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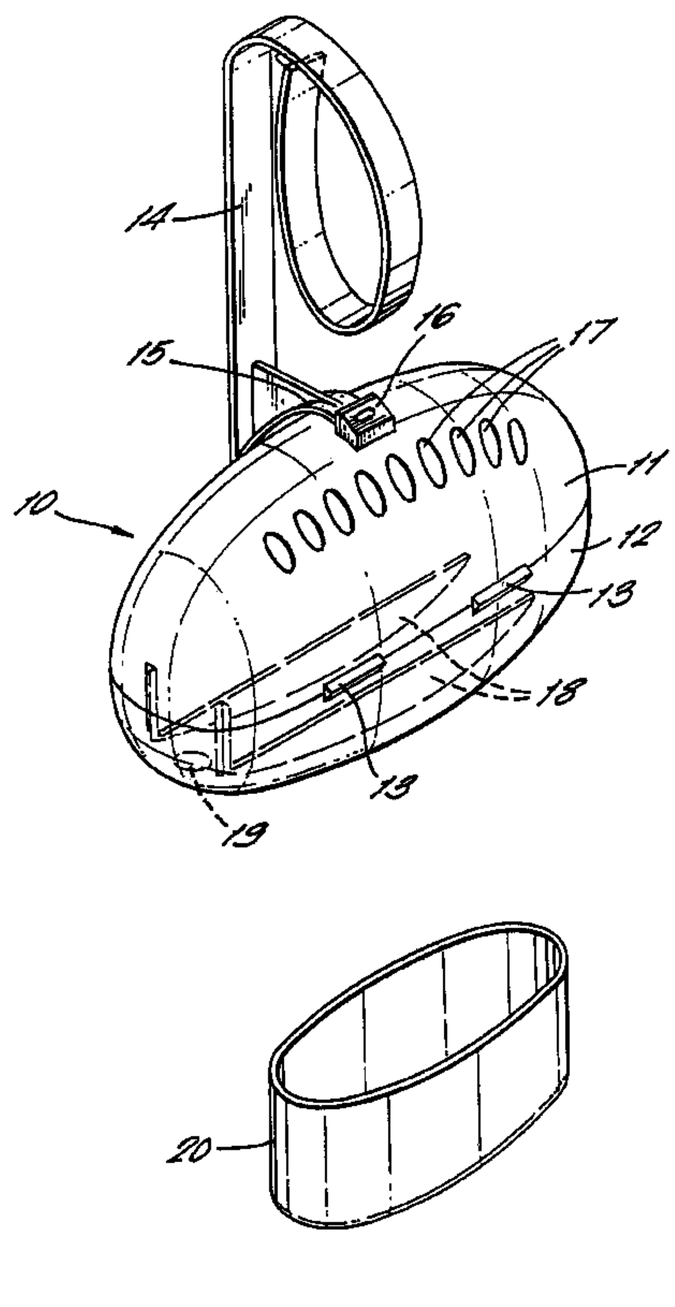
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(54) Titre : RECIPIENTS DISTRIBUANT DES PRODUITS POUR CUVETTE DE TOILETTE
(54) Title: CONTAINERS FOR DELIVERING PRODUCTS TO A TOILET BOWL



(57) Abrégé/Abstract:
The invention relates to improvements in or relating to containers, and in particular containers for cleaning and deodorising products which are hung over the rim of a toilet bowl. The container comprises an outer container having an upper and lower section. The upper section has a number of apertures which enable flushing water to enter the container. Located within the outer container is an inner container containing an inner container for holding the composition in liquid or gel form. The flushing water dissolves a portion of the liquid or gel and washes back out of the apertures.

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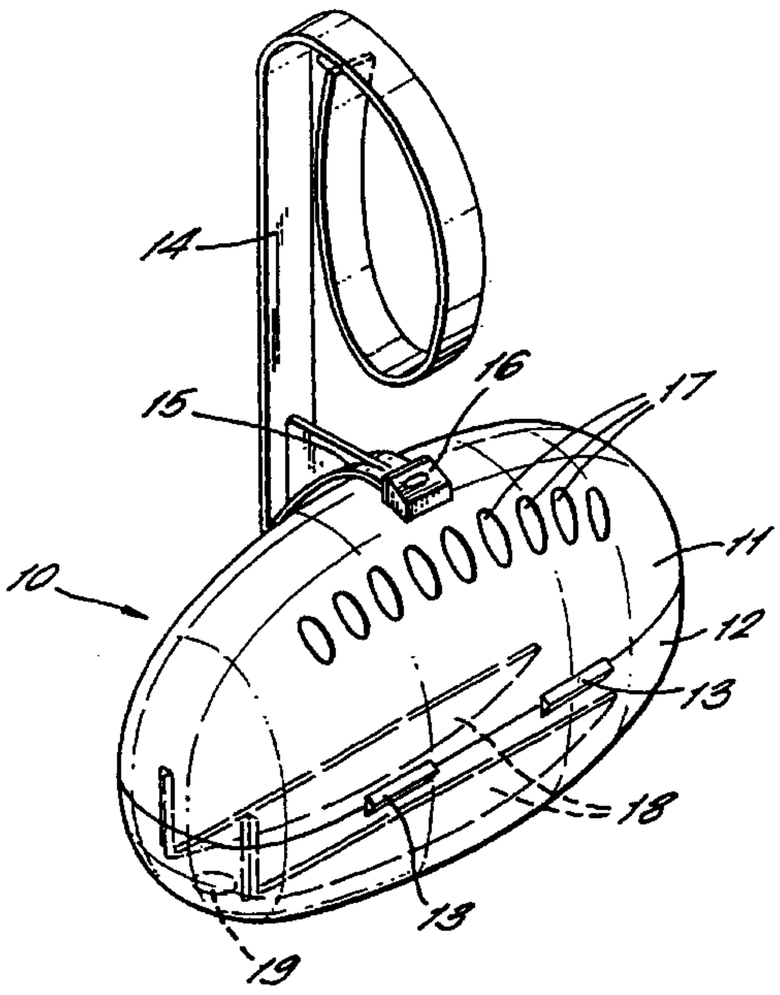
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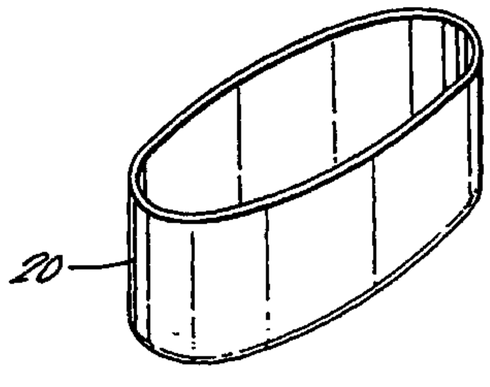
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(54) Title: IMPROVEMENTS IN OR RELATING TO CONTAINERS





(57) Abstract: The invention relates to improvements in or relating to containers, and in particular containers for cleaning and deodorising products which are hung over the rim of a toilet bowl. The container comprises an outer container having an upper and lower section. The upper section has a number of apertures which enable flushing water to enter the container. Located within the outer container is an inner container containing an inner container for holding the composition in liquid or gel form. The flushing water dissolves a portion of the liquid or gel and washes back out of the apertures.

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IMPROVEMENTS IN OR RELATING TO CONTAINERS

This invention relates to improvements in or relating to containers, and in particular containers for cleaning and deodorising products which are hung over the rim of a toilet bowl.

A very large number of such containers are already known for compositions containing constituents such as antimicrobial agents, perfumes, bleaching agents, colourants, and/or surface active agents for use in treating the water in toilet bowls. Ordinarily the compositions are located in cage-like containers suspended near the rim of a toilet bowl in a position where, on each occasion the bowl is flushed, the flushing water enters the container and contacts the composition to entrain some of the composition before flowing into the lower part of the bowl. Thus the water remaining in the bowl, after flushing, includes some of the composition which disinfects or otherwise treats the water and the surfaces of the bowl.

Conventionally, such compositions have been in the form of coherent self-supporting blocks. Such a device is described in FR-A-2579647, in which a self-supporting block of disinfectant material is support on a grid. As the disinfectant material is coloured, to prevent leakage of coloured solution into the toilet bowl between flushes, a solid block of decolourising product is located in a channel beneath the grid. Between flushes, coloured solution drips onto the decolourising block and is decoloured to prevent it staining the toilet bowl in case it does leak out.

However, more recently, compositions in the form of gels and liquids have been proposed. In containers for such gels and liquids, measures have to be taken to ensure that the gel or liquid does not leak from the container between flushing operations. Such a device is described in EP-A-0446795 which provides a container divided into two adjacent sections. In one section there is located a porous material into which the cleaning composition has been absorbed.

Water enters the device and entrains some of the disinfecting liquid from the porous material, before being washed out.

It is an object of the present invention to provide a container for a liquid or gel type water treating composition where these problems are minimised.

According to the invention there is provided a container for a water treatment composition in liquid or gel form for use in a toilet bowl comprising an outer container having a lower section and an upper section, said upper section being provided with a plurality of apertures for the ingress and egress of flushing water, and further comprising an inner container having an open mouth, the inner container being positioned within the outer container such that the mouth is directed towards the apertures, characterised in that the inner container is removable and contains a water treatment composition in liquid or gel form, and in that wherein the inner container has a substantially constant cross-section.

Preferably the two parts of the outer container are connected together to enable the outer container to be opened.

Preferably the two container parts comprise the upper and lower sections connected by a horizontal hinge. Alternatively the two container parts comprise side sections which are connected together vertically by a clip or snap-fit arrangement and separable from each other.

The lower section may be provided with baffles for supporting the inner container.

Furthermore, at least one drainage port may be provided in the lower section of the outer container and provided in the base of the inner container.

In a preferred embodiment a hook shaped handle is provided for supporting the container on a rim of a toilet bowl.

Moreover a locking mechanism may be provided for securing the container parts of the outer container in a closed position.

The present invention is thus advantageous in that a known type of container for a solid block can easily be adapted for use with a gel or liquid so that the consumer has a choice of form of cleaning composition.

A preferred embodiment of the present 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 prior art container 10 for a solid block (not shown) of water soluble water treatment composition. The container 10 has a lid 11 which is pivotally hinged at one edge, by means of hinges 13, to a base section 12. A hook shaped handle 14 is attached to the base section 12. The handle 14 enables the container 10 to be suspended from the rim of a toilet bowl in the path of

flushing water. The handle 14 is provided with a locking mechanism formed by detent means 15 which can be secured within catch 16 located on the top of the lid 11 to hold the container 10 closed. This locking mechanism 15, 16 enables the container to be opened to replace a used up block with a new one.

Alternatively, the container may comprise two parts, preferably in the form of cups or shells, which are connected together vertically, by a clip or snap-fit arrangement. Such an arrangement may have the mouth of one container part snap fitting inside the mouth of the other part. Alternatively one part may be provided with clips which enable both parts to be held together. The two container parts may be wholly separated. Any references in the following pages to container lid should be considered to include references to an upper section 11 of the container.

The container lid 11 is provided with a series of apertures 17 and the base section 12 is provided with one or more drainage ports 19 and blocks supporting baffles 18.

In use, the container 10 is opened by releasing the detent means 15 from the catch 16. A block of water treating composition is placed within the container 10 on the baffles 18 and the lid closed and secured in position by means of the locking mechanism. The container 10 is suspended in position in a toilet bowl from the rim of the bowl. During flushing, water will flood into the container 10 through the apertures 17. As the water comes into contact with the block it dissolves a quantity thereof. As the flushing action continues, the water, with the dissolved part of the block floods back out of the apertures 17 and is carried down into the toilet bowl where it carries out a cleaning and disinfecting action. The ingress and egress of the water through the apertures 17 causes surfactants in the composition to foam. Foaming is seen to be an indicator of efficacy and therefore preferred by the user. Any water remaining in the base section 12 of the container 10 after flushing is

completed drains out through the drainage port(s) 19. As the block is supported on the baffles 18, this helps to minimise contact with the water whilst it is waiting to drain.

In the move towards liquid and gel water treatment compositions it has been found that, whilst this prior art container 10 can be used for such compositions, a surprising effect has been found in the present invention by providing an inner container 20 to hold the liquid or gel. The inner container 20 may sit on baffles 18, or the baffles 18 may be eliminated altogether. Thus, as the water flushes in through the apertures 17 a lower proportion enters the inner container 20 to dissolve a small quantity of the gel or liquid before being flushed back out of the aperture 17. One or more drainage ports may be provided in the outer container 10 for draining water as described above. Drainage ports may also or alternatively be provided in the bottom of the inner container 20, to allow the drainage of any remaining flushing water from the inner container 20 into the outer container.

In tests of containers having such inner containers and identical containers without inner containers it has been found that the life span of the liquid or gel increases significantly, perhaps by as much as 50%. It is thought that the reason for this is that there is a smaller surface area of gel exposed with the flush water, a reduction in the turbulence of flush water contacting the gel or liquid and less leakage of the gel or liquid via the top apertures 17 in the outer container.

The inner container 20 has vertical sides to give a constant cross-section. This is advantageous in that during usage a constant surface area of liquid or gel is exposed which means that the fragrancing diffusion is constant. Furthermore the cleaning action is constant.

The present invention has a further advantage in

applications including so called "blue" formulations which tint the water in the toilet bowl blue. The containers for these generally include a syphon in the base or side of the container which allow the drainage of flush water during the flush action but have a delaying action to stop the flow of residual water which has been stained blue on contact with the gel or liquid between flushes. This is the water which has been left behind after the main flush and, if allowed to drip or drain between flushes, could cause a blue staining on the toilet bowl. In the case of the present invention the drainage ports 19 in the outer container 10 are eliminated for blue liquid or gel applications, whilst the drainage ports in the base of the inner container 20 are retained. Thus any residual water remaining in inner container 20 will drain into the base section 12 of the container after flushing and will remain there until the next flush. There is thus no leakage of the blue formulation out of the outer container for staining the toilet bowl. When the toilet is next flushed, the new flush water which enters the outer container will carry away the residual blue stained water with that flush.

The container 10 may be opened and the inner container 20 refreshed with a quantity of gel or liquid from a bottle or other appropriate storage means. Alternatively, a small filling nozzle may be affixed to the container lid 11 so that the container may be filled without opening the lid 11. In such an embodiment, the container 10 may be provided as a single enclosure without a separate lid and base hinged together. The use of a separate inner container, however, advantageously provides a further convenient filling solution in that new pre-filled inner containers 20 with a removable top, say of foil or plastic, can be sold with which users can simply replace old empty containers 20. Alternatively a new cartridge of gel can be placed in the inner container.

The inner container may be supplied in different colours to the external container 10 which

may provide an aesthetic contrasting effect.

The containers 10, 20 may be manufactured from any suitable waterproof material. Plastics are preferred and more preferably polypropylenes.

Any known or other suitable gel or liquid composition may be used.

CLAIMS:

1. A container for a water treatment composition in liquid or gel form for use in a toilet bowl comprising an outer container (10) having a lower section and an upper section, said upper section being provided with a plurality of apertures for the ingress and egress of flushing water, and further comprising an inner container (20) having an open mouth, the inner container (20) being positioned within the outer container (10) such that the mouth is directed towards the apertures, characterised in that the inner container (20) is removable and contains a water treatment composition in liquid or gel form, and in that wherein the inner container has a substantially constant cross-section.

2. A container as claimed in claim 1 in which two parts (11, 12) of the outer container (10) are connected together to enable the outer container (10) to be opened.

3. A container as claimed in claim 2 in which the two parts (11, 12) comprise the upper and lower sections of the container connected by a hinge (13).

4. A container as claimed in claim 2 in which the two parts (11, 12) comprise side sections which are connected together by a clip or snap-fit arrangement and separable from each other.

5. A container enclosed in any one of the preceding claims in which the outer container lower section (12) is provided with baffles (18) for supporting the inner container (20).

6. A container as claimed in any one of the preceding claims further comprising at least one drainage port (19) provided in the outer container lower section (12).

7. A container as claimed in any one of the preceding claims further comprising at least one drainage port provided in a base of the inner container.

8. A container as claimed in any one of the preceding claims further comprising a hook shaped handle (14) for supporting the container on a rim of a toilet bowl.

9. A container as claimed in any one of claims 2 to 8 further comprising a locking mechanism for securing the container parts (11, 12) of the outer container (10) in a closed position.

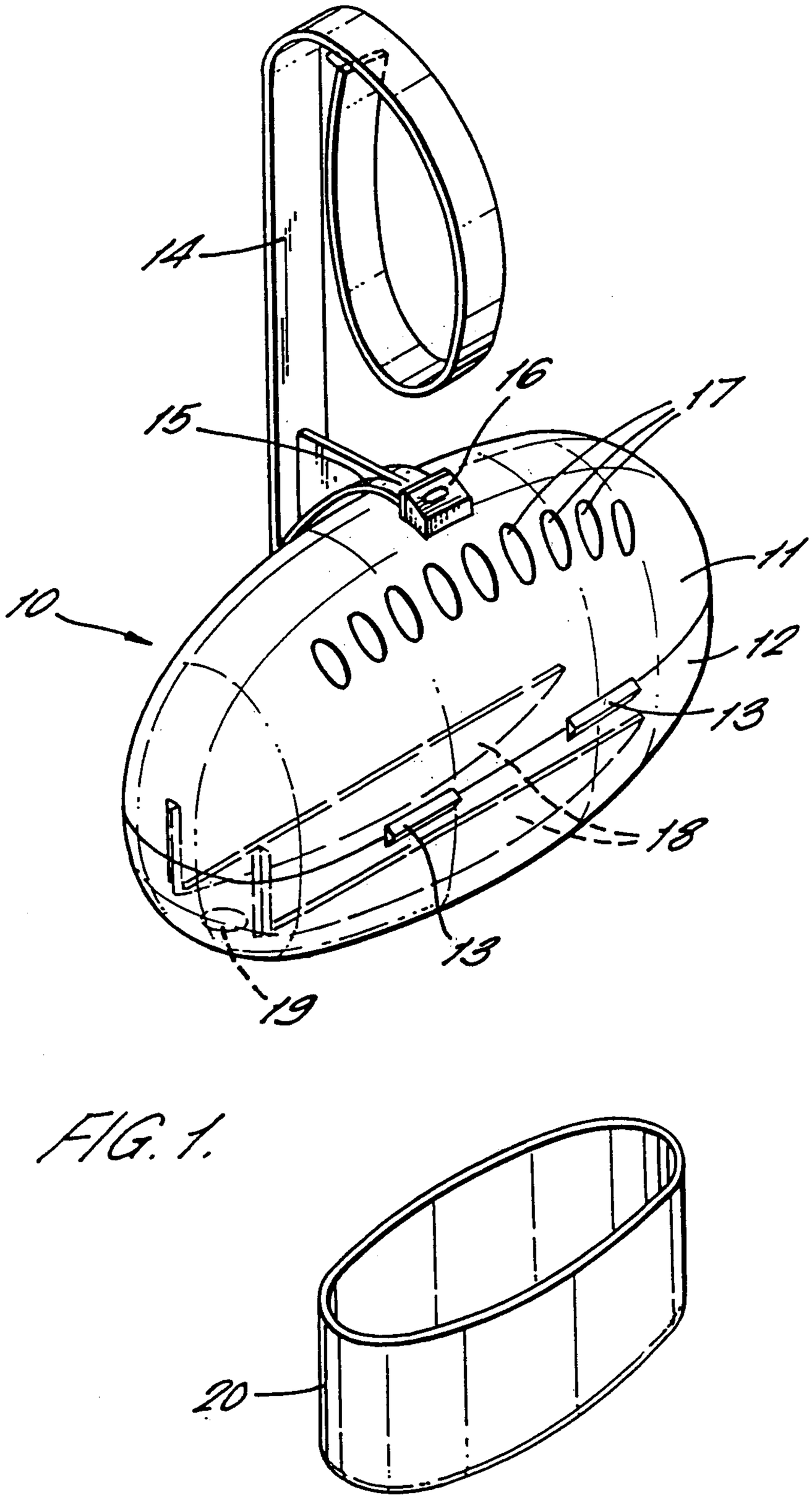
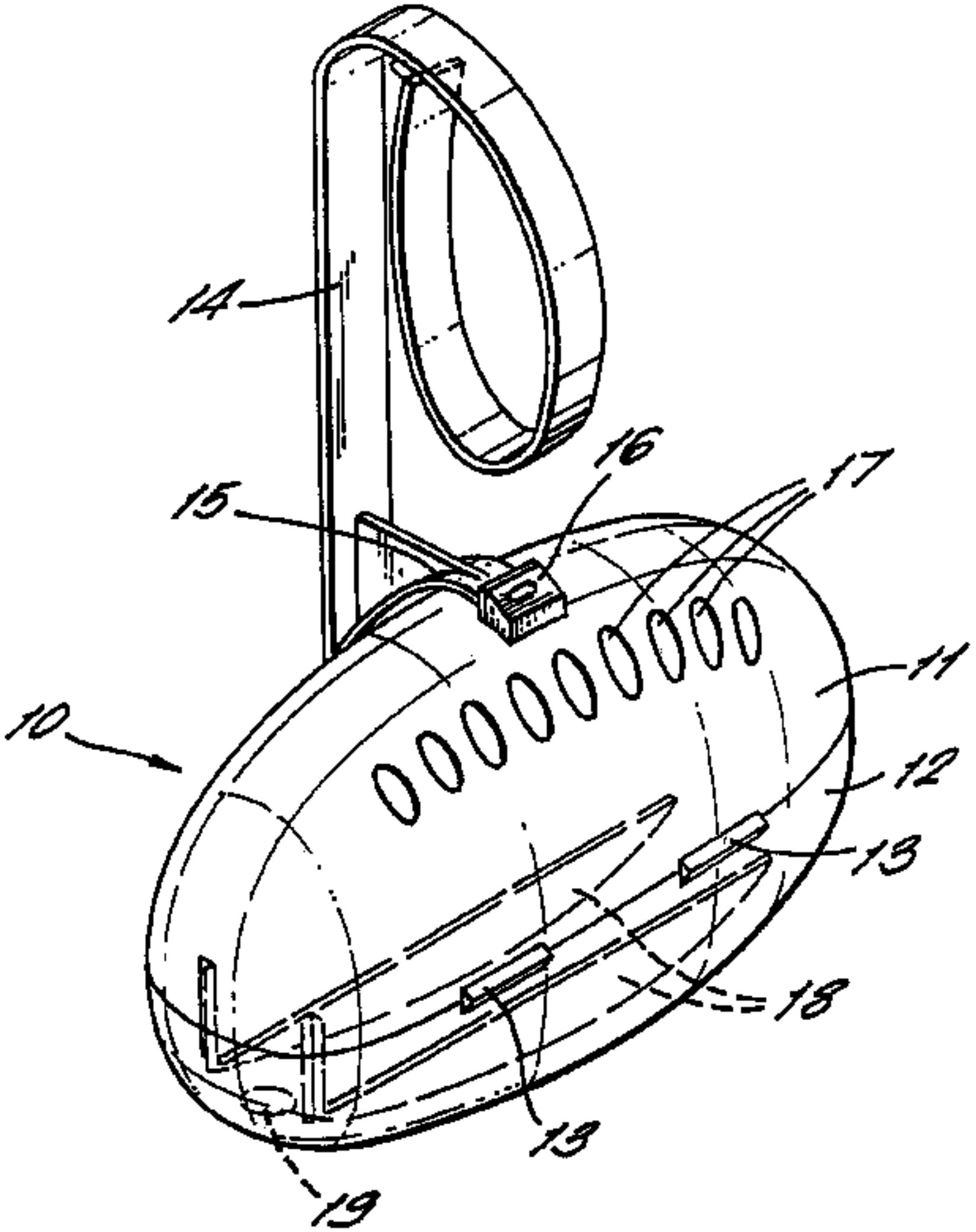
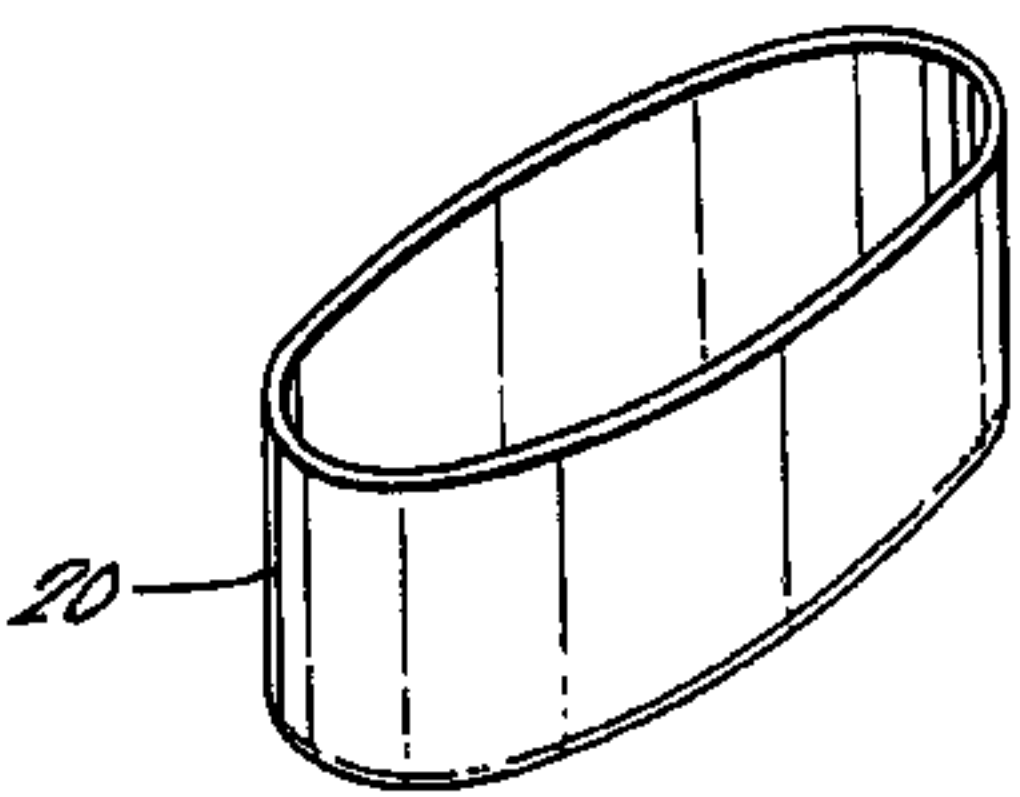


FIG. 1.


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