A case for storing and displaying tools and other items. The case includes at least one door formed from transparent materials so that stored items can be viewed and inventoried.
TOOL CASE APPARATUS

CROSS-REFERENCES TO RELATED APPLICATIONS


BACKGROUND OF THE INVENTION

[0002] The present invention relates generally to cases for storing items and more particularly, to a case that stores, retains and displays tools or other components.

[0003] Various forms of storage cases have been employed to store items over the years. Such storage cases have been used to hold a myriad of objects ranging from jewelry, important documents and tools. Moreover, storage devices or cases have been manufactured from every conceivable material.

[0004] Generally speaking, tool cases have been produced from heavy duty materials such as steel. The heavy duty materials are typically robust and can both retain and protect its contents. These materials are also generally durable but are also heavy and can become difficult to transport. This can become a concern where the tool case is intended to be portable.

[0005] Conventional tool cases also do not generally embody structures facilitating both storing and displaying the retained items. Efforts have also not been conventionally made to conveniently store the case itself apart from a working surface or to display the contents of the device in a manner intended to facilitate easy access to a particular item. Storing case devices also have not been typically equipped with structure permitting the device to be stored or mounted on a wall.

[0006] Therefore there exists a need for a case device intended for storing tools or other items in a manner facilitating both retention and display of the stored material. There is also a need for a lightweight device that is both durable and portable. The present invention addresses these and other needs.

SUMMARY OF THE INVENTION

[0007] Briefly and in general terms, the present invention is embodied in a storage device for tools or other components or items. In one aspect, the storage device is a tool case which provides easy access to stored contents as well as means for displaying the stored items.

[0008] In one embodiment, the tool case of the present invention includes a frame and a pair of doors attached to the frame. Each of the doors are made from translucent material to thereby allow the items stored in the tool case to be viewed. An interior of the tool case includes a plurality of slots and recesses sized and shaped to store tool bits and the like.

[0009] In one particular aspect, the doors have a smoothly curved profile. Each door extends approximately halfway across the tool case device and is rotatable relative to the tool case frame. A latching device functions to hold the doors in a closed configuration. The doors can also be provided with a projection for opening and closing one of the doors.

[0010] It is also contemplated that the frame of the tool case device includes a backside configured with means for mounting the tool case on a wall or other vertical surface. In one embodiment, the mounting structure is in the form of recesses sized to receive a wall mount such as a nail or other fastener. Additionally, raised bosses can be provided on a back surface of the case. A foldable handle is provided for transport.

[0011] Other features and advantages of the present invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a perspective depicting a tool case apparatus of the present invention;

[0013] FIG. 2 is a side view, depicting the tool case apparatus of FIG. 1;

[0014] FIG. 3 is a top view, depicting the tool case apparatus of FIG. 1;

[0015] FIG. 4 is a front view, depicting the tool case apparatus of FIG. 1;

[0016] FIG. 5 is a back view, depicting the tool case apparatus of FIG. 1;

[0017] FIG. 6 is a bottom view, depicting the tool case apparatus of FIG. 1; and

[0018] FIG. 7 is a front view, depicting an interior of the tool case apparatus of FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Referring now to the drawings which are provided by way of example and not limitation, there is shown a case device of the present invention. In one particular embodiment, the invention is embodied in a tool case incorporating both display and retention features. The tool case is also made of light weight and durable material lending itself to portability and product life.

[0020] With specific reference to FIGS. 1-7, a tool case embodying aspects of the present invention is shown. In one particular aspect, the tool case 50 includes a body including a frame 52 and a pair of doors 54. The body further includes a top end portion 56, a bottom end portion 58 (See FIG. 6), a rear side 60 (See FIG. 5) and a pair of sidewalls 62. Each of the components can be made from any suitable plastic having durable characteristics and robustness.

[0021] Although various embodiments are contemplated, in one particular embodiment, the top end 56 and bottom end 58 portions can be configured to provide surfaces that are generally parallel to each other. Likewise, the sidewalls 62 can be configured to be in a parallel relationship. Further, the sidewalls 62 and the top end 56 and bottom end 58 portions are generally perpendicular to each other. The rear side 60 of the frame 52 is generally planar and defines a surface that is generally perpendicular to the sidewalls 60.

[0022] The frame 52 can also include structure that cooperates with the doors 54 for providing the tool case 50 with
a rounded front surface. Each of the top end 56 and bottom end portions 58 include a curved portion 70 extending a width of the tool case 50 (best seen in FIGS. 1, 3 and 6). The curved portion 70 can take on any form but in one intended embodiment, the curved portion 70 can define a portion of an arc. Larger tool cases and smaller tool cases can include curved portions having larger or smaller radii of curvature, respectively.

[0023] The top end portion 56 can be equipped with a handle 72 that is conveniently located for grasping and ultimately for transporting the tool case 50. The handle 72 in turn can be rotatably affixed to the top end portion 56. The top end portion 56 is further equipped with a generally rectangular recess 74 (See FIGS. 1 and 3) centered therein. The depth of the recess 74 is selected such that the rotatable handle 72 can be folded away in the recess 74.

[0024] The rear side 60 further includes a number of structural components. Referring specifically to FIGS. 5 and 6, there is shown a plurality of raised formations or bosses 80 extending from the generally planar rear side. The raised formations or bosses 50 can take on a myriad of forms. In one embodiment, the bosses 50 are rounded projections which provide feet for the tool case 50 when it is placed horizontally on the rear side 60.

[0025] The rear side 60 is also equipped with one or more mounting structures 82. In one particular form, the mounting structures 82 include a keyhole for receiving a nail or other fastener. Thus, the mounting structures 82 provide the tool case 50 with the means to hang the tool case 50 from a vertical surface or on a hook or other component extending horizontally such as from a rack or display. Since the bottom end portion 58 of the tool case 50 is generally planar, the tool case 50 can also be stored vertically standing on the bottom end portion 58.

[0026] As best seen in FIG. 1, the doors 54 have a rounded profile which matches the rounded portions 70 of the of the top end 56 and bottom end 58 portions. As stated, the rounded portions 70 of the top end 56 and bottom end 58 portions can assume various portions of an arc and can embody any suitable radii of curvature. In one preferred embodiment, the doors 54 will have a radii of curvature that both match each other as well as that of the rounded portions 70. It is also contemplated, however, that the doors 54 and the rounded portions 70 can have curves that do not match.

[0027] The doors 54 are each shown to extend approximately half of the width of the tool case 50. It is to be recognized that the tool case 50 of the present invention also contemplates a device employing a single door or doors having a width that is less than or more than half the width of the tool case 50. In one preferred embodiment, the doors 54 are formed from translucent material but again, opaque material can be utilized. Where the doors are clear, an inventory of the contents of the tool case 50 can be taken. The translucent door 54 also provide a means for displaying the contents of the tool case device 50.

[0028] With reference in particular to FIGS. 1 and 7, the doors 54 are intended to rotate with respect to the frame 52. Although various conventional approaches are contemplated, each door 54 can be attached to a pair of hinges 88. One of the doors 54 also includes a tab 90 conveniently located for grasping by hand. Such a tab 90 can be positioned at the juncture where the doors 54 meet. The other of the doors 54 can include a cut-out 92 sized to correspond to the tab 90.

[0029] Additionally, the tool case 50 can include one or more latches for locking the doors 54 in a closed position. A first latch 92 can be attached at one end to the curved portion 70 of the top side portion 56 and a second latch 94 can be similarly attached to the curved portion 70 of the bottom side portion 58. In one preferred embodiment, the latches 92, 94 are centered along a width of the tool case 50 to thereby be positioned to be capable of latching both doors in a closed configuration.

[0030] With the doors 54 open, one can observe an interior of the tool case 50. The interior can also be viewed through doors 54 formed from translucent material. A retaining insert 96 is positioned within the interior of the tool case 50. The retaining insert 96 can be a molded component of the frame 52 or can form a separate component which is affixed to the frame 52.

[0031] The retaining insert 96 includes a plurality of structures for holding and displaying tools or other items. Clip devices 98 having spaced retaining surfaces 100 can be placed or formed into the retaining insert 96 at various locations. Likewise, looped structures 102 and various wells and recesses 104 can be formed in the retaining insert 96. The clip devices 98, looped structures 102 and wells or recesses 104 can take on a myriad of forms and locations so that any conceivable tool having a size compatible with the tool case 50 can be stored therein.

[0032] In one particular embodiment, the retaining insert 96 curves or bows outwardly in a manner corresponding to the curvature of the doors 54. That is, retaining insert 96 has a base curvature into which recesses are formed or from which loops or clip devices can be made to extend. In this way, tools or other items that are stored in the tool case 50 can be better displayed and accessed.

[0033] As stated, various sized and curved or planar configurations of the tool case of the present invention are contemplated. Various of the disclosed configurations can be embodied in a case made in accordance with the present invention which provides one or more of an easily portable device having both useful displaying and retaining characteristics. Moreover, the tool case disclosed can be stored vertically on mounting structure or on a generally planar base as well as horizontally on feet extending from a rear surface.

[0034] Furthermore, while several particular forms of the invention have been illustrated and described, it will be apparent that various modifications can be made without departing from the spirit and scope of the invention. Accordingly, it is not intended that the invention be limited, except as by the appended claims or future claims based upon the disclosure.

We claim:

1. A case for storing items, comprising:
   a frame, the frame defining an interior and an exterior;
   a retaining insert configured in the interior of the frame;
   a plurality of recesses formed in the retaining insert;
at least one mounting device formed on the exterior of the frame;
a first door rotatably attached to the frame, the first door having a first profile defining a first arc curving away from the frame; and
a second door rotatably attached to the frame, the second door having a second profile defining a second arc curving away from the frame;
wherein the first and second doors enclose the interior of the frame when in a closed position and provide access to the interior in an open position and wherein at least one of the first and second doors is formed from transparent material.
2. The case of claim 1, wherein each of the first and second doors are transparent.
3. The case of claim 1, wherein the first arc and second arc are mirror images of each other when placed in a closed position.
4. The case of claim 1, further comprising a plurality of holding devices formed on the interior of the frame.
5. The case of claim 5, wherein the holding devices are in the form of clip devices including spaced retaining surfaces.
6. The case of claim 5, wherein the clip devices are molded into the insert.
7. The case of claim 1, wherein the entirety of the base is made from lightweight materials.
8. The case of claim 7, wherein the lightweight material is plastic.
9. The case of claim 1, wherein the insert has a profile corresponding to the first and second doors.
10. The case of claim 1, wherein the exterior of the frame includes a rear side and a front side, the mounting device being formed on the rear side.
11. The case of claim 10, further comprising a plurality of raised bosses spaced about the rear side.
12. The case of claim 1, further comprising a handle rotatably connected to the frame.
13. The case of claim 12, wherein the frame includes a top surface configured within the handle recess, the handle being foldable with the handle recess.
14. The case of claim 1, further comprising at least one latch assembly configured to engage at least one of the first and second doors.
15. The case of claim 1, wherein there are two latch assemblies each of which engage both first and second doors.
16. The case of claim 1, wherein at least one door includes a tab for grasping and opening one of the first and second doors.