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(54) **Package for storing a product**

(57) A package unitarily formed from a cardboard blank for storing a product has a back wall, a first hinged lid section and a second hinged lid section to set the package in an open or a closed position. The first and the second hinged lid sections are opposite the back wall when the package is set in the closed position. Further, the package comprises a first pair of side walls which are arranged opposite each other and extend from the back wall. The first hinged lid section extends from one of the side walls of the first pair and the second hinged lid section extends from the other side wall of the first pair. Further, the package comprises a second pair of side walls which are arranged opposite each other and extend from the back wall. Each of the side walls of the second pair comprises an extension that forms a stiffening member. The stiffening members are U-shaped and comprise a base, a first leg and a second leg. The first and the second leg are arranged opposite each other and extend substantially perpendicular from the base. The first leg is attached to the back wall, and the second leg supports the first hinged lid section and the second hinged lid section when the package is set in the closed position. The back wall comprises at least one crease extending between the U-shaped stiffening members, and at each end of the crease an intersection is provided which extends from the crease to one of the hinged lid sections to provide an indentation when the package is set in the closed position.

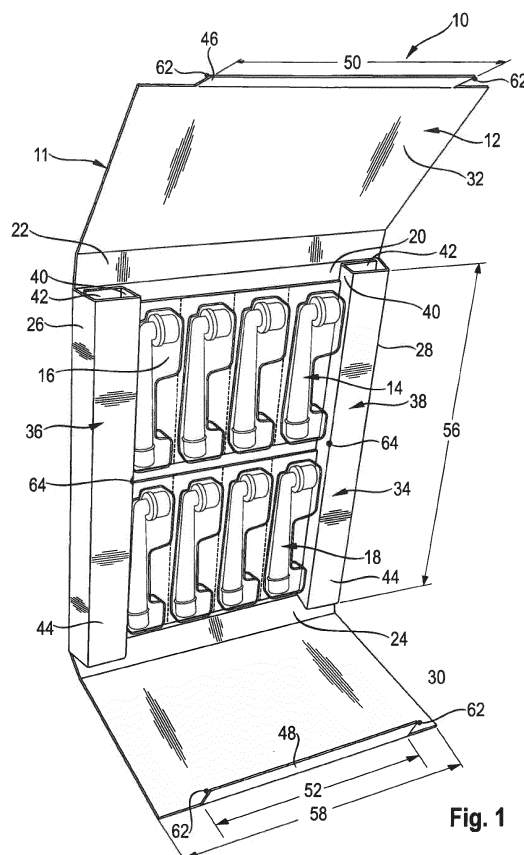


Fig. 1

Description

FIELD OF THE INVENTION

[0001] The present disclosure is concerned with a package unitarily formed from a cardboard blank for storing a product. The present disclosure is further concerned with a package kit comprising such type of package and a product.

BACKGROUND OF THE INVENTION

[0002] Packages made of cardboard material for storing and shipping products, like oral care products or other personal hygiene products are well known in the art. Generally, the product is packed in a first package, which package is then put into a relatively large cardboard box for shipping. Usually, protective padding and/or filling material is inserted into the spacing between the first package and the outer walls of the box to ensure that the product is delivered in a safe and undamaged manner. Typically, the box is tied with a wire or tape. These types of packages are relatively complex and hard to open in a short period of time. In case the recipient wants to return the product back to sender after opening the package, he is usually not enabled to reclose the package in an easy manner. Sometimes, the package gets irreversibly damaged during an opening process so that the package cannot be re-used at all.

[0003] While these types of packages provide substantially safe delivery of the product stored therein, they are not as well suited to provide convenient handling of the package. In particular, these types of packages are relatively big and require a relatively large amount of packaging material.

[0004] It is an object of the present disclosure to provide a package which is easy to handle, in particular easy to open and easy to re-close, and which package protects the stored product from damages during storage and distribution. Further, it is an object of the present disclosure to provide a recyclable package which minimizes packaging material.

SUMMARY OF THE INVENTION

[0005] In accordance with one aspect, a package unitarily formed from a cardboard blank for storing a product is provided that comprises:

- a back wall,
- a first hinged lid section and a second hinged lid section to set the package in an open or a closed position, the first and the second hinged lid sections being opposite the back wall when the package is set in the closed position,
- a first pair of side walls, the side walls of the first pair being arranged opposite each other and extending from the back wall,

- the first hinged lid section extending from one of the side walls of the first pair and the second hinged lid section extending from the other side wall of the first pair, and
- a second pair of side walls, the side walls of the second pair being arranged opposite each other and extending from the back wall, each of the side walls of the second pair comprising an extension that forms a stiffening member, wherein
- the stiffening member is U-shaped comprising a base, a first leg and a second leg, the first and the second leg being arranged opposite each other and extending substantially perpendicular from the base, and the first leg is attached to the back wall, and the second leg supports the first hinged lid section and the second hinged lid section when the package is set in the closed position, and wherein
- the back wall comprises at least one crease extending between the U-shaped stiffening members, and at each end of the crease an intersection is provided which extends from the crease to one of the hinged lid sections to provide an indentation when the package is set in the closed position.

[0006] In accordance with one aspect, a package kit is provided that comprises such package and a product.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The invention is described in more detail below with reference to various embodiments and figures, wherein:

Fig. 1 shows a schematic perspective view of a first example embodiment of a package in an open position;

Fig. 2 shows a schematic perspective view of the package of Fig. 1 with a first hinged lid section being in a closed position and a second hinged lid section being in an open position;

Fig. 3 shows a schematic perspective view of a second example embodiment of a package in an open position; and

Fig. 4 shows a schematic perspective view of the package of Fig. 3 with a first hinged lid section being in a closed position and a second hinged lid section being in an open position.

DETAILED DESCRIPTION OF THE INVENTION

[0008] A package in accordance with the present disclosure is unitarily formed of a cardboard blank, i.e. the package comprises one piece of cardboard which may be a single or multi layer cardboard. The package comprises a back wall, a first pair of side walls, a second pair of side walls, a first hinged lid section and a second hinged lid section. The side walls are positioned along the outer edges of the back wall. The side walls of the

first pair and the side walls of the second pair, respectively, are arranged opposite each other, i.e. at opposite edges of the back wall and may extend from the back wall in a substantially perpendicular manner. In order to allow opening and closing of the package, each of the hinged lid sections extends from one of the side walls of the first pair in a hingeable manner. In other words, the first and the second hinged lid sections are hingeably connected to the respective side walls of the first pair. Such hingeable connection may be provided by means of a crease, a perforation or a folding line. When the package is set in its closed position, the first and the second hinged lid sections are positioned substantially parallel to the back wall on the opposite side of the package.

[0009] Each of the side walls of the second pair comprises an extension which forms a stiffening member to provide the package with increased stiffness. Each of the stiffening members is U-shaped and comprises a base, a first leg and a second leg. The first leg and the second leg of each U-shaped stiffening member are arranged opposite each other and extend from the base in a substantially perpendicular manner. The first leg is attached to the back wall, for example by means of adhesive tape applications and/or an adhesive. The second leg may extend from the side wall in a substantially perpendicular manner, for example via a crease or a fold. The base extends between the first leg and the second leg and forms an internal boundary of the internal space of the package. In other words, the internal space of the package is reduced by the U-shaped stiffening member. When the package is set in its closed position, the first hinged lid section and the second hinged lid section are supported by the second legs of the U-shaped stiffening members, respectively, to provide the package with more stability.

[0010] The U-shaped stiffening members may provide the package with sufficient stiffness properties protecting the product stored in the package from getting damaged during shipping and distribution. The product may be delivered in a substantially undamaged manner.

[0011] The back wall comprises at least one crease extending between the U-shaped stiffening members, and at each end of the crease an intersection is provided which extends from the crease to one of the hinged lid sections to provide an indentation when the package is set in the closed position. In other words, if the package is set in its closed position, at least one of the side walls of the first pair may comprise an indentation/clearance/handle cutout which may serve as a gripping aid and which may assist in handling the package. The indentation may facilitate to pick and to handle the package in an easy manner. When the package is set in its closed position, the portion of the back wall which extends between the crease and the hinged side wall is turned in a substantially perpendicular position with respect to the back wall, i.e. the crease acts as a hinge. The portion of the former side wall which extends between the two intersections may be set substantially in alignment with the

second legs of the U-shaped stiffening members and, thus, may serve as a further support for the hinged lid section to provide the package with increased form stability.

[0012] As the package may have sufficient stability to protect the product, substantially no protective padding and/or filling material and/or further boxes may be necessary to ensure that the product is delivered in a safe and undamaged manner resulting in a reduction of packaging material and costs. A package may be provided that can be shipped to a recipient without the need of additional packaging. As the need for a further box may be rendered unnecessary, the package may be called "shippable in own container" (SIOC).

[0013] As the package may be closed by flapping the first and the second hinged lid sections in a position substantially parallel to the back wall, i.e. by setting the first and the second hinged lid sections onto the respective second legs of the U-shaped stiffening members, the package may be relatively easy to close, to open and to re-close in a relatively short period of time. The package in accordance with the present disclosure may allow easy access to its content.

[0014] The package may be sealed by means of an adhesive tape or foil bridging at least a portion of the first hinged lid section and at least a portion of the second hinged lid section. The adhesive tape or foil may display information regarding the distribution of the package and/or the product stored therein by a printing, for example the printing may provide identification markings, a barcode, a product description, the address of the sender/recipient and/or regulatory markings. In order to open the package, the adhesive tape or foil can be cut in the region in which the tape/foil bridges the first and the second hinged lid sections, for example by means of scissors or a knife. Thus, the package can be opened without substantially damaging the package in a relatively short period of time, e.g. within 120 seconds. As the package can be opened in a relatively short period of time in an easy manner, the so-called "out-of-box" experience for a user/recipient may be improved. In case the recipient of the package wants to re-use the package or wants to send the product back to sender after opening the package, the recipient may be enabled to re-close the package in an easy manner; a re-shipment of the product may be possible using the same package.

[0015] As the package is made of cardboard material which may be substantially recyclable, an environmentally sustainable package may be provided. Additionally, the package in accordance with the present disclosure can be re-used several times. Thus, an easy-to-open, recyclable cardboard package is provided that may reduce the overall amount of packaging material while the product stored in the package may still be protected from damages during storage and distribution.

[0016] The cardboard blank may have a weight of about 250 g/m² to about 600 g/m², optionally about 300 g/m² to about 500 g/m², further optionally about 400 g/m².

A package having a cardboard weight of about 400 g/m² may provide sufficient stability of the package while the cardboard can still be easily flapped or folded along any hinges, creases or folding lines. Any hinged side walls and/or hinged lid sections may be relatively easy to flap into their required positions.

[0017] The package is suitable for storing a product. The product stored in said package may comprise at least one blister package. Said blister package may comprise an oral care implement, for example a toothbrush head which may be repeatedly attachable to and detachable from a handle of a toothbrush, like an electrical toothbrush. For example, eight or less toothbrush heads may be provided in blister packages and may be stored in the package for shipment.

[0018] At least one of the side walls of the first pair may be a hinged side wall hingeably extending from the back wall. A hingeable connection between the at least one hinged side wall and the back wall may be provided by means of a crease, a perforation or a folding line. The hingeable connection may allow the at least one hinged side wall to be flapped downwards and to be set in alignment with the back wall to facilitate insertion and removal of the product in an easy manner.

[0019] At least one of the hinged lid sections may comprise a hinged locking element extending from said at least one hinged lid section in a hingeable manner. The first hinged lid section and the second hinged lid section may each comprise a hinged locking element extending from the first and the second hinged lid section, respectively. A hingeable connection between the at least one hinged lid section and the hinged locking element may be provided by means of a crease, a perforation or a folding line. In order to lock the package, the at least one hinged locking element may be flapped in a substantially perpendicular position with respect to the respective hinged lid section from which it extends, and may be inserted into a slot/spacing/gap between the first and the second hinged lid sections (when the hinged lid sections are set in the closed position). Use of an adhesive tape or foil bridging at least a portion of the first and the second hinged lid sections to seal the package may, thus, be rendered unnecessary.

[0020] At least one of the hinged locking elements may have a width extension that is slightly larger than the extension of a space between the U-shaped stiffening members to allow the at least one hinged locking element to be clamped between the U-shaped stiffening members to provide a reliable locking of the package. A friction fit between the at least one hinged locking element and the U-shaped stiffening members may be provided that may prevent the hinged lid section from getting opened accidentally. Use of an adhesive tape or foil bridging at least a portion of the first and the second hinged lid sections to seal the package may, thus, be rendered redundant.

[0021] At least one of the hinged locking elements may be resiliently engageable between the U-shaped stiffening members to facilitate the package to be set in an

opened and re-closed position in an easy and substantially undamaged manner. Further, a reliable locking of the at least one hinged locking element between the U-shaped stiffening members may be provided. In case both hinged locking elements are resiliently engageable between the U-shaped stiffening members, use of an adhesive tape or foil bridging at least a portion of the first and the second hinged lid sections to seal the package may, thus, be rendered unnecessary.

[0022] At least one of the stiffening members may extend resiliently from the side wall and/or at least one of the side walls of the second pair may extend resiliently from the back wall to provide a resilient engagement of the at least one hinged locking element between the U-shaped stiffening members. When the at least one hinged locking element engages between the U-shaped stiffening members, the stiffening members may bend slightly apart from each other. When the package is reopened again, the stiffening members may return substantially to their initial position.

[0023] At least one of the hinged locking elements may comprise at least one projection and at least one of the stiffening members may comprise a recess into which the at least one projection engages when the package is set in the closed position. Such type of package may provide an even more reliable locking of the at least one hinged locking element. The recess may be provided by means of a relatively small cut-out in the transition region between the base and the second leg of the U-shaped stiffening member. The at least one projection may be provided at the lateral side of the hinged locking element facing the base of the U-shaped stiffening member.

[0024] The package may have a length extension of about 150 mm to about 350 mm, optionally of about 195 mm to about 334 mm when the package is set in the closed position.

[0025] The package may have a width extension of about 100 mm to about 250 mm, optionally of about 125 mm to about 234 mm when the package is set in the closed position.

[0026] The package may have a height extension of about 11 mm to about 40 mm, optionally of about 18 mm when the package is set in the closed position.

[0027] A length extension of about 195 mm to about 334 mm, a width extension of about 125 mm to about 234 mm and a height extension of about 18 mm may provide a package which may be suitable for insertion into a regular mailbox. A so-called "frustration-free-package" may be provided which can be delivered in the mailbox of a recipient. The package does not have to be stored at the local post office in case the recipient is not available to accept delivery of the package.

[0028] The following is a non-limiting discussion of example embodiments of packages in accordance with the present disclosure, where reference to the Figures is made.

[0029] Figs. 1 and 2 show a perspective view of a package kit 10 comprising a package 11 unitarily formed from

a cardboard blank 12 and a product 14 stored within the package 11. Fig. 1 shows the package 11 in an open position. The product 14 may comprise a plurality of oral care implements 18, like eight toothbrush heads, each of them being repeatedly attachable to and detachable from a handle of an electrical toothbrush. Each of the oral care implements 18 may be packed in a blister package 16.

[0030] The package 11 comprises a back wall 20, a first pair of side walls 22, 24, a second pair of side walls 26, 28, a first hinged lid section 30 and a second hinged lid section 32. The side walls 22, 24 of the first pair are arranged opposite each other and may extend from the back wall 20 in a substantially perpendicular manner. The side walls 22, 24 of the first pair may be provided as hinged side walls 22, 24 hingeably extending from the back wall 20 to facilitate insertion and removal of the product 14 into and out of the package 11, respectively. The first hinged lid section 30 extends from one of the side walls 22 of the first pair and the second hinged lid section 32 extends from the other side wall 24 of the first pair in a hingeable manner. When the package 11 is set in its closed position, the first and the second hinged lid sections 30, 32 are arranged opposite the back wall 20. Fig. 2 shows the package 11, wherein the first hinged lid section 30 is set in the closed position.

[0031] The side walls 26, 28 of the second pair are arranged opposite each other and may extend from the back wall 20 in a substantially perpendicular manner. Each of the side walls 26, 28 of the second pair comprises an extension 34 that forms a stiffening member 36, 38. Each of the stiffening members 26, 38 is U-shaped and comprises a base 40, a first leg 42 and a second leg 44. The first and the second legs 42, 44 are arranged opposite each other and extend from the base 40 in a substantially perpendicular manner. The first leg 42 is attached to the back wall 20 and the second leg 44 supports the first and the second hinged lid sections 30, 32 when the package 11 is set in its closed position to provide the package 11 with more stability.

[0032] Each of the hinged lid sections 30, 32 may comprise a hinged locking element 46, 48 which extends from the hinged lid sections 30, 32, respectively, in a hingeable manner. Each of the hinged locking elements 46, 48 may have a width extension 50, 52 which may be slightly larger than the extension of a space 54 between the U-shaped stiffening members 36, 38. The side walls 26, 28 of the second pair may extend resiliently from the back wall 20 and/or the U-shaped stiffening members 36, 38 may extend resiliently from the side walls 26, 28 of the second pair so that the hinged locking elements 46, 48 may engage resiliently between the U-shaped stiffening members 36, 38 when the package is set in its closed position.

[0033] The hinged locking elements 46, 48 may each comprise at least one projection 62 and the stiffening members 36, 38 may each comprise a recess 64 into which the at least one projection 62 may engage when the package 11 is set in its closed position.

[0034] When the package 11 is set in its closed position, the package 11 may have a length extension 56 of about 150 mm to about 350 mm, optionally of about 195 mm to about 334 mm, a width extension 58 of about 100 mm to about 250 mm, optionally of about 125 mm to about 234 mm, and a height extension 60 of about 11 mm to about 40 mm, optionally of about 18 mm.

[0035] The package 11 as shown in Figs. 3 and 4 is similar to the package as shown in Figs. 1 and 2. However, the hinged locking elements 46, 48 of the package 11 according to Figs. 3 and 4 may not comprise a projection 62 and a corresponding recess 64 provided in the U-shaped stiffening members 36, 38, but may be merely lockable by resiliently engaging the hinged locking elements 46, 48 between the U-shaped stiffening members 36, 38.

[0036] The back wall 20 of the package 11 of Figs. 3 and 4 may comprise at least one crease 66 which may extend between the U-shaped stiffening members 36, 38. At each end 68, 70 of the crease 66 an intersection 72, 74 may be provided which may extend from the crease 66 to the first hinged lid section 30 to provide an indentation 76 when the package 11 is set in the closed position (cf. Fig. 4). The indentation 76 may serve as a gripping aid to facilitate the handling of the package 11. The portion 78 of the back wall 20 which extends between the crease 66 and the hinged side wall 24 is turned in a substantially perpendicular position with respect to the back wall 20, i.e. the crease 66 acts as a hinge. The portion 80 of the former side wall 24 which extends between the two intersections 72, 74 may be set substantially in alignment with the second legs 44 of the U-shaped stiffening members 36, 38 and, thus, may serve as a further support for the first hinged lid section 30 to provide the package 11 with increased form stability.

[0037] In the present context, the term "substantially" refers to an arrangement of elements or features that, while in theory would be expected to exhibit exact correspondence or behavior, may, in practice embody something slightly less than exact. As such, the term denotes the degree by which a quantitative value, measurement or other related representation may vary from a stated reference without resulting in a change in the basic function of the subject matter at issue.

[0038] The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm."

Claims

1. A package (11) unitarily formed from a cardboard blank (12) for storing a product (14), the package (11) comprising:

- a back wall (20),
a first hinged lid section (30) and a second hinged lid section (32) to set the package (11) in an open or a closed position, the first and the second hinged lid sections (30, 32) being opposite the back wall (20) when the package (11) is in the closed position,
a first pair of side walls (22, 24), the side walls (22, 24) of the first pair being arranged opposite each other and extending from the back wall (20),
the first hinged lid section (30) extending from one of the side walls (24) of the first pair and the second hinged lid section (32) extending from the other side wall (22) of the first pair, and
a second pair of side walls (26, 28), the side walls (26, 28) of the second pair being arranged opposite each other and extending from the back wall (20), each of the side walls (26, 28) of the second pair comprising an extension (34) that forms a stiffening member (36, 38), wherein the stiffening member (36, 38) is U-shaped comprising a base (40), a first leg (42) and a second leg (44), the first and the second leg (42, 44) being arranged opposite each other and extending substantially perpendicular from the base (40), and the first leg (42) is attached to the back wall (20), and the second leg (44) supports the first hinged lid section (30) and the second hinged lid section (32) when the package (11) is set in the closed position, and wherein the back wall (20) comprises at least one crease (66) extending between the U-shaped stiffening members (36, 38), and at each end (68, 70) of the crease (66) an intersection (72, 74) is provided which extends from the crease (66) to one of the hinged lid sections (30, 32) to provide an indentation (76) when the package (11) is set in the closed position.
2. A package (11) according to claim 1, wherein at least one of the side walls (22, 24) of the first pair is a hinged side wall (22, 24) hingeably extending from the back wall (20).
 3. A package (11) according to claim 1 or 2, wherein at least one of the hinged lid sections (30, 32) comprises a hinged locking element (46, 48) extending from said at least one hinged lid section (30, 32).
 4. A package (11) according to claim 3, wherein at least one of the hinged locking elements (46, 48) has a width extension (50, 52) that is slightly larger than the extension of a space (54) between the U-shaped stiffening members (36, 38).
 5. A package (11) according to any of the preceding claims, wherein at least one of the stiffening members (36, 38) extends resiliently from the side wall (26, 28) of the second pair.
 6. A package (11) according to any of the preceding claims, wherein at least one of the side walls (26, 28) of the second pair extends resiliently from the back wall (20).
 7. A package (11) according to any of claims 3 to 6, wherein at least one of the hinged locking elements (46, 48) is resiliently engageable between the U-shaped stiffening members (36, 38).
 8. A package (11) according to any of claims 3 to 7, wherein at least one of the hinged locking elements (46, 48) comprises at least one projection (62) and at least one of the U-shaped stiffening members (36, 38) comprises a recess (64) into which the at least one projection (62) engages when the package (11) is set in the closed position.
 9. A package (11) according to any of the preceding claims, wherein the cardboard blank has a weight of about 250 g/m² to about 600 g/m², optionally about 300 g/m² to about 500 g/m², further optionally about 400 g/m².
 10. A package (11) according to any of the preceding claims, wherein the package (11) has a length extension (56) of about 150 mm to about 350 mm, preferably of about 195 mm to about 334 mm when the package (11) is in the closed position.
 11. A package (11) according to any of the preceding claims, wherein the package (11) has a width extension (58) of about 100 mm to about 250 mm, preferably of about 125 mm to about 234 mm when the package (11) is in the closed position.
 12. A package (11) according to any of the preceding claims, wherein the package (11) has a height extension (60) of about 11 mm to about 40 mm, preferably of about 18 mm when the package (11) is in the closed position.
 13. A package kit (10) comprising a package (11) according to any of the preceding claims and a product (14).
 14. A package kit (10) according to claim 13, wherein the product (14) comprises at least one blister package (16).
 15. A package kit (10) according to claim 13 or 14, wherein the product (14) comprises at least one oral care implement (18).

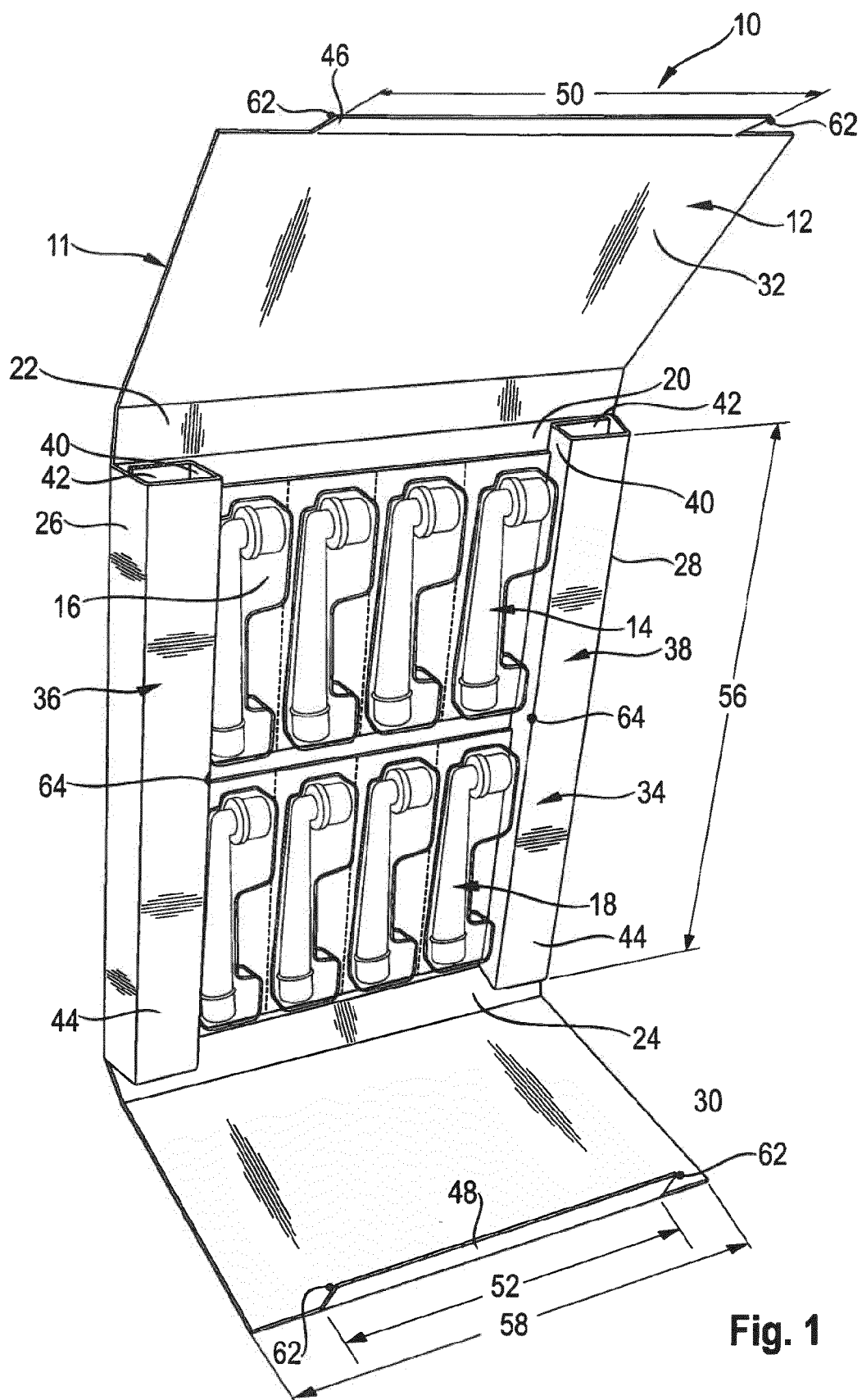


Fig. 1

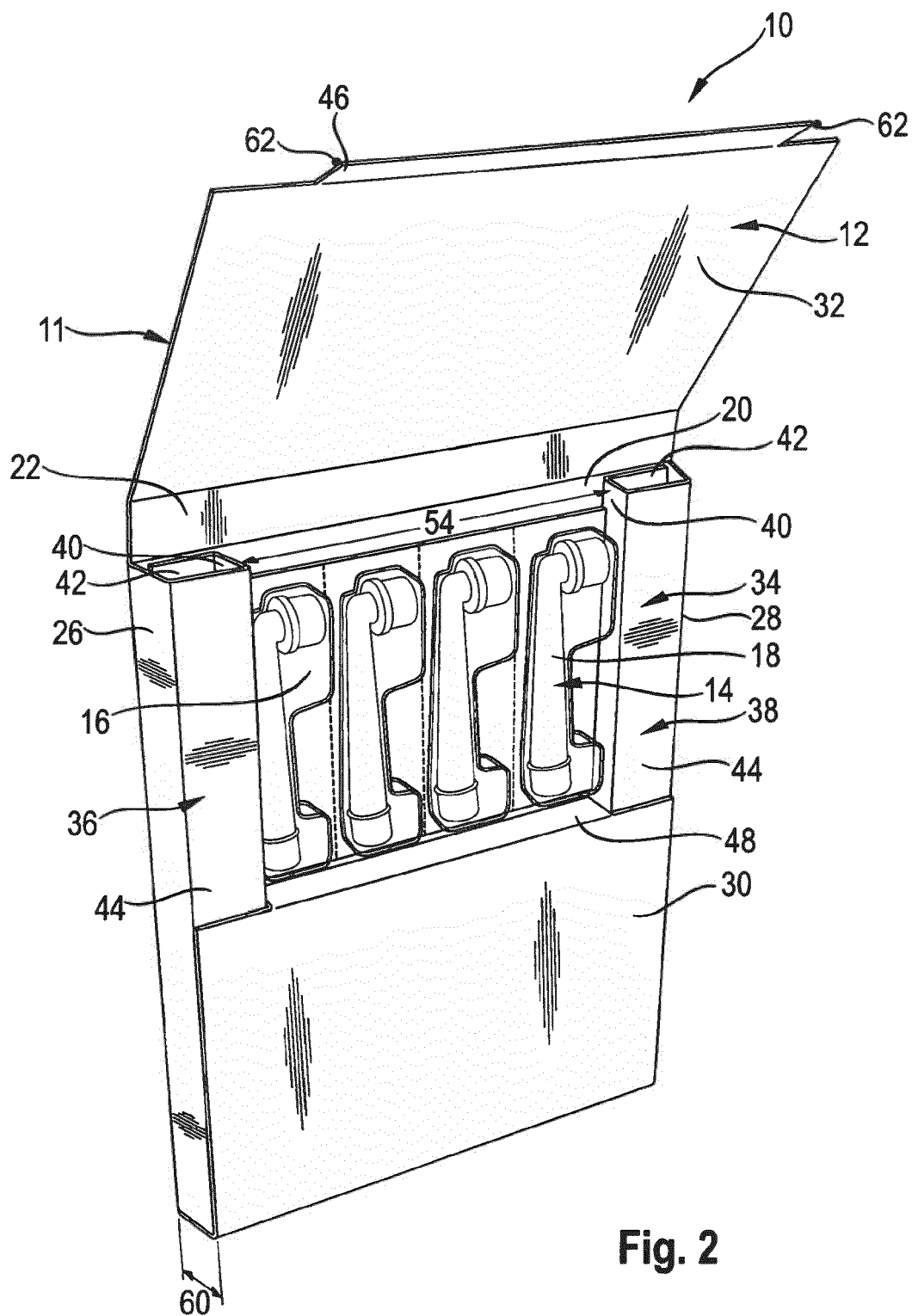
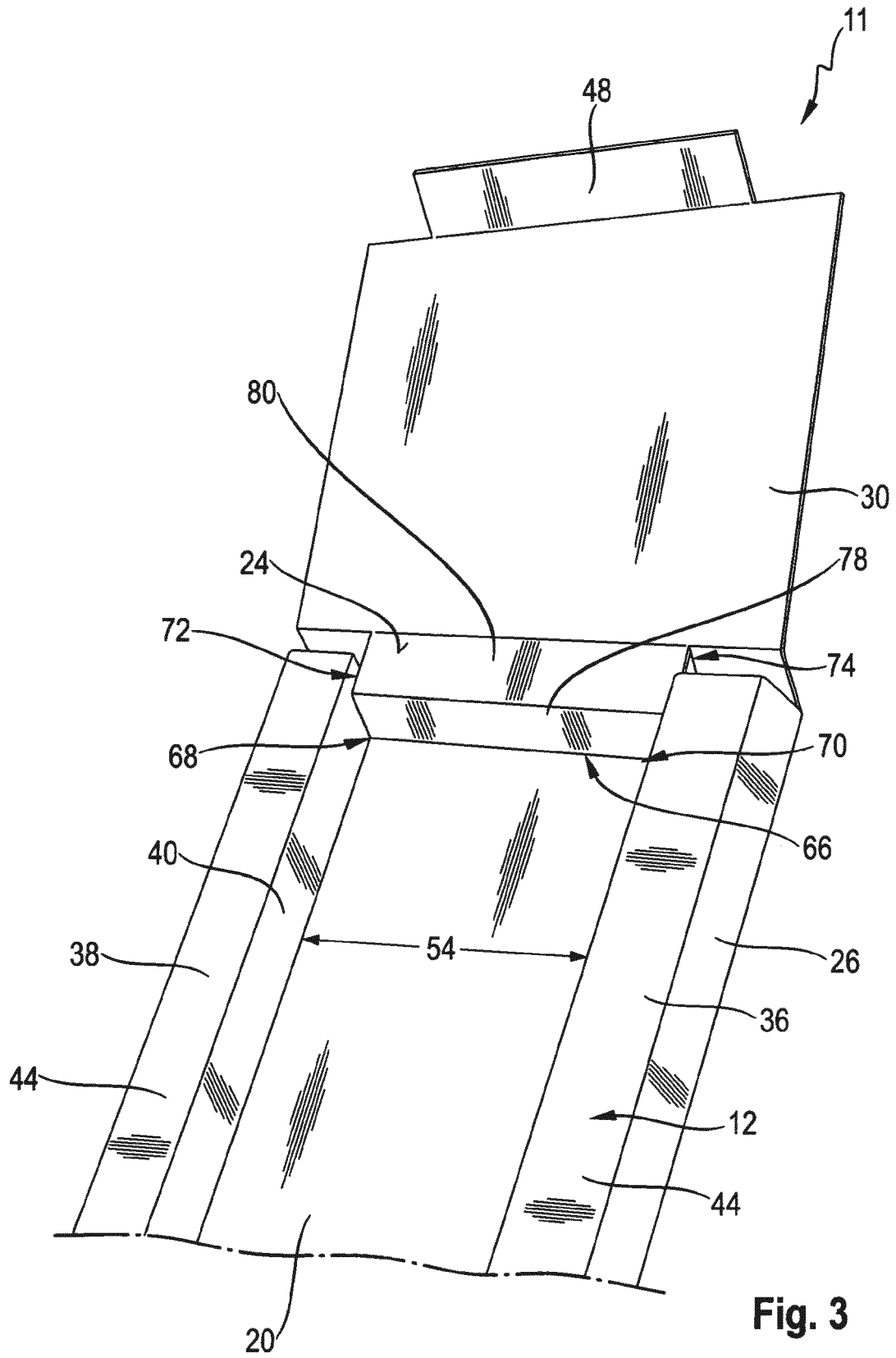


Fig. 2



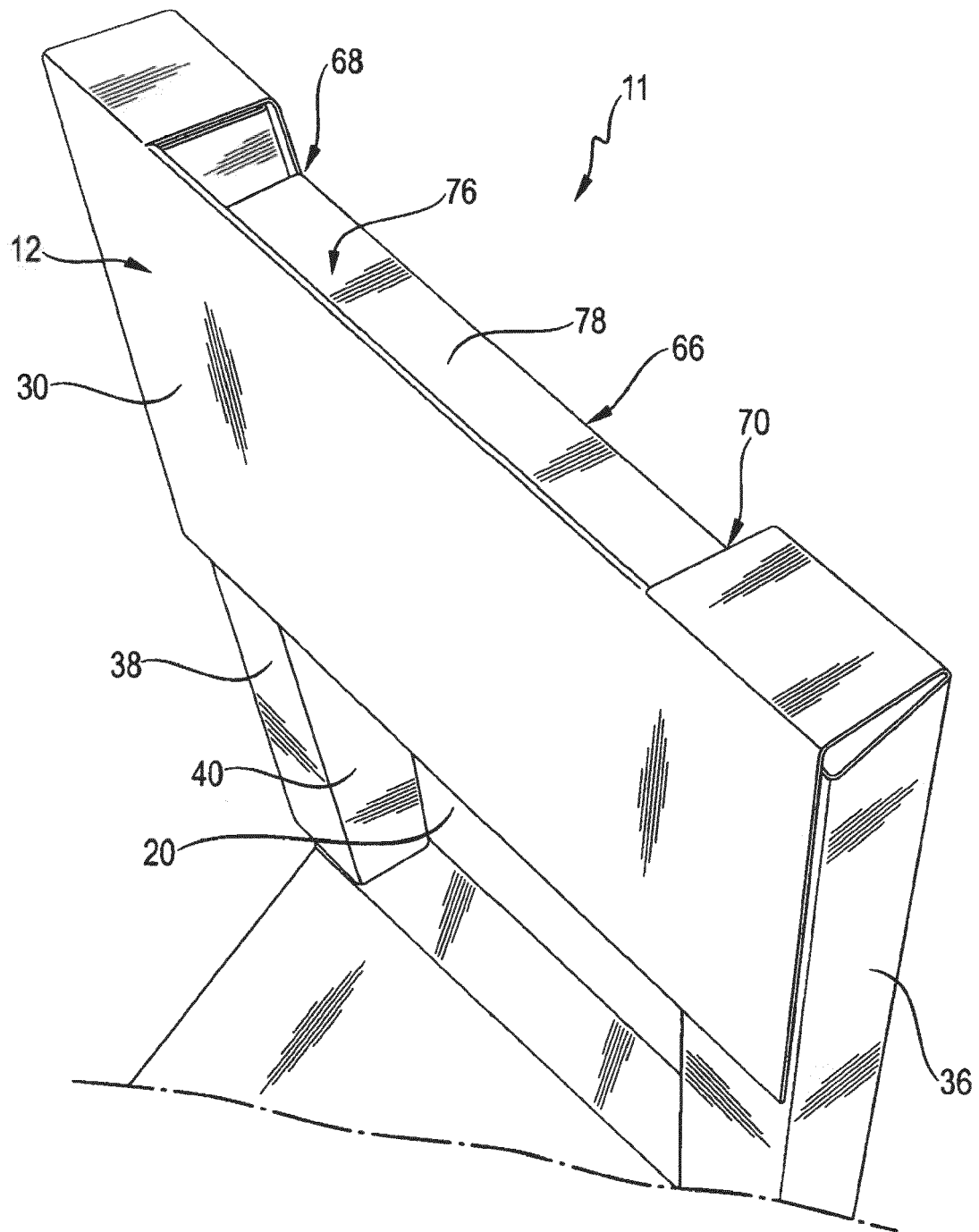


Fig. 4



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Application Number
EP 15 15 1087

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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