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(54) **TOOL HOLDER**

WERKZEUGHALTER

SUPPORT D'OUTIL

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Description

TECHNICAL FIELD

[0001] The present disclosure relates to a tool holder. More particularly, the present disclosure pertains to a tool holder for holding one or more tools.

BACKGROUND

[0002] A tool holder is used to support and store tools when they are not in use. Many different types of tool holders for supporting and storing tools are known. One example of a tool holder includes a metal bracket suspended from a holder body, which is generally mounted to a vertical wall surface. The metal bracket, in one example, may include a pair of laterally spaced apart and forward extending support arms. The tool handle is inserted between the support arms and the handle extensions rest loosely on the support arms to store the tool. DE 20 2017 106619 U discloses a tool holder according to the preamble of claim 1.

[0003] There have been different problems associated with conventional tool holders having the metal bracket. For instance, if a stored tool is bumped or not properly installed in the holder, the tool may easily fall forward, and may inadvertently or unintentionally dislodge from the holder. A falling tool may cause injury to persons nearby or may cause damage to objects that are hit by the falling tool. Further, conventional tool holders of this type may have the holder body made of a plastic material, while the metal bracket may be expensive to manufacture. This increases the total cost and service overheads of the tool holder.

[0004] Thus, there is a need of an improved tool holder which allow simple, convenient, and safe storing of tools. Further, it would be an additional benefit if the tool holder is inexpensive to manufacture and allows to avoid misplacement of the different tools.

SUMMARY

[0005] 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 tool holder for holding one or more tools. The tool holder includes a body. The body includes at least one cavity to hold the one or more tools. Each of the at least one cavity defines a central axis, and the tool holder defines a longitudinal axis. The tool holder is characterized in that the central axis is substantially perpendicular to the longitudinal axis. The at least one cavity allows to removably receive an extension of a handle of the one or more tools. At least a part of the tool extends along the longitudinal axis below the at least one cavity. In other words, the at least one cavity is configured to removably receive an extension of a handle of the one or more tools such that when the extension is removably received in the cavity at least a part of the tool is extending along the longitudinal axis below the at least one cavity.

[0006] Further, the cavity is defined as a through opening, and wherein the cavity is configured to receive at the same time two tools on two opposing sides of the cavity seen along the central axis. Configuring the through opening in this way may allow to securely hold at the same time two tools by introducing the two tools on two opposite sides of the though opening. The two opposing sides are seen along the central axis defined by each of the cavities.

[0007] Thus, the present disclosure provides a safe and efficient tool holder for holding the one or more tools. The vertical extent of the tool holder along the longitudinal axis and below the at least one cavity serves as a counter against the gravity that forces the tools hanged into the tool holder against the body of the tool holder. The vertical extent of the tool holder may thus prevent the inadvertent or unintentional dislodging of the tool from the tool holder. Further, the at least one cavity allows to removably receive an extension of a handle of the one or more tools and thereby obviates the need for separate metal bracket as used in conventional tool holders. Thus, the tool holder is manufactured in one-piece thereby saving the manufacturing cost of the tool holder.

[0008] According to an embodiment of the present disclosure, the at least a part of tool below the at least one cavity is about 2 cm. Thus, the part of the tool which extends along the longitudinal axis below the at least one cavity ensures that the tool gets support from the body of the tool holder. This eliminates the general tendency of the tool to hang obliquely and thus allows support and proper hanging of the tool substantially vertically on the tool holder.

[0009] According to an embodiment of the present disclosure, the surface of the at least one cavity is formed as to cooperate with the extension of the handle. The at least one cavity allows for secure locking of the tool in the tool holder to prevent inadvertent or unintentional dislodging of the tool from the tool holder.

[0010] According to an embodiment of the present disclosure, the at least one cavity is formed around a top part of the tool holder. The at least one cavity at the top of the tool holder ensures that there is sufficient vertical extent of the tool holder along the longitudinal axis below the at least one cavity. This may serve as a counter against the gravity acting on the tools which are now hanged into the tool holder against the body of the tool holder.

[0011] According to the present invention, the at least one cavity is defined as a through opening in the tool holder. The through opening allows to properly receive an extension of any length, for different types, sizes, dimensions of the extension of the tool.

[0012] The through opening according to this invention may denote a through-hole. Particularly, the through opening extends through the material of the tool holder. At the same time the through opening comprises sur-

rounding material around its entire circumferential boundary. Particularly, at least along a section of an axial length of the through opening, wherein the axial length is seen along the central axis of the cavity.

[0013] The through opening may comprise a circumferential wall configured to contact an entire circumference of the extension of the handle when the extension is removably received in the cavity. Particularly, this may denote that an outer surface of the extension is in contact with an inner surface of the cavity at least at two different circular positions. In particular on two opposing circular position being distance from each other by substantially 180°. According to an example, the two opposing circular positions are the one at a top portion of the tool holder and the other is on the lowest point of the through opening when the tool holder is mounted to a wall.

[0014] According to an example, the at least one cavity is substantially U-shaped. The cavity may be of any shape, size, type depending upon the application. The U-shape of the cavity may be preferable to receive the extension with different (say circular) cross-section to properly align with U-shape of the cavity.

[0015] According to an embodiment of the present disclosure, the one or more cavities includes circular openings. The circular opening of the cavity is most suited to receive the extension with circular cross-section as the extension with circular cross-section properly aligns with the circular opening of the cavity. The circular opening is particularly useful if the extension of circular cross-section is required to be screwed into the cavity.

[0016] According to an embodiment of the present disclosure, the at least one cavity is used to receive the extension which is a clamping nut of a tool. The extension of the handle of the tool may be the clamping nut which finds applications with various gardening tools, among others.

[0017] According to an embodiment of the present disclosure, the tool holder further defines one or more recesses to receive one or more tool attachments. The one or more recesses increases the utility of the tool holder by giving provision to store more than one tool attachments, with an option to hang different tools by their handles.

[0018] According to an embodiment of the present disclosure, the tool holder includes side portions such as to support any of the one or more tools with the tool holder. This allows vertical or sideways support of the tool(s) with the side portions of the tool holder. Further, presence of the side portions also avoids any oblique or undesired angular orientation of the tool(s) with respect to the tool holder.

[0019] According to an embodiment of the present disclosure, the tool holder has integrated wall-mounting option including one or more of a screw, nuts, and rivets. Such integrated wall mounting option allows to easily mount the tool holder on different installations such as a wall, a column, a post, and the like.

[0020] According to an embodiment of the present disclosure, the tool holder is used to mount one or more gardening tools. The tool holder helps in properly organizing and storing various gardening tools when not in use. The gardener thus finds it easy to locate the gardening tool as and when required.

[0021] Other features and aspects of this invention will be apparent from the following description and the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] The invention will be described in more detail with reference to the enclosed drawings, wherein:

FIG. 1 shows a perspective view of an exemplary tool holder along with tools;

FIG. 2 shows a perspective view of the exemplary tool holder along with the tools;

FIG. 3 shows a perspective view of the exemplary tool holder holding the tools and a tool attachment;

FIG. 4 shows a perspective view of an exemplary tool holder; and

FIG. 5 shows a perspective side view of a tool holder according to an embodiment of the invention, in accordance with another aspect of the present disclosure.

DESCRIPTION OF EMBODIMENTS

[0023] The present invention will be described more fully hereinafter with reference to the accompanying drawings, in which example embodiments of the invention and examples, respectively, incorporating one or more aspects of the present invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. For example, one or more aspects of the present invention may be utilized in other embodiments and even other types of structures and/or methods. In the drawings, like numbers refer to like elements.

[0024] Certain terminology is used herein for convenience only and is not to be taken as a limitation on the invention. For example, "upper", "lower", "front", "rear", "side", "longitudinal", "lateral", "transverse", "upwards", "downwards", "forward", "backward", "sideward", "left," "right," "horizontal," "vertical," "upward", "inner", "outer", "inward", "outward", "top", "bottom", "higher", "above", "below", "central", "middle", "intermediate", "between", "end", "adjacent", "proximate", "near", "distal", "remote", "radial", "circumferential", or the like, merely describe the

configuration shown in the Figures. Indeed, the components may be oriented in any direction and the terminology, therefore, should be understood as encompassing such variations unless specified otherwise.

[0025] **FIG. 1** illustrates a tool holder **100.** The tool holder **100** of the present disclosure is used to mount (or store) one or more gardening tools which may be any tool say gardening tools and the like, without limiting the scope of the present disclosure. The tool holder **100** helps in properly organizing and storing various gardening tools **110, 110'** (hereinafter generally referred to as tools **110**) when not in use. The tool holder **100** may be manufactured using one or more of thermoplastic material, wood, or metal. However, the tool holder **100** may be manufactured using any other material as used or known in the art, without limiting the scope of the present disclosure.

[0026] As shown in Fig. 1, one (first) tool 110 is securely received in the cavity 130. Additionally, another (second) tool 110' is inserted into the cavity on an opposing side of the cavity 130 seen along the central axis Y-Y'. Hence, as illustrated in Fig. 1, the cavity 130 is configured for removably receiving two tools 110, 110' on two opposing sides of the cavity 130 seen along the central axis Y-Y'.

[0027] The present disclosure illustrates storing of different tools **110, 110'** with the tool holder **100** as illustrated in **FIGS. 1-4** and a tool holder **100'** as illustrated in **FIG. 5.** The tools **110, 110'** having similar parts such as handles **112, 112',** grips **114, 114',** extensions **116, 166'** which have been simple referred to as tool(s) **110,** handles **112,** grips **114,** and the extension **116** for ease of understanding and clarity considerations. Further, the tool holders **100, 100'** provide different cavities **130, 130'** which have alternatively and interchangeably referred to as cavity **130** for similar clarity purposes.

[0028] In some embodiments, the tool holder **100** has integrated wall-mounting **140** option including one or more of a screw, nuts, and rivets. Such integrated wall mounting **140** option allows to easily mount the tool holder **100** on different installations such as a wall, a column, a post, and the like. The back portion **104** (indicated in **FIG. 4**) of the body **101** faces the installations when the tool holder **100** is mounted.

[0029] The tool holder **100** includes a body **101,** as illustrated in **FIGS. 1** and **2.** The body **101** includes a front portion **102,** a back portion **104** (shown in **FIG. 4**), a top portion **108,** a bottom portion **109,** and side portions **106.** The front portion **102** of the body **101** includes one or more recesses **120** to receive one or more tool attachments **150** (shown in **FIG.5**). The one or more recesses **120** allow to store or house multiple tool attachments **150.** The one or more tool attachments **150** may be one or more of a shovel, a rake, a plough, a hoe, a weed puller, a broom, a brush, ice scraper, a trowel, or the like.

[0030] The tool holder **100** also allows storing of handles **112** of the tools **110** as illustrated in **FIGS. 1, 2** and **3.** The handles **112** may be manufactured from wood, aluminum, or other material without limiting the scope of the disclosure. The handles **112** may be the regular handles or the telescopic handles. Further, the handles **112** may include grips **114** for properly holding the handles **112** of the tools **110.**

[0031] In some embodiments, the body **101** of the tool holder **100** includes at least one cavity **130** to hold the one or more tools **110.** In the present disclosure, the tool holder **100** as illustrated in **FIGS. 1-4** exhibits a pair of cavities **130** and the tool holder **100'** as illustrated in **FIG. 5** exhibits the single through **130'.** However, actual implementation of the present disclosure may have any number, type, size, position of the cavities **130, 130'** with the tool holder **100,** without restricting the scope of the present disclosure. Each of the at least one cavity **130** defines a central axis **Y-Y',** and the tool holder **100** defines a longitudinal axis **X-X'.** The central axis **Y-Y'** is substantially perpendicular to the longitudinal axis **X-X',** however some embodiments may have any other angular orientation between the central axis **Y-Y'** and the longitudinal axis **X-X'** as per the application. The at least one cavity **130** allows to removably receive the extension **116** of the handle **112** of the one or more tools **110.**

[0032] In some embodiments, the at least one cavity **130** receives extension **116** which is a clamping nut of the tool **110.** As illustrated in **FIGS. 1** and **2,** the surface of the at least one cavity **130** is formed as to cooperate with the extension **116** of the handle **112.** The at least one cavity **130** has an edge **134** allows for secure locking of the tool **110** in the tool holder **100** to prevent inadvertent or unintentional dislodging of the tool **110** from the tool holder **100.**

[0033] In some embodiments, the tool **110'** having the extension **116'** may be readily made to hold with the cavity **130** of the tool holder **100,** as illustrated with reference to **FIGS. 1, 2.** A user may simply hold or engage the tool **110'** with or around the handle **112'** to move or align the extension **116',** as illustrated in **FIG. 1,** to move the extension **116'** substantially within the edge **134** of the cavity **130** as illustrated in **FIG. 2.** In this position of the tool **110',** at least some part of the handle **112'** remains below the cavity **130'** and the extension **116'** at least partially engages with the edge **134** of the cavity **130,** while handle **112'** is being supported by one of the side portions **106** of the tool holder **100.**

[0034] In some embodiments, the at least one cavity **130** is formed at or around the top portion **108** of the tool holder **100.** The at least one cavity **130** at the top portion **108** of the tool holder **100** ensures that there is sufficient vertical extent of the tool holder **100** along the longitudinal axis **X-X'** below the at least one cavity **130.** This may serve as a counter against the gravity acting on the tools **110** which hang into the tool holder **100** against the body **101** of the tool holder **100.** Thus, the at least one cavity **130** may be formed at any length along the longitudinal axis **X-X'** of the tool holder **100** such that a part of the tool **110** extends along the longitudinal axis **X-X'** below the at least one cavity **130** and receives support from the side portion of the body **101** of the tool holder **100.**

[0035] In some embodiments, the at least a part of the

tool **110** below the at least one cavity **130** is about 2 cm, or any other suitable value depending upon factors such as size, weight, profile, type of the tool **110** or the tool holder **100.** Thus, the part of the tool **110** which extends along the longitudinal axis **X-X'** below the at least one cavity **130** ensures that the tool **110** gets support from the body **101,** particularly the side portions **106** of the tool holder **100.** This eliminates the general tendency of the tool **110** to hang obliquely and thus allows support and proper hanging of the tool **110** substantially vertically on the tool holder **100.**

[0036] **FIG. 3** illustrates the tool holder **100** having one or more recesses **120** provided at the front portion **102** of the body **101.** The one or more recesses **120** include a plurality of equally spaced protruding surfaces **122.** The protruding surfaces **122** may be designed to securely engage with the adapter **152** of the tool attachment **150.**

[0037] In some embodiments, the tool holder **100** may be used to hold the one or more tools **110** by holding the extensions **116** of the handles **112** with or inside the one or more cavities **130.** Further, the tool holder **100** may hold the one or more tool attachments **150** of the tools **110** with the one or more recesses **120.** This provides a compact arrangement of the tool holder **100** of the present disclosure to safely, securely store the extensions **116** of the handles **112** as well as the tool attachments **150** of the tools **110.**

[0038] **FIG. 4** illustrates the tool holder **100** without any of the tools **110,** to highlight and appreciate the role of the cavities **130.** In the illustrated example, the at least one cavity **130** is substantially U-shaped. However, the cavity **130** in general may be of any shape, size, type depending upon the application. However, the U-shape of the cavity **130** may be preferable to receive the extension **116** of the tools **110** with different (say circular) cross-section to properly align with U-shape of the cavity **130** of the tool holder **100.**

[0039] In some examples, the at least one cavity **130** is two cavities **130** separated by a partition wall **132** as illustrated in **FIGS. 1-4.** The partition wall **132** may be fixed (or in some cases removably coupled) along the length of the cavity **130** such as to form two cavities **130** with generally equal areas around the top portion **108** of the tool holder **100.** In some examples, the partition wall **132** may be removably received along the length of the cavity **130** by any suitable means such as glue, screws, rivets, and the like, as used or known in the art. The partition wall **132** may be friction fitted at any length along the cavity **130** such as to form two cavities **130** with unequal areas. This is to cater to the holding of the extensions **116** of different lengths of different tools **110.**

[0040] **FIG. 5** illustrates the tool holder **100'** without any of the tools **110,** to highlight and appreciate the role of the cavity **130'.** As illustrated, the at least one cavity **130'** is circular-shaped through cavity provided around the top portion **108** of the tool holder **100'.** The at least one cavity **130'** may be one or more cavities with different sizes, types, dimensions and positions on the body **101** of the tool holder **100'.** The through opening of the cavity **130'** illustrated in present figure may allow to properly receive the extensions **116, 116'** of any length, types, sizes, dimensions of the of the tools **100, 100'** which are illustrated in **FIGS. 1-3.** As may be seen in Fig. 5, the cavity 130' is defined as a through opening, in particular a through-hole, wherein the cavity 130' is configured to removably receive two tools 110, 110' on two opposing sides of the cavity 130' seen along the central axis Y-Y' (for example shown in Fig. 2).

[0041] In some embodiments, the tool holder **100, 100'** includes the side portions **106** such as to support any of the one or more tools **110, 110'** with the tool holder **100, 100'.** This allows vertical or sideways support of the tool(s) **110, 110'** with the side portions **106** of the tool holder **100, 100',** when the tool(s) **110, 110'** are being supported or housed within the cavity **130, 130',** respectively. Further, presence of the side portions **106** also avoids any oblique or undesired angular orientation of the tool(s) **110, 110'**with respect to the tool holder **100, 100'.**

[0042] In some embodiments, the one or more cavities **130, 130'** includes circular openings. The circular opening of the cavity **130, 130'** may be suitable to receive the extension **116, 166'** with circular cross-section to allow proper alignment with the circular opening of the cavity **130, 130'.** In some embodiments, the cavities **130, 130'** of the present disclosure may be provided with fixing means to properly secure the extensions **116, 116'** of the tools **110, 110'.** The fixing means may be a screw, button, flap, clip, and the like to allow users to secure the extensions **116, 116'** of the tools **110, 110'** such that to allow desired holding of the handles **112, 112'** of the tools **100, 100'** with the tool holders **100, 100'.**

[0043] Thus, the present disclosure provides safe, user-friendly, and efficient tool holder(s) **100, 100'** for holding the one or more tool(s) **110, 110'.** The vertical extent of the tool holders **100, 100'along** the longitudinal axis **X-X'** and below the at least once cavities **130, 130'** serves as a counter against the gravity that forces the tool(s) **110,110'** hanged into the tool holder(s) **100,100'** against the body **101** thereof. The vertical extent of the tool holder **100** may thus prevent any inadvertent or unintentional dislodging of the tool(s) **110, 110'** from the tool holder(s) **100, 100'.** Further, the cavities **130, 130'** may allow to removably receive the extension(s) **116, 116'** of the handle(s) **112, 112'** of the tool(s) **110, 110'** and thereby obviates the need for separate, auxiliary handing accessories (say metal brackets) as used in conventional tool holders. Thus, the tool holder **100** may be manufactured in one-piece thereby saving the manufacturing cost and other overheads.

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

LIST OF ELEMENTS

[0045]

100, 100'	Tool Holder
101	Body
102	Front Portion
104	Back Portion
106	Side Portions
108	Top Portion
109	Bottom Portion
110, 110'	Tool
112,112'	Handle
114, 114'	Grip
116, 166'	Extension
120	Recess
122	Protruding Surfaces
130, 130'	Cavity
132	Partition Wall
134	Edge
140	Wall Mounting
150	Tool Attachment
152	Adapter
X-X'	Longitudinal Axis
Y-Y'	Central Axis

Claims

1. A tool holder **(100, 100')** for holding one or more tools **(110, 110'),** comprising:

a body **(101),** wherein the body **(101)** includes at least one cavity **(130, 130')** to hold the one or more tools **(110, 110'),**
wherein each of the at least one cavity **(130, 130')** defines a central axis **(Y-Y'),** and the tool holder **(100, 100')** defines a longitudinal axis **(X-X');**
wherein the central axis **(Y-Y')** is substantially perpendicular to the longitudinal axis **(X-X'),** and wherein the at least one cavity **(130, 130')** is configured to removably receive an extension **(116, 116')** of a handle **(112, 112')** of the one or more tools **(110, 110')** such that when the extension **(116, 116')** is removably received in the cavity **(130, 130')** at least a part of the tool **(110, 110')** is extending along the longitudinal axis **(X-X')** below the at least one cavity **(130, 130');**
characterized in that:
the cavity **(130, 130')** is defined as a through opening, and wherein the cavity **(130, 130')** is configured to receive at the same time two tools **(110, 110')** on two opposing sides of the cavity **(130, 130')** seen along the central axis **(Y-Y').**

2. The tool holder **(100, 100')** of claim **1,** wherein the at least a part of the tool **(110, 110')** below the at least one cavity **(130, 130')** is about **2** cm.

3. The tool holder **(100, 100')** of any of the preceding claims, wherein the surface of the at least one cavity **(130, 130')** is formed as to cooperate with the extension **(116,116')** of the handle **(112,112').**

4. The tool holder **(100, 100')** of any of the preceding claims, wherein the at least one cavity **(130, 130')** is formed around a top part of the tool holder **(100, 100').**

5. The tool holder **(100')** of any of the claims 1 to 4, wherein the one or more cavities **(130')** includes circular openings.

6. The tool holder **(100, 100')** of any of the preceding claims, wherein the tool holder **(100)** further defines one or more recesses **(120)** to receive one or more tool attachments **(150).**

7. The tool holder **(100, 100')** of any of the preceding claims, wherein the tool holder **(100, 100')** includes side portions **(106)** such as to support any of the one or more tools **(110, 110')** with the tool holder **(100).**

8. The tool holder **(100, 100')** of any of the preceding claims, wherein the tool holder **(100, 100')** has integrated wall-mounting **(140)** option including one or more of a screw, nuts, and rivets.

9. Use of the tool holder **(100, 100')** of any of the preceding claims, wherein the at least one cavity **(130)** is used to receive the extension **(116, 116')** which is a clamping nut of the tool **(110, 110').**

10. Use of the tool holder **(100, 100')** of any of the claims 1 to 8 to mount the one or more tools **(110, 110').**

Patentansprüche

1. Werkzeughalter **(100, 100')** zum Halten eines oder mehrerer Werkzeuge **(110, 110'),** umfassend:

einen Körper **(101),** wobei der Körper **(101)** mindestens einen Hohlraum **(130, 130')** einschließt, um das eine oder die mehreren Werkzeuge **(110, 110')** zu halten,
wobei jeder des mindestens einen Hohlraums **(130, 130')** eine Mittelachse **(Y-Y')** definiert, und der Werkzeughalter **(100, 100')** eine Längsachse **(X-X')** definiert;
wobei die Mittelachse **(Y-Y')** im Wesentlichen senkrecht zu der Längsachse **(X-X')** ist, und
wobei der mindestens eine Hohlraum **(130, 130')** konfiguriert ist, um eine Verlängerung **(116, 116')** eines Griffs **(112, 112')** des einen

oder der mehreren Werkzeuge **(110, 110')** derart herausnehmbar aufzunehmen, dass, wenn die Verlängerung **(116, 116')** in dem Hohlraum **(130, 130')** herausnehmbar aufgenommen ist, mindestens ein Teil des Werkzeugs **(110, 110')** sich entlang der Längsachse **(X-X')** unterhalb des mindestens einen Hohlraums **(130, 130')** verlängert;
dadurch gekennzeichnet, dass:
der Hohlraum **(130, 130')** als eine Durchgangsöffnung definiert ist, und wobei der Hohlraum **(130, 130')** konfiguriert ist, um gleichzeitig zwei Werkzeuge **(110, 110')** auf zwei gegenüberliegenden Seiten des Hohlraums **(130, 130'),** entlang der Mittelachse **(Y-Y')** betrachtet, aufzunehmen.

2. Werkzeughalter **(100, 100')** nach Anspruch**1**, wobei der mindestens eine Teil des Werkzeugs **(110, 110')** unterhalb des mindestens einen Hohlraums **(130, 130')** etwa **2** cm beträgt.

3. Werkzeughalter **(100, 100')** nach einem der vorstehenden Ansprüche, wobei die Oberfläche des mindestens einen Hohlraums **(130, 130')** ausgebildet ist, um mit der Verlängerung **(116, 116')** des Griffs **(112, 112')** zusammenzuwirken.

4. Werkzeughalter **(100, 100')** nach einem der vorstehenden Ansprüche, wobei der mindestens eine Hohlraum **(130, 130')** um einen oberen Teil des Werkzeughalters **(100, 100')** herum ausgebildet ist.

5. Werkzeughalter **(100')** nach einem der Ansprüche 1 bis 4, wobei der eine oder die mehreren Hohlräume **(130')** kreisförmige Öffnungen einschließen.

6. Werkzeughalter **(100, 100')** nach einem der vorstehenden Ansprüche, wobei der Werkzeughalter **(100)** ferner eine oder mehrere Aussparungen **(120)** definiert, um einen oder mehrere Werkzeugaufsätze **(150)** aufzunehmen.

7. Werkzeughalter **(100, 100')** nach einem der vorstehenden Ansprüche, wobei der Werkzeughalter **(100, 100')** Seitenabschnitte **(106)** einschließt, wie um ein beliebiges des einen oder der mehreren Werkzeuge **(110,110')** mit dem Werkzeughalter **(100)** zu stützen.

8. Werkzeughalter **(100, 100')** nach einem der vorstehenden Ansprüche, wobei der Werkzeughalter **(100, 100')** eine integrierte **Wandbefestigungs(140)**-Option aufweist, einschließlich eines oder mehreren von einer Schraube, Muttern und Nieten.

9. Verwendung des Werkzeughalters **(100, 100')** nach einem der vorstehenden Ansprüche, wobei der mindestens eine Hohlraum **(130)** verwendet wird, um die Verlängerung **(116, 116')** aufzunehmen, die eine Klemmmutter des Werkzeugs **(110, 110')** ist.

10. Verwendung des Werkzeughalters **(100, 100')** nach einem der Ansprüche 1 bis 8, um das eine oder die mehreren Werkzeuge **(110, 110')** zu befestigen.

Revendications

1. Porte-outil **(100, 100')** permettant de maintenir un ou plusieurs outils **(110, 110'),** comprenant :

un corps **(101)** dans lequel le corps **(101)** comporte au moins une cavité **(130, 130')** pour maintenir le ou les outils **(110, 110'),**
dans lequel chacune de l'au moins une cavité **(130, 130')** définit un axe central **(Y-Y'),** et le porte-outil **(100, 100')** définit un axe longitudinal **(X-X')** ;
dans lequel l'axe central **(Y-Y')** est sensiblement perpendiculaire à l'axe longitudinal **(X-X'),** et
dans lequel l'au moins une cavité **(130, 130')** est conçue pour recevoir de manière amovible une rallonge **(116, 116')** d'une poignée **(112, 112')** du ou des outils **(110, 110')** de telle sorte que lorsque la rallonge **(116, 116')** est reçue de manière amovible dans la cavité **(130, 130')** au moins une partie de l'outil **(110, 110')** s'étend le long de l'axe longitudinal **(X-X')** sous l'au moins une cavité **(130, 130')** ;
caractérisé en ce que :
la cavité **(130, 130')** est définie comme une ouverture traversante, et dans lequel la cavité **(130, 130')** est conçue pour recevoir en même temps deux outils **(110, 110')** sur deux côtés opposés de la cavité **(130, 130')** vue le long de l'axe central **(Y-Y').**

2. Porte-outil **(100 100')** selon la revendication **1,** dans lequel l'au moins une partie de l'outil **(110, 110')** sous l'au moins une cavité **(130, 130')** est d'environ **2** cm.

3. Porte-outil **(100, 100')** selon l'une quelconque des revendications précédentes, dans lequel la surface de l'au moins une cavité **(130, 130')** est formée pour coopérer avec la rallonge **(116, 116')** de la poignée **(112, 112').**

4. Porte-outil **(100, 100')** selon l'une quelconque des revendications précédentes, dans lequel l'au moins une cavité **(130, 130')** est formée autour d'une partie supérieure du porte-outil **(100, 100').**

5. Porte-outil **(100')** selon l'une quelconque des revendications 1 à 4, dans lequel la ou les cavités **(130')** comporte des ouvertures circulaires.

6. Porte-outil **(100, 100')** selon l'une quelconque des revendications précédentes, dans lequel le porte-outil **(100)** définit en outre un ou plusieurs évidements **(120)** pour recevoir une ou plusieurs accessoires d'outil **(150).**

7. Porte-outil **(100, 100')** selon l'une quelconque des revendications précédentes, dans lequel le porte-outil **(100, 100')** comporte des parties latérales **(106)** de manière à supporter l'un quelconque du ou des outils **(110, 110')** avec le porte-outil **(100).**

8. Porte-outil **(100, 100')** selon l'une quelconque des revendications précédentes, dans lequel le porte-outil **(100 100')** a une option montage mural intégré **(140)** comportant un ou plusieurs parmi une vis, des écrous et des rivets.

9. Utilisation du porte-outil **(100, 100')** selon l'une quelconque des revendications précédentes, dans lequel l'au moins une cavité **(130)** est utilisée pour recevoir la rallonge **(116, 116')** qui est un écrou de serrage de l'outil **(110, 110').**

10. Utilisation du porte-outil **(100, 100')** selon l'une quelconque des revendications 1 à 8 pour monter le ou les outils **(110, 110').**

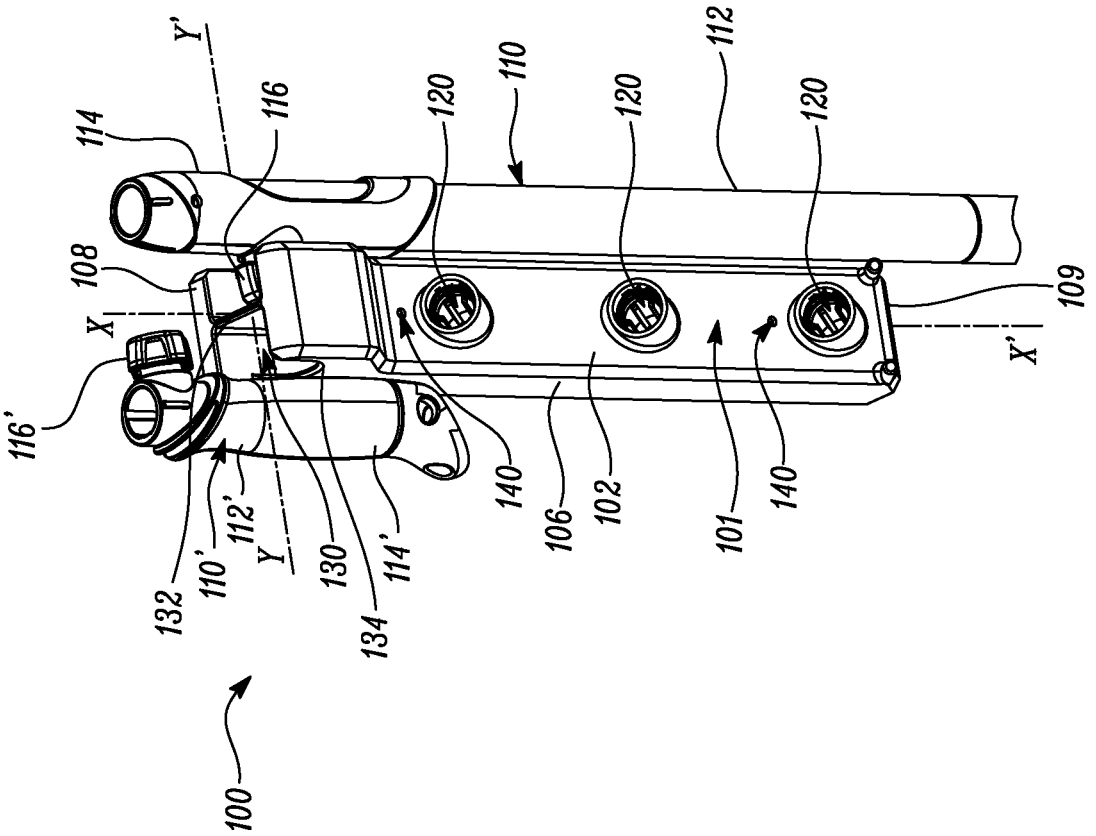
Y'
116
114
120
110
120
112
120
108
X
109
X'
116'
140
106
102
101
140
112'
Y
110'
132
130
134
114'
100

FIG. 1

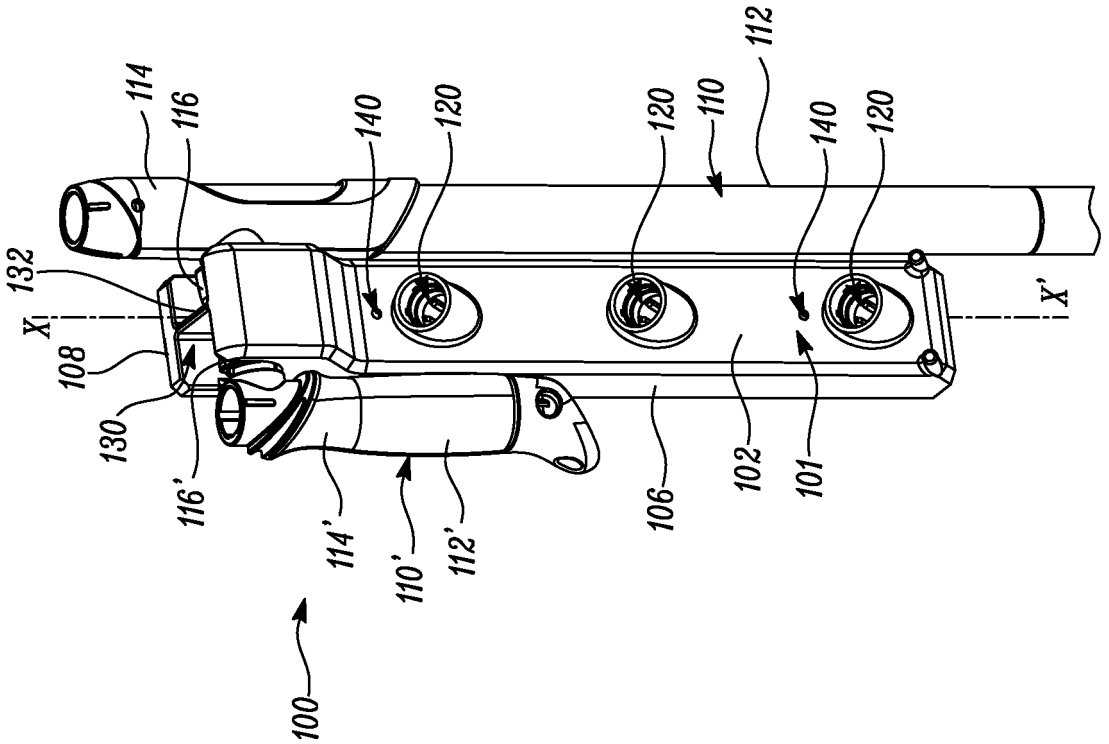
114
116
140
120
120
110
112
140
120
132
X
108
130
116'
114'
110'
112'
106
102
101
X'
100

FIG. 2

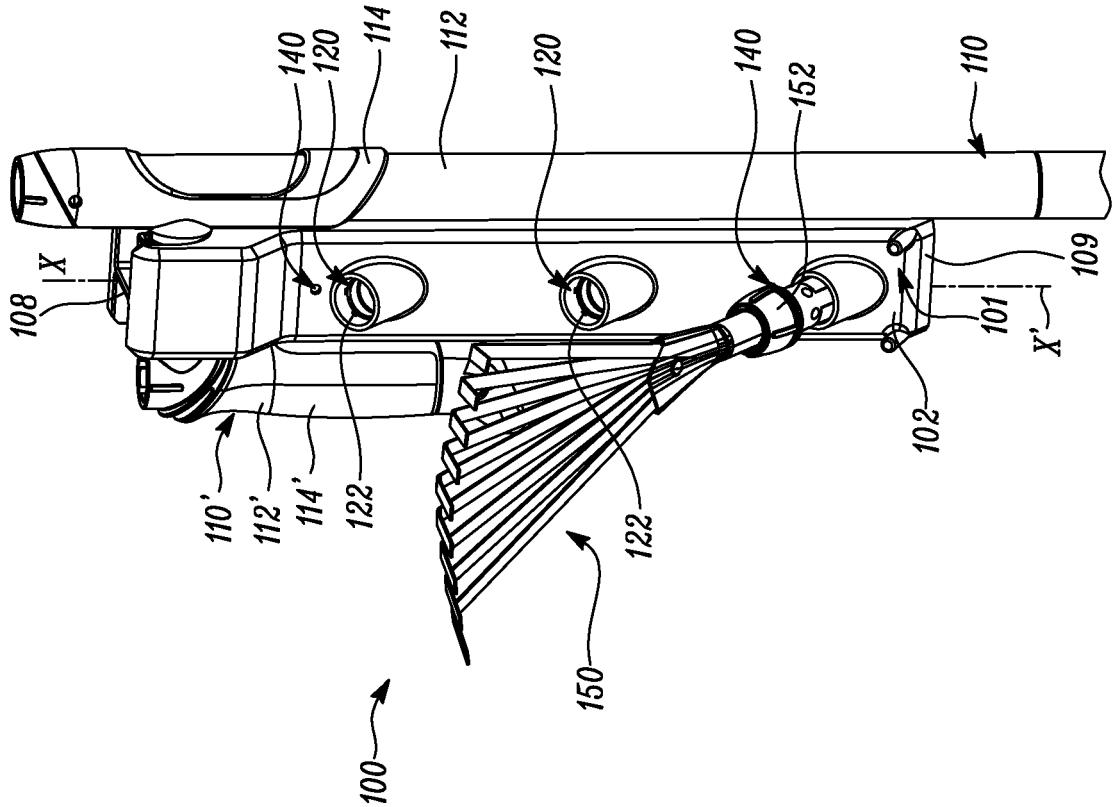
140
120
114
112
120
140
152
110
X
108
109
101
X'
102
110'
112'
114'
122
122
150
100

FIG. 3

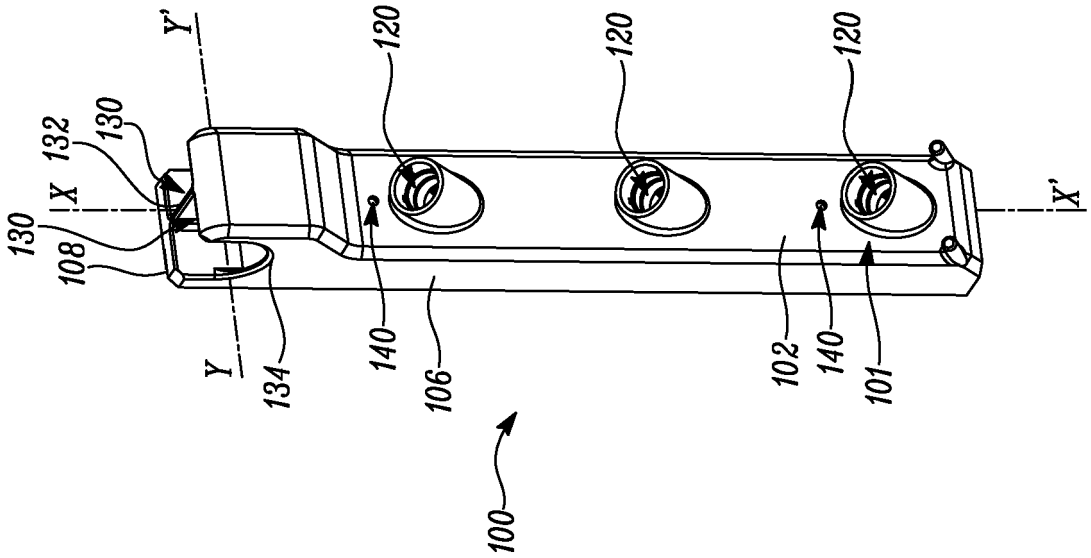

FIG. 4

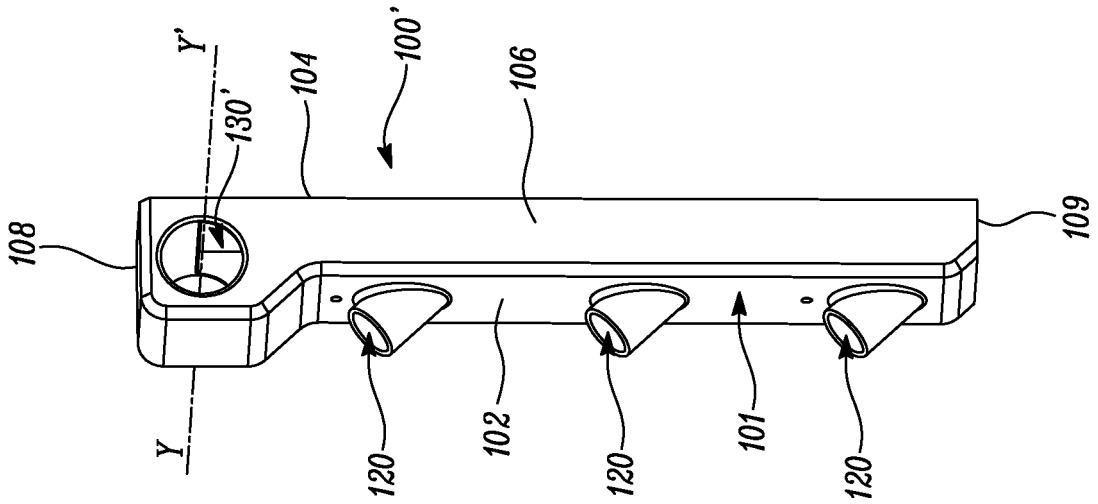

FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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