



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
26.04.2023 Bulletin 2023/17

(51) International Patent Classification (IPC):
A47G 7/04 (2006.01) A47H 27/00 (2006.01)

(21) Application number: **21203468.0**

(52) Cooperative Patent Classification (CPC):
A47G 7/044; A47H 27/00

(22) Date of filing: **19.10.2021**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
 Designated Extension States:
BA ME
 Designated Validation States:
KH MA MD TN

(71) Applicant: **HUSQVARNA AB**
561 82 Huskvarna (SE)

(72) Inventor: **Renner, Thomas**
89079 Ulm (DE)

(74) Representative: **Finkele, Rolf**
Gardena Manufacturing GmbH
Hans-Lorenser-Straße 40
89079 Ulm (DE)

(54) **HOLDING DEVICE**

(57) A holding device (100) for releasably holding a box (140). The holding device (100) includes a holding element (150) that releasably holds the holding device (100) with one or more holding structures (200). The holding device (100) includes a back portion (120) having an upper side (122) and a lower side (124). The holding element (100) is connected to the back portion (120) in the vicinity of the upper side (122). The holding device

(100) further includes a base portion (130). The base portion (130) is connected substantially perpendicular to the back portion (120) on the lower side (124). The base portion (130) includes one or more protrusions (136). The holding device (100) is characterized in that the base portion (130) extends away from the one or more protrusions (136) and the back portion (120).

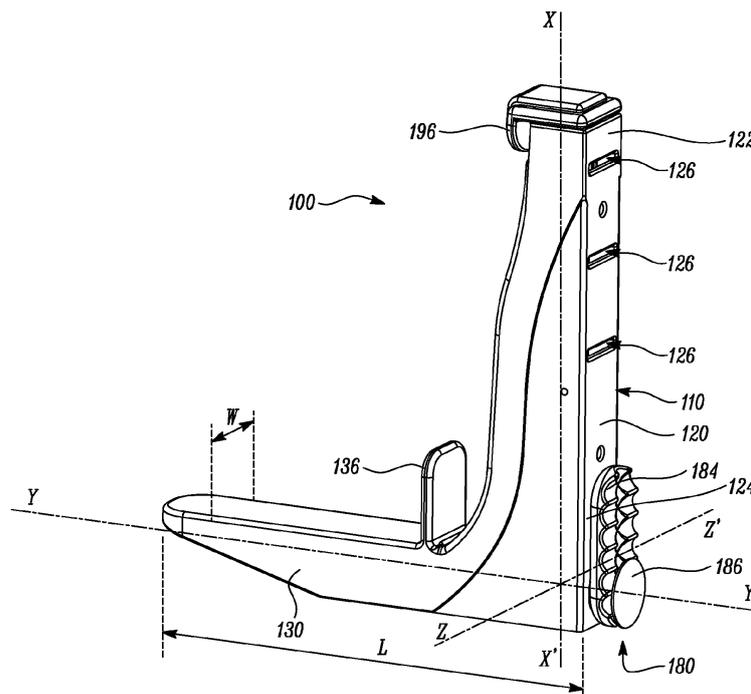


FIG. 4

Description

TECHNICAL FIELD

[0001] The present disclosure relates to a holding device. More particularly, the present disclosure pertains to a holding device suitable for garden applications having pots, boxes, and the like.

BACKGROUND

[0002] Gardening and outdoor applications generally involve applications of different holders for holding flower-pots, gardening boxes and the like. A holding device is conventionally used to releasably hold different articles such as a box (say flower-pot) using different accessories, fasteners, and the like. The conventional holding device includes a holding element that releasably holds the holding device with a holding structure such as a railing of a balcony or stairs.

[0003] However, the conventional holding device suffer from various demerits related to user-convenience and safety. For instance, such holding box may pose challenges to cater to different types, sizes of the box. Further, they may provide limited safety due to inability to engage the box from different or multiple positions, or lack of adjustment in holding of the box.

[0004] An example of a holding device is provided in European patent 2,399,490 (hereinafter referred to as '490 reference). The '490 reference provides a device that includes a base body that further includes a contact surface for fastening at a railing. A retaining strap embraces a railing bar of the railing and holds the base body at the railing, and a hold part is fastened at the base body. The strap includes two strap ends, where one of the strap ends is fixed at the base body. A fixing unit adjustably defines a region of the strap at the base body, where the region of the strap is spaced to the strap end. The fixing unit is movable between a release position and a stop position. However, the '490 reference seems short of disclosing the holding device, which may securely hold the articles of any dimensions, or provide multiple engagement/securement arrangements with the articles.

[0005] Thus, there is a need of an improved holding device that is easy to install and adjust. Further, it would be an added benefit if the holding device may be able to securely hold different articles having any shape and size.

SUMMARY

[0006] In view of the above, it is an objective of the present invention to solve or at least reduce the drawbacks discussed above. The objective is at least partially achieved by a holding device. The holding device releasably holds a box. The holding device includes a holding element that releasably holds the holding device with one or more holding structures such as railings, balcony

glass, walls, and the like. The holding device includes a back portion having an upper side and a lower side. The holding element is connected to the back portion in the vicinity of the upper side. The holding device further includes a base portion. The base portion is connected substantially perpendicular to the back portion on the lower side. The base portion includes one or more protrusions. The holding device is characterized in that the base portion extends away from the one or more protrusions and the back portion.

[0007] Thus, the present disclosure provides the holding device with the base portion that includes the one or more protrusions to securely hold an article i.e., the box for gardening and like applications. Further, the base portion extends away from the one or more protrusions and the back portion to accommodate and hold the box of any dimension, type, shape, and the like.

[0008] According to an embodiment of the present disclosure, the one or more protrusions engage with the box such that to support the box on the base portion. The one or more protrusions engage with the bottom of the box to form a secure connection between the box and the holding device.

[0009] According to an embodiment of the present disclosure, a sliding element defines a first end and a second end. The sliding element further includes a mounting element proximate the first end. The sliding element reciprocates within a channel of the back portion of the holding device. The mounting element engages with a top part of the box when the sliding element secures the holding element. Thus, the box holding capability of the holding device is further improved as the box is supported on the top part by the mounting element and on the bottom by the one or more protrusions.

[0010] According to an embodiment of the present disclosure, the back portion defines one or more grooves along the vertical axis, and the holding element is adapted to be received within the one or more grooves to releasably hold the holding device with the one or more holding structures. The one or more grooves allow easy receiving and removal of the holding element within the holding device. The one or more grooves further allow different positions of the holding device with respect to the one or more holding structures.

[0011] According to an embodiment of the present disclosure, the holding device includes an adjustable alignment member that includes a threaded pin. The threaded pin, by its movement inside and outside of the base portion, allows to properly align (as well as adjust) the holding device with respect to the one or more holding structures. Hence, the box remains in the stable position on the holding device.

[0012] According to an embodiment of the present disclosure, the adjustable alignment member includes one or more of a support element and a suction cup. The support element grips to the surface of the one or more holding structures (particularly glass walls) after the alignment member is positioned properly as per the re-

quirement. Further, the suction cup improves or supplements the gripping of the support element with the surface of the one or more holding structures.

[0013] According to an embodiment of the present disclosure, the support element is rotatable with respect to the adjustable alignment member. The support element rotates such as to properly align and grip with the one or more horizontal, vertical, or skewed holding structures.

[0014] According to an embodiment of the present disclosure, the support element and the suction cup allow suction coupling of the holding device with the one or more holding structures. The suction coupling prevents slippage on one or more of holding structures (say a glass railing).

[0015] According to an embodiment of the present disclosure, the holding element includes one or more of a bracket, and a strap. The bracket and the strap allow holding of different i.e., light as well as heavy boxes due to options of different types, rigid structure, and flexible structure, respectively of the holding element.

[0016] According to an embodiment of the present disclosure, the holding device includes a sliding element, and the back portion defines a channel along a vertical axis. The sliding element is adapted to be at least partially received within the channel. The sliding element allows the holding device to hold the boxes of varying heights, by slidable, adjustable engagement of the sliding element with the box.

[0017] According to an embodiment of the present disclosure, the sliding element engages with one or more of the holding element and a strap clamping element within the channel. In the locked position, the sliding element is engaged with the strap clamping element or the holding element. In the unlocked position the sliding element is disengaged from at least one of the strap clamping element and the holding element. The sliding element allows to desirably (say tightly) secure the holding element inside the channel. Thus, the holding element is not free to displace from its position while it is engaged with the one or more holding structures and, the box remains stably mounted on the holding device.

[0018] According to an embodiment of the present disclosure, the holding element is a strap and in the locked position the sliding element engages with the strap clamping element. The clamping element in turn, secures the strap within the channel. The clamping element is displaced by the sliding element to a position such as to tightly secure the strap inside the channel.

[0019] According to an embodiment of the present disclosure, in the unlocked position a length of the strap is adjustable. The clamping element disengages from the strap in the unlocked position and thus the length of strap is adjusted as per the requirement.

[0020] According to an embodiment of the present disclosure, the one or more holding structures is one or more of glass panels, walls, rails, and poles. The holding device may be releasably held with the one or more holding structures that have geometry to either engage with the

bracket, or with the strap of the holding device.

[0021] According to an embodiment of the present disclosure, the box is selected from the group comprising a flowerpot, and a balcony box. The box may have use in any technical field such as but not limited to plantation, garbage disposal, and decoration.

[0022] Other features and aspects of this invention will be apparent from the following description and the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The invention will be described in more detail with reference to the enclosed drawings, wherein:

FIG. 1A shows a perspective view from front of a holding device engaged with a holding structure, in accordance with an aspect of the present disclosure;

FIG. 1B shows a perspective view from front of the holding device engaged with the holding structure, for assembly with a box, in accordance with an aspect of the present disclosure;

FIG. 2 shows a perspective view from back of different holding devices engaged with a holding structure, in accordance with an aspect of the present disclosure;

FIG. 3 shows a perspective view from back of the holding device engaged with another holding structure, in accordance with an aspect of the present disclosure;

FIG. 4 shows a perspective side view of the holding device, in accordance with an aspect of the present disclosure;

FIG. 5 shows a cross-sectional side view of the holding device and the box, in accordance with an aspect of the present disclosure;

FIG. 6A shows a perspective side view of the holding device with a support element in a vertical position, in accordance with an aspect of the present disclosure;

FIG. 6B shows a perspective side view of the holding device with the support element in a horizontal position, in accordance with an aspect of the present disclosure;

FIG. 7A shows perspective view of an adjustable alignment member with two suction cups, in accordance with an aspect of the present disclosure;

FIG. 7B shows perspective view of the adjustable alignment member with one suction cup, in accord-

ance with an aspect of the present disclosure;

FIG. 8 shows a cross-sectional side view of the holding device with a strap in a locked position, in accordance with an aspect of the present disclosure;

FIG. 9 shows a cross-sectional side view of the holding device with a bracket in a locked position, in accordance with an aspect of the present disclosure; and

FIG. 10 shows a cross-sectional side view of the holding device with a bracket in an unlocked position, in accordance with an aspect of the present disclosure.

DESCRIPTION OF EMBODIMENTS

[0024] The present invention will be described more fully hereinafter with reference to the accompanying drawings, in which example embodiments of the invention incorporating one or more aspects of the present invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. For example, one or more aspects of the present invention may be utilized in other embodiments and even other types of structures and/or methods. In the drawings, like numbers refer to like elements.

[0025] Certain terminology is used herein for convenience only and is not to be taken as a limitation on the invention. For example, "upper", "lower", "front", "rear", "side", "longitudinal", "lateral", "transverse", "upwards", "downwards", "forward", "backward", "sideward", "left", "right", "horizontal", "vertical", "upward", "inner", "outer", "inward", "outward", "top", "bottom", "higher", "above", "below", "central", "middle", "intermediate", "between", "end", "adjacent", "proximate", "near", "distal", "remote", "radial", "circumferential", or the like, merely describe the configuration shown in the Figures. Indeed, the components may be oriented in any direction and the terminology, therefore, should be understood as encompassing such variations unless specified otherwise.

[0026] **FIGS. 1A** and **1B** illustrate a holding device **100** for releasably holding a box **140**. The box **140** may generally find applications related to plantation, gardening, garbage disposal, and one or more decorative purpose in commercial buildings, residential building, and the like. The box **140** may be selected from the group including a flowerpot, and a balcony box, or any other similar or equivalents thereof. The box **140** may be manufactured using a clay, a plastic, a metal, wood, and the like. In some embodiments, the box **140** may include any shape such as frustum of cone, frustum of pyramid, frustum of prism, circular cylinder, cube, and the like, without any

limitations. As illustrated, the box **140** includes one or more side walls **142** and one bottom wall **144** such that it defines a volume. The top **145** of the box **140** is kept open for one or more purposes such as plantation, pouring water, and the like. The volume of the box **140** may generally be partially filled with a soil for plantation purpose.

[0027] The holding device **100** includes a holding element **150**, as shown in **FIG. 2**, that releasably holds the holding device **100** with one or more holding structures **200**. The one or more holding structures **200** are generally constructed as glass panel **202** (as shown in **FIG. 2**), rails **204** (as shown in **FIG. 3**), walls, poles, and the like. In some embodiments, the holding element **150** includes one or more of a bracket **170** (as shown in **FIG. 2**), and a strap **160** (as shown in **FIG. 3**). The bracket **170** and the strap **160** allow holding of different i.e., light as well as heavy boxes **140** based upon different types, structure, and flexibility of the holding element **150**. It is worth noting that the glass panel **202** shown in **FIG. 2** is assumed as translucent to show and highlight different parts, components of the holding device **100**, as well of the box **140**. Further, such parts, components of the holding device **100** and the box **140** (say the side walls **142**) have been marked from across or through the glass panel **202**, as would be evident, merely for explanation and understanding considerations.

[0028] Referring to **FIG. 2** which illustrates the bracket **170** as the holding element **150**. The bracket **170** defines a substantially inverted L or J-shaped structure, to cooperate and engage with the glass panel **202**. The bracket **170** may be made up of a plastic, a metal, wood, and the like, without any limitations.

[0029] Referring to **FIG. 3** which illustrates the strap **160** as the holding element **150**. The strap **160** defines a loop **164** (as shown in **FIG. 5** and **8**) around the holding structure **200**, which are rails **204** herein. In the present figure, the strap **160** engages with a top rail **204** to allow assembly of the holding device **100** with the holding structure **200** i.e., the rails **204**. The strap **160** includes a strap pin **162** (as shown in **FIG. 5** and **8**) which is fixedly coupled to one end of the strap **160**. The strap pin **162** allows to adjust a size the loop **164** based on application requirement. The strap **160** may be made up of nylon, leather, rubber, and the like, without any limitations. Thus, the holding device **100** may be releasably held with the one or more holding structures **200** i.e., the glass panel **202** or the rails **204** that are compatible (say with respect to geometry, type, dimensions, and the like) to either engage with the bracket **170**, or with the strap **160** of the holding device **100**.

[0030] **FIG. 4** illustrates the holding device **100** having a body **110**. The body **110** may be substantially rectangular, cylindrical and the like and made up of a plastic, a metal, wood, and the like, without any limitations. The body **110** includes a back portion **120** and a base portion **130**. The back portion **120** includes an upper side **122** and a lower side **124**. The back portion **120** defines one

or more grooves **126** along a vertical axis **X-X'** parallel to the back portion **120** of the holding device **100**. The one or more grooves **126** are positioned between the upper side **122** and the lower side **124** of the back portion **120** of the holding device **100**. The holding element **150** is adapted to be received within the one or more grooves **126** to releasably hold the holding device **100** with the one or more holding structures **200**. The holding element **150** is connected or received with the back portion **120** in the vicinity of the upper side **122**. The one or more grooves **126** allow easy receiving and removal of the holding element **150** within the holding device **100**. The one or more grooves **126** further allow different positions of the holding device **100** with respect to the one or more holding structures **200**.

[0031] As illustrated in **FIG. 4**, the base portion **130** is connected substantially perpendicular to the back portion **120** on the lower side **124**. The base portion **130** includes one or more protrusions **136**. The one or more protrusions **136** engage with the box **140** such that to support the box **140** on the base portion **130**. In particular, the one or more protrusions **136** engage with the bottom i.e., the bottom wall **144** of the box **140** to form a secure connection between the box **140** and the holding device **100**. The one or more protrusions **136** has been illustrated as a linear, straight, or flat -finger like element, however actual implementations may have any shape, type, and size of the protrusions **136** as per the box **140**, among other factors.

[0032] In some embodiments, the one or more protrusions **136** may be pivotably arranged on the base portion **130**. The pivotable (or adjustable) feature allows the one or more protrusions **136** to adapt to one or more recesses **148** at the bottom wall **144** of the box **140**. In some embodiments, the one or more protrusions **136** may be spring loaded and may be displaceable along the vertical axis **X-X'** parallel to the back portion **120** of the holding device **100**. This may further improve the engagement and/or adjustments between the one or more protrusions **136** of the holding device **100** and the recesses **148** of the box **140**.

[0033] In some embodiments, the one or more protrusions **136** may be expandable, displaceable, adjustable along an axis **Y-Y'** perpendicular to the back portion **120** of the holding device **100**. For such adjustments along the axis **Y-Y'**, the protrusions **136** may be actuated by a motor, actuator, gears, and the like, without any limitations. In some embodiments, the base portion **130** defines a length "**L**" along the axis **Y-Y'**. Further, the base portion **130** may be telescopically arranged such that the length "**L**" of the base portion **130** may be changed i.e., increased, or decreased to accommodate the box **140** of any dimension, type, size. This may allow suitability of different types, sizes, dimensions of the box **140** and also improve the engagement between the one or more protrusions **136** and the box **140** (the recesses **148** thereof). In some embodiments, the one or more protrusions **136** may be removably attached to the base portion **130**

of the holding device **100**. Thus, the one or more protrusions **136** may be removably attached (or even replaced with different types, sizes, dimensions of the protrusions **136**) at different positions along, the length "**L**", of the base portion **130** of the holding device **100** depending upon the box **140**.

[0034] Referring to **FIGS. 4, 5**, the base portion **130** extends away from the one or more protrusions **136** and the back portion **120**. The base portion **130** serves to accommodate and hold the box **140** of any dimension, type, shape, and the like as the one or more protrusions **136** are positioned away from a free end of the base portion **130**. As illustrated, the base portion **130** defines width "**W**" along an axis **Z-Z'**. In some embodiments, the base portion **130** may laterally adjust, translate or move (or expands) along the axis **Z-Z'** perpendicular to the back portion **120** and the base portion **130** of the holding device **100**. Additionally, or alternatively, the width "**W**" of the base portion **130** may be adjusted i.e., increased, or decreased to accommodate the box **140** of any dimension, size, and type. In some embodiments, the base portion **130** may be pivotably arranged with the back portion **120** of the holding device **100**. The base portion **130** may be foldable, movable to cater to different box **140**, or to allow a compact storage arrangement of the holding device **100**.

[0035] In some embodiments, the base portion **130** may be integrally formed with the back portion **120** of the holding device **100**. The base portion **130** and the back portion **120** may integrally be formed, such as by two component injection molding. In some embodiments, the base portion **130** may be separately coupled with back portion **120** of the holding device **100**. The coupling may be with any means known in the art such as but not limited to a glue, screws, or welding.

[0036] **FIG. 5** illustrates an adjustable alignment member **180** of the holding device **100**. The adjustable alignment member **180** is used to adjust different alignments (say the vertical alignment) of the holding device **100**. The adjustable alignment member **180** includes a threaded pin **182**. The threaded pin **182** is received within a hollow space **132** of the base portion **130** through a hole **134**. The threaded pin **182** may include a bolt, a screw, and the like. In particular, the adjustable alignment member **180** is threadedly arranged within the hollow space **132** of the base portion **130**. The threaded pin **182**, by its movement inside and outside of the base portion **130**, allows to properly align (as well as adjust) the holding device **100** with respect to the one or more holding structures **200**. Hence, the box **140** remains in the stable position on the holding device **100**.

[0037] **FIGS. 6A** and **6B** illustrate different arrangements of the adjustable alignment member **180**. The adjustable alignment member **180** includes one or more of a support element **184** and a suction cup **186**. The support element **184** allow to grip to the surface of the one or more holding structures **200** (particularly the glass walls **202**) after the alignment member **180** is positioned

properly as per the requirement. Further, the suction cup **186** may improve or supplement the gripping of the support element **184** with the surface of the one or more holding structures **200**. The suction cup **186** may be two separate suction cups **186** (as shown in **FIG. 7A**) or one consolidated suction cup **186** (as shown in **FIG. 7B**) coupled with the support element **184**. The choice of different types, arrangements, sizes, positions of the suction cup **186**, such as the separate suction cups **186** (as shown in **FIG. 7A**) or the consolidated suction cup **186** (as shown in **FIG. 7B**) may depend upon different factors related to the box **140**, the holding device **100**, the holding structures **200**, among others.

[0038] As illustrated with reference to **FIGS. 6A** and **6B**, the support element **184** is rotatable with respect to the adjustable alignment member **180**, or the vertical axis **X-X'**. The support element **184** may rotate such as to properly align and grip with the one or more horizontal, vertical, or skewed holding structures **200**. The support element **184** and the suction cup **186** allow suction coupling of the holding device **100** with the one or more holding structures **200**, particularly the glass panels **202**. The suction coupling prevents slippage on one or more of holding structures **200** (say the glass panels **202**). In some embodiments, the suction cup **186** may be removably coupled with the adjustable alignment member **180**.

[0039] **FIGS. 8, 9** and **10** illustrate the holding device **100** for applications with different holding elements **150** i.e., the strap **160** and the bracket **170**. The holding device **100** includes a sliding element **190** and a channel **128** which is defined by the back portion **120** along the vertical axis **X-X'**. The sliding element **190** is adapted to be at least partially received within the channel **128**. The sliding element **190** reciprocates within the channel **128** of the back portion **120** of the holding device **100**. The sliding element **190** defines a first end **192** and a second end **194** (as shown in **FIG. 10**). The sliding element **190** further includes a mounting element **196** proximate the first end **192**. The mounting element **196** engages with a top part **146** (as shown in **FIG. 5**) of the box **140** when the sliding element **190** secures the holding element **150**. The sliding element **190** allows the holding device **100** to hold the boxes **140** of varying heights, by slidable, adjustable engagement of the sliding element **190** with the box **140**. The box **140** holding capability of the holding device **100** is thus greatly improved as the box **140** is supported around the top part **146** by the mounting element **196** and on the bottom by the one or more protrusions **136**.

[0040] The sliding element **190** engages with one or more of the holding element **150** and a strap clamping element **166** within the channel **128**. In the locked position, the sliding element **190** is engaged with the strap clamping element **166** (as shown in **FIG. 8**) or the holding element **150** (as shown in **FIG. 9**). In the unlocked position the sliding element **190** is disengaged from at least one of the strap clamping element **166** and the holding element **150** (as shown in **FIG. 10**). The sliding element

190 allows to desirably (say tightly) secure the holding element **150** inside the channel **128**. Thus, the holding element **150** is not free to displace from its position while it is engaged with the one or more holding structures **200** and, the box **140** remains stably mounted on the holding device **100**.

[0041] The holding element **150**, as shown in **FIG. 8**, is the strap **160** and in the locked position the sliding element **190** engages with the strap clamping element **166**. The strap clamping element **166** in turn, secures the strap **160** within the channel **128**. The clamping element **166** is displaced by the sliding element **190** to a position such as to tightly secure the strap **160** inside the channel **128**. In the unlocked position, a length of the strap **160** is adjustable. The clamping element **166** disengages from the strap **160** in the unlocked position and thus the length of strap **160** is adjusted as per the requirement.

[0042] The holding element **150**, as shown in **FIGS. 9** and **10**, is the bracket **170**. The bracket **170** is engaged in one or more grooves **126**. It should be noted that the bracket **170** may be engaged in different i.e., upper, or lower grooves **126** as per application requirements. When the sliding element **190** is inserted within the channel **128**, the sliding element **190** (say the ribs or similar elements thereof) selectively secure the bracket **170** in the locked position (as shown in **FIG. 9**). Further, when the sliding element **190** is moved out of the channel **128**, the bracket **170** is in the unlocked position (as shown in **FIG. 10**). In the unlocked position, the bracket **170** may be removed from one or more grooves **126** in the back portion **120** of the holding device **100**.

[0043] The present disclosure provides an improved holding device **100** for releasably holding different types, sizes, shapes of box(es) **140**. A simple, compact construction of the holding device **100** includes lighter and fewer parts which reduces an overall weight of the holding device **100**. The holding device **100** is designed in such a way that it disallows inadvertent falling of the box **140**, from on the holding structures **200**, thus reducing the risk of serious accidents and damages. Moreover, features such as the extending base portion **130** along with the protrusion **136** of the holding device **100** provides a user-friendly and quick installation with different box(es) **140**, while the support element **184** and the suction cup **186** allow ease of adjustment and assembly with the holding structures **200**.

[0044] In the drawings and specification, there have been disclosed preferred embodiments and examples of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for the purpose of limitation of the scope of the invention being set forth in the following claims.

LIST OF ELEMENTS

[0045]

100	Holding Device
110	Body
120	Back Portion
122	Upper Side
124	Lower Side
126	Grooves
128	Channel
130	Base Portion
132	Hollow Space
134	Hole
136	Protrusions
140	Box
142	Side Walls
144	Bottom Wall
145	Top
146	Top Part
148	Recesses
150	Holding element
160	Strap
162	Strap pin
164	Loop
166	Strap Clamping Element
170	Bracket
180	Adjustable Alignment Member
182	Threaded Pin
184	Support Element
186	Suction Cup
190	Sliding Element
192	First End
194	Second End
196	Mounting Element
200	Holding Structure
202	Glass Panel
204	Rail
L	Length
W	Width
X-X'	Vertical Axis
Y-Y'	Axis
Z-Z'	Axis

Claims

1. A holding device (100) for releasably holding a box (140), comprising:

a holding element (150) that releasably holds the holding device (100) with one or more holding structures (200);

a back portion (120) having an upper side (122) and a lower side (124), with the holding element (150) connected to the back portion (120) in the vicinity of the upper side (122); and

a base portion (130) connected substantially perpendicular to the back portion (120) on the lower side (124), wherein the base portion (130) includes one or more protrusions (136);

characterized in that:

the base portion (130) extends away from the one or more protrusions (136) and the back portion (120).

- 5 2. The holding device (100) of claim 1, wherein the one or more protrusions (136) engage with the box (140) such that to support the box (140) on the base portion (130).
- 10 3. The holding device (100) of any of the preceding claims, wherein a sliding element (190) defines a first end (192) and a second end (194), and includes:
- 15 a mounting element (196) proximate the first end (192), and wherein the sliding element (190) reciprocates within a channel (128) such that the mounting element (196) engages with a top part (146) of the box (140), when the sliding element (190) secures the holding element (150).
- 20 4. The holding device (100) of claim 1, wherein the back portion (120) defines one or more grooves (126) along a vertical axis (X-X'), and the holding element (150) is adapted to be received within the one or more grooves (126) to releasably hold the holding device (100) with the one or more holding structures (200).
- 25 5. The holding device (100) of any of the preceding claims, wherein the holding device (100) includes an adjustable alignment member (180), wherein the alignment member (180) includes a threaded pin (182).
- 30 6. The holding device (100) of claim 5, wherein the adjustable alignment member (180) includes one or more of a support element (184) and a suction cup (186).
- 40 7. The holding device (100) of claim 6, wherein the support element (184) is rotatable with respect to the adjustable alignment member (180).
- 45 8. The holding device (100) of claim 6, wherein the support element (184) and the suction cup (186) allow suction coupling of the holding device (100) with the one or more holding structures (200).
- 50 9. The holding device (100) of any of the preceding claims, wherein the holding element (150) includes one or more of a bracket (170), and a strap (160).
- 55 10. The holding device (100) of any of the preceding claims, wherein the holding device (100) includes a sliding element (190) and the back portion (120) defines a channel (128) along a vertical axis (X-X'), wherein the sliding element (190) is adapted to be

at least partially received within the channel (128).

- 11. The holding device (100) of any of the preceding claims, wherein the sliding element (190) engages with one or more of the holding element (150) and a strap clamping element (166) within the channel (128), such that in the locked position the sliding element (190) is engaged with the strap clamping element (166) or the holding element (150), and in the unlocked position the sliding element (190) is disengaged from at least one of the strap clamping element (166) and the holding element (150). 5
10

- 12. The holding device (100) of claim 11, wherein for the holding element (150) is a strap (160), in the locked position the sliding element (190) engages with the strap clamping element (166), which in turn, secures the strap (160) within the channel (128). 15

- 13. The holding device (100) of claim 11, wherein in the unlocked position a length of the strap (160) is adjustable. 20

- 14. The holding device (100) of any of the preceding claims, wherein the one or more holding structures (200) is one or more of glass panels (202), walls, rails (204), and poles. 25

- 15. The holding device (100) of any of the preceding claims, wherein the box (140) is selected from the group comprising a flowerpot, and a balcony box. 30

35

40

45

50

55

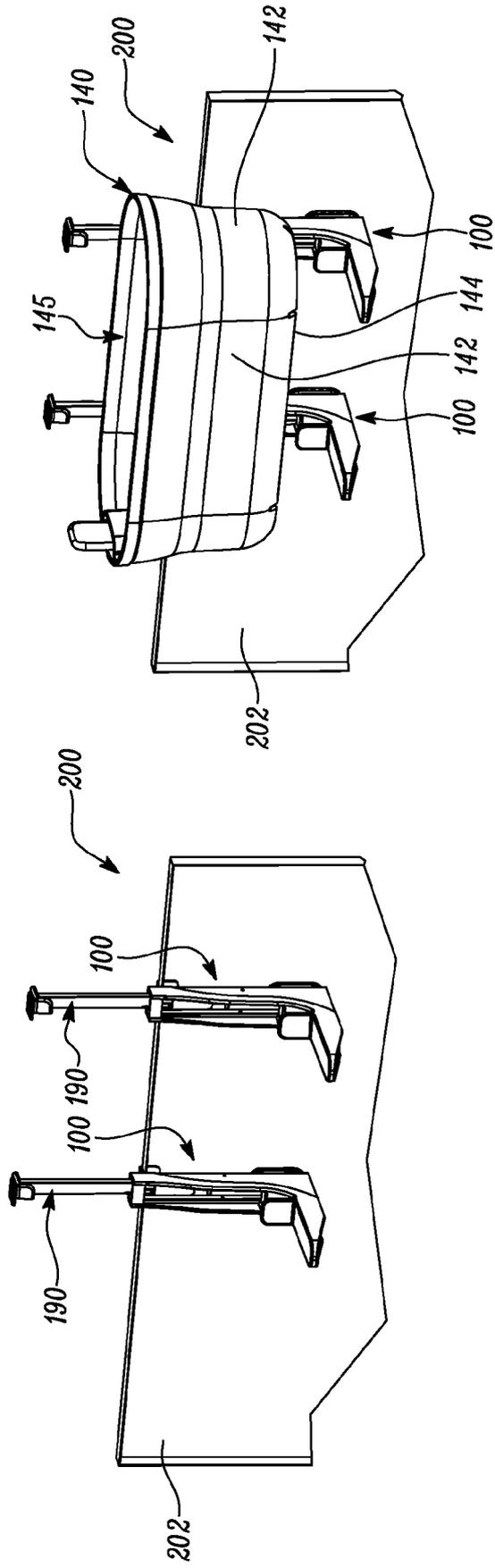


FIG. 1B

FIG. 1A

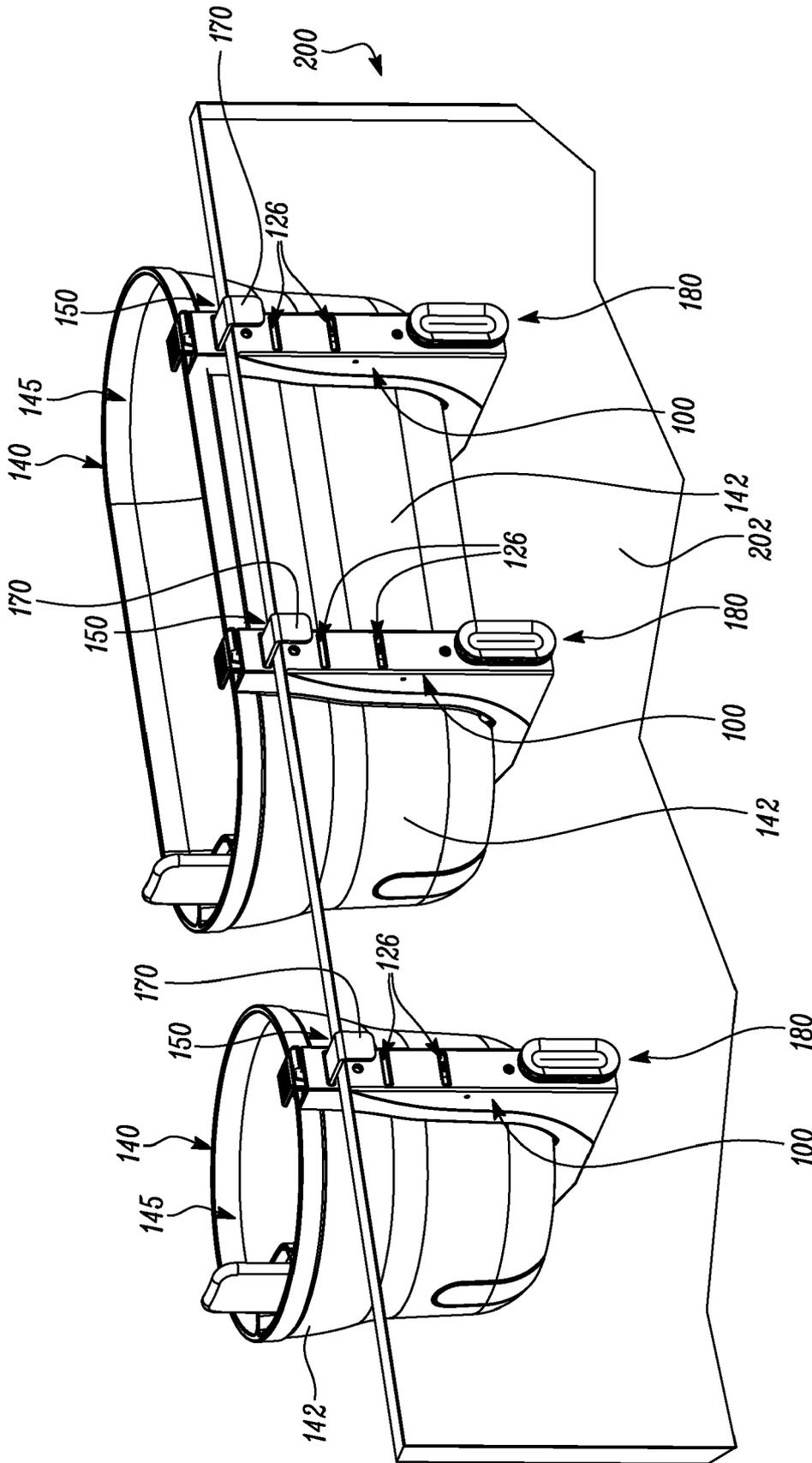


FIG. 2

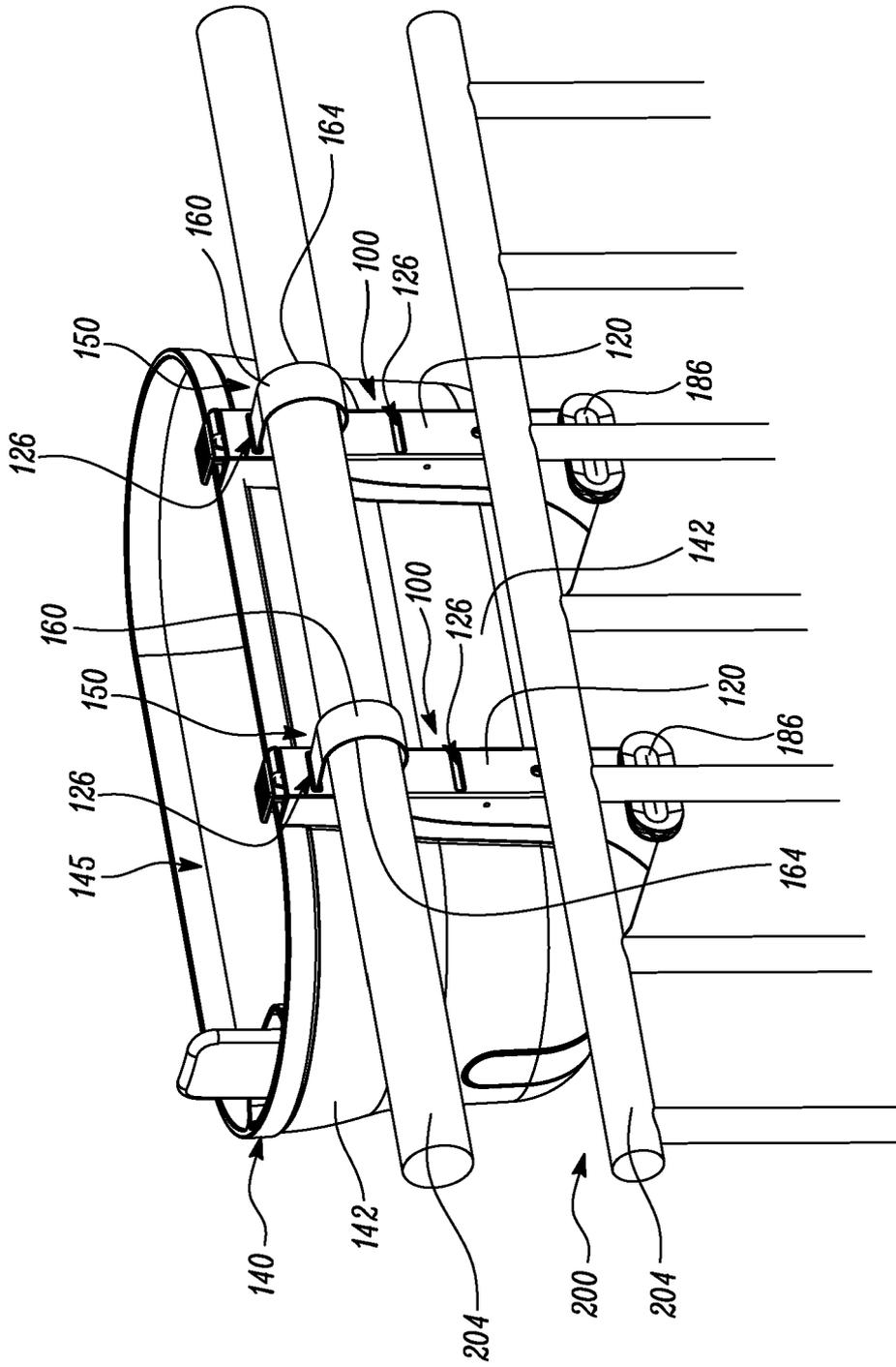


FIG. 3

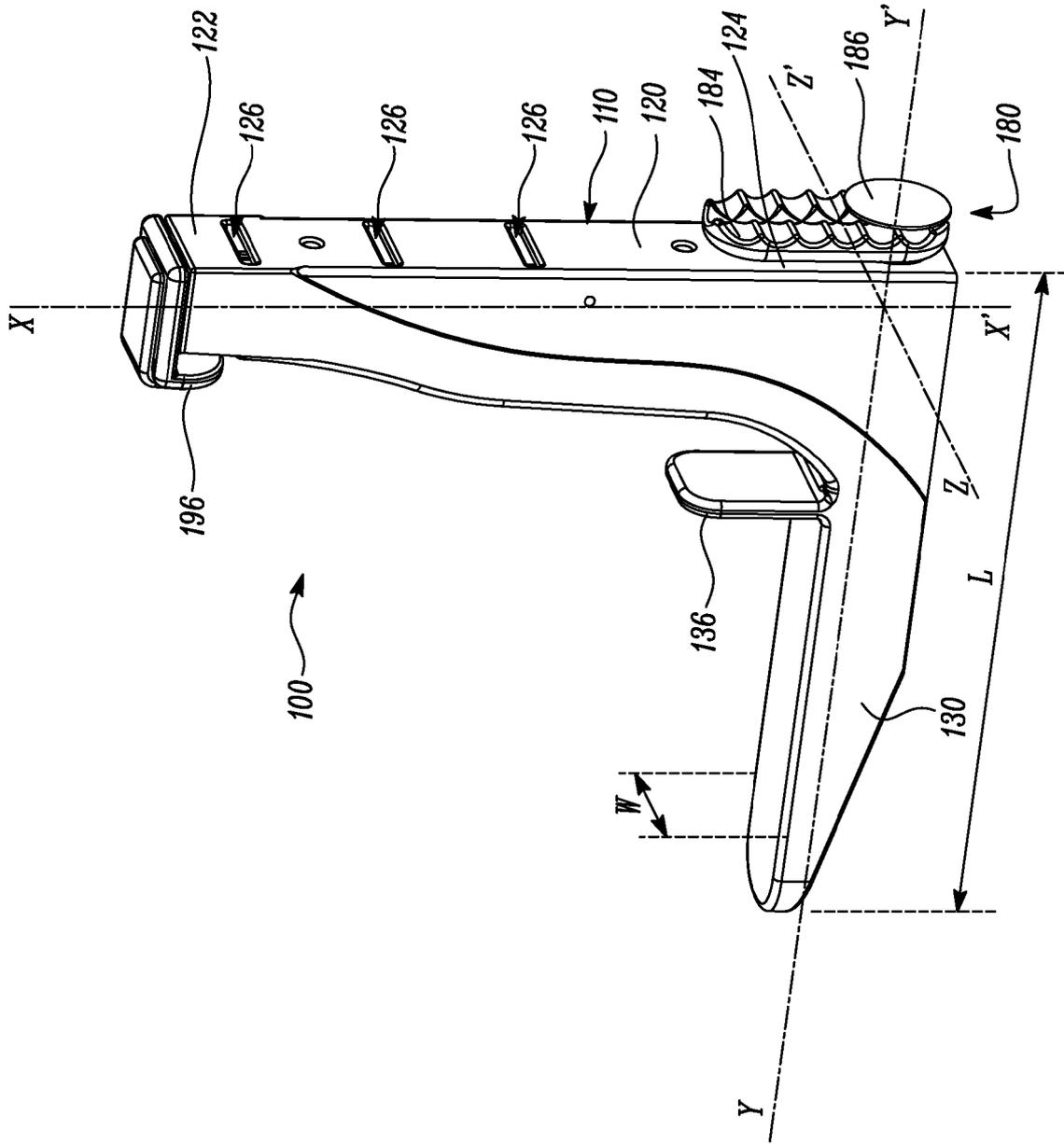


FIG. 4

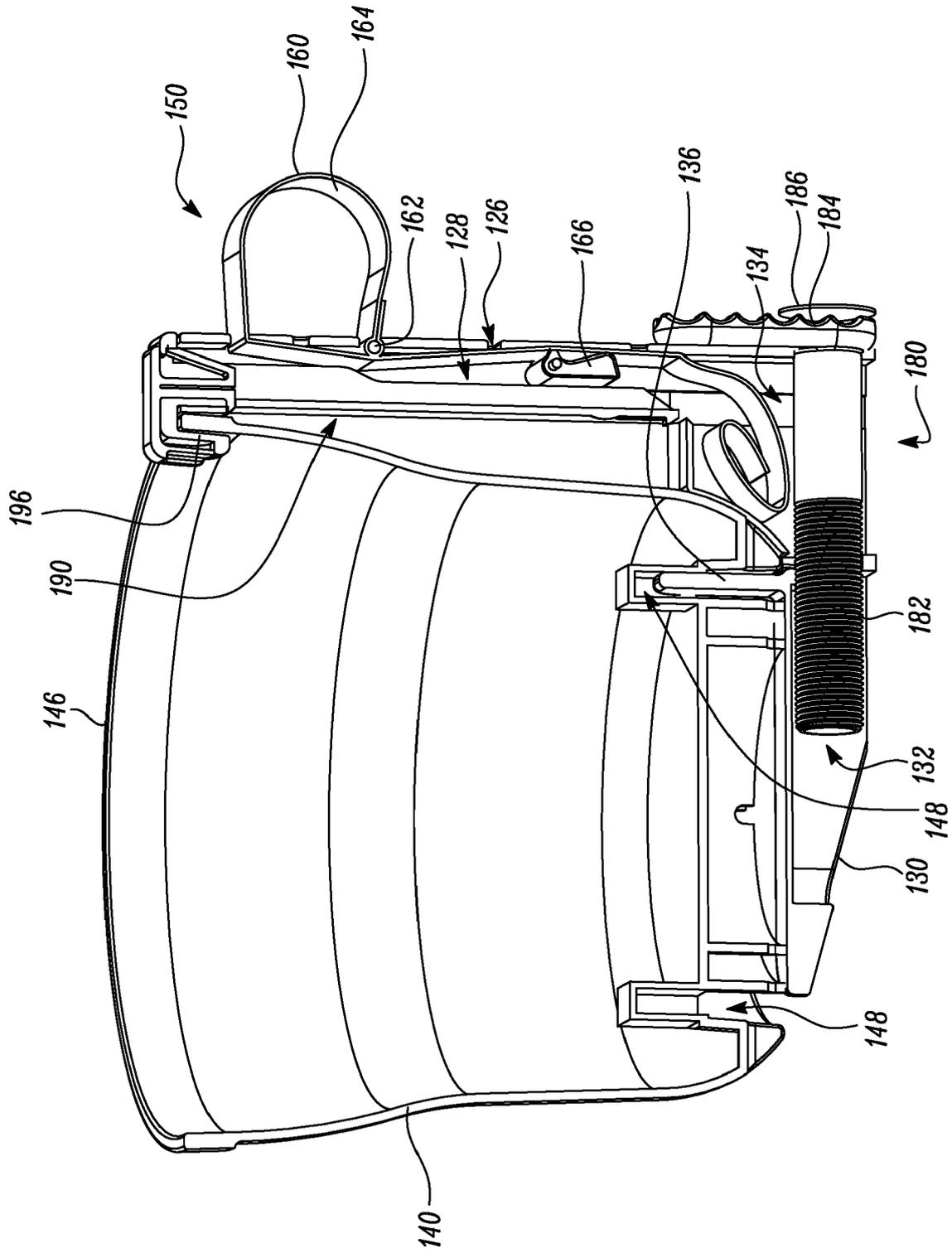


FIG. 5

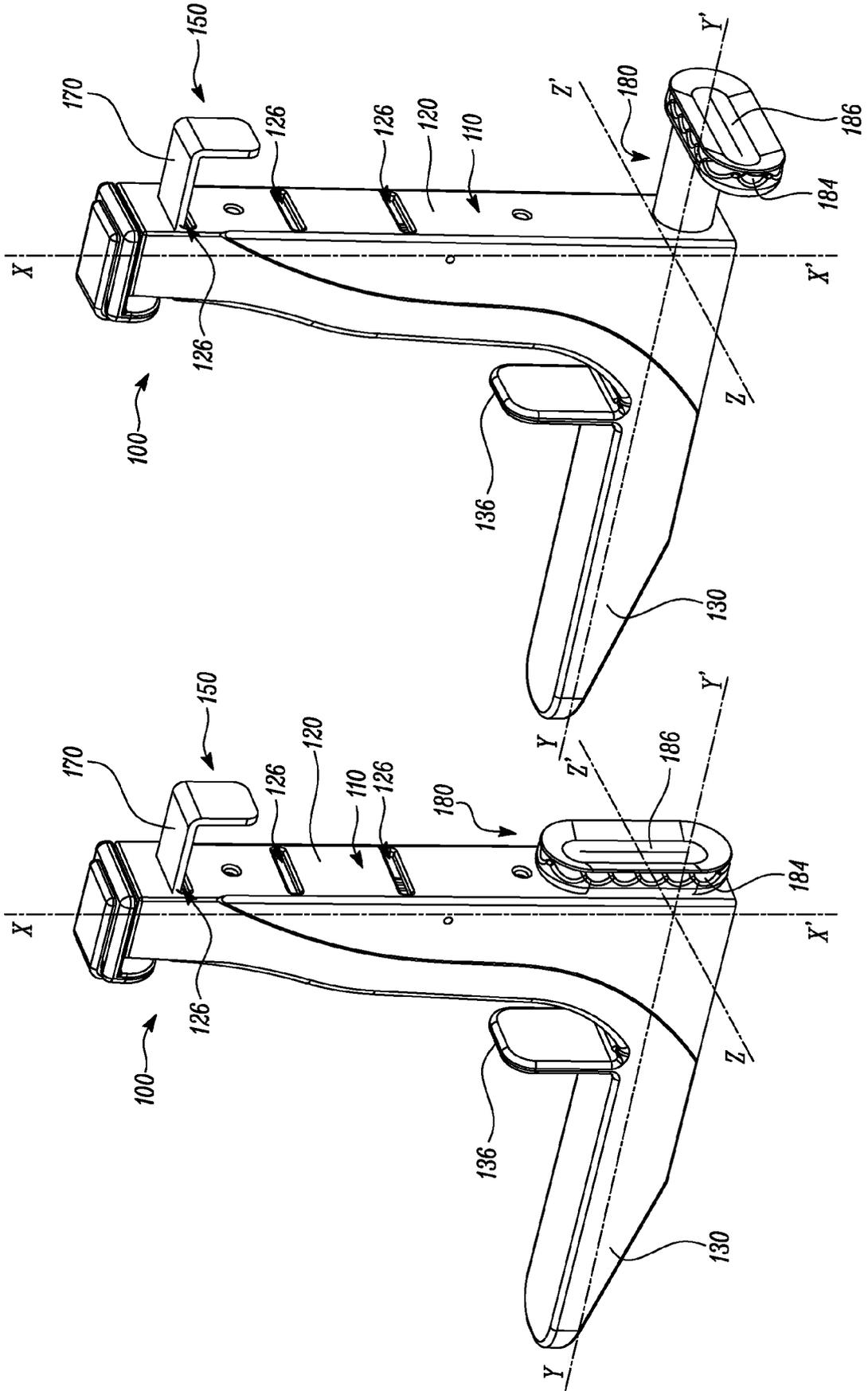


FIG. 6B

FIG. 6A

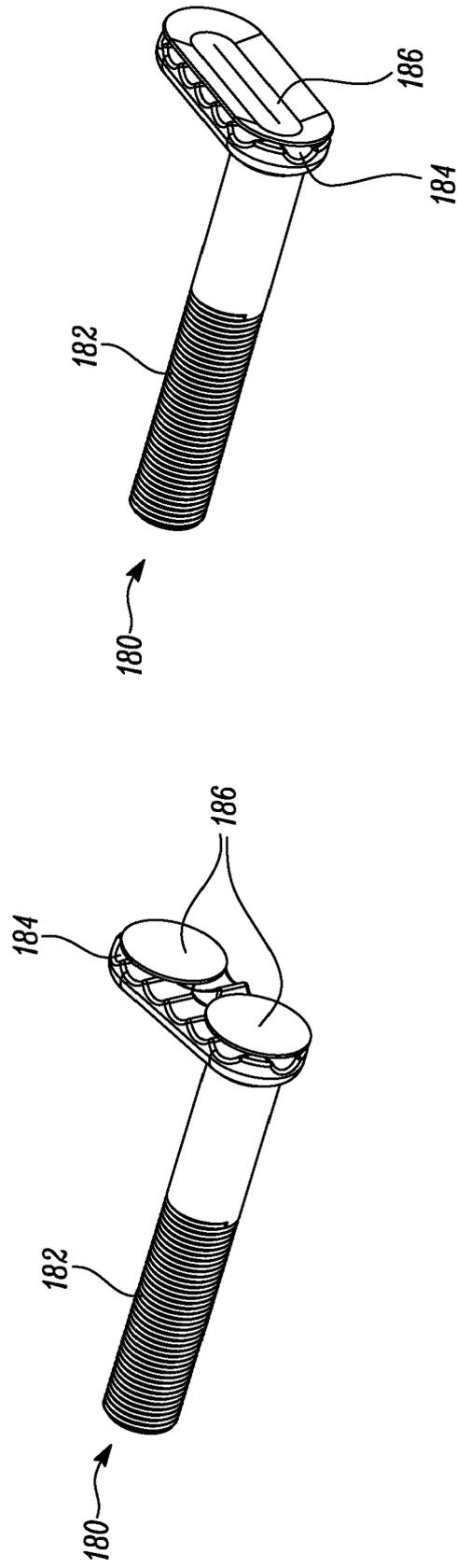


FIG. 7B

FIG. 7A

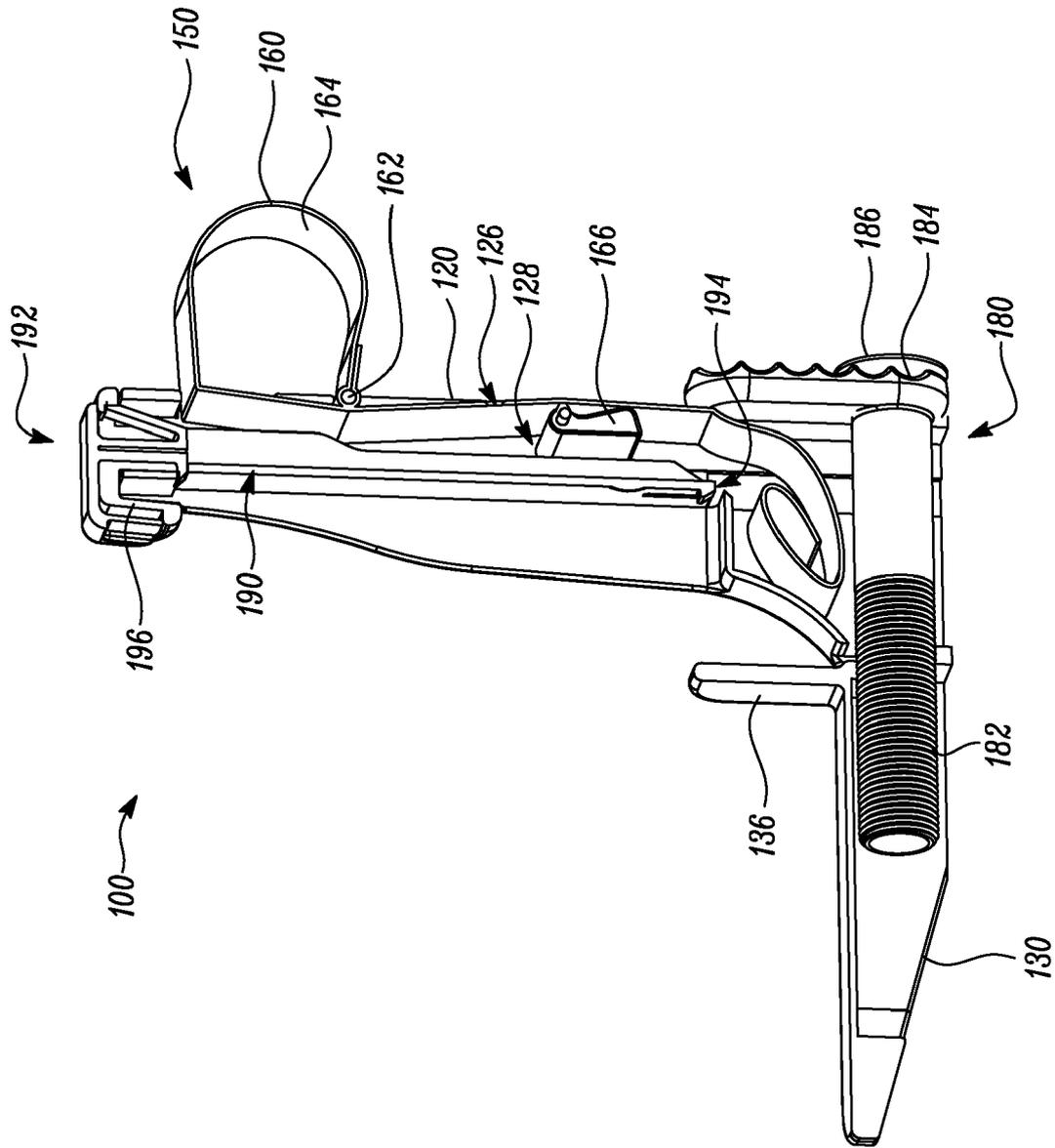


FIG. 8

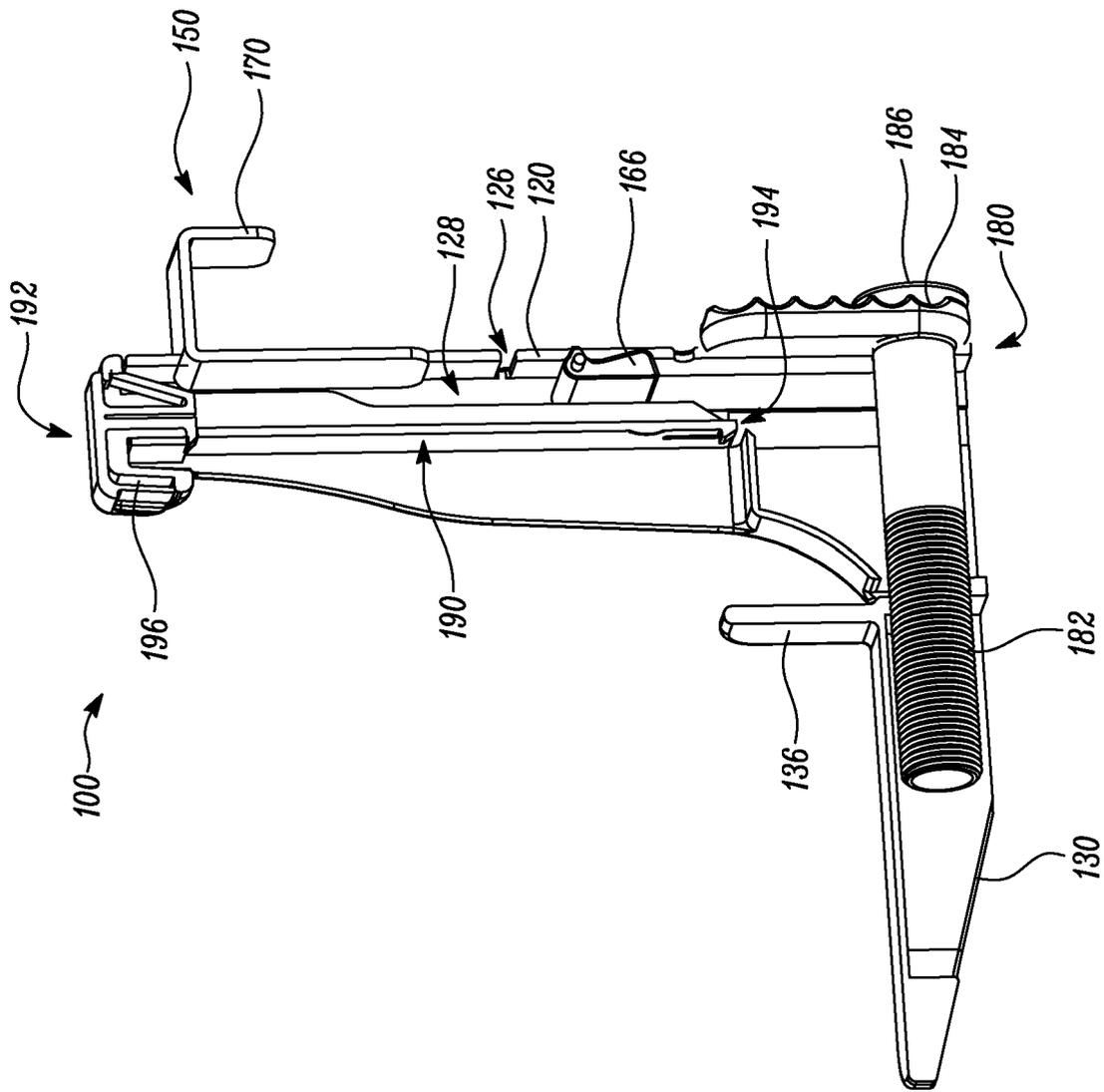


FIG. 9

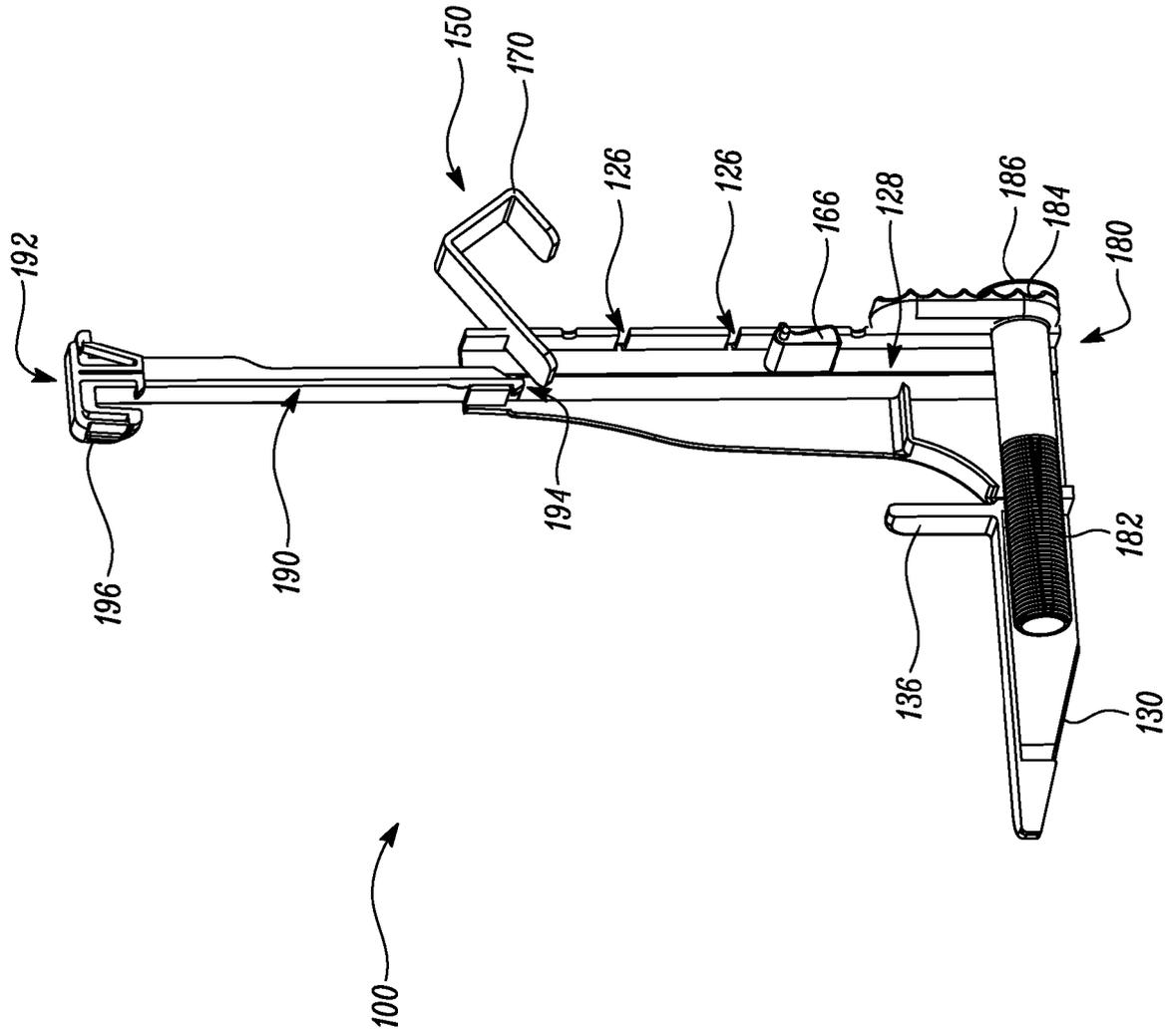


FIG. 10



EUROPEAN SEARCH REPORT

Application Number
EP 21 20 3468

5

DOCUMENTS CONSIDERED TO BE RELEVANT

10

15

20

25

30

35

40

45

50

55

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 2 594 166 A2 (EMSA GMBH [DE]) 22 May 2013 (2013-05-22)	1-7, 9-15	INV. A47G7/04 A47H27/00
Y	* paragraphs [0031], [0037], [0032]; figures 1-4 *	8	
X	CN 201 919 393 U (WEIMIN HOU) 10 August 2011 (2011-08-10) * figures 1-6 *	1, 2, 14, 15	TECHNICAL FIELDS SEARCHED (IPC) A47G A47H A01G
X	JP S55 56169 U (-) 16 April 1980 (1980-04-16) * figure 1 *	1, 2, 9, 14, 15 8	
X	FR 1 424 244 A (PEAUCELLIER) 7 January 1966 (1966-01-07) * figure 1 *	1-3, 10, 14, 15	
X	BE 651 467 A (JEAN MARIE BACKX) 1 December 1964 (1964-12-01) * figures 1, 3 *	1-3, 9, 10, 14, 15	
A, D	EP 2 399 490 A2 (BRANDSTAETTER GEOBRA [DE]) 28 December 2011 (2011-12-28) * figure 4 *	1, 4	
Y	US 3 978 612 A (YOUNG MICHAEL W K) 7 September 1976 (1976-09-07) * figure 4 *	8	

1 The present search report has been drawn up for all claims

Place of search
The Hague

Date of completion of the search
9 March 2022

Examiner
Longo dit Operti, T

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons
.....
& : member of the same patent family, corresponding document

EPO FORM 1503 03:82 (P04C01)

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

EP 21 20 3468

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.

09-03-2022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2594166 A2	22-05-2013	DE 202011051989 U1 EP 2594166 A2	19-01-2012 22-05-2013
CN 201919393 U	10-08-2011	NONE	
JP S5556169 U	16-04-1980	NONE	
FR 1424244 A	07-01-1966	NONE	
BE 651467 A	01-12-1964	NONE	
EP 2399490 A2	28-12-2011	CN 102308734 A DE 102010030577 A1 EP 2399490 A2	11-01-2012 29-12-2011 28-12-2011
US 3978612 A	07-09-1976	NONE	

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- EP 2399490 A [0004]