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(54) **BLIND CLEANER DEVICE**

JALOUSIENREINIGUNGSGERÄT

DISPOSITIF DE NETTOYEUR DES LAMES DE STORES

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## Description

### TECHNICAL FIELD

**[0001]** The present invention relates to a blind cleaner device.

### BACKGROUND

**[0002]** Window blinds are commonly installed in various spaces, such as commercial buildings or a residential space as part of an interior decoration of such spaces. The window blinds are used to regulate an amount of desired light in the space where they are installed. Further, the window blinds may block direct sunlight, promote energy conservation, and provide privacy.

**[0003]** The window blinds typically consist of multiple lamellae that are arranged in parallel. The lamellae are spaced apart from each other by a predefined distance. Generally, a number of controlling means are provided for controlling an angular position of the lamellae of the window blinds, such that the lamellae may be angularly rotated between an open position, which permits maximum passage of light through the window blinds, and a closed position, which provides maximum blockage of light through the window blinds. Over a period of time, dirt, dust, debris, particulate matter, and the like, may accumulate on the window blinds. Further, pathogens may also be present on the window blinds. Thus, such window blinds may have to be periodically cleaned. In applications where a large number of window blinds are installed, such as in the commercial buildings, individual cleaning of each lamella becomes a time consuming and laborious task.

**[0004]** Some cleaning devices, such as brushes, are available in the market to remove particles accumulated on the lamellae of the window blinds. These brushes typically use a friction surface and/or a vacuum to dislodge particles accumulated on the lamellae of the window blinds. However, some particles are well adhered to the surfaces of the lamellae which may be difficult to remove with such brushes. In some cases, greasy residues are needed to be removed from the lamellae. Further, particles accumulated on the lamellae of the window blinds tend to adhere to the greasy residues. Such greasy residues may not be completely removed with brushes that involve techniques such as friction and/or vacuum. Furthermore, conventional modular design of the blind cleaner device may include a number of opening on a body of the blind cleaner device. A fluid (say water) used in the blind cleaner device may come out through these openings. Thus, there is a need for an improved cleaning device to clean the lamellae of the window blinds effectively, efficiently, and without causing user fatigue. Moreover, a sealing arrangement may be required to seal the openings on the body.

**[0005]** An example of a shutter slat cleaning accessory is provided in E. P. Patent Number 2,147,625 (hereinafter

referred to as '625 reference). The '625 reference discloses a cleaning apparatus, more particularly the '625 reference discloses a portable hand-held cleaner. The portable hand-held cleaner includes a number of brush-type cleaning members. The brush-type cleaning members are adjustable relative to one another. Further, a working fluid may be supplied to the portable hand-held cleaner. Furthermore, the brush-type cleaning members may be driven to make a cleaning movement. However, the portable hand-held cleaner of '625 reference includes multiple parts and openings that are complex in design and assembly. Further, the present reference does not seem to provide any sealing arrangement or means to seal the openings. Furthermore, the portable hand-held cleaner seems cumbersome to use during cleaning process.

### SUMMARY

**[0006]** In view of the above, it is an objective of the present invention to solve or at least reduce the drawbacks discussed above. The objective is at least partially achieved by a new design of a blind cleaner device. The blind cleaner device includes a body defining one or more openings. The blind cleaner device also includes a cover attached with the body of the blind cleaner device. The blind cleaner device is characterized in that the cover includes one or more sealing plugs. Each of the one or more sealing plugs of the cover water-proofing plug a corresponding opening of the one or more openings of the body.

**[0007]** Thus, the present invention provides an improved blind cleaner device to clean the lamellae of window blinds effectively and efficiently. The blind cleaner device includes the sealing plugs which are integrated with the cover which reduces the number/quantity of parts in the blind cleaner device. Further, this arrangement prevents instances involving loss or misplacement of the sealing plugs as the sealing plugs are integrated part of the cover. It should be noted that the blind cleaner device can be used for cleaning other components apart from window blinds, as applicable.

**[0008]** According to an embodiment of the present invention, each of the one or more sealing plugs further includes an O-ring seal to plug the corresponding opening of the one or more openings. The O-ring seal may properly seal the corresponding opening to avoid leakage of cleaning fluid therethrough.

**[0009]** According to an embodiment of the present invention, the one or more sealing plugs close one or more holes of nozzles of the blind cleaner device. The sealing plugs close the holes of nozzles to provide implementation benefits such as to prevent discharge of cleaning fluid therethrough.

**[0010]** According to an embodiment of the present invention, the cover includes a first portion and two second portions substantially perpendicular to the first portion. The first portion and the two second portions

forms a substantially U-shaped structure which provides structural rigidity and robustness to the blind cleaner device.

**[0011]** According to an embodiment of the present invention, the first portion includes the sealing plugs. The disposition of the sealing plugs on the first portion of the cover may allow desired alignment and easy insertion of the sealing plugs into the openings.

**[0012]** Other features and aspects of this invention will be apparent from the following description and the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0013]** The invention will be described in more detail with reference to the enclosed drawings, wherein:

**FIG. 1** illustrates a perspective view of a blind cleaner device, in accordance with the present invention;

**FIG. 2** illustrates a side view of the blind cleaner device, in accordance with the present invention;

**FIG. 3** illustrates a cross-sectional view of the blind cleaner device about a vertical plane, in accordance with the present invention;

**FIG. 4** illustrates a perspective view of a body, in accordance with the present invention;

**FIG. 5** illustrates an exploded view of the body and a cover, in accordance with the present invention;

**FIG. 6** illustrates a perspective view of the cover with a seal mounting tool, in accordance with the present invention;

**FIG. 7A** illustrates a perspective view of a cover, in accordance with another embodiment of the present invention; and

**FIG. 7B** illustrates a perspective view of the cover of **FIG. 7A** along with a seal mounting tool, in accordance with another embodiment of the present invention.

#### DESCRIPTION OF EMBODIMENTS

**[0014]** The present invention will be described more fully hereinafter with reference to the accompanying drawings, in which example embodiments of the invention incorporating one or more aspects of the present invention are shown.

**[0015]** This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this invention will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. For example, one or more aspects of the present invention may be utilized in other embodiments and even other types of structures and/or methods. In the drawings, like numbers refer to like elements.

**[0016]** Certain terminology is used herein for convenience only and is not to be taken as a limitation on the

invention.

**[0017]** For example, "upper", "lower", "front", "rear", "side", "longitudinal", "lateral", "transverse", "upwards", "downwards", "forward", "backward", "sideward", "left", "right", "horizontal", "vertical", "upward", "inner", "outer", "inward", "outward", "top", "bottom", "higher", "above", "below", "central", "middle", "intermediate", "between", "end", "adjacent", "proximate", "near", "distal", "remote", "radial", "circumferential", or the like, merely describe the configuration shown in the Figures. Indeed, the components may be oriented in any direction and the terminology, therefore, should be understood as encompassing such variations unless specified otherwise.

**[0018]** **FIG. 1** is a perspective view of a blind cleaner device **100**. The blind cleaner device **100** may be used for different cleaning applications, such as to clean a number of lamellae (not shown) of a window blind (not shown). The blind cleaner device **100** includes a fluid supply device **102**. The fluid supply device **102** includes an actuator **104** to allow passage of the fluid towards a body **106** of the blind cleaner device **100**. It should be noted that the fluid supply device **102** may include any arrangement for passage of the fluid towards the body **106** of the blind cleaner device **100**, such as button, knob, handle, and the like. The fluid supply device **102** includes a first inlet **108** (as shown in **FIG. 3**) and a first outlet **110** (as shown in **FIG. 3**). Further, a hose connector **112** is removably attached to the fluid supply device **102**. The hose connector **112** is removably attached to the first inlet **108** of the fluid supply device **102**. The hose connector **112** includes a threaded section (not shown) to removably couple a hose pipe (not shown) with the hose connector **112**. The hose pipe may supply the fluid from a fluid connection (not shown) towards the blind cleaner device **100**. The fluid connection may include a tap, a pump, and the like. Further, the fluid may include water or any other cleaning fluid.

**[0019]** The blind cleaner device **100** may also include a rotatable joint **116** between the body **106** and the fluid supply device **102**. The rotatable joint **116** includes a cylindrical body, a joint inlet (not shown), and a joint outlet (not shown). The joint inlet is connected to the fluid supply device **102** and the joint outlet is removably coupled with an inlet portion **118** (as shown in **FIG. 4**) of the body **106**. Further, the joint outlet may include a threaded section (not shown) for removable coupling with the inlet portion **118** of the body **106**. The rotatable joint **116** may allow coupling of the body **106** of the blind cleaner device **100** with the fluid supply device **102** at various angles. The rotatable joint **116** between the body **106** and the fluid supply device **102** provides improved ergonomics during cleaning operation. Further, the inlet portion **118** of the body **106** allows removable coupling of the body **106** with the fluid supply device **102** using the rotatable joint **116**.

**[0020]** In a vertical position (as shown in **FIG. 1** to **FIG. 3**), the rotatable joint **116** allows vertical coupling of the fluid supply device **102** with the body **106** of the blind cleaner device **100**. The vertical position of the fluid

supply device **102** may create less disturbance for the user during the cleaning operation. In a horizontal position (not shown), the rotatable joint **116** allows horizontal coupling of the fluid supply device **102** with the body **106** of the blind cleaner device **100**. In the horizontal position of the fluid supply device **102**, the user may feel less weight, pressure or shocks during a cleaning operation.

[0021] FIG. 3 shows the blind cleaning device **100**, in accordance with an embodiment of the present invention.

[0022] In this embodiment, the body **102** includes a distributor **127**. The distributor **127** defines a T-shaped structure, although other shapes, types, dimensions, structure have been contemplated and are well within the scope. The distributor **127** includes an inlet channel **129** and two outlet channels **131**. The outlet channels **131** are substantially perpendicular to the inlet channel **129**. The inlet channel **129** is fluidly coupled to the inlet portion **118** of the body **106** for a fluid flow "F", such as water for cleaning, therethrough. Further, the outlet channels **131**, receive the fluid flow "F" from the inlet channel **129** to supply the fluid flow "F" to each bristle plate **132**, **134**. Each bristle plate **132**, **134** defines an inlet opening **135** and a number of fluid nozzles **130**. The fluid flow "F" from the outlet channels **131** of the distributor **127** enters the bristle plates **132**, **134** through the inlet opening **135**. Further, the fluid flow "F" is discharged through the fluid nozzles **130**, such as for applications involving cleaning of the lamella of the window blind and the like.

[0023] The present invention refers to the "fluid" or the "fluid flow" which have been used interchangeably for ease of explanation and understanding. The fluid flow "F" through the blind cleaner device **100** is illustrated in FIG. 3 for detail flow from the hose connector **112** to a fluid supply device **102**, and then to the distributor **127** of the body **106**. This fluid flow "F" then splits in the distributor **127** to move towards each bristle plate **132**, **134**, as illustrated in FIG. 3.

[0024] Referring to FIG. 3, the blind cleaner device **100** further includes an adjustable limitation stop **120** for different lamella width. The limitation stop **120** may be integrated and work with the distributor **127** to allow splitting of water from the inlet channel **129** to the outlet channels **131**. In some embodiments, the blind cleaning device **100** may not include any limitation stop **122** and make application of the distributor **127**. The limitation stop **120** includes a cylindrical body defining an inlet (not shown) and an outlet (not shown). The inlet is fluidly coupled to the inlet portion **118** of the body **106** to supply fluid, such as water for cleaning, therethrough. Further, the fluid is discharged through the outlet of the limitation stop **120**. The limitation stop **120** may accommodate a jet that allows discharge of fluid therethrough. Further, the limitation stop **120** can be adjusted for different lamella widths. In some examples, the limitation stop **120** can be adjusted to accommodate the lamella width that approximately lies in a range 40 Millimeters (mm) to 100 mm. This adjustment may avoid direct contact of the jet with the window blind. Furthermore, the jet may be flat or

conical. The limitation stop **120** may be adjusted to obtain different types of fluid jet, such as flat fluid jet, conical fluid jet, and the like. Specifically, the limitation stop **120** can be rotated to adjust a pattern of the jet.

[0025] Referring to FIGS. 3, 4, the blind cleaner device **100** further includes the body **106** defining one or more openings **122**. The opening **122** may include any size and shape. The body **106** includes a first body end **124**, and a second body end **126**. The body **106** also includes the inlet portion **118**. The inlet portion **118** includes a protrusion profile **128** (as shown in FIG. 4). The protrusion profile **128** allows snap-fit connection of the fluid supply device **102** on the body **106**. In some other embodiment, the inlet portion **118** may include a threaded profile, a press-fit profile, a snap-fit profile, or any other profile as used or known in the art, without any limitations. The one or more openings **122** of the blind cleaner device **100** have been interchangeably referred to as the holes of nozzles **122** (as shown in FIG. 4). The holes of nozzles **122** are disposed on the second body end **126** of the body **106**. In the illustrated examples, the blind cleaner device **100** includes two holes of nozzles **122**. In other examples, the blind cleaner device **100** may include any number, size, type, position of the holes of nozzles **122**. In some embodiments, the body **106** may be manufactured from any material such as a plastic, a metal, and the like, or any material as used or known in the art. The body **106** may be embodied as a single piece unit or the body **106** may include multiple separate parts that are joined together to form the body **106**. The body **106** may be coupled with different types of cleaning attachments, such as, brushes, showers, nozzle, and the like. The body **106** is coupled with the fluid connection which provides the fluid towards the blind cleaner device **100**. The body defines a number of fluid nozzles **130**. The fluid nozzles **130** of the body **106** allows discharge of fluid therethrough. The fluid nozzles **130** and the fluid supply device **102** are fluidly connected with each other.

[0026] The body **106** also defines a pair of bristle plates **132**, **134**. Specifically, the body **106** defines the first bristle plate **132** and the second bristle plate **134** facing the first bristle plate **132** and spaced apart from the first bristle plate **132**. The pair of bristle plates **132**, **134** may be similar in shape and size. Alternatively, the bristle plates **132**, **134** may include different shape and size. The bristle plates **132**, **134** define a first plate surface **136** and a second plate surface **138**. The first plate surface **136** of the bristle plates **132**, **134** include a generally planar profile. The first plate surface **136** includes a number of receiving slots **140**. The second plate surface **138** of the bristle plates **132**, **134** include a curved profile, although other profile, shapes such as rectangular, square have been contemplated and are well within the scope of the present invention.

[0027] The pair of bristle plates **132**, **134** are connected with each other by a connecting portion **142**. In the illustrated example, the pair of bristle plates **132**, **134** and the connecting portion **142** are embodied as an

integral unit. Alternatively, the pair of bristle plates **132**, **134** and the connecting portion **142** may be embodied as separate parts that are joined together. The pair of bristle plates **132**, **134** and the connecting portion **142** form a generally U-shaped structure. The pair of bristle plates **132**, **134** are substantially parallel. The fluid nozzles **130** are evenly disposed on the second plate surface **138** of the pair of bristle plates **132**, **134**, such that the fluid nozzles **130** of first bristle plate **132** face the fluid nozzles **130** of the second bristle plate **134**. As shown in **FIG. 3**, the fluid nozzles **130** are fluidly connected to the fluid supply device **102**. The fluid may be sprayed on to the lamella of the window blind through upper side and lower side.

[0028] Referring to **FIG. 4**, the body **106** further defines a pair of bristle brushes **144** coupled with the pair of the bristle plates **132**, **134**. The pair of bristle brushes **144** are disposed on the second plate surface **138**, adjacent to the fluid nozzles **130**, and extend therefrom. Each of the pair of bristle brushes **144** includes a plurality of bristles **146** (best shown in **FIG. 1**). The pair of bristles **146** of the pair of bristle brushes **144** overlap each other. The bristles **146** are tilted and arranged in a shape that is similar to the shape of the lamellae of the window blind. This arrangement allows uniform cleaning of the lamella surface. The bristles **146** may include a first row of bristles (not shown) that are disposed on an outer side of the brushes and a second row of bristles (not shown) that are disposed on an inner side of the bristle brushes **144**. The first row of bristles may include soft bristles, and the second row of bristles may include hard bristles. The first row of bristles and the second row of bristles are in contact with each other.

[0029] The pair of bristle brushes **144** may be removably coupled with the pair of bristle plates **132**, **134**. More particularly, each bristle plate **132**, **134** includes a bristle fixation element **147** (as shown in **FIG. 3**) to removably couple the pair of bristle brushes **144**. The bristle fixation element **147** can be removably coupled to the bristle plates **132**, **134**. The bristle fixation element **147** may be made up of a soft plastic material. The bristle fixation element **147** allows removable coupling of the pair of bristle brushes **144** with the bristle plates **132**, **134**. The removable coupling of the pair of bristle brushes **144** allows coupling of different types of bristle brushes. The bristles **146** of each bristle **144** brush may be manufactured using a synthetic material, such as nylon. It should be noted that the bristles **146** may include any other material, without limiting the scope of the present invention.

[0030] As shown in **FIGS. 1, and 5**, the blind cleaner device **100** further includes a cover **148** attached with the body **106** of the blind cleaner device **100**. **FIG. 5** illustrates the cover **148** in a disassembled state with the body **106** of the blind cleaner device **100**, for explanation and clarity considerations. The cover **148** of the present invention may be readily and efficiently assembled or disassembled with the body **106** of the blind cleaner device

**100**, for different applications and/or service requirements. The cover **148** may be manufactured from a plastic, a metal, and the like. The cover **148** may be embodied as a single piece unit or the cover **148** may include multiple separate parts that are joined together to form the cover **148**.

[0031] Referring to **FIG. 6**, the cover **148** includes a first portion **150** and two second portions **152**. The first portion **150** defines a first portion height "**H1**", and a first portion width "**W1**". The second portions **152** defines a second portion length "**L2**", and a second portion width "**W2**". The cover **148** also includes a first cover surface **154**, and a second cover surface **156**. The first cover surface **154** defines a number of projections (not shown here, but maybe similar to projections **258**) to engage with the receiving slots **140** of the bristle plates **132**, **134**. The pair of bristle plates **132**, **134** may be coupled to the cover **148** using a snap-fit connection. It should be noted that the pair of bristle plates **132**, **134** and the cover **148** may be connected by any other means such as glue, welding, screws, bolts, rivets and the like, without limiting the scope of the present invention.

[0032] Further, the cover **148** includes a generally U-shaped structure herein. The U-shaped structure of the cover **148** receives the body **106** of the blind cleaner device **100**. It should be noted that the cover **148** may include any other shape and size, without limiting the scope of the present invention.

[0033] In the illustrated example, the cover **148** includes four projections. In other examples, the cover **148** may include any number, type, size, position of the projections without limiting the scope of the present invention. The cover **148** further includes a circular hole **160** to receive the inlet portion **118** of the body **106**.

[0034] The cover **148** includes one or more sealing plugs **162**. Each of the one or more sealing plugs **162** of the cover **148** water-proofing plug a corresponding opening **122** of the one or more openings **122** of the body **106**. In some embodiments, the sealing plug **162** includes a conical shape. The holes of nozzles **122** receive the sealing plugs **162**, such that the sealing plugs **162** restrict the discharge of fluid therethrough. The profile and cross section of the sealing plugs **162** are same or similar (say including some tolerances, fitment scope and the like) as that of the holes of nozzles **122** to properly seal the holes of nozzles **122**. The one or more sealing plugs **162** close one or more holes of nozzles **122** of the blind cleaner device **100**. Further, the first portion **150** includes the sealing plugs **162**. The sealing plugs **162** are disposed on the first portion **150** of the cover **148**, such that the sealing plugs **162** align with the holes of nozzles **122** (see **FIG. 5**). In the illustrated example, the blind cleaner device **100** includes two holes of nozzles **122**, and the cover **148** includes two sealing plugs **162**, respectively. In other examples, the blind cleaner device **100**, and the cover **148** may include any number, type, position, size, arrangement of the holes of nozzles **122**, and the sealing plugs **162**, respectively, without limiting the scope of the

present invention.

[0035] Each of the one or more sealing plugs **162** further includes an O-ring seal **166** to plug the corresponding opening **122** of the one or more openings **122**. The O-ring seal **166** includes a circular shape. The O-ring seal **166** also includes an inner diameter which is about same or similar in dimensions as that of a diameter of the sealing plug, and an outer diameter that is about same or similar in dimensions as that of a diameter of the corresponding opening **122**. The O-ring seal **166** may be manufactured using any material, such as a rubber, a graphite, a metal, a plastic, and the like. The O-ring seal **166** is disposed between the holes of nozzles **122** and the sealing plugs **162**, such that it restricts the leakage of fluid therethrough.

[0036] Referring to **FIG. 6**, the blind cleaner device **100** includes a seal mounting tool **168** to mount the O-ring seal **166** to the one or more sealing plugs **162**. The seal mounting tool **168** is a portable tool which includes a simple construction. The seal mounting tool **168** includes a handle **170**. The handle **170** includes a rectangular shape. It should be noted that the handle **170** may include any shape and size without limiting the scope of the present invention.

[0037] The handle **170** also includes a gripping part **172** for proper grip of a user during the mounting of the O-ring seal **166** to the sealing plug **162**. The gripping part **172** may include a knurled surface. The seal mounting tool **168** also includes a mounting part **174** defined with the handle **170**. The mounting part **174** allows mounting of the O-ring seal **166** with the one or more sealing plugs **162** of the cover **148**. The mounting part **174** of the seal mounting tool **168** includes a number of grooves **176**.

[0038] Referring to **FIGS. 7A** and **7B**, a cover **248** is illustrated. In this example, the cover **248** includes a first portion **250** and two second portions **252** substantially perpendicular to the first portion **250**. The cover **248** generally includes a rectangular shape and thereby may find applications with the blind cleaner device **100** having a substantially rectangular body **106**. The cover **248** defines a first cover surface **254** and a second cover surface **256**. The first cover surface **254** defines the number of projections **258**. The projections **258** may allow desired engagement of the seal mounting tool **168** with the cover **248**, as illustrated. The cover **248** include a circular hole **260**. The cover **248** also includes one or more sealing plugs **262**. Each sealing plug **262** includes an O-ring seal **266**. The cover **248** is similar to cover **148** in construction and working. Further, the cover **248** allows application of the seal mounting tool **168**, as illustrated herein, for mounting of the O-ring seal **266** with each of the sealing plug **262**. The mounting part **174** of the seal mounting tool **168** includes a longitudinal body. Further, the longitudinal body of the mounting part **174** defines a mounting length "**L3**" (shown in **FIG. 7B**) which is preferably greater than the second portions **252** length "**L2**" of the cover **248**.

[0039] The present invention provides the improved

blind cleaner device **100** to provide desired cleaning operations such as to clean the lamellae of window blinds effectively and efficiently. The blind cleaner device **100** allows cleaning of the window blinds with or without fluid.

5 The blind cleaner device **100** includes fewer parts and can be easily assembled without requiring additional tools. Further, the blind cleaner device **100** is easy and convenient to use for users and does not cause user fatigue. The present invention provides the cover **148** having the sealing plugs **162** to close the holes of nozzles **122** on the body **106** to prevent discharge of cleaning fluid therethrough. The sealing plugs **162** are integrated with the cover **148**, **248** which reduce the quantity of parts in the blind cleaner device **100**. Further, the present invention provides that the users may not forget or misplace the sealing plugs **162** as the sealing plugs **162** are integrated part of the cover **148**, **248**. The O-ring seal **166** properly seals the corresponding opening **122** to avoid leakage of cleaning fluid therethrough. The seal mounting tool **168** allows easy and quick mounting of the O-ring seal **166** on the sealing plugs **162**.

[0040] In the drawings and specification, there have been disclosed preferred embodiments and examples of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for the purpose of limitation of the scope of the invention being set forth in the following claims.

#### LIST OF ELEMENTS

##### [0041]

|            |                         |
|------------|-------------------------|
| <b>100</b> | Blind Cleaner Device    |
| <b>102</b> | Fluid Supply Device     |
| <b>104</b> | Actuator                |
| <b>106</b> | Body                    |
| <b>108</b> | First Inlet             |
| <b>110</b> | First Outlet            |
| <b>112</b> | Hose Connector          |
| <b>116</b> | Rotatable Joint         |
| <b>118</b> | Inlet Portion           |
| <b>120</b> | Limitation Stop         |
| <b>122</b> | Opening/Holes of nozzle |
| <b>124</b> | First Body End          |
| <b>126</b> | Second Body End         |
| <b>127</b> | Distributor             |
| <b>128</b> | Threaded Profile        |
| <b>129</b> | Inlet Channel           |
| <b>130</b> | Fluid Nozzles           |
| <b>131</b> | Outlet Channel          |
| <b>132</b> | First Bristle Plate     |
| <b>134</b> | Second Bristle Plate    |
| <b>135</b> | Inlet Opening           |
| <b>136</b> | First Plate Surface     |
| <b>138</b> | Second Plate Surface    |
| <b>140</b> | Receiving Slots         |
| <b>142</b> | Connecting Portion      |
| <b>144</b> | Pair of Bristle Brushes |

**146** Bristles  
**147** Bristle Fixation Element  
**148** Cover  
**150** First Portion  
**152** Second Portion  
**154** First Cover Surface  
**156** Second Cover Surface  
**160** Circular Hole  
**162** Sealing Plug  
**166** O-Ring Seal  
**168** Seal Mounting Tool  
**170** Handle  
**172** Gripping Part  
**174** Mounting Part  
**176** Grooves  
**248** Cover  
**250** First Portion  
**252** Second Portion  
**254** First Cover Surface  
**256** Second Cover Surface  
**258** Projections  
**260** Circular Hole  
**262** Sealing Plug  
**266** O-Ring Seal  
**H1** First Portion Height  
**W1** First Portion Width  
**L2** Second Portion Length  
**W2** Second Portion Width  
**L3** Mounting Length  
**F** Fluid Flow

## Claims

1. A blind cleaner device (100), comprising:

a body (106) defining one or more openings (122); and  
 a cover (148, 248) adapted to attach with the body (106) of the blind cleaner device (100);  
characterized in that:  
 the cover (148, 248) includes one or more sealing plugs (162), wherein each of the one or more sealing plugs (162) of the cover (148, 248) are adapted to water-proofing plug a corresponding opening (122) of the one or more openings (122) of the body (106).

2. The blind cleaner device (100) of claim 1, wherein each of the one or more sealing plugs (162) further includes an O-ring seal (166) to plug the corresponding opening (122) of the one or more openings (122).

3. The blind cleaner device (100) of claim 1, wherein the one or more sealing plugs (162) are adapted to close the one or more openings (122) of the blind cleaner device (100).

4. The blind cleaner device (100) of claim 1, wherein the

cover (148, 248) includes a first portion (150) and two second portions (152) substantially perpendicular to the first portion (150).

5. The blind cleaner device (100) of claim 4, wherein the first portion (150) includes the sealing plugs (162).

6. The blind cleaner device (100) of any of the preceding claims, wherein the cover (148, 248) includes a first cover surface (154) and a second cover surface (156), with the first cover surface (154) defining a number of projections (258) that allow a desired engagement of a seal mounting tool (168) with the cover (148, 248).

## Patentansprüche

1. Jalousiereinigungsvorrichtung (100), umfassend:

einen Körper (106), der eine oder mehrere Öffnungen (122) definiert; und  
 eine Abdeckung (148, 248), die zur Befestigung am Körper (106) der Jalousiereinigungsvorrichtung (100) ausgelegt ist;  
**dadurch gekennzeichnet, dass:**  
 die Abdeckung (148, 248) einen oder mehrere Abdichtungstopfen (162) einschließt, wobei jeder des einen oder der mehreren Abdichtungstopfen (162) der Abdeckung (148, 248) dazu ausgelegt ist, eine entsprechende Öffnung (122) der einen oder mehreren Öffnungen (122) des Körpers (106) wasserdicht zu verstopfen.

2. Jalousiereinigungsvorrichtung (100) nach Anspruch 1, wobei jeder des einen oder der mehreren Abdichtungstopfen (162) ferner eine O-Ring-Dichtung (166) einschließt, um die entsprechende Öffnung (122) der einen oder mehreren Öffnungen (122) zu verstopfen.

3. Jalousiereinigungsvorrichtung (100) nach Anspruch 1, wobei der eine oder die mehreren Abdichtungstopfen (162) dazu ausgelegt sind, die eine oder die mehreren Öffnungen (122) der Jalousiereinigungsvorrichtung (100) zu verschließen.

4. Jalousiereinigungsvorrichtung (100) nach Anspruch 1, wobei die Abdeckung (148, 248) einen ersten Abschnitt (150) und zwei zweite Abschnitte (152) im Wesentlichen senkrecht zum ersten Abschnitt (150) einschließt.

5. Jalousiereinigungsvorrichtung (100) nach Anspruch 4, wobei der erste Abschnitt (150) die Abdichtungstopfen (162) einschließt.

6. Jalousiereinigungsvorrichtung **(100)** nach einem der vorstehenden Ansprüche, wobei die Abdeckung **(148, 248)** eine erste Abdeckoberfläche **(154)** und eine zweite Abdeckoberfläche **(156)** einschließt, wobei die erste Abdeckoberfläche **(154)** eine Anzahl von Vorsprüngen **(258)** definiert, die einen gewünschten Eingriff eines Dichtungsmontagewerkzeugs **(168)** mit der Abdeckung **(148, 248)** ermöglichen.

haitée d'un outil de montage de joint **(168)** avec le couvercle **(148, 248)**.

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## Revendications

1. Dispositif de nettoyage de stores **(100)**, comprenant :  
 un corps **(106)** définissant une ou plusieurs ouvertures **(122)** ; et  
 un couvercle **(148, 248)** adapté à s'attacher au corps **(106)** du dispositif de nettoyage de stores **(100)** ;  
**caractérisé en ce que :**  
 le couvercle **(148, 248)** comporte un ou plusieurs bouchons d'étanchéité **(162)**, chacun du ou des bouchons d'étanchéité **(162)** du couvercle **(148, 248)** étant adapté à boucher de manière étanche une ouverture correspondante **(122)** de la ou des ouvertures **(122)** du corps **(106)**.  
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2. Dispositif de nettoyage de stores **(100)** selon la revendication 1, dans lequel chacun du ou des bouchons d'étanchéité **(162)** comporte en outre un joint torique **(166)** pour boucher l'ouverture correspondante **(122)** de la ou des ouvertures **(122)**.  
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3. Dispositif de nettoyage de stores **(100)** selon la revendication 1, dans lequel le ou les bouchons d'étanchéité **(162)** sont adaptés à fermer la ou les ouvertures **(122)** du dispositif de nettoyage de stores **(100)**.  
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4. Dispositif de nettoyage de stores **(100)** selon la revendication 1, dans lequel le couvercle **(148, 248)** comporte une première partie **(150)** et deux secondes parties **(152)** sensiblement perpendiculaires à la première partie **(150)**.  
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5. Dispositif de nettoyage de stores **(100)** selon la revendication 4, dans lequel la première partie **(150)** comporte les bouchons d'étanchéité **(162)**.  
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6. Dispositif de nettoyage de stores **(100)** selon l'une quelconque des revendications précédentes, dans lequel le couvercle **(148, 248)** comporte une première surface de couvercle **(154)** et une seconde surface de couvercle **(156)**, la première surface de couvercle **(154)** définissant un certain nombre de saillies **(258)** qui permettent une mise en prise sou-  
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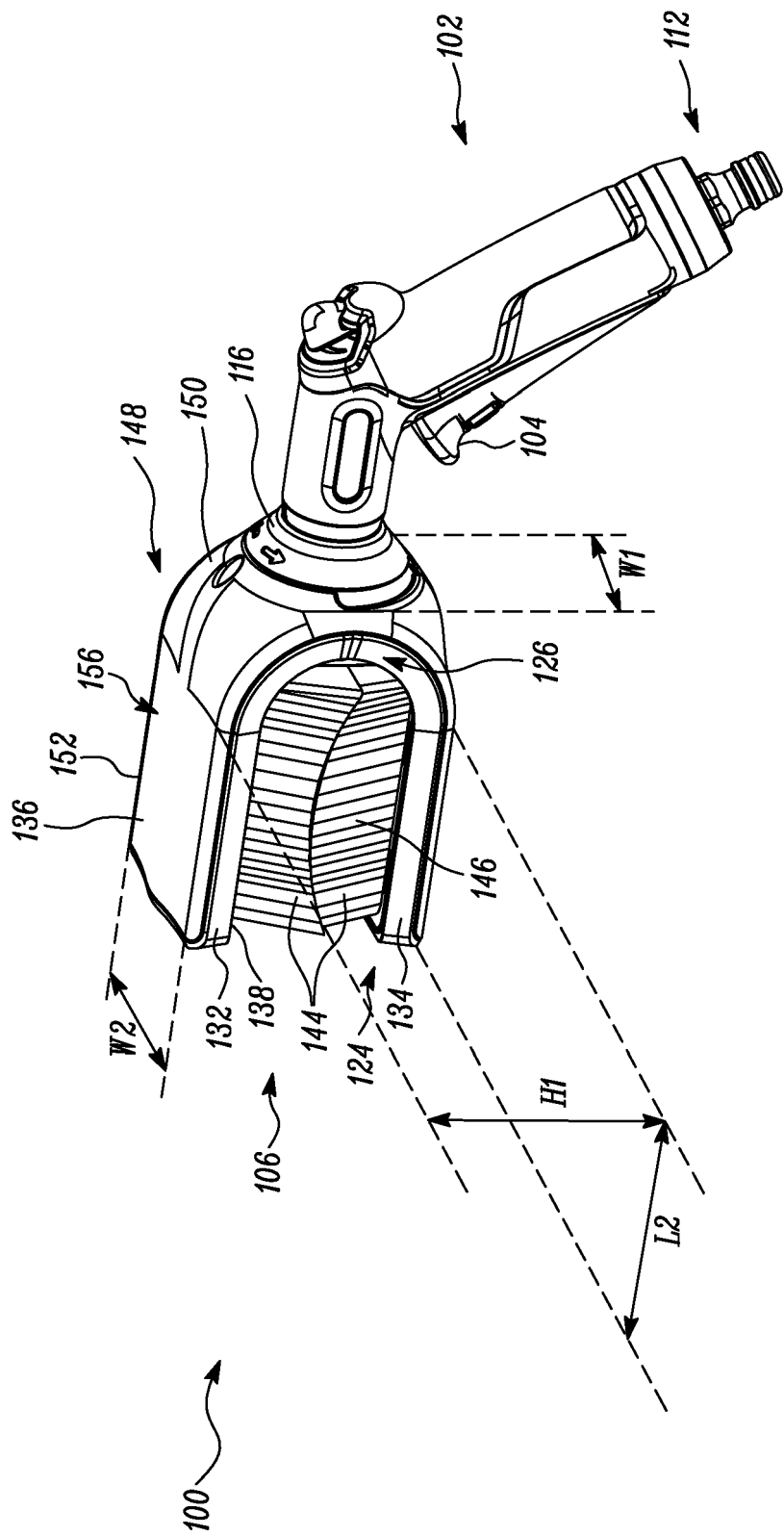


FIG. 1

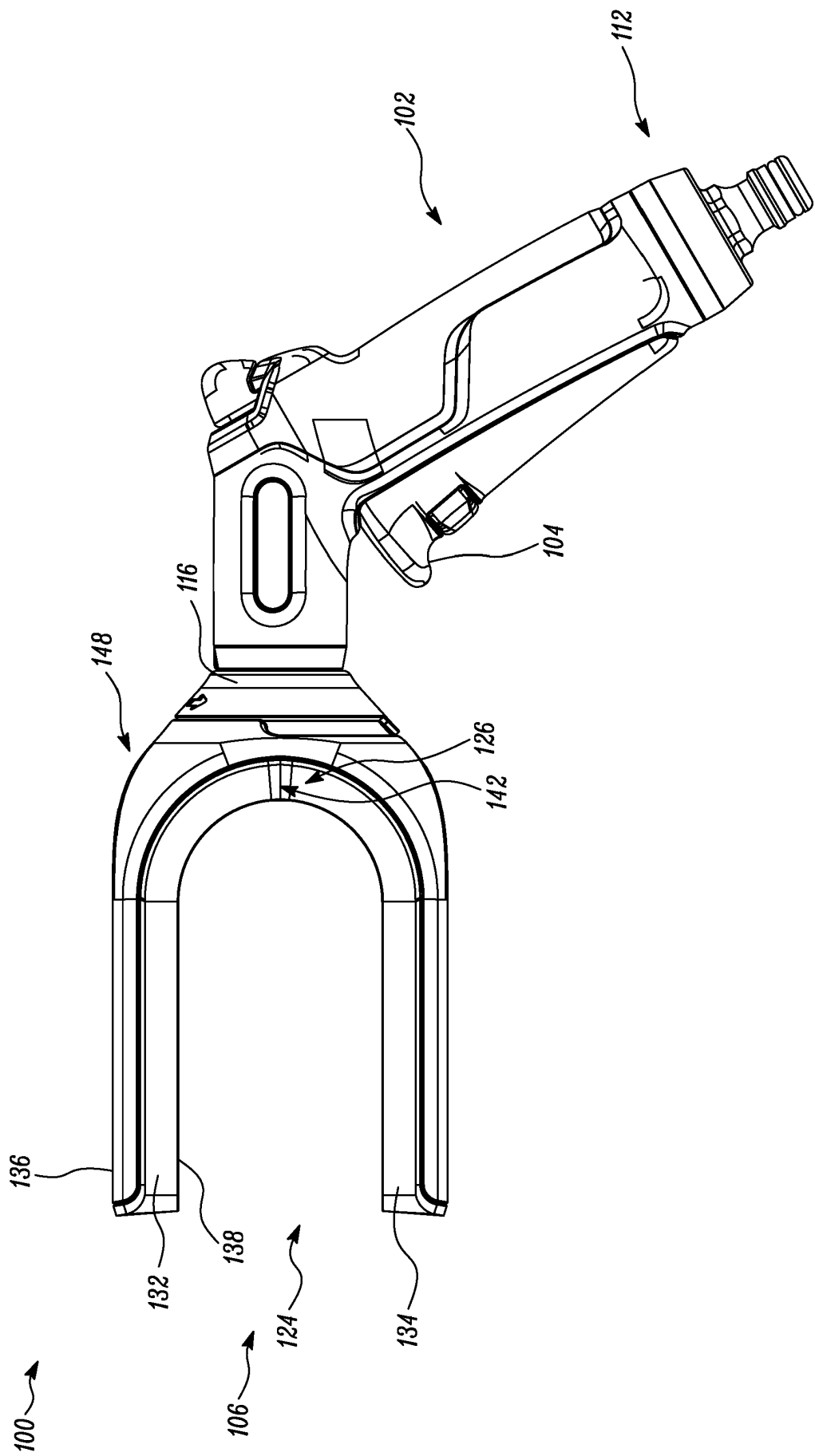


FIG. 2

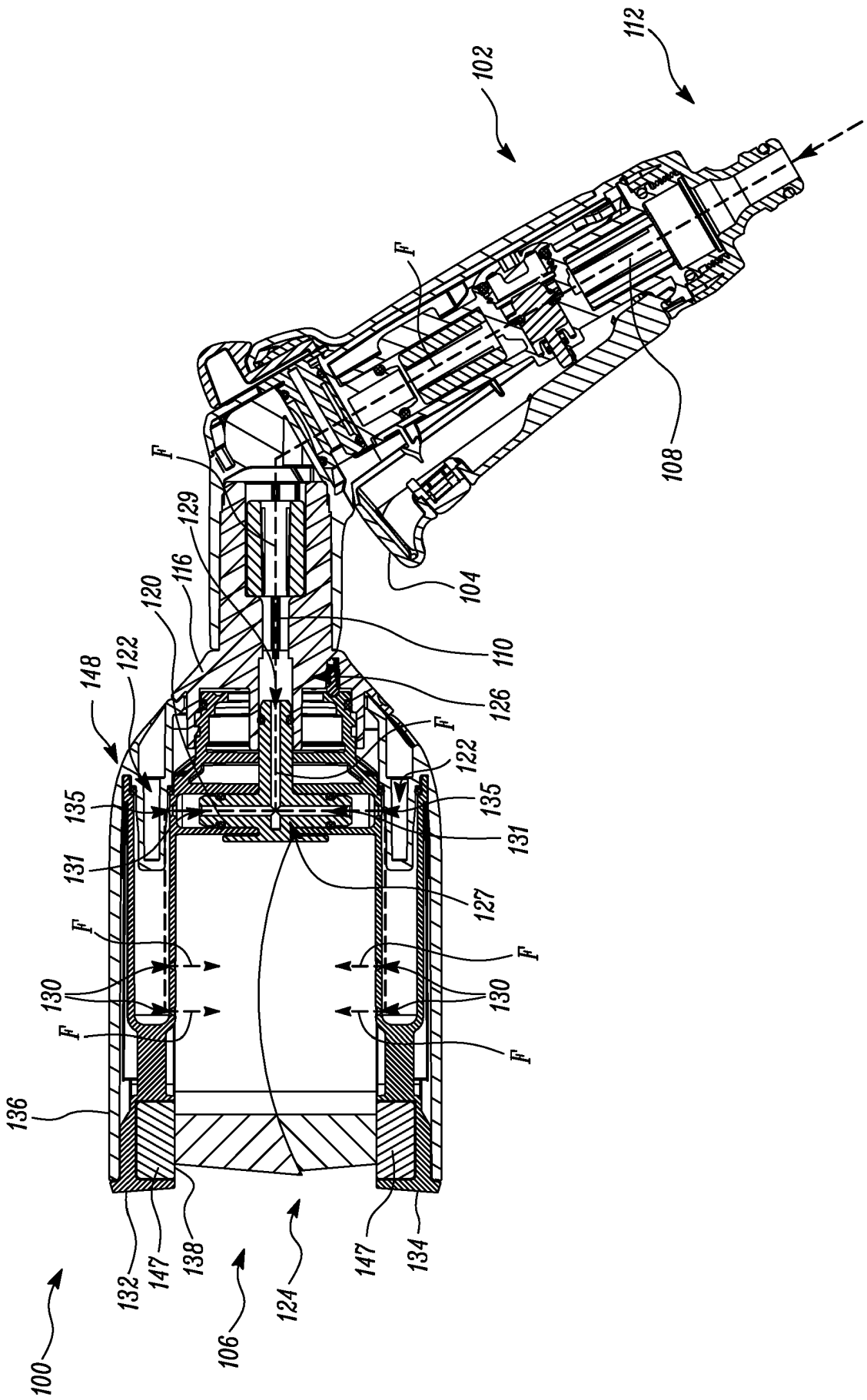


FIG. 3

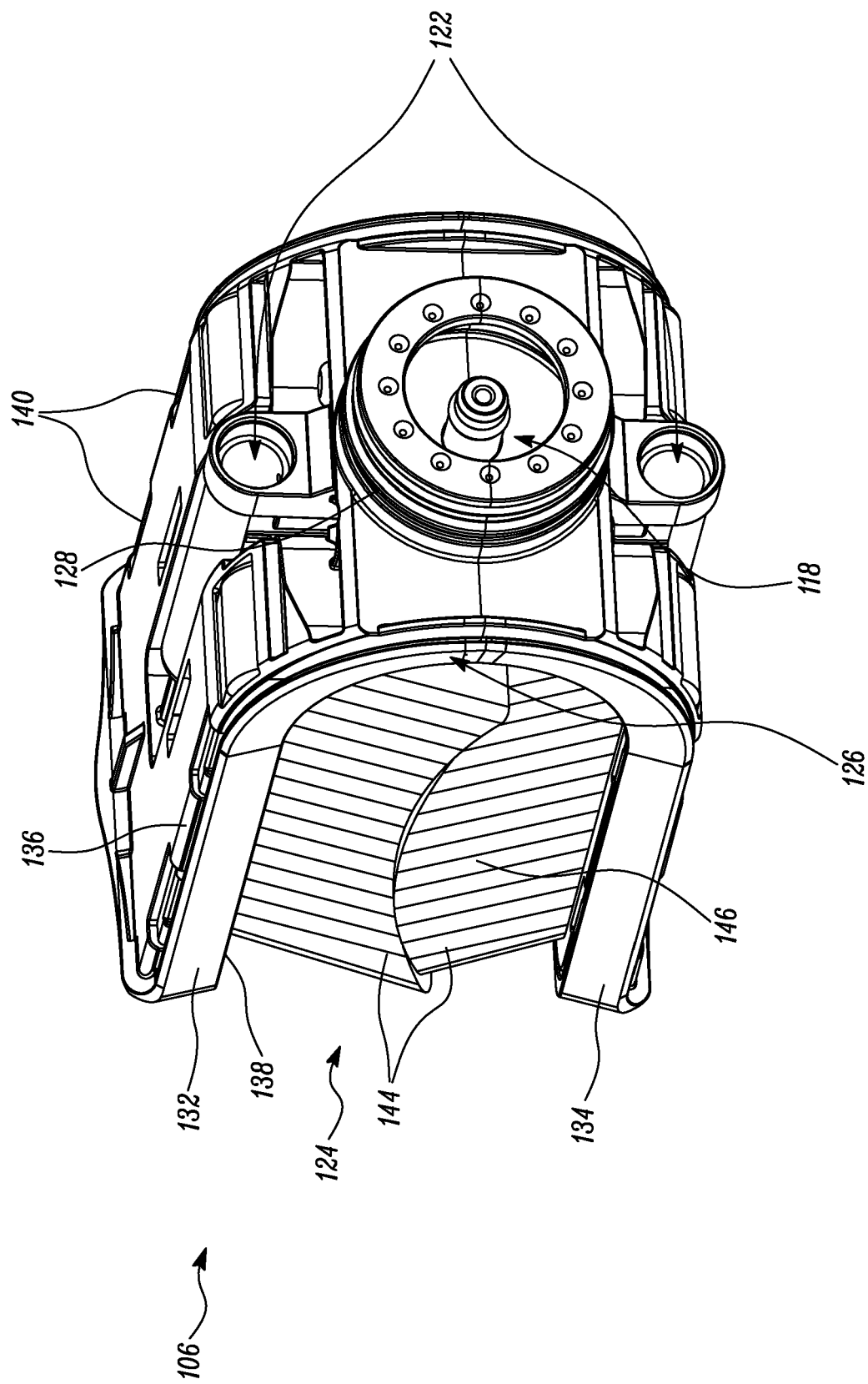


FIG. 4

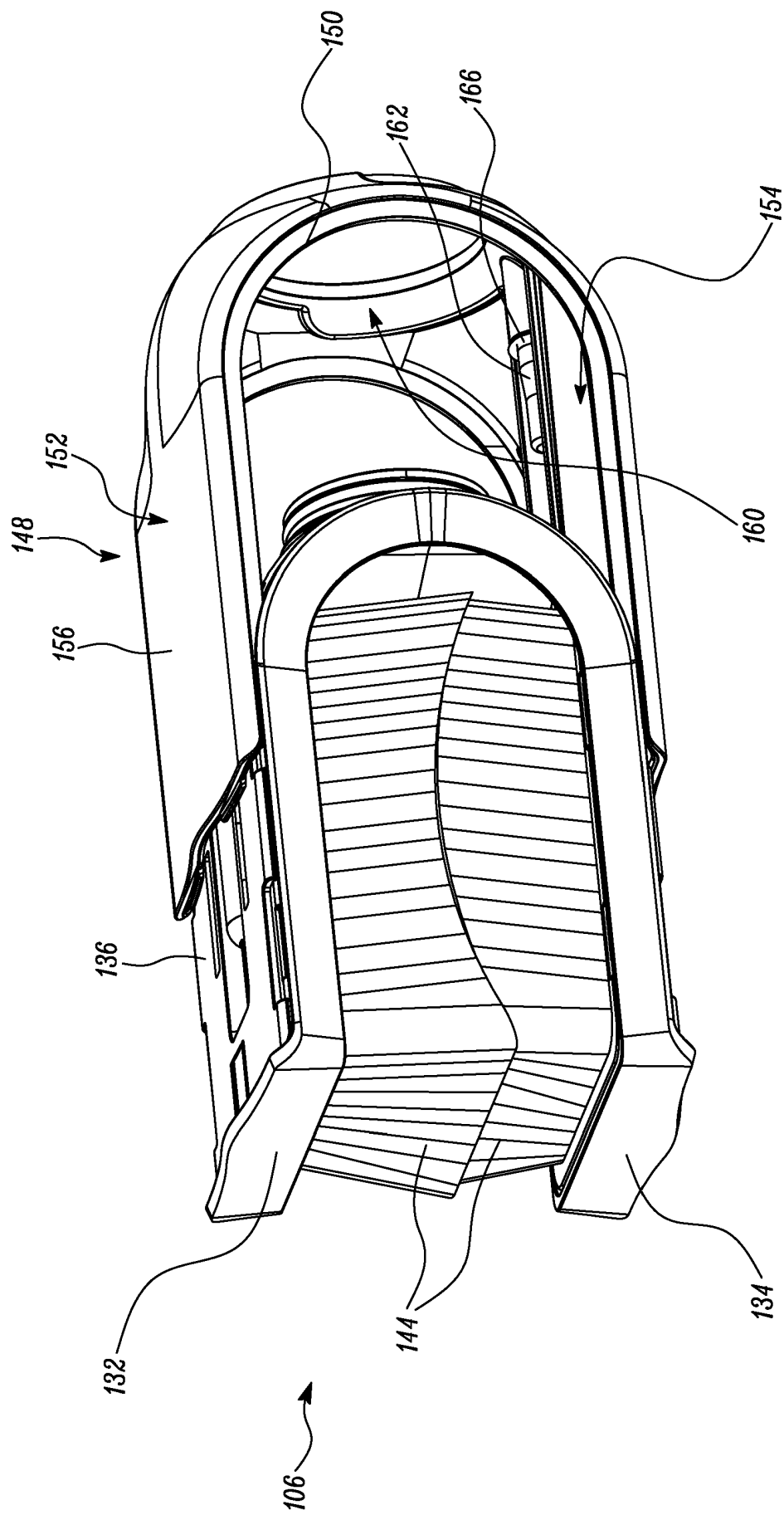


FIG. 5

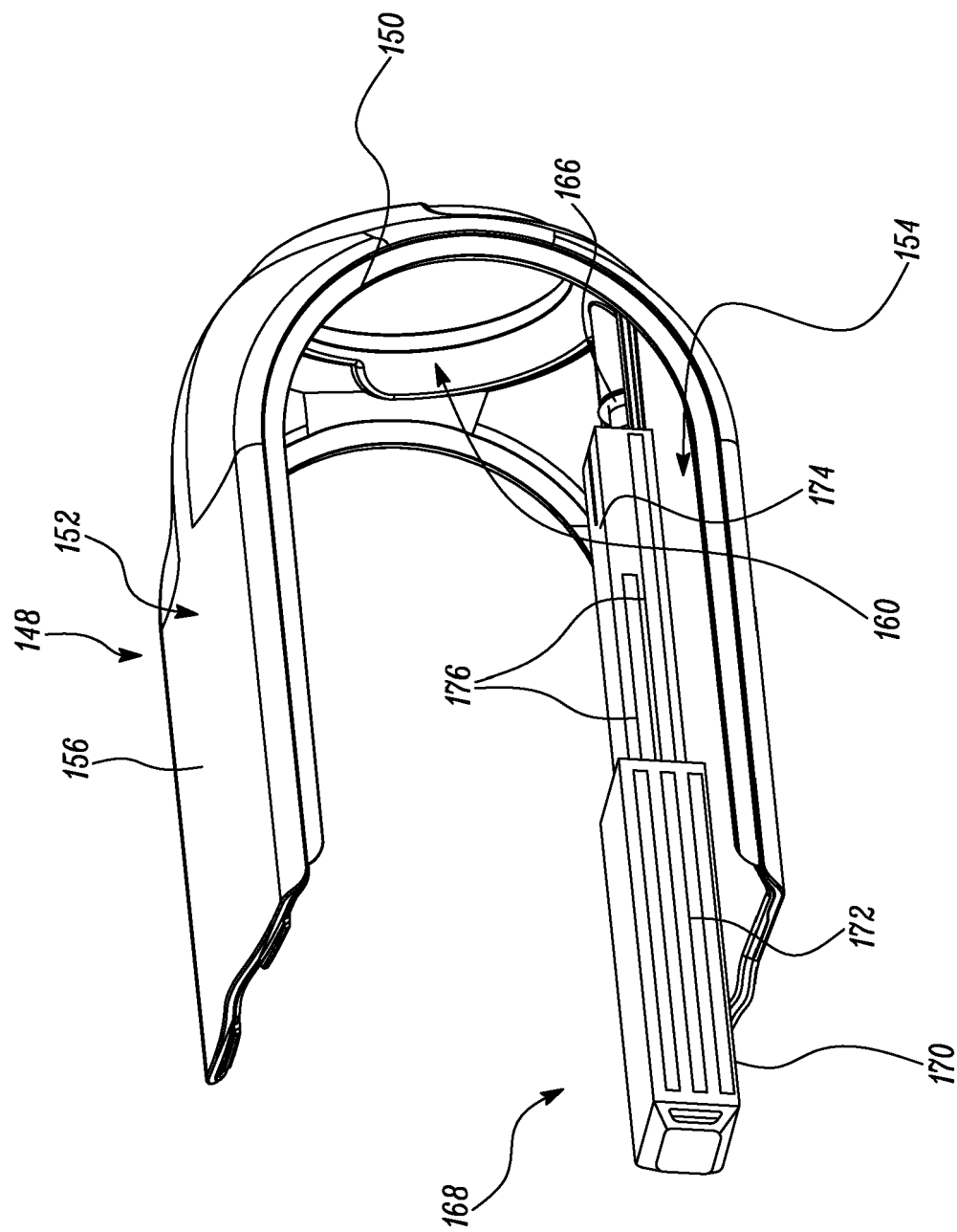


FIG. 6

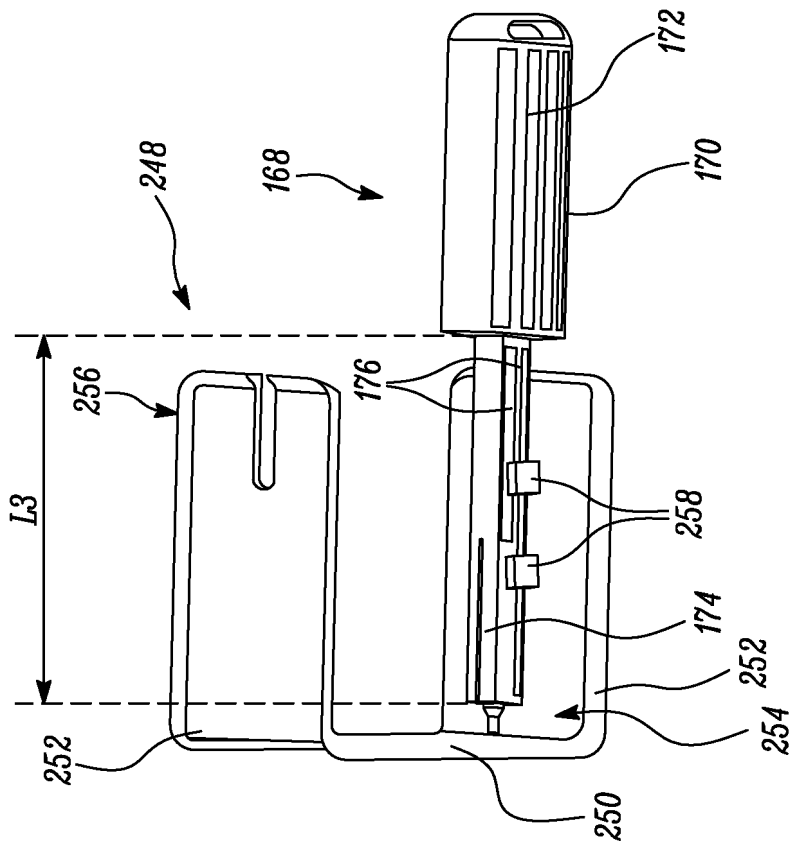


FIG. 7B

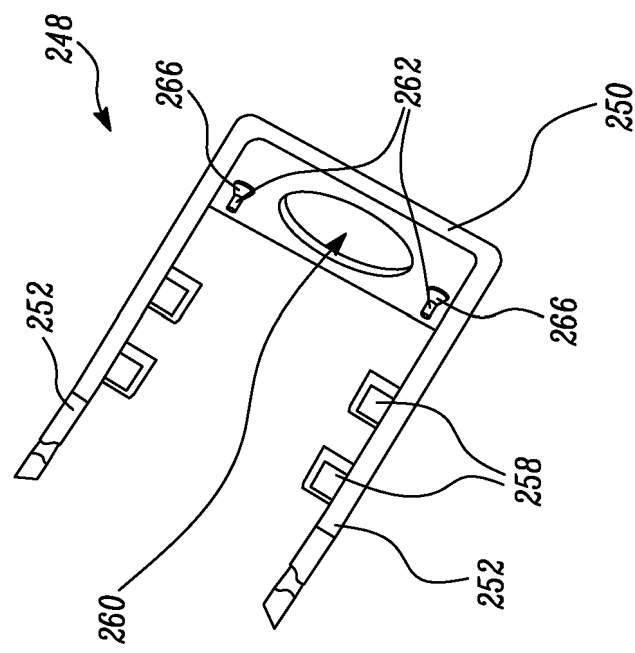


FIG. 7A