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(72) Inventor: **Lee, Chien-Lung**  
**Nei Hu Area Taipei City (TW)**

(74) Representative: **Schwarz, Thomas, Dipl.-Ing. et al**  
**Charrier Rapp & Liebau,**  
**Postfach 31 02 60**  
**86063 Augsburg (DE)**

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(71) Applicant: **Test Rite International Company, Ltd.**  
**Chung Hsiao E. Road, Taipei (TW)**

(54) **Cylindrical toolbox**

(57) A cylindrical toolbox comprising a first housing, a second housing, a base, two lugs and a handle, wherein the first and second housings are combined to form a cylindrical body capable of accommodating parts and objects, while concavities for containing tools are disposed on the outer surfaces of the first and second housings.

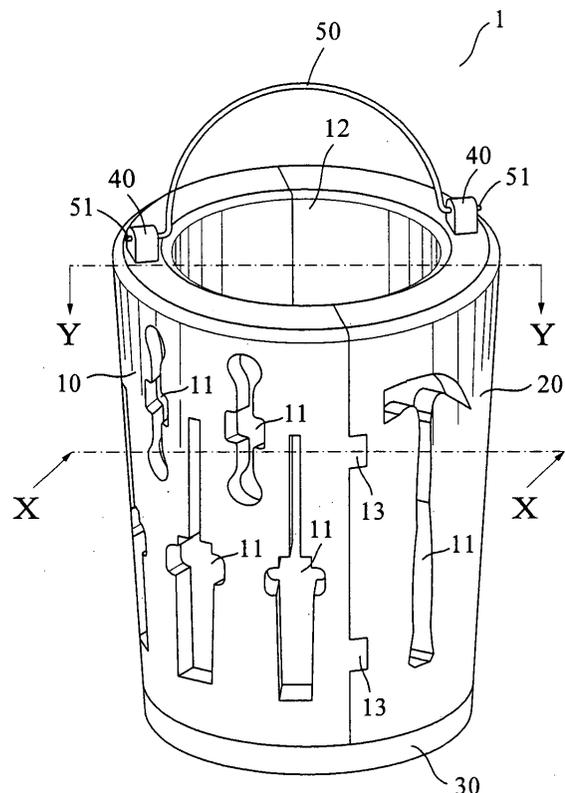


Fig. 1

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**Description**BACKGROUND OF THE INVENTION

## FIELD OF THE INVENTION

**[0001]** The present invention relates to a cylindrical toolbox, more particularly, a cylindrical toolbox formed by combining two housings, characterized in that concavities for containing tools are formed on the surfaces of the two housings, such that tools may be conveniently placed and obtained, and the cylindrical space formed by the two housings may also be utilized for placing other tools, parts or miscellaneous objects. Thus, by effectively utilizing the space formed by the toolbox, the present invention is capable of achieving the object of saving space and enhancing the degree of convenience.

## DESCRIPTION OF RELATED ARTS

**[0002]** Please refer to FIG. 10 and FIG. 11, which are the pictorial views of the conventional toolbox 80. The conventional toolbox 80 comprises an upper cover 81, lower cover 82, a hinge 83, fastening portions 84 and a handle 85, wherein the inner surfaces of both the upper cover 81 and the lower cover 82 are disposed with a plurality of concavities 86 for accommodating all kinds of tools. The hinge 83 is utilized for pivotally fastening both the upper cover 81 and the lower cover 82 at the rear ends thereof, and the fastening portions 84 are disposed at two ends on the front edge of the upper cover 81. Two grooves 87, corresponding to the fastening portions 84, are respectively disposed at two ends on the front edge of the lower cover 82 for engaging with the fastening portions 84 so as to allow the upper cover 81 and the lower cover 82 to shut and close.

**[0003]** As the toolbox 80 is shut, as shown in FIG. 10, the fastening portions 84 on the upper cover 81 are to engage with the grooves 87 on the lower cover 82, thus a portable toolbox 80 is formed. If the user is to obtain tools contained in the toolbox 80, the fastening state between the fastening portions 84 and the grooves 87 should be released first, and then the upper cover 81 should be lifted so as to take hold of various tools such as hammers, pincers, nippers, flat-head screwdrivers or phillips screwdrivers.

**[0004]** The user, when using the conventional toolbox, has to lift the cover to take hold of tools contained therein, a procedure that causes inconvenience; moreover, concavities in the conventional toolbox are designed for specific tools, causing the conventional toolbox not being able to contain extra tools brought in, such that extra expenses have to be incurred to the user for a new toolbox.

SUMMARY OF THE INVENTION

**[0005]** The object of the present invention is to provide a cylindrical toolbox with containing spaces being formed on the surface thereof for containing tools therein, and an internal space being formed inside the cylindrical toolbox for containing other tools, parts and miscellaneous items, so as to effectively utilize spaces.

**[0006]** The cylindrical toolbox achieving the foregoing object comprises a first housing with one side thereof disposed with at least one first fastening device, a second housing with one side thereof disposed with at least one second fastening device, and a base engaging with the bottoms of both the first and second housings. A plurality of concavities for containing tools are disposed on both surfaces of the first and second housings, and the first housing and the second housing are fastened by the first fastening device and the second fastening device so as to form a cylindrical cavity.

**[0007]** Two lugs can further be mounted respectively on the top portions of the first and second housings.

**[0008]** The first housing and the second housing are both hollow bodies with the outer shape thereof capable of being any shape such as cylindrical or cuboid.

**[0009]** The base can be rotatable.

**[0010]** Two ends of the handle are to extend outwardly to respectively form two straight rods that connect to the inner sidewalls of both the first and second housings.

**[0011]** Two ends of the handle are to extend inwardly to respectively form two straight rods that connect to the outer sidewalls of both the first and second housings.

BRIEF DESCRIPTION OF THE DRAWINGS

**[0012]** These and other features, aspects and advantages of the present invention will become better understood with regard to the following description, appended claims and accompanying drawings that are provided only for further elaboration without limiting or restricting the present invention, where:

FIG. 1 shows an outer pictorial view of the cylindrical toolbox of the present invention;

FIG. 2 shows a sectional view of the X-X line in FIG. 1;

FIG. 3 shows a sectional view of the Y-Y line in FIG. 1;

FIG. 4 shows another embodiment for the disposition of the handle in the cylindrical toolbox of the present invention;

FIG. 5 shows yet another embodiment for the disposition of the handle in the cylindrical toolbox of the present invention;

FIG. 6 shows another embodiment for means of connection between the first and second housings in the cylindrical toolbox of the present invention;

FIG. 7 shows a sectional view of the Y-Y line in FIG. 1 regarding another embodiment for the base of the present invention;

FIG. 8 shows an outer pictorial view of another embodiment for the cylindrical toolbox of the present invention;

FIG. 9 shows an outer pictorial view of yet another embodiment for the cylindrical toolbox of the present invention;

FIG. 10 shows an outer pictorial view of a conventional toolbox; and

FIG. 11 shows a pictorial view of a conventional toolbox having the upper lid thereof lifted.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

**[0013]** The following is a detailed description of the best presently known modes of carrying out the inventions. This description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the inventions.

**[0014]** Please refer to FIG. 1, wherein an outer pictorial view of the cylindrical toolbox of the present invention is shown, which comprises a first housing 10, a second housing 20, a base 30, lugs 40 and a handle 50, wherein the first housing 10 and the second housing 20 are designed as hollow cavities, providing functions of decreasing the weight of the toolbox 1 and lowering the cost, and both housings 10 and 20 are arc-shaped bodies with the outer surfaces thereof disposed with a plurality of concavities 11 for containing tools, and a containing space 12 in the shape of cylinder is formed by the combination of both housings 10 and 20. The base 30 is disposed at the bottom of the cylindrical body formed by the combination of both housings 10 and 20. The lugs 40 are mounted respectively on the top of the first and second housings 10 and 20, and two piercing holes 41 are respectively disposed on the lugs 40 for the handle 50 to pierce through. The handle 50 is for connecting the piercing holes 41 so as to enable the user to conveniently lift and carry the cylindrical toolbox 1.

**[0015]** Please continue refer to FIG. 1, wherein both ends of the handle 50 are to extend to form straight rods 51 for piercing through the piercing holes 41 disposed on the lugs 40 so as to interposingly engaged therewith. A plurality of nodes are mounted on the two sides of a plurality of concavities 11 (not shown in drawings) for enhancing the fixation of tools placed therein, such that as tools are placed in the concavities 11 formed on the

surfaces of both the first and second housings 10 and 20, the nodes are to closely contact the tools to prevent tools from dropping out of the concavities 11.

**[0016]** Please refer to FIG. 2 in accordance with FIG. 1, which shows a sectional view of the X-X line in FIG. 1, wherein the first housing 10 has a first fastening device mounted respectively on the two sides thereof, whereas a second housing 20 has a second fastening device mounted on the two sides thereof so as to correspond to the first fastening device respectively. The first fastening device may be, for example, a fastening portion 13 and a groove 14, whereas the second fastening device may be, for example, a first piercing hole 21 and a second piercing hole 22.

**[0017]** Please continue refer to FIG. 2, wherein the fastening portion 13 is formed as a bending body made of elastic material, with the front end thereof being formed with a locking portion 15, whereas the groove 14 is disposed on the inner side end of the first housing 10. The piercing hole 21 is disposed on the front end of the side of the second housing 20, whereas the second piercing hole 22 is disposed on the inner side end of the second housing 20, with the first piercing hole 21 and the second piercing hole 22 being interconnected. As the first and second housings 10 and 20 are assembled, the fastening portion 13 of the first fastening device is to interpose through the first piercing hole 21 of the second housing 20, and out of the second piercing hole 22, and finally engage with the groove 14 of the second fastening device of the first housing 10 by means of the engaging portion 15 of the fastening portion 13, so as to make tighter engagement between the first and second housings 10 and 20.

**[0018]** Please refer to FIG. 3, which shows a sectional view of the Y-Y line in FIG. 1, wherein a groove 16 is disposed at the bottom of both the first and second housings 10 and 20, and a protruding portion 31 is disposed on the base 30 corresponding to the groove 16, with the protruding portion 31 interposing into the groove 16 of both the first and second housings 10 and 20 so as to engage therewith, thus forming a fixated base 30 for the cylindrical toolbox 1 to accommodate tools and other miscellaneous items.

**[0019]** Please refer to FIG. 4, which shows another embodiment for the disposition of the handle in the cylindrical toolbox of the present invention, wherein the two ends of the handle 50 are extended outwards to form a straight rod 51 respectively, which inwardly interposes through the piercing hole 41 of the lug 40 portion from the outside and thus interposingly engage with the lug portion 40. Such means of disposition may increase the carrying area of the handle 50 for user's more convenient grip and lifting.

**[0020]** Please refer to FIG. 5, which shows yet another embodiment for the disposition of the handle in the cylindrical toolbox of the present invention, wherein the handle 50 is to interposingly engage directly with the sidewalls of both the first and second housings 10 and

20, and the handle 50 may interposingly engage with either outer sidewalls or inner sidewalls of both the first and second housings 10 and 20. Such embodiment is different the foregoing in that no lug portion 40 is disposed, thus making the manufacturing process easier and costs for parts lesser.

**[0021]** Please refer to FIG. 6, which shows another embodiment for means of connection between the first and second housings 10 and 20 in the cylindrical toolbox of the present invention, wherein a hinge 60 is disposed on one side of both the first and second housings 10 and 20 for jointing the first and second housings 10 and 20, with the other side of the first housing 10 being disposed with a first fastening device, whereas the other side of the second housing 20 being disposed with a second fastening device for corresponding to the first fastening device of the first housing 10. The first fastening device may be, for example, a fastening portion 13 and a groove 14, whereas the second fastening device may be, for example, a first piercing hole 21 and a second piercing hole 22. the fastening portion 13 is formed as a bending body made of elastic material, with the front end thereof being formed with a locking portion 15, whereas the groove 14 is disposed on the inner side end of the first housing 10. The piercing hole 21 is disposed on the front end of the side of the second housing 20, whereas the second piercing hole 22 is disposed on the inner side end of the second housing 20, with the first piercing hole 21 and the second piercing hole 22 being interconnected. As the first and second housings 10 and 20 are assembled, one side of both the first and second housings 10 and 20 are fastened by the hinge 60, with the other end thereof being fastened by the fastening portion 13 of the first fastening device interposing through the first piercing hole 21 of the second housing 20, and out of the second piercing hole 22, and finally engaging with the groove 14 of the second fastening device of the first housing 10 by means of the engaging portion 15 of the fastening portion 13, so as to make tighter engagement between the first and second housings 10 and 20.

**[0022]** Please refer to FIG. 7, which shows a sectional view of the Y-Y line in FIG. 1 regarding another embodiment for the base of the present invention, wherein the base is a rotatable base 70 having a protruding portion 71 and a base plate 72, and a groove 73 is disposed on two sides of the protruding portion 71, whereas a groove 74 is also disposed on two sides of the base plate 72. A roller 75 is disposed between the two grooves 73 and 74, such that the base is rotatable and the user may rotate the base 70 for more convenient access to tools.

**[0023]** Please refer to FIG. 8, which shows an outer pictorial view of another embodiment for the cylindrical toolbox of the present invention. The cylindrical toolbox 1 of the present invention comprises a first housing 10, a second housing 20, a base 30, lug portions 40 and a handle 50, wherein the first and second housings 10 and 20 are both triangularly shaped with the surface area of

these two triangular bodies being disposed with a plurality of concavities 11 for accommodating tools, and the first and second housings 10 and 20 are combined to form a square-shaped cylindrical body having a containing space 12. Other disposition of parts, functions and embodiments are identical to those of the first embodiment.

**[0024]** Please refer to FIG. 9, which shows an outer pictorial view of yet another embodiment for the cylindrical toolbox of the present invention, comprising a cylindrical body 90, a base 30, lug portions 40 and a handle 50, wherein the cylindrical body 90 is integrally formed, with the outer surface thereof being disposed with a plurality of concavities 11 for accommodating tools. The base 30 is disposed at the bottom of the cylindrical body 90, and the lug portions 40, disposed on top of the cylindrical body 90, are disposed with a piercing hole 41 respectively, which is for the handle 50 to interpose through. The handle 50 is for connecting the piercing holes 41 of the lug portions 40, so as to provide the user a convenient means for carrying the cylindrical toolbox 1.

**[0025]** Although the present invention has been described in considerable detail with reference to certain preferred embodiments thereof, those skilled in the art can easily understand that all kinds of alterations and changes can be made within the spirit and scope of the appended claims. Therefore, the spirit and scope of the appended claims should not be limited to the description of the preferred embodiments contained herein.

## Claims

1. A cylindrical toolbox, comprising:

a first housing having at least one first fastening device mounted on the side thereof;

a second housing having at least one second fastening device mounted on the side thereof; and

a base engaging with the bottom of both said first housing and said second housing;

wherein a plurality of concaves being mounted on the outer surfaces of said first housing and said second housing, and a cylindrical body being formed by said first housing and said second housing through the engagement between said first fastening device and said second fastening device.

2. A cylindrical toolbox, comprising:

a first housing having at least one first fastening device mounted on the side thereof;

a second housing having at least one second fastening device mounted on the side thereof; and

a base engaging with the bottom of both said first housing and said second housing;

wherein a plurality of concavities being mounted on the outer surfaces of said first housing and said second housing, a hinge being used for connecting one side of said first housing and said second housing, with the other side thereof being lockingly engaged by said first fastening device and said second fastening device so as to form a cylinder body.

3. The cylindrical toolbox as in claim 1 or 2, wherein a handle is further included, which may be interposingly engaged with the side of both said first housing and said second housing.
4. The cylindrical toolbox as in claim 3, wherein two lugs are further included, and said lugs having piercing holes are respectively mounted on the top of said first housing and said second housing so as to be interposingly engaged by said handle.
5. The cylindrical toolbox as in claim 1 or 2, wherein the shape of said first housing and said second housing may be arc-shaped, cuboid-shaped or shaped in other geometrical forms.
6. The cylindrical toolbox as in claim 1 or 2, wherein said base may be rotatable.
7. The cylindrical toolbox as in claim 3, wherein the two ends of said handle are extended outwards to form a straight rod respectively, and said straight rods are connected to the inner sidewalls of both said first housing and said second housing.
8. The cylindrical toolbox as in claim 3, wherein the two ends of said handle are extended inwards to form a straight rod respectively, and said straight rods are connected to the outer sidewalls of both said first housing and said second housing.
9. A toolbox, comprising:
  - a cylindrical body that being an integrally formed hollow body, with the outer surface of said cylindrical body having a plurality of concavities mounted thereon, and a base engaging with the bottom of said cylindrical body.

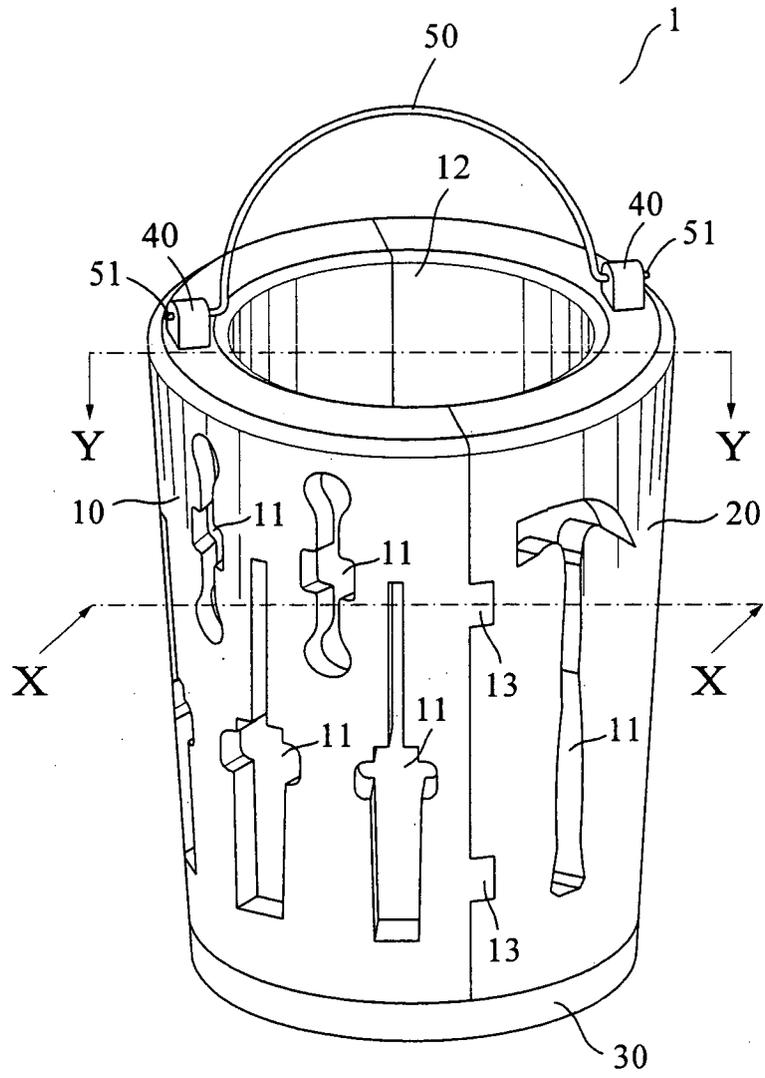


Fig.1

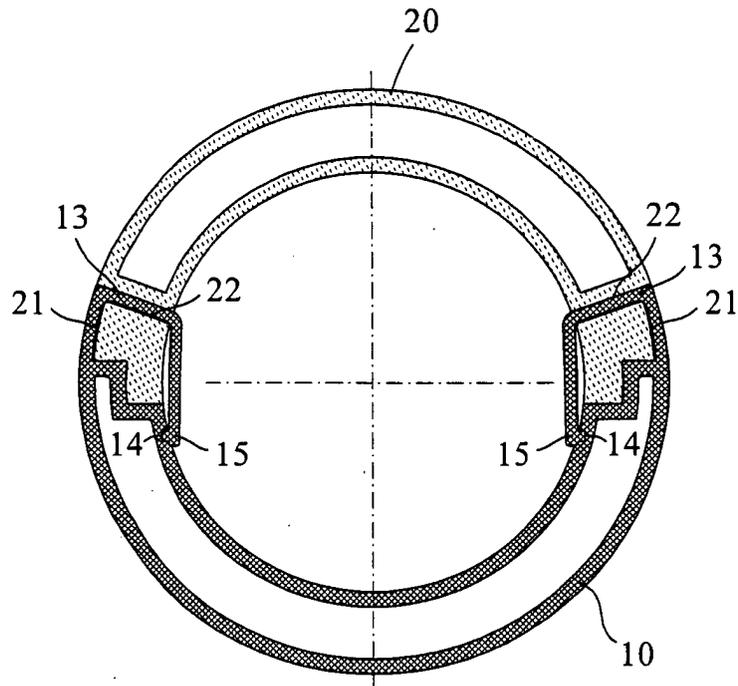


Fig.2

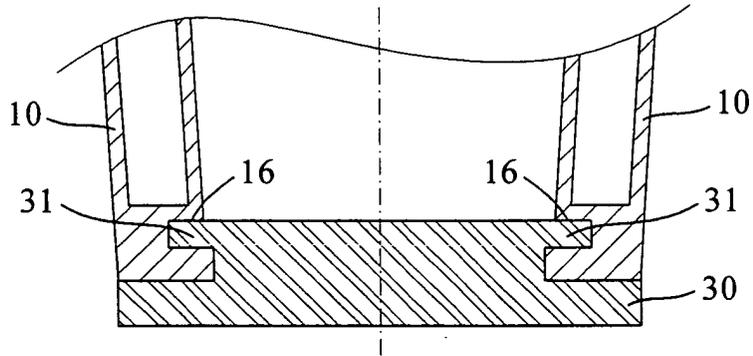


Fig.3

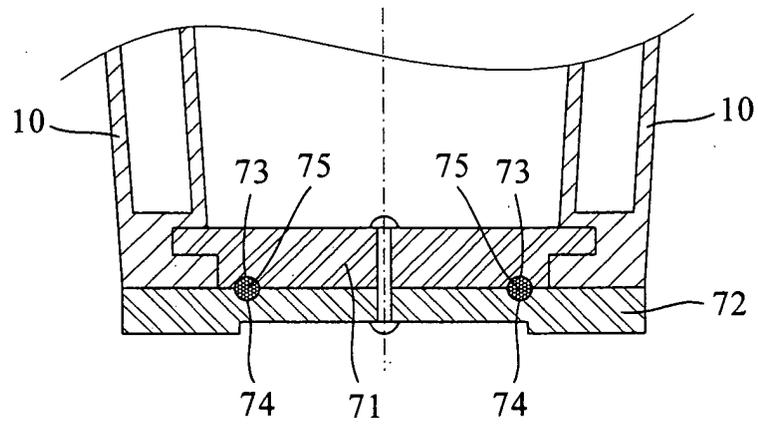


Fig.7

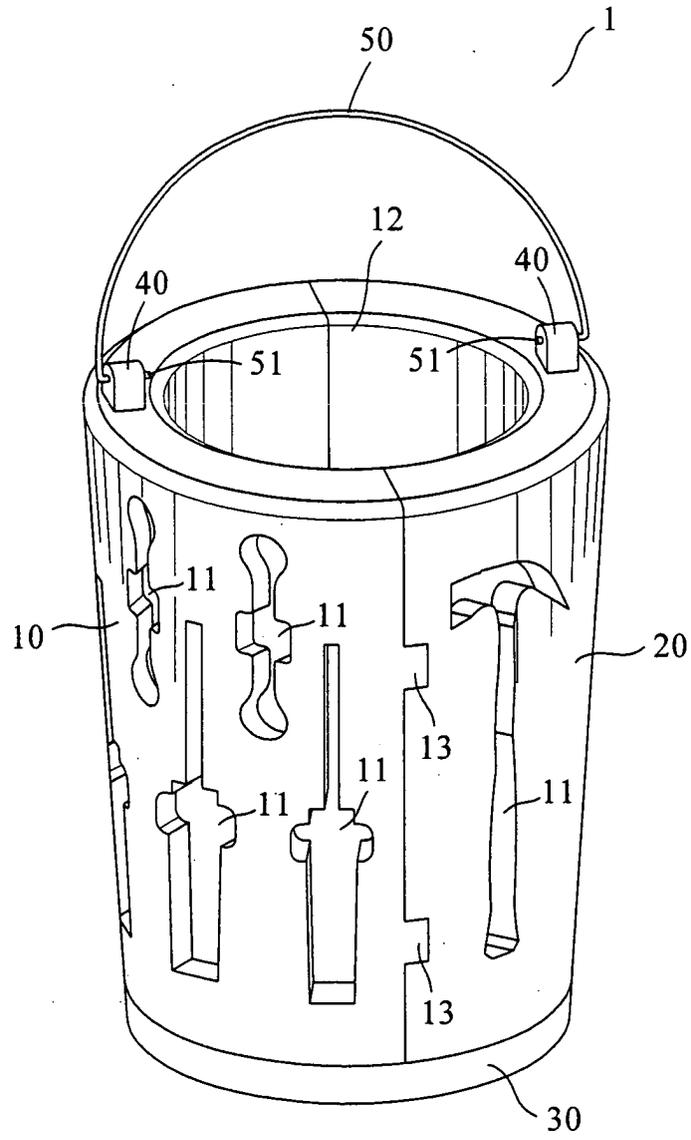


Fig.4

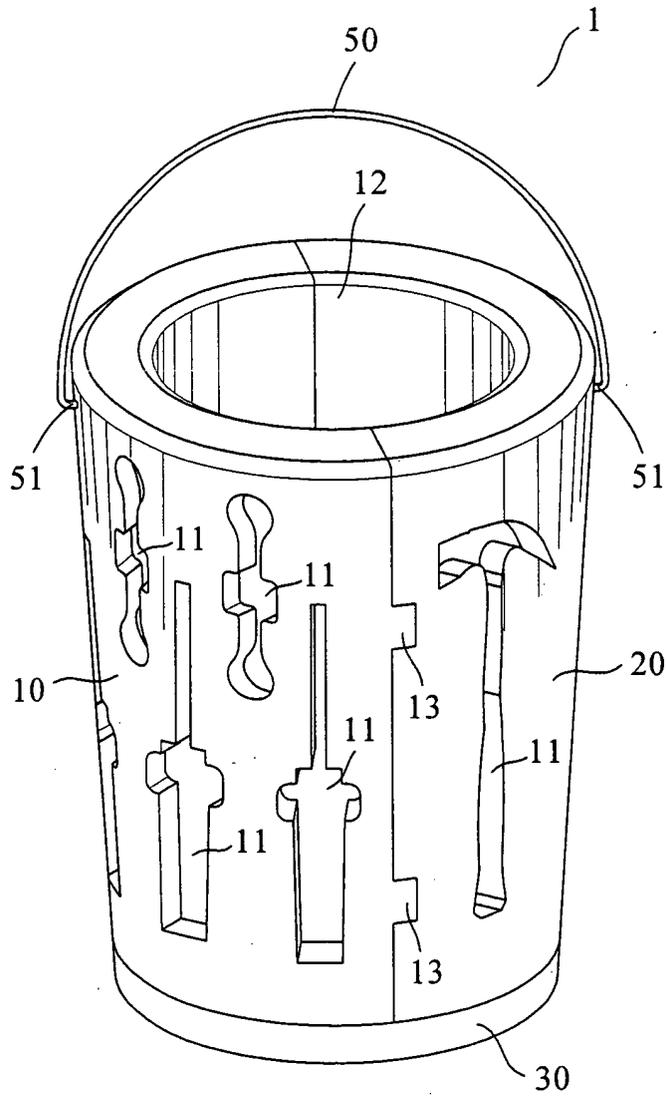


Fig.5

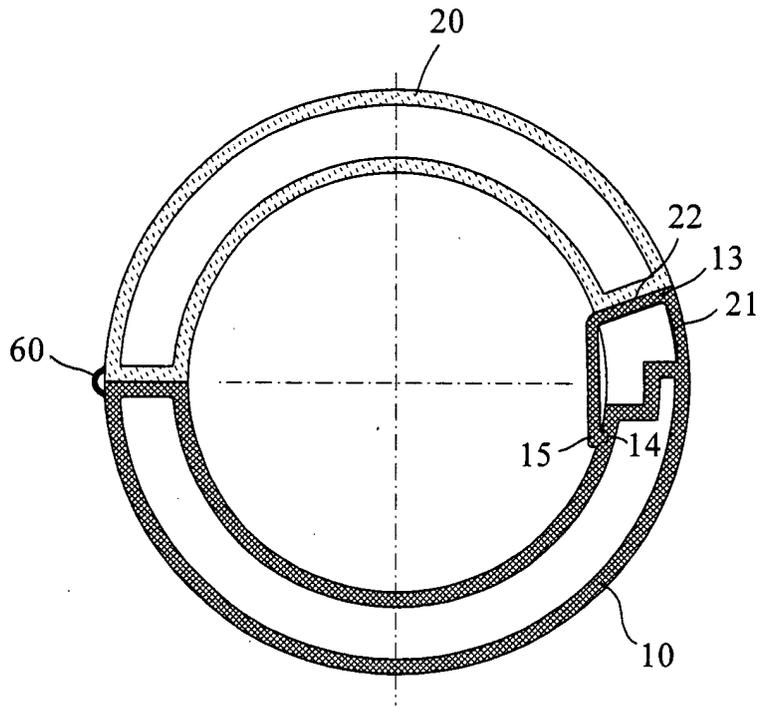


Fig.6

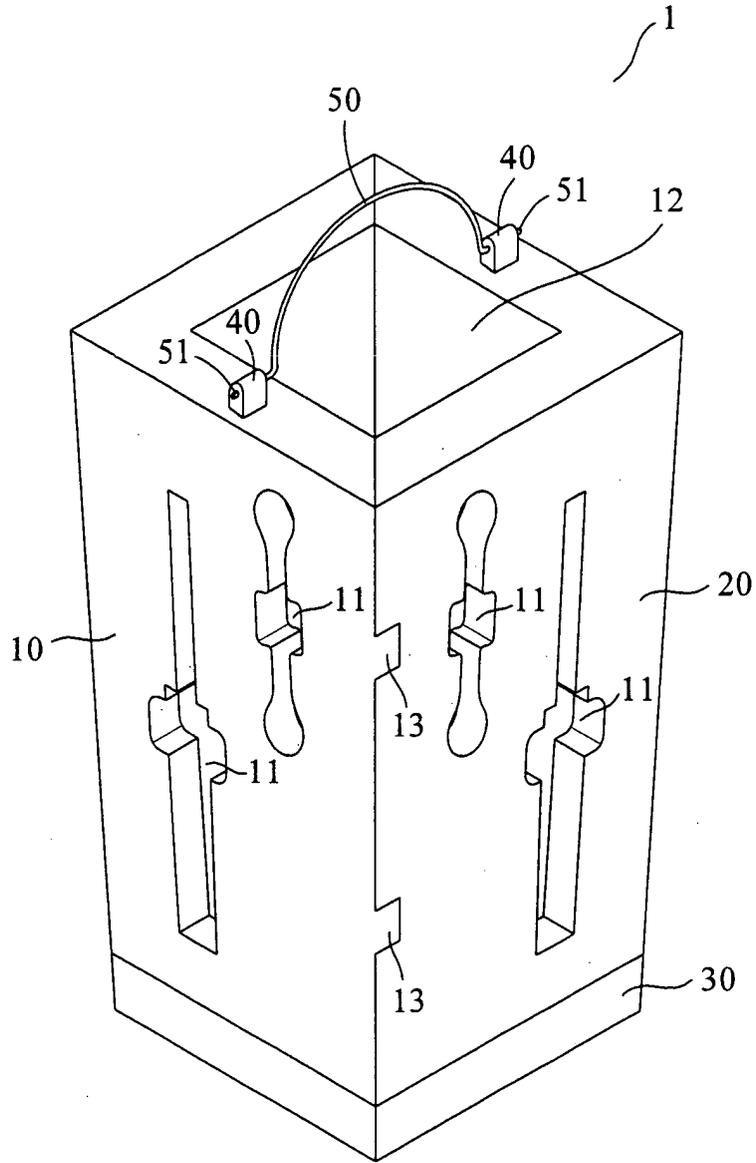


Fig.8

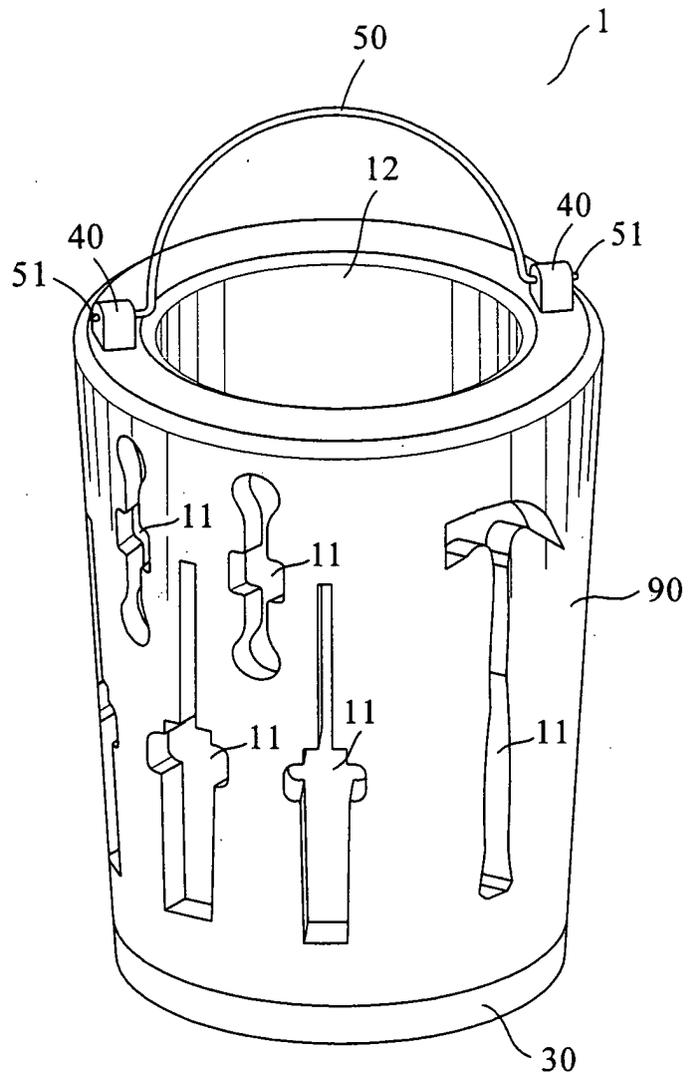


Fig.9

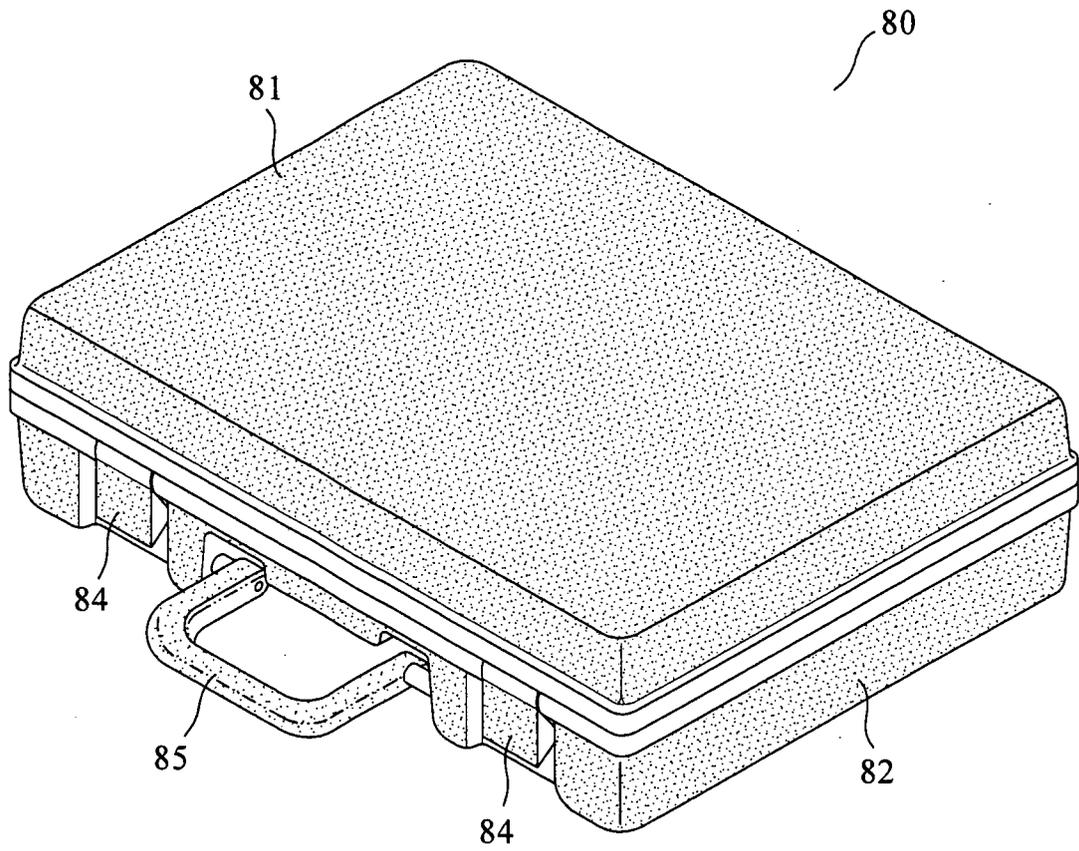


Fig.10

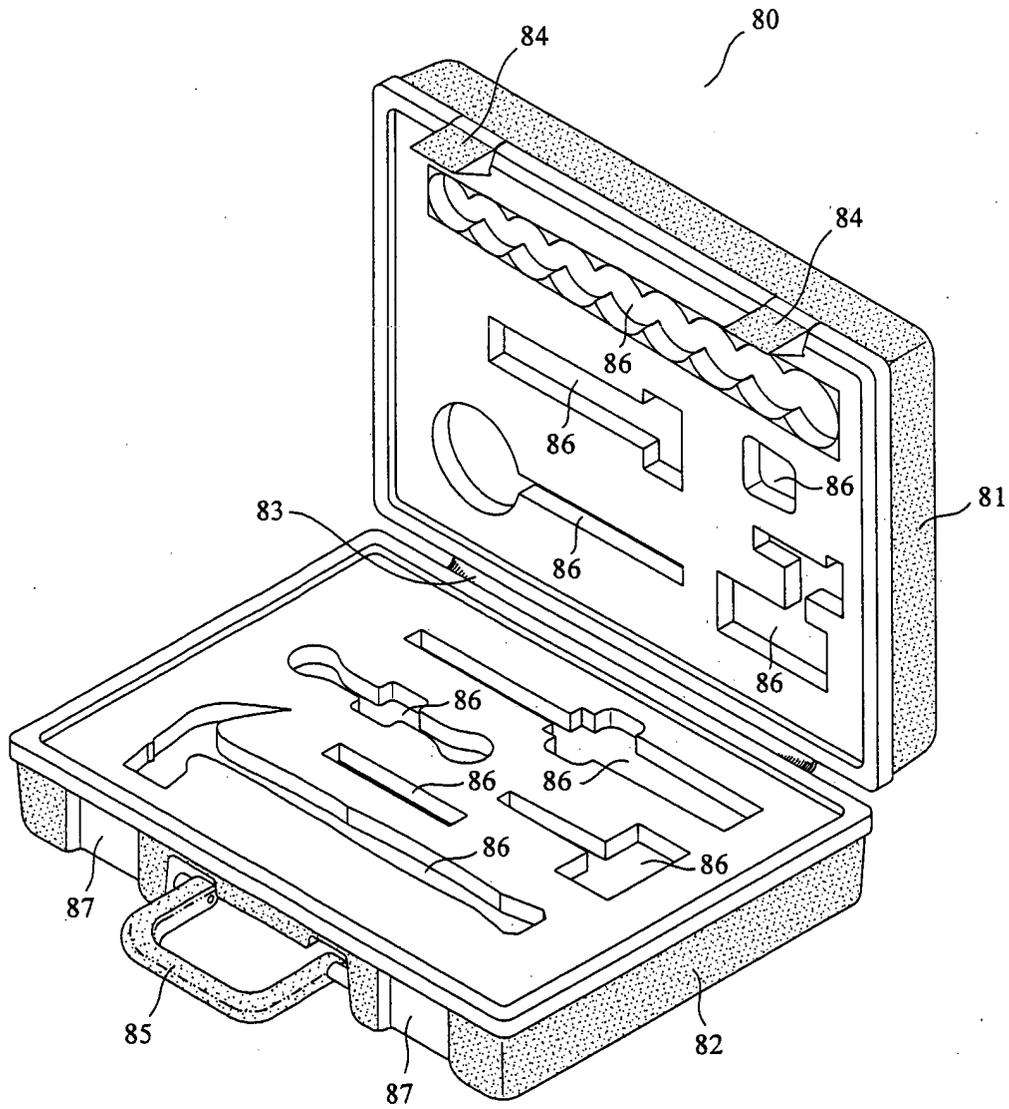


Fig.11



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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 June 2004	Examiner B. Flodstroem
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 June 2004	Examiner B. Flodstroem
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone                      Y : particularly relevant if combined with another document of the same category                      A : technological background                      O : non-written disclosure                      P : intermediate document</p> <p>T : theory or principle underlying the invention                      E : earlier patent document, but published on, or after the filing date                      D : document cited in the application                      L : document cited for other reasons                      .....                      &amp; : member of the same patent family, corresponding document</p>			

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