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(54)

WIPER BLADE PACKAGING

- (57)

Described is packaging for a wiper blade having a blade-side connector configured to engage a wiper arm. The packaging includes an inner component to house the wiper blade and an outer sleeve component that defines a cavity. The cavity can receive at least a
- portion of the inner component. At least one of the inner component and the outer sleeve component includes a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm.

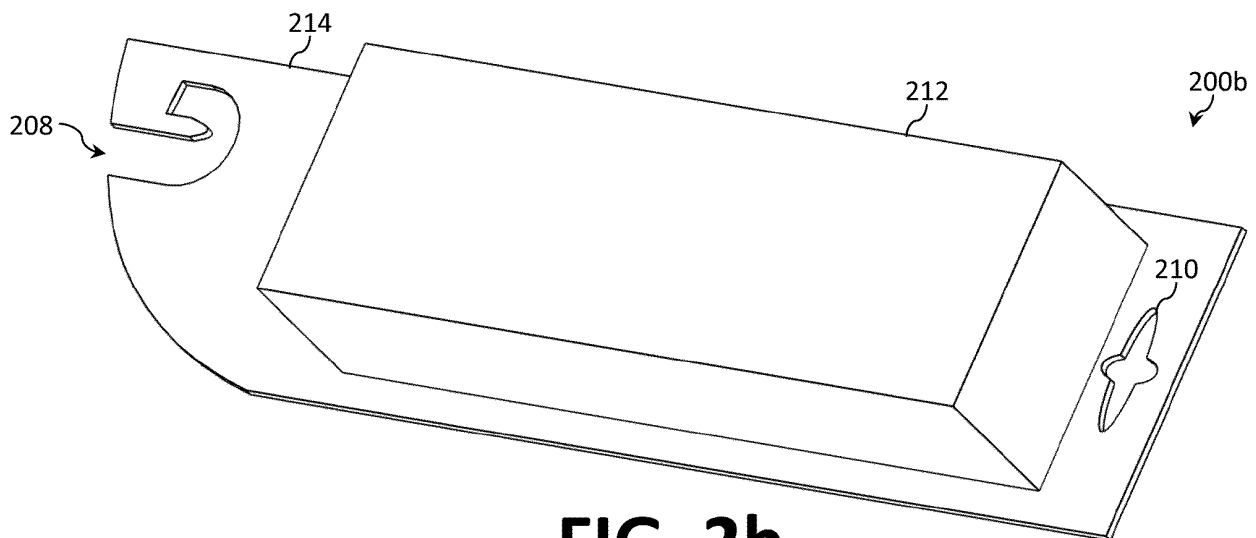


FIG. 2b

Description

RELATED APPLICATION

[0001] The present application claims priority to United States Provisional Patent Application No. 63/447,431, filed February 22, 2023, and entitled "Wiper Blade Packaging" which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] Vehicle use a variety of wiper arms to move a wiper blade. Since wiper blades need to be replaced periodically, a consumer is often faced with the difficulty of matching the wiper arm of the consumer's vehicle with a compatible replacement wiper blade.

[0003] One technique for identifying which type of connector is used on a given wiper arm involves traditional coinage. That is, a consumer would be instructed to use a coin having a known diameter to identify the connector size. For example, a U.S. one-cent piece, which has a diameter of 19.05 mm, will fit into the end of the wide (22mm) arm, but will not fit into the end of the narrow (19mm) arm. In a modern, generally cashless society, however, most consumers don't carry change.

[0004] This situation can be addressed by supplying multiple connectors in either separate packages or with the wiper blade itself so that the consumer could match the appropriate connector with the wiper arm of the consumer's vehicle. This, however, results in wasted materials and expense. Further, it is often hard for the consumer to easily ascertain from the packaging of the connectors whether the connectors are appropriate for the wiper arm or whether their attachment will be difficult accomplish. In addition, the packaging of connectors often is neither aesthetically pleasing nor educational in nature and so the selling of the connectors by a vendor to a consumer can be difficult.

[0005] Furthermore, when opening up the contents of the packages, the connectors and instructions can be strewn in different directions causing a delay in both finding the connectors and instructions and understanding the operation of the connectors from the instructions. Since there is not a convenient place to store the connectors and instructions once taken out of their package, the connectors and instructions can be easily lost or damaged.

[0006] Therefore, a need exists for wiper blade packaging that enables a consumer to easily and reliably ascertain from the packaging whether the connector is compatible or otherwise appropriate for a given wiper arm of a vehicle.

SUMMARY

[0007] The present disclosure relates generally to improved wiper blade packaging, substantially as illustrated

by and described in connection with at least one of the figures, as set forth more completely in the claims. More specifically, the present disclosure relates to wiper blade packaging that enables a consumer to easily ascertain from the packaging whether the connector is appropriate for a given wiper arm.

DETAILED DESCRIPTION OF THE DRAWINGS

[0008] The foregoing and other objects, features, and advantages of the devices, systems, and methods described herein will be apparent from the following description of particular examples thereof, as illustrated in the accompanying figures; where like or similar reference numbers refer to like or similar structures. The figures are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the devices, systems, and methods described herein.

Figure 1a illustrates an example vehicle having a windshield and a pair of wiper blades.

Figure 1b illustrates an assembly view of an example connection point between the wiper blade and the wiper arm.

Figures 1c and 1d illustrate, respectively, example large and small J-Hook connectors.

Figures 1e and 1f illustrate, respectively, example large and small wiper pin connector.

Figure 2a illustrates a perspective assembly view of packaging in accordance with an aspect of the present disclosure.

Figure 2b illustrates a perspective assembled view of the packaging of Figure 2a.

Figures 2c and 2d illustrate, respectively, front and rear plan views of the packaging of Figure 2a.

Figures 2e through 2h illustrate right, left, top, and bottom elevation views of the packaging of Figure 2a.

Figure 3a illustrates a circular connector-identification feature in accordance with another aspect of the present disclosure.

Figure 3b illustrates a connector-identification feature embodied as a quadrilateral cutout in accordance with yet another aspect of the present disclosure.

Figure 3c illustrates a connector-identification feature that is an outline printed on a surface of the packaging in accordance with yet another aspect of the present disclosure.

Figure 3d illustrates an example separate card that defines a circular connector-identification feature in accordance with yet another aspect of the present disclosure.

Figure 4 illustrates example one-piece packaging in accordance with yet another aspect of the present disclosure.

DESCRIPTION

[0009] References to items in the singular should be understood to include items in the plural, and vice versa, unless explicitly stated otherwise or clear from the text. Grammatical conjunctions are intended to express any and all disjunctive and conjunctive combinations of conjoined clauses, sentences, words, and the like, unless otherwise stated or clear from the context. Recitation of ranges of values herein are not intended to be limiting, referring instead individually to any and all values falling within and/or including the range, unless otherwise indicated herein, and each separate value within such a range is incorporated into the specification as if it were individually recited herein. In the following description, it is understood that terms such as "first," "second," "top," "bottom," "side," "front," "back," and the like are words of convenience and are not to be construed as limiting terms. For example, while in some examples a first side is located adjacent or near a second side, the terms "first side" and "second side" do not imply any specific order in which the sides are ordered.

[0010] The terms "about," "approximately," "substantially," or the like, when accompanying a numerical value, are to be construed as indicating a deviation as would be appreciated by one of ordinary skill in the art to operate satisfactorily for an intended purpose. Ranges of values and/or numeric values are provided herein as examples only, and do not constitute a limitation on the scope of the disclosure. The use of any and all examples, or exemplary language ("e.g.," "such as," or the like) provided herein, is intended merely to better illuminate the disclosed examples and does not pose a limitation on the scope of the disclosure. The terms "e.g.," and "for example" set off lists of one or more non-limiting examples, instances, or illustrations. No language in the specification should be construed as indicating any unclaimed element as essential to the practice of the disclosed examples.

[0011] The term "and/or" means any one or more of the items in the list joined by "and/or." As an example, "x and/or y" means any element of the three-element set {(x), (y), (x, y)}. In other words, "x and/or y" means "one or both of x and y". As another example, "x, y, and/or z" means any element of the seven-element set {(x), (y), (z), (x, y), (x, z), (y, z), (x, y, z)}. In other words, "x, y, and/or z" means "one or more of x, y, and z."

[0012] Wiper arms used in vehicles vary in size and shape. In some cases, wiper arms can be the same

shape, but will still vary in size. These wiper arms are often differentiated in marketing material by a size-related adjective describing the arm (e.g., small J-Hook, large J-Hook, etc.). Currently, the consumer must have a ruler, a penny, or the ability to visualize measurements to differentiate the arm size from the other similarly shaped arms. While wiper arms are most often associated with automobiles (e.g., cars, trucks, etc.), they are likewise employed in numerous other vehicles, such as trains, watercraft, and aircraft. Therefore, the following disclosure should not be limited to wiper blades and wiper arms used in automobiles, but rather would be applicable to wiper blades and wiper arms used in any type of vehicle.

[0013] In one example, packaging for a wiper blade having a blade-side connector configured to engage a wiper arm comprises: an inner component configured to house the wiper blade; and an outer sleeve component having an enclosure that defines a cavity configured to receive at least a portion of the inner component. At least one of the inner component and the outer sleeve component comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm.

[0014] In another example, packaging for a wiper blade having a blade-side connector configured to engage a wiper arm comprises: a backing panel; and an enclosure coupled to the backing panel and configured to house the wiper blade. The backing panel having a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm. The backing panel and the enclosure can be adhered to one another to form one-piece packaging.

[0015] The connector-identification feature can be a pre-punched cutout or a perforated cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector. In another example, the connector-identification feature is a circular cutout that is sized to correspond to a size of the compatible arm-side connector. For example, the circular cutout can have a diameter of about 19mm. In some examples, the outer sleeve component, which can be fabricated from cardboard or plastic, comprises the connector-identification feature. The inner component is fabricated from a transparent plastic material.

[0016] In another example, packaging for a wiper blade having a blade-side connector configured to engage a wiper arm comprises: an inner component configured to house the wiper blade; and an outer sleeve component that defines a cavity configured to receive at least a portion of the inner component. The outer sleeve component comprises a connector-identification feature can be configured to indicate a compatible arm-side connector of the wiper arm. The connector-identification feature can be sized and shaped to correspond to a size and a shape of the compatible arm-side connector, such as a J-shaped cutout.

[0017] Figure 1a illustrates an example vehicle 100 having a windshield 102 and a pair of wiper blades 104.

As illustrated, each wiper blade 104 is removably coupled to with a wiper arm 106 of the vehicle 100 via a coupling 108. As is known in the art, the wiper arms 106 (and, therefore, the wiper blades 104) are configured to translate back and forth across the windshield 102 to clear the windshield 102 of rain, snow, and debris via one or more electric motors and mechanical linkages associated with the vehicle 100.

[0018] Figure 1b illustrates an assembly view of an example coupling 108 between the wiper blade 104 and the wiper arm 106. As illustrated, each wiper arm 106 includes or otherwise defines, at its distal end, an arm-side connector 110. The arm-side connector 110 is configured to engage and secure the wiper blade 104 via a complimentary blade-side connector 112 positioned on or otherwise associated with the wiper blade 104. In the illustrated example, the arm-side connector 110 is inserted into a J-shaped slot 114 of the blade-side connector 112 as indicated by arrow 116. Once assembled, a locking cap 118 can be folded as indicated by arrow 120 (e.g., pivoted about a hinge) and positioned to cover, secure, and protect the connected arm-side connector 110 and blade-side connector 112.

[0019] In the illustrated example, the wiper arm 106 includes an arm-side connector 110 configured a J-Hook connector 122, but other connector types are contemplated. For example, Figures 1c through 1f illustrate other suitable example connector types for a coupling 108. Specifically, Figure 1c illustrates a large J-Hook connector 110a, while Figure 1d illustrates a small J-Hook connector 110b. The large J-Hook connector 110a and the small J-Hook connector 110b are substantially the same as one another (and the J-Hook connector 122 of Figure 1b), except for the size. Figure 1e illustrates a large wiper pin connector 110c, while Figure 1f illustrates a small wiper pin connector 110d. The large wiper pin connector 110c and the small wiper pin connector 110d are likewise substantially the same other than size (e.g., length and diameter). A difference, however, is that a pin 124 of the large wiper pin connector 110c and/or the small wiper pin connector 110d would be inserted into a corresponding hole or opening on the blade-side connector 112 (rather than a J-shaped slot 114 as illustrated in Figure 1b).

[0020] Figures 2a through 2h illustrate example packaging 200 for one or more wiper blades 104. Specifically, Figure 2a illustrates a perspective assembly view of the packaging 200, while Figure 2b illustrates a perspective assembled view of the packaging 200. Figures 2c and 2d illustrate, respectively, front and rear plan views of the packaging 200, while Figures 2e through 2h illustrate right, left, top, and bottom elevation views of the packaging 200. As will be apparent from the subject disclosure, the packaging 200 allows for the contents of the packaging 200 to be displayed in an aesthetically pleasing manner, while also enabling the consumer to easily identify and verify the type of connector needed without having to open the packaging 200. Traditionally, wiper

blades 104 are sold individually and are illustrated as such, but it is contemplated that the packaging 200 described herein can be sized to accommodate two or more wiper blades 104.

[0021] In the illustrated example, the packaging 200 includes an inner component 200a and an outer sleeve component 200b. The inner component 200a and the outer sleeve component 200b are fabricated from one or more resilient materials, such as cardboard, plastic, metal, or a combination thereof. The inner component 200a defines an enclosure 202 configured to house the one or more wiper blades 104. In one example, as illustrated, the inner component 200a may be fabricated from a transparent plastic material that enables the consumer to view the one or more wiper blades 104 contained therein.

[0022] As best illustrated in Figure 2a, the inner component 200a is configured to insert into a cavity 204 defined by the outer sleeve component 200b as indicated by arrow 206. To that end, the illustrated outer sleeve component 200b generally comprises a backing panel 214 (or similar structure) with an enclosure 212 (or pocket) configured to receive at least a portion of the inner component 200a. In the illustrated example, the backing panel 214 comprises a first surface 214a and a second surface 214b, where the enclosure 212 extends outwardly from the first surface 214a.

[0023] The outer sleeve component 200b retains the inner component 200a via one or more of an adhesive, tape, friction, protrusions, or otherwise. In one example, the outer sleeve component 200b can be a cardboard or plastic sleeve that is printed with or otherwise provides various information or indicia pertaining to the enclosed one or more wiper blades 104 (and usage thereof). In some examples, the enclosure 212 is adhered to the backing panel 214, but in other examples, can also be a unitary structure. The enclosure 212 and the backing panel 214 can be fabricated from the same resilient material, but is not required. For example, the enclosure 212 could be fabricated from a plastic material that is adhered to a backing panel 214, which could be fabricated from cardboard.

[0024] A benefit of the packaging 200 described herein is the ability to identify a type of arm-side connector 110 without requiring an outside tool for identification or that the consumer open the packaging 200. To that end, the outer sleeve component 200b defines one or more connector-identification features 208 (e.g., cutouts, openings, slits, slots, outlines, or otherwise) that a customer can use to identify which type of arm-side connector 110 is used on the vehicle 100. In the illustrated example, the one or more connector-identification features 208 are formed in or on the outer sleeve component 200b and generally corresponds to the size and/or shape of the applicable arm-side connector 110. For example, the connector-identification feature 208 can be a pre-punched or perforated cutout that is sized and shaped to correspond to a size and a shape of the compatible

arm-side connector 110.

[0025] The one or more connector-identification features 208 can be used to determine whether the blade-side connector 112 employs or is compatible with, for example, a large J-Hook connector 110a, a small J-Hook connector 110b, a large wiper pin connector 110c, a small wiper pin connector 110d, etc. The example connector-identification feature 208 illustrated in Figures 2a through 2h is J-shaped to correspond to a J-Hook connector 122. To that end, rather than opening the packaging 200 and without needing to measure the wiper arm 106 or the arm-side connector 110 (e.g., with a penny, a ruler, or otherwise), consumers can identify the type of arm-side connector 110 using the one or more connector-identification features 208 formed in or on the packaging 200.

[0026] The connector-identification features 208 can be either a pre-punched cutout or a perforated cutout where the consumer can punch out the material at the time of use to reveal the cutout. Pre-punching the connector-identification feature 208 reduces the amount of effort needed from the consumer, but using a perforated connector-identification feature 208 offers some advantages. For example, perforating the connector-identification features 208 can mitigate damaged to the shape of the cutout prior to use (e.g., during transit or on the shelf). In practice, the consumer could pass the arm-side connector 110 through the cutout of the connector-identification features 208 to confirm size and shape.

[0027] The outer sleeve component 200b further comprises a hang tab 210 to enable the retailer to hang the packaging 200 on a hook (e.g., in a retail setting). In one example, as illustrated, the hang tab 210 can be punched through the outer sleeve component 200b via a hang tab hole-punch. In another example, the hang tab 210 can be provide via a separate handle (or tag) that is attached to outer sleeve component 200b to serve for hanging the packaging 200 on the hook.

[0028] While Figures 2a through 2h illustrate a pre-punched connector-identification features 208 that correspond to a J-Hook connector, other shapes and configurations are contemplated, including those examples illustrated in Figures 3a through 3d.

[0029] Figure 3a illustrates a circular connector-identification feature 302. As noted above, one technique for identifying which type of connector is used on the wiper arm involves a coin having a known diameter (e.g., a U.S. one-cent piece). To obviate the need for coin, a circular connector-identification feature 302 can be provided as a circular cutout having a known diameter (e.g., ~19mm) that can be punched out of the packaging 200 and used as a coin substitute. The circular connector-identification feature 302 can then be used to determine which size J-Hook connector is provided.

[0030] Figure 3b illustrates a connector-identification feature 304 embodied as a quadrilateral cutout at the top of the packaging 200 to allow a consumer to identify pinch tab button (PTB) and pin and hold (P&H) type. In operation, the consumer can slide the arm-side connector

110 into the packaging connector-identification feature 304 to verify their arm type.

[0031] Figure 3c illustrates a connector-identification feature 306 that is an outline printed on a surface of the packaging 200. In some cases, it may not be desirable or possible to pre-punch or even perforate the packaging 200. In such cases, the connector-identification feature 306 may be provided as a printed outline where the consumer aligns the outline to the arm-side connector 110 with the connector-identification features 208. Similarly, where it is undesirable to punch the packaging, the circular connector-identification feature 302 can be provided via a separate card 308 that is provided with the packaging 200. Figure 3d illustrates an example separate card 308 that contains the circular connector-identification feature 302. In the illustrated example, the separate card 308 is square, but other shapes are contemplated. Further, while a circular connector-identification feature 302 is illustrated, a J-shaped cutout could instead be provided via the separate card 308.

[0032] While Figures 2a through 2h illustrate a two-piece packaging 200 having an inner component 200a and an outer sleeve component 200b, the various connector-identification features describe herein should not be construed as limited to configurations for the packaging 200 that use such a two-piece configuration. For example, the packaging may be a one-piece component formed via one or more components that are coupled to one another or integrally formed.

[0033] Figure 4 illustrates example one-piece packaging 400 in accordance with an aspect of the present disclosure. In the illustrated example, the one-piece packaging 400 comprises a backing panel 402 with a transparent enclosure 404 adhered or otherwise attached thereto. The transparent enclosure 404 can be fabricated via, for example, a thermoforming technique and adhered to the backing panel 402 via an adhesive, staples, or the like. In order to obtain access to the wiper blade 104, the backing panel 402 is removed (e.g., pulled or ripped away). In this example, one or more of the described connector-identification features (e.g., connector-identification features 208, circular connector-identification feature 302, connector-identification feature 304, etc.) can be formed in or on the backing panel 402. In yet another example, one-piece packaging may be provided as a clam shell package (akin to a blister pack) or equivalent thereof. For example, a PVC clam shell package can be shaped to receive and house the wiper blade 104 and then sealed (e.g., via adhesive, a welding technique, or otherwise) to hold the wiper blade 104 in place. In such an example, a flat portion of the clam shell package can be punched or otherwise formed to provide the described connector-identification features. Additionally or alternatively, an insert formed from a resilient material can be included within the PVC clam shell package to provide one or more of the above-described connector-identification features.

[0034] Any patents and patent publications cited here-

in are hereby incorporated by reference in their entirety. Where a definition or the usage of a term in a reference that is incorporated by reference herein is inconsistent or contrary to the definition or understanding of that term as provided herein, the meaning of the term provided herein governs and the definition of that term in the reference does not necessarily apply.

[0035] While the present method and/or system has been described with reference to certain implementations, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted without departing from the scope of the present method and/or system. In addition, many modifications may be made to adapt a particular situation or material to the teachings of the present disclosure without departing from its scope. For example, block and/or components of disclosed examples may be combined, divided, re-arranged, and/or otherwise modified. Therefore, the present method and/or system are not limited to the particular implementations disclosed. Instead, the present method and/or system will include all implementations falling within the scope of the appended claims, both literally and under the doctrine of equivalents.

[0036] Certain embodiments of the invention are described in the following clauses:

Clause 1. Packaging for a wiper blade having a blade-side connector configured to engage a wiper arm, the packaging comprising:

an inner component configured to house the wiper blade; and
an outer sleeve component having an enclosure that defines a cavity configured to receive at least a portion of the inner component, wherein at least one of the inner component and the outer sleeve component comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm.

Clause 2. The packaging of clause 1, wherein the connector-identification feature is a pre-punched cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

Clause 3. The packaging of clause 1, wherein the connector-identification feature is a perforated cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

Clause 4. The packaging of clause 1, wherein the connector-identification feature is a circular cutout that is sized to correspond to a size of the compatible arm-side connector.

Clause 5. The packaging of clause 4, wherein the

circular cutout has a diameter of about 19mm.

Clause 6. The packaging of clause 1, wherein the outer sleeve component comprises the connector-identification feature.

Clause 7. The packaging of clause 1, wherein the outer sleeve component is fabricated from cardboard.

Clause 8. The packaging of clause 7, wherein the inner component is fabricated from a transparent plastic material.

Clause 9. Packaging for a wiper blade having a blade-side connector configured to engage a wiper arm, the packaging comprising:

a backing panel; and
an enclosure coupled to the backing panel and configured to house the wiper blade, wherein the backing panel comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm.

Clause 10. The packaging of clause 9, wherein the connector-identification feature is a pre-punched cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

Clause 11. The packaging of clause 9, wherein the connector-identification feature is a perforated cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

Clause 12. The packaging of clause 9, wherein the connector-identification feature is a circular cutout that is sized to correspond to a size of the compatible arm-side connector.

Clause 13. The packaging of clause 12, wherein the circular cutout has a diameter of about 19mm.

Clause 14. The packaging of clause 9, wherein the backing panel is fabricated from cardboard.

Clause 15. The packaging of clause 14, wherein the enclosure is fabricated from a transparent plastic material.

Clause 16. The packaging of clause 9, wherein the backing panel and the enclosure are each fabricated from a plastic material.

Clause 17. The packaging of clause 9, wherein the backing panel and the enclosure are adhered to one another to form one-piece packaging.

Clause 18. Packaging for a wiper blade having a blade-side connector configured to engage a wiper arm, the packaging comprising:

an inner component configured to house the wiper blade; and
an outer sleeve component that defines a cavity configured to receive at least a portion of the inner component,

wherein the outer sleeve component comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm, and wherein the connector-identification feature is a cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

Clause 19. The packaging of clause 18, wherein the cutout is a perforated cutout.

Clause 20. The packaging of clause 18, wherein the cutout is J-shaped.

Claims

1. Packaging for a wiper blade having a blade-side connector configured to engage a wiper arm, the packaging comprising:

an inner component configured to house the wiper blade; and
an outer sleeve component having an enclosure that defines a cavity configured to receive at least a portion of the inner component, wherein at least one of the inner component and the outer sleeve component comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm.

2. The packaging of claim 1, wherein the connector-identification feature is a pre-punched cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.
3. The packaging of claim 1, wherein the connector-identification feature is a perforated cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.
4. The packaging of claim 1, wherein the connector-identification feature is a circular cutout that is sized to correspond to a size of the compatible arm-side connector, and optionally wherein the circular cutout has a diameter of about 19mm.

5. The packaging of claim 1, wherein the outer sleeve component comprises the connector-identification feature.

6. The packaging of claim 1, wherein the outer sleeve component is fabricated from cardboard, and optionally wherein the inner component is fabricated from a transparent plastic material.

7. Packaging for a wiper blade having a blade-side connector configured to engage a wiper arm, the packaging comprising:

a backing panel; and

an enclosure coupled to the backing panel and configured to house the wiper blade, wherein the backing panel comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm.

8. The packaging of claim 7, wherein the connector-identification feature is a pre-punched cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

9. The packaging of claim 7, wherein the connector-identification feature is a perforated cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

10. The packaging of claim 7, wherein the connector-identification feature is a circular cutout that is sized to correspond to a size of the compatible arm-side connector, and optionally wherein the circular cutout has a diameter of about 19mm.

11. The packaging of claim 7, wherein the backing panel is fabricated from cardboard, and optionally wherein the enclosure is fabricated from a transparent plastic material.

12. The packaging of claim 7, wherein the backing panel and the enclosure are each fabricated from a plastic material.

13. The packaging of claim 7, wherein the backing panel and the enclosure are adhered to one another to form one-piece packaging.

14. Packaging for a wiper blade having a blade-side connector configured to engage a wiper arm, the packaging comprising:

an inner component configured to house the wiper blade; and
an outer sleeve component that defines a cavity configured to receive at least a portion of the inner component,

wherein the outer sleeve component comprises a connector-identification feature configured to indicate a compatible arm-side connector of the wiper arm, and wherein the connector-identification feature is a cutout that is sized and shaped to correspond to a size and a shape of the compatible arm-side connector.

15. The packaging of claim 14, wherein the cutout is a perforated cutout, or wherein the cutout is J-shaped.

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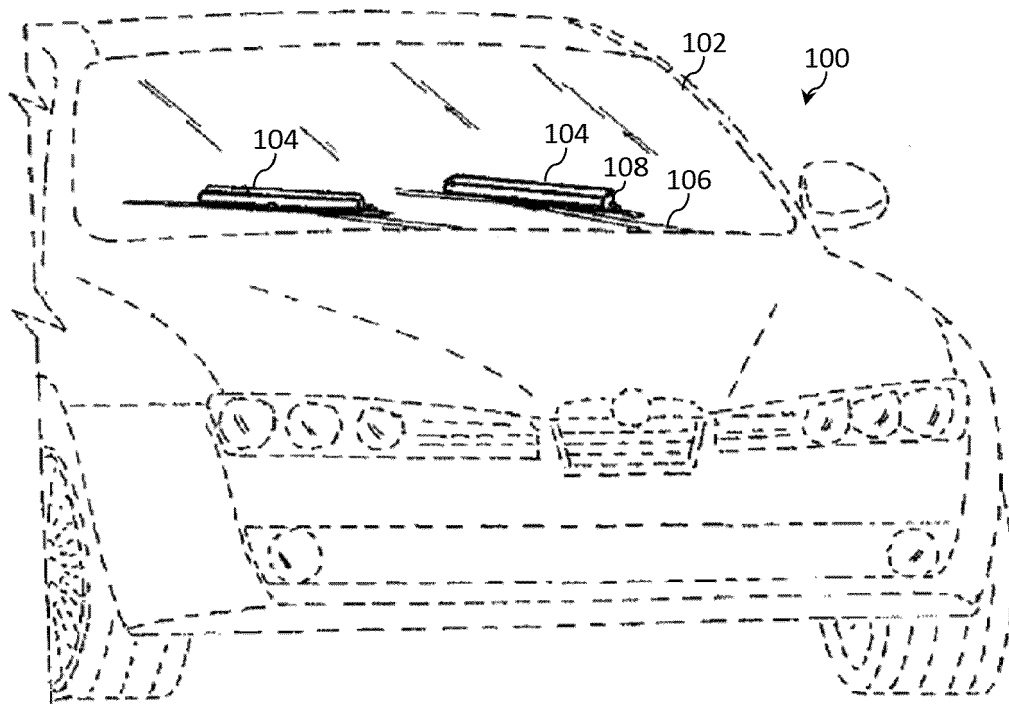


FIG. 1a

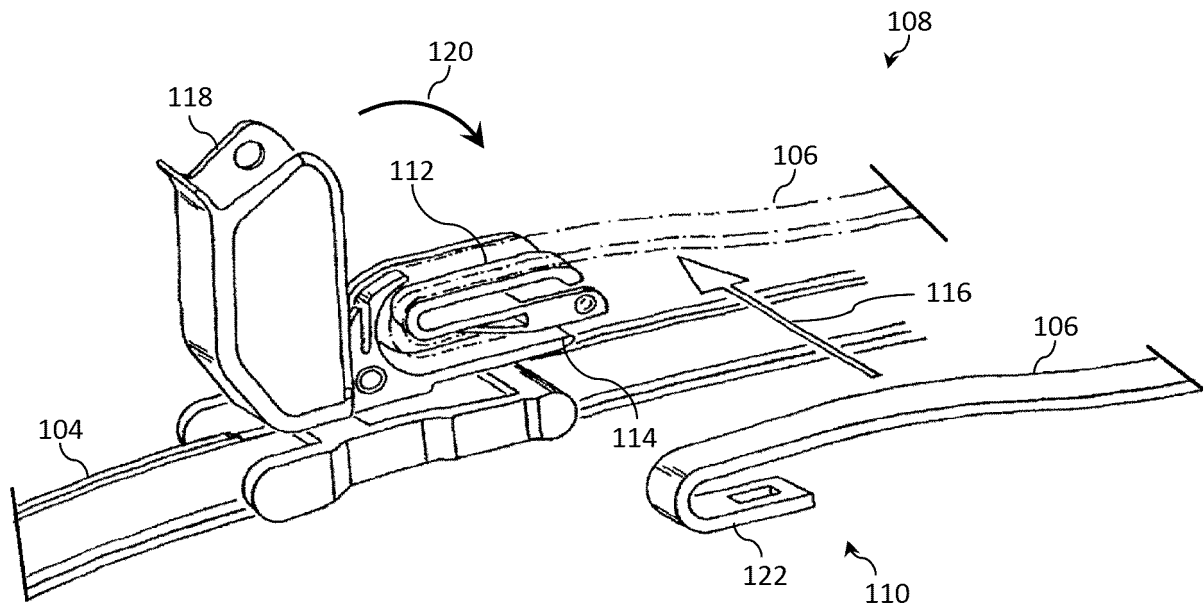


FIG. 1b

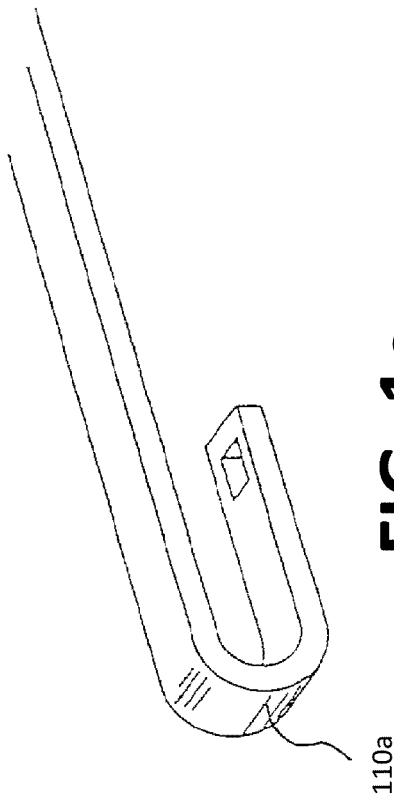


FIG. 1c

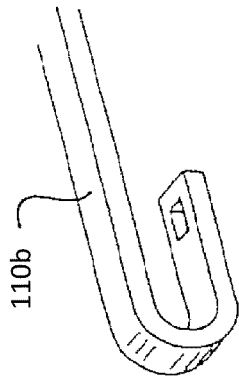


FIG. 1d

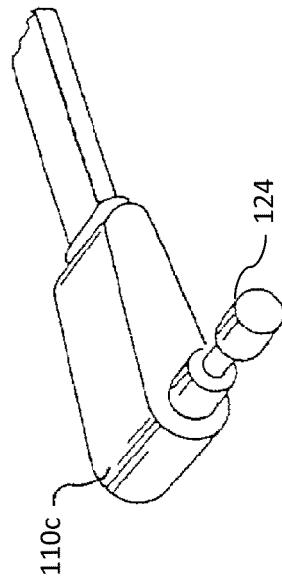


FIG. 1e

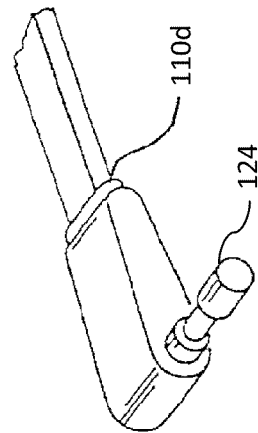


FIG. 1f

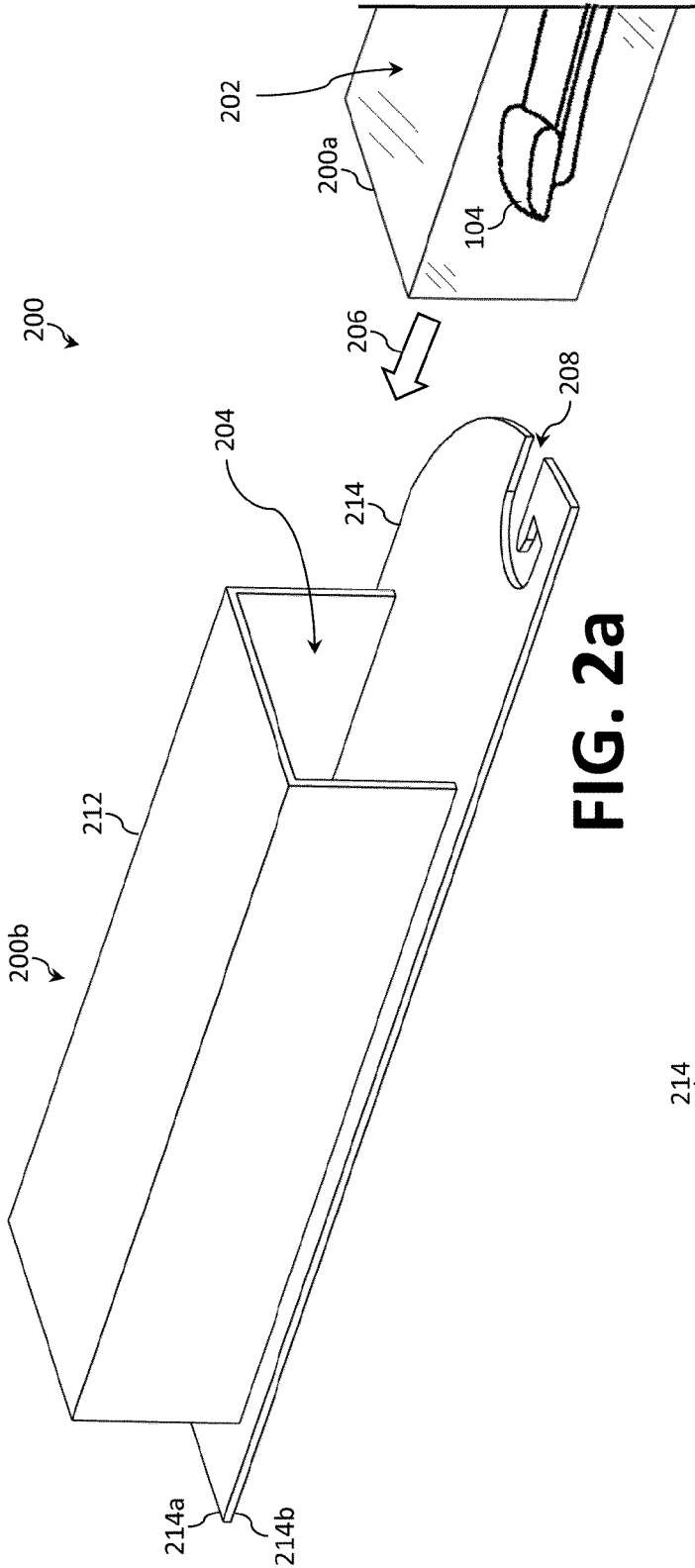


FIG. 2a



FIG. 2b

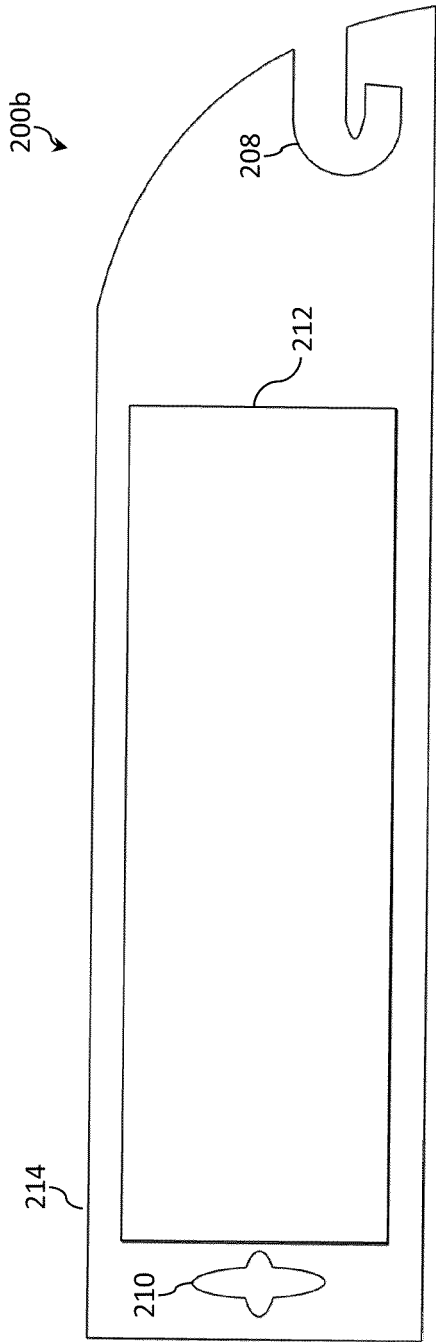


FIG. 2c

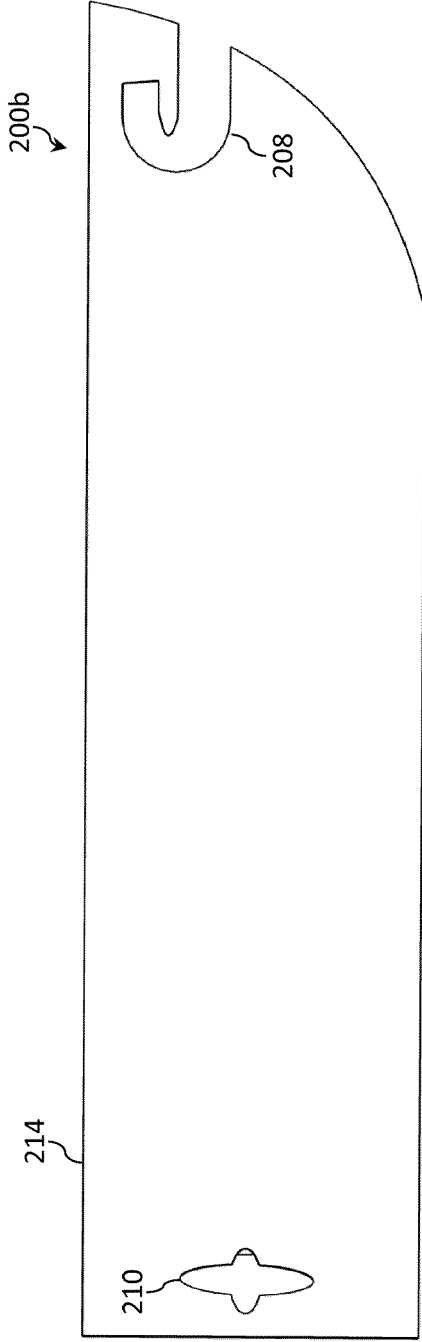


FIG. 2d

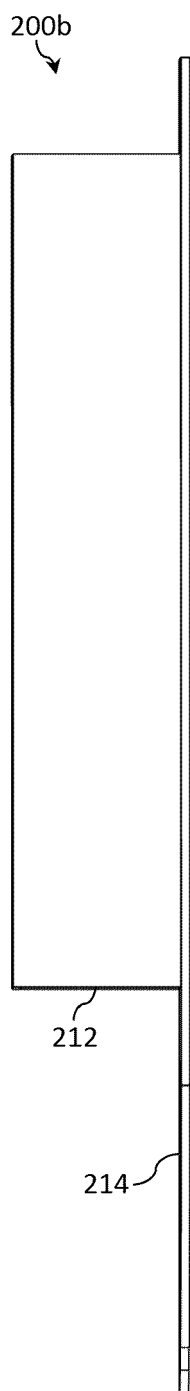


FIG. 2e

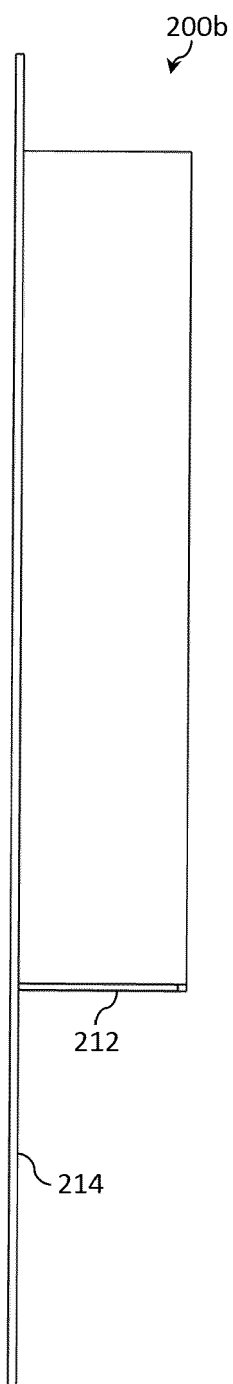


FIG. 2f

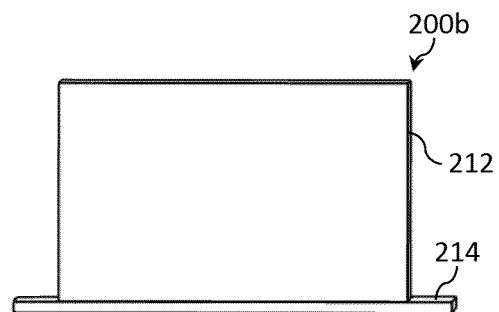


FIG. 2g

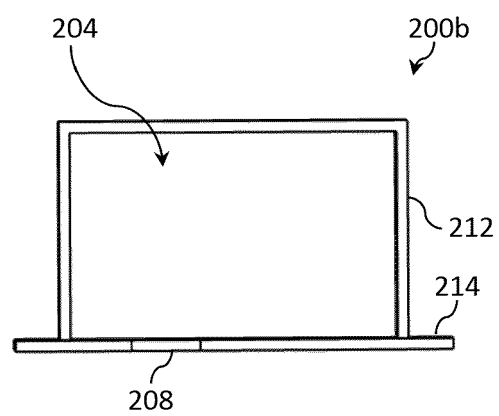


FIG. 2h

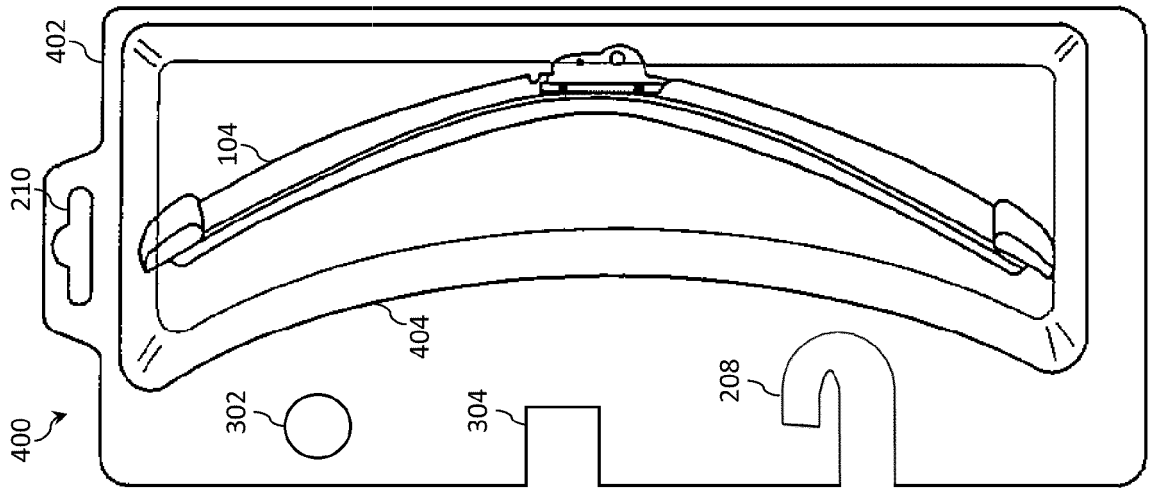


FIG. 4

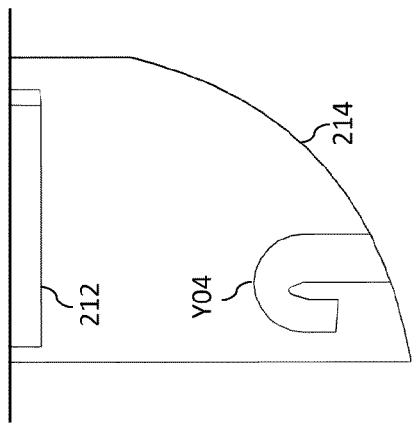


FIG. 3c

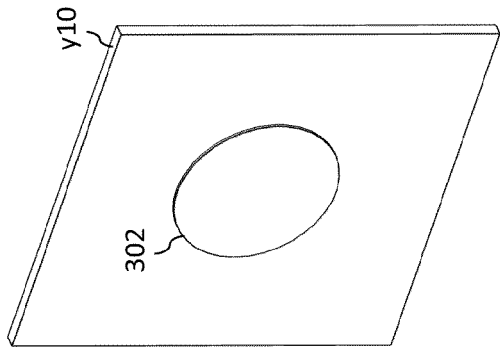


FIG. 3d

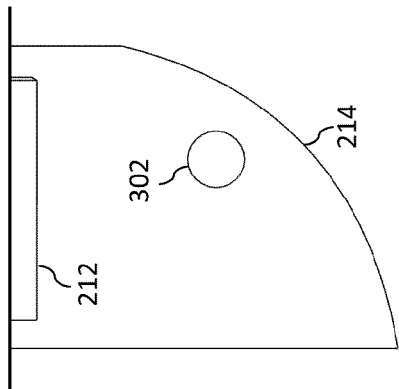


FIG. 3a

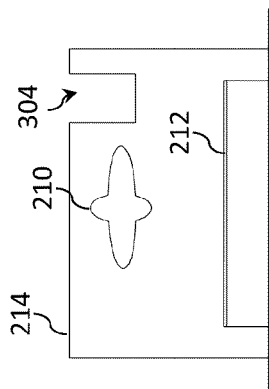


FIG. 3b



EUROPEAN SEARCH REPORT

Application Number

EP 24 15 8133

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EPO FORM 1503 03.82 (P04C01)

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	US 2015/158626 A1 (HERINCKX DIRK [BE] ET AL) 11 June 2015 (2015-06-11)	1,5,6	INV. B65D85/68
A	* abstract; figure 1 * * paragraphs [0022], [0024] * -----	2-4,7-15	
X	US 2006/006090 A1 (CHARNG SHENG K [TW]) 12 January 2006 (2006-01-12)	7,11-13	
A	* abstract; figure 3 * * paragraph [0029] * -----	1-6, 8-10,14, 15	
A	WO 2020/136122 A1 (BOSCH GMBH ROBERT [DE]) 2 July 2020 (2020-07-02) * abstract; figures 1,3 * -----	1-15	
A	DE 10 2012 210748 A1 (BOSCH GMBH ROBERT [DE]) 16 January 2014 (2014-01-16) * abstract; figures 1-3 * -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		5 June 2024	Tempels, Marco
CATEGORY OF CITED DOCUMENTS			
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EP 24 15 8133

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-06-2024

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2015158626 A1	11-06-2015	BR 112014029698 A2	27-06-2017
		CN 104379459 A	25-02-2015
		DE 102012210885 A1	02-01-2014
		EP 2864211 A1	29-04-2015
		JP 6042535 B2	14-12-2016
		JP 2015526347 A	10-09-2015
		RU 2015102025 A	18-04-2018
		US 2015158626 A1	11-06-2015
		WO 2014001130 A1	03-01-2014

US 2006006090 A1	12-01-2006	NONE	

WO 2020136122 A1	02-07-2020	DE 102018251761 A1	02-07-2020
		WO 2020136122 A1	02-07-2020

DE 102012210748 A1	16-01-2014	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 63447431 [0001]