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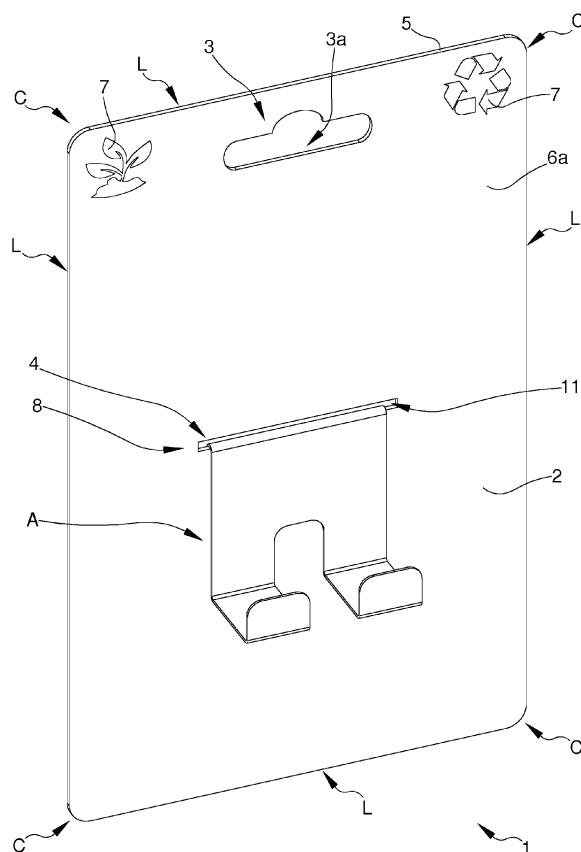
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(54) **ENVIRONMENTALLY FRIENDLY SUPPORTING ELEMENT FOR ARTICLES**

(57) The present invention relates to a supporting element (1) for articles to be fixed to walls, comprising a main body (2) adapted to receive and support at least one article (A), a first connecting means (3) for connecting

the main body (2) to an exhibition structure, and a second connecting means (4) for connecting the article (A) to the main body (2), wherein the main body (2) is made at least partly of recycled and/or recyclable material.



Description

Technical Field

[0001] The present invention relates to an environmentally friendly supporting element for articles, preferably for articles intended to be attached to the walls. Specifically, the supporting element is configured to support ancillary furniture articles intended for LSR (large-scale specialty retailer) chain stores in the do-it-yourself segments such as, e.g., coat racks, hangers, knobs and the like.

Background Art

[0002] Generally, ancillary furniture articles are available to the public through special exhibition structures and organized according to specific arrangements on shelves, supporting rods provided on the structure itself or on hangers. Articles are often associated with a plasticized cardboard package bearing the main information elements of the product itself (such as, e.g., trademarks, bar codes, etc.) which itself serves as a support for the article and for any connecting means (screws/bolts, etc.) and/or assembly instructions which are in turn placed in special bags. Other solutions may involve the article being packaged in plastic wrappers supported directly by the exhibition structure.

[0003] Subsequent to the purchase, a user, once at home, separates the article from the packaging by throwing the latter into the dustbin as its exhibition/packaging function effectively ends just before the article is assembled. As a result, the typical packaging of known solutions generates an enormous amount of waste that results in an extremely negative impact on the environment.

Description of the Invention

[0004] The Applicant has thus devised a solution such that all, or at least most of the constituent parts of the supporting element of the article have a low, if not zero, environmental impact.

[0005] The Applicant realized that, in order to further diminish the environmental impact, it is preferable to also choose appropriate materials for the connecting means to attach the article to the supporting element.

[0006] It follows that the main object of the present invention is to make a supporting element whose constituent parts are largely, if not all, made of environmentally friendly material in the context of a simple, rational, easy and effective to use, as well as low-cost solution.

[0007] The aforementioned objects are achieved by this supporting element for articles having the characteristics of claim 1.

[0008] Another object of this invention is to make an environmentally friendly display kit comprising a supporting element and an article and having the characteristics of claim 10.

[0009] Still another object of the present invention is to make an environmentally friendly exhibition structure having the characteristics of claim 11.

Brief Description of the Drawings

[0010] Other characteristics and advantages of the present invention will become more apparent from the description of a preferred, but not exclusive, embodiment of a supporting element, illustrated by way of an indicative, yet non-limiting example, in the attached tables of drawings in which:

- Figure 1 is a perspective view of the supporting element in accordance with the present invention,
- Figure 2 is a perspective view of a further embodiment of the supporting element.

Embodiments of the Invention

[0011] With particular reference to these figures, reference numeral 1 globally indicates a supporting element for articles to be attached to the walls.

[0012] In the present case, the supporting element 1 is intended to support ancillary articles A for furniture such as, e.g., hangers, coat racks, knobs and the like, displayed in an exhibition structure and intended for sale.

[0013] The figures show an example of an embodiment in which the article A is a coat rack to be attached to a wall.

[0014] The supporting element 1 comprises a main body 2, preferably plate-shaped, which is adapted to receive and support at least one article A.

[0015] The supporting element 1 is provided with a first connecting means 3 for connecting the main body 2 to a store exhibition structure.

[0016] In accordance with one version, the first connecting means 3 is an opening 3a, of the eyelet type, formed on the main body 2 adapted to receive a hook, rod, nail and/or the like to hang the element 1 itself onto the exhibition structure. Conveniently, the supporting element 1 may comprise a second connecting means 4 to connect the article A to the main body 2.

[0017] In the embodiment of Figure 1, the second connecting means 4 is a through opening formed on the main body 2 and configured to receive at least part of the article A. Specifically, the opening comprises a slot 11 intended to receive the article A for supporting and inserting it quickly and easily. In such a way, by hangers A having folded and thin bodies (the term "thin" means a body with a thickness comprised between 0.5 mm and 50 mm) with U-, Z-, L-, etc. shaped portions such as those shown in Figure 1, a slot 11 having a direct function of supporting the article A is obtained in the supporting element 1. Appropriately, the slot 11 can have a height slightly greater than the thickness of the article A (therefore with a height between 1 mm and 55 mm) so that the latter can be partly inserted by shape coupling into the slot 11 and thus be supported by the latter. In one version, the slot 11 is ob-

tained by means of a cut on the element 1 and the insertion of the article can be made by forcing the entry of the article itself into the slot 11.

[0018] In a further version, the slot 11 may have an even smaller height with values ranging from 0.1 mm to 10 mm.

[0019] Preferably, the width of the slot is about 1/3 the size of the width of the supporting element 1.

[0020] Preferably, the slot 11 is arranged transversely to the main body 2 and is obtained in a substantially central position with a horizontal orientation, in use. It cannot however be ruled out that the slot 11 may have different conformations or orientations (e.g. diagonal) depending on the type of article A intended to be supported by the element 1.

[0021] Advantageously, the main body 2 is made at least partly of recycled and/or recyclable material. Specifically, the term "recycled material" means those materials obtained through waste recycling processes. On the other hand, the term "recyclable material" means those materials that can be machined through a recycling system to reuse them in the production of new items. By means of such type of materials, it is possible to make a supporting element 1 having a low environmental impact and reusable through appropriate recycling processes.

[0022] As shown in Figure 1, the main body 2 has a plate shape. In other words, the main body 2 has a substantially rectangular shape wherein at least four sides L are identified joined together at the respective corners C. The main body 2 has at least one chamfered corner C in order to avoid possible injuries of buyers when handling the supporting element 1. Preferably, the main body 2 has at least all four corners C chamfered.

[0023] As shown in the figures, the eyelet 3 is arranged in close proximity of one side L of the main body 2, particularly the upper side, and the slot 11 is arranged at least partly at the central portion of the main body 2.

[0024] In the context of this disclosure, the terms "upper" and "lower", "front", "rear", "vertical" and "horizontal", used with reference to the supporting element 1, are meant to refer to the conditions under which the supporting element 1 is normally used, i.e., those shown in Figures 1 and 2.

[0025] Appropriately, the main body 2 has a height comprised between 50 mm and 350 mm, preferably 150 mm, a width comprised between 10 mm and 250 mm, preferably 92 mm, and a predefined thickness comprised between 0.5 mm and 20 mm, preferably 2 mm.

[0026] In this case, the main body 2 can be made according to different sizes whose height and width (H x W) can be:

- 100mm x 110mm,
- 110mm x 130mm,
- 220mm x 80mm,
- 190mm x 100mm,
- 120mm x 70mm,
- 120mm x 40mm,

- 150mm x 92mm.

[0027] Conveniently, the main body 2 is made by means of specific layering that can give the supporting element 1 appropriate strength and flexibility characteristics while being recyclable.

[0028] In the present case, the main body 2 comprises an inner layer 5 and at least one coating layer 6a, 6b of the inner layer 5. Conveniently, the inner layer 5 is made at least partly of recycled paperboard. Preferably, the coating layer 6a, 6b is made of Swedish Kraft. It should be specified that the Swedish Kraft comprises at least one layer made from Kraft wood fibers, preferably pure, and one layer made from a mixture of recycled Kraft wood fibers, preferably from corrugated board. These materials make it possible to produce a supporting element 1 that is both durable and recyclable.

[0029] In detail, the coating layer 6a, 6b has a density comprised between 100 g/m² and 300 g/m², preferably 225 g/m². In addition, the coating layer 6a, 6b has a burst strength comprised between 700 kPa and 1100 kPa, preferably 940 kPa. According to one version, the inner layer 5 is positioned between a pair of coating layers 6a, 6b, a front coating layer 6a and a back coating layer 6b, respectively. Specifically, the front coating layer 6a is intended to face the article A.

[0030] As illustrated in the figures, the supporting element 1 comprises at least one information character 7 applied to the main body 2 and visible by a buyer. This expedient allows for any informational notes regarding the article A and/or the supporting element 1 to be applied directly onto the supporting element 1 so that they are easily usable by a buyer. For example, the information characters 7 may relate to the characteristics of the article A and/or the information element, the company producing the article A, any instructions for use and so on. Preferably, the information character 7 is applied to the main body 2 by at least one method chosen from engraving, printing, screen printing, painting and/or by application of adhesives. These methods may be chosen according to the techniques using environmentally friendly paints.

[0031] Conveniently, the information character 7 is applied to the rear and/or to the front of the main body 2.

[0032] According to one version, the information character 7 is applied on the front coating layer 6a at the corners C or at the sides L of the main body 2, thus being visible even when the article A is associated with the main body 2.

[0033] According to a further version, the information character 7 is applied on the back covering layer 6b.

[0034] Preferably, the information character 7 is applied to both the front coating layer 6a and the back coating layer 6b.

[0035] In accordance with the embodiment shown in Figure 2, the second connecting means 4 comprises at least one through opening formed on the main body 2 and intended to receive the connecting elements 9 for connecting the article A to the main body 2.

[0036] In detail, the second connecting means 4 comprises at least one screw 9 passing through the opening 8 to join the article A to the main body 2.

[0037] Specifically, the screw 9 is provided with an elongated body at the ends of which are a head 9a and a tip.

[0038] In the illustrated version of Figure 2, the article A is a wall-mounted coat rack provided with a connecting portion A₁ to the wall and a head portion A₂ adapted to receive a garment to support it. The connecting portion A₁ has at least one hole adapted to receive the screw 9.

[0039] According to one version, the connecting portion A₁ has at least one pair of holes, each adapted to receive a screw 9.

[0040] For example, in order to support the type of articles A shown in Figure 2, the second connecting means 4 has at least two openings 8 arranged in a mirror fashion to the pair of holes of the article A and at least one pair of screws 9. In detail, the two openings 8 are arranged vertically aligned with each other, preferably along the vertical median line of the main body 2. It cannot however be ruled out that the second connecting means 4 may comprise a different number of openings 8, formed on the main body 2 in different positions depending on the type and conformation of the article A to be supported. Preferably, the openings 8 are made in the lower half of the main body 2, that is, in the portion of the main body 2 opposite the eyelet 3 with respect to its horizontal median line. This expedient advantageously makes it possible to improve the visibility of the information characters applied on the main body 2 even when the article A is mounted on the supporting element 1.

[0041] The article A is mounted on the supporting element 1 by arranging the connecting portion A₁ in contact with the main body 2 so that the respective holes are axially aligned with each other to receive the screw 9.

[0042] Next, the screw 9 is tightened to the article A and to the main body 2 first by inserting it into the hole of the connecting portion A₁ and then into the hole 8 of the main body 2 so that the head 9a abuts against the connecting portion A₁ and the tip is placed posteriorly to the main body 2.

[0043] In a preferred embodiment, the screws 9 are also made from environmentally friendly material, thus from at least partly recycled and/or recyclable material. In one version, the screws can be made completely of recycled and/or recyclable material.

[0044] Advantageously, the supporting element 1 comprises at least one covering element 10 of the screw 9 made at least partly of EPDM rubber.

[0045] In one version, the supporting element 1 is made at least partly of recycled and/or recyclable material.

[0046] In a further version, the supporting element 1 is made entirely of recycled and/or recyclable material.

[0047] In detail, the covering element 10 is adapted to fit at least part of the tip of the screw 9. This expedient makes it possible to protect the user or buyer from pos-

sible injury resulting from contact with the tip of the screw 9.

[0048] Preferably, the covering element 10 is made of virgin EPDM material mixed with recycled material from production waste from other processes.

[0049] Such materials make it possible to give softness to the covering element 10 making it effective in use, preventing it from slipping off easily.

[0050] A possible method of mounting the article A by a buyer is described below.

[0051] In order to proceed with mounting, the buyer separates the article A from the supporting element 1 by first pulling the cap 10 off the tip of the screw 9 and then by unscrewing the latter from the main body 2.

[0052] Once separated from the article A, the main body 2 and the covering element 10 can be thrown into the dustbin so they can be recycled or disposed of.

[0053] At this point, the buyer can proceed to attach the article A to the wall advantageously using the same screw 9 used to connect the article A to the main body 2, resulting in a reduction in the amount of materials to be disposed of. The problems that the invention intends to solve are many:

- saving waste disposal costs by having the supporting element made of environmentally friendly material resulting in energy savings for the community,
- cost-effective production with high strength characteristics,
- simplicity of disposal for the end user since the supporting element to be thrown away can be placed in any dustbin even in the one intended for wet waste.

[0054] It is also possible to provide for an entire area of a store to be made of an environmentally friendly exhibition structure. Such an exhibition structure can then be provided with a plurality of supporting elements 1 as described above made of environmentally friendly material, a plurality of supporting hooks intended to receive the supporting elements 1 in a removable manner, and a plurality of articles A, each supported by the supporting elements 1. By also making the hooks from environmentally friendly material, it is potentially possible to make entire areas with low, if not zero, environmental impact. Finally, the advantages of the invention also make it possible to make display kits provided with the supporting element 1 and with the connecting means 3, 4 made at least partly, or completely, of recycled and/or recyclable material and easily usable by consumers.

Claims

1. Supporting element (1) for articles to be fixed to walls, comprising:
 - a main body (2) adapted to receive and support at least one article (A),

- a first connecting means (3) of said main body (2) to an exhibition structure,
 - a second connecting means (4) of said article (A) to said main body (2), wherein said main body (2) is made at least partly of recycled and/or recyclable material. 5
- ing elements (1).
2. Supporting element (1) according to claim 1, **characterized by** the fact that said main body (2) comprises an inner layer (5) made at least partly of recycled cardboard and at least one coating layer (6a, 6b) of said inner layer (5) made of Swedish Kraft. 10
 3. Supporting element (1) according to claim 2, **characterized by** the fact that said inner layer (5) is positioned between a pair of coating layers (6a, 6b). 15
 4. Supporting element (1) according to one or more of the preceding claims, **characterized by** the fact that it comprises at least one information character (7) applied to said main body (2) and visible by a buyer. 20
 5. Supporting element (1) according to one or more of the preceding claims, **characterized by** the fact that said second connecting means (4) comprises at least one through opening (8). 25
 6. Supporting element (1) according to the preceding claim, wherein said second connecting means (4) comprises at least one screw (9) passing through said at least one opening (8) to join said article (A) to said main body (2). 30
 7. Supporting element (1) according to the preceding claim, comprising at least one covering element (10) of said screw (9) made at least partly of EPDM rubber and/or of recycled material. 35
 8. Supporting element (1) according to claim 6, wherein said second connecting means (4) comprises a slot (11) intended to receive at least partly part of said article (A). 40
 9. Supporting element (1) according to the preceding claim, wherein said second connecting means (4) is made of recycled and/or recyclable material. 45
 10. Display kit comprising a supporting element (1) according to one or more of the preceding claims and at least one article (A) to be fixed to the walls. 50
 11. Exhibition structure comprising:
 - a plurality of supporting elements (1) made of environmentally friendly material according to one or more of the preceding claims, a plurality of supporting hooks intended to receive in a removable manner said plurality of supporting elements (1), and a plurality of articles (A) each supported by said support-

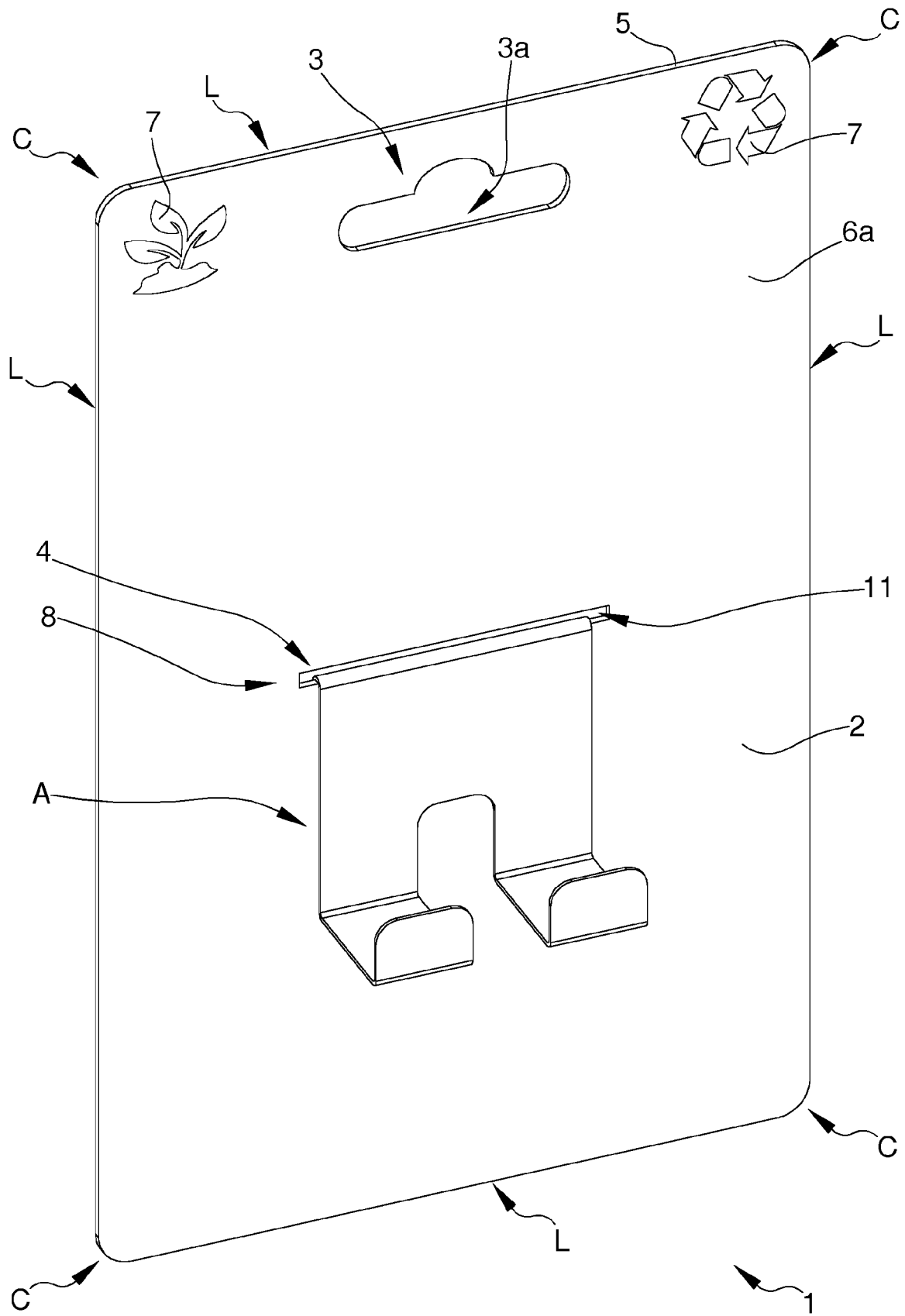


Fig.1

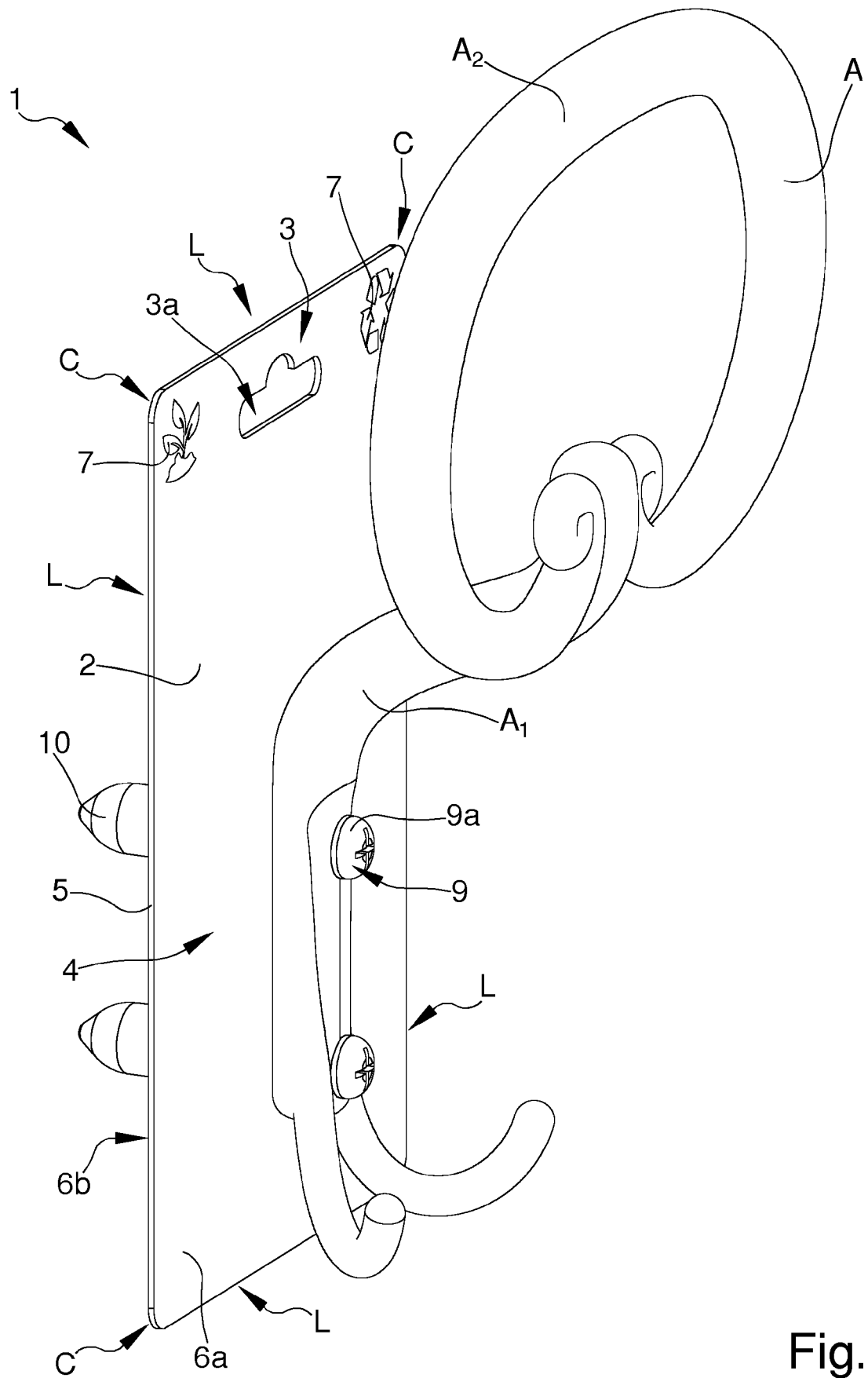


Fig.2



EUROPEAN SEARCH REPORT

Application Number

EP 22 17 4012

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EPO FORM 1503 03.82 (P04C01)

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X	US 6 273 375 B1 (KNEPP CHRISTINE F [US] ET AL) 14 August 2001 (2001-08-14) * column 4, line 13 - column 6, line 22; figures 3-6C *	1, 4-11 2, 3	
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			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 August 2022	Examiner Lämmel, Gunnar
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	

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

EP 22 17 4012

5 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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24-08-2022

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