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(54) Case for covering the bristles of a paint brush

(57) The invention relates to a case (1) for covering the bristles of a paint brush where the bristles are fixed at a handle of the paint brush by a ferrule (7), the case (1) having a bottom (2, 11b, 12b) an outer circumference of which corresponds to the circumferential edge of the ferrule (7) and a sidewall (3, 11a, 12a) up-standing from the bottom (2, 11b, 12b), wherein the case comprises a first case section (11) and a second case section (12), the first (11) and the second

case sections (12) being connected by an hinge (13), and wherein the first case section (11) comprises a first bottom section (11b) being connected with a first sidewall section (11a), and the second case section (12) comprises a second sidewall section (12a), and the first (11a) and the second sidewall sections (11b) each being formed with a U-shaped curvature corresponding to a further U-shaped curvature of the ferrule.

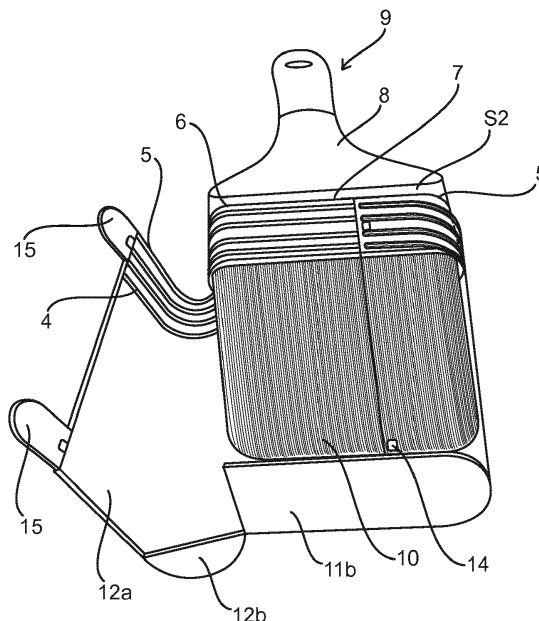


FIG. 3

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Description

[0001] The invention refers to a case for covering the bristles of a paint brush.

[0002] A common paint brush has a handle at one end of which there is provided a ferrule which circumvents the one end of handle as well as one end of the bristles. The bristles are fixed within the ferrule by a glue. The ferrule has on its side edges U-shaped curvatures as well as on its outer surface at least one circumferential groove, mostly several parallel running circumferential grooves.

[0003] When a paint brush is shipped or offered the bristles thereof are usually not packed or covered. It occurs that sometimes bristles of a paint brush are damaged during shipping. Further, it is possible that the bristles are soiled.

[0004] In order to overcome the aforementioned disadvantage the bristles of a paint brush are sometimes covered with cellophane. However, cellophane may also be damaged during shipping.

[0005] WO 2013/163392 A1 discloses a case in accordance with the preamble of claim 1. The case or paint brush storage and protection device, respectively, comprises a base having an exterior upstanding wall ending in a shoulder, the exterior wall being discontinuous in an open stem area. A top or lid, respectively, is surrounded by a U-shaped channel. In the open stem area there is provided a sealing member. The sealing member may be made of an open cell foam. - The manufacture of the known paint brush storage and protection device requires effort and is costly. When inserting the paint brush into the case it often occurs that some bristles extend across the shoulder of the wall. These bristles may be clamped within the U-shaped channel and the shoulder when closing the top. Thereby the bristles are damaged.

[0006] The object underlying the present invention is to provide a case for covering the bristles of a paint brush which may be manufactured at less effort. A further object is to provide a case in which a paint brush can be inserted without the risk of damaging the bristles when closing the case.

[0007] This object is solved by the features of claim 1. Embodiments of the inventions are described by the features of claims 2 to 13.

[0008] In accordance with the features of the characterizing clause of claim 1 it is proposed that the first case section comprises a first bottom section being connected with a first sidewall section, and the second case section comprises a second sidewall section, and the first and the second sidewall sections each being formed with a U-shaped curvature corresponding to a further U-shaped curvature of the ferrule.

[0009] The proposed specific form of the case having sidewalls being formed with a U-shaped curvature corresponding to a further U-shaped curvature of the ferrule ensures that the bristles are covered completely by the sidewall when closing the case. The bristles are not clamped and thereby damaged when closing the case.

[0010] The proposed case offers in an opened state a large opening for inserting a bristle pack of the paint brush. When closing the case the space for the bristle pack is reduced to a form which essentially corresponds to a circumference of the ferrule. Edge portions of the bristle pack are encompassed by the U-shaped curvature being formed in the first and second sidewall sections when closing the case. Thereby it is ensured that no bristles are clamped when closing the case.

[0011] The proposed case may be used for covering the bristles of a paint brush when shipping and offering the paint brush. I. e. the proposed case for covering the bristles may form a protective package and be sold together with the paint brush. Afterwards said package may be used for keeping a paint at the bristles wet during a break. Thereby solvent for washing the paint down can be saved.

[0012] The bottom may be formed in one part, i. e. the first bottom section may be undivided. According to an embodiment of the invention the second case section may comprise the second bottom section being connected with the second sidewall section. In this case the bottom comprises two sections which can be swiveled relative to each other by means of the hinge. The combination of the sidewall sections with bottom sections imparts a form stability to the case sections. This extends the lifespan of the proposed case. - The U-shaped curvature may also comprise a plane portion or several plane portions which meet at an angle of 90° to 160°.

[0013] According to a preferable embodiment of the invention at an inner surface of the sidewall there may be provided sealing means. The ferrule may have at its outer surface at least one circumferential groove, and the sealing means may comprise at least one rib corresponding to the groove so that the rib can be brought into engagement with the groove.

[0014] The proposed embodiment makes use of the observation that the at least one circumferential groove being provided at the outer surface of a conventional ferrule may be used to fix a case for covering the bristles of a paint brush. For fixing there is provided at an inner surface of the sidewall of the case at least one rib corresponding to the groove so that the rib can be brought in an engagement with the groove.

[0015] The proposed case can be manufactured at low cost. The rib at the inner surface of the sidewall can be produced in one piece with the sidewall and the bottom. It is not necessary to provide a separate sealing material and to mount the sealing material at an inner sidewall of the case.

[0016] According to a preferred embodiment of the invention the rib runs along at least 70 percent of an inner circumference of the sidewall. In order to provide an essentially airtight seal of the case with the ferrule it is advantageous that the rib runs along at least 80 percent, preferably at least 90 percent, of the inner circumference of the sidewall. Most preferably, there are provided several ribs running in parallel along the inner circumference

of the sidewall. The ribs correspond in their form and in their arrangement to the grooves running around an outer surface of the ferrule. By an engagement of several ribs with grooves provided at the ferrule there is created an effective labyrinth seal. An upper circumferential end section of the sidewall is formed such that the at least one rib is pressed into the groove.

[0017] The upper circumferential end section of the sidewall preferably corresponds to the form of the ferrule and encompasses the ferrule when the rib engages the groove. The sidewall usually extends at an angle of 90 degrees from the bottom. Therefore, an opening edge of the sidewall being provided at the upper circumferential end section has essentially the same circumferential form like the bottom.

[0018] The hinge may be a film hinge connecting the first and the second sidewall section. This makes it possible to manufacture the case in one part, e. g. by injection molding.

[0019] According to a further embodiment at an outside of the first sidewall section there may be provided a first lock element, and at an outside of the second sidewall section there may be provided a second lock element, the first and the second lock elements being embodied such that the first and the second case sections may be interlocked with each other. In the interlocked stage the first and the second sidewall sections circumvent the ferrule and the ribs provided at the inner surface of the first and the second sidewall sections are pressed into the groove provided at the ferrule. At the same time the bottom sections abut each other so that an essentially closed bottom is provided. In the interlocked stage the case essentially covers the bristles in an airtight manner.

[0020] The case may be made in one-part form by injection molding. It may be made advantageously by a transparent plastic material. The case may be made from one of the following materials: PE, TPE or TP.

[0021] According to a further aspect of the invention there is proposed a kit, comprising a paint brush having a handle and bristles extending from the handle, the bristles being fixed at the handle within a ferrule, and a case in accordance with the invention.

[0022] According to an advantageous embodiment of the kit the ferrule has at its outer surface at least one circumferential groove, and the case is fixed releasably at the ferrule so that the rib is in engagement with the groove. Thereby the bristles can be protected during shipping and offering. Afterwards, the package being formed by the case according to the present invention can be used to store a paint brush having wet paint at the bristles and to avoid that the wet paint becomes dry during storing.

[0023] The subject-matter regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The invention, however, together with features, objects and advantages thereof, will be or become apparent to one with skill in the art upon reference to the following detailed descrip-

tion when read with the accompanying drawings. It is intended that any additional features, objects or advantages asserted by one skilled on the art be included within the description, be within the scope of the present invention, and be protected by the accompanying claims.

[0024] With respect to the drawings,

Fig. 1 is a perspective view of a case,

Fig. 2 is a top view on the case according to Fig. 1 being fixed at a paint brush, and

Fig. 3 is a perspective view showing the case according to Fig. 2 in an opened state.

[0025] The case 1 shown in Figs. 1 to 3 has a bottom 2 and a sidewall 3 upstanding from the bottom 2. At an inner surface S1 of the sidewall 3 there are provided ribs 4 which run in parallel to an opening edge 5.

[0026] As can be seen in particular from Fig. 3 an arrangement and a form of the ribs 4 corresponds to the arrangement and form of grooves 6 running around an outer surface S2 of a ferrule 7 which is fixed at a handle 8 of a paint brush 9. From the ferrule 7 there extend bristles 10. Bristles 10 form a bristle pack having opposing edge portions or side edge portions, respectively.

[0027] In Figs. 1 to 3 the case 1 comprises a first case section 11 and a second case section 12 which are connected by a hinge 13 running from the bottom 2 to the opening edge 5. The hinge 13 is advantageously a film hinge.

[0028] The first case section 11 comprises a first sidewall section 11 a and a first bottom section 11 b being connected with the first sidewall section 11 a. The second case section 12 comprises a section sidewall section 12a and a second bottom section 12b being connected with the second sidewall sections 12a. In each of the first 11 and second case sections 12 the respective first 11 a and second sidewall sections 12a comprise a U-shaped curvature of 180°. The hinge 13 is preferably located at the border of a second U-shaped curvature. From the opposing border of the second U-shaped curvature there extends a straight or plane portion of the second sidewall section 12a. As can be seen in particular from Fig. 3 the U-shaped curvature being provided at both sidewall sections 11 a, 12a correspond to a further U-shaped curvatures formed at an outer circumference of the ferrule 7.

[0029] At the first sidewall section 11 a there are provided first lock elements 14 which may be embodied as a pin or a hook. Corresponding second lock elements 15 may be embodied as a lug having a breakthrough corresponding to the form of the first lock element 14. Such second lock elements 15 may extend from an edge of the plane portion of the second sidewall section 12a. The first lock elements 14 may be provided nearby a further border of a first U-shaped curvature being part of the first sidewall section 11 a.

[0030] An upper end section of the sidewall 3 compris-

es the ribs 4. The upper end section is formed such that the sidewall 3 encompasses in a locked stage the ferrule 7 such that the ribs 4 engage the grooves 6 of the ferrule 7. In the locked stage the ribs 4 are pressed into the grooves 7 so that a labyrinth seal is provided.

[0031] When providing the paint brush 9 with the case 1 the ferrule 7 is inserted into a first case section 11 such that a first edge portion of the bristle pack is covered with the first U-shaped curvature of the first sidewall section 11 a. Then the second case section 12 is deviated around the hinge 13 such that the second sidewall section 12a covers with the second U-shaped curvature the opposing second edge portion of the bristle pack. Finally, the first 11 a and the second sidewall sections 12a are locked by means of the first 14 and the second lock elements 15. The specific form of the case ensures that no bristles 10 are clamped and damaged when closing the case 1.

[0032] The case 1 may also be embodied in a simplified manner where the bottom 2 and the sidewall 3 are formed of one piece without providing a hinge 13. In such case there are provided preferably within the curved region of the sidewall 13 slits extending from the opening edge 5 in the direction to the bottom 2. This makes it possible to elastically deform the upper end section of the sidewall 3 so that the ribs 4 can be snapped into engagement with the grooves 6 running along the circumference of the ferrule 7.

List of reference signs

[0033]

1	case
2	bottom
3	sidewall
4	rib
5	opening edge
6	groove
7	ferrule
8	handle
9	paint brush
10	bristle
11	first case section
11a	first sidewall section
11b	first bottom section
12	second case section
12a	second sidewall section
12b	second bottom section
13	hinge
14	first lock element
15	second lock element
S1	inner surface
S2	outer surface

Claims

1. Case (1) for covering the bristles (10) of a paint brush (9) where the bristles (10) are fixed at a handle (8) of the paint brush (9) by a ferrule (7),
the case (1) having a bottom (2, 11 b, 12b) an outer circumference of which corresponds to the circumferential edge of the ferrule (7) and a sidewall (3, 11 a, 12a) upstanding from the bottom (2, 11 b, 12b), wherein the case comprises a first case section (11) and a second case section (12), the first (11) and the second case sections (12) being connected by an hinge (13),
characterized in that
the first case section (11) comprises a first bottom section (11 b) being connected with a first sidewall section (11 a), and the second case section (12) comprises a second sidewall section (12a), and the first (11 a) and the second sidewall sections (11 b) each being formed with a U-shaped curvature corresponding to a further U-shaped curvature of the ferrule.
2. Case according to claim 1, wherein the second case section (12) comprises a second bottom section (12b) being connected with the second sidewall section (12a).
3. Case according to one of claims 1 or 2, wherein at an inner surface (S1) of the sidewall (3, 11 a, 12a) there are provided sealing means.
4. Case according to claim 3, the ferrule (7) has at its outer surface (S2) at least one circumferential groove (6), and wherein the sealing means comprise at least one rib (4) corresponding to the groove (6) so that the rib (4) can be brought in engagement with the groove (6).
5. Case (1) according to claim 4, wherein the rib (4) runs along at least 70 % of an inner circumference of the sidewall (3, 11 a, 12a).
6. Case (1) according to one of the previous claims, wherein an upper circumferential end section of the sidewall (3, 11 a, 12a) corresponds to the form of the ferrule (7) and encompasses the ferrule (7) when the rib (4) engages the groove (6).
7. Case (1) according to one of the previous claims, wherein the hinge (13) is a film hinge connecting the first and the second sidewall section (12a).
8. Case (1) according to one of the previous claims, wherein at an outside of the first sidewall section (11 a) there is provided a first lock element (14), and at an outside of the second sidewall section (12a) there is provided a second lock element (15), the first (14)

and the second lock elements (15) being embodied such that the first (11) and the second case sections (12) may be interlocked with each other.

9. Case (1) according to one of the previous claims, wherein the case (1) is made in one-part form by injection molding. 5
10. Case (1) according to one of the previous claims, wherein the material is a transparent material. 10
11. Case (1) according to one of the previous claims, wherein the case (1) is made from one of the following materials: PE, TPE or TP. 15
12. Kit, comprising
a paint brush (9) having a handle (8) and bristles (10) extending from the handle (8), the bristles (10) being fixed at the handle (8) within a ferrule (7) having at its outer surface (S2) at least one circumferential groove (6), and 20
a case (1) according to one of the previous claims.
13. Kit according claim 12, wherein the ferrule (7) has at its outer surface (S2) at least one circumferential groove (6), and wherein the case (1) is fixed at the ferrule (7) so that the rib (4) is in engagement with the groove (6). 25

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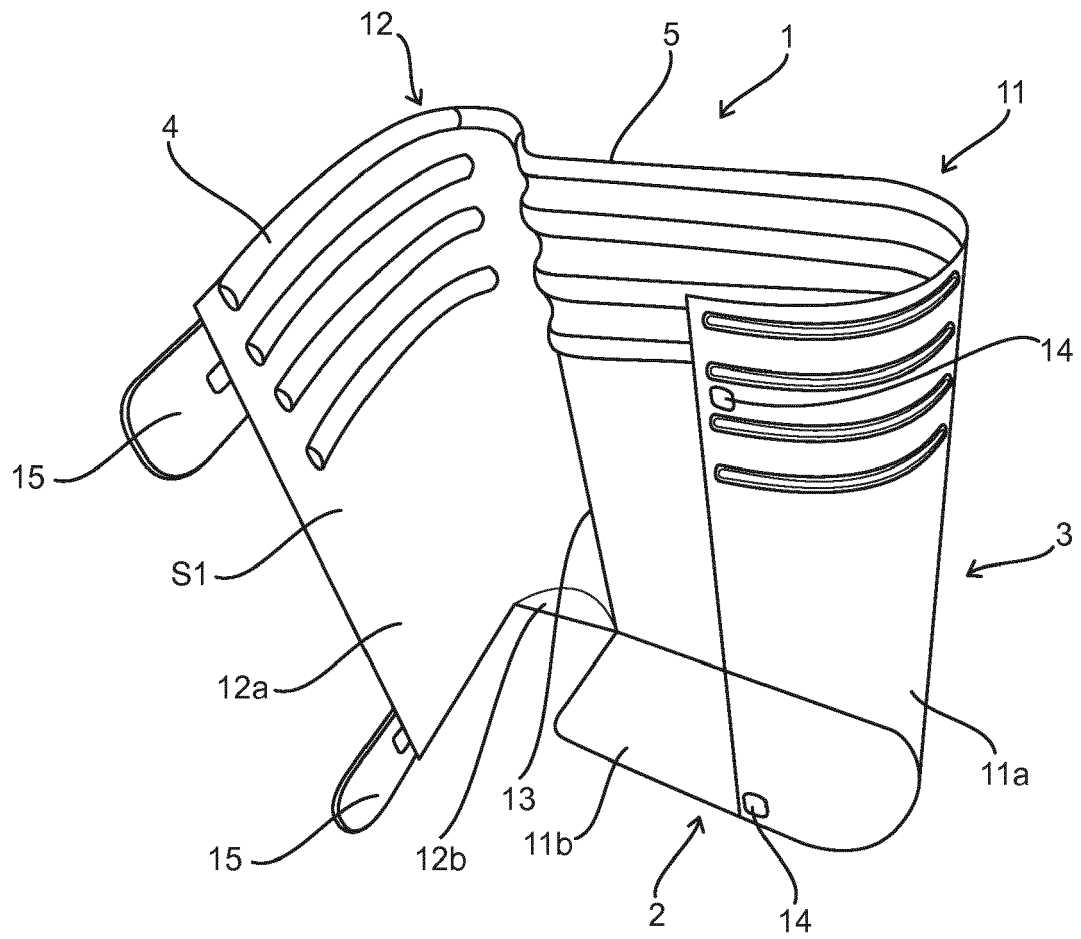


FIG. 1

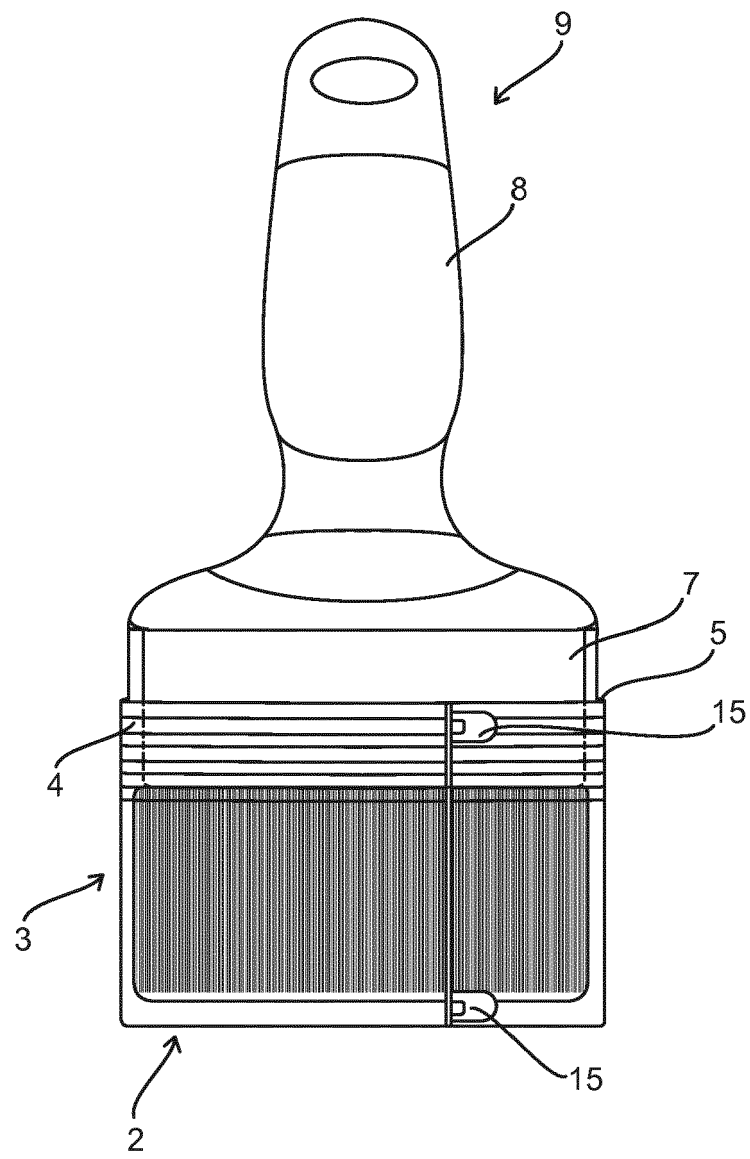


FIG. 2

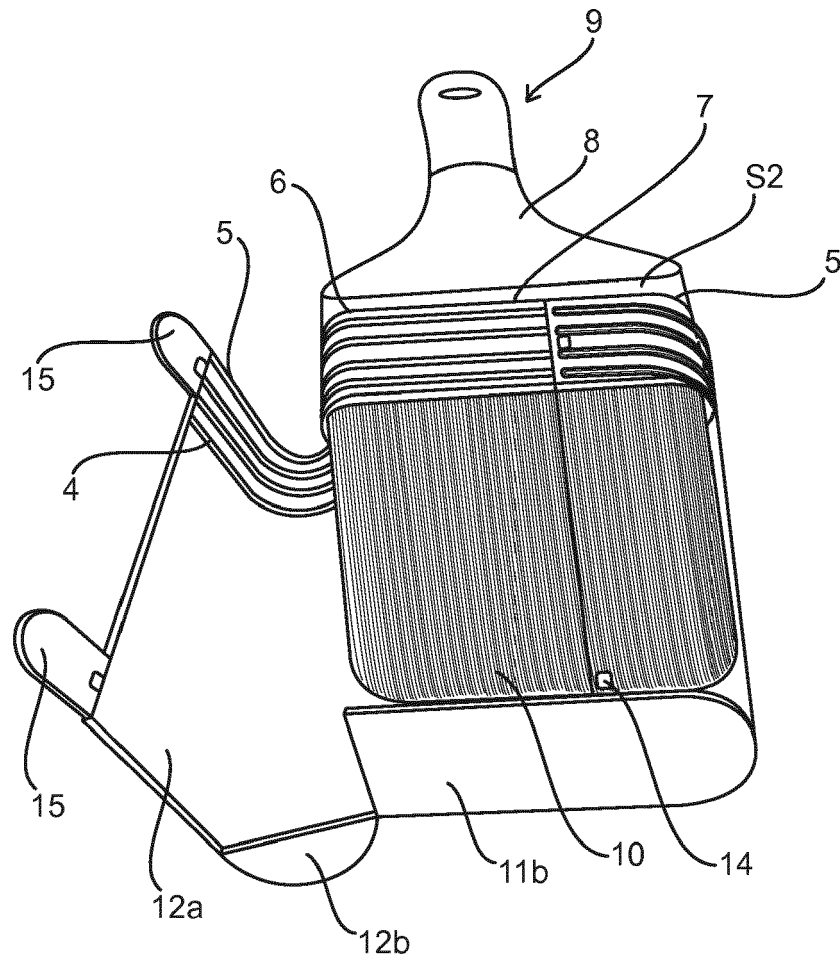


FIG. 3



EUROPEAN SEARCH REPORT

Application Number
EP 14 19 6717

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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	DE 196 46 723 A1 (DT BAD KISSINGEN TECH VERTRIEB [DE]) 20 May 1998 (1998-05-20) * column 5, line 49 - column 6, line 2 * * column 6, line 15 - column 7, line 6 * * column 7, lines 13 - 20; figures *	1-13	INV. B44D3/12 A46B17/04
X	US 2005/247030 A1 (PHILLIPS MIKE [CA] ET AL) 10 November 2005 (2005-11-10) * paragraphs [0001], [0017], [0020]; figures 1 - 7 *	1,2,7-12	
Y		3-6,13	
Y	US 1 934 316 A (LOOMIS EARL R) 7 November 1933 (1933-11-07) * page 1, lines 87 - 104 * * page 2, lines 54 - 66; figures 1,4,5,6 *	3-6,13	
A	US 4 469 223 A (SMITH MORLEY L [CA]) 4 September 1984 (1984-09-04) * column 6, lines 11 - 24; figures 13, 14 *	3-6,13	
			TECHNICAL FIELDS SEARCHED (IPC)
			B44D A46B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 April 2016	Examiner Cametz, Cécile
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EPO FORM 1503 03/82 (P04C01)

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

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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18-04-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19646723 A1	20-05-1998	NONE	
US 2005247030 A1	10-11-2005	NONE	
US 1934316 A	07-11-1933	NONE	
US 4469223 A	04-09-1984	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2013163392 A1 [0005]