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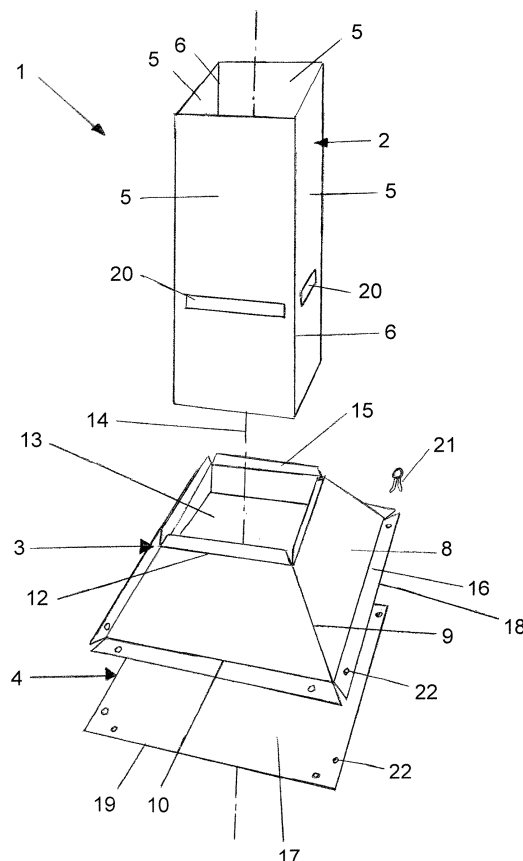
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(54) **A collapsible container**

(57) A collapsible vase (1) has a sleeve (2) and a sleeve holder (3). The sleeve (2) has an open state in which at least one item can be placed in the sleeve (2) and a flattened state for storage during non-use of the vase (1). The sleeve holder (3) has an open state for holding the sleeve (2) in its open state in a substantially upright position, and a flattened state for storage during non-use of the container (1). The sleeve holder (3) in its open state has a cross-sectional area which tapers in a region between a base end (11) and an upper opening (13), said upper opening (13) dimensioned to receive the sleeve (2) in its open state.

Fig. 1



Description

[0001] The present invention relates to a collapsible container and more particularly to a collapsible vase.

[0002] WO 2004/000528 discloses a plastic vase having a collapsible moulded container, a moulded rim, and a moulded base. The container has four walls with a membrane hinge running between adjacent walls. A pair of opposing walls of the container also has a membrane hinge running along the length of each wall dividing it into two halves. Each wall of the container also has a hinged flap at its base which folds inwards to form the base of the container. The moulded vase base has a raised rim inside of which the container is clipped. The moulded vase rim is clipped to the top of the container to hold it open.

[0003] A problem with this plastic vase is that when the vase has been erected by having the container has been clipped into its base and the rim clipped to the top of the container, the erected vase is not that stable as it can be easily knocked over. The vase is complex and not that cheap to make and it also has the problem of not being easily disposable.

[0004] It is an object of the present invention to provide a collapsible container to alleviate the above-mentioned problems.

[0005] According to one aspect of the present invention there is provided a collapsible container, comprising:

a sleeve having an open state in which at least one item can be placed in the sleeve and a flattened state for storage during non-use of the container; and
a sleeve holder having an open state for holding the sleeve in its open state in a substantially upright position, and a flattened state for storage during non-use of the container, the sleeve holder in its open state having a cross-sectional area which tapers in a region between a base end and an upper opening, said upper opening dimensioned to receive the sleeve in its open state.

[0006] The tapered sleeve holder provides stability for the container making it difficult for the container to be knocked over. Also, the upper opening of the sleeve holder dimensioned to receive the sleeve is conducive to the sleeve being in its open state. The container is simple and cheap to make and can comprise disposable material such as cardboard which is biodegrade and it can also be readily recycled. The tapered sleeve holder may also act as a design feature which gives the collapsible vase a more pleasing appearance.

[0007] The sleeve and sleeve holder may be co-axial when the sleeve holder holds the sleeve.

[0008] The sleeve holder may have an even number of sides, the sleeve holder having a joint between each side, enabling the sleeve holder to be collapsed to the flattened state. The sides of the sleeve holder may be substantially identical to each other.

[0009] The sleeve may have an even number of sides, the sleeve having a joint between each side, enabling the sleeve to be collapsed to the flattened state. The sides of the sleeve may be substantially identical to each other.

[0010] The shape of the cross-sectional area of the sleeve in its open state may be substantially the same as the shape of the cross-sectional area of the upper opening of the sleeve holder in its open state.

[0011] The shape of the cross-sectional area of the base end of the sleeve holder may be substantially the same as the shape of the upper opening of the sleeve holder.

[0012] The collapsible container may include releasable fastening means for fastening the sleeve to the sleeve holder when the sleeve is received into the sleeve holder.

[0013] A base may be provided for the sleeve holder to stand on when the sleeve holder is in its open state. The collapsible container may include releasable fastening means for fastening the sleeve holder to the base when the sleeve holder is in its open state.

[0014] The collapsible container may include a waterproof liner for the sleeve. The waterproof liner may be removable from the sleeve. The waterproof liner may be inserted into the sleeve when the sleeve is in its open state and the waterproof liner may provide more stability to the container particularly when the liner is containing liquid.

[0015] According to another aspect of the present invention there is provided collapsible container, comprising:

a sleeve having at least one projection at one end of the sleeve, the sleeve having an open state in which at least one item can be placed in the sleeve and a flattened state for storage during non-use of the container; and

a base having at least one opening for securely receiving at least one said projection when the sleeve is in its open state, whereby said sleeve is retained by said base in a substantial upright position.

[0016] The projection may comprise a flap adapted to be folded underneath at least an upper portion of the base when the flap is inserted into the opening. The base may have at least one region for receiving at least one said flap within the base when said at least one flap is folded underneath at least the upper portion of the base. The region is preferably arranged to receive at least one said flap folded away from the sleeve. The region may be a recess and there is preferably the same number of recesses as flaps. There is preferably the same number of openings as flaps with each flap being arranged to be inserted into a respective said opening.

[0017] A sleeve stabilising insert may be provided for insertion into the sleeve when the sleeve is in its open state.

[0018] Embodiments of the present invention will now be described, by way of example, with reference to the

accompanying schematic drawings, in which:

Figure 1 is an exploded view of a collapsible container in an open state according to one embodiment of the invention;

Figure 2 is a sectional view of the collapsible container in an open state;

Figure 3 is a perspective view of a waterproof liner for the container;

Figure 4 is a view of the bottom of the waterproof liner;

Figures 5 and 6 are views of the sleeve and sleeve holder, respectively, in a flattened state;

Figure 7 is an exploded perspective view of a collapsible container in an open state according to another embodiment of the invention; and

Figure 8 is an underside view of a base of the collapsible container of Figure 7.

[0019] Referring to Figure 1 of the accompanying drawings, a container in the form of a collapsible vase 1 is shown in its open state. The vase 1 has a sleeve 2 in which at least one item can be placed, a sleeve holder 3 or skirt, and a square base 4.

[0020] The sleeve 2 is a tube formed of four identical sides 5 with a joint 6 between each side 5 and the tube has a square cross-sectional area.

[0021] The sleeve holder 3 also has four identical sides 8 with a joint 9 between each side 8. Each side 8 has the configuration of a trapezium with the lower edges 10 of the trapeziums 8 bounding a square cross-sectional area at a base end 11 (see Fig. 2) of the sleeve holder 3 and the upper edges 12 of the trapeziums 8, which are shorter than the lower edges 10, bounding a square cross-sectional area forming an upper opening 13. Thus, the cross-sectional area of the sleeve holder 3 tapers between the base end 11 and the upper opening 13. The upper opening 13 is dimensioned to receive the sleeve 2 and the sleeve 2 is fitted within the sleeve holder 3 so that the sleeve 2 is held in an upright position and the sleeve 2 and sleeve holder 3 are coaxial about a central axis 14.

[0022] A trapezoidal flap 15 extends from each upper edge 12 and another trapezoidal flap 16 extends from each lower edge 10. The upper edge trapezoidal flaps 15 are all identical and the lower edge trapezoidal flaps 16 are also all identical. The upper edge trapezoidal flaps 15 are arranged to be against the sides 5 of the sleeve 2 and lower edge trapezoidal flaps 16 are arranged to be against an upper surface 17 of the base 4 with the distal edges 18 of the lower edge trapezoidal flaps 16 being coincident with the perimeter 19 of the base 4.

[0023] The upper edge trapezoidal flaps 15 is releasably fastened to the sleeve sides 5 by finger-lift adhesive 20 placed on portions of the sleeve sides 5 and split pin paper fasteners 21 are used to releasably fasten the lower edge trapezoidal flaps 16 to the base 4. Holes 22 are provided in the lower edge trapezoidal flaps 16 and the base 4 for the split pin paper fasteners 21. Split pin paper

fasteners 21 may be used instead of the adhesive 20 to releasably fasten the upper edge trapezoidal flaps 15 to the sleeve sides 5. Any suitable arrangement of releasable fasteners may be used to fasten the upper edge trapezoidal flaps 15 to the sleeve sides 5 and the lower edge trapezoidal flaps 16 to the base 4 and these may include magnets, poppers or Velcro^{RTM}.

[0024] Referring to Figure 2, the vase 1 in its open state has the sleeve 2 inserted into the sleeve holder 3 so that the sleeve 2 rests on the base 4 and the sleeve 2 is held in an upright position by the sleeve holder 3. The sleeve holder 3 is fastened to the sleeve 2 by the finger-lift adhesive 20 and the sleeve holder 3 is fastened to the base 4 by the split pin paper fasteners 21 being passed through the holes 22 in the lower edge trapezoidal flaps 16 and the base 4. The end portions 23 of the fasteners 21 are then bent through 90 degrees to hold the flaps 16 and base 4 together.

[0025] Referring to Figure 3, a waterproof liner 24 for the vase 1 has a bag 25 and a supporting tube 26. The tube 26 is formed of four identical sides 27 with a joint 28 between each side 27 and the tube 26 has a square cross-sectional area which is slightly less than the square cross-sectional area bounded by the upper edges 12 of the trapeziums 8 of the sleeve holder 3. The bottom of each side 27 has a rectangular flap 29 (see Figure 4). The bag 25 is made from, say, a plastic, such as polythene, and the portion 30 of the bag around its entrance is folded over the top portion 31 of the tube 26 and is fixed to it by, say, staples 32. The remainder of the bag 25 hangs down inside the tube 26. The tube 26 can be placed in a flattened state by having each tube side 27 pushed towards an adjacent tube side 27 so that they are coincident.

[0026] When the vase 1 is in its open state, the waterproof liner 24 is placed in an open state and one pair of flaps 29 of the tube 26 are folded towards each other and the other pair of flaps 29' are folded towards each other and overlap the flaps 29 in their corner regions. The flaps 29' are then held to the tube 26 by adhesive tape. The liner 24 is then placed into the sleeve 2.

[0027] When the vase 1 is not in use, both the sleeve 2 and the sleeve holder 3 can be collapsed to a flattened state for storage by means of their joints 6, 9. When the sleeve 2 is in its flattened state (see Figure 5), each sleeve side 5 is pushed towards an adjacent sleeve side so that they are coincident. When the sleeve holder 3 is in its flattened state (see Figure 6), each sleeve holder side 8 and its upper and lower trapezoidal edge flaps 15, 16 are pushed towards an adjacent sleeve side and its upper and lower trapezoidal edge flaps so that they are coincident.

[0028] In a specific example of the embodiment and modifications described above, the sleeve 2, sleeve holder 3 and base 4 comprise cardboard.

[0029] Figures 7 and 8 illustrate another embodiment of the container in the form of a collapsible vase 40. A flap 41 extends from the middle of the lower end of each

side 42 of the sleeve 43. The base 44 has an upper square portion 45 placed centrally on a lower square portion 46 which extends beyond the upper square portion 45. The upper square portion 45 of the base 44 has slots 47 arranged to receive respective flaps 41 of the sleeve 43 when the sleeve 43 is in its opened state. The lower square portion 46 has a rectangular opening 48 corresponding to each slot 47 wherein each slot 47 is aligned with one side of the opening 48 and the opening 48 extends away from the slot towards the edge of the lower square portion 46. Each opening 48 is sized to receive a respective flap 41.

[0030] When the sleeve 43 is in its open state its flaps 41 are inserted into the slots 47 in the base 44. Each flap 41 is then folded underneath the upper square portion 45 of the base 44 and the flaps 41 fit within their respective openings 48 in the lower square portion 46 of the base 44.

[0031] A sleeve insert 49 is placed at the bottom of the sleeve 43 and is shaped so that it fits snugly within the sleeve 43.

[0032] A waterproof liner may then be inserted into the sleeve 43.

[0033] The sleeve 43, base 44 and sleeve insert 49 may comprise cardboard.

[0034] The vase 40 described in the second embodiment does not have a tapered sleeve holder 3 although such a sleeve holder could be included and the sleeve holder may provide aesthetic appeal. The base 44 extends sufficiently beyond the sleeve 43 when it is attached to the base to prevent the vase 40 being readily knocked over.

[0035] Whilst particular embodiments have been described, it will be understood that various modifications may be made without departing from the scope of the invention.

Claims

1. A collapsible container (1), comprising:

a sleeve (2) having an open state in which at least one item can be placed in the sleeve (2) and a flattened state for storage during non-use of the container (1); and
a sleeve holder (3) having an open state for holding the sleeve (2) in its open state in a substantially upright position, and a flattened state for storage during non-use of the container (1), the sleeve holder (3) in its open state having a cross-sectional area which tapers in a region between a base end (11) and an upper opening (13), said upper opening (13) dimensioned to receive the sleeve (2) in its open state.

2. The collapsible container as claimed in claim 1, wherein the sleeve (2) and sleeve holder (3) are coaxial when the sleeve holder (3) holds the sleeve (2).

3. The collapsible container as claimed in claim 1 or 2, wherein the sleeve holder (3) has an even number of sides (8), the sleeve holder (3) having a joint (9) between each side (8), enabling the sleeve holder (3) to be collapsed to the flattened state.

4. The collapsible container as claimed in claim 3, wherein the sides (8) of the sleeve holder (3) are substantially identical to each other.

5. The collapsible container as claimed in any preceding claim, wherein the sleeve (2) has an even number of sides (5), the sleeve (2) having a joint (6) between each side (6), enabling the sleeve (2) to be collapsed to the flattened state.

6. The collapsible container as claimed in claim 5, wherein the sides (5) of the sleeve (2) are substantially identical to each other.

7. The collapsible container as claimed in any preceding claim, wherein the shape of the cross-sectional area of the sleeve (2) in its open state is substantially the same as the shape of the cross-sectional area of the upper opening (13) of the sleeve holder (3) in its open state.

8. The collapsible container as claimed in any preceding claim, wherein the shape of the cross-sectional area of the base end (11) of the sleeve holder (3) is substantially the same as the shape of the upper opening (13) of the sleeve holder (3).

9. The collapsible container as claimed in any preceding claim, including releasable fastening means (20) for fastening the sleeve (2) to the sleeve holder (3) when the sleeve (2) is received into the sleeve holder (3).

10. The collapsible container as claimed in any preceding claim, including a base (4) for the sleeve holder (3) to stand on when the sleeve holder (3) is in its open state.

11. The collapsible container as claimed in claim 10, including releasable fastening means (21) for fastening the sleeve holder (3) to the base (4) when the sleeve holder (3) is in its open state.

12. A collapsible container (40), comprising:

a sleeve (43) having at least one projection (41) at one end of the sleeve (43), the sleeve (43) having an open state in which at least one item can be placed in the sleeve (43) and a flattened state for storage during non-use of the container (40); and
a base (44) having at least one opening (47) for

securely receiving at least one said projection (41) when the sleeve (43) is in its open state, whereby said sleeve (43) is retained by said base (44) in a substantial upright position.

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- 13.** The collapsible container as claimed in claim 12, wherein the projection comprises a flap (41) adapted to be folded underneath at least an upper portion (45) of the base (44) when the flap (41) is inserted into the opening (47).

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- 14.** The collapsible container as claimed in claim 13, wherein the base (44) has at least one region (48) for receiving at least one said flap (41) within the base (44) when said at least one flap (41) is folded underneath at least the upper portion (45) of the base (44).

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- 15.** The collapsible container as claimed in claim 13 or 14, wherein there is the same number of openings (47) as flaps (41) with each flap (41) being arranged to be inserted into a respective said opening (47).

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Fig. 1

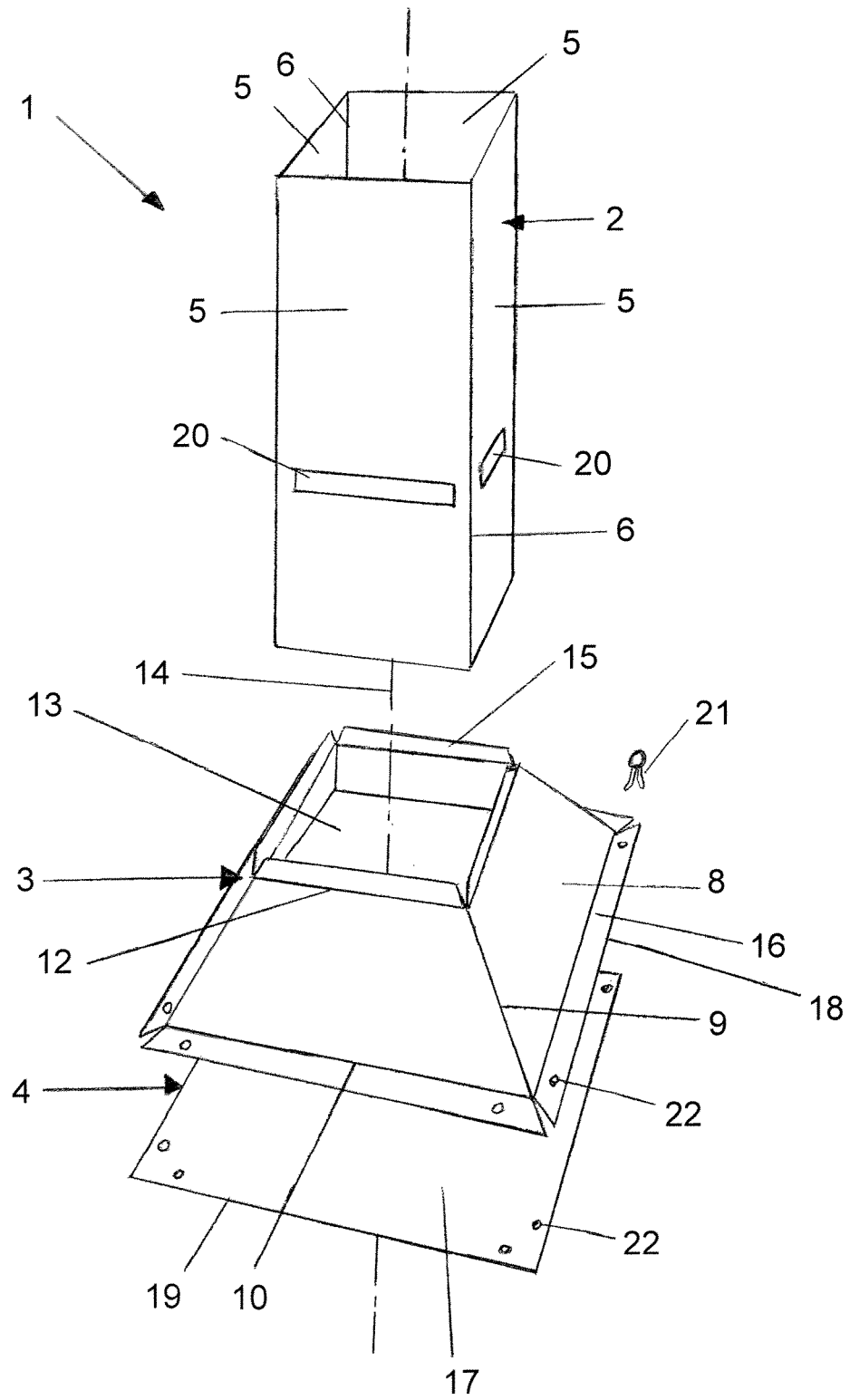


Fig. 2

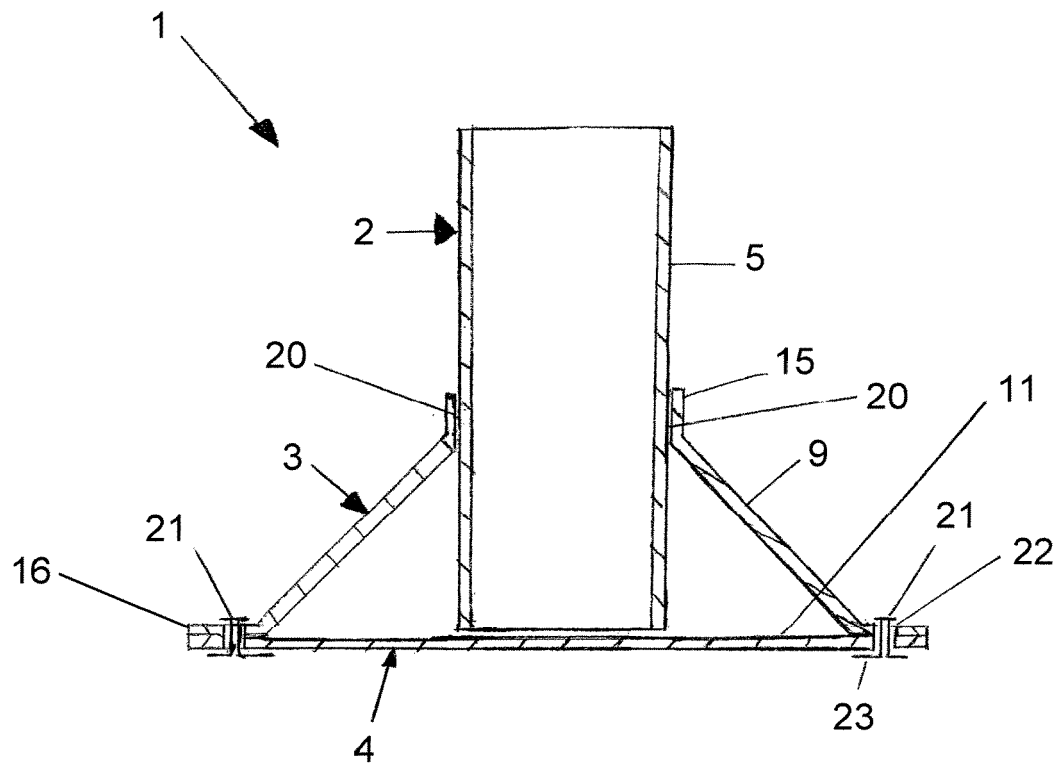


Fig. 3

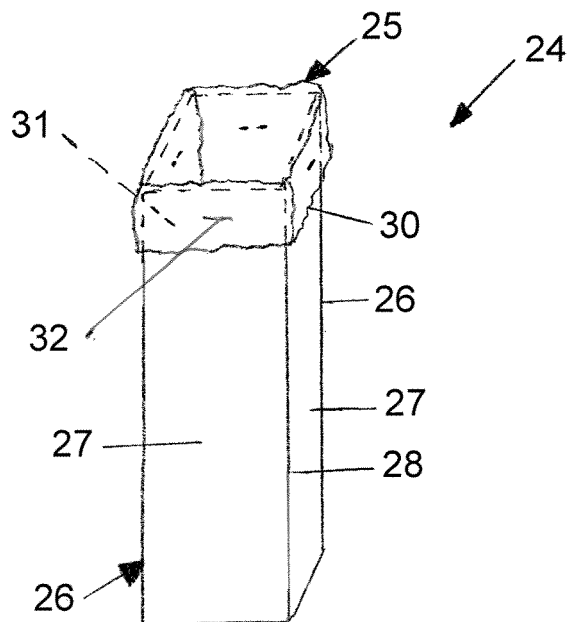


Fig. 4

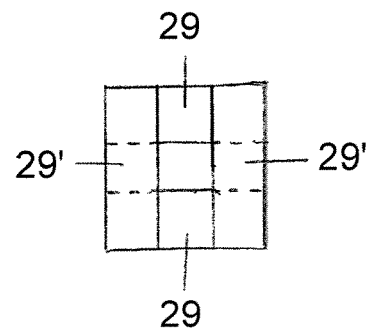


Fig. 5

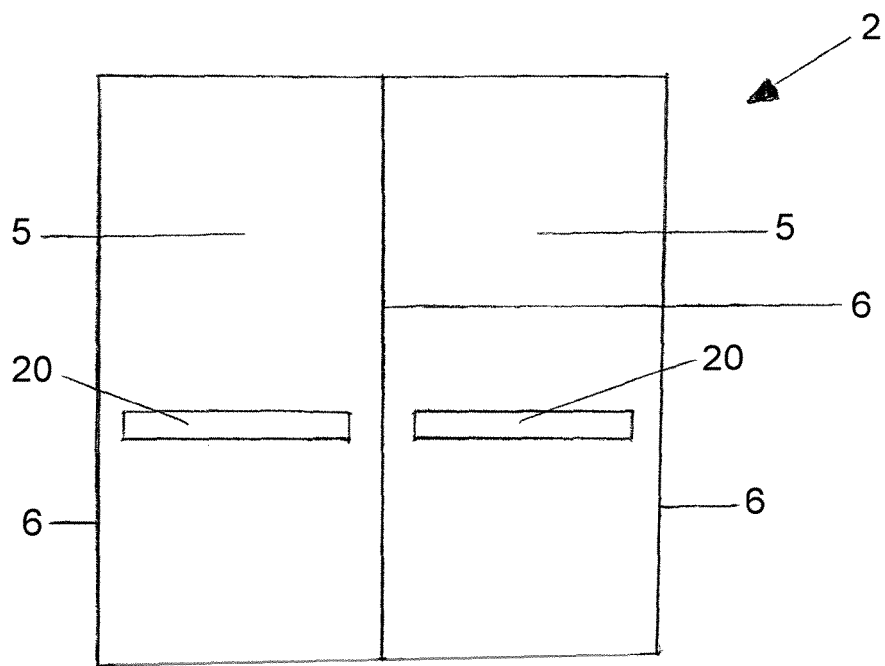


Fig. 6

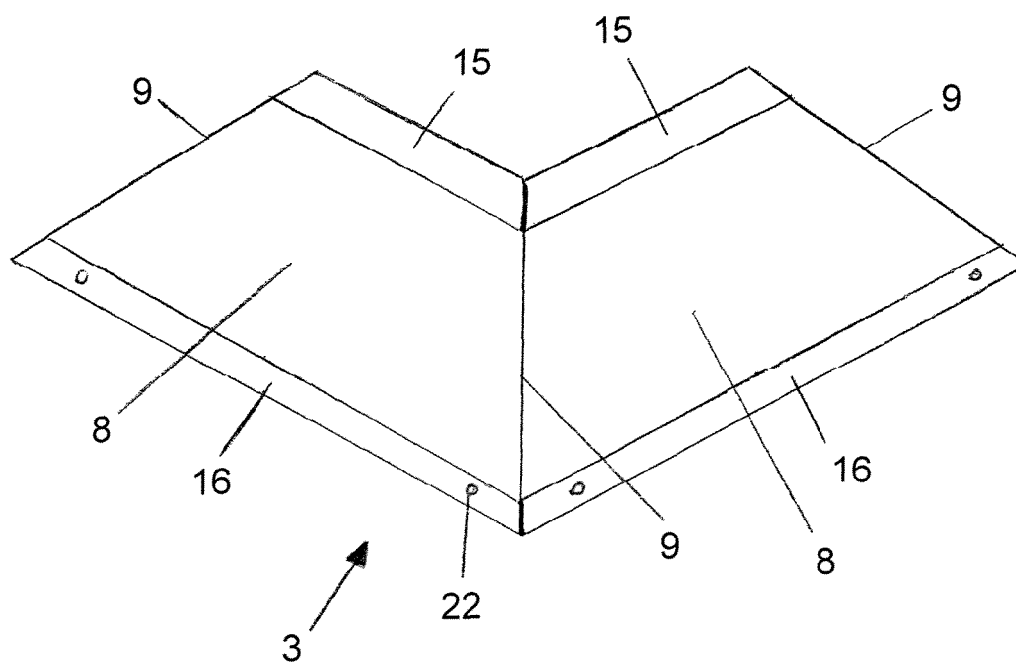


Fig. 7

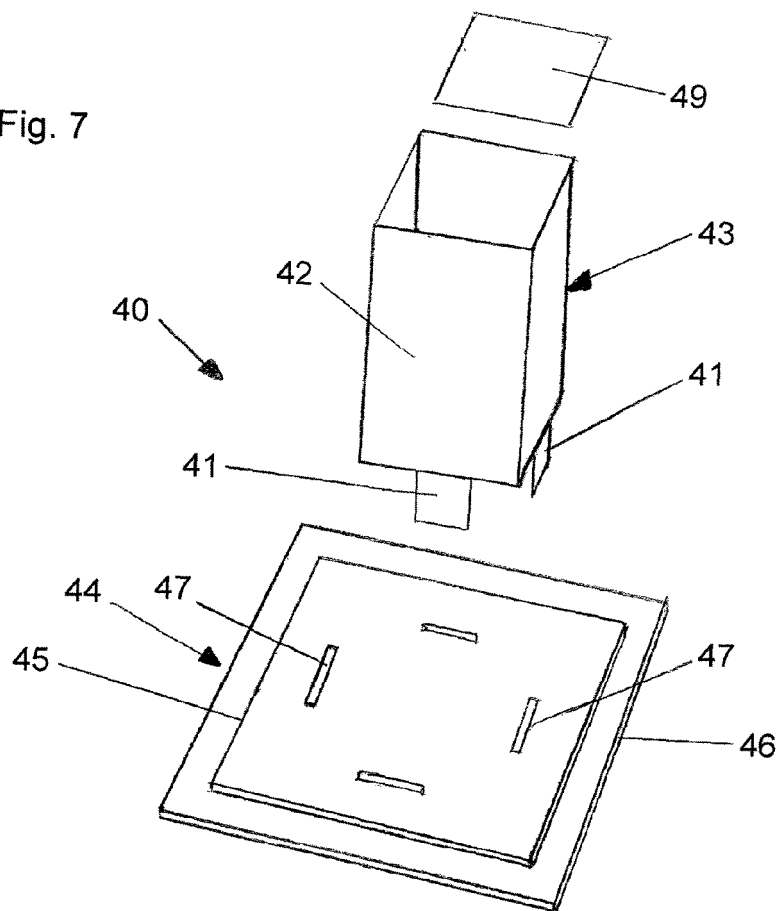
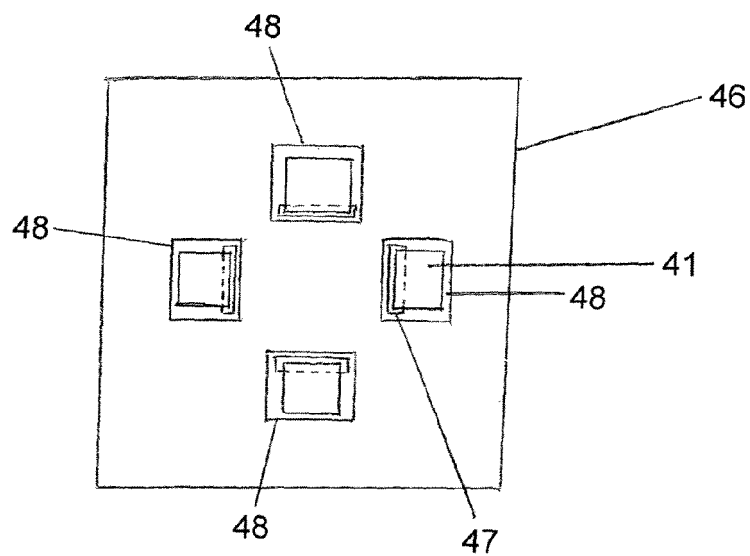


Fig. 8





EUROPEAN SEARCH REPORT

Application Number
EP 09 16 7652

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 394 595 A (NELSON ROGER [FR]) 31 October 1990 (1990-10-31) * column 1, lines 1-3 - column 2, lines 36-55 * * column 3, lines 1-53 - column 4, lines 9-11,28-31; figures 1a,1b,2 *	1-10,12	INV. B65D5/12 A47G7/06
X	EP 0 163 453 A1 (CARROLL FRANCIS ALFRED [IE]; HAMILTON MERVYN [GB]) 4 December 1985 (1985-12-04) * page 1, lines 1-3,18-21 - page 2, lines 1-8 * * page 4, lines 19-23; figures 1-3 *	1-11	
X	DE 88 09 442 U1 (BORGMANN, GERTRUD, 4400 MÜNSTER, DE) 1 December 1988 (1988-12-01) * page 1, lines 26-31 - page 2, lines 13-16 * * page 3, lines 6-17 - page 5, lines 24-36; figures 1d,1e,4a,4b *	1-8	
X	DE 299 14 809 U1 (BIMBERG ELSE [DE]) 23 December 1999 (1999-12-23) * page 4, lines 3-5,17-19,23,24 - page 5, lines 3,4,22-27; figure 3 *	1-8	TECHNICAL FIELDS SEARCHED (IPC) A47G B65D
X	FR 2 413 273 A1 (NICOLLET HUGUES SA [FR]) 27 July 1979 (1979-07-27) * page 1, lines 11,29-33; figures 1,2,5 *	12-15	
A	GB 2 037 711 A (WALTON D) 16 July 1980 (1980-07-16) * page 1, lines 38-46 *	1,12	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 5 January 2010	Examiner Longo dit Operti, T
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)



Application Number

EP 09 16 7652

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☒ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 09 16 7652

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-11

a collapsible container with a sleeve held in a tapered sleeve holder

2. claims: 12-15

a collapsible container with a sleeve held in a base by means of projection

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 16 7652

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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05-01-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0394595	A	31-10-1990	NONE	
EP 0163453	A1	04-12-1985	IE 832662 L	15-11-1985
DE 8809442	U1	01-12-1988	NONE	
DE 29914809	U1	23-12-1999	NONE	
FR 2413273	A1	27-07-1979	NONE	
GB 2037711	A	16-07-1980	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2004000528 A [0002]