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(54) **TOOLBOX LID**

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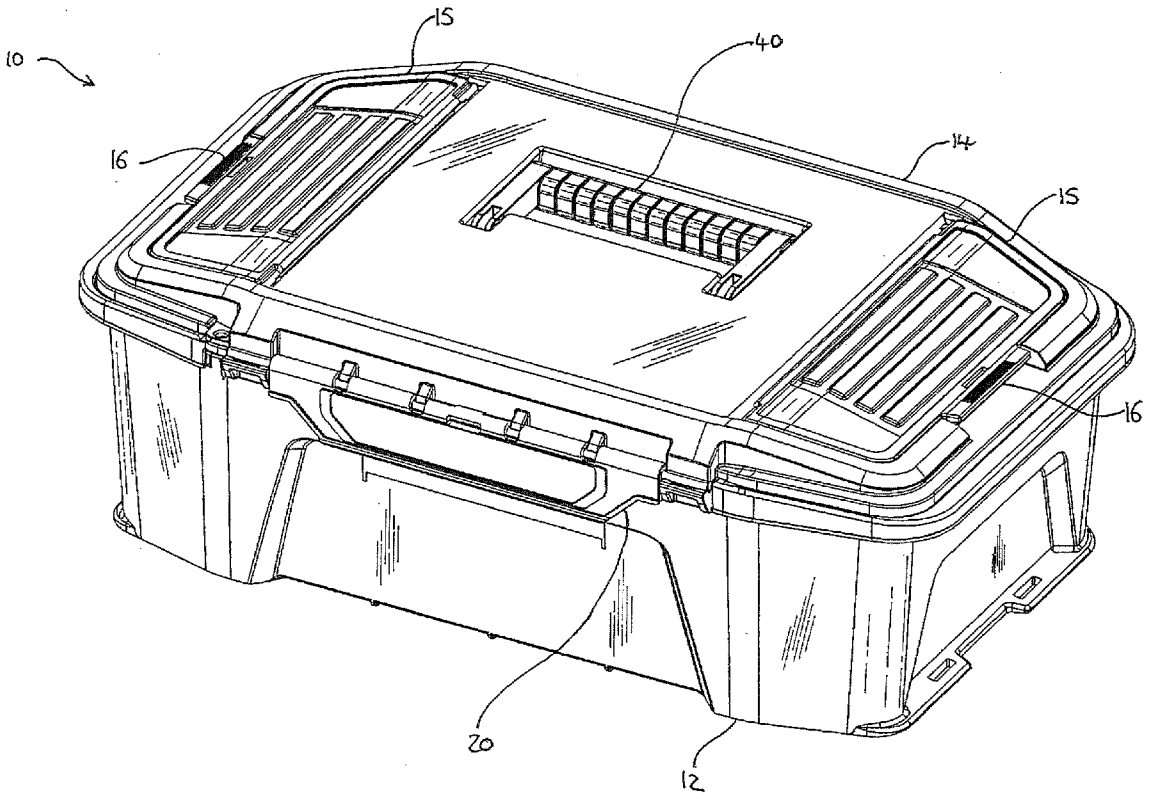
(57) **ABSTRACT**

The invention provides a container having a base and a lid, the lid being attached to the base by two or more latches, which may also function as hinges. The user may completely remove the lid of the toolbox by releasing all of the latches. The base and lid together define an internal compartment when the lid is in a closed position. The at least two latches are both operable to releaseably latch the lid to the base, and at least one of the latches comprises a hinge fixing which allows the lid to pivot while it is latched to the base by the latch. Two or more latches may comprise a hinge fixing which allow the lid to pivot while it is latched to the base by the latch.



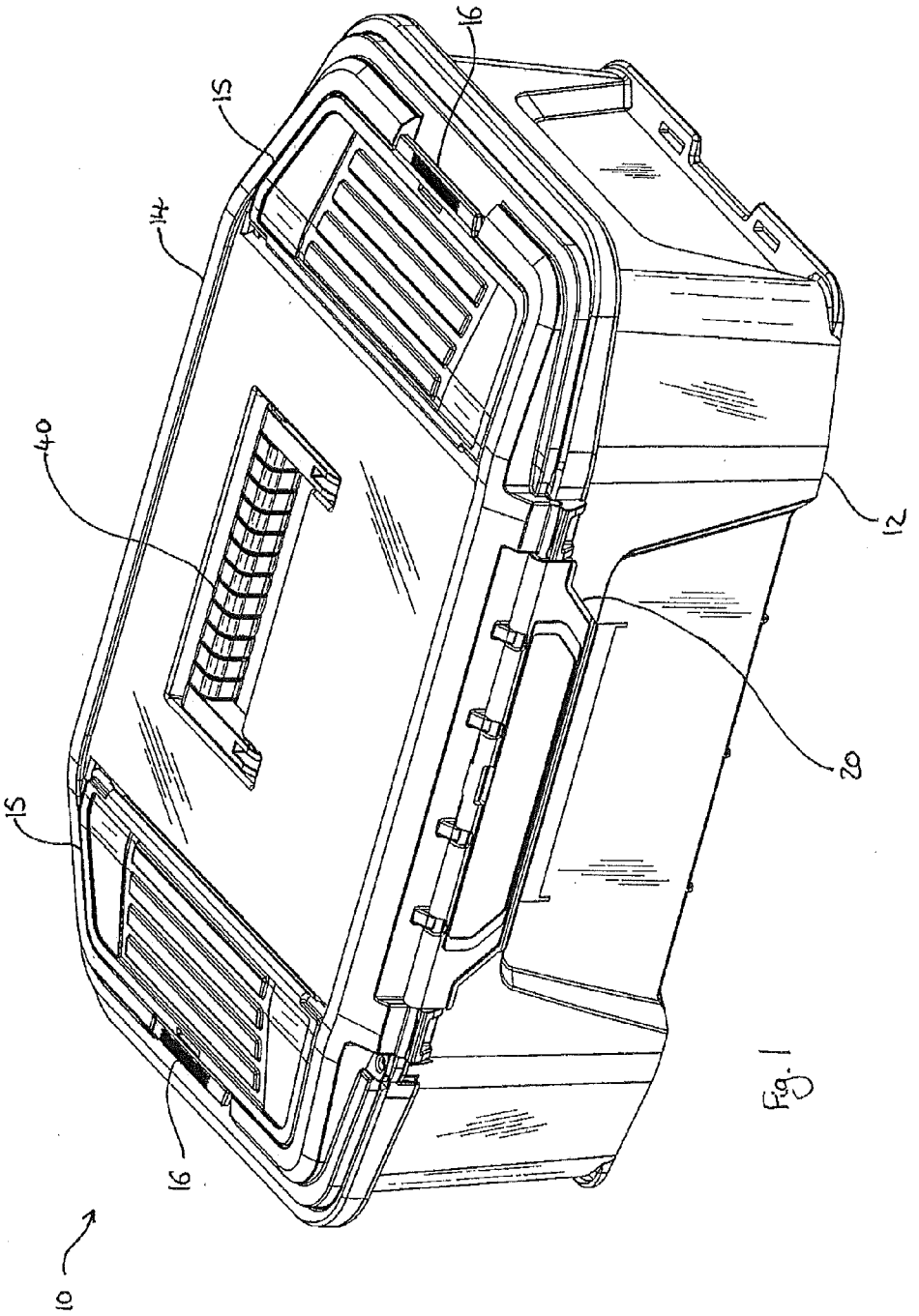


Fig. 1

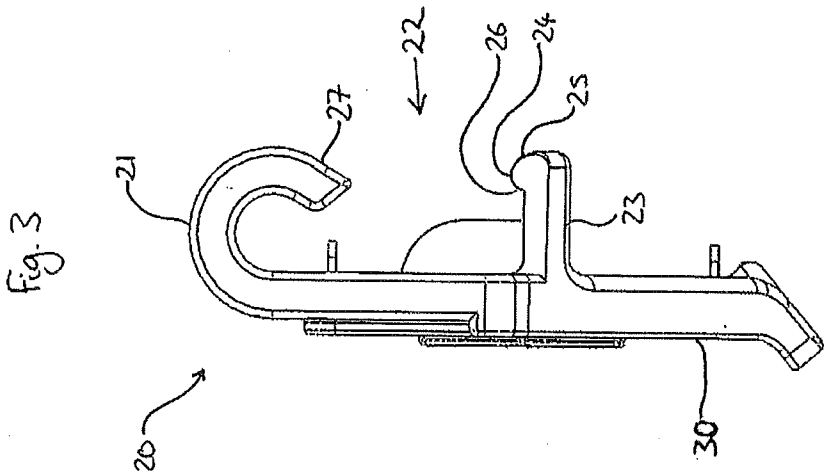


Fig. 3

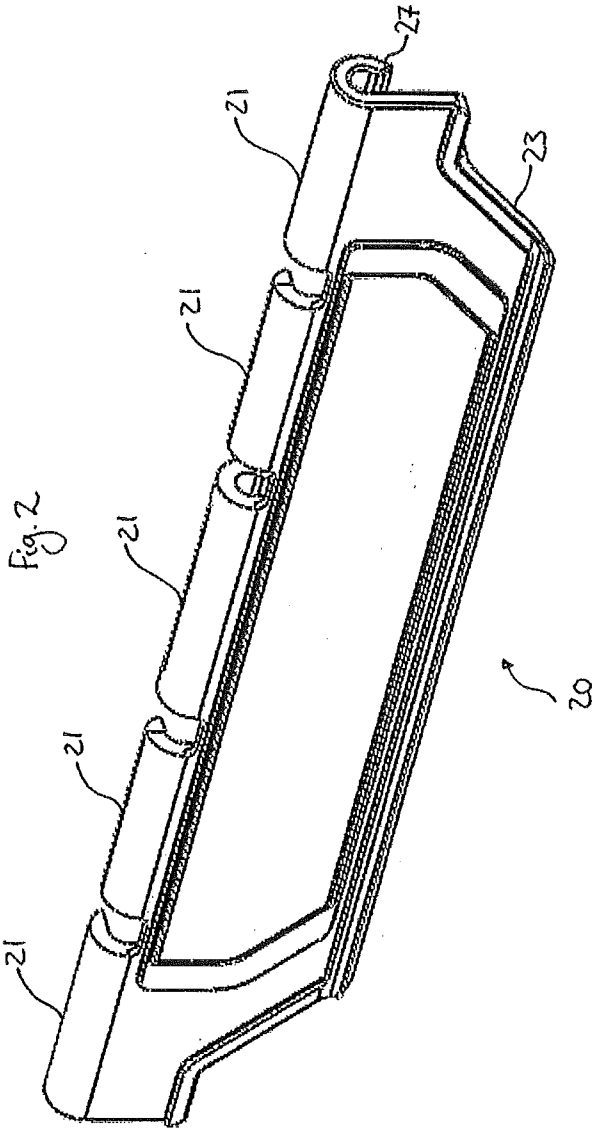


Fig. 2

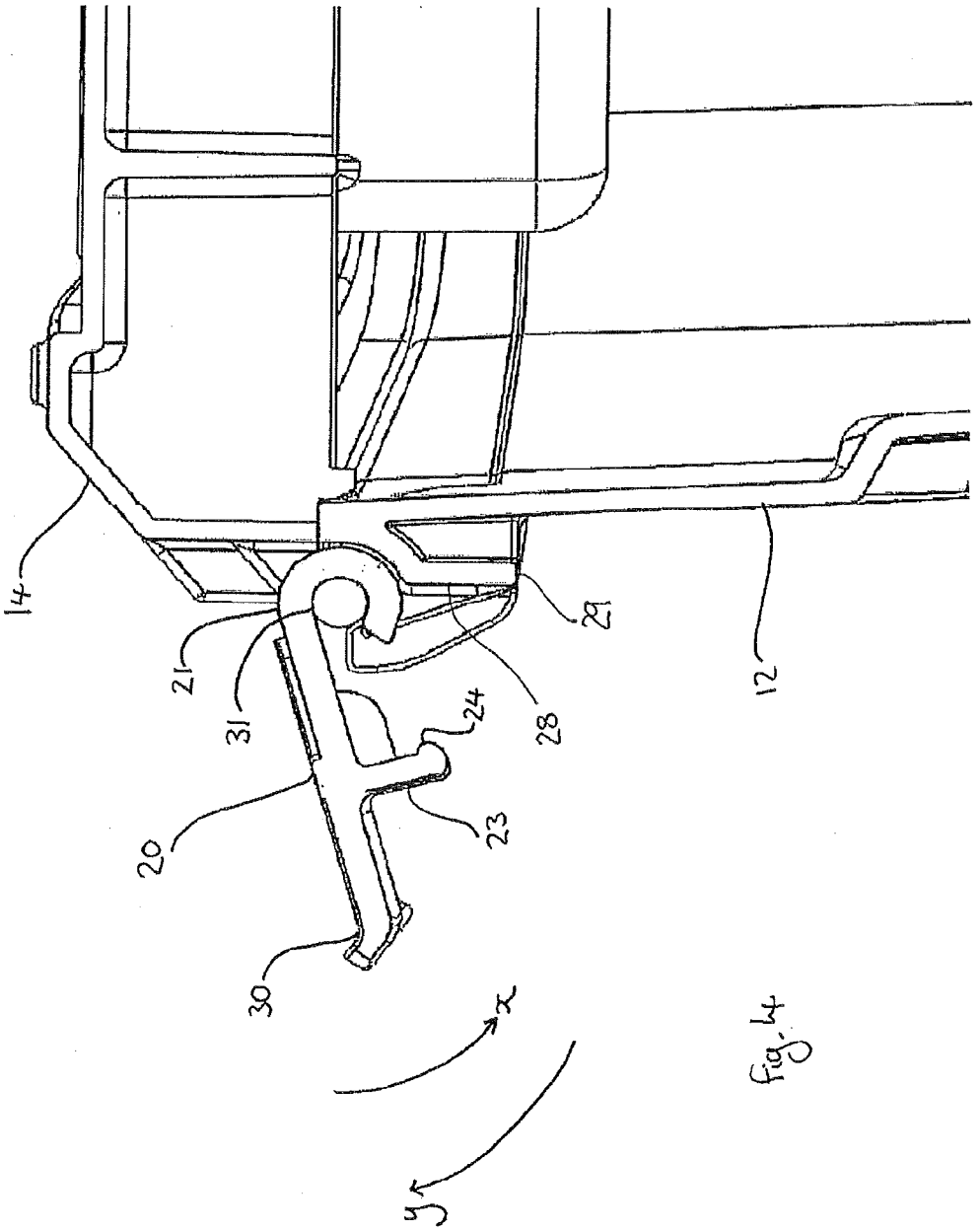


Fig. 4

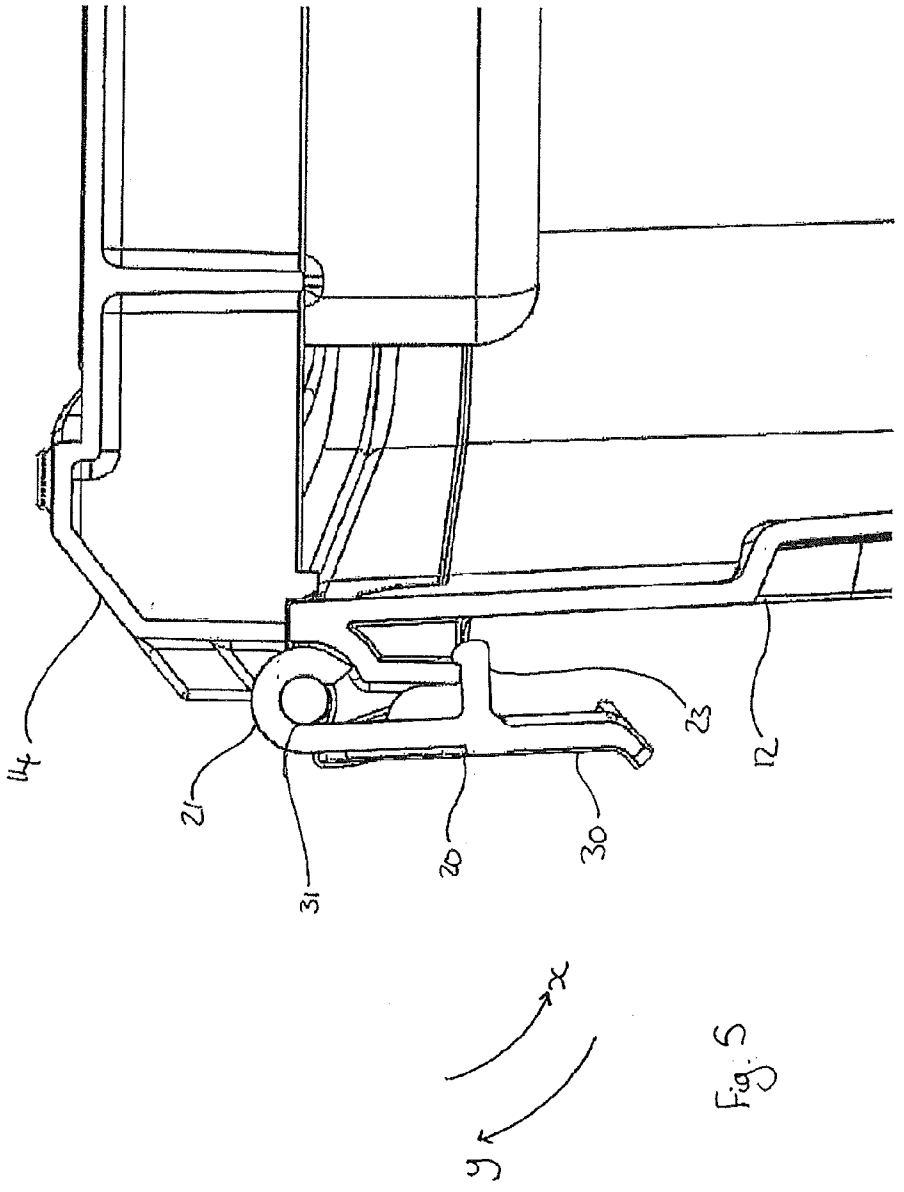


Fig. 5

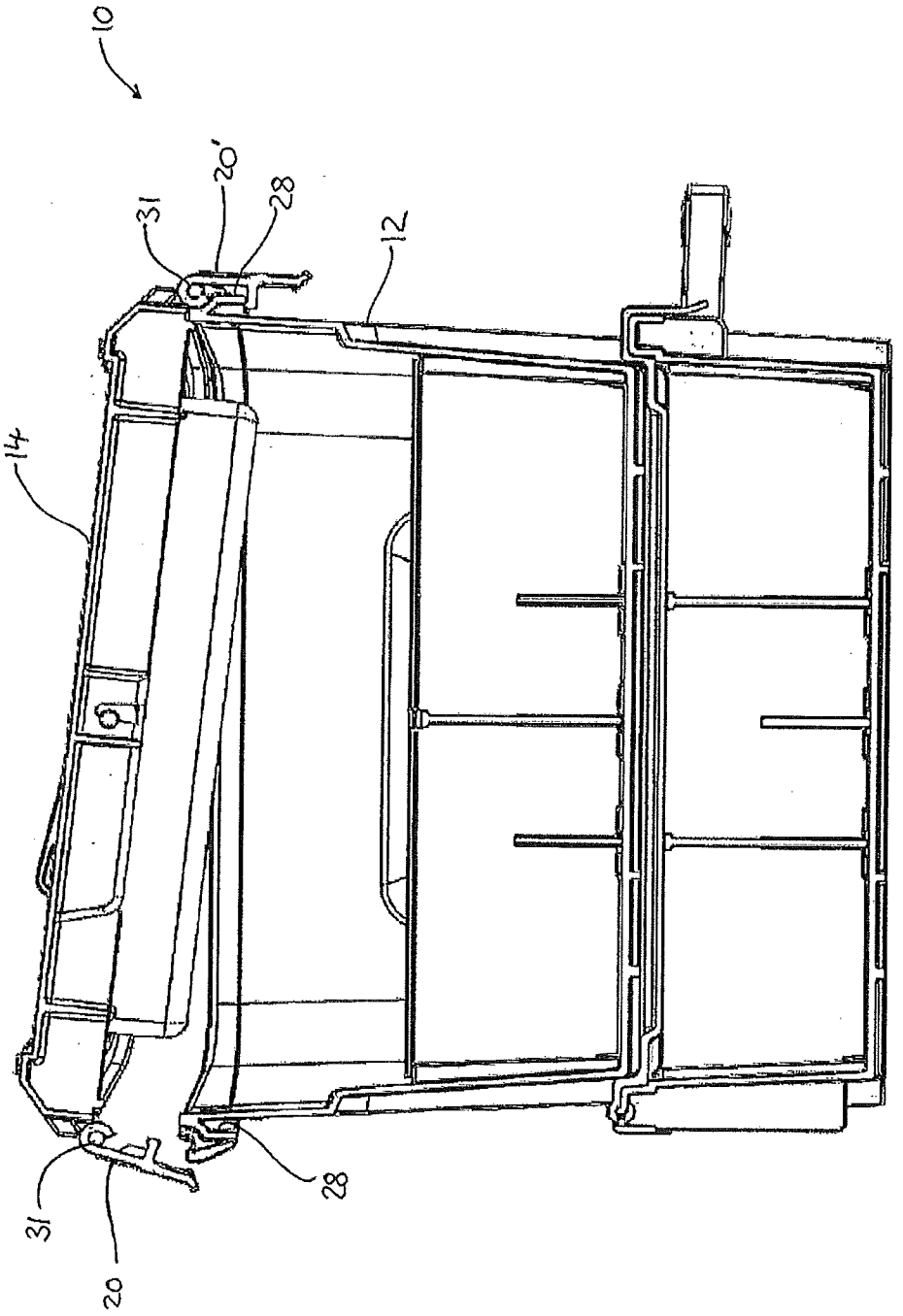


Fig. 6

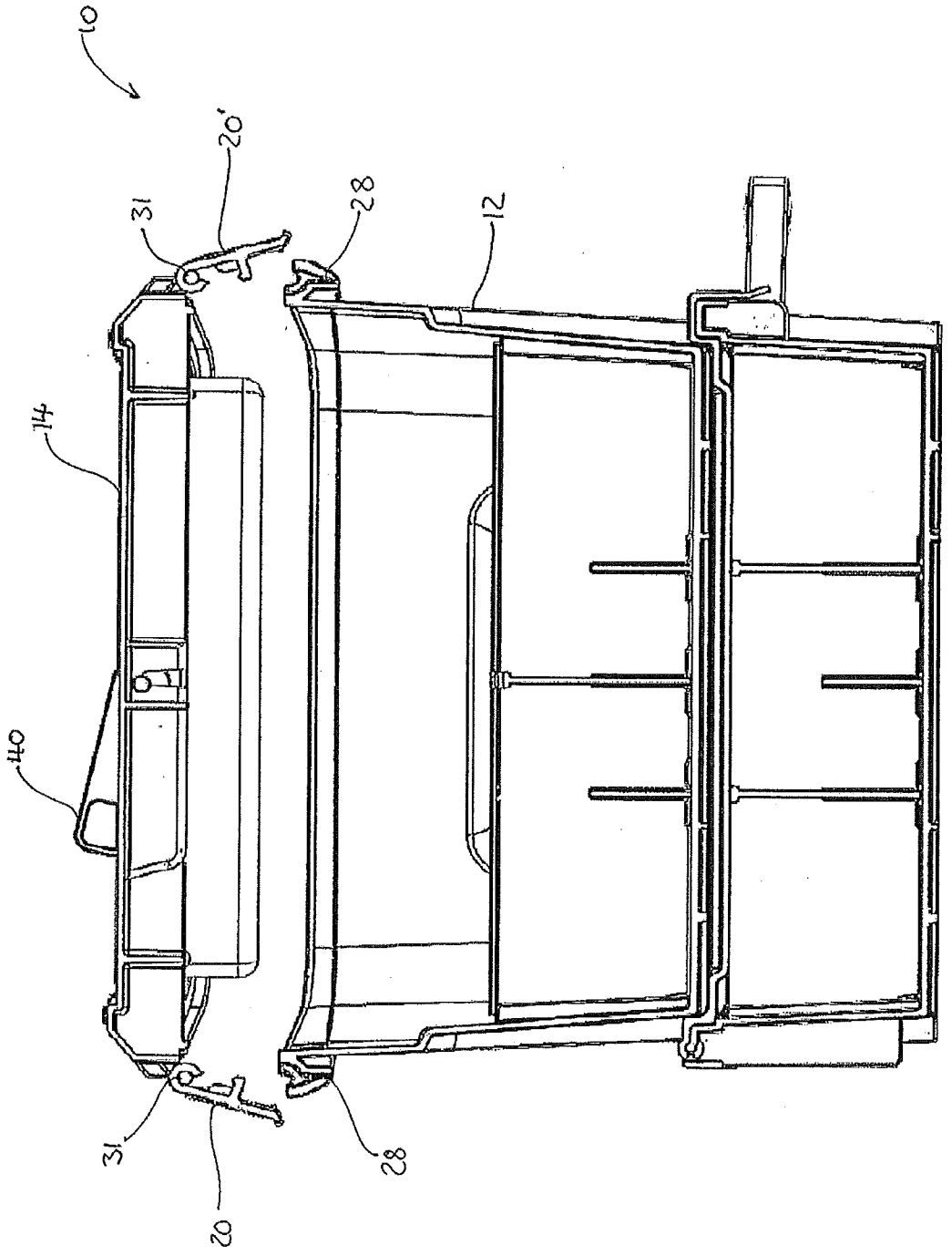


Fig. 7

TOOLBOX LID

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority, under 35 U.S.C. §119, to European Patent Application No. 13165449.3, filed Apr. 25, 2013, titled "TOOLBOX LID".

FIELD OF THE INVENTION

[0002] The present invention relates to containers, and particularly to portable containers which may be used as toolboxes. It is known to provide toolboxes comprising a container having a base and a lid, the base and lid together defining an internal compartment when the lid is in a closed position. Such a lid may be provided in a variety of forms, for example, it may be a one-piece lid, or may come in multiple pieces which may be hinged together or separable. The lid pieces may be attached to the base in a number of different ways.

BACKGROUND OF THE INVENTION

[0003] A common way of providing a lid for a toolbox is for the lid to be a one-piece lid, attached to the base by a hinge at one side of the base. When the lid is in a closed position, one or more latches may be fastened in order to hold the lid in a closed position on the base. This type of lid attachment provides a strong and secure closure for a toolbox, which is important to allow the toolbox to retain tools and accessories, which are often heavy and made of metal or similar strong materials. However, this arrangement does not allow the user to remove the lid of the toolbox if desired.

BRIEF SUMMARY OF THE INVENTION

[0004] The present invention provides a container having a base and a lid, the lid being attached to the base by two or more latches, one or more of which may also function as hinges, wherein the user may completely remove the lid of the toolbox by releasing all of the latches. Each of the two or more latches are operable to releaseably latch the lid to the base, and at least one of the latches comprises a hinge fixing which allows the lid to pivot while it is latched to the base by the latch. Two or more latches may each comprise such a hinge fixing.

[0005] The container may comprise two latches, located at opposite sides of the container. Alternatively, the container may comprise three or four latches, each latch located at different sides of the container.

[0006] Each latch comprising a hinge fixing may be linked to the lid by the hinge fixing, and the base may have latch receiving parts suitable for receiving the said latches comprising a hinge fixing. Alternatively, each latch comprising a hinge fixing may be linked to the base by the hinge fixing, and the lid may have latch receiving parts suitable for receiving the said latches.

[0007] Each of the one or more hinge fixings may comprise one or more hinge loops along part of the length of the latch, and a hinge bar formed integrally in the lid or base, wherein the hinge loops clip onto the hinge bar to link the latch to the lid or base. Alternatively, the hinge loops may be formed on the lid or base and the hinge bar formed on the latch.

[0008] One or more of the one or more latches comprising a hinge fixing may be elongated, for example, it may extend for approximately one third, or approximately one half of the length of the associated container side, or further.

[0009] The container may further include one or more storage wells on the outer surface of the lid, which may have individual openable covers. A carrying handle may be attached to the outer surface of the lid.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

[0011] FIG. **1** is a perspective view of a toolbox according to the present invention.

[0012] FIG. **2** is a perspective view of a latch which may form part of a toolbox according to the present invention.

[0013] FIG. **3** is a side view of the latch of FIG. **2**.

[0014] FIG. **4** is a partial cross-sectional view of a toolbox with a latch in an unlatched position.

[0015] FIG. **5** is a partial cross-sectional view of a toolbox with a latch in a latched position.

[0016] FIG. **6** is a cross-sectional view of a toolbox with one latch in a latched position and one latch in an unlatched position.

[0017] FIG. **7** is a cross-sectional view of a toolbox with two latches in an unlatched position and the lid lifted away from the base.

DETAILED DESCRIPTION OF THE INVENTION

[0018] In FIG. **1**, toolbox **10** comprises a base **12** and a lid **14**. Lid **14** can include one or more storage wells on its outer surface, which can be used to store small items such as screws or nails, or to temporarily store small items for a current job. The storage wells may be covered or sealed by lids **15**, which may be hingedly attached to the lid at one edge, and have an opening flap **16** at a separated edge. The lids **15** may be rigid, flexible or partially flexible. A carrying handle **40** may be attached to the lid **14**. In FIG. **1**, the carrying handle **40** is shown pivoted down into a position suitable for storage or stacking of the container. The carrying handle may be pivoted up in order to be used to carry the container **10**.

[0019] The container also comprises a front latch **20** and a rear latch **20'**. In this embodiment, the latches **20** and **20'** are identical. The latches will be described in more detail with reference to latch **20** as shown in FIGS. **2** and **3**, with the understanding that in this embodiment, latch **20'** has corresponding features and functionality.

[0020] The hinge fixing will now be described in more detail, in connection with the embodiment wherein each latch comprising a hinge fixing is attached to the lid by the hinge fixing. It is also possible to have similar hinge fixings if the relevant latches are attached to the base. The hinge fixing may comprise interspaced hinge flanges of the latch and the lid, which are connected together by inserting a hinge pin along at least part of the length of the hinge fixing.

[0021] Alternatively, as shown in FIGS. **2** and **3**, the hinge fixing may comprise one or more hinge loops **21** along part of the length of the latch **20**, which can clip onto a hinge bar **31** formed integrally in the lid, as shown in FIGS. **4** to **7**. In a further alternative, the hinge fixing may comprise one or more hinge loops along part of the length of the lid, which can clip onto a hinge bar formed integrally in the latch. This type of hinge fixing is robust and avoids the need to use a separate hinge pin part when assembling the container.

[0022] When the lid **14** is rested on top of the base **12** as shown in FIG. **4**, latch **20** can be rotated in direction x in order to engage the engaging portion **22** of latch **20** with a protrusion **28** of the base **12**. This latches the lid to the base. In this embodiment, the engaging portion **22** comprises elongated hinge loop end **27** in conjunction with stalk **23**. In embodiments having one or more hinge loops, either one, some or all of the hinge loops present may have elongated hinge loop ends **27**. Stalk **23** is formed unitarily with latch **20** and carries stop **24** at a position remote from the main body of latch **20**. Stop **24** carries a leading rounded surface **25** and a trailing rounded surface **26**. When the lid **14** is rested in the correct position on top of the base **12**, and latch **20** is rotated in direction x, the leading rounded surface **25** of stop **24** is brought into contact with the end region **29** of protrusion **28** of the base. Continued rotational force on latch **20** causes stalk **23** to deflect slightly, such that stop **24** passes around the end region **29** of protrusion **28** and snaps into the latched position. Stalk **23** is no longer forced to deflect and the trailing rounded surface **26** of stop **24** holds the engaging portion securely in the latched position.

[0023] Alternatively, the latch may carry a protrusion which engages with a similar engaging portion of the base, or any known latching arrangement may be used to reversibly latch the parts together. When latches **20** and **21** are both latched, the lid is fixed to the base and toolbox **10** can be carried by the handle **40**, if present.

[0024] When the user wants to open the lid **14**, latch **20** can be rotated in direction y in order to disengage the engaging portion **22** of latch **20** from the protrusion **28** of the base **12**. Rotation of the latch exerts forces on the trailing rounded surface **26** of the stop **24** and end region **29**, such that stalk **23** deflects slightly. Continued rotation causes stop **24** and thus the engaging portion **22** to be removed from engagement with protrusion **28**. Latch **20** may have a tab **30** to allow the user to easily rotate the latch.

[0025] As shown in FIG. **6**, if latch **20'** remains engaged while latch **20** is disengaged, then the lid can be pivoted on the hinge fixing of latch **20'** in order to allow access to the interior of the base. Alternatively, as shown in FIG. **7**, the user may choose to disengage both latches **20** and **20'**, and the user may then separate the lid from the base so that they are no longer linked.

[0026] Removal of the lid can allow full access to the cavity of the base. It can also allow for separate storage or cleaning of the base and lid if necessary. If the lid has storage wells in its outer surface, the user can gain access to the cavity of the base and the storage wells at the same time, by simply removing the lid and placing it on a surface next to the base. This latch arrangement may also allow a lid to be swapped for a lid of a different design.

[0027] Embodiments with two opposite latches, each comprising a hinge fixing which allows the lid to pivot while it is latched to the base by the latch, allow the user to open the lid of the container from either side. This increases the convenience of use compared to a toolbox which has a fixed hinge on one side of the lid only.

[0028] In alternative contemplated embodiments, the container may be a four-sided container, having three or four latches, each located on a different side of the container, each latch operable to releaseably latch the lid to the base and one or more of the latches comprising a hinge fixing which allows the lid to pivot while it is latched to the base by the latch. Such embodiments increase the options for opening and latching the lid. In alternative embodiments, the container may have more or less than four sides.

[0029] It should be understood that although the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, it is intended to embrace all such alternatives, modifications and variations that fall within the scope of the claims.

1. A container comprising:
- a base and a lid, the base and lid together defining an internal compartment when the lid is in a closed position;
- at least two latches, each latch operable to releaseably latch the lid to the base;
- wherein at least one of the latches comprises a hinge fixing which allows the lid to pivot while it is latched to the base by the latch.

2. A container according to claim **1**, wherein the container comprises two latches, located at opposite sides of the container.

3. A container according to claim **1**, wherein the container comprises three or four latches, each latch located at different sides of the container.

4. A container according to claim **1**, wherein two or more latches comprise a hinge fixing which allows the lid to pivot while it is latched to the base by the latch.

5. A container according to claim **1**, wherein each latch comprising a hinge fixing is linked to the lid by the hinge fixing, and wherein the base comprises latch receiving parts suitable for receiving the latches comprising a hinge fixing.

6. A container according to claim **1**, wherein each latch comprising a hinge fixing is linked to the base by the hinge fixing, and wherein the lid comprises latch receiving parts suitable for receiving the latches comprising a hinge fixing.

7. A container according to claim **1**, wherein each of the one or more hinge fixings comprises one or more hinge loops along part of the length of the latch, and a hinge bar formed integrally in the lid or base, wherein the hinge loops clip onto the hinge bar to link the latch to the lid or base.

8. A container according to claim **1**, wherein each of the one or more hinge fixings comprises one or more hinge loops along part of the length of the side of the lid or base, and a hinge bar formed integrally in the latch, wherein the hinge loops clip onto the hinge bar to link the lid or base to the latch.

9. A container according to claim **1**, wherein one or more of the one or more latches comprising a hinge fixing is elongated.

10. A container according to claim **1**, wherein the one or more elongated latches extend more than one third, and optionally more than one half of the length of the associated container side.

11. A container according claim **1**, wherein an outer surface of the lid comprises one or more storage wells with openable covers.

12. A container according to claim **1**, wherein a carrying handle is attached to the outer surface of the lid.

13. A container according to claim **1**, wherein the container is portable.

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