



US 20120312710A1

(19) **United States**

(12) **Patent Application Publication**
Sun

(10) **Pub. No.: US 2012/0312710 A1**

(43) **Pub. Date: Dec. 13, 2012**

(54) **DEVICE TO STORE TOOLS**

Publication Classification

(75) Inventor: **Shiyu Sun**, Shanghai (CN)

(51) **Int. Cl.**
B65D 85/20 (2006.01)

(73) Assignee: **SHANGHAI EASY-USE TOOLS ENTERPRISE CO., LTD.**,
Shanghai (CN)

(52) **U.S. Cl.** **206/373**

(57) **ABSTRACT**

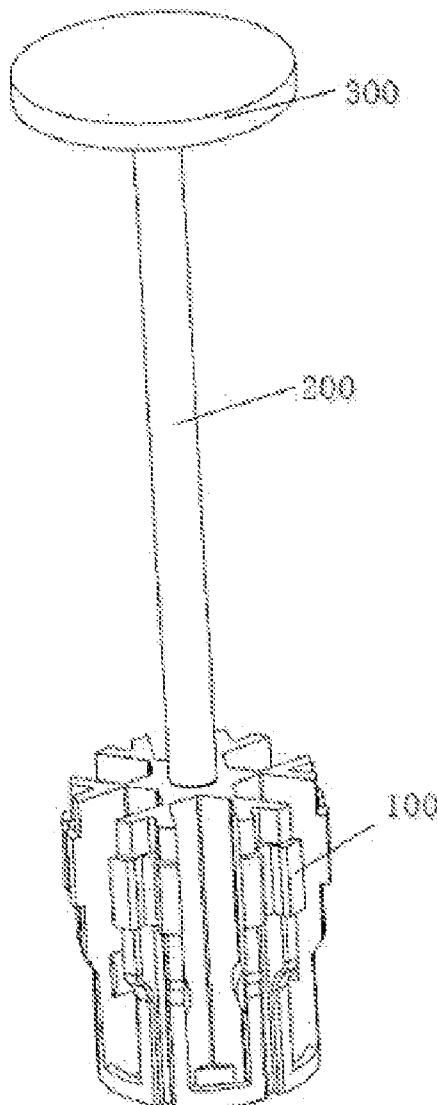
(21) Appl. No.: **13/490,041**

The present invention discloses a box tool for repairing glasses including a box bottom and a box cover. A hanging ring is disposed on an end of the box bottom in order that consumers can hang the tool box at different place they want. The box bottom interconnects the box cover with a pivoting axle; the box cover can rotate in a range of 360° about the pivoting axle; a first fastener is disposed on a first end of the box bottom; a second fastener is disposed on a first end of the box cover. The box cover is made of transparent material with a megaloscope disposed in the middle thereof. A lamp and a battery are also disposed on a second end of the box bottom.

(22) Filed: **Jun. 6, 2012**

(30) **Foreign Application Priority Data**

Jun. 7, 2011 (CN) 201110150472.1



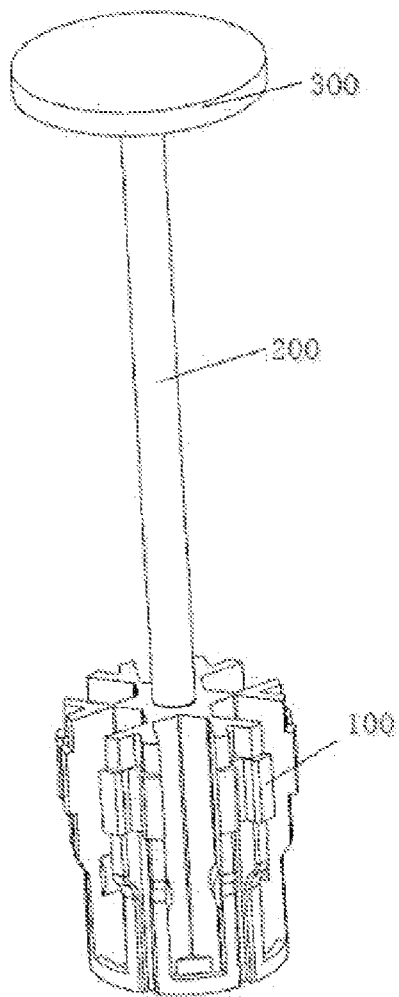


FIG. 1

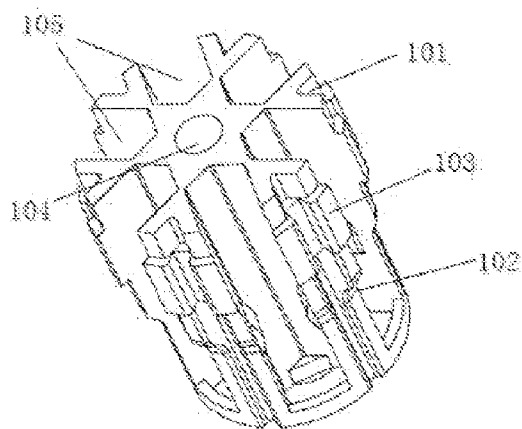


FIG. 2

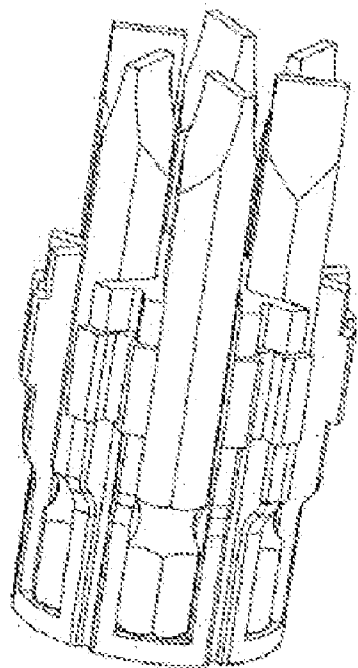


FIG. 3

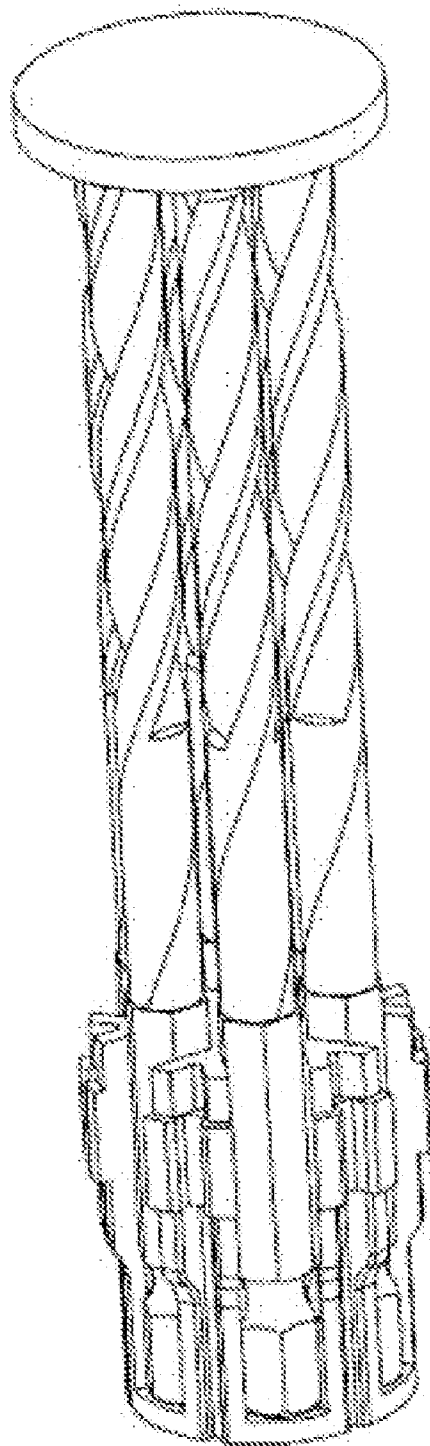


FIG. 4

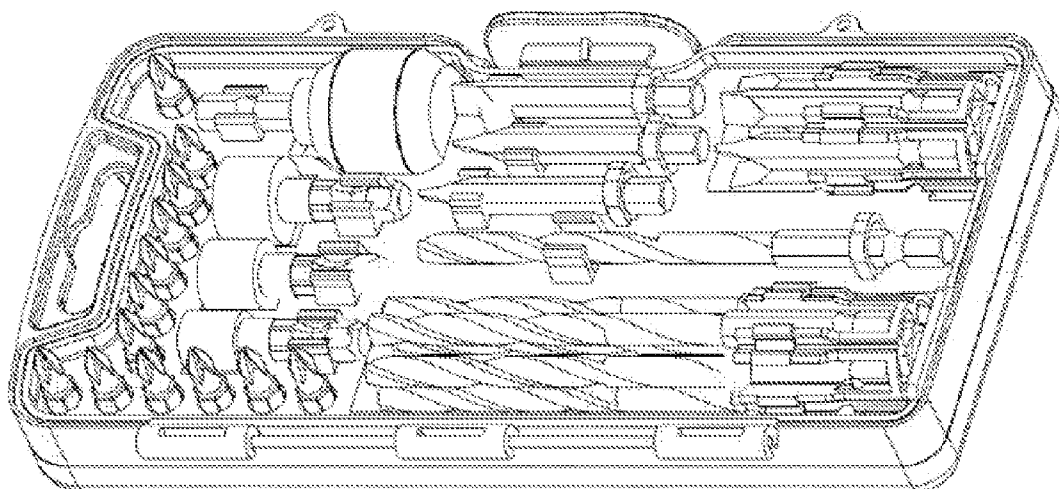


FIG. 5

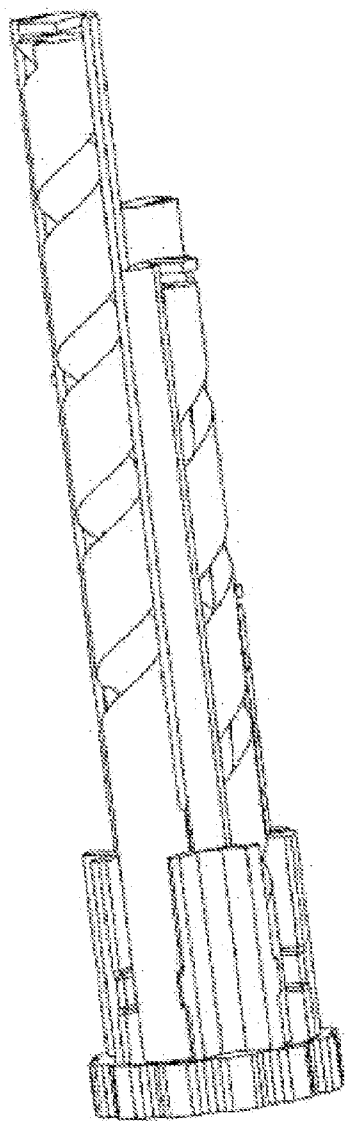


FIG. 6

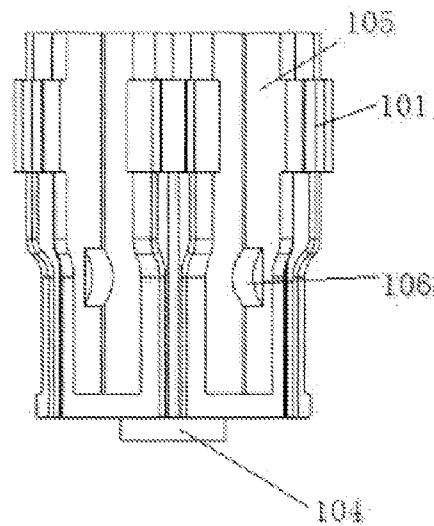


FIG. 7

DEVICE TO STORE TOOLS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Noon The present application claims priority based on Chinese Application No. 201110150472.1 filed Jun. 7, 2011, the disclosure of which is hereby incorporated by reference in its entirety.

TECHNICAL FIELD

[0002] The present invention relates to a device to store tools, and particularly to a device to store slender tools.

BACKGROUND

[0003] In the existing technology, the devices to store slender tools are all single-layer designed, and this makes these devices occupy a large space to store tools. If the devices are double-layer designed, the tools stored in the lower will be difficult to pick up.

SUMMARY

[0004] The present invention is directed to a device to store multi-layer tools, which is easy to store and pick up tools.

[0005] An embodiment of the present invention provides a device to store tools, which has a tool holder and a mandrel.

[0006] Preferably, an annular groove is set at the middle of the device to store tools' main body, and the tool holder is rotatable in a range of 360° about the mandrel. A boss is set on the bottom surface of the device to store tools.

[0007] Preferably, a number of storage slots are set on the surface of the device, and the storage slot may be disposed with two symmetrical bumps on the both sides of its internal.

[0008] Preferably, a center hole is set in the middle of the device, and the mandrel passes through the center hole vertically; the number of the storage slots is at least 3; the mandrel may be disposed with a roof at the top.

[0009] It is to be understood that both the foregoing general description and the following detailed description are exemplary only and are not necessarily restrictive of the disclosure as claimed. The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the disclosure and together with the general description, serve to explain the principle of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The numerous advantages of the present invention may be better understood by those skilled in the art by reference to the accompanying figures in which:

[0011] FIG. 1 is an external view of a device to store tools according to the present invention; and

[0012] FIG. 2 is an external view of the tool holder of a device to store tools according to the present invention; and

[0013] FIG. 3 is an external view of a device to store tools with screwdrivers according to the present invention; and

[0014] FIG. 4 is an external view of a device to store tools with small drill bits according to the present invention with a roof; and

[0015] FIG. 5 is an external view of a device to store tools according to the present invention with a toolbox; and

[0016] FIG. 6 is an external view of a device to store tools with tools of different sizes according to the present invention; and

[0017] FIG. 7 is an external view of a device to store tools with two symmetrical bumps on the both sides of storage slots internal according to the present invention.

DETAILED DESCRIPTION

[0018] Reference will now be made in detail to the subject matter disclosed, which is illustrated in the accompanying drawings.

[0019] Referring to FIG. 1, present invention provides a device to store tools, which has a tool holder 100 and a mandrel 200.

[0020] Referring to FIG. 2, an annular groove 102 is set at the middle of the device to store tools' main body 101 to make the device combine with the toolbox; a boss 103 is set on the bottom surface of the device to store tools, and the height of boss 103 is higher than the main body 101 to make the tool holder easier to whirl. To whirl the tools behind to the front, a center hole 104 is set in the middle of the tool holder 100, and the mandrel 200 passes through the center hole 104 vertically; so the tool hold 100 is rotatable in a range of 360° about the mandrel 200.

[0021] Referring to FIG. 3, the tool holder 100 can be used individually and vertically, so it can be shown in a showcase.

[0022] Referring to FIG. 4, when the tool holder 100 is used store sharp tools, the mandrel 200 can be disposed with a roof 300 at the top.

[0023] Preferably, referring to FIG. 5, the tool holder 100 can be combined with a toolbox, while the mandrel 200 connect with toolbox and become a small boss of the toolbox which embedded in the center hole 104 of the tool holder 100. And, setting up a convex ring in the toolbox, which clicks into the annular groove 102 of the main body 101 of the tool holder 100 to prevent the tool holder 100 to slide out. After doing so, when the boss 103 on the tool holder 100 is turned, the tools can be rotated to the surface.

[0024] Another preferred embodiment of the present invention is, setting up a semi-circular groove, which has a convex ring, on the toolbox liner, and makes the tool holder 100 lie on the semi-circular groove. So when the boss 103 on the tool holder 100 is turned, the tools also can be rotated to the surface.

[0025] Referring to FIG. 6, when the tools are of varying lengths, a compensation sleeve can be used on the top of the shorter tools.

[0026] Referring to FIG. 7, while the diameter of the tools is smaller than the spacing of the storage slot 105, two symmetrical bumps 106 can be set on the both sides of the storage slot's internal walls.

What is claimed is:

1. A device to store tools, comprising:
 - a tool holder;
 - a mandrel;
 - wherein the tool holder is rotatable in a range of 360° about the mandrel.
2. The device to store tools as set forth in claim 1, wherein the tool holder is disposed with an annular groove at the middle of its main body, and a boss on the bottom surface; the tool holder is also disposed with number of storage slots, and a center hole in the middle.
3. The device to store tools as set forth in claim 2, wherein the storage slot may be disposed with two symmetrical bumps on the both sides of its internal.
4. The device to store tools as set forth in claim 1, wherein the mandrel may be disposed with a roof at the top.