US011819125B2

(12) **United States Patent**
Paulick

(10) **Patent No.: US 11,819,125 B2**
(45) **Date of Patent: Nov. 21, 2023**

(54) **BOTTLE STORAGE DEVICE**

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(72) Inventor: **John F. Paulick**, San Luis Obispo, CA (US)

(73) Assignee: **WINE MASTER CELLARS, LLC**, Denver, CO (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **17/985,026**

(22) Filed: **Nov. 10, 2022**

(65) **Prior Publication Data**

US 2023/0072502 A1 Mar. 9, 2023

Related U.S. Application Data

(63) Continuation of application No. PCT/US2022/073112, filed on Jun. 23, 2022.

(60) Provisional application No. 63/213,802, filed on Jun. 23, 2021.

(51) **Int. Cl.**

A47B 73/00	(2006.01)
A47F 7/00	(2006.01)
A47F 7/28	(2006.01)

(52) **U.S. Cl.**

CPC ***A47B 73/006*** (2013.01); ***A47B 73/004*** (2013.01); ***A47F 7/0035*** (2013.01); ***A47F 7/283*** (2013.01)

(58) **Field of Classification Search**

CPC A47B 73/004; A47B 73/006; B65D 71/50; A47F 7/283

See application file for complete search history.

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(Continued)

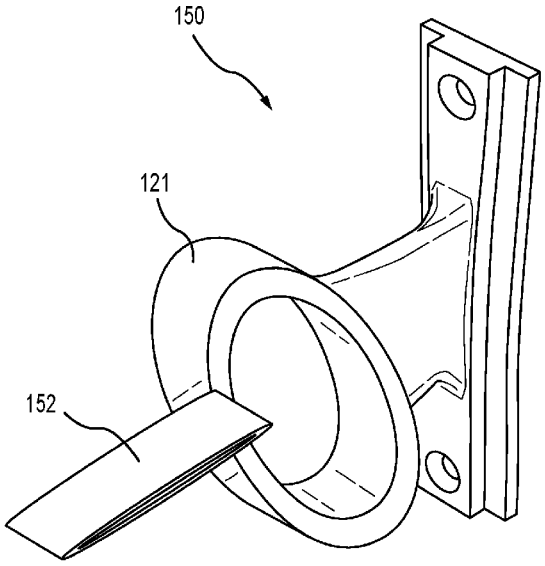
Primary Examiner — Ko H Chan

(74) *Attorney, Agent, or Firm* — Polsinelli PC

(57) **ABSTRACT**

A wine bottle holder including a plate and an extension member coupled to the plate. The extension member may extend outwards from the plate and a ring may be coupled to the extension member. The ring may be configured to receive a portion of the wine bottle. The ring may include a cylindrical body with opposite surfaces that are parallel to each other. The opposite surfaces may define oblique openings.

20 Claims, 47 Drawing Sheets



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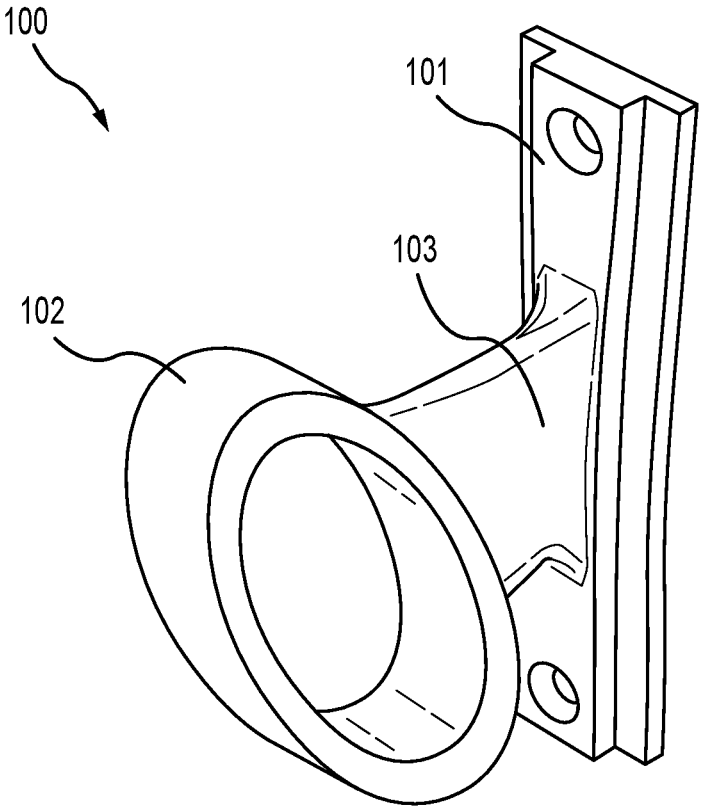


FIG.1

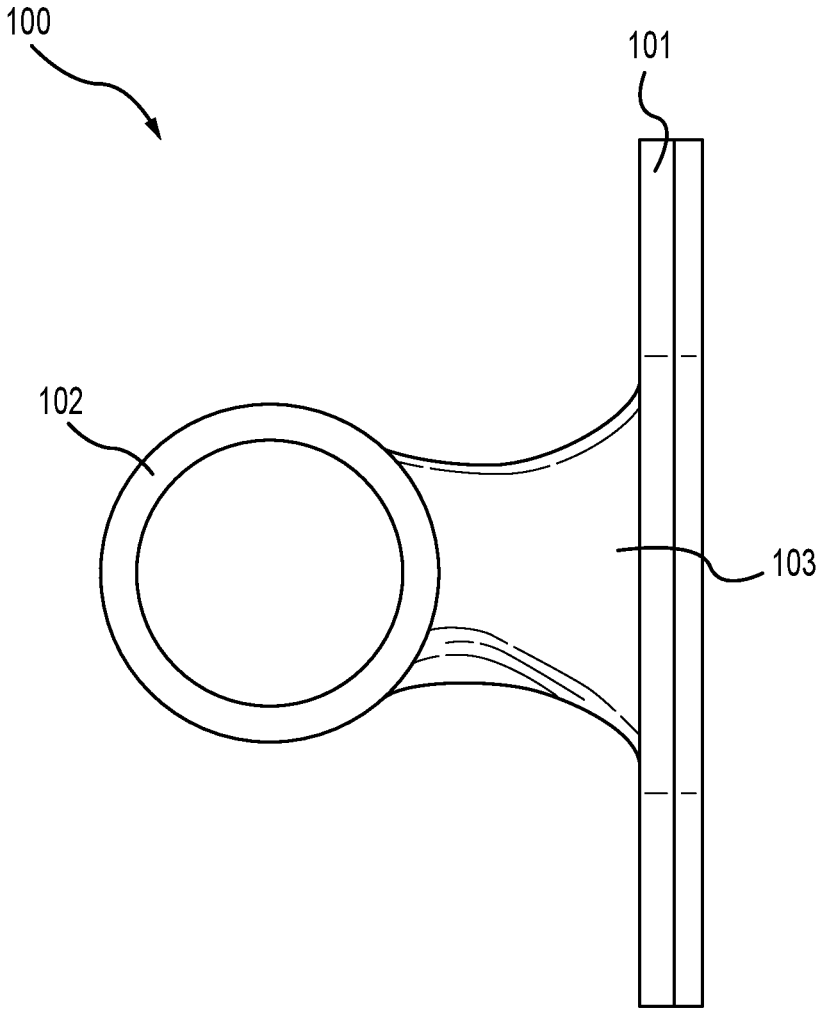


FIG.2

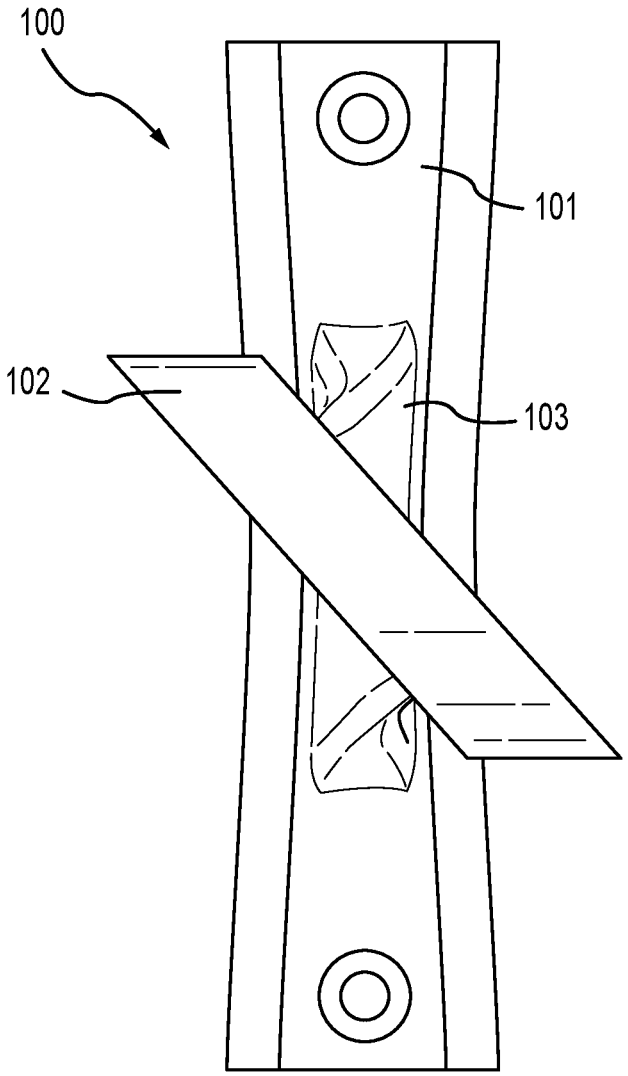


FIG.3

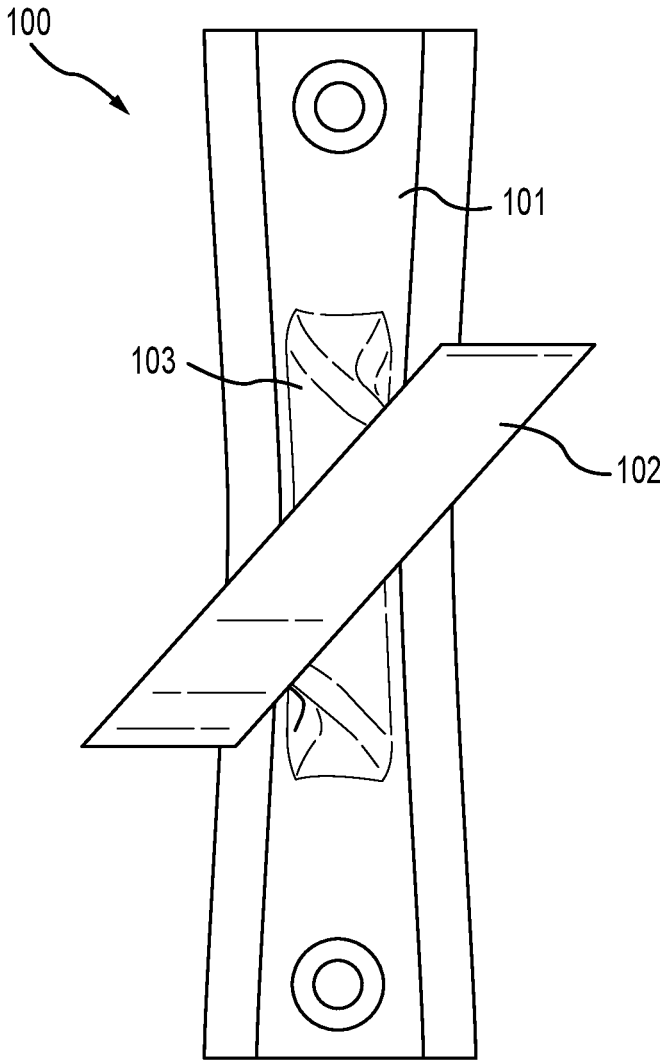


FIG.4

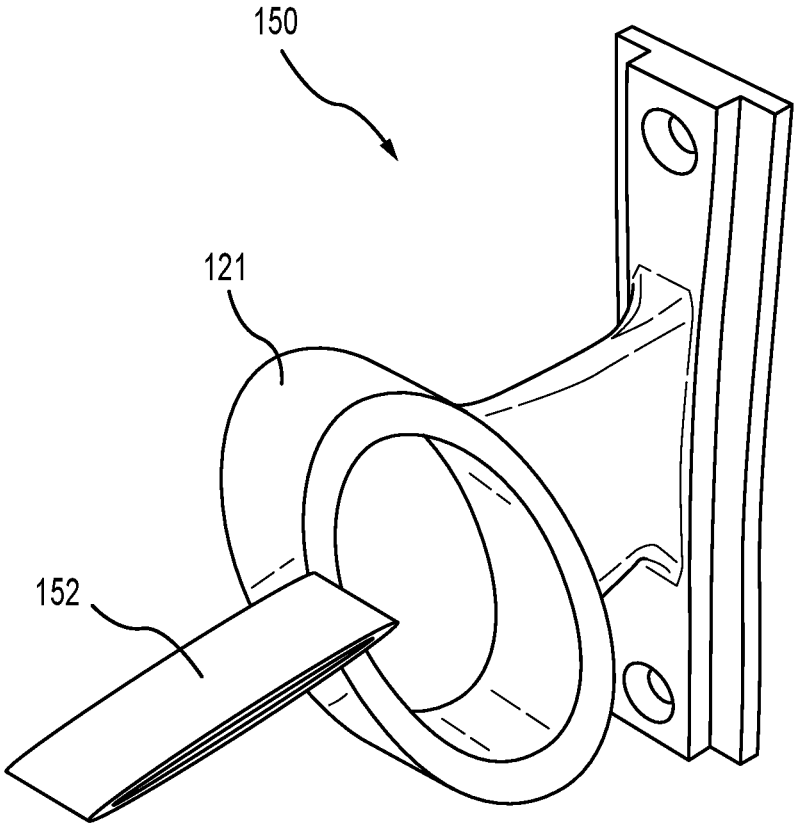


FIG.5

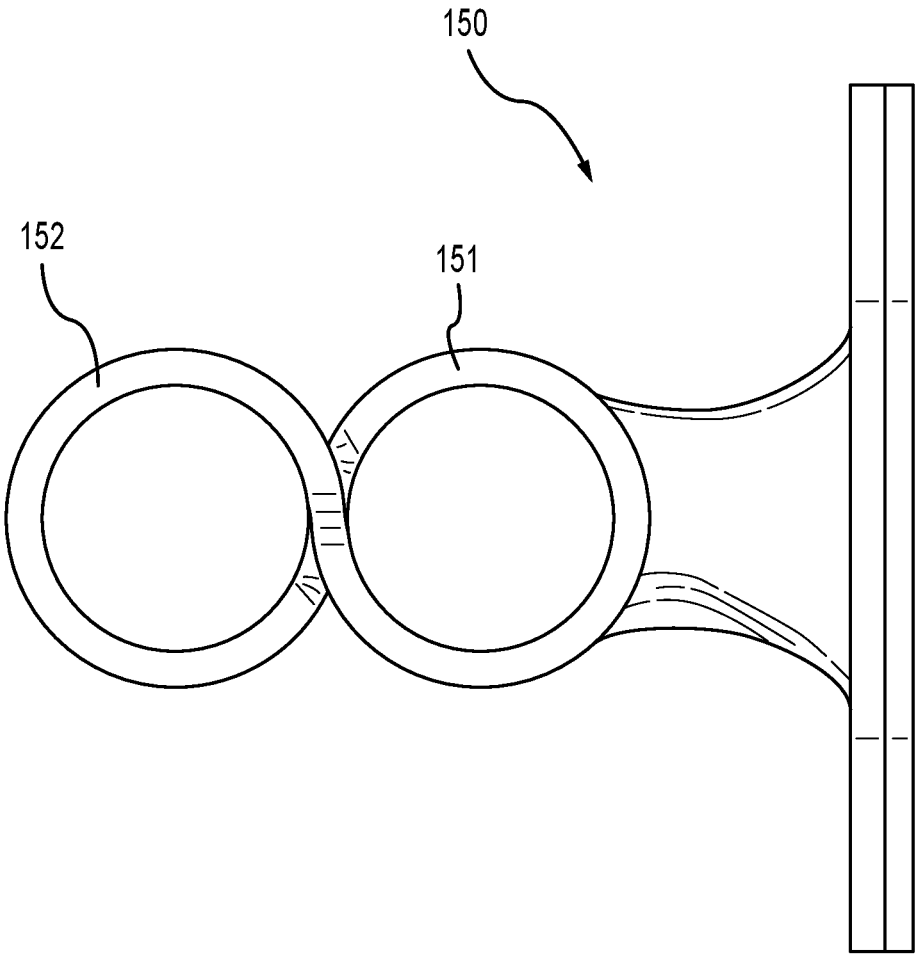


FIG.6

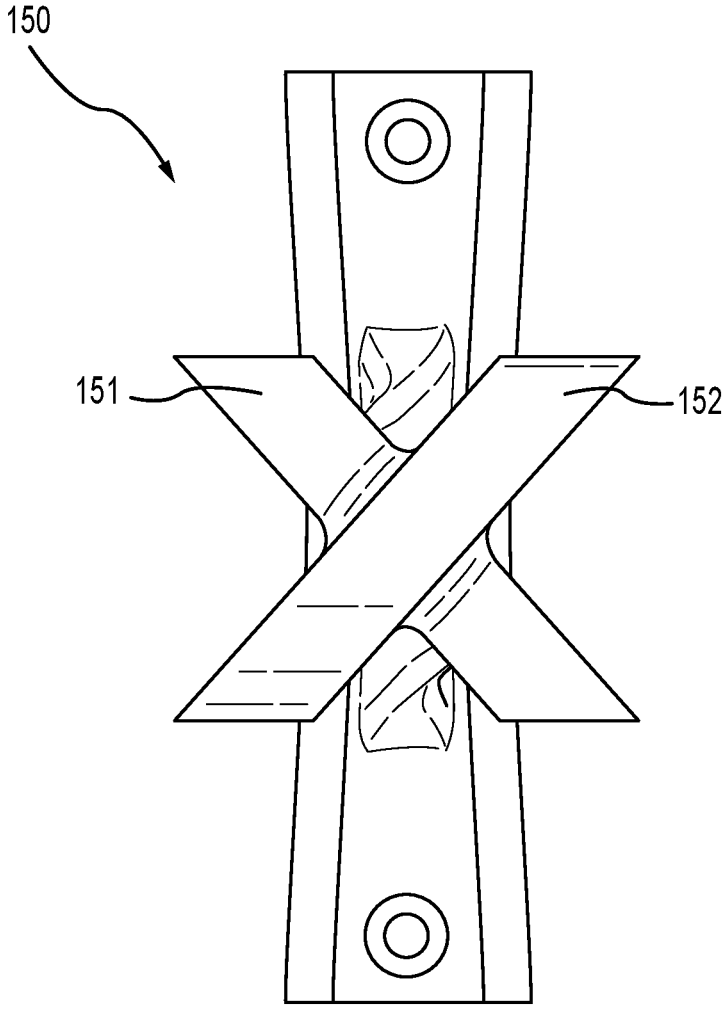
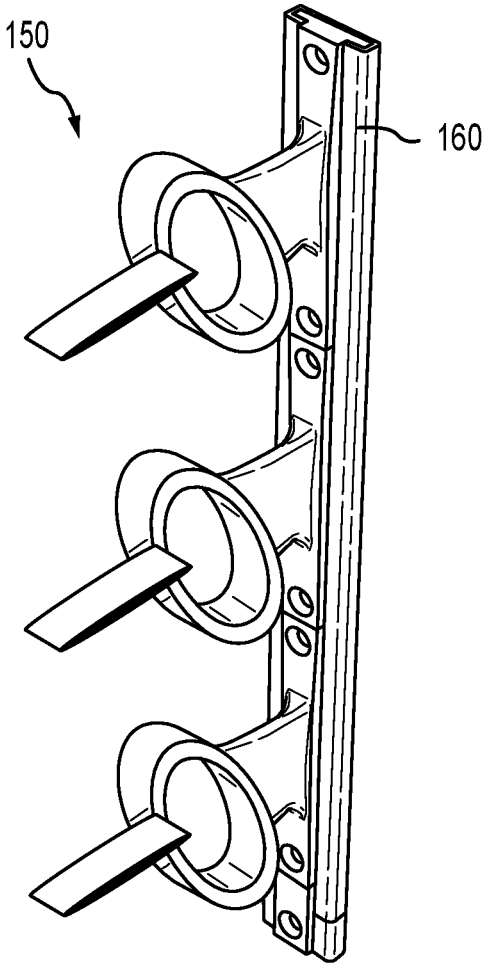


FIG.7



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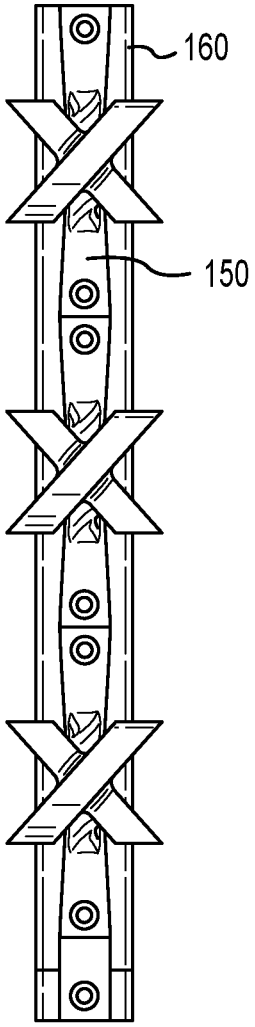
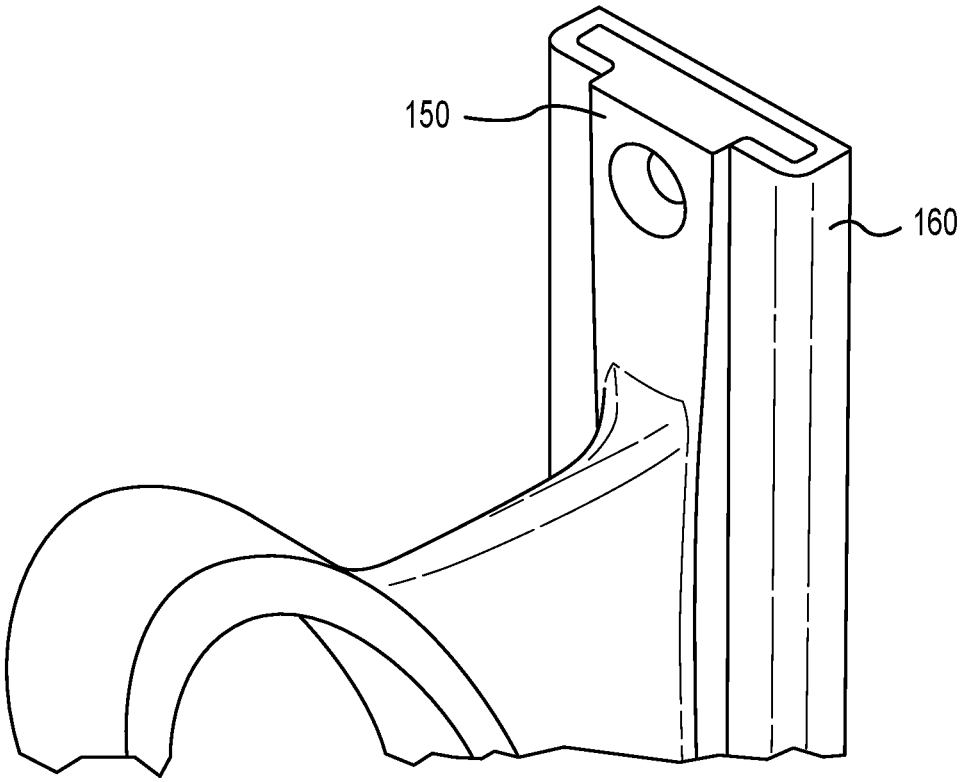


FIG.9



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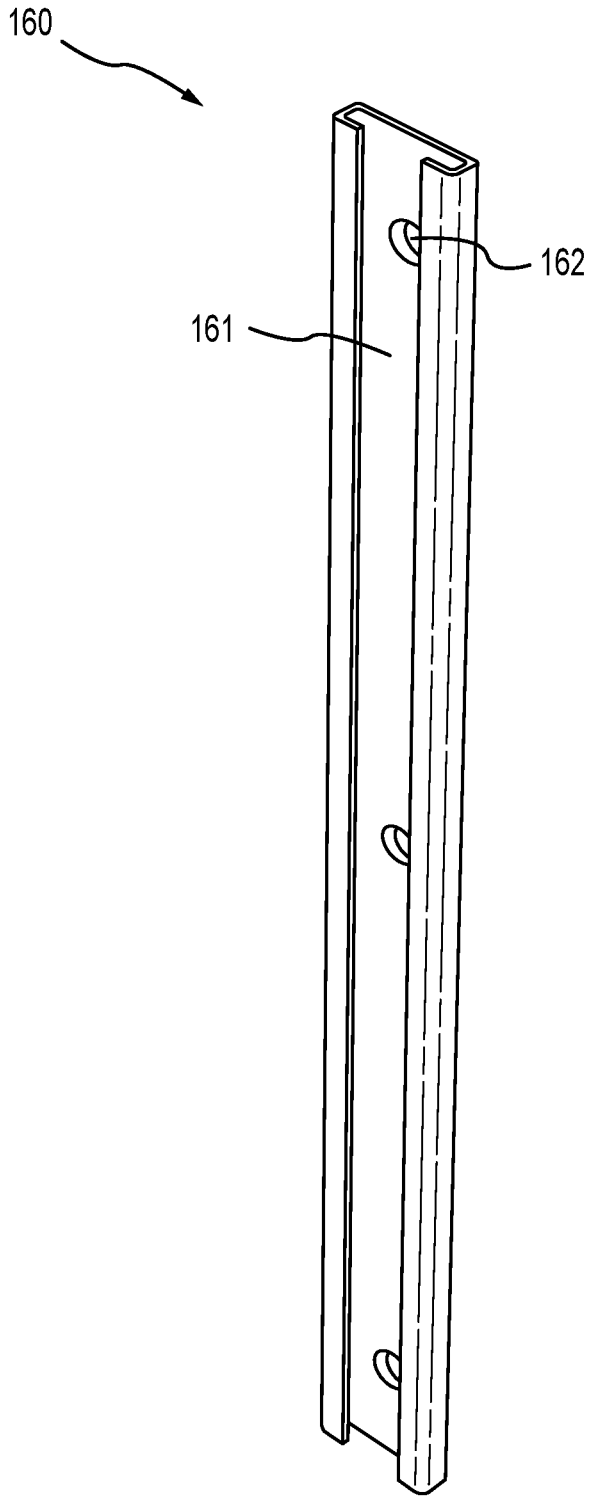

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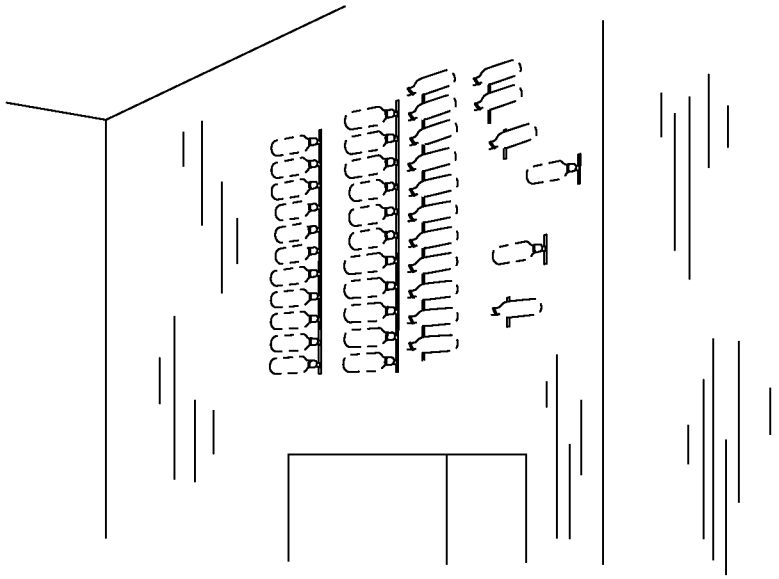
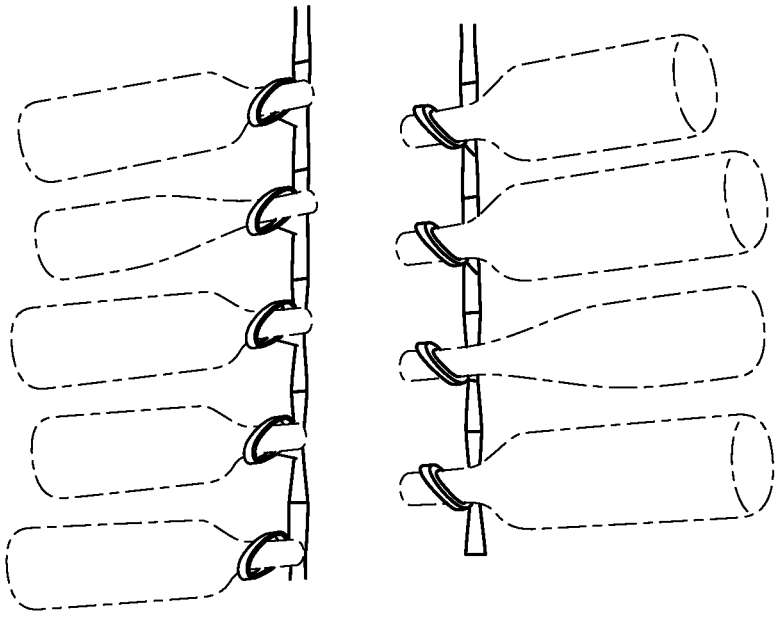


FIG.12



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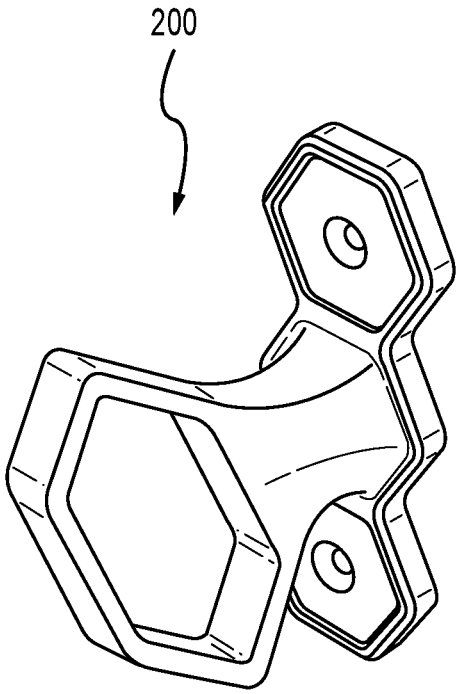

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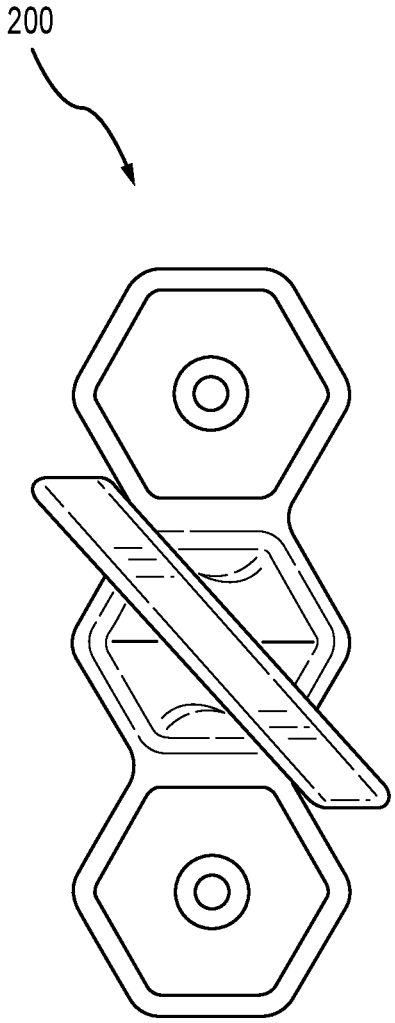

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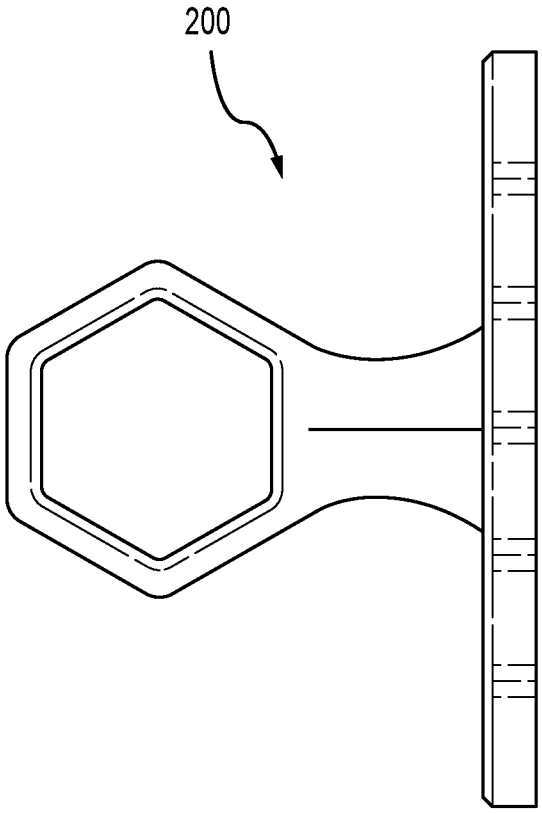

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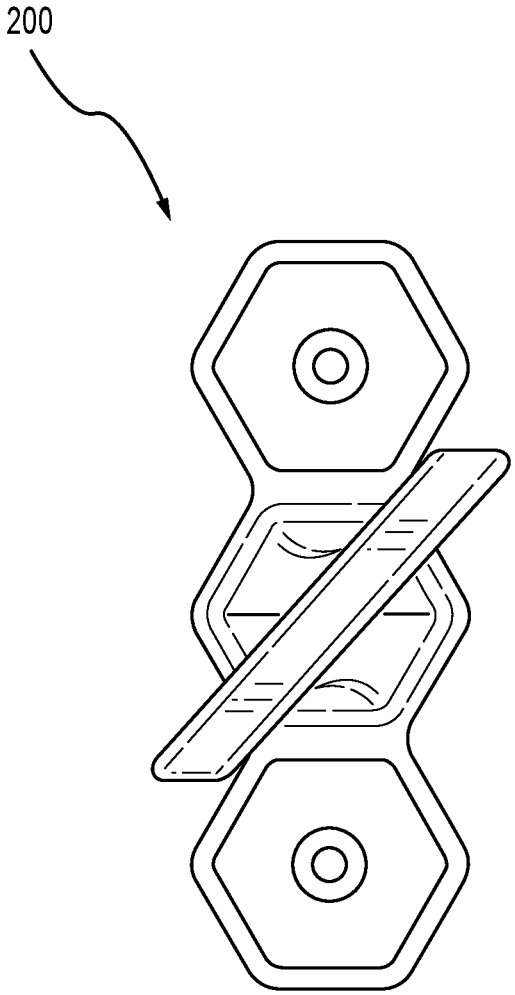

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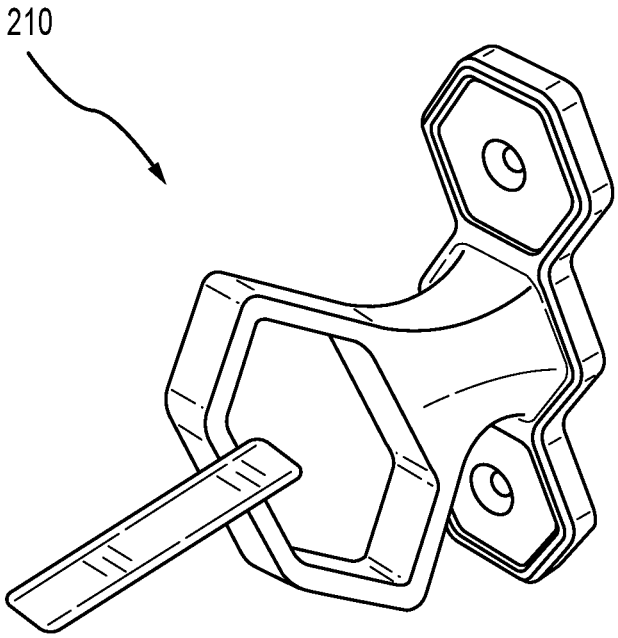

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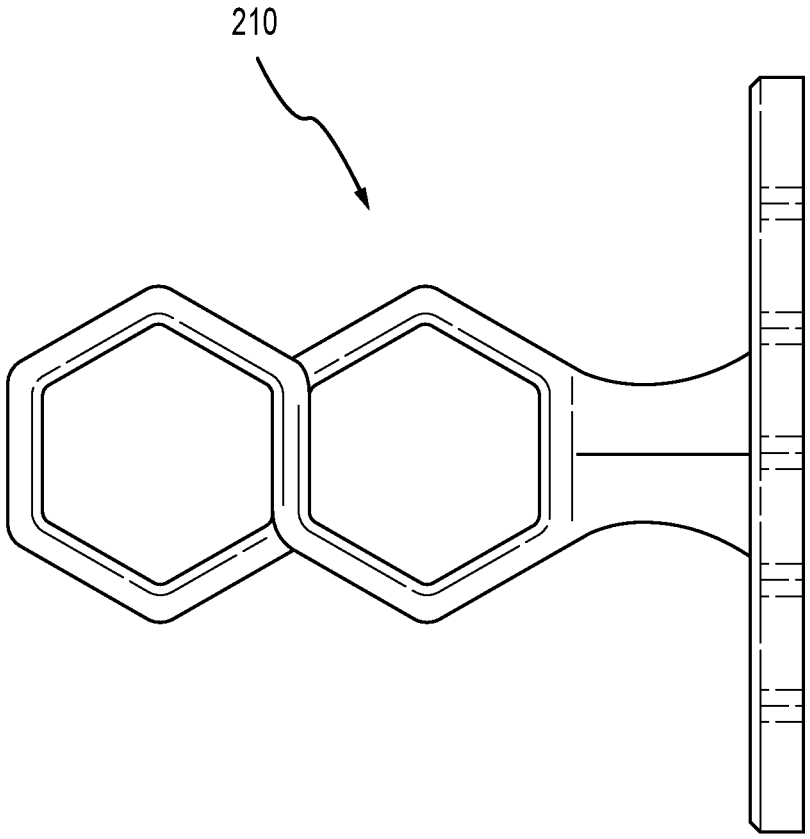

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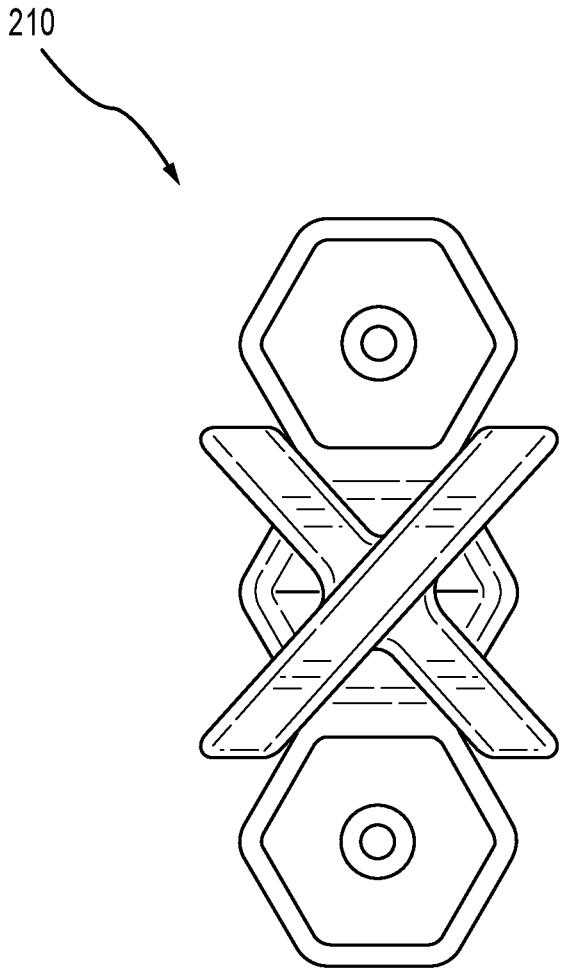
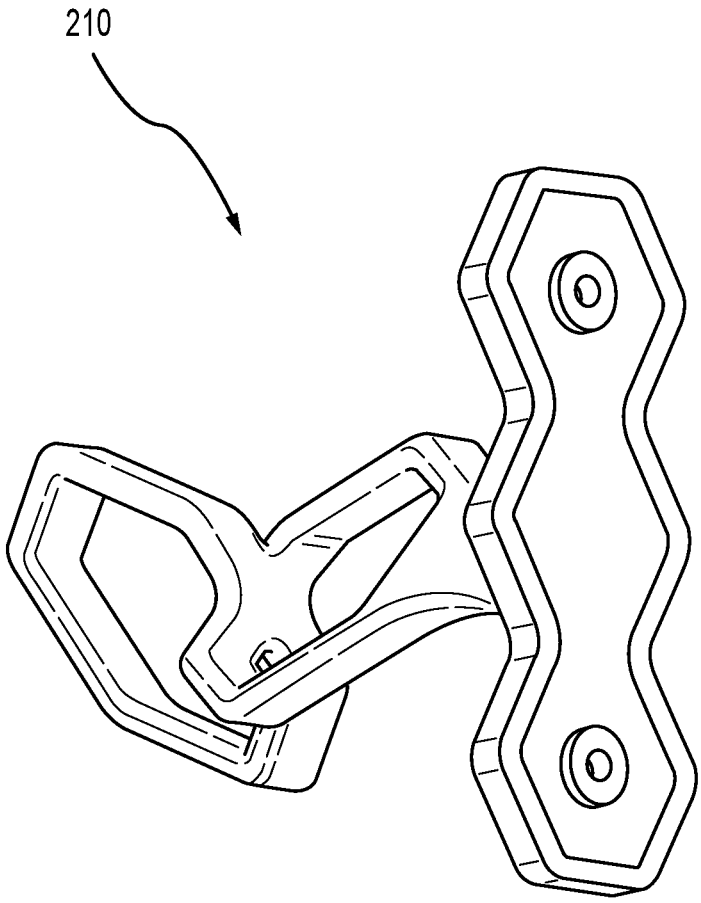


FIG.20



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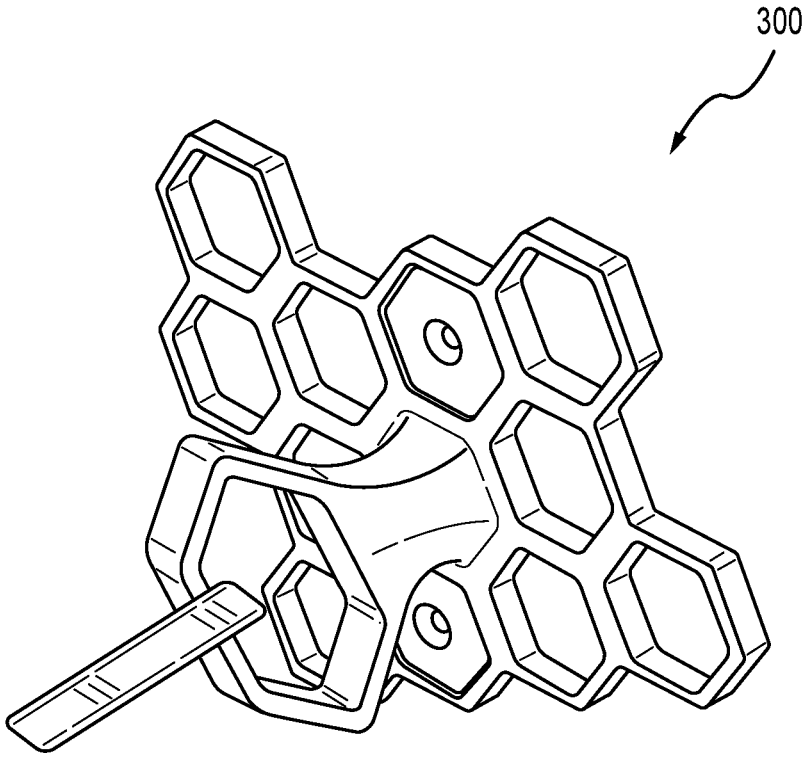

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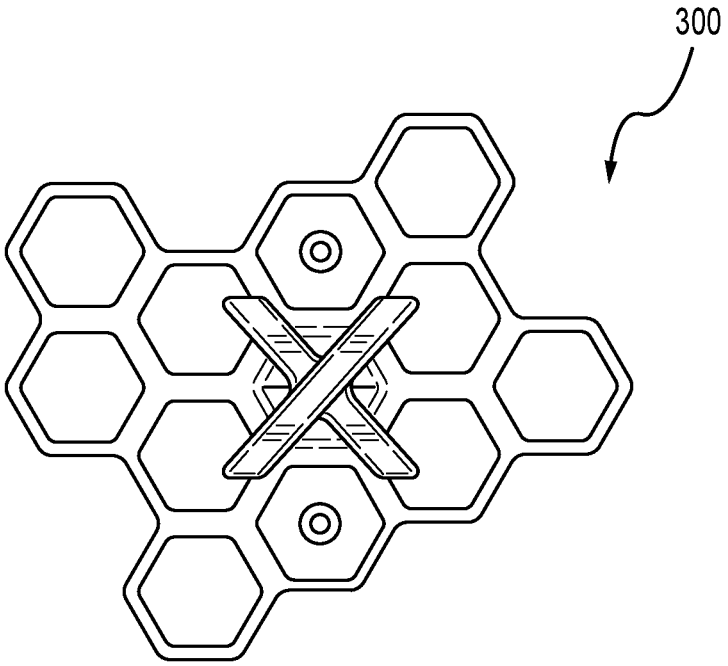
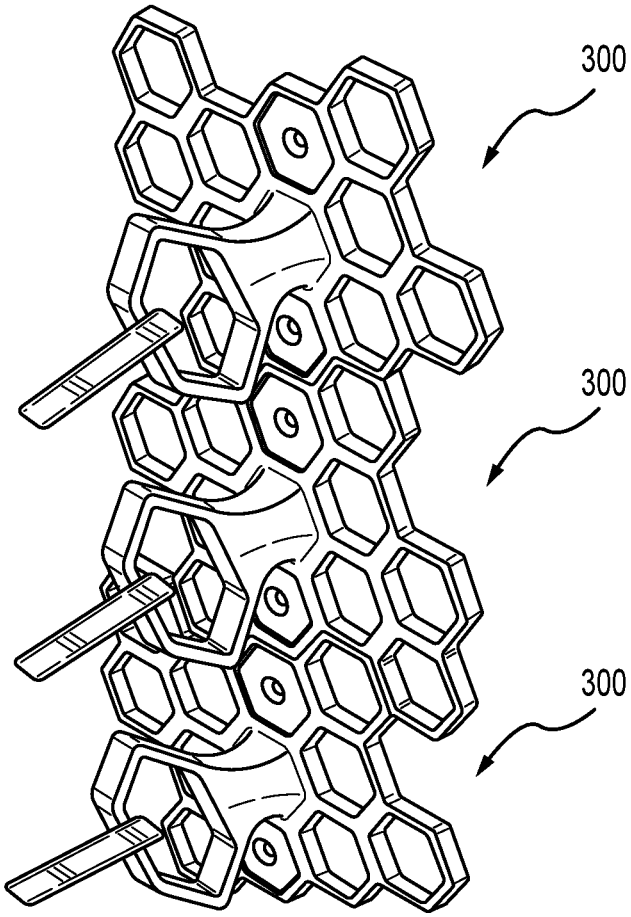


FIG.23



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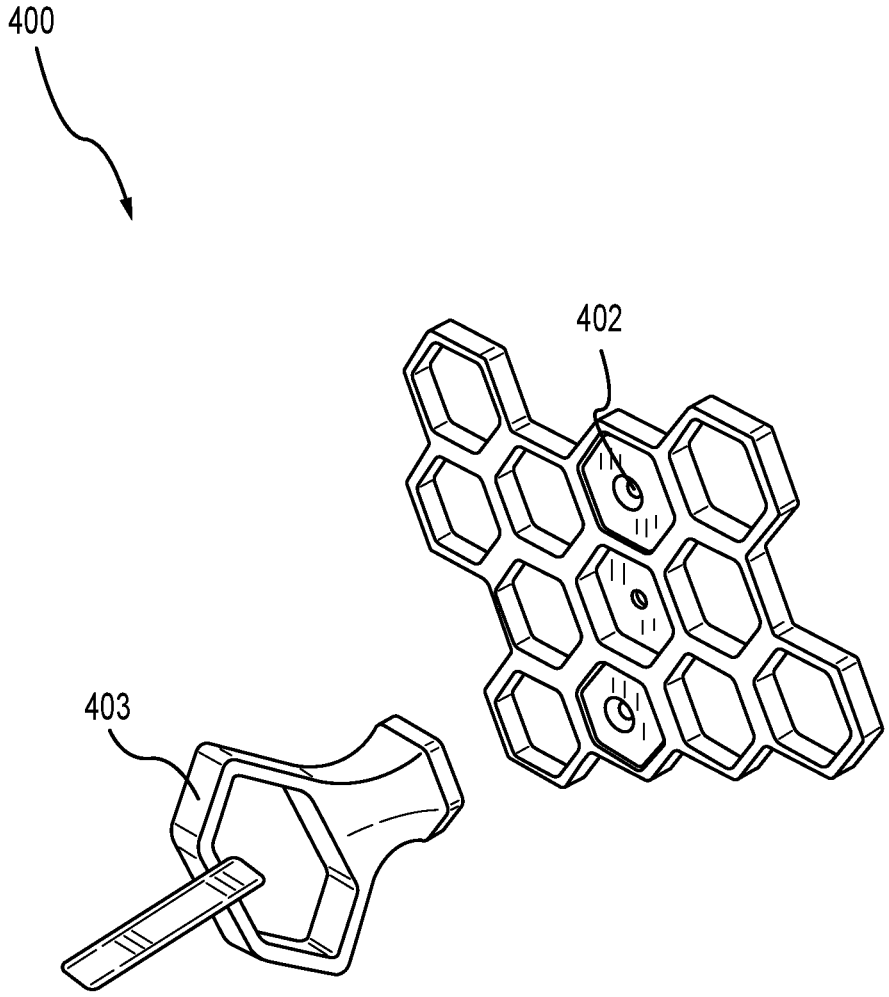

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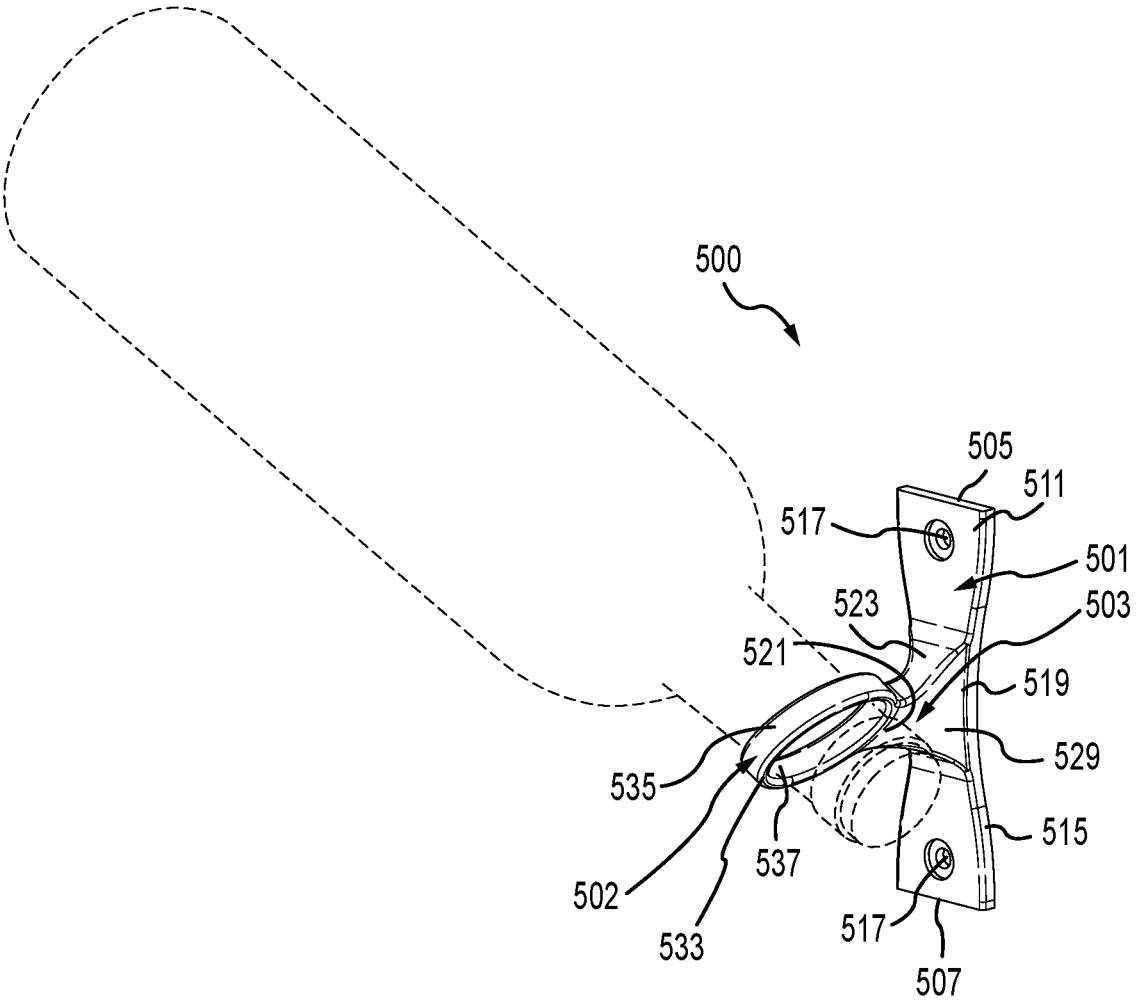
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FIG.26A

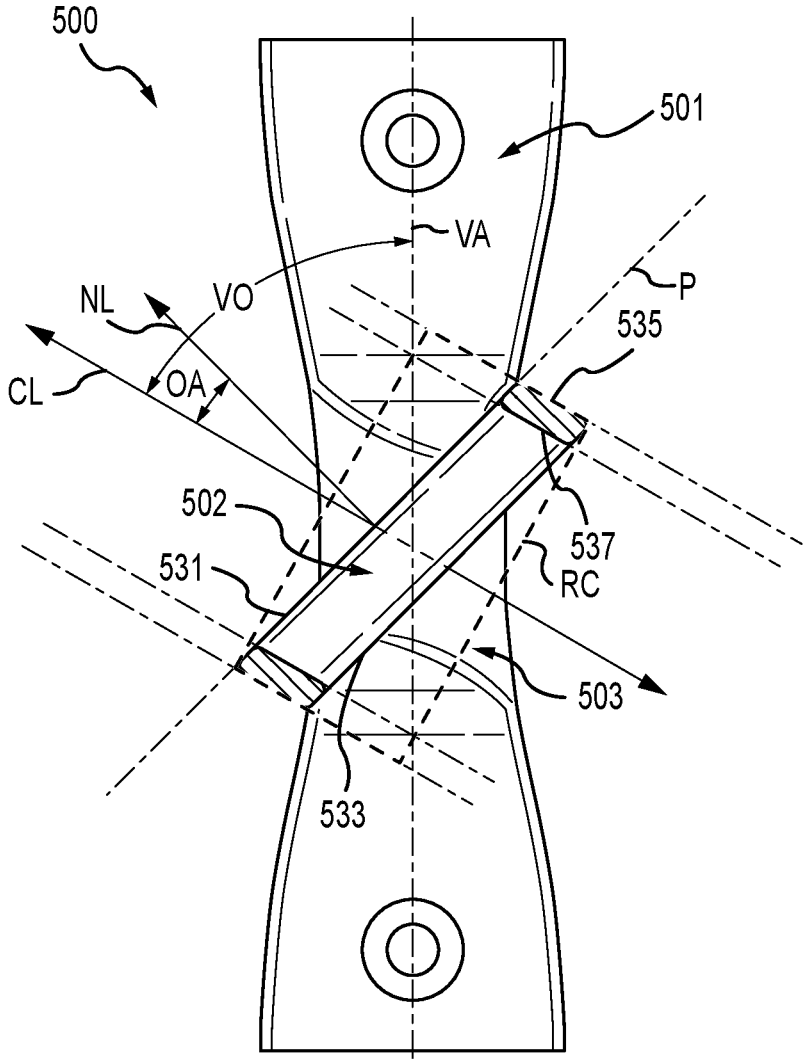

FIG.26B

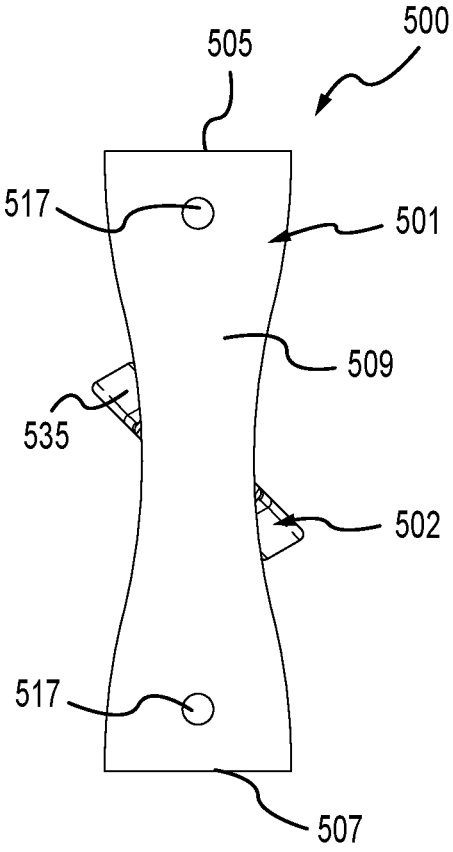

FIG.26C

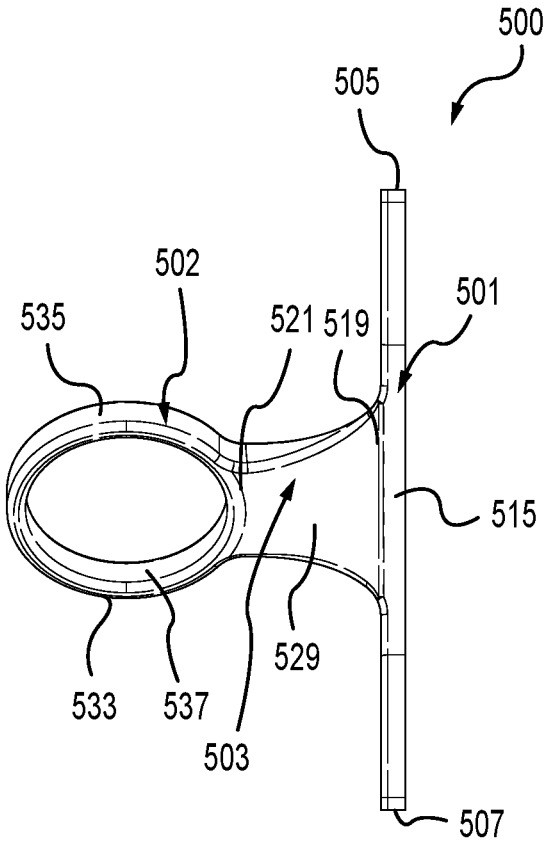

FIG.26D

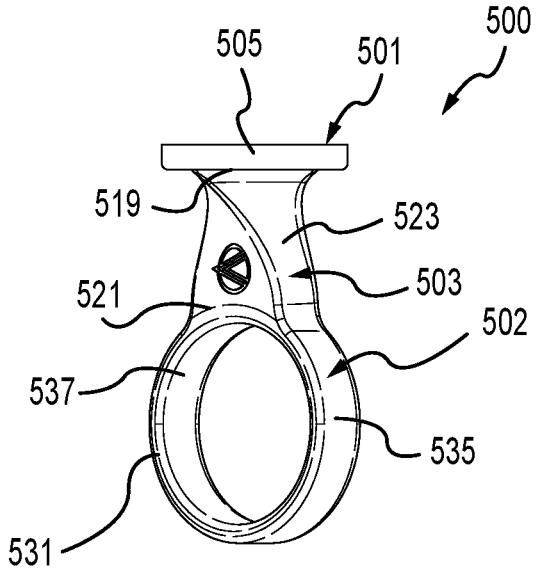

FIG.26E

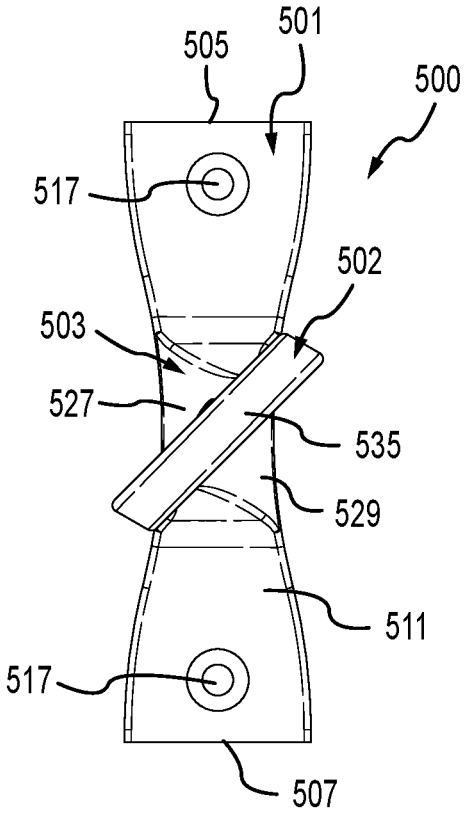

FIG.26F

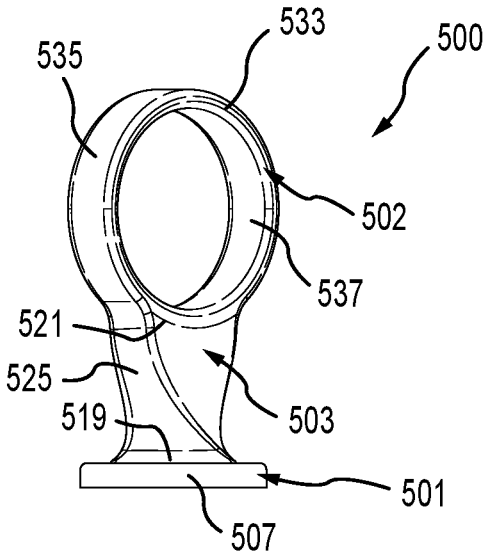

FIG.26G

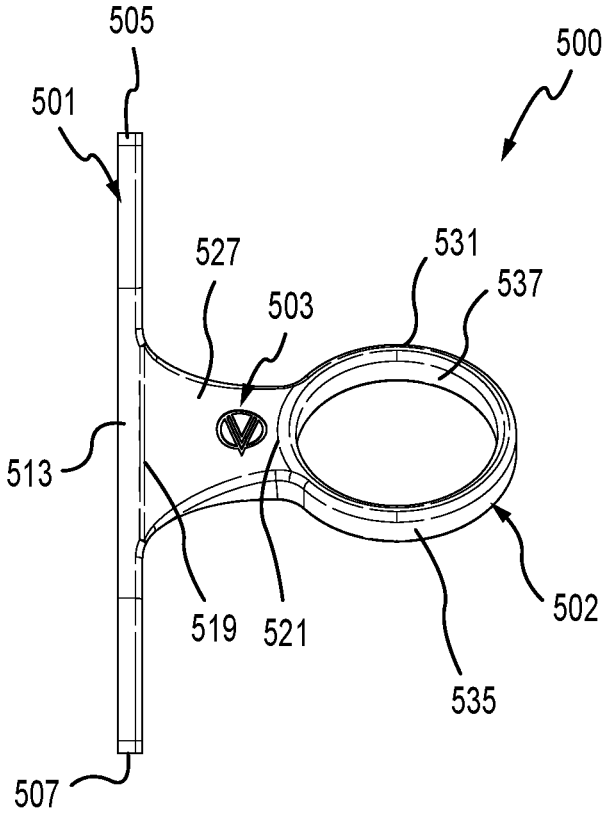

FIG.26H

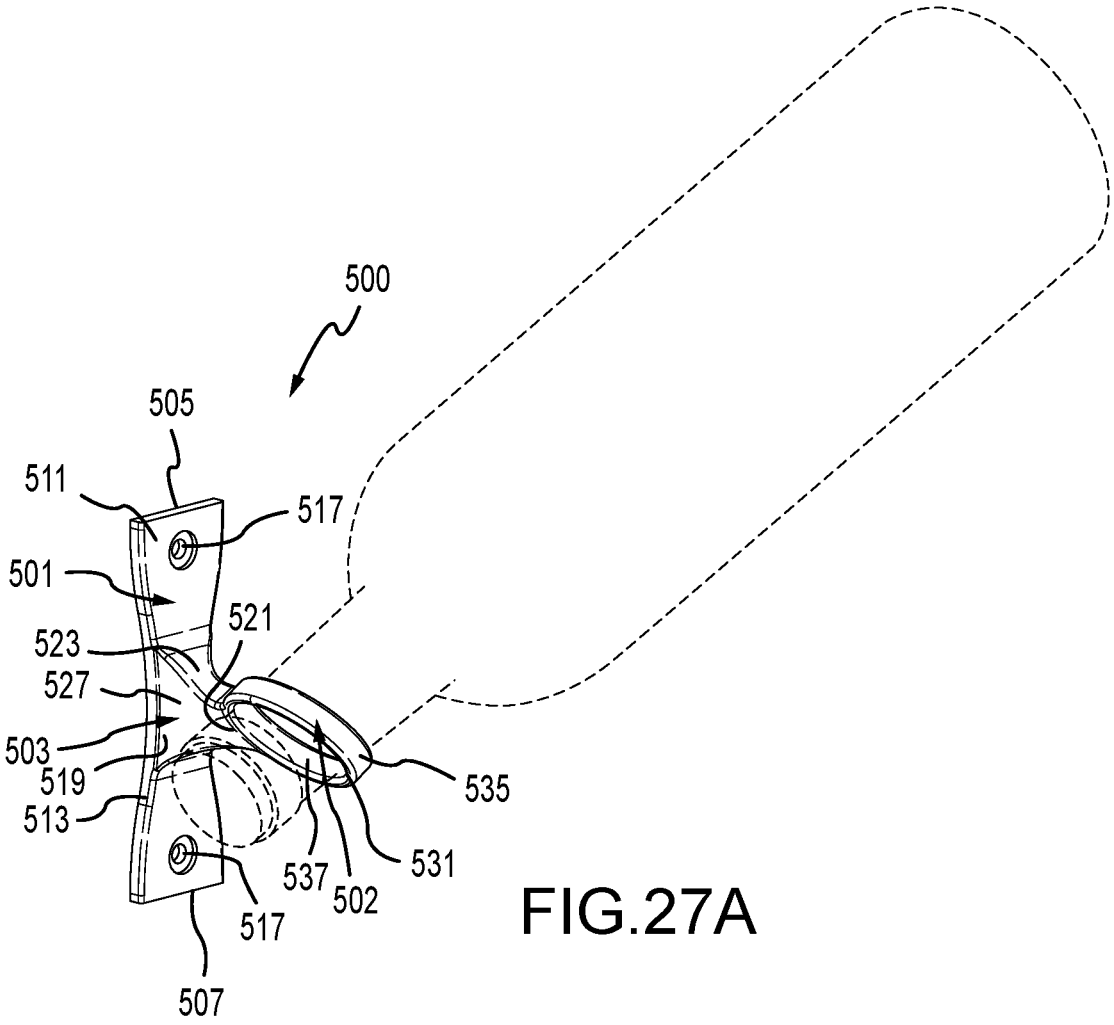
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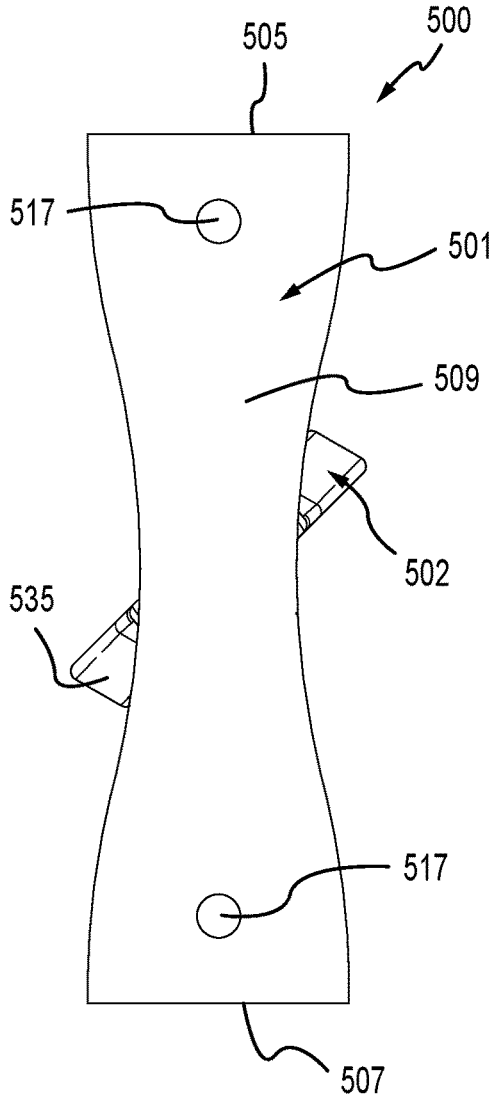
FIG.27A



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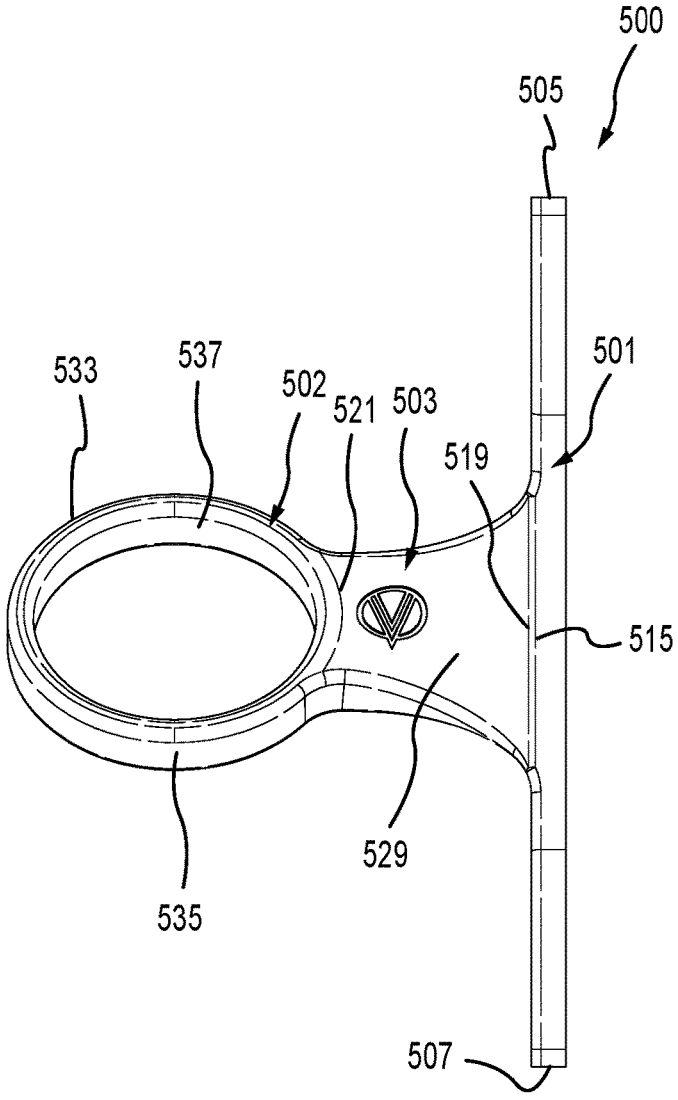

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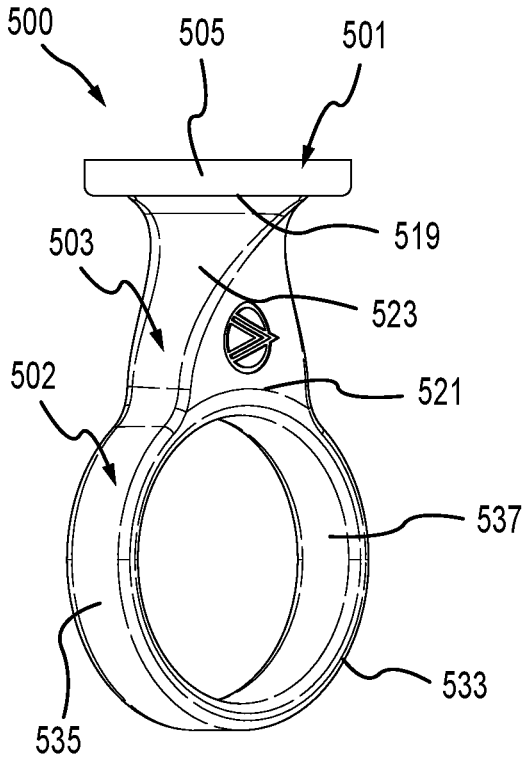

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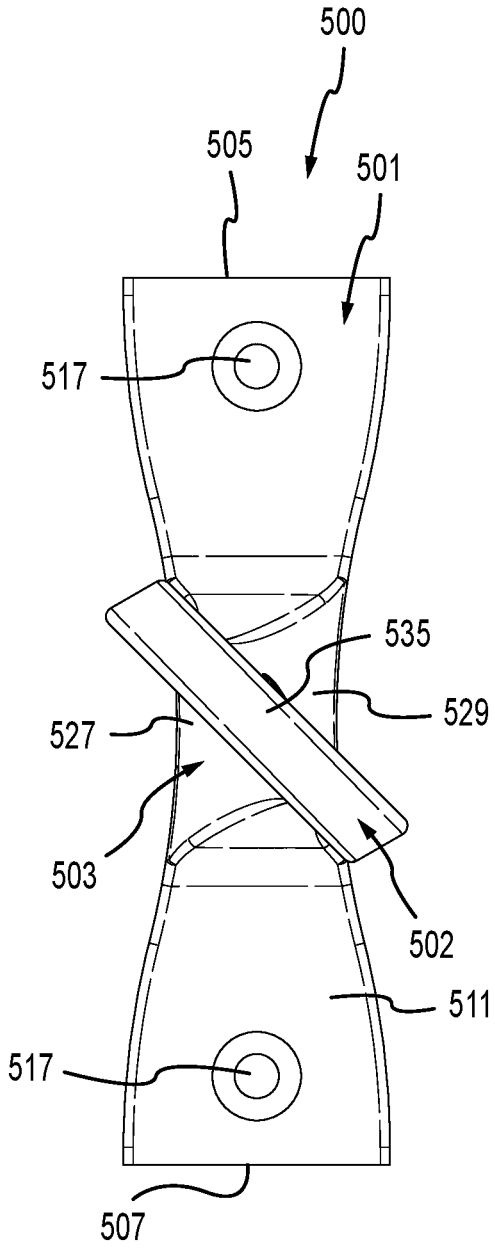

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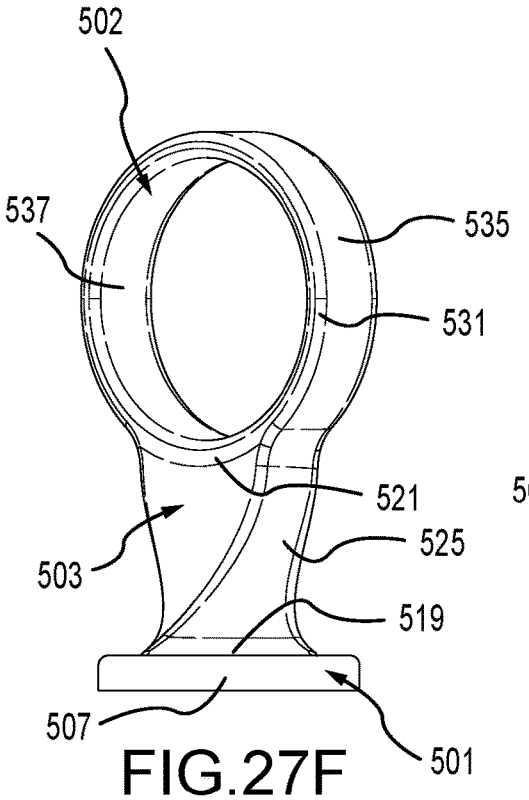

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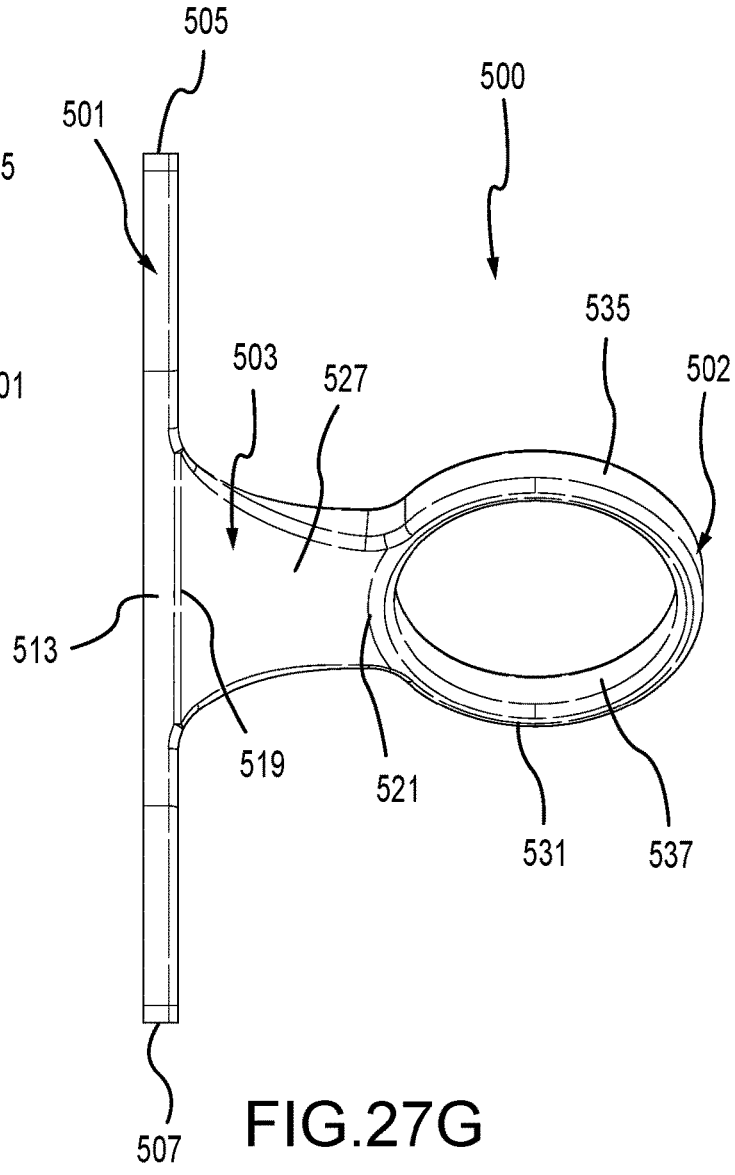

FIG.27G

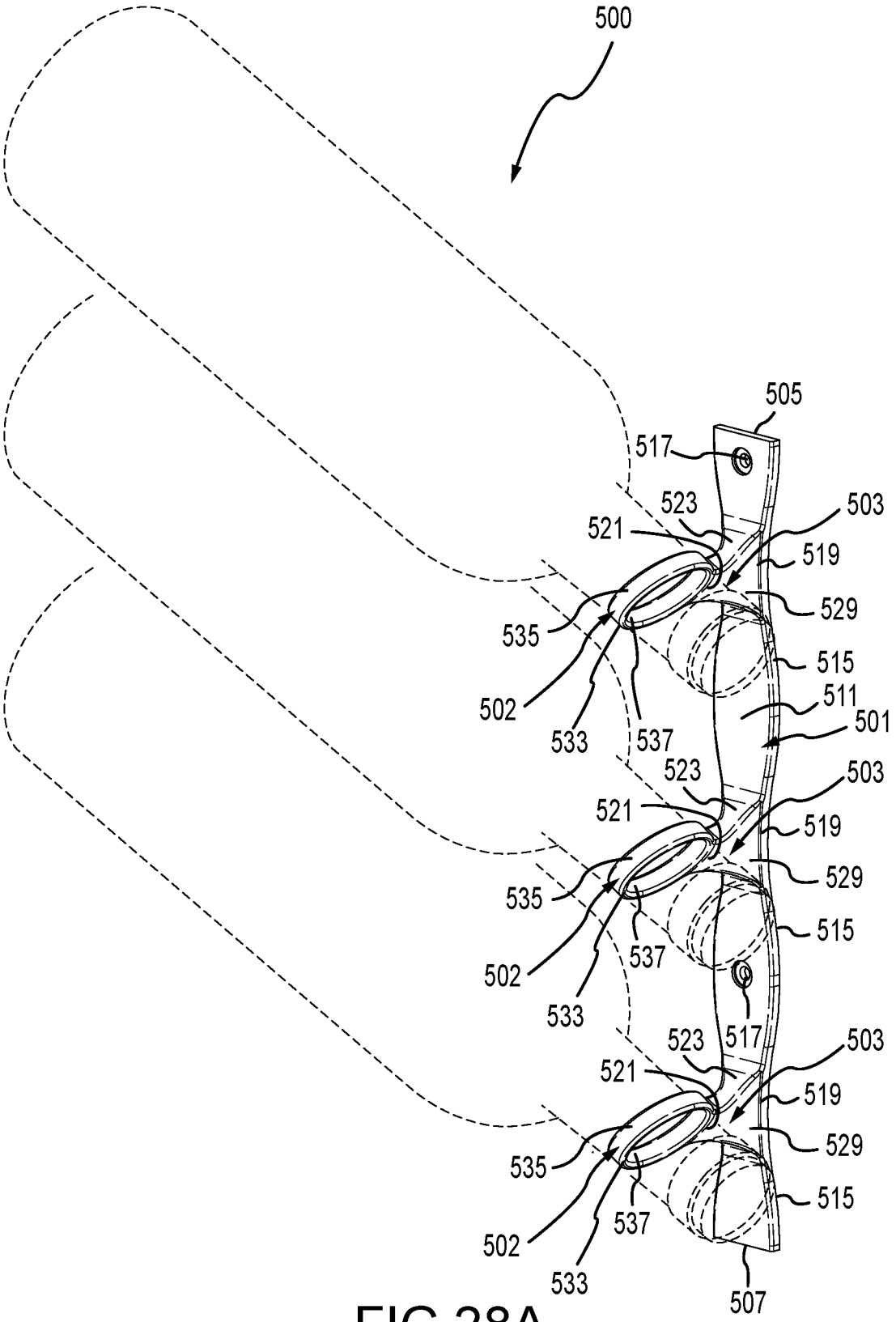
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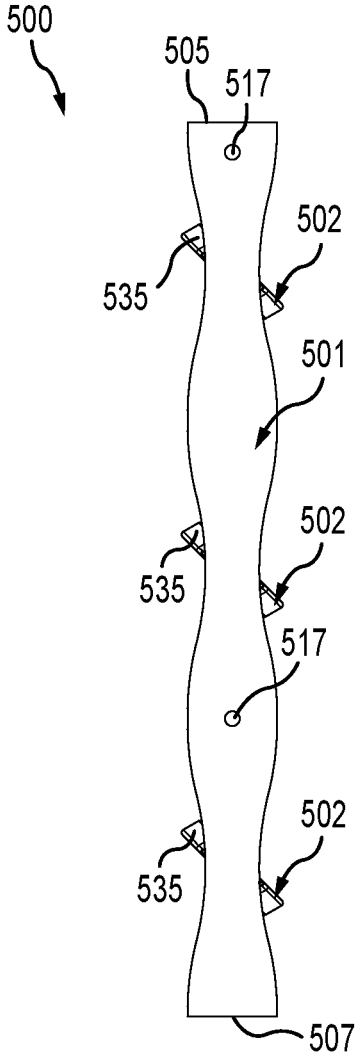
FIG.28A



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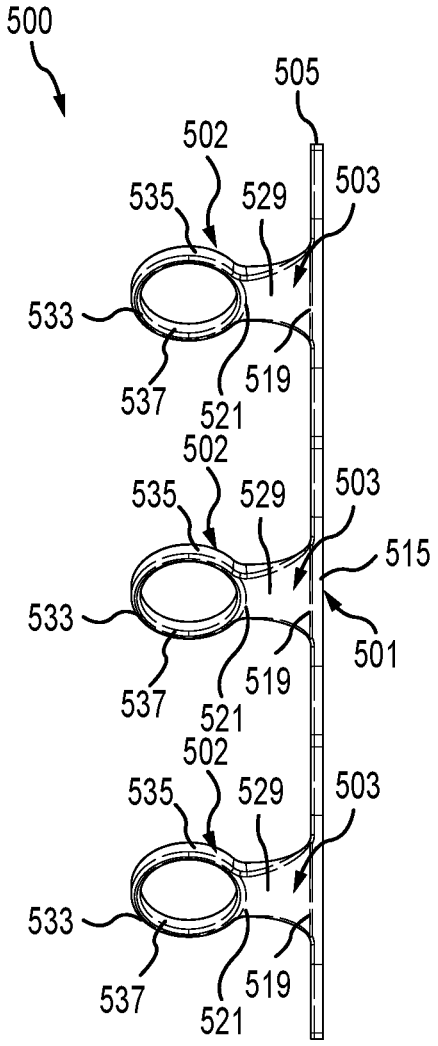

FIG.28C

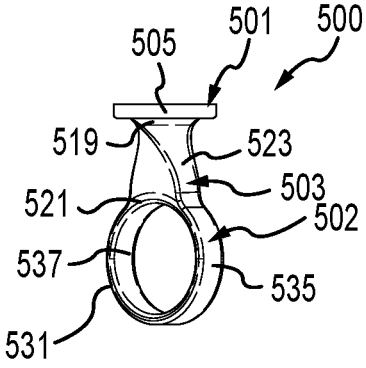

FIG.28D

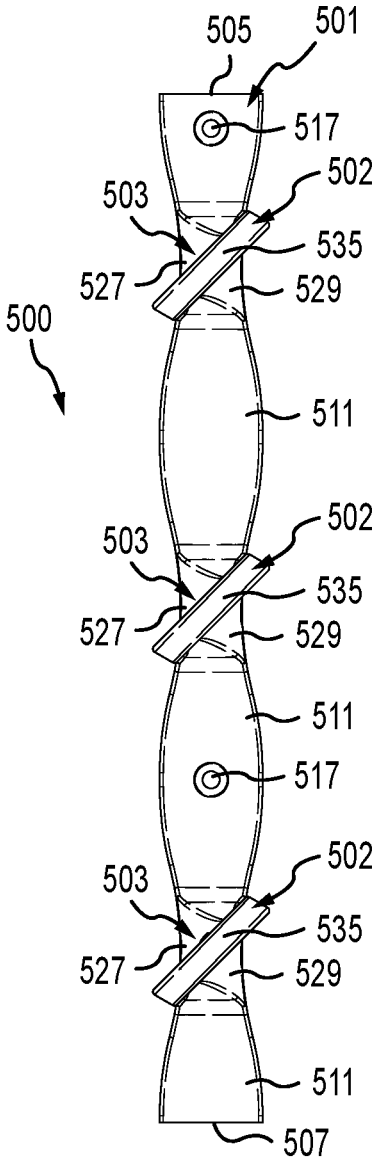

FIG.28E

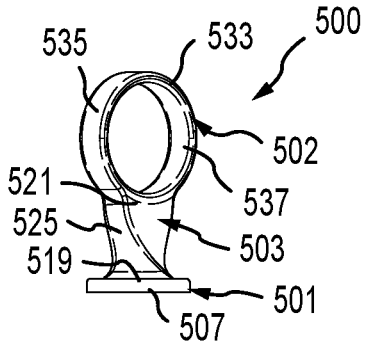

FIG.28F

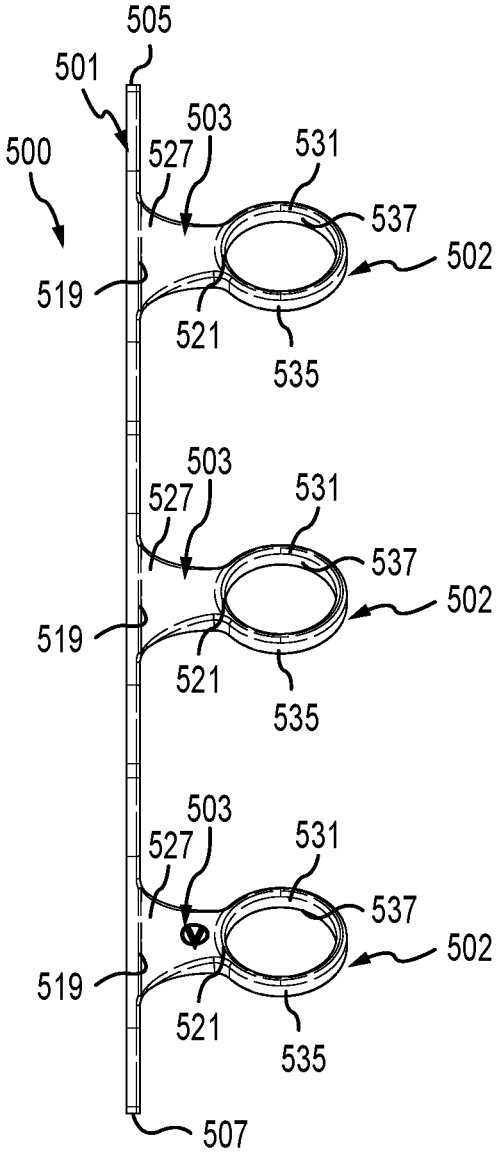

FIG.28G

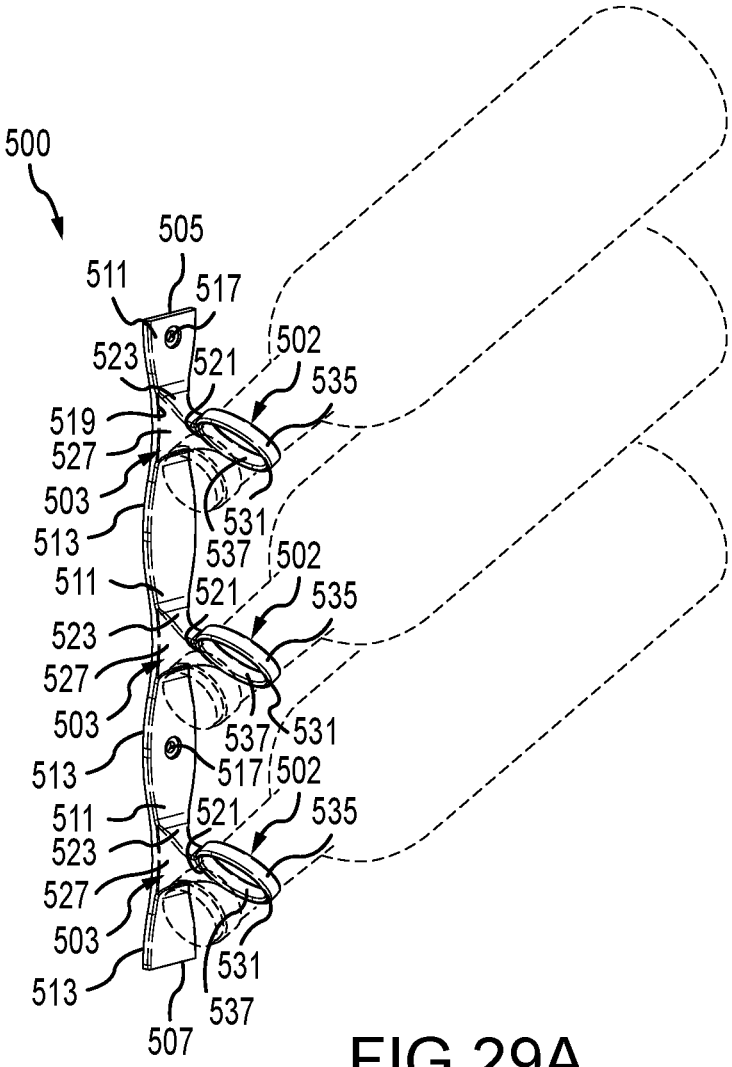
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FIG.29A

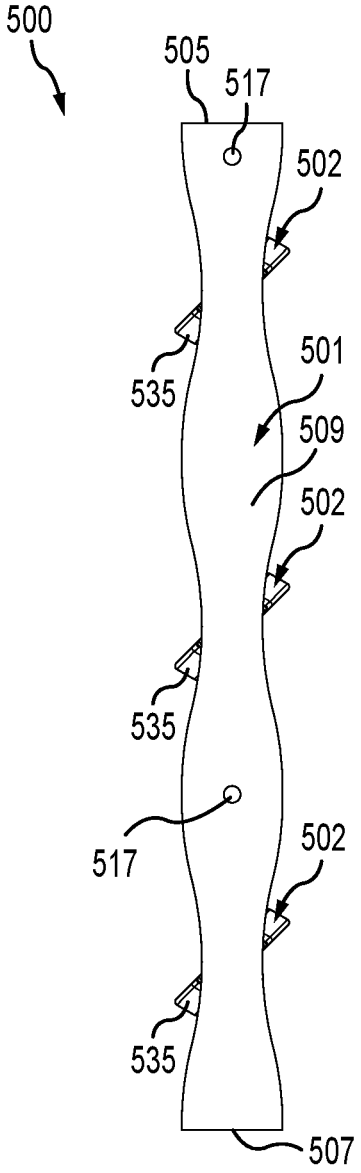

FIG.29B

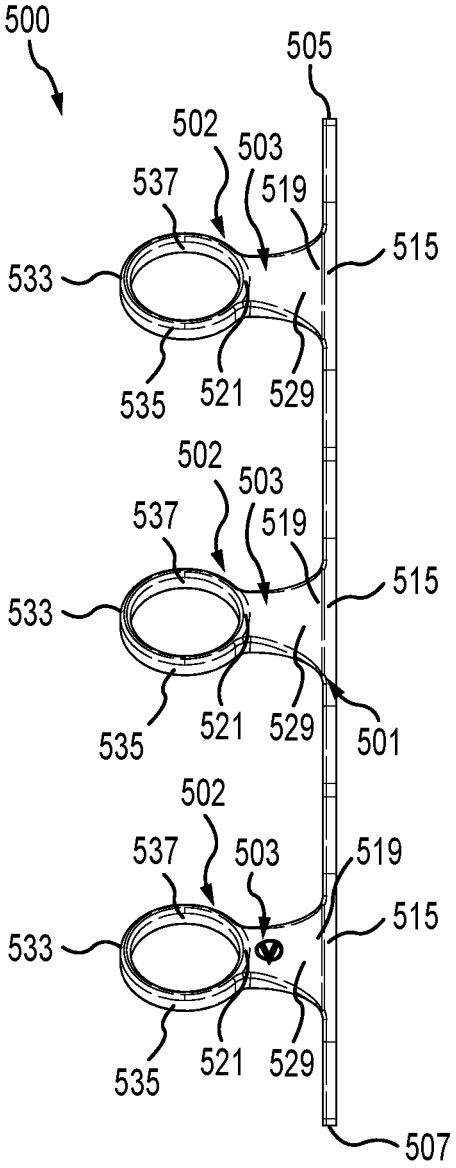

FIG.29C

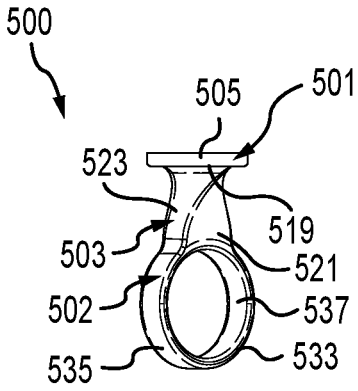

FIG.29D

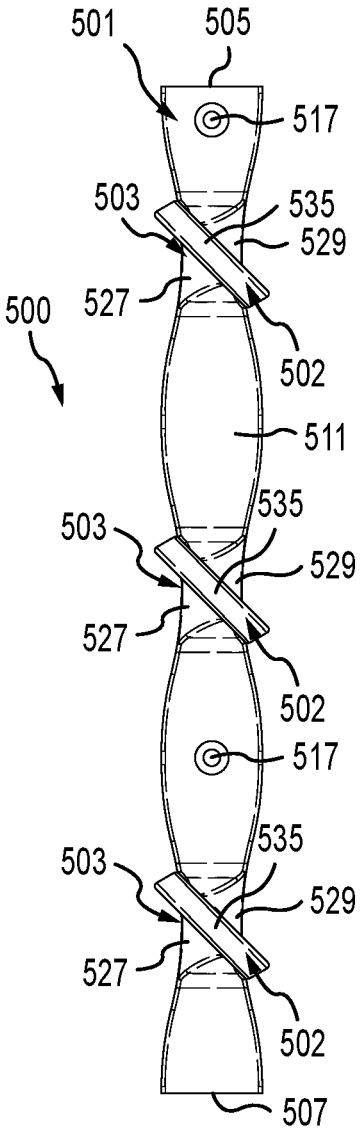

FIG.29E

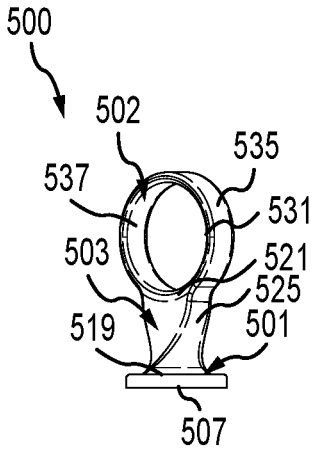

FIG.29F

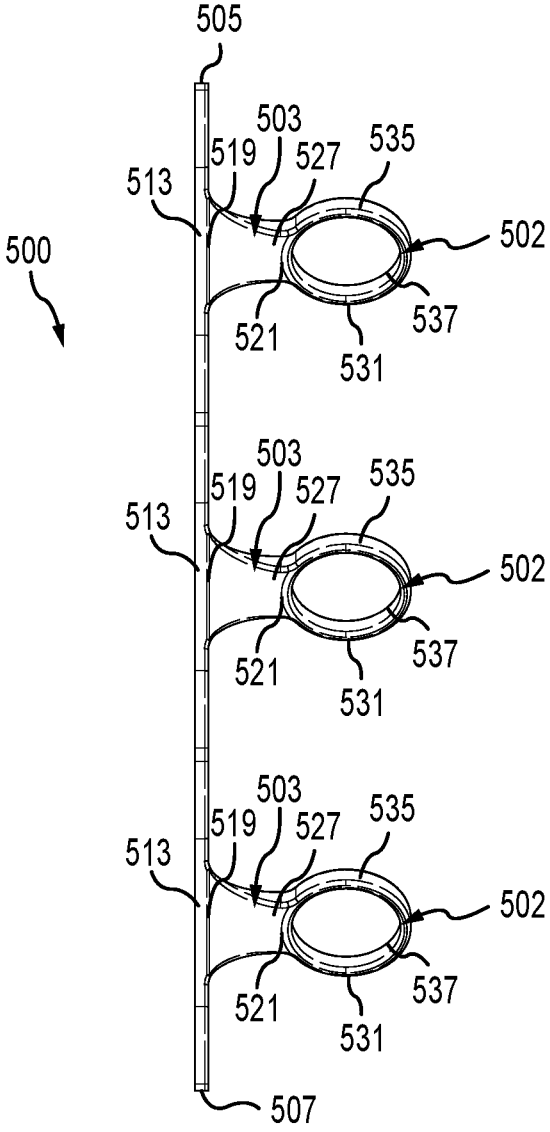

FIG.29G

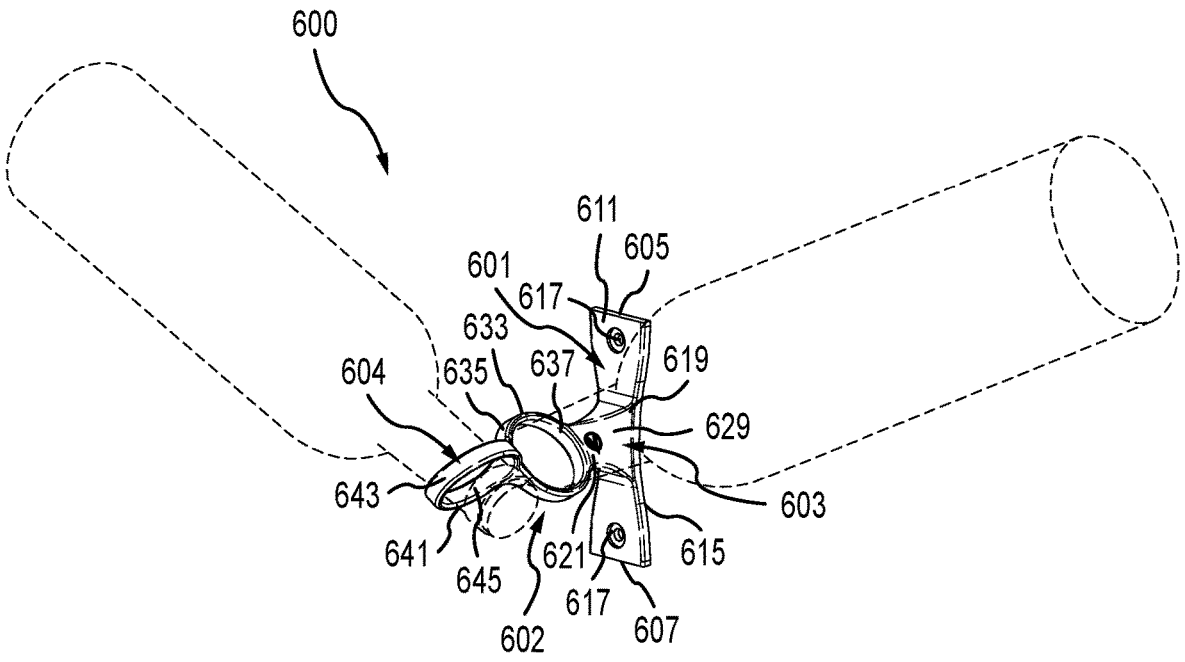
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FIG.30A

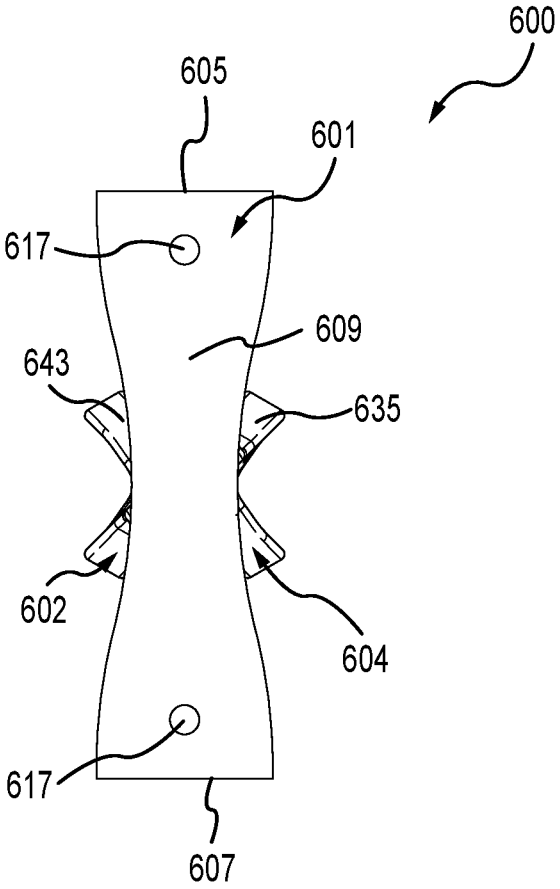

FIG.30B

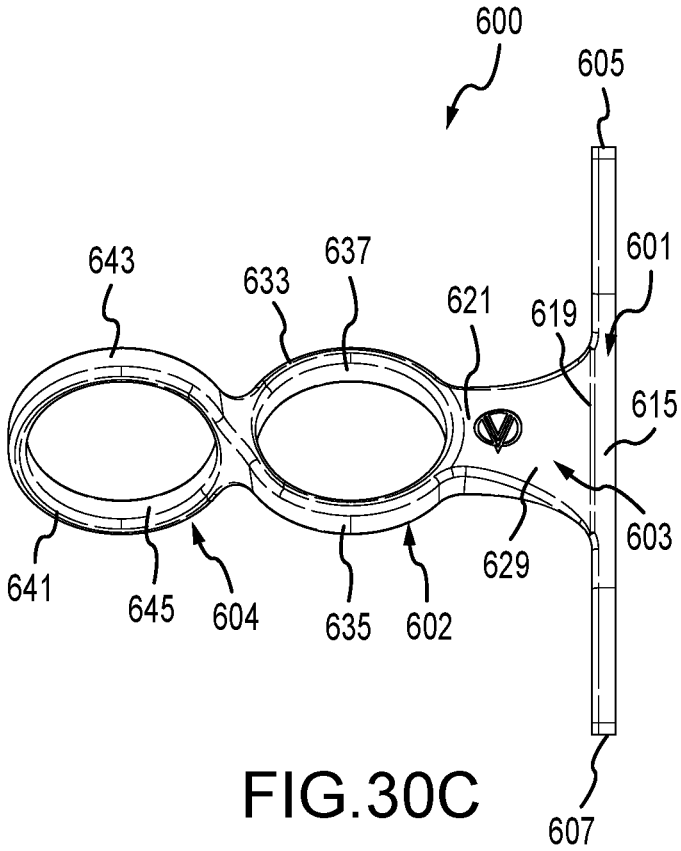

FIG.30C

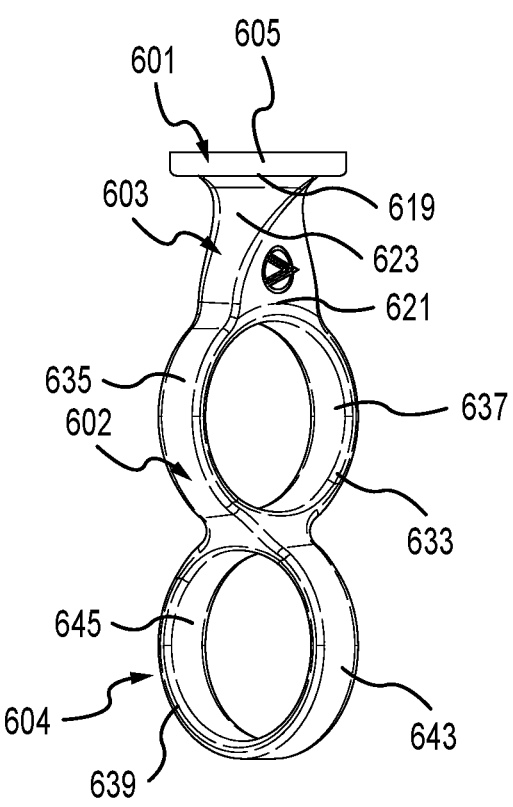

FIG.30D

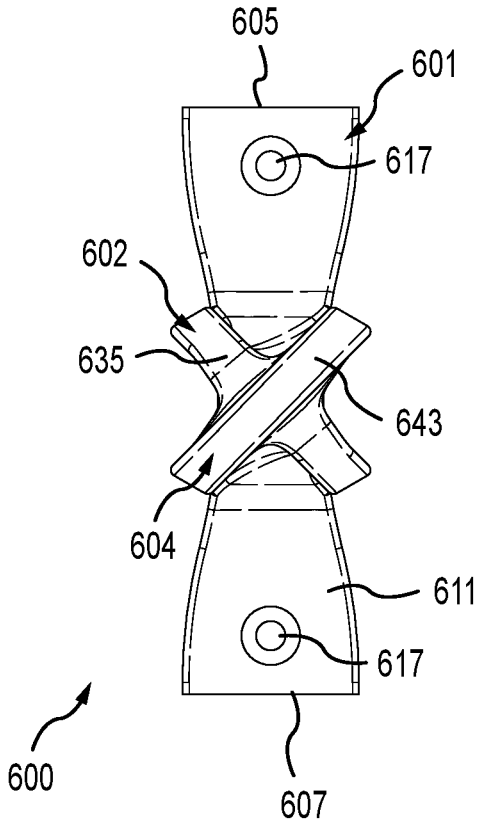

FIG.30E

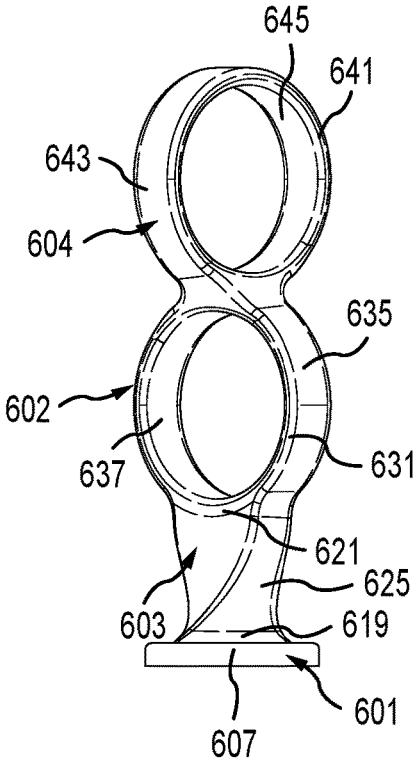

FIG.30F

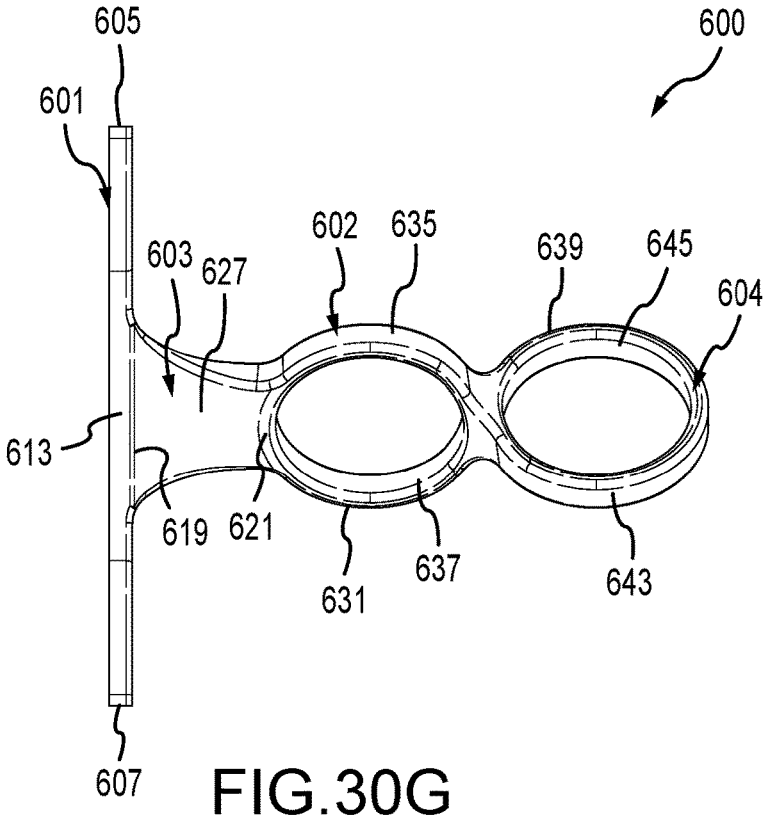

FIG.30G

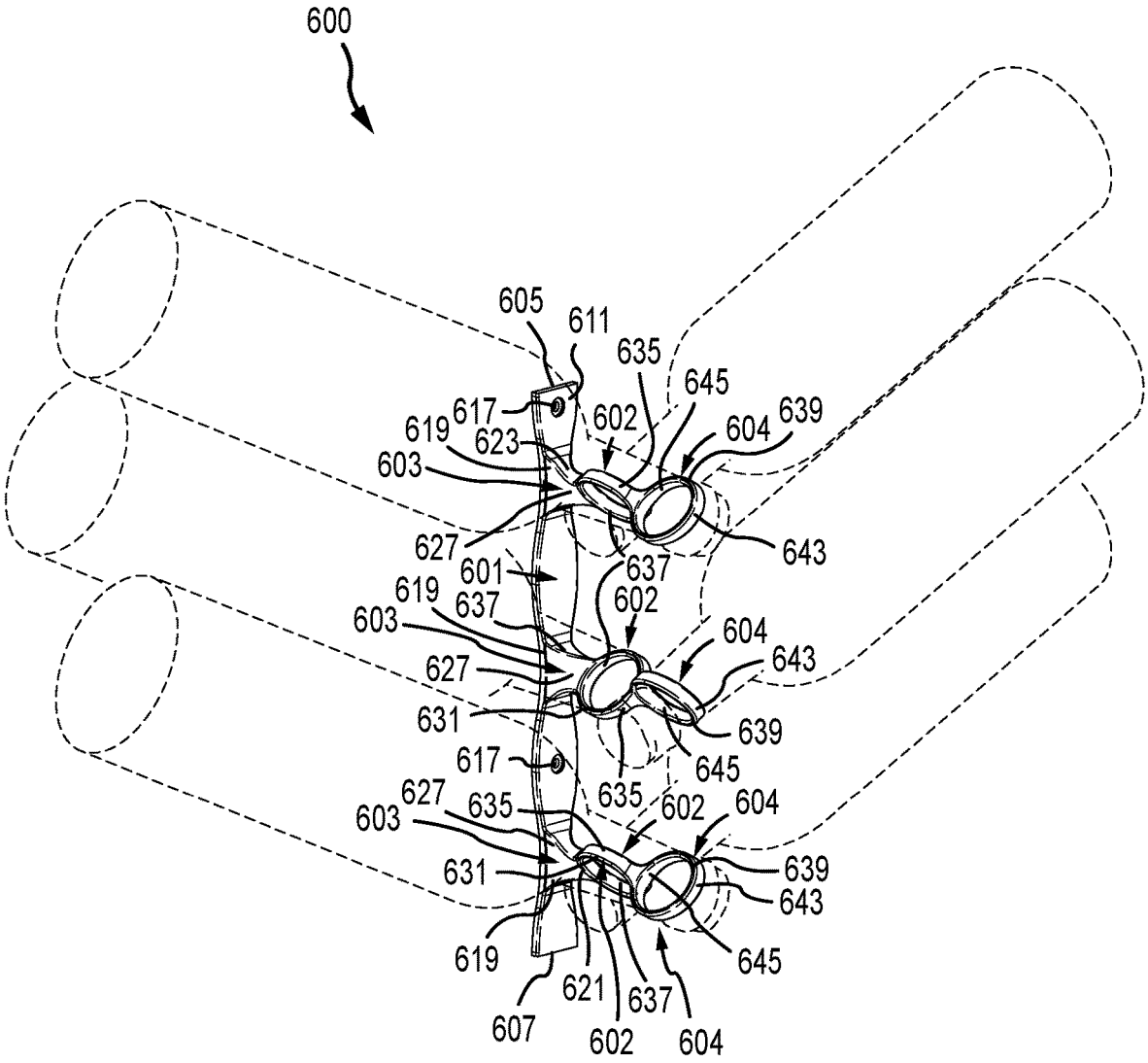
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FIG.31A

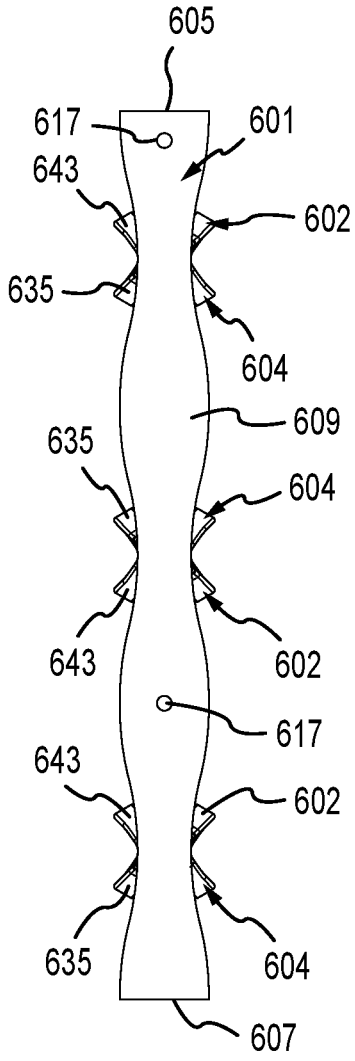

FIG.31B

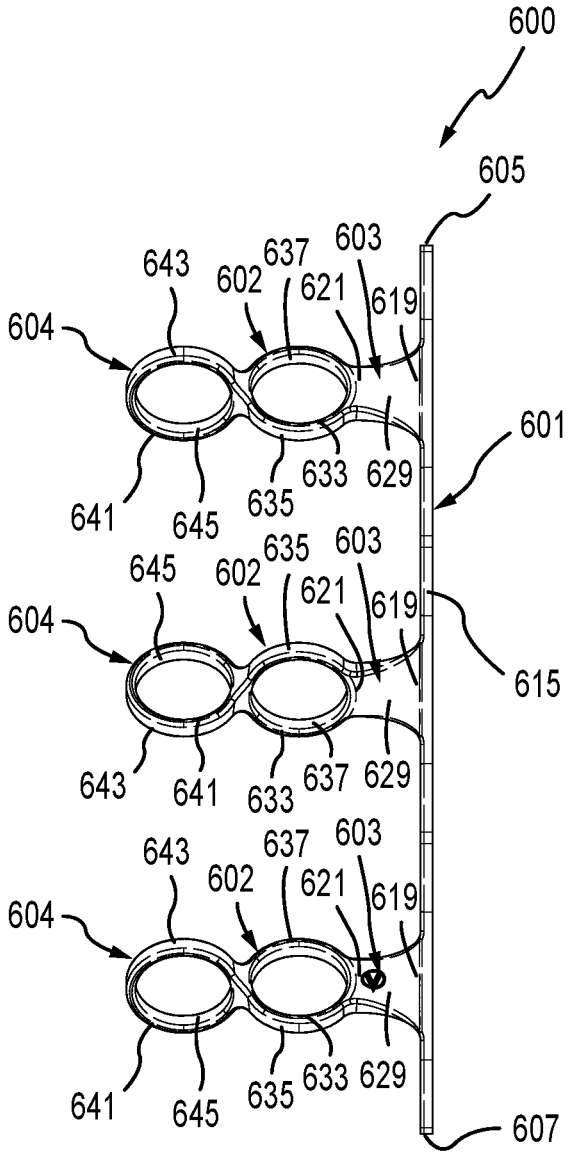

FIG.31C

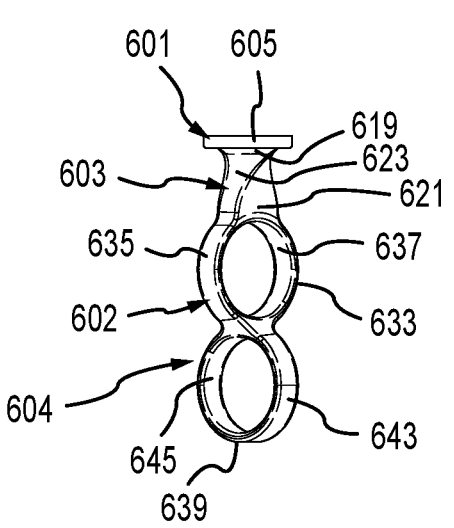

FIG.31D

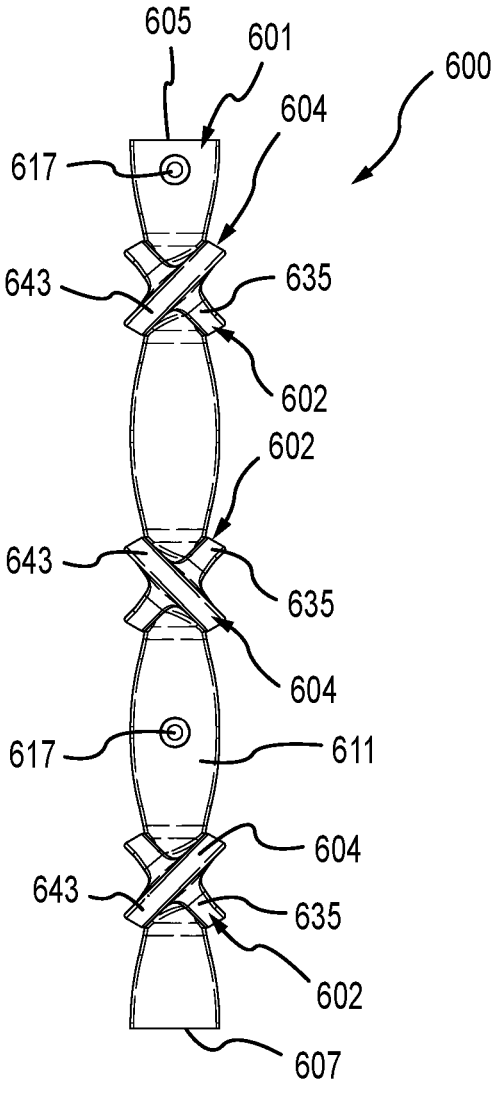

FIG.31E

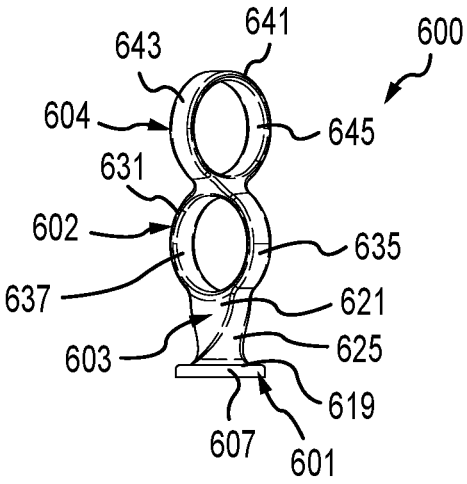

FIG.31F

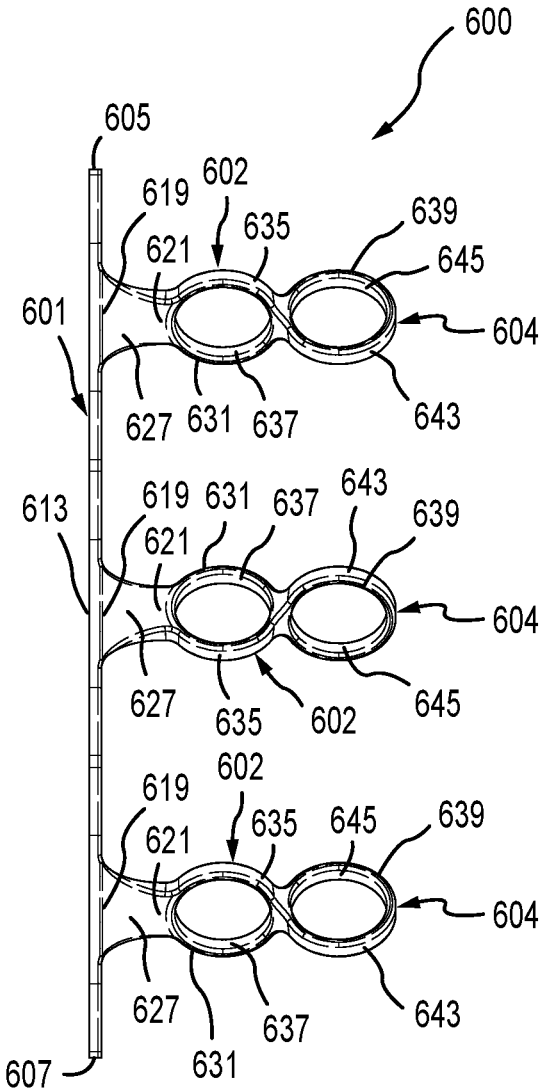

FIG.31G

BOTTLE STORAGE DEVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of International Application No. PCT/US2022/073112, filed Jun. 23, 2022, which claims the benefit of U.S. Provisional Application No. 63/213,802, filed Jun. 23, 2021, which applications are incorporated herein by reference in their entireties for all purposes.

FIELD OF THE INVENTION

The present disclosure is directed to a bottle storage device for storing bottles or other similarly shaped objects. More specifically, the present disclosure is directed to a bottle holder that supports a wine bottle.

BACKGROUND OF THE INVENTION

Conventionally, wine racks are used in wine cellars or other wine storage areas to store numerous bottles of wine in a desired area. With conventional wine racks, the bottles of wine are supported along the length of the bottle within a grid of generally rectangular cavities stacked upon and next to each other, each rectangular cavity typically formed by pairs of parallel wood supports held in position by front and rear frame structures. In this example of a conventional wine rack, the wine rack is typically configured such that user places a bottle of wine lengthwise within one of the rectangular cavities such that when the rack is full of wine bottles, only the top ends (i.e., where the foil is wrapped around the top end) of the wine bottles are generally visible when viewing the wine rack. In this arrangement, the labels on the wine bottle are not generally visible by the user. As such, in order to determine which type of wine (e.g., varietal/grape type, winery name, vintage/year, etc.) is stored in a particular cavity of such a wine rack, the user may need to remove the bottle from the wine rack in order to view the label on the bottle.

As such, there is a need in the art for wine racks that provides storage for wine bottles while permitting the user to view the label of the bottle of wine as the wine bottle rests in the wine rack.

SUMMARY

Aspects of the present disclosure include a wine bottle holder. The wine bottle holder may include: a plate, an extension member, and a first ring. The plate may be configured to be mounted to a surface. The extension member may be coupled to the plate and extend outwards from the plate. The first ring may be coupled to the extension member. The first ring may be configured to receive a portion of a first wine bottle. The first ring may include a first oblique cylindrical body that has a first pair of opposite end surfaces that are parallel to each other. The first pair of opposite end surfaces may define first oblique openings.

In certain instances, the first oblique cylindrical body may include a first outer cylindrical surface and a first inner cylindrical surface.

In certain instances, the first oblique cylindrical body may include a first inner cylindrical surface and a first centerline that is coaxial with the first inner cylindrical surface. The first oblique cylindrical body may be oriented so that the first centerline forms an angle between 15-degrees and 75-degrees with respect to a vertical axis when the plate is mounted to the surface.

In certain instances, the first inner cylindrical surface of the first ring may be configured to receive a neck of the first wine bottle, the first wine bottle angled in a cork-down orientation.

In certain instances, the extension member may be substantially perpendicular to the plate.

In certain instances, the plate may include at least one through hole configured to receive a fastener to mount the plate to the surface.

In certain instances, the plate, the extension member, and the first ring may be unitarily constructed.

In certain instances, the first oblique cylindrical body may include a first inner cylindrical surface and a first centerline that is coaxial with the first inner cylindrical surface. One of the first pair of opposite end surfaces of the first oblique cylindrical body may lie in a plane having a normal line centered on the first oblique opening, the first centerline not being coincident with the normal line.

In certain instances, the plate may be configured to be mounted in a first configuration and a second configuration by rotating the plate one hundred eighty degrees on the surface. In both the first configuration and the second configuration, a wine bottle is configured to be supported in a same angular orientation relative to a vertical axis.

In certain instances, the wine bottle holder further may include a second ring coupled to the first ring. The second ring may be configured to receive a portion of a second wine bottle. The second ring may include a second oblique cylindrical body that has a second pair of opposite end surfaces that are parallel to each other. The second pair of opposite end surfaces may define second oblique openings.

In certain instances, the second oblique cylindrical body may include an inner cylindrical surface and a second centerline that is coaxial with the inner cylindrical surface. The second oblique cylindrical body may be oriented so that the second centerline forms an angle between 15-degrees and 75-degrees with respect to a vertical axis when the plate is mounted to the surface. The second ring may be in an opposite orientation with respect to the vertical axis from the first ring so as to orient the first and second wine bottles in an opposing orientation.

Aspects of the present disclosure include a wine bottle holder. The wine bottle holder may include: a plate, a first extension member, a first ring, a second extension member, and a second ring. The plate may be configured to be mounted to a surface. The first extension member may be coupled to the plate and extend outwards from the plate. The first ring may be coupled to the first extension member. The first ring may be configured to receive a portion of a first wine bottle. The first ring may include a first oblique cylindrical body that has a first pair of opposite end surfaces that are parallel to each other. The first pair of opposite end surfaces may define first oblique openings. The second extension member may be coupled to the plate, spaced apart from the first extension member, and extend outwards from the plate. The second ring may be coupled to the second extension member. The second ring may be configured to receive a portion of a second wine bottle. The second ring may include a second oblique cylindrical body that has a second pair of opposite end surfaces that are parallel to each other. The second pair of opposite end surfaces may define second oblique openings.

In certain instances, the first oblique cylindrical body may include a first outer cylindrical surface and a first inner

cylindrical surface. The second oblique cylindrical body may include a second outer cylindrical surface and a second inner cylindrical surface.

In certain instances, the first oblique cylindrical body may define a first centerline that is coaxial with the first inner cylindrical surface. The second oblique cylindrical body may define a second centerline that is coaxial with the second inner cylindrical surface. The first oblique cylindrical body may be oriented so that the first centerline forms an angle between 15-degrees and 75-degrees with respect to a vertical axis when the plate is mounted to the surface. The second oblique cylindrical body may be oriented so that the second centerline forms an angle between 15-degrees and 75-degrees with respect to the vertical axis when the plate is mounted to the surface.

In certain instances, the inner cylindrical surface of the first ring may be configured to receive a neck of the first wine bottle, the first wine bottle angled in a cork-down orientation. The inner cylindrical surface of the second ring may be configured to receive the neck of the second wine bottle, the second wine bottle angled in a cork-down orientation.

In certain instances, the first extension member may be substantially perpendicular to the plate. The second extension member may be substantially perpendicular to the plate.

In certain instances, the plate may include at least one through hole configured to receive a fastener to mount the plate to the surface.

In certain instances, the plate, the first extension member, the first ring, the second extension member, and the second ring may be unitarily constructed.

In certain instances, the wine bottle holder further may include a third ring and a fourth ring. The third ring may be coupled to the first ring and configured to receive a portion of a third wine bottle. The third ring may include a third oblique cylindrical body having a third pair of opposite end surfaces that are parallel to each other. The third pair of opposite end surfaces may define third oblique openings. The fourth ring may be coupled to the second ring and configured to receive a portion of a fourth wine bottle. The fourth ring may include a fourth oblique cylindrical body having a fourth pair of opposite end surfaces that are parallel to each other. The fourth pair of opposite end surfaces may define fourth oblique openings.

In certain instances, the third ring may be positioned a distance away from the plate and the fourth ring may be positioned that distance away from the plate.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

FIG. **1** is a perspective view of a wall-mountable bottle holder in accordance with an embodiment of the present invention.

FIG. **2** is a side view of the wall-mountable bottle holder of FIG. **1**.

FIG. **3** is a front view of the wall-mountable bottle holder of FIG. **1**.

FIG. **4** is a front view of a wall-mountable bottle holder that is a slightly modified version of the wall-mountable bottle holder of FIG. **1**.

FIG. **5** is a perspective view of a wall-mountable dual bottle holder in accordance with an embodiment of the present invention.

FIG. **6** is a side view of the wall-mountable dual bottle holder of FIG. **5**.

FIG. **7** is a front view of the wall-mountable dual bottle holder of FIG. **5**.

FIGS. **8** and **9** are, respectively, perspective and front views of multiple of the wall-mountable dual bottle holders of FIG. **5** coupled to a singular mounting bracket that is configured to be mounted on a wall.

FIG. **10** is a close-up perspective view of a portion of FIG. **8** to illustrate the engagement between the wall-mountable dual bottle holder and the mounting bracket.

FIG. **11** is a perspective view of the mounting bracket of FIGS. **8** and **9**.

FIGS. **12** and **13** are perspective views of the wall-mountable bottle holders of FIGS. **1** and **4** mounted to a wall and supporting bottles.

FIG. **14** is a perspective view of a wall-mountable bottle holder in accordance with still another embodiment of the present invention.

FIG. **15** is a front view of the wall-mountable bottle holder of FIG. **14**.

FIG. **16** is a side view of the wall-mountable bottle holder of FIG. **14**.

FIG. **17** is a front view of a slightly modified version of the wall-mountable bottle holder of FIG. **14** intended for supporting bottles horizontally in the opposite direction.

FIG. **18** is a perspective view of a wall-mountable dual bottle holder in accordance with another embodiment of the present invention.

FIG. **19** is a side view of the wall-mountable dual bottle holder of FIG. **18**.

FIG. **20** is a front view of the wall-mountable dual bottle holder of FIG. **18**.

FIG. **21** is a rear view of the wall-mountable dual bottle holder of FIG. **18**.

FIG. **22** is a perspective view of a wall-mountable bottle holder with a latticed mounting portion in accordance with yet another embodiment of the present invention.

FIG. **23** is a front view of the wall-mountable bottle holder of FIG. **22**.

FIG. **24** is a bottle rack formed by arranging multiple of the wall-mountable bottle holders of FIG. **22** in a stacked and mating configuration.

FIG. **25** is a perspective view of a two-component wall-mountable bottle holder with the latticed mounting portion in accordance with an embodiment of the present invention.

FIG. **26**A is a perspective view of one instance of a wall-mountable bottle holder with a bottle in broken lines being supported by the holder.

FIG. **26**B is a front view of the wall-mountable bottle holder of FIG. **26**A with the ring shown in cross-section so as to see the centerline and normal line associated with the holder.

FIG. **26**C is a back view of the wall-mountable bottle holder of FIG. **26**A.

FIG. **26**D is a side view of the wall-mountable bottle holder of FIG. **26**A.

FIG. **26**E is a top view of the wall-mountable bottle holder of FIG. **26**A.

FIG. **26**F is a front view of the wall-mountable bottle holder of FIG. **26**A.

FIG. **26**G is a bottom view of the wall-mountable bottle holder of FIG. **26**A.

FIG. **26**H is a side view of the wall-mountable bottle holder of FIG. **26**A.

FIG. **27**A is a perspective view of one instance of a wall-mountable bottle holder that is a slightly modified

version of the wall-mountable bottle holder of FIGS. **26**A-H where the ring orients the bottle in an opposite direction relative to the vertical axis.

FIG. **27**B is a back view of the wall-mountable bottle holder of FIG. **27**A.

FIG. **27**C is a side view of the wall-mountable bottle holder of FIG. **27**A.

FIG. **27**D is a top view of the wall-mountable bottle holder of FIG. **27**A.

FIG. **27**E is a front view of the wall-mountable bottle holder of FIG. **27**A.

FIG. **27**F is a bottom view of the wall-mountable bottle holder of FIG. **27**A.

FIG. **27**G is a side view of the wall-mountable bottle holder of FIG. **27**A.

FIG. **28**A is a perspective view of one instance of a wall-mountable bottle holder with multiple bottle holders.

FIG. **28**B is a back view of the wall-mountable bottle holder of FIG. **28**A.

FIG. **28**C is a side view of the wall-mountable bottle holder of FIG. **28**A.

FIG. **28**D is a top view of the wall-mountable bottle holder of FIG. **28**A.

FIG. **28**E is a front view of the wall-mountable bottle holder of FIG. **28**A.

FIG. **28**F is a bottom view of the wall-mountable bottle holder of FIG. **28**A.

FIG. **28**G is a side view of the wall-mountable bottle holder of FIG. **28**A.

FIG. **29**A is a perspective view of one instance of a wall-mountable bottle holder that is a slightly modified version of the wall-mountable bottle holder of FIGS. **28**A-G where the rings orient the bottles in an opposite direction relative to the vertical axis.

FIG. **29**B is a back view of the wall-mountable bottle holder of FIG. **29**A.

FIG. **29**C is a side view of the wall-mountable bottle holder of FIG. **29**A.

FIG. **29**D is a top view of the wall-mountable bottle holder of FIG. **29**A.

FIG. **29**E is a front view of the wall-mountable bottle holder of FIG. **29**A.

FIG. **29**F is a bottom view of the wall-mountable bottle holder of FIG. **29**A.

FIG. **29**G is a side view of the wall-mountable bottle holder of FIG. **29**A.

FIG. **30**A is a perspective view of one instance of a wall-mountable dual bottle holder where the rings orient the bottles in an opposing fashion.

FIG. **30**B is a back view of the wall-mountable bottle holder of FIG. **30**A.

FIG. **30**C is a side view of the wall-mountable bottle holder of FIG. **30**A.

FIG. **30**D is a top view of the wall-mountable bottle holder of FIG. **30**A.

FIG. **30**E is a front view of the wall-mountable bottle holder of FIG. **30**A.

FIG. **30**F is a bottom view of the wall-mountable bottle holder of FIG. **30**A.

FIG. **30**G is a side view of the wall-mountable bottle holder of FIG. **30**A.

FIG. **31**A is a perspective view of one instance of a wall-mountable dual bottle holder with multiple bottle holders where the rings orient the bottles in an opposing fashion.

FIG. **31**B is a back view of the wall-mountable bottle holder of FIG. **31**A.

FIG. **31**C is a side view of the wall-mountable bottle holder of FIG. **31**A.

FIG. **31**D is a top view of the wall-mountable bottle holder of FIG. **31**A.

FIG. **31**E is a front view of the wall-mountable bottle holder of FIG. **31**A.

FIG. **31**F is a bottom view of the wall-mountable bottle holder of FIG. **31**A.

FIG. **31**G is a side view of the wall-mountable bottle holder of FIG. **31**A.

DETAILED DESCRIPTION

The following description of the preferred embodiment(s) is merely exemplary in nature and is in no way intended to limit the invention, its application, or uses.

The description of illustrative embodiments according to principles of the present invention is intended to be read in connection with the accompanying drawings, which are to be considered part of the entire written description. In the description of embodiments of the invention disclosed herein, any reference to direction or orientation is merely intended for convenience of description and is not intended in any way to limit the scope of the present invention. Relative terms such as "lower," "upper," "horizontal," "vertical," "above," "below," "up," "down," "top" and "bottom" as well as derivatives thereof (e.g., "horizontally," "downwardly," "upwardly," etc.) should be construed to refer to the orientation as then described or as shown in the drawing under discussion. These relative terms are for convenience of description only and do not require that the apparatus be constructed or operated in a particular orientation unless explicitly indicated as such. Terms such as "attached," "affixed," "connected," "coupled," "interconnected," and similar refer to a relationship wherein structures are secured or attached to one another either directly or indirectly through intervening structures, as well as both movable or rigid attachments or relationships, unless expressly described otherwise. Moreover, the features and benefits of the invention are illustrated by reference to the exemplified embodiments. Accordingly, the invention expressly should not be limited to such exemplary embodiments illustrating some possible non-limiting combination of features that may exist alone or in other combinations of features; the scope of the invention being defined by the claims appended hereto.

A ring consisting of an oblique cylindrical body may provide greater contact area than a right cylindrical body. The increased contact area may reduce stress concentrations on the bottle, thereby providing a safer way to support a bottle.

FIGS. **1-3** illustrate a wall-mountable bottle holder **100** (hereinafter "bottle holder") in accordance with an embodiment of the present invention. The bottle holder **100** includes a mounting portion or plate **101** configured to be mounted to the wall and a holding portion or ring **102** configured to hold a bottle, such as a bottle of wine or the like. The plate portion **101** may be coupled directly to a wall using the provided holes by inserting screws or the like therethrough and into the wall. Alternatively, the plate portion **101** may be slidably coupled to a mounting bracket (see, for example, FIG. **11**), which is in turn coupled directly to the wall.

A wall member or extension member **103** protrudes from the plate portion **101** to connect the holder portion **102** to the plate portion **101**. Thus, the holder portion **102** is spaced apart from the wall member **103** by a distance equal to a length of the wall member **103**. The holder portion or ring **102** is an annular shaped member having an inner surface

that defines a through-hole configured to receive a neck of a bottle. Furthermore, the holder portion **102** is oriented at an oblique angle relative to the plate portion **101** to enable the holder portion **102** to successfully hold a bottle by the neck of the bottle. FIG. **3** illustrates the holder portion **102** oriented in one direction and FIG. **4** illustrates the holder portion **102** oriented in the opposite direction. In FIG. **3** a bottle will extend from the holder portion **102** horizontally to the right, and in FIG. **4** a bottle will extend from the holder portion **102** horizontally to the left. Otherwise, the bottle holder **100** in FIG. **4** is identical to the one in FIG. **3**.

FIGS. **5-7** illustrate a wall-mountable dual bottle holder **150**. The wall-mountable dual bottle holder **150** is identical to the bottle holder **100** except that it includes a first holder portion **151** and a second holder portion **152** that are positioned in opposite oblique orientations. Thus, when viewed from the front as shown in FIG. **7**, the two holder portions **151**, **152** form an "X" shape. The dual bottle holder **150** can thereby hold one bottle to extend leftward and another bottle to extend rightward.

FIGS. **8** and **9** illustrate a plurality of the dual bottle holders **150** arranged adjacently and received within a mounting bracket **160**. The mounting bracket **160** is shown by itself in FIG. **11**. The mounting bracket **160** includes a channel **161** having a floor and a plurality of mounting holes **162** extending through the floor. Thus, the mounting bracket **160** is configured to be mounted directly to a wall by inserting screw through the mounting holes **162** and into the wall. Next, a set of the bottle holders **100**, **150** described herein can be slidably inserted into the channel **161**. The screw may be inserted through the openings in the bottle holders **100**, **150** and into the holes **162** in the mounting bracket **160** to simultaneously attach the bottle holders **100**, **150** to the mounting bracket **160** and attach the apparatus to the wall. Alternatively, set screws can be used to secure the bottle holders to the mounting bracket **160** with the mounting bracket **160** mounted directly to the wall as noted above. FIG. **10** is a close-up view illustrating the interaction between the plate portion of the dual bottle holders **150** and the channel **161** of the mounting bracket **160**.

FIGS. **12** and **13** illustrate the various bottle holders described herein above mounted to a wall and being used to support bottles, and specifically wine bottles in the exemplified embodiment. However, other bottles could be supported by the bottle holders, including liquor or any other type of beverage bottle, or the like. As seen in the figures, the labels on the bottles are visible because the bottles are oriented generally parallel to the wall.

FIGS. **14-17** illustrate yet another embodiment of a bottle holder **200**. This bottle holder **200** is very similar to the ones described above, except that the holder portions are hexagonal instead of circular and the plate portion has hexagonal shaped mounting portions. FIGS. **18-21** illustrate a bottle holder **200** that is the same as the bottle holder **200**, except it has two holder portions for holding two bottles (i.e., like the dual bottle holder **150** described above). As seen, the mounting portions have through-holes to facilitate the attachment of the bottle holders **200**, **210** to the wall as described herein.

FIGS. **22** and **23** is another example of a bottle holder **300** that is similar to the ones described above, except it includes additional hollowed-out hexagonal mounting features. As shown in FIG. **24**, a plurality of the bottle holders **300** may be arranged in a side-by-side manner to create a unique visual appearance with the hexagonal mounting features.

FIG. **25** is a two-component bottle holder system **400**. In this system, the bottle holder portion **401** is separate from the wall mount portion **402**. The bottle holder portion **401** may be configured for attachment to the wall mount portion **402** via fasteners or other hardware such as screws, nails, bolts, set screws, or the like. The wall mount portion **402** can be mounted to the wall using the mounting holes as has been described above with the prior embodiments. The two-component bottle holder system **400** is identical to the bottle holder **300** except it comes in two parts for ease of manufacturing.

The bottle holder may be formed from any material desired, including aluminum or other metals, plastic, thermoplastic, cork, or the like. The holder portion of the bottle holder may have any desired diameter. Thus, if the bottle holder is configured to store a standard Bordeaux wine bottle, the holder portion may have a sufficient diameter for this purpose. The bottle holder may be mounted to the wall using screws, anchors, and/or other hardware through the mounting holes.

FIGS. **26**A-H illustrate one instance of a bottle holder **500**. The bottle holder **500** includes a plate **501**, an extension member **503** extending from the plate **501**, and a ring **502** coupled to the extension member **503**. Due to the orientation of the ring **502** in FIGS. **26**A-H, the body of the bottle extends from the ring **502** upwardly and to the left of the ring **502** and a portion of the neck of the bottle extends from the ring **502** downwardly and to the right of the ring **502**. This is a cork-down orientation.

The bottle holder **500** may be made from plastic, wood, or metal, among other materials. As non-limiting examples of metals, the bottle holder **500** may be constructed of aluminum, brass, copper, steel, titanium, or a combination thereof. In one instance, the plate **501**, the extension member **503**, and the ring **502** may be unitarily constructed. For example, the bottle holder **500** may be constructed entirely of steel. In other instances, the bottle holder **500** may be constructed of more than one material.

In one instance, the plate **501** may be generally rectangular in shape. In other instances, the plate **501** may be generally circle shaped, oval shaped, triangle shaped, square shaped, rhombus shaped, trapezoid shaped, pentagon shaped, hexagon shaped, heptagon shaped, or octagon shaped.

The plate **501** may include a first end **505** and a second end **507**, wherein the second end **507** is opposite the first end **505**. In one instance, when the bottle holder **500** is installed, the first end **505** may be the top end of the plate **501** and the second end **507** may be the bottom end of the plate **501**.

The plate **501** may include a rear-facing surface **509** (seen in FIG. **26**C) and a front-facing surface **511**. In one instance, when the bottle holder **500** is installed, the rear-facing surface **509** may be the wall-facing surface of the plate **501** and the front-facing surface **511** may be the room-facing surface of the plate **501**. The distance between the rear-facing surface **509** and the front-facing surface **511** defines a thickness of the plate **501**.

The plate **501** may include a first side edge **513** and a second side edge **515**, wherein the second side edge **515** is opposite the first side edge **513**. In one instance, when the bottle holder **500** is installed, the first side edge **513** may be the left-side edge of the plate **501** and the second side edge **515** may be the right-side edge of the plate **501**. In one instance, the plate **501** may include in-cuts at the first side edge **513** and/or second side edge **515**, thereby defining a waist of the plate **501**.

The plate **501** may be configured to be mounted to a surface. In one instance, the surface may be a substantially vertical surface such as a wall. The plate **501** may contain an

adhesive on the rear-facing surface, whereby the adhesive is configured to mount the plate **501** to a surface.

The plate **501** may include one or more through-holes **517** that are each configured to each receive a fastener to mount the plate **501** to the surface. As non-limiting examples, fasteners may include nails, screws, or bolts. Additional hardware, such as anchors, may be used to mount the plate **501** to the surface. In one instance, a fastener may be inserted through a through-hole **517** to attach the plate **501** to a wall, thereby mounting the bottle holder **500** to the wall. In one instance, the plate **501** may include two through-holes **517**. A first through-hole **517** may be located near the first end **505** of the plate **501** and a second through-hole **517** may be located near the second end **507** of the plate **501**. In another instance, the plate **501** may include one through-hole **517**. In other instances, the plate **501** may include three, four, five, six, seven, or eight through-holes **517**.

The plate **501** may be configured to be mounted in a first configuration and a second configuration. The second configuration may include rotating the plate 180-degrees from the first configuration. The bottle holder **500** may be configured so that a bottle will be supported in the same orientation relative to a vertical axis in both the first configuration and the second configuration. That is, the bottle holder can be mounted with either the first end **505** at the top and the second end **507** at the bottom or vice versa with the second end **507** at the top and the first end **505** at the bottom. In both orientations, the body of the bottle supported by the ring **502** will extend upward to the left and the cork will be down and to the right, as seen in FIG. **26**A.

Continuing with FIGS. **26**A-H, an extension member **503** may be coupled to the plate **501** and extend outwardly, away from the plate **501**. In one instance, the extension member **503** may be coupled to the plate **501** between the first end **505** of the plate **501** and the second end **507** of the plate **501**. The extension member **503** may contain a first end **519** and a second end **521**, wherein the second end **521** is opposite the first end **519**. In one instance, when the bottle holder **500** is installed, the first end **519** may be coupled to the plate **501** and the second end **521** may be the terminal end of the extension member **503**. The second end **521** of the extension member **503** may be coupled to a ring **502**.

In one instance, the cross section of the extension member **503** may be generally rectangular in shape. In other instances, the cross section of the extension member **503** may be generally circle shaped, oval shaped, triangle shaped, square shaped, rhombus shaped, trapezoid shaped, pentagon shaped, hexagon shaped, heptagon shaped, or octagon shaped.

The extension member **503** may contain a first edge **523**, as seen in FIG. **26**E, and a second edge **525**, as seen in FIG. **26**G, wherein the second edge **525** is opposite the first edge **523**. In one instance, when the bottle holder **500** is installed, the first edge **523** may be the top edge of the extension member **503** and the second edge **525** may be the bottom edge of the extension member **503**. The distance between the first edge **523** and the second edge **525** may define a vertical thickness of the extension member **503**. In one instance, the extension member **503** may include in-cuts at the first edge **523** and/or second edge **525**, thereby defining a waist of the extension member **503** in the vertical direction. In one instance, the first edge **523** and/or the second edge **525** might not be planar. For example, the first edge **523** and/or the second edge **525** may contain an in-cut and/or may be twisted. In other instances, the first edge **523** and/or the second edge **525** may be planar.

The extension member **503** may contain a first side edge **527** and a second side edge **529**, wherein the second side edge **529** is opposite the first side edge **527**. In one instance, when the bottle holder **500** is installed, the first side edge **527** may be the left side of the extension member **503** and the second side edge **529** may be the right side of the extension member **503**. The distance between the first side edge **527** and the second side edge **529** may define a horizontal thickness of the extension member **503**. In one instance, the extension member **503** may include in-cuts at first side edge **527** and/or second side edge **529**, thereby defining a waist of the extension member **503** in the horizontal direction. In one instance, the first side edge **527** and/or the second side edge **529** might not be planar. For example, the first side edge **527** and/or the second side edge **529** may contain an in-cut and/or may be twisted. In other instances, the first side edge **527** and/or the second side edge **529** may be planar.

In one instance, the extension member **503** may be generally perpendicular to the plate **501**. In other words, the extension member **503** may form two right angles with respect to the plate **501** in the horizontal direction (i.e., to the left and to the right of the extension member **503**) and two right angles with respect to the plate **501** in the vertical direction (i.e., above and below the extension member **503**). Thus, the extension member **503** may extend horizontally outward away from the plate **501** when the bottle holder **500** is mounted to a vertical surface such as a wall. In other instances, the extension member **503** may be oblique (i.e., not perpendicular) to the plate **501**. In other words, the extension member **503** may form an acute angle and an obtuse angle with respect to the plate **501** in the horizontal direction and/or the extension member **503** may form an acute angle and an obtuse angle with respect to the plate **501** in the vertical direction.

Continuing with FIGS. **26**A-H, a ring **502** may be coupled to the second end **521** of the extension member **503**. The ring **502** may be configured to receive a portion of a bottle. In other words, the bottle holder **500** supports the bottle when the ring **502** receives a portion of the bottle. The bottle holder **500** may be used to support any bottle, such as a glass bottle or a plastic bottle. For example, the bottle holder **500** may hold beverage bottle. In some instances, the bottle holder **500** may hold a wine bottle, a beer bottle, or a liquor bottle.

As best seen in FIG. **26**B, which is a front view of the bottle holder **500** with the ring **502** in cross-section, the ring **502** may be an oblique cylindrical body. A right cylinder RC is overlaid on the oblique cylindrical body and is shown in broken line. The right cylinder RC contains a circular first base, a circular second base that is parallel to the first base, and a cylindrical or curvate surface that connects the circular first base to the circular second base. Additionally, a segment that would connect the center of the first base to the center of the second base is perpendicular to the first base and the second base. Thus, the cylindrical surface connecting the circular first base to the circular second base is perpendicular to both the circular first base and the circular second base. Conversely, an oblique cylinder contains a first base which is angled relative to the first base of the right cylinder RC. The oblique cylinder also includes a second base which is angled relative to the second base of the right cylinder RC and that is parallel to the first base. A curved or cylindrical surface connects the first base to the second base. Additionally, a segment that would connect the center of the first base to the center of the second base is oblique (i.e., not perpendicular) to the first base and the second base. Thus, the

curved surface connecting the first base to the second base is oblique to both the first base and the second base.

As best seen in FIG. **26**B, the oblique cylindrical body of the ring **502** may have a first end surface **531** and a second end surface **533**, wherein the second end surface **533** is opposite the first end surface **531**. In one instance, when the bottle holder **500** is installed, the first end surface **531** may be the left side of the ring **502** and the second end surface **533** may be the right side of the ring **502**. The second end surface **533** and the first end surface **531** may be parallel to each other. The first end surface **531** may be oblique (i.e., not perpendicular) to the oblique cylindrical body and, as a result, the first end surface **531** may be oval shaped. The first end surface **531** may define an oblique opening, which may be oval shaped. Similarly, the second end surface **533** may be oblique with respect to the oblique cylindrical body and, as a result, the second end surface **533** may be oval shaped. The second end surface **533** may define an oblique opening, which may be oval shaped.

The oblique cylindrical body of the ring **502** may include an outer cylindrical surface **535** and/or an inner cylindrical surface **537**, as seen in FIG. **26**B. The first end surface **531** may be oblique (i.e., not perpendicular) with respect to the outer cylindrical surface **535** and/or inner cylindrical surface **537**. Additionally, the second end surface **533** may be oblique with respect to the outer cylindrical surface **535** and/or inner cylindrical surface **537**. The inner cylindrical surface **537** may be configured to receive the neck of a bottle.

As seen in FIG. **26**B, the oblique cylindrical body of the ring **502** may include a centerline CL that is coaxial with the inner cylindrical surface **537**. The center line CL is also parallel with the extension lines that extend from the inner cylindrical surface **537** in FIG. **26**B. The oblique cylindrical body may be oriented so that the centerline CL forms a vertically offset angle VO between 15-degrees and 75-degrees with respect to a vertical axis VA when the plate **501** is mounted to a surface. For example, in one instance, the oblique cylindrical body may be oriented so that the centerline CL forms a vertically offset angle VO of about 45-degrees with respect to the vertical axis VA. For example, in one instance, the oblique cylindrical body may be oriented so that the centerline CL forms a vertically offset angle VO of about 67-degrees with respect to the vertical axis VA (about 23-degrees with respect to a horizontal axis). For example, in one instance, the oblique cylindrical body may be oriented so that the centerline CL forms a vertically offset angle VO of about 60-degrees with respect to the vertical axis VA (about 30-degrees with respect to a horizontal axis). For example, in one instance, the oblique cylindrical body may be oriented so that the centerline CL forms a vertically offset angle VO of about 30-degrees with respect to the vertical axis VA (about 60-degrees with respect to a horizontal axis).

The longitudinal axis of the bottle (not shown in FIG. **26**B) may be oriented at a slightly different angle than the centerline CL of the oblique cylindrical body of the ring **502**. In one instance, the longitudinal axis of the bottle may be angled slightly less with respect to a horizontal axis (slightly greater with respect to the vertical axis VA) than the centerline CL of the oblique cylindrical body of the ring **502** because gravity will cause the bottle to rotate around the ring **502**. Thus, if a certain angle of the bottle is desired, then a slightly different angle must be provided for the centerline CL of the ring **502** to account for the bottle tending to rotate about the ring **502**. In one instance, the oblique cylindrical body of the ring **502** may be configured to hold a bottle at an angle of about 23-degrees with respect to a horizontal axis (about 67-degrees with respect to the vertical axis VA). In another instance, the oblique cylindrical body of the ring **502** may be configured to hold a bottle at an angle of about 30-degrees with respect to a horizontal axis (about 60-degrees with respect to the vertical axis VA).

Still referring to FIG. **26**B, the first and second end surfaces **531**, **533** are parallel to each other. The first and second end surfaces **531**, **533** are, however, not perpendicular to the inner cylindrical surfaces **537** since the ring **502** is not a right cylinder. Because the ring **502** is an oblique cylindrical body, a plane P defined by the first and/or second end surface **531**, **533** has a normal line NL (centered on the oblique opening) that is not coincident with the centerline CL (which is coaxial with the inner cylindrical surface **537**). An offset angle OA is defined between the centerline CL and the normal line NL. In one instance, the offset angle OA is about 15 degrees. In one instance, the offset angle OA is about 10 degrees. In one instance, the offset angle OA is about 5 degrees. In one instance, the offset angle OA is about 20 degrees. In one instance, the offset angle OA is about 25 degrees. In a right cylinder RC, which is shown in broken lines, the centerline CL would be coincident with the normal line NL. By using an oblique cylindrical body for the ring **502**, less material is used in the manufacture of the ring **502** as compared with a ring that is a right cylinder. The oblique cylindrical body functions to support the bottle as efficiently as a right cylinder, but it uses less material to do so. The oblique cylindrical body supports the bottle in the needed positions to counteract the bending moment of the bottle within the ring **502** (i.e., downward force on the lower portion of the ring **502** in FIG. **26**B, and an upward force on the upper portion of the ring **502** in **26**B). In one instance, the centerline may be parallel to the plate **501**.

In one instance, the ring **502** may be configured to receive the neck of the bottle. For example, the ring **502** may be configured to receive the neck of a wine bottle. In one instance, the ring **502** may be configured to receive the wine bottle angled in a cork-down orientation. In one instance, the neck of a bottle may be inserted through the ring **502** with the bottle angled downward. The ring **502** may be configured to support the neck of the bottle with the bottle angled downward. This orientation may allow liquid within the bottle to contact the cap, cork, or otherwise seal at or near the mouth of the bottle. For example, the downward orientation of a wine bottle (i.e., cork down orientation) may allow liquid wine within the bottle to contact the cork of the wine bottle. This may keep the cork moist, thereby preventing the cork from drying out and preventing the ingress of air into the wine bottle.

A portion of the neck of the bottle may contact a portion of the inner cylindrical surface **537** of the ring **502**. For example, an upward-facing portion of the inner cylindrical surface **537** may contact a downward-facing portion of the neck and a downward-facing portion of the inner cylindrical surface **537** may contact an upward-facing portion of the neck. Thus, the inner cylindrical surface **537** constrains the neck of the bottle, thereby supporting the bottle. When the portions of the inner cylindrical surface **537** are engaged with the neck of the bottle, the forces applied by the inner cylindrical surface **537** prevent the bottle from translating horizontally or vertically and also prevent rotation of the bottle.

The oblique cylindrical body of the ring **502** may provide advantages over a right cylindrical body. For example, an oblique cylindrical body may provide more surface area for the bottle to contact (i.e., contact area). The oblique cylin-

drical body contains an inner cylindrical surface **537** that is not perpendicular to either the first end surface **531** or the second end surface **533**. As a result, the bottle may be supported by the oblique cylindrical body at two edges (i.e., the first edge is formed by the intersection of the inner cylindrical surface **537** with the first end surface **531** and the second edge is formed by the intersection of the inner cylindrical surface **537** with the second end surface **533**) and/or by the inner cylindrical surface **537**. In other words, the bottle may contact a greater portion of the inner cylindrical surface **537** of the oblique cylindrical body because the inner cylindrical surface **537** is not perpendicular to the bases. This greater contact area may reduce stress concentrations where the oblique cylindrical body supports the bottle. Thus, the oblique cylindrical body may provide a safer way to support a bottle.

On the other hand, a right cylindrical body may provide less surface area for a bottle to contact (i.e., contact area). A right cylindrical body would contain an inner cylindrical surface that would be perpendicular to both the first end surface and the second end surface. As a result, the bottle may be supported by the right cylindrical body only at two edges; the first edge is formed by the intersection of the inner cylindrical surface with the first end surface and the second edge is formed by the intersection of the inner cylindrical surface with the second end surface. This lesser contact area might increase stress concentrations where the right cylindrical body supports the bottle.

FIGS. **27**A-G illustrate one instance of a bottle holder **500** that includes the same features as the bottle holder **500** described in FIGS. **26**A-H; however, the bottle holder **500** in FIGS. **27**A-**27**G includes the ring **502** in a different orientation. Due to the same features, the reference numbers and the description for the bottle holder **500** in FIGS. **26**A-H are also applicable to the bottle holder **500** in FIGS. **27**A-G.

The bottle holder **500** includes a plate **501**, an extension member **503** coupled to the plate **501** and extending outwards from the plate **501**, and a ring **502** coupled to the extension member **503** and configured to receive a portion of a bottle. However, the ring **502** illustrated in FIGS. **27**A-G is mirror-imaged about a vertical axis (i.e., in the opposite orientation with respect to a vertical axis) from the ring **502** illustrated in FIGS. **26**A-H. Thus, due to the orientation of the ring **502** in FIGS. **27**A-G, the body of the bottle extends from the ring **502** upwardly and to the right of the ring **502** and a portion of the neck of the bottle extends from the ring **502** downwardly and to the left of the ring **502**.

FIGS. **28**A-G illustrate one instance of a bottle holder **500** that includes the same features as the bottle holder **500** described in FIGS. **26**A-H; however, the bottle holder **500** in FIGS. **28**A-G includes multiple extension members **503** and corresponding rings **502**. In this particular instance, the bottle holder **500** includes three extension members **503** and three corresponding rings **502**. Due to the same features, the reference numbers and the description for the bottle holder **500** in FIGS. **26**A-H are also applicable to the bottle holder **500** in FIGS. **28**A-G.

The bottle holder **500** includes a plate **501**, three extension members **503** coupled to the plate **501** and extending outwards from the plate **501**, and a ring **502** coupled to each extension member **503** (i.e., three rings **502**) and configured to receive a portion of a bottle. The rings **502** illustrated in FIGS. **28**A-G are in the same orientation with respect to a vertical axis as the rings **502** in FIGS. **26**A-H. Thus, due to the orientation of the rings **502** in FIGS. **28**A-G, the bodies of the bottles may extend from the rings **502** upwardly and to the left of the rings **502** with a portion of the necks of the bottles extending from the rings **502** downwardly and to the right of the rings **502**.

Each extension member **503** may be spaced apart from the other extension member **503**. Moreover, each extension member **503** may be substantially perpendicular to the plate **501**.

In one instance, the bottle holder **500** may include two extension members **503** and corresponding rings **502**, whereby each extension member **503** is coupled to the plate **501** and extends outwards from the plate **501** and each ring **502** is coupled to each extension member **503** and configured to receive a portion of a bottle. For example, the bottle holder **500** may include a plate **501**, an extension member **503** (i.e., first extension member), an extension member **503** (i.e., second extension member) that is spaced apart from the first extension member **503**, a ring **502** (i.e., first ring) coupled to the first extension member **503**, and a ring **502** (i.e., second ring) coupled to the second extension member **503**.

In another instance, the bottle holder **500** may include three extension members **503** and corresponding rings **502**, whereby each extension member **503** is coupled to the plate **501** and extends outwards from the plate **501** and each ring **502** is coupled to each extension member **503** and configured to receive a portion of a bottle. For example, the bottle holder **500** may include a plate **501**, an extension member **503** (i.e., first extension member), an extension member **503** (i.e., second extension member) that is spaced apart from the first extension member **503**, an extension member **503** (i.e., third extension member) that is spaced apart from the first extension member **503** and the second extension member **503**, a ring **502** (i.e., first ring) coupled to the first extension member **503**, a ring **502** (i.e., second ring) coupled to the second extension member **503**, and a ring **502** (i.e., third ring) coupled to the third extension member **503**.

In other instances, the bottle holder **500** may include more than three extension members **503** and corresponding rings **502**, whereby each extension member **503** is coupled to the plate **501** and extends outwards from the plate **501** and each ring **502** is coupled to each extension member **503** and configured to receive a portion of a bottle.

FIGS. **29**A-G illustrate one instance of a bottle holder **500** that includes the same features as the bottle holder **500** described in FIGS. **26**A-H; however, the bottle holder **500** of FIGS. **29**A-G includes multiple extension members **503** and corresponding rings **502** and the bottle holder **500** also includes the ring **502** in a different orientation. Due to the same features, the reference numbers and the description for the bottle holder **500** in FIGS. **26**A-H are also applicable to the bottle holder **500** in FIGS. **29**A-G. Moreover, the reference numbers and the description for the bottle holder **500** in FIGS. **28**A-G are also applicable to the bottle holder **500** in FIGS. **29**A-G.

The bottle holder **500** includes a plate **501**, three extension members **503** coupled to the plate **501** and extending outwards from the plate **501**, and a ring **502** coupled to each extension member **503** (i.e., three rings **502**) and configured to receive a portion of a bottle. However, the rings **502** illustrated in FIGS. **29**A-G are mirror-imaged about a vertical axis (i.e., in the opposite orientation with respect to a vertical axis) from the ring **502** illustrated in FIGS. **26**A-H. Thus, due to the orientation of the rings **502** in FIGS. **29**A-G, the bodies of the bottles extend from the rings **502** upwardly and to the right of the rings **502** and a portion of the necks of the bottles extend from the rings **502** downwardly and to the left of the rings **502**.

The bottle holder **500** may include two or more extension members **503** and corresponding rings **502**, whereby each extension member **503** is coupled to the plate **501** and extends outwards from the plate **501** and each ring **502** is coupled to each extension member **503** and configured to receive a portion of a bottle.

FIGS. **30**A-G illustrate one instance of a bottle holder **600** that includes the same features as the bottle holder **500** described in FIGS. **26**A-H; however, the bottle holder **600** of FIGS. **30**A-G includes a second ring **604** coupled to the first ring **602**. Due to the same features, the reference numbers and the description for the bottle holder **500** in FIGS. **26**A-H are also applicable to the bottle holder **600** in FIGS. **30**A-G; however, the reference numbers in FIGS. **30**A-G are **600** series rather than **500** series.

The bottle holder **600** includes a plate **601**, an extension member **603** extending from the plate **601**, a first ring **602** coupled to the extension member **603**, and a second ring **604** coupled to the first ring **602**. In one instance, the plate **601**, the extension member **603**, the first ring **602**, and the second ring **604** may be unitarily constructed. In other instances, the bottle holder **600** may be constructed of more than one material.

In one instance, the first ring **602** illustrated in FIGS. **30**A-G is mirror-imaged about a vertical axis (i.e., in the opposite orientation with respect to a vertical axis) from the ring **502** illustrated in FIGS. **26**A-H and the second ring **604** illustrated in FIGS. **30**A-G is in the same orientation with respect to a vertical axis as the ring **502** in FIGS. **26**A-H. Thus, due to the orientation of the first ring **602** and second ring **604** in FIGS. **30**A-G, the body of the first bottle may extend from the first ring **602** upwardly and to the right of the first ring **602** with a portion of the neck of the first bottle extending from the first ring **602** downwardly and to the left of the first ring **602**. The body of the second bottle may extend from the second ring **604** upwardly and to the left of the second ring **604** with a portion of the neck of the second bottle extending from the second ring **604** downwardly and to the right of the second ring **604**.

In other instances (not shown in FIGS. **30**A-G), the first ring **602** is in the same orientation with respect to a vertical axis as the ring **502** in FIGS. **26**A-H and the second ring **604** is mirror-imaged about a vertical axis (i.e., in the opposite orientation with respect to a vertical axis) from the ring **502** illustrated in FIGS. **26**A-H. Thus, due to the orientation of the first ring **602** and second ring **604**, the body of the first bottle may extend from the first ring **602** upwardly and to the left of the first ring **602** with a portion of the neck of the first bottle extending from the first ring **602** downwardly and to the right of the first ring **602**. The body of the second bottle may extend from the second ring **604** upwardly and to the right of the second ring **604** with a portion of the neck of the second bottle extending from the second ring **604** downwardly and to the left of the second ring **604**.

Continuing with FIGS. **30**A-G, a second ring **604** may be coupled to the first ring **602**. In one instance, the second ring **604** may be coupled to opposite side of the first ring **602** from the location where the extension member **603** is coupled to the first ring **602**. In other words, the second ring **604** is coupled to the first ring **602** at a location approximately 180-degrees around the circumference of the first ring **602** from the location where the extension member **603** is coupled to the first ring **602**. In other instances, the second ring **604** may be coupled to the first ring **602** at a location approximately 90-degrees or approximately 270-degrees around the circumference of the first ring **602** from the location where the extension member **603** is coupled to the first ring **602**.

In another instance, an extension member (not shown in FIGS. **30**A-G) may connect the first ring **602** to the second ring **604** rather than the second ring **604** being coupled directly to the first ring **602**. In other words, the extension member (not shown in FIGS. **30**A-G) may contain two ends, the first end coupled to the first ring **602** and the second end coupled to the second ring **604**.

The second ring **604** may be configured to receive a portion of a second bottle. In other words, the bottle holder **600** supports the second bottle when the second ring **604** receives a portion of the second bottle. The bottle holder **600** may be used to support any bottle, such as a glass bottle or a plastic bottle. For example, the bottle holder **600** may hold beverage bottle. In some instances, the bottle holder **600** may hold a wine bottle, a beer bottle, or a liquor bottle.

The second ring **604** may be an oblique cylindrical body, wherein an oblique cylinder is different than a right cylinder. A right cylinder contains a circular first base, a circular second base that is parallel to the first base, and a cylindrical or curvate surface that connects the circular first base to the circular second base. Additionally, a segment that would connect the center of the first base to the center of the second base is perpendicular to the first base and the second base. Thus, the cylindrical surface connecting the circular first base to the circular second base is perpendicular to both the circular first base and the circular second base. Conversely, an oblique cylinder contains a first base, a second base that is parallel to the first base, and a curved or cylindrical surface that connects the first base to the second base. Additionally, a segment that would connect the center of the first base to the center of the second base is oblique (i.e., not perpendicular) to the first base and the second base. Thus, the curved surface connecting the first base to the second base is oblique to both the first base and the second base.

The oblique cylindrical body of the second ring **604** may have a first end surface **639** and a second end surface **641**, wherein the second end surface **641** is opposite the first end surface **639**. In one instance, when the bottle holder **600** is installed, the first end surface **639** may be the left side of the second ring **604** and the second end surface **641** may be the right side of the second ring **604**. The second end surface **641** and the first end surface **639** may be parallel to each other. The first end surface **639** may be oblique (i.e., not perpendicular) to the oblique cylindrical body and, as a result, the first end surface **639** may be oval shaped. The first end surface **639** may define an oblique opening, which may be oval shaped. Similarly, the second end surface **641** may be oblique with respect to the oblique cylindrical body and, as a result, the second end surface **641** may be oval shaped. The second end surface **641** may define an oblique opening, which may be oval shaped.

The oblique cylindrical body of the second ring **604** may include an outer cylindrical surface **643** and/or an inner cylindrical surface **645**. The first end surface **639** may be oblique (i.e., not perpendicular) with respect to the outer cylindrical surface **643** and/or inner cylindrical surface **645**. Additionally, the second end surface **641** may be oblique with respect to the outer cylindrical surface **643** and/or inner cylindrical surface **645**. The inner cylindrical surface **645** may be configured to receive the neck of a second bottle.

The oblique cylindrical body of the second ring **604** may include a centerline that is coaxial with the inner cylindrical surface **645**. The oblique cylindrical body of the second ring **604** may be oriented so that the centerline forms a vertically

offset angle between 15-degrees and 75-degrees with respect to a vertical axis when the plate **601** is mounted to a surface. For example, in one instance, the oblique cylindrical body may be oriented so that the centerline forms a vertically offset angle of about 45-degrees with respect to the vertical axis. For example, in one instance, the oblique cylindrical body may be oriented so that the centerline forms a vertically offset angle of about 67-degrees with respect to the vertical axis (about 23-degrees with respect to a horizontal axis). For example, in one instance, the oblique cylindrical body may be oriented so that the centerline forms a vertically offset angle of about 60-degrees with respect to the vertical axis (about 30-degrees with respect to a horizontal axis). For example, in one instance, the oblique cylindrical body may be oriented so that the centerline forms a vertically offset angle of about 30-degrees with respect to the vertical axis (about 60-degrees with respect to a horizontal axis).

The longitudinal axis of the bottle may be oriented at a slightly different angle than the centerline CL of the oblique cylindrical body of the second ring **604**. In one instance, the longitudinal axis of the bottle may be angled slightly less with respect to a horizontal axis (slightly greater with respect to the vertical axis) than the centerline of the oblique cylindrical body of the second ring **604** because gravity will cause the bottle to rotate around the second ring **604**. Thus, if a certain angle of the bottle is desired, then a slightly different angle must be provided for the centerline of the second ring **604** to account for the bottle tending to rotate about the second ring **604**. In one instance, the oblique cylindrical body of the second ring **604** may be configured to hold a bottle at an angle of about 23-degrees with respect to a horizontal axis (about 67-degrees with respect to the vertical axis). In another instance, the oblique cylindrical body of the second ring **604** may be configured to hold a bottle at an angle of about 30-degrees with respect to a horizontal axis (about 60-degrees with respect to the vertical axis).

The first and second end surfaces **639**, **641** are parallel to each other. The first and second end surfaces **639**, **641** are, however, not perpendicular to the inner cylindrical surface **645** since the second ring **604** is not a right cylinder. Because the second ring **604** is an oblique cylindrical body, a plane defined by the first and/or second end surface **639**, **641** has a normal line (centered on the oblique opening) that is not coincident with the centerline (which is coaxial with the inner cylindrical surface **645**). An offset angle is defined between the centerline and the normal line. In one instance, the offset angle OA is about 15 degrees. In one instance, the offset angle OA is about 10 degrees. In one instance, the offset angle OA is about 5 degrees. In one instance, the offset angle is about 20 degrees. In one instance, the offset angle is about 25 degrees. In a right cylinder, the centerline would be coincident with the normal line. By using an oblique cylindrical body for the second ring **604**, less material is used in the manufacture of the second ring **604** as compared with a ring that is a right cylinder. The oblique cylindrical body functions to support the bottle as efficiently as a right cylinder, but it uses less material to do so. The oblique cylindrical body supports the bottle in the needed positions to counteract the bending moment of the bottle within the second ring **604** (i.e., downward force on the lower portion of the second ring **604**, and an upward force on the upper portion of the second ring **604**). In one instance, the centerline may be parallel to the plate **601**.

In one instance, the oblique cylindrical body of the second ring **604** may have the opposite orientation with respect to vertical from the first ring **602**. In other words, the second ring **604** is mirror-imaged about a vertical axis (i.e., in the opposite orientation with respect to a vertical axis) from the first ring **602**. Thus, the first bottle in the first ring **602** is oriented in an opposing direction from the second bottle in the second ring **604**.

In one instance, the second ring **604** may be configured to receive the neck of the second bottle. For example, the second ring **604** may be configured to receive the neck of a second wine bottle. In one instance, the second ring **604** may be configured to receive the second wine bottle angled in a cork-down orientation. In one instance, the neck of a second bottle may be inserted through the second ring **604** with the bottle angled downward. The second ring **604** may be configured to support the neck of the second bottle with the second bottle angled downward. This orientation may allow liquid within the second bottle to contact the cap, cork, or otherwise seal at or near the mouth of the second bottle. For example, the downward orientation of a wine bottle (i.e., cork down orientation) may allow liquid wine within the second bottle to contact the cork of the wine bottle. This may keep the cork moist, thereby preventing the cork from drying out and preventing the ingress of air into the wine bottle.

A portion of the neck of the second bottle may contact a portion of the inner cylindrical surface **645** of the second ring **604**. For example, an upward-facing portion of the inner cylindrical surface **645** may contact a downward-facing portion of the neck and a downward-facing portion of the inner cylindrical surface **645** may contact an upward-facing portion of the neck. Thus, the inner cylindrical surface **645** constrains the neck of the second bottle, thereby supporting the second bottle. When the portions of the inner cylindrical surface **645** are engaged with the neck of the second bottle, the forces applied by the inner cylindrical surface **645** prevent the second bottle from translating horizontally or vertically and also prevent rotation of the second bottle.

The oblique cylindrical body of the second ring **604** may provide advantages over a right cylindrical body. For example, an oblique cylindrical body may provide more surface area for the second bottle to contact (i.e., contact area). The oblique cylindrical body contains an inner cylindrical surface **645** that is not perpendicular to either the first end surface **639** or the second end surface **641**. As a result, the second bottle may be supported by the oblique cylindrical body at two edges (i.e., the first edge is formed by the intersection of the inner cylindrical surface **645** with the first end surface **639** and the second edge is formed by the intersection of the inner cylindrical surface **645** with the second end surface **641**) and/or by the inner cylindrical surface **645**. In other words, the second bottle may contact a greater portion of the inner cylindrical surface **645** of the oblique cylindrical body because the inner cylindrical surface **645** is not perpendicular to the bases. This greater contact area may reduce stress concentrations where the oblique cylindrical body supports the bottle. Thus, the oblique cylindrical body may provide a safer way to support a second bottle.

On the other hand, a right cylindrical body may provide less surface area for a second bottle to contact (i.e., contact area). A right cylindrical body would contain an inner cylindrical surface that would be perpendicular to both the first end surface and the second end surface. As a result, the bottle may be supported by the right cylindrical body only at two edges; the first edge is formed by the intersection of the inner cylindrical surface with the first end surface and the second edge is formed by the intersection of the inner cylindrical surface with the second end surface. This lesser

contact area might increase stress concentrations where the right cylindrical body supports the second bottle.

FIGS. **31**A-G illustrate one instance of a bottle holder **600** that includes the same features as the bottle holder **600** described in FIGS. **30**A-G; however, the bottle holder **600** of FIGS. **31**A-G includes multiple extension members **603** and corresponding first rings **602** and second rings **604**. In this particular instance, the bottle holder **600** includes three extension members **603**, three corresponding first rings **602**, and three corresponding second rings **604**. Due to the same features, the reference numbers and the description for the bottle holder **600** in FIGS. **30**A-G are also applicable to the bottle holder **600** in FIGS. **31**A-G.

The bottle holder **600** includes plate **601**, three extension members **603** coupled to the plate **601** and extending outwards from the plate **601**, a first ring **602** coupled to each extension member **603** (i.e., three first rings **602**) and configured to receive a portion of a first bottle, and a second ring **604** coupled to each first ring **602** (i.e., three second rings **604**) and configured to receive a portion of a second bottle.

In one instance, the first ring **602** and the second ring **604** illustrated in FIGS. **31**A-G are in the same orientation with respect to a vertical axis as the first ring **602** and the second ring **604** illustrated in FIGS. **30**A-G. Thus, due to the orientation of the first ring **602** and second ring **604** in FIGS. **31**A-G, the body of the first bottle may extend from the first ring **602** upwardly and to the right of the first ring **602** with a portion of the neck of the first bottle extending from the first ring **602** downwardly and to the left of the first ring **602**. The body of the second bottle may extend from the second ring **604** upwardly and to the left of the second ring **604** with a portion of the neck of the second bottle extending from the second ring **604** downwardly and to the right of the second ring **604**.

In other instances, the first ring **602** and the second ring **604** illustrated in FIGS. **31**A-G are mirror-imaged about a vertical axis (i.e., in the opposite orientation with respect to a vertical axis) from the first ring **602** and the second ring **604** illustrated in FIGS. **30**A-G. Thus, due to the orientation of the first ring **602** and second ring **604** in FIGS. **31**A-G, the body of the first bottle may extend from the first ring **602** upwardly and to the left of the first ring **602** with a portion of the neck of the first bottle extending from the first ring **602** downwardly and to the right of the first ring **602**. The body of the second bottle may extend from the second ring **604** upwardly and to the right of the second ring **604** with a portion of the neck of the second bottle extending from the second ring **604** downwardly and to the left of the second ring **604**.

In one instance, the bottle holder **600** may include two extension members **603** and corresponding first rings **602** and second rings **604**. In this instance, each extension member **603** is coupled to the plate **601** and extends outwards from the plate **601**, each first ring **602** is coupled to each extension member **603** and configured to receive a portion of a first bottle, and each second ring **604** is coupled to each first ring **602** and configured to receive a portion of a second bottle. For example, the bottle holder **600** may include a plate **601**, an extension member **603** (i.e., first extension member), an extension member **603** (i.e., second extension member) that is spaced apart from the first extension member **603**, a first ring **602** (i.e., first ring) coupled to the first extension member **603**, a first ring **602** (i.e., second ring) coupled to the second extension member **603**, a second ring **604** (i.e., third ring) coupled to the first ring **602** (i.e., first ring), and a second ring **604** (i.e., fourth ring) coupled to the first ring **602** (i.e., second ring). In one instance, the second ring **604** (i.e., third ring) may be positioned a distance away from the plate **601** and the second ring **604** (i.e., fourth ring) may be positioned the same distance away from the plate **601**.

In another instance, the bottle holder **600** may include three extension members **603** and corresponding first rings **602** and second rings **604**. In this instance, each extension member **603** is coupled to the plate **601** and extends outwards from the plate **601**, each first ring **602** is coupled to each extension member **603** and configured to receive a portion of a first bottle, and each second ring **604** is coupled to each first ring **602** and configured to receive a portion of a second bottle. For example, the bottle holder **600** may include a plate **601**, an extension member **603** (i.e., first extension member), an extension member **603** (i.e., second extension member) that is spaced apart from the first extension member **603**, an extension member **603** (i.e., third extension member) that is spaced apart from the first extension member **603** and the second extension member **603**, a first ring **602** (i.e., first ring) coupled to the first extension member **603**, a first ring **602** (i.e., second ring) coupled to the second extension member **603**, and a first ring **602** (i.e., third ring) coupled to the third extension member **603**, a second ring **604** (i.e., fourth ring) coupled to the first ring **602** (i.e., first ring), a second ring **604** (i.e., fifth ring) coupled to the first ring **602** (i.e., second ring), and a second ring **604** (i.e., sixth ring) coupled to the first ring **602** (i.e., third ring).

In other instances, the bottle holder **600** may include more than three extension members **603** and corresponding first rings **602** and second rings **604**, whereby each extension member **603** is coupled to the plate **601** and extends outwards from the plate **601**, each first ring **602** is coupled to each extension member **603** and configured to receive a portion of a first bottle, and each second ring **604** is coupled to each first ring **602** and configured to receive a portion of a second bottle.

The foregoing merely illustrates the principles of the invention. Various modifications and alterations to the described embodiments will be apparent to those skilled in the art in view of the teachings herein. It will thus be appreciated that those skilled in the art will be able to devise numerous systems, arrangements and methods which, although not explicitly shown or described herein, embody the principles of the invention and are thus within the spirit and scope of the present invention. From the above description and drawings, it will be understood by those of ordinary skill in the art that the particular embodiments shown and described are for purposes of illustrations only and are not intended to limit the scope of the present invention. References to details of particular embodiments are not intended to limit the scope of the invention.

While the invention has been described with respect to specific examples including presently preferred modes of carrying out the invention, those skilled in the art will appreciate that there are numerous variations and permutations of the above described systems and techniques. It is to be understood that other embodiments may be utilized and structural and functional modifications may be made without departing from the scope of the present invention. Thus, the spirit and scope of the invention should be construed broadly as set forth in the appended claims.

What is claimed is:

1. A wine bottle holder comprising:

a plate configured to be mounted to a surface;

an extension member coupled to the plate and extending outwards therefrom;

a first ring coupled to the extension member and configured to receive a portion of a first wine bottle therethrough, the first ring comprising a first oblique cylindrical body having a first pair of opposite end surfaces that are parallel to each other, the first pair of opposite end surfaces defining first oblique openings; and

a second ring coupled to the first ring and configured to receive a portion of a second wine bottle therethrough, the second ring comprising a second oblique cylindrical body having a second pair of opposite end surfaces that are parallel to each other, the second pair of opposite end surfaces defining second oblique openings,

wherein the second oblique cylindrical body includes an inner cylindrical surface and a second centerline that is coaxial with the inner cylindrical surface, the second oblique cylindrical body oriented so that the second centerline forms an angle between 15-degrees and 75-degrees with respect to a vertical axis when the plate is mounted to the surface, the second ring in an opposite orientation with respect to the vertical axis from the first ring so as to orient the first and second wine bottles in an opposing orientation.

2. The wine bottle holder of claim **1**, wherein the first oblique cylindrical body includes a first outer cylindrical surface and a first inner cylindrical surface.

3. The wine bottle holder of claim **1**, wherein the first oblique cylindrical body includes a first inner cylindrical surface and a first centerline that is coaxial with the first inner cylindrical surface, the first oblique cylindrical body oriented so that the first centerline forms an angle between 15-degrees and 75-degrees with respect to the vertical axis when the plate is mounted to the surface.

4. The wine bottle holder of claim **3**, wherein the first inner cylindrical surface of the first ring is configured to receive a neck of the first wine bottle, the first wine bottle angled in a cork-down orientation.

5. The wine bottle holder of claim **1**, wherein the extension member is substantially perpendicular to the plate.

6. The wine bottle holder of claim **1**, wherein the plate includes at least one through hole configured to receive a fastener to mount the plate to the surface.

7. The wine bottle holder of claim **1**, wherein the plate, the extension member, and the first ring are unitarily constructed.

8. The wine bottle holder of claim **1**, wherein the first oblique cylindrical body includes a first inner cylindrical surface and a first centerline that is coaxial with the first inner cylindrical surface, wherein one of the first pair of opposite end surfaces of the first oblique cylindrical body lies in a plane having a normal line centered on one of the first oblique openings, the first centerline not being coincident with the normal line.

9. The wine bottle holder of claim **1**, wherein the plate is configured to be mounted in a first configuration and a second configuration by rotating the plate one hundred eighty degrees on the surface, wherein, in both of the first configuration and the second configuration, a wine bottle is configured to be supported in a same angular orientation relative to the vertical axis.

10. A wine bottle holder comprising:

a plate configured to be mounted to a surface;

a first extension member coupled to the plate and extending outwards therefrom;

a first ring coupled to the first extension member and configured to receive a portion of a first wine bottle therethrough, the first ring comprising a first oblique cylindrical body having a first pair of opposite end surfaces that are parallel to each other, the first pair of opposite end surfaces defining first oblique openings;

a second extension member coupled to the plate and extending outwards therefrom, the second extension member spaced apart from the first extension member; and

a second ring coupled to the second extension member and configured to receive a portion of a second wine bottle therethrough, the second ring comprising a second oblique cylindrical body having a second pair of opposite end surfaces that are parallel to each other, the second pair of opposite end surfaces defining second oblique openings,

wherein the first oblique cylindrical body includes a first outer cylindrical surface and a first inner cylindrical surface, wherein the second oblique cylindrical body includes a second outer cylindrical surface and a second inner cylindrical surface, and

wherein the first oblique cylindrical body defines a first centerline that is coaxial with the first inner cylindrical surface, and wherein the second oblique cylindrical body defines a second centerline that is coaxial with the second inner cylindrical surface, the first oblique cylindrical body oriented so that the first centerline forms an angle between 15-degrees and 75-degrees with respect to a vertical axis when the plate is mounted to the surface, the second oblique cylindrical body oriented so that the second centerline forms an angle between 15-degrees and 75-degrees with respect to the vertical axis when the plate is mounted to the surface.

11. The wine bottle holder of claim **10**, wherein the first inner cylindrical surface of the first ring is configured to receive a neck of the first wine bottle, the first wine bottle angled in a cork-down orientation, wherein the second inner cylindrical surface of the second ring is configured to receive the neck of the second wine bottle, the second wine bottle angled in a cork-down orientation.

12. The wine bottle holder of claim **10**, wherein the first extension member is substantially perpendicular to the plate, wherein the second extension member is substantially perpendicular to the plate.

13. The wine bottle holder of claim **10**, wherein the plate includes at least one through hole configured to receive a fastener to mount the plate to the surface.

14. The wine bottle holder of claim **10**, wherein the plate, the first extension member, the first ring, the second extension member, and the second ring are unitarily constructed.

15. The wine bottle holder of claim **10**, further comprising a third ring and a fourth ring, the third ring coupled to the first ring and configured to receive a portion of a third wine bottle therethrough, the third ring comprising a third oblique cylindrical body having a third pair of opposite end surfaces that are parallel to each other, the third pair of opposite end surfaces defining third oblique openings, the fourth ring coupled to the second ring and configured to receive a portion of a fourth wine bottle therethrough, the fourth ring comprising a fourth oblique cylindrical body having a fourth pair of opposite end surfaces that are parallel to each other, the fourth pair of opposite end surfaces defining fourth oblique openings.

16. The wine bottle holder of claim **15**, wherein the third ring is positioned a distance away from the plate, the fourth ring positioned the distance away from the plate.

17. The wine bottle holder of claim 10, wherein the first centerline of the first oblique cylindrical body is substantially parallel to the second centerline of the second oblique cylindrical body.

18. The wine bottle holder of claim 10, wherein the first centerline of the first oblique cylindrical body is not substantially parallel to the second centerline of the second oblique cylindrical body.

19. The wine bottle holder of claim 10, wherein one of the first pair of opposite end surfaces of the first oblique cylindrical body lies in a plane having a normal line centered on one of the first oblique openings, the first centerline not being coincident with the normal line.

20. The wine bottle holder of claim 10, wherein the plate is configured to be mounted in a first configuration and a second configuration by rotating the plate one hundred eighty degrees on the surface, wherein, in both of the first configuration and the second configuration, a wine bottle is configured to be supported in a same angular orientation relative to the vertical axis.

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