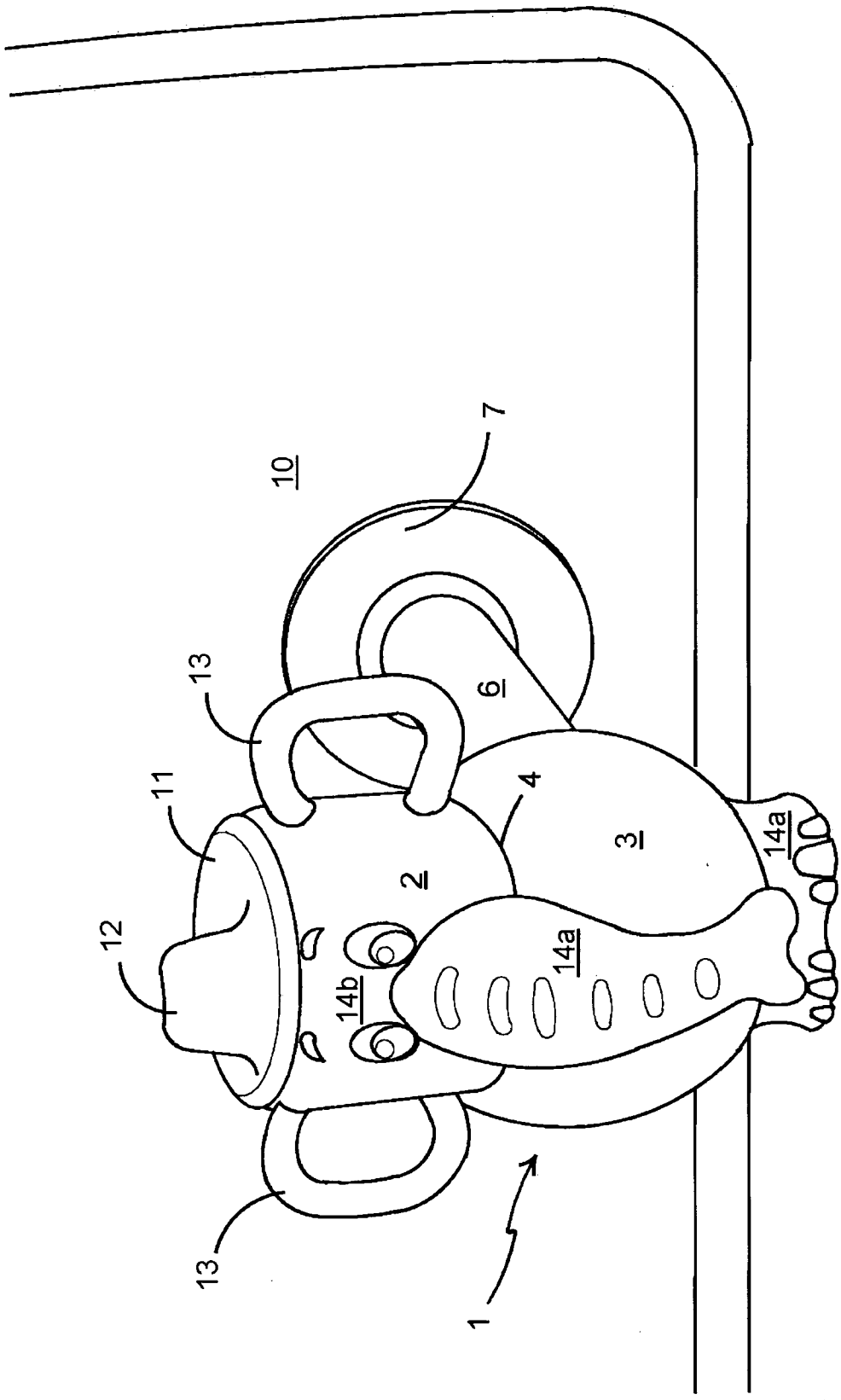

FIGURE 1

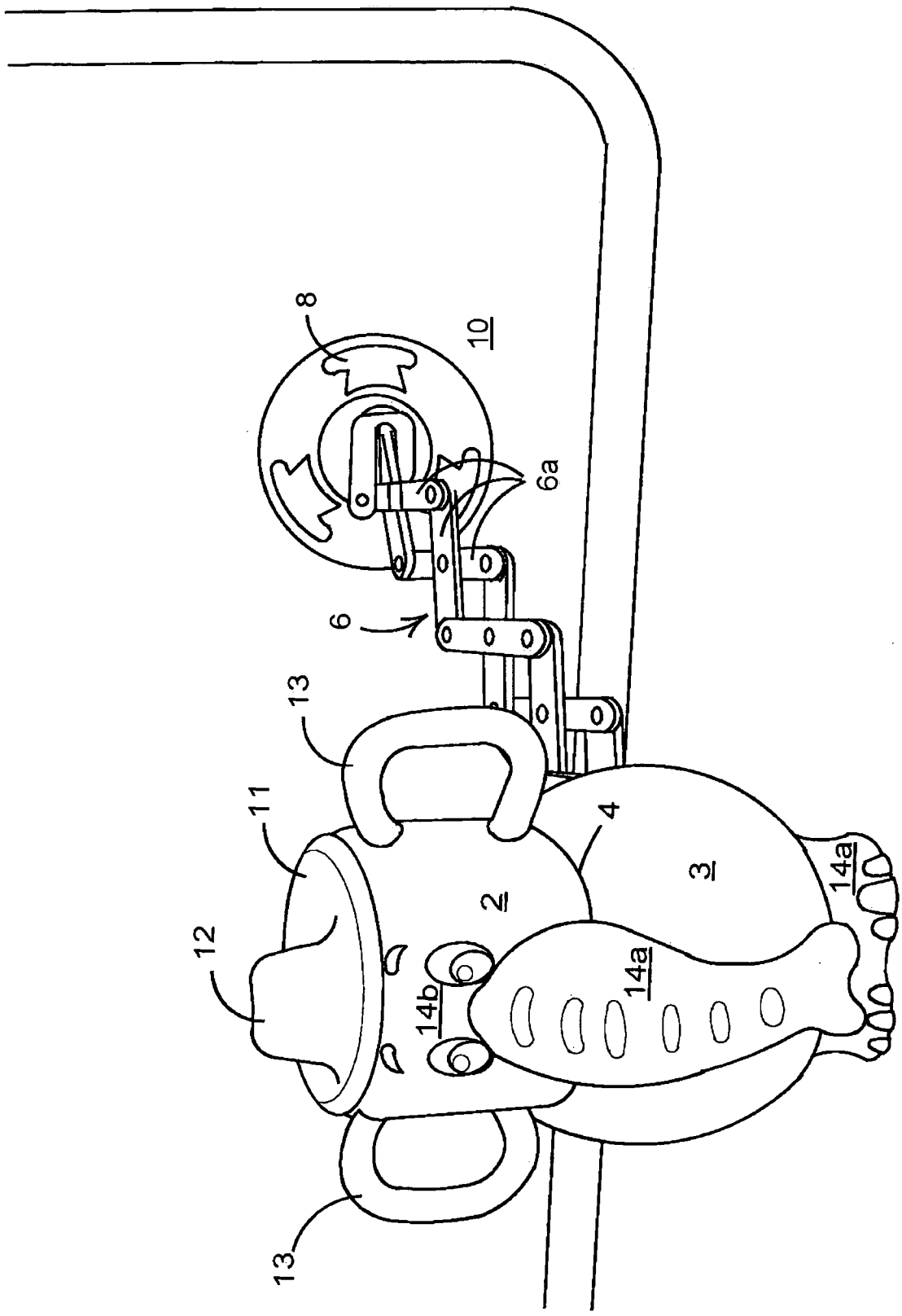

FIGURE 1A

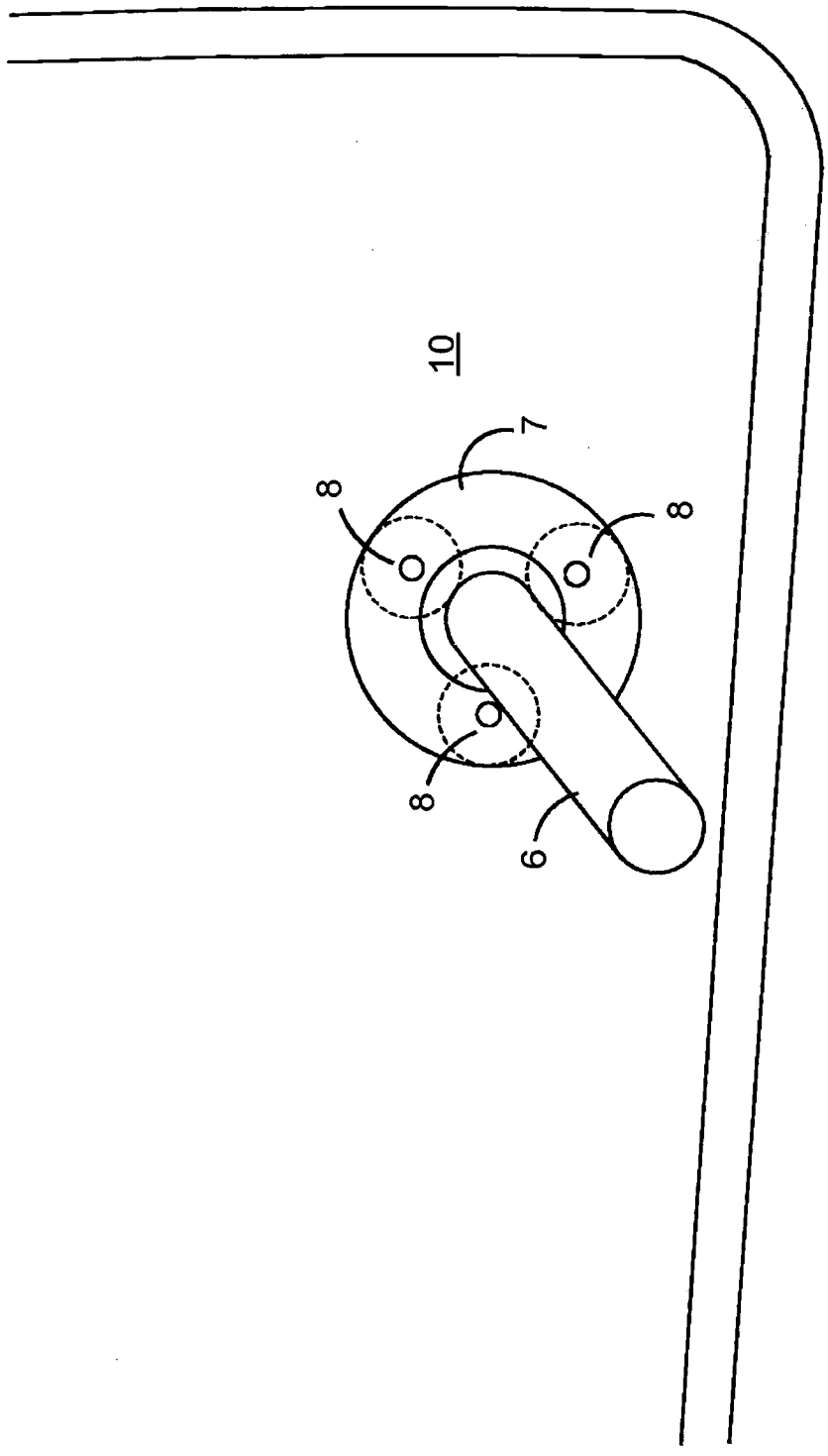

FIGURE 2

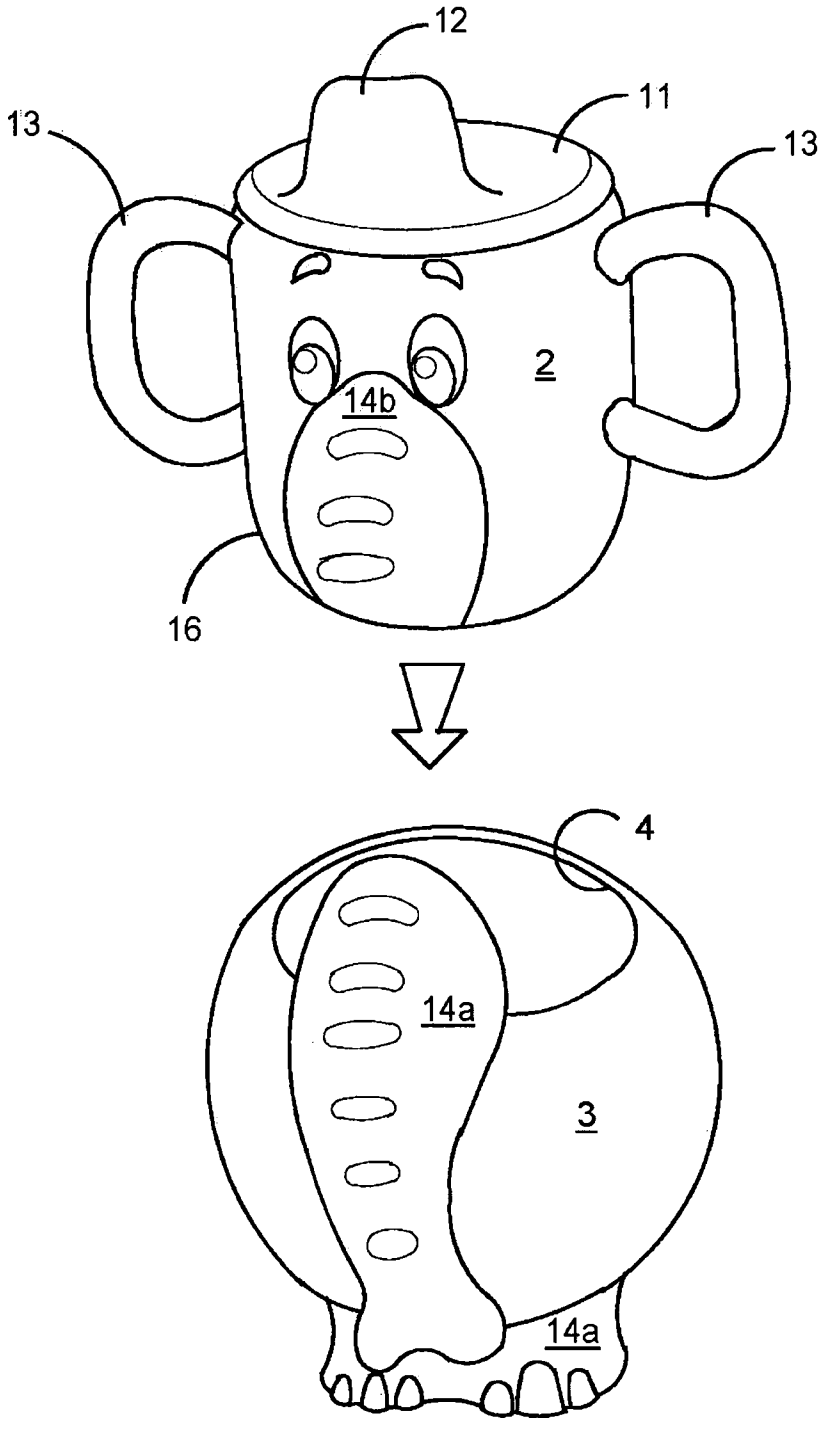

FIGURE 3

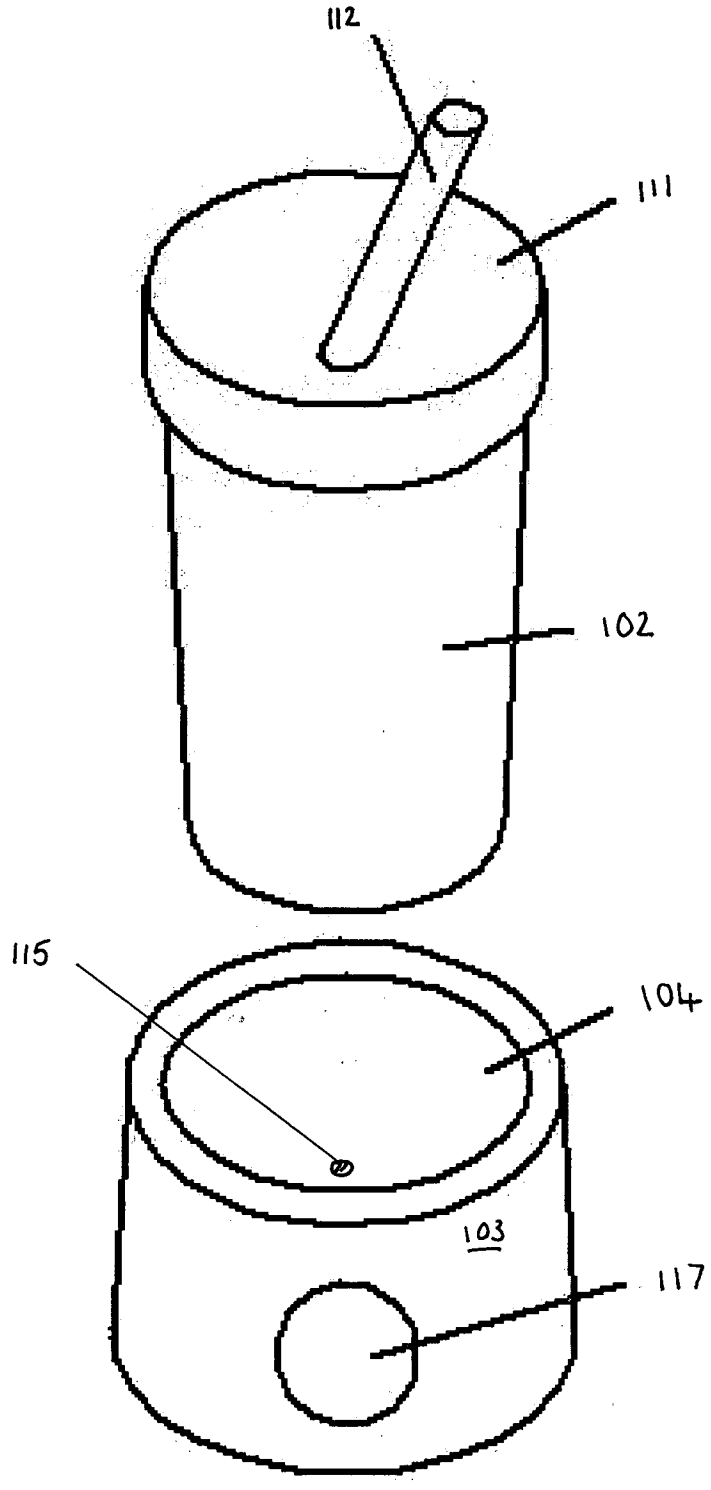

FIGURE 4

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A47G23/02 B60N3/10 A61J9/06
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A47G B60N A61J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2003/076672 A1 (HEAD HAYDEN [US]) 24 April 2003 (2003-04-24) paragraph [0016] - paragraph [0030]; figures	1-3, 11-13 4-10
X	US 2004/085204 A1 (OGLE THOMAS ALLEN [US]) 6 May 2004 (2004-05-06) paragraph [0006] - paragraph [0009]; figures	1-3, 11-13
X	KR 100 806 356 B1 (LEE SANG KOUN [KR]) 27 February 2008 (2008-02-27) the whole document	1-3, 11-13
Y	FR 343 855 A (CORNET) 10 June 1904 (1904-06-10) page 1, line 28 - line 50; figures	4-7

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search	Date of mailing of the international search report
13 August 2010	23/08/2010

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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2010/000362

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 678 793 A (HILL GREGORY HILL [US]) 21 October 1997 (1997-10-21) column 3, line 41 - column 4, line 55; figures	8-10
A	DE 297 09 963 U1 (SCHROLL STEFAN [DE]) 21 August 1997 (1997-08-21) page 1, paragraph 1 - paragraph 2; figures	13
A	DE 20 2006 008128 U1 (SHAUCHENKA HANNA [DE]; MASPAITELLA TIERZA [DE]) 19 October 2006 (2006-10-19) the whole document	1-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/GB2010/000362

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