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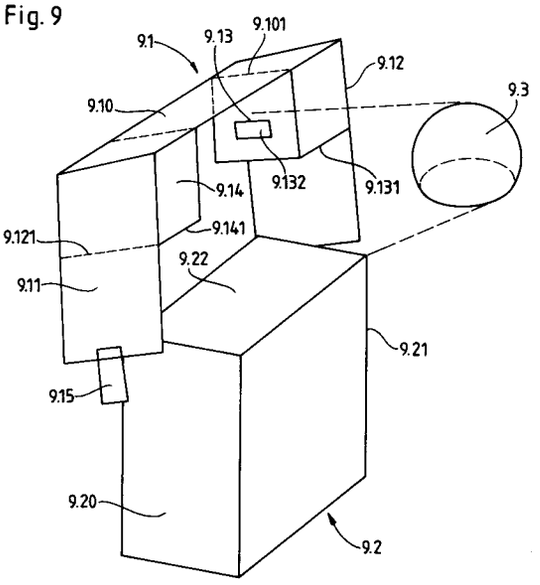
(54) Package assembly

(57) The present invention is a package assembly comprising a closed container (9.2) containing a liquid or granular detergent. Said closed container (9.2) has a flat base, side walls (9.20,9.21), and a first flat top (9.22). Said assembly further comprises a dosing and dispensing device (9.3) for said detergent. The dosing and dispensing device (9.3) is positioned on said first flat top (9.22). The assembly further comprises a hood (9.1) covering said device (9.3) and maintaining said device (9.3) on said flat top (9.22). Said hood (9.1) further provides a second flat top (9.10) whereby another, identical, assembly is stackable on said assembly.

Fig. 9



EP 0 687 637 A1

Technical Field

The present invention relates to packages for liquid or granular detergents. The package assembly of the present invention comprises a container and a dosing and/or dispensing device. The assembly of the present invention is stackable.

Background

Packaging for laundry detergents is the object of a substantial patent literature. Thus a great variety of packages have been described which are suitable for packaging granular or liquid detergents. It is also known that modern laundering of fabrics preferably requires the use of a dosing and dispensing device for the detergent. And many package assemblies are commercially available which comprise a container for the detergent as well as a dosing and dispensing device for said detergent. It is particularly convenient to provide such assemblies having said device located outside said container, since this avoids the unpleasant and unnecessary contact of the user's hands with the detergent which would necessarily occur if said device was located inside said container.

A constant preoccupation of detergent manufacturers is to provide packaged goods which are convenient to handle and in particular to store. This requirement includes the possibility to stack packages so that minimum ground space is required. However, this requirement is somewhat in contradiction with the previous requirement described above, since it is extremely difficult, if not impossible, to stable stack containers having a dosing a dispensing device attached to their outside.

It is thus an object of the present invention to provide a package assembly for a detergent, said assembly comprising a container and a dosing and/or dispensing device for said detergent, said assembly being stackable over an identical assembly.

Also, flexible packages, generally referred to as refill bags or pouches are particularly advantageous from an environmental point of view. However, they have the drawback, from the stackability point of view, that they are flexible, and thus generally considered as incapable of offering stable stacking. It is thus an object of the present invention to provide such an assembly which permits and even improves the stackability of flexible bags or pouches.

Summary of the Invention

The present invention is a package assembly comprising a closed container (1.1) containing a liquid or granular detergent. Said closed container has a flat base (1.11), side walls (1.12), and a first flat top (1.13). Said assembly further comprises a dosing and/or dispensing device (1.2) for said detergent. The assembly of the present invention is characterized in that said dosing and dispensing device is positioned on said first flat top (1.13), and/or in that said assembly further comprises a hood (1.3) covering said device and maintaining said device on said flat top. Said hood further provides a second flat top (1.31) whereby another, identical, assembly is stackable on said assembly.

Brief Description of Figures

Fig. 1 is a general view of an assembly according to the present invention, comprising a container, a dosing and dispensing device and a hood (1.3).

Fig. 2, 2' and - illustrate a container of the present invention.

Fig. 3, 3', and 3'' illustrate another container of the present invention. Fig. 3 is a perspective view of the container during manufacture. Fig 3' is a front view of said container. Fig 3'' is a front view of said container when it is finished.

Fig 4 and 5 illustrate two dosing and dispensing devices which are suitable for use herein.

Fig. 6 illustrates an assembly according to the present invention comprising a particular hood.

Fig. 7 illustrates a particular execution of the hood of Figure 6.

Fig. 8 is a side view of the hood of figure 7, when a dosing and dispensing device is fitted.

Fig. 9 is a general view of an assembly according to the present invention with a preferred execution of the hood.

Fig. 10 is a variation of the hood of figure 9.

Detailed description of the invention

The assembly according to the present invention comprises a container (1.1), a dosing and dispensing device (1.2) and a hood (1.3).

The container

As a first essential feature, the assembly of the present invention comprises a container. The closed container has a flat base (1.11), side walls (1.12), and a flat top (1.13) constituting the first flat top of the assembly of the present invention. By flat, it is meant herein a direction which is substantially parallel to the ground when the container is stacked.

The container herein can be substantially rigid, e.g. a carton, metal or plastic box, but it can also be a flexible container such as a flexible so-called "refill" bag or pouch. These bags are preferred

over rigid and permanent containers since they have the advantage that they require a smaller amount of material for their manufacture, and thus are ecologically convenient. These bags are meant to be used to refill a permanent container, typically a plastic box, which the user keeps for several refills, and these bags are then disposed of. Disposition of said flexible bags creates very little waste material, and requires very little space.

Such flexible bags are well-known in the art and can be made from a variety of mono or multi layer sheet-like materials, depending essentially on the material to be contained, i.e. liquid or granular detergents. For granular detergents, the materials for the manufacture of such bags have a thickness of from 15 to 250 micrometers, preferably 20 to 150 micrometers. Such materials preferably comprise at least one layer of a thermoplastic synthetic material selected from LLDPE, LDPE, HDPE, VLDPE, PE, PET, OPP, EVOH, Nylon and EVA, or mixtures thereof. Such materials may further comprise a variety of other materials such as lacquers, barriers and coatings. A preferred material for manufacturing flexible bags for granular detergents, according to the preferred execution of the present invention, is a multilayered material comprising PE/PET/PE (50/12/30 micrometers).

Suitable material for making pouches for liquid detergents have a thickness of from 5 to 300 micrometers, preferably 12 to 220 micrometers. Such materials preferably comprise at least one layer of a thermoplastic synthetic material as described hereinabove or mixtures thereof. Such materials may further comprise a variety of other materials such as described hereinabove.

A preferred material for manufacturing pouches for liquid detergents according to the present invention is a multilayered material comprising PET/PE (12/150-220 micrometers).

Referring to Fig 2,2', suitable flexible bags or pouches for use herein can be made from a sheet of material. The two edges (2.1, 2.2) of the sheet are sealed together. The bottom of the tube is then sealed (2.3, 2.4) while tucking the film to form a gusseted square bottom (2.5, 2.6) for the bag. The bag is then filled with detergent and the top section of the bag folded down to remove excess air (2.5). This folded air-free bag is then sealed (2.6) and the excess material is trimmed off (2.7). The top flap of the bag is then folded (2.8) and fixed to the bag, e.g. by means of glue or tape.

Referring to Fig 3,3',3'' other suitable bags or pouches can be made which have an inverted V shape bottom, when unfilled. Such pouches can be made from 3 sheets, i.e. 2 side sheets (3.1,3.2) and 1 bottom sheet (3.3). The bottom sheet is folded into an inverted V and the edges of the inner sides of the side sheets are sealed to the edges of the outer sides of the legs of the inverted V. But the inner sides of the legs of the inverted V are not sealed together. The edges of the inner sides of the side sheets are sealed together above said inverted V. Preferably, all bottom corners of the side sheets (3.11, 3.12, 3.21 and 3.22 not shown) and said bottom sheet (3.31, 3.32, 3.33 and 3.34 not shown) are oblique, so as to provide a stable and broad flat base, when the pouch is filled (3'.1). After filling the pouch with said detergent (3'.2) and closing the top edges (3.13 and 3.23) of the side sheets, the upmost part (3'.3) of the pouch must be folded onto the pouch so as to provide said first flat top (3''.1). Preferably, said folded upmost part (3'.3) is then fixed onto the pouch, e.g. by means of glue or tape. In order to ensure that the top of the pouch is as flat as possible, it can be desirable to ensure that air is sucked out of the pouch after it has been filled but before the top edges are sealed. The container also has side walls (3''.2, 3''.3) and a flat base (3''.4).

The dosing and/or dispensing device

A second essential element of the assembly according to the present invention is a dosing and/or dispensing device for detergents. As used herein, the term "dosing and/or dispensing device" refers to a device which is suitable for dosing, i.e. measuring an amount of detergent, or for dispensing the detergent in the dispenser of the washing machine, or for dispensing the detergent in the washing machine during the wash cycle, or any combination of these properties. This expression further includes combinations of different devices.

Dosing and dispensing devices for detergents, granular or liquids, are well-known and have been extensively described in the art. In their simplest embodiment, they comprise a hollow body (4.1) with at least one opening (4.2) for filling the device, which also serves as a dispensing orifice for the detergent in the washing machine, during use. There is no particular requirement concerning the shape of the devices herein. But such devices are generally designed with a generally spherical or cylindrical shape, so as to avoid the damaging of clothes in the machine during use. Preferably, the devices herein should not have any sharp edges. There is no particular requirement concerning the size of the devices herein, except that they should be large enough to contain a dose of detergent sufficient for one normal wash, i.e. from about 70 ml to 500 ml for granular detergents and 100 ml to 180 ml for liquid detergents, and small enough that they can be positioned on said first flat top of said container, without substantially projecting beyond the limits of the container, except vertically when said container is standing in its upright position.

Said hollow body can either be rigid or deformable but resilient, or even deformable. Suitable materials for making rigid dosing and dispensing devices include thermoplastic materials, and mixtures thereof such as a HDPE/LDPE mixture (75%/25%). If intended to be used with liquid detergents, such devices may further comprise additional features which allow pretreatmemt of fabrics, i.e. the pouring of a small quantity of detergent from the device onto the fabrics. Such features can include a pretreatment beak (4.3). Suitable devices for use herein have been described in EP 151 549, EP 152 359, EP 201 376, EP 230 079, EP 559 771 and EP 559 829. Such devices are convenient for use with both granular and liquid detergents.

Deformable and resilient dosing and dispensing devices have been described in EP 368 680. Such dosing and dispensing devices have the advantage that they help the dissolution of so-called compact detergents in the wash water. They are typically made of polyurethane rubber. Such devices are convenient for use with both liquid and granular detergents.

Deformable dosing and dispensing devices have been described in EP 343 069 and EP 434 070. Such devices are designed to be used with granular detergents, in particular compact granular detergents, i.e. having a higher bulk density, from about 600g/l and above. They conveniently consist of a flexible sleeve (5.1), a rigid structure (5.2) inside said sleeve, and a rigid mouthpiece (5.3). The rigid structure and mouthpiece maintain an opening of a constant size which ensures convenient filling and dispensing, but the flexible sleeve deforms with the mechanical agitation in the washing machine to help dissolution of the detergent in the wash water. The rigid mouthpiece and the rigid structure are conveniently made of polypropylene, while the sleeve is indifferently made of a water permeable or water impermeable material. There can be many variations in such a device. Preferably, the mouthpiece has an impeller (5.31) which partially obstructs said opening, in order to prevent the free movement of lumps of undissolved detergent. In this embodiment, the rigid structure inside the sleeve may further participate to the stability and the strength of the stacking.

Other suitable devices herein include measuring devices, commonly referred to as scooping devices (5.4), which will allow the scooping of the detergent from the permanent container into which the detergent contained in the container of the present invention has been emptied. Suitable scooping devices generally consist of a receptacle and a handle. It may be desirable to combine herein a scooping device as well as a dispensing device, so that the scooping device may be used to fill the dispensing device. In such a case, the scooping device is advantageously large enough so that said dosing and dispensing device can be lodged inside the scoop (5.41) of said scooping device. In such a case, both the scooping device and the dosing and dispensing device lodged in said scoop are positioned on said first flat top.

According to the present invention, the dosing and/or dispensing device must be located on said first flat top of said container when it is closed. The dosing and dispensing device can be fastened, if desired, on said top, e.g. by means of weak glue or preferably a tape. However, in a preferred embodiment of the present invention, the device is not fastened per se on said top, but it is the hood disclosed hereinafter which fastens the dosing and dispensing device.

The hood

A third essential element of the assembly according to the present invention is a hood (1.3). The hood according to the present invention has the double function herein of covering said dosing and dispensing device and providing a second flat top (1.31) whereby another assembly, identical to the one disclosed herein, is stackable on said assembly. In a preferred embodiment of the present invention, said hood serves the further function of securely fastening said device on said first flat top.

The hood according to the present invention should have dimensions which do not project substantially beyond the limits of the container when it is installed in its functional position covering said dosing and dispensing device, except in the vertical direction when the container is standing in its upright position. Preferably, said second flat top provided by the hood should have at least one dimension, i.e. width or length, corresponding to a dimension of the flat base of the container in the assembly. In a highly preferred embodiment, both dimensions of said second flat top correspond to the dimensions of said flat base. As used herein, the term "correspond" does not necessarily require identity of dimensions, but it does mean that the dimensions of the second flat top are so as to enable stacking of the containers.

The hood according to the present invention can consist of a frame (6.1) which has a side (6.10) which corresponds in dimension to said first flat top (6.20) of the container (6.2). Said side of the frame can be glued to said first flat top. As an alternative, or in addition, it can also be fastened to the side walls (6.21) of the container, e.g. by means of tape (6.3). The frame has a second side (6.11) which corresponds to said first side and which constitutes said second flat top. The hood is positioned on the container as indicated by the dotted lines in Figure 6. The frame has a vertical dimension which is

such as to accommodate the dosing and dispensing device (6.4). The dosing and dispensing device can be fastened to the frame by any means, such as gluing or taping. In a preferred embodiment, the frame participates to the fastening of the dosing and dispensing device. For instance, the frame can be made with a somewhat flexible material, such as carton or plastic, and of a dimension corresponding to the device, so that the device has to be gently forced into said frame which deforms enough to securely accommodate said device without substantially compromising the configuration of said second flat top. The frame can further be equipped with fastening means for said device. Said means may consist of intermediary walls (7.1, 7.2) which define a sub-frame which corresponds to the size of the device. The sub-frame may also be of a size which is slightly smaller than the device, in which case the intermediary walls may further comprise clipping means (7.11, 7.21) for the device. These clipping means may consist of holes in the intermediary walls through which a portion of a circumference of the device is forced as illustrated in Figures 8a and 8b. In Fig. 8b, a dosing and dispensing device as described hereinbefore, with a sleeve, a mouthpiece, and a rigid structure, combined with a scooping device into which the dosing and dispensing device is fitted is clipped into holes in intermediary walls. In this illustration, it is the mouthpiece of the dosing and dispensing device which is clipped.

In a variation of this embodiment, the frame may be much larger whereby it will incorporate said container, i.e. the container fits in the frame, and the dosing and dispensing device also fits in the frame, in between said first flat top of said container, and the lower face of said second flat top of said hood.

In a preferred embodiment of the present invention, which provides a better fastening of the hood (9.1) on the container (9.2), and better stability of the assembly, the hood comprises a top wall (9.10) constituting said second flat top, and two side walls (9.11, 9.12) hinged upon said top wall, but no continuous bottom wall contacting said first flat top. In this embodiment, the side walls of the hood will contact the side walls (9.20, 9.21) of the container, and can be glued or taped (9.15) thereon. In this arrangement, the device (9.3) is held in between the hood and said first flat top (9.22). This hood can further be equipped with intermediary walls (9.13, 9.14) which are hinged at one end upon the lower face of said top wall along a line (9.101), and at the other end on the internal face of said side wall along a line (9.121). Such intermediary walls may thus provide other portions (9.131, 9.141) which may be used to fasten, e.g. glue, the hood on said first flat top and which may have clipping means (9.132, 9.142) not shown), as in the previous embodiment which further secure the dosing and dispensing device.

In a variation of this embodiment, the hood can have intermediary walls (10.1 and 10.2) joined by can have intermediary walls joined by a flat wall (10.3), thereby providing an inverted "flattened U shaped structure" in which the dosing and dispensing device will fit.

The hood according to the present invention can be made with a variety of materials including plastics, but a preferred material for environmental and cost reasons is cardboard. Different grades of cardboard are commercially available and their suitability herein depends amongst other things on the size of the container, i.e. the weight of the container when it is filled, as well as the design of the hood. For instance we have found that a suitable hood with a design as in fig 9 can be made for a bag of 2.2 Kg bag, using a carton 400 - 550 g, recycled board/pure kraft or a combination thereof, with optional Polyolefin lamination (20 - 60 micrometers). Up to five such assemblies were stacked in a stable and durable manner.

Claims

1. A package assembly comprising a closed container (1.1) containing a liquid or granular detergent, said closed container having a flat base (1.11), side walls (1.12), and a first flat top (1.13), said assembly further comprising a dosing and/or dispensing device (1.2) for said detergent, characterized in that said dosing and/or dispensing device is positioned on said first flat top (1.13), and said assembly further comprises a hood (1.3) covering said device and maintaining said device on said flat top, said hood further providing a second flat top (1.31) whereby another, identical, assembly is stackable on said assembly.

2. An assembly according to claim 1 wherein said container is a flexible bag or pouch.

3. An assembly according to the preceding claims wherein said device comprises a flexible sleeve (5.1), a rigid structure (5.2) inside said sleeve, and a rigid mouthpiece (5.3).

4. An assembly according to the preceding claims wherein said hood is fastened to said first flat top (6.20) and/or said side walls (6.21) of said container.

5. An assembly according to any of the preceding claims wherein said hood is a frame (6.1) positioned on said first flat top, or around said

container.

6. An assembly according to claims 1 to 5 wherein said hood comprises a top wall (9.10) constituting said second flat top, and two side walls (9.11, 9.12) hinged upon said top wall, but no continuous bottom wall.

7. An assembly according to any of the preceding claims wherein said hood comprises fastening means for said dosing and dispensing device.

8. An assembly according to claim 7 wherein said fastening means consist of intermediary walls (7.1, 7.2), (9.131, 9.141).

9. An assembly according to claim 8 wherein said intermediary walls further comprise clipping means (7.11, 7.21), (9.132) for said device.

10. An assembly according to claim 9 wherein said clipping means consist of holes in the intermediary walls through which a portion of the circumference of the device is forced.

11. An assembly according to any of the preceding claims wherein said hood is made out of carton.

Fig. 1

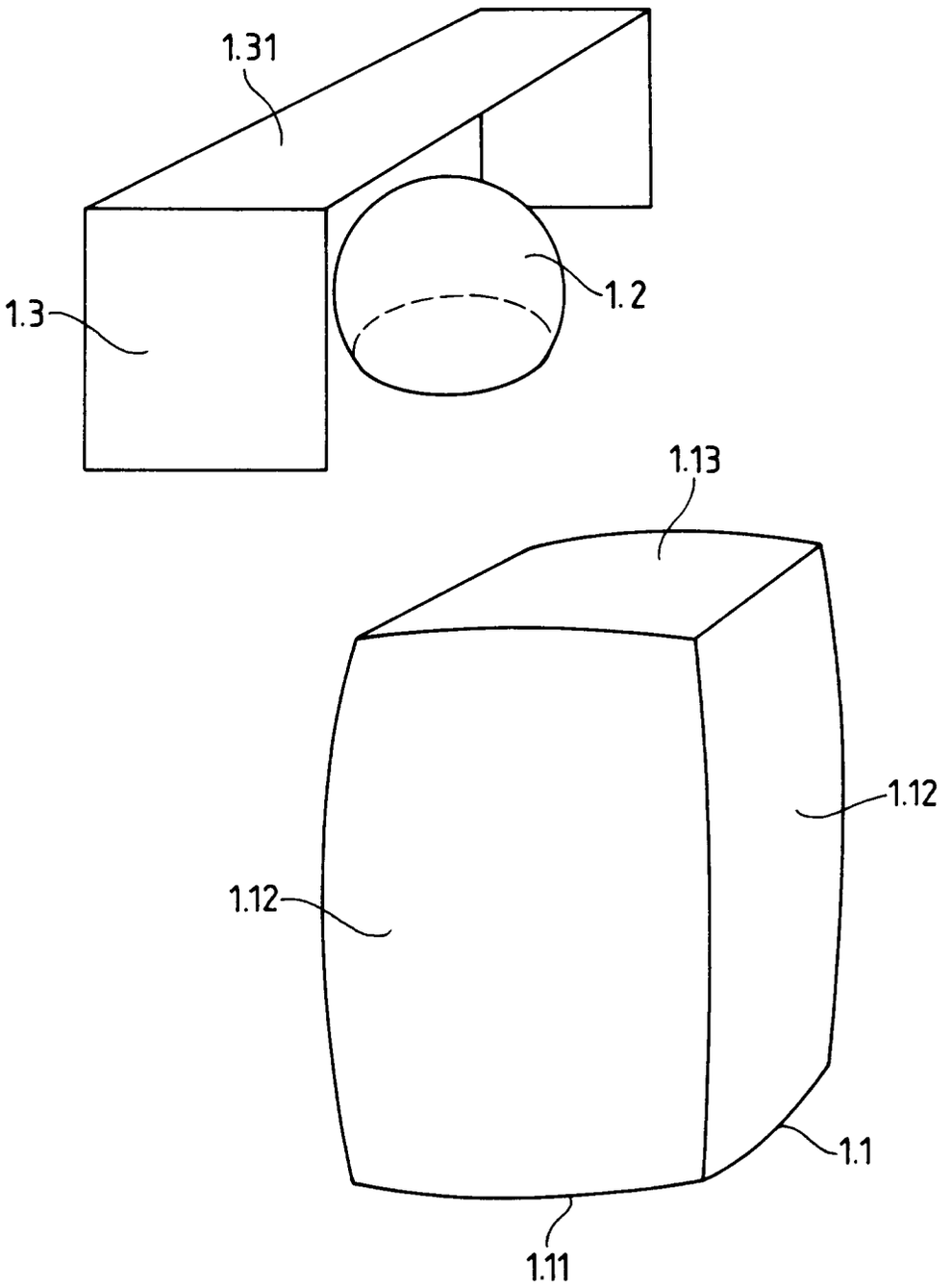


Fig. 2

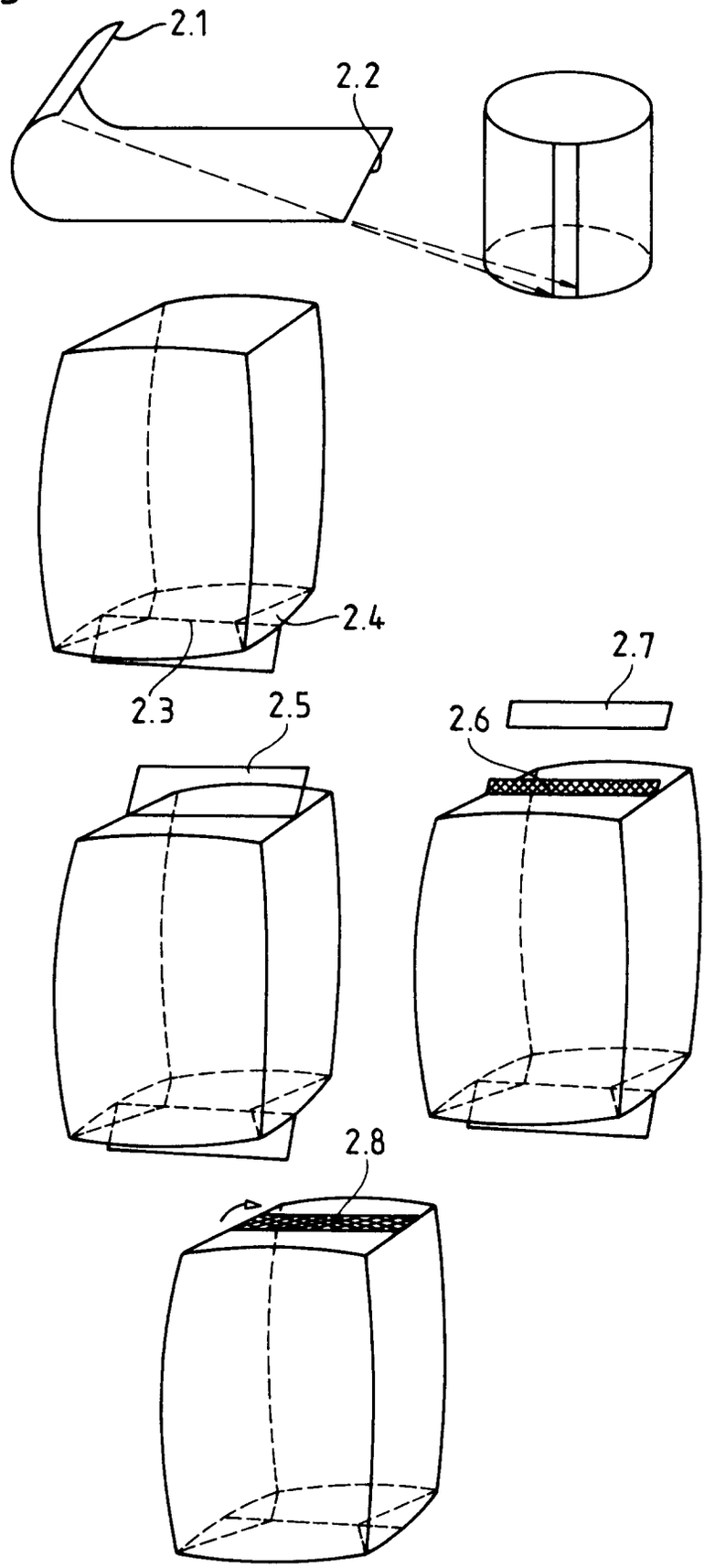


Fig. 3

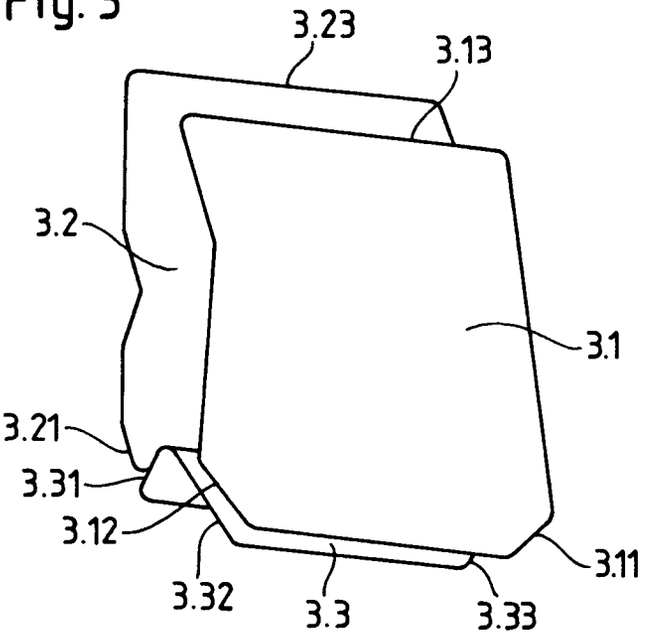


Fig. 3'

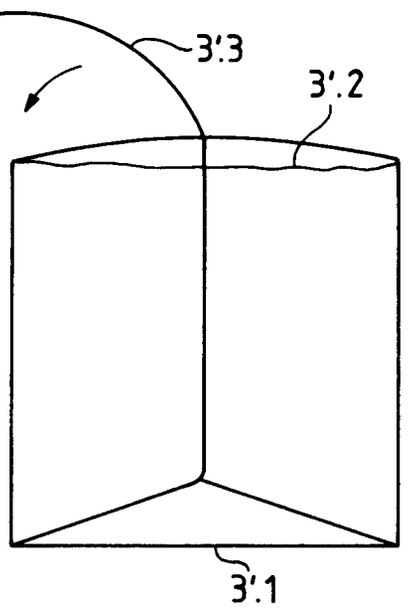


Fig. 3''

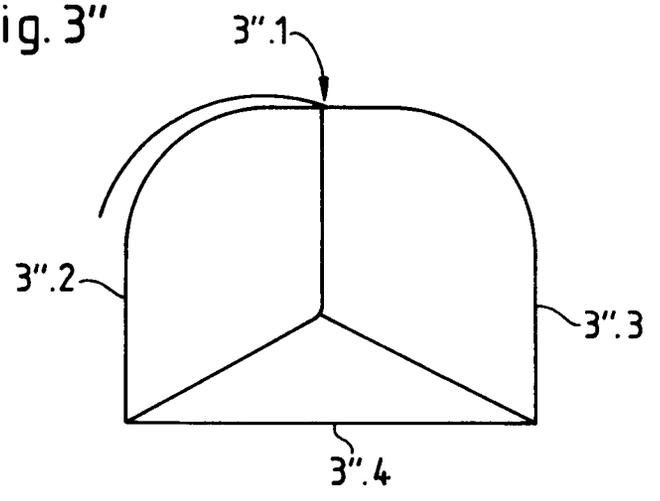


Fig. 4

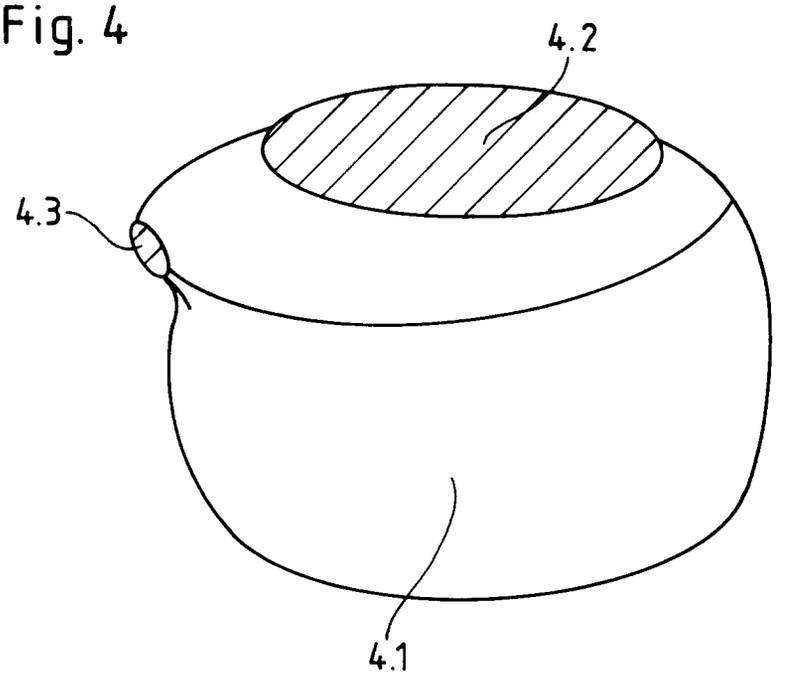


Fig. 5

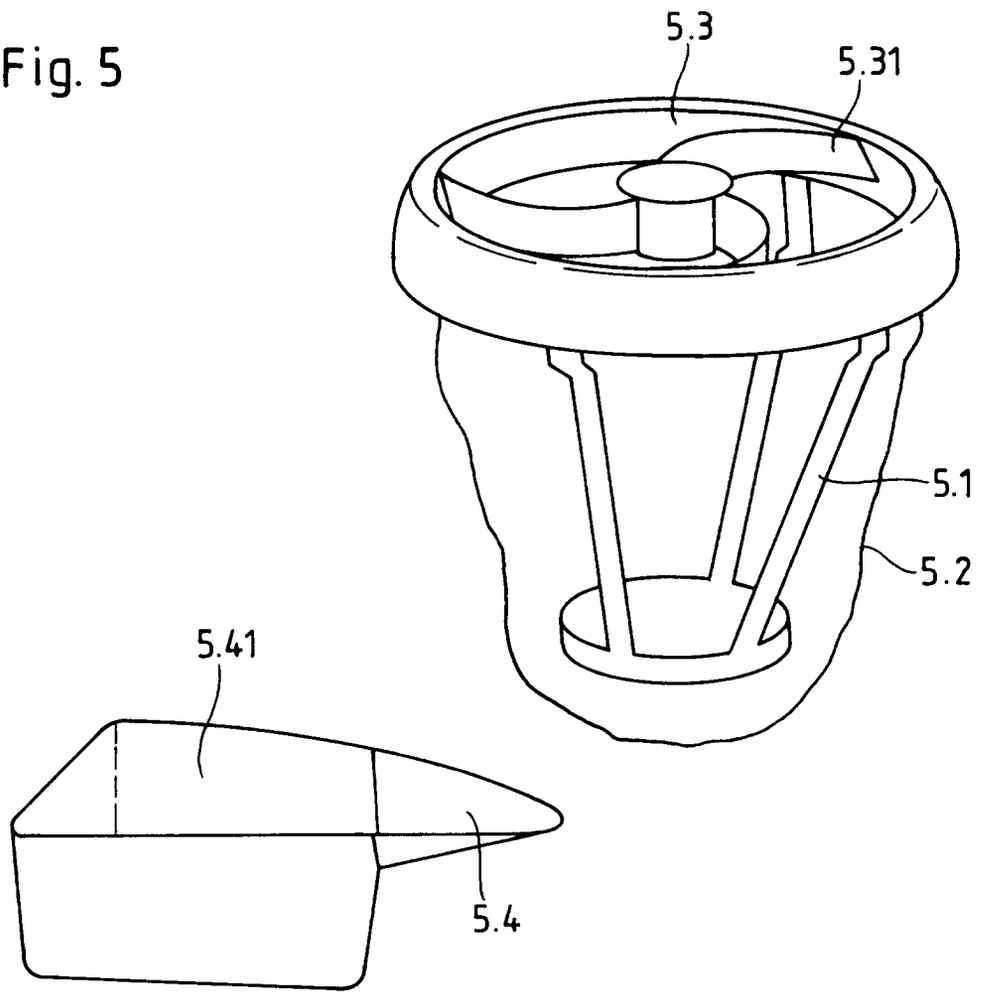


Fig. 6

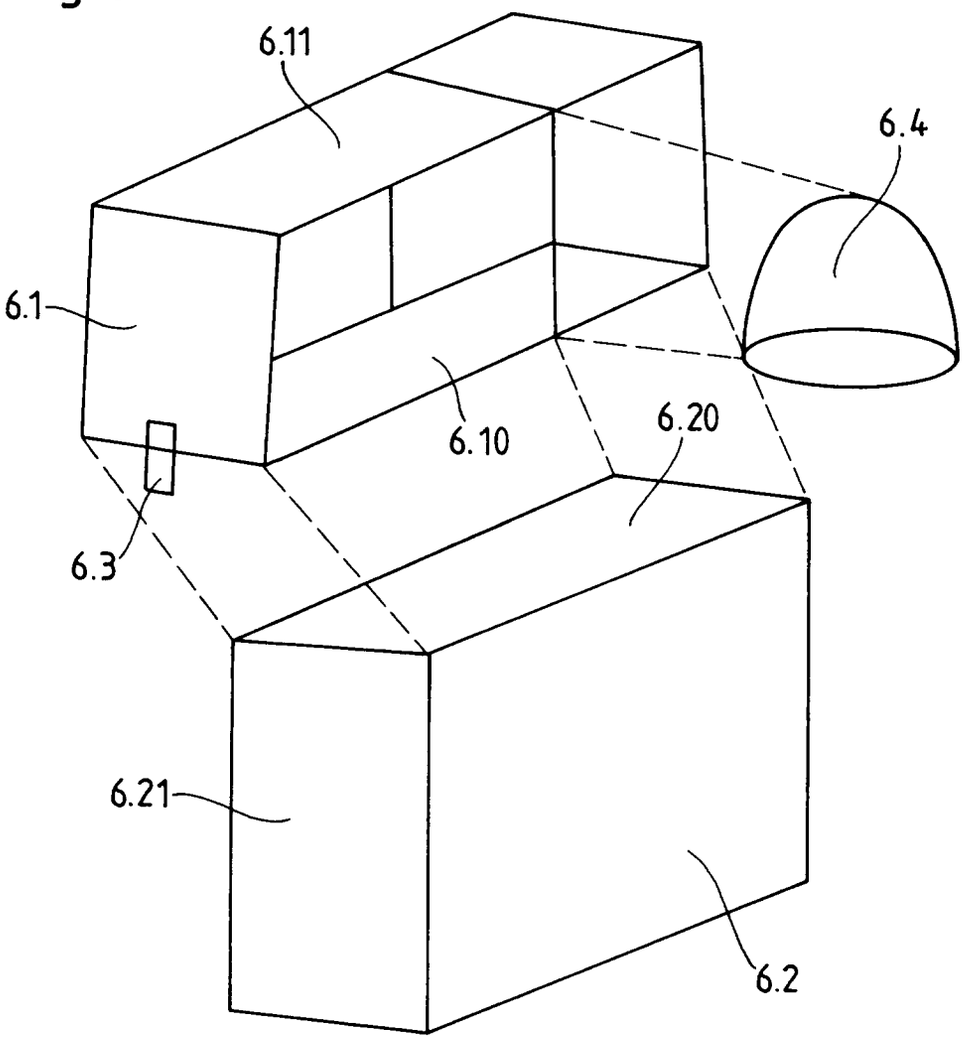


Fig. 7

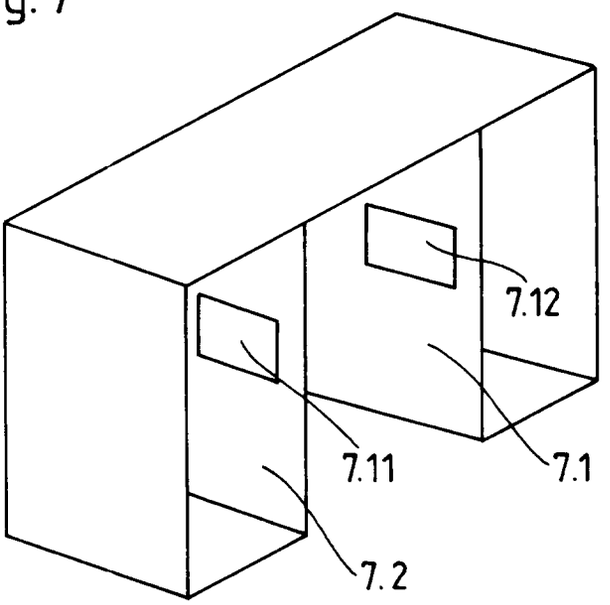


Fig. 8

Fig. 8a

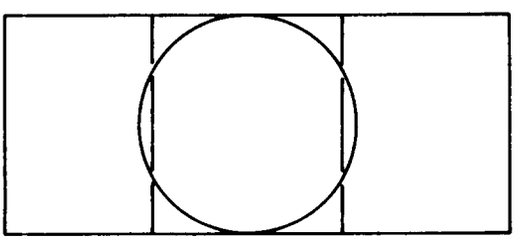


Fig. 8b

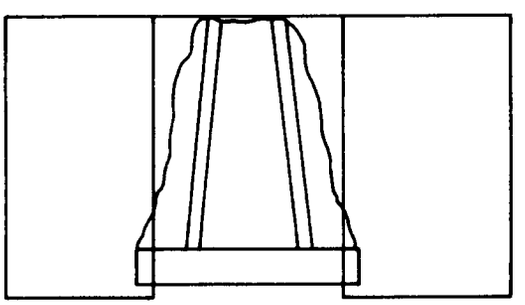
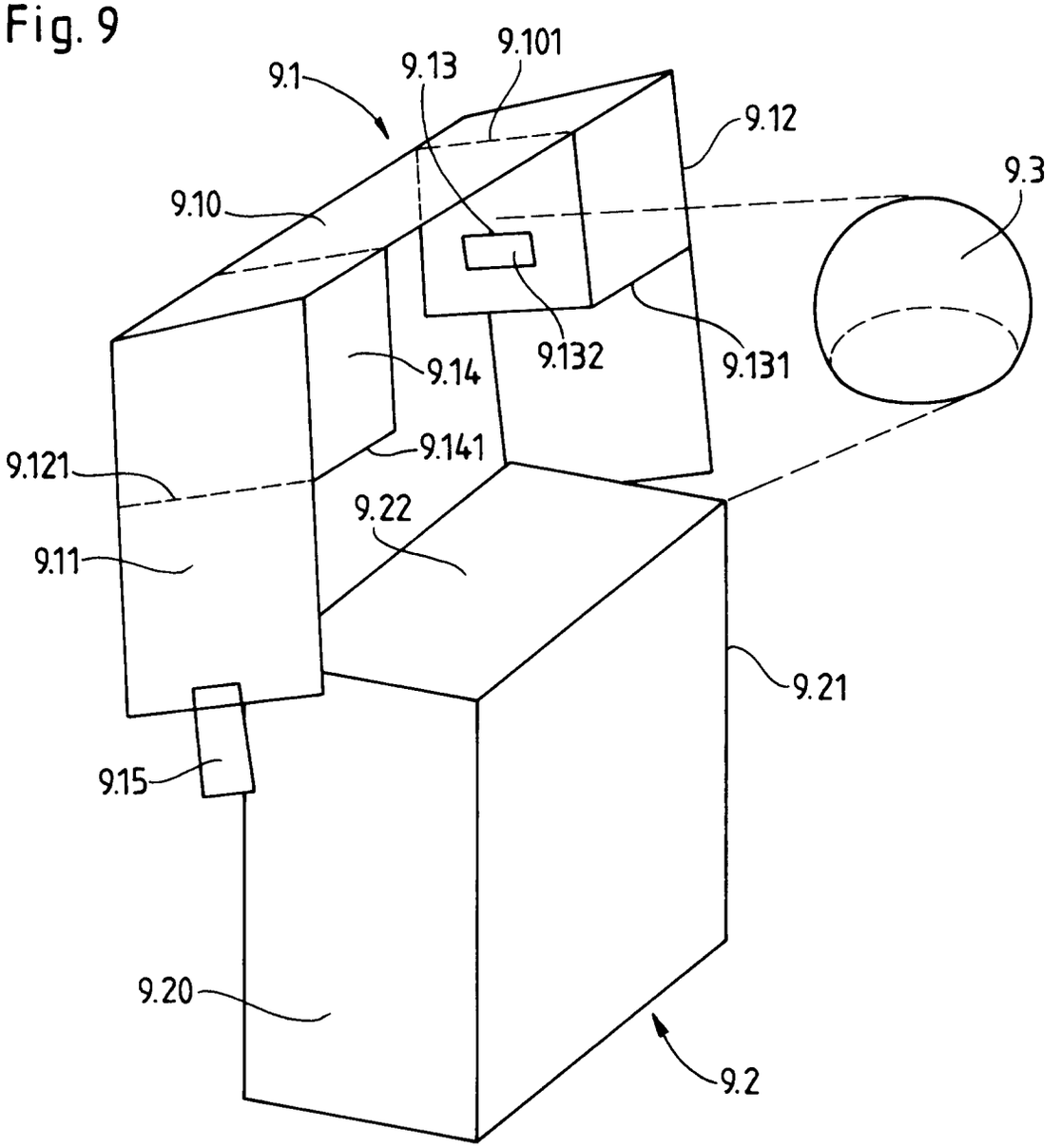


Fig. 9


9.1
9.13
9.101
9.12
9.3
9.10
9.132
9.131
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9.141
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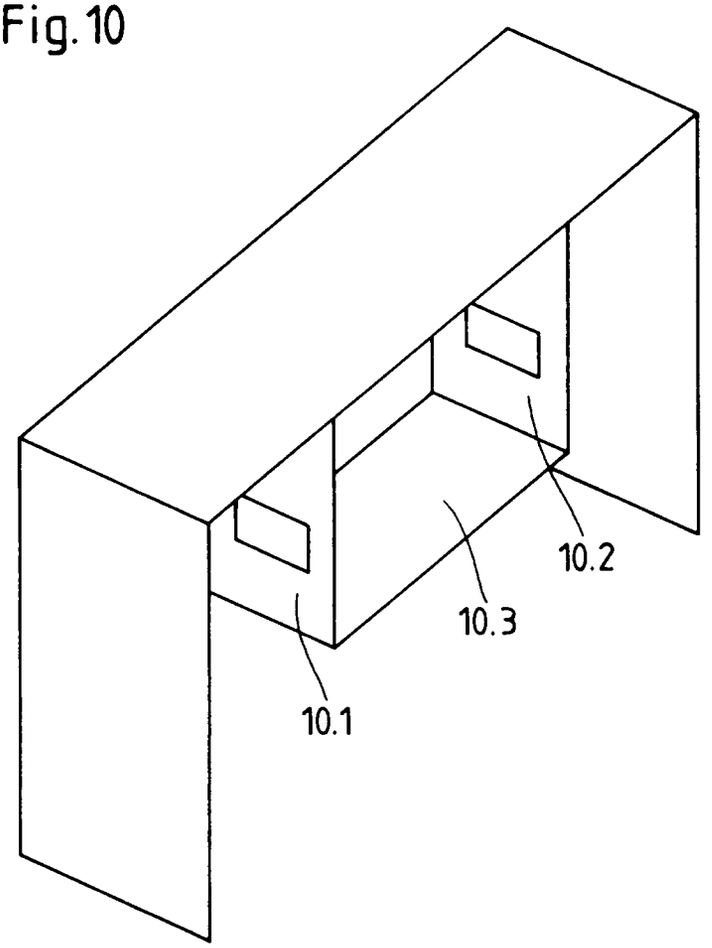
9.21
9.15
9.20
9.2

Fig. 10



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 87 0099

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X Y	EP-A-0 400 708 (THOMASSEN & DRIJVER-VERBLIFA) * column 4, line 57 - column 6, line 22; figures 1-20 *	1,4,7 3	B65D77/24 B65D71/00
X	EP-A-0 575 694 (MIRA LANZA S.P.A.) * column 2, line 10 - column 3, line 1; figures 1,2 *	1	
Y	EP-A-0 343 070 (PROCTER & GAMBLE CO.) * figures 12-17 *	3	
A	CH-A-500 873 (GRUBERNES SPRAENGSTOFFABRIKER A/S) * column 2, line 13 - column 3, line 10; figures 1-3 *	1	
A	EP-A-0 341 550 (HENKEL KG) * column 2, line 22 - line 31; figures 2-5 *	1	
A	EP-A-0 157 653 (PUREX CORP.) * page 15, line 11 - line 17; figure 18 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B65D D06F G01F
A	US-A-2 853 183 (GUYER) * column 1, line 59 - column 3, line 38; figures 1-4 *	1,4,5, 7-11	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	15 November 1994	Berrington, N

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
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