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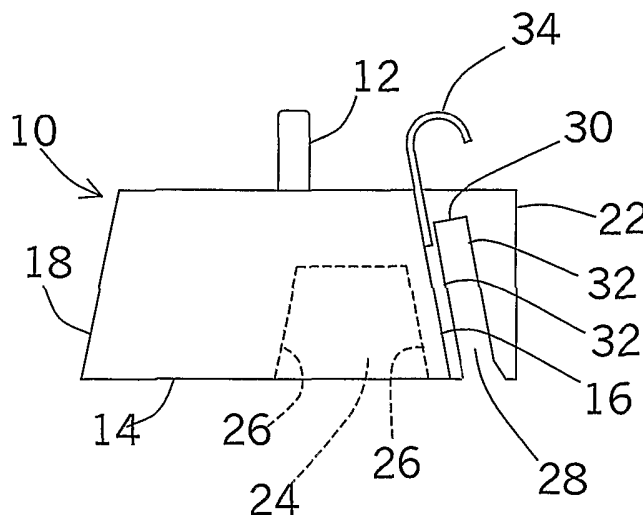
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(54) Title: TRAY



(57) Abstract: A tray for tools or other purposes can be attached to different kinds of ladder, not shown. A first recess (24) having mutually inclined walls (26) is configured to fit over the top of a builder's stepladder. A second recess (28) having a base (30) and opposed walls (32) is configured to fit over the safety rail of a platform stepladder. Two hooks (34) are arranged to fit over a rung of a pole ladder with an inclined face (16) of the tray bearing on the stiles of the ladder. The tray has a flat underside (14) so that it may also be placed on a floor or work surface and a handle (12) whereby it may be carried between jobs.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Tray

This invention concerns a tray particularly but necessarily for holding tools, which tray can be attached to different kinds of ladders.

5 Three kinds of ladders are in common use. The pole ladder comprises a pair of stiles with a plurality of rungs secured therebetween, and in portable form is in use leant against a wall or the like. The builder's stepladder (and a variant thereof known as a painter's stepladder, which should be deemed herein to be included within the term "builder's stepladder") comprises two
10 frames joined together at the top with a hinge, one of the frames having a plurality of steps and the two frames being arranged to be opened to mutually inclined positions so that the ladder is self-supporting in use. The platform stepladder is similar to the builder's stepladder but has a platform extending between the frames in use and, extending above the hinge, a
15 safety rail for a user standing on the platform.

It is well known that a tray may be attached to a ladder to provide a handy support for tools, workpieces, fasteners, paint etc. However, many jobs require the use of two or all three of the different kinds of ladder in common use, and previous trays are not readily transferable from one kind of
20 ladder to another.

It is an object of the present invention to enable a tray to be attached to any one of the three common kinds of ladder.

Thus according to the invention there is provided a tray for attachment to different kinds of ladder, which tray comprises first attachment means
25 configured to fit over the top of a builder's stepladder, second attachment means configured to fit over the safety rail of a platform stepladder and third

attachment means configured to fit over a rung of a pole ladder.

The first attachment means preferably comprises a first downwardly facing recess having opposed walls mutually inclined to engage the frames of said builder's ladder adjacent the top thereof. The second attachment means
5 preferably comprises a second downwardly facing recess having a base and opposed walls, said walls being generally parallel and spaced apart to receive therebetween the safety rail of said platform stepladder.

In a first embodiment of the invention, the third attachment means may comprises two hooks downwardly facing to engage said rung and an inclined
10 face to engage the stiles of said pole ladder. In a second embodiment of the invention, the tray may be include a handle comprising the third attachment means. In a third embodiment of the invention the first attachment means, the second attachment means and the third attachment means may all be comprised in one downwardly facing recess.

15 The tray preferably includes a plurality of compartments for tools or the like.

Other aspects of the invention will be apparent from the following description, which is made by way of example only with reference to the accompanying schematic drawings in which –

20 *Figure 1* is a plan view of a first embodiment of a tray according to invention;

Figure 2 is a front view corresponding to *Figure 1*;

Figure 3 is an end view corresponding to *Figure 1*;

Figures 4, 5 and 6 are respectively a plan view, a side elevation and a
25 front elevation of a second embodiment of the invention; and

Figure 7 is a cross-section of a third embodiment of the invention, being

a modification of the second embodiment of *Figures 4 to 6* and enlarged relative thereto.

Referring first to *Figures 1 to 3*, the tray shown therein is formed from synthetic plastics material and comprises a body indicated at **10** and an upstanding handle **12** whereby the tray may be carried. As can be seen in *Figure 1*, the body **10** is formed with a plurality of compartments for holding tools, fasteners, workpieces etc, but it is to be understood that the form of these compartments does not form part of the present invention. The underside **14** of the body **10** is generally flat so that the tray may be securely put down on a floor or work surface. The front face **16**, rear face **18** and both side faces **20** of the body **10** are all inclined and an extension **22** extends forward of the front face **16**.

Within the body **10** is formed a first downwardly facing recess **24** (shown in broken lines in *Figure 3*) having opposed walls **26** which are mutually inclined. Those skilled in building and allied trades will know that a builder's stepladder has two frames, one carrying steps, which are joined by a hinge at the top and in use are mutually inclined. Thus the recess **24** is configured to fit over the top of a builder's stepladder in use with the walls **26** engaging the mutually inclined frames of the ladder, and so provides attachment means for attaching the tray to a builder's stepladder.

Extending from the underside **14** of the forward extension **22** is a second recess **28** having a base **30** and opposed walls **32**. The walls **32** are mutually parallel, inclined and spaced apart. Those skilled in building and allied trades will know that a platform stepladder has a safety rail (not shown) comprising two side members connected at the top by a cross member. Thus the recess **28** is configured to fit over the safety rail of a platform stepladder,

the base **30** sitting on the cross member thereof, and so provides attachment means for attaching the tray to a platform stepladder

Moulded into or otherwise secured to the front face **16** of the body **10** are two downwardly facing hooks **34**, one each side of the extension **22**.
5 Those skilled in building and allied trades will know that a pole ladder comprises two stiles with a plurality of rungs secured therebetween, and in use is leant against a wall or the like. The hooks **34** are arranged to fit over a rung of such a ladder, the inclined front face **16** of the body **10** then bearing on the inclined stiles of the ladder. Thus the hooks **34** and the inclined front face **16**
10 provide attachment means for attaching the tray to a rung of a pole ladder.

It is to be understood that various modifications and adaptations of the embodiment of the invention shown in *Figures 1 to 3* may be made without departing from the essence of the invention. For instance, the recess **28** may have closed ends. Or, in place of the hooks **34**, the recess **28** may be
15 configured to fit over a rung of a pole ladder. Also the invention is applicable to trays other than that shown in the drawing and may for instance be applied to a roller tray for painters and decorators.

Another form of tray according to the invention is shown in *Figures 4 to 6*. This tray has an upstanding handle **40** cut away at **42** to receive a user's
20 hand when the tray is carried and turned down at **44** to fit over the rung of a pole ladder or the rail of a platform stepladder. When this tray is so fitted, two spaced apart recesses **46** receive the side members of the platform stepladder or the stiles of the pole ladder, as the case may be. Not detailed in *Figures 4 to 6*, this tray also has a recess in its underside whereby it may be located on the
25 top of a builder's stepladder, like the embodiment of *Figures 1 to 3*.

A third embodiment of the invention is shown in *Figure 7*. This third

embodiment is a modification of the tray shown in *Figures 4 to 6*. As with the tray of *Figures 4 to 6*, the tray of *Figure 7* has two spaced apart recesses **50** to receive the side members of a platform stepladder or the stiles of a pole ladder. But instead of the handle **52** being formed to engage the rung of a pole ladder or the rail of a platform stepladder, the downwardly facing recess **54** is formed for this purpose. Alternatively considered, the recess **54** (which can be seen in *Figure 7* to have a stepped form in cross-section) combines all the functions of the recess **24**, the recess **28** and the hooks **34** of the embodiment shown in *Figures 1 to 3*, thus simplifying manufacture of the tray as a whole whilst also offering a variety of abutments for ladders of various dimensions.

From the foregoing description it will be understood that by means of the invention a tray for tools or the like may be quickly and conveniently attached to any one of a builder's stepladder, a platform stepladder and a pole ladder and may also be easily carried (with its contents) from one such ladder to another. This is of considerable advantage in jobs requiring the use of more than one kind of ladder. And, of course, a user does not need to purchase different kinds of trays for the different ladders, nor multiple tools etc.

A tray according to the invention may be modified in various ways. For instance it may be provided with slots to receive a neck or shoulder strap, for increased utility. Other modifications will be apparent to those skilled in the building and allied trades.

Claims

1. A tray for attachment to different kinds of ladder, which tray comprises first attachment means configured to fit over the top of a builder's stepladder, second attachment means configured to fit over the safety rail of a platform stepladder and third attachment means configured to fit over a rung of a pole ladder.
2. A tray as claimed in claim 1 characterised in that the first attachment means comprises a first downwardly facing recess (24) having opposed walls (26) mutually inclined to engage the frames of said builder's ladder adjacent the top thereof.
3. A tray as claimed in claim 1 or claim 2 characterised in that the second attachment means comprises a second downwardly facing recess (28) having a base (30) and opposed walls (32), said walls (32) being generally parallel and spaced apart to receive therebetween the safety rail of said platform stepladder.
4. A tray as claimed in any preceding claim characterised in that the third attachment means comprises two hooks (34) downwardly facing to engage said rung and an inclined face (16) to engage the stiles of said pole ladder.
5. A tray as claimed in any of claims 1 to 3 characterised in that the tray is formed with two forwardly facing recesses (46) spaced apart to receive

alternatively the side members of a platform stepladder and the stiles of a pole ladder.

5 **6.** A tray as claimed in any preceding claim characterised in that said tray includes a handle **(42)** whereby it may be carried.

7. A tray as claimed in claim **6** characterised in that said handle **(42)** comprises said third attachment means.

10 **8.** A tray as claimed in any preceding claim characterised in that said tray includes a plurality of compartments for tools or the like.

9. A tray as claimed in claim **1** characterised in that the first attachment means, the second attachment means and the third attachment means are all comprised in one downwardly facing recess **(52)**.

10. A tray as claimed in claim **9** characterised in that the downwardly facing recess **(52)** has a stepped form.

20 **11.** A tray as claimed in claim **9** or claim **10** characterised in that said tray is formed with two forwardly facing recesses **(54)** spaced apart to receive alternatively to receive the side members of a platform stepladder and the stiles of a pole ladder.

25 **12.** A tray as claimed in any preceding claim characterised in that said tray is formed with one or more slots to receive a carrying strap.

13. A tray substantially as hereinbefore described with reference to and as shown in *Figures 1, 2 and 3* or *Figures 4, 5 and 6* or *Figure 7* of the accompanying drawings.

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Fig 1

Fig 2

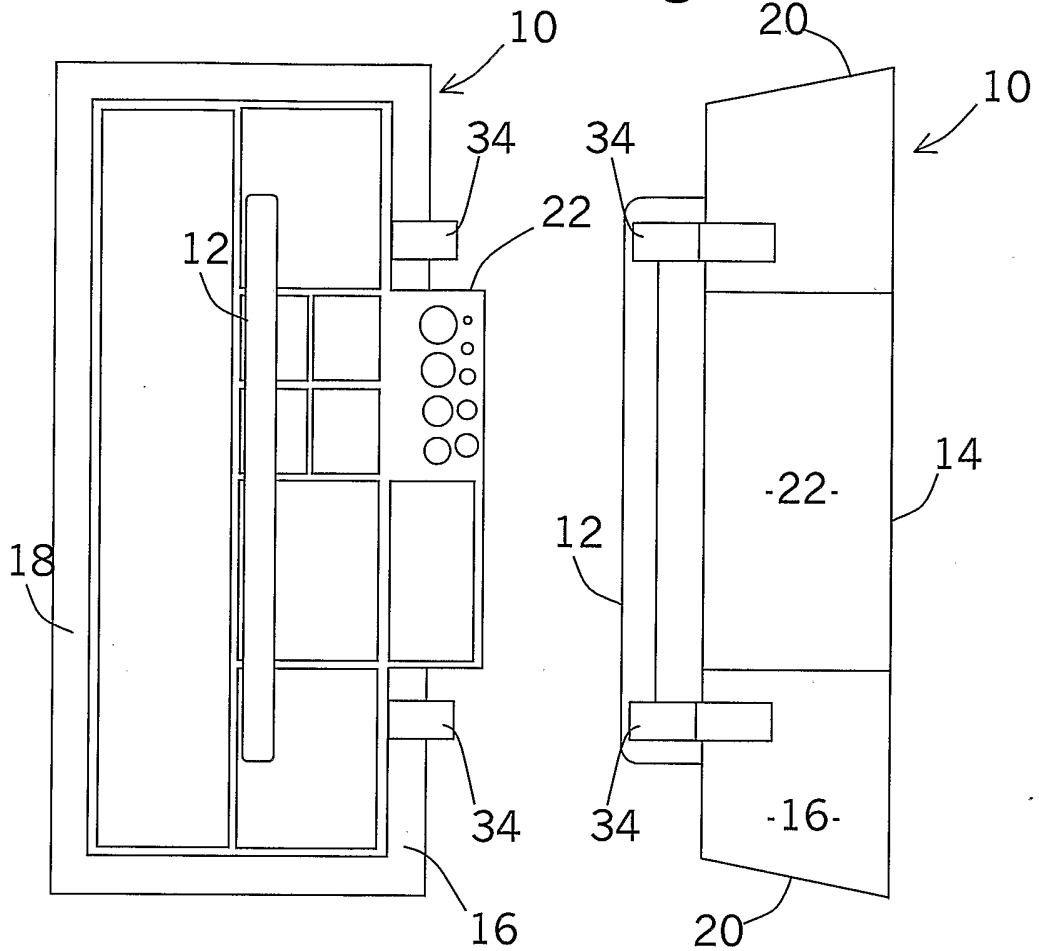


Fig 3

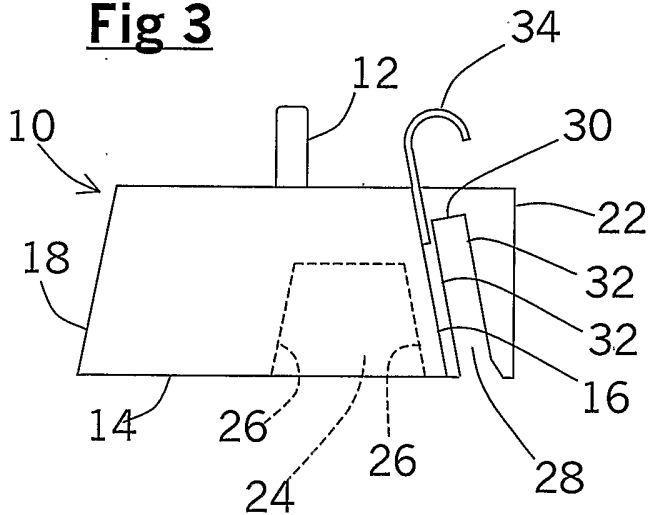


Fig 4

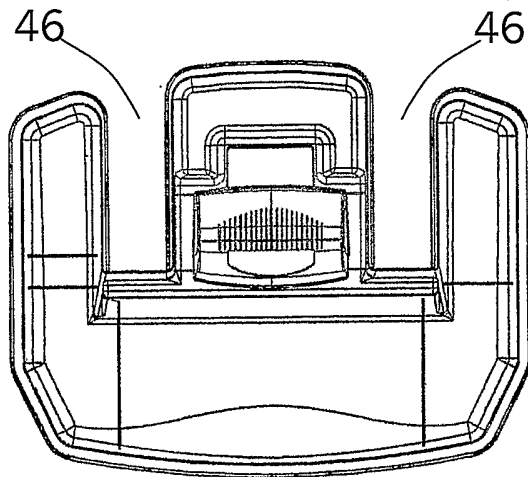


Fig 5

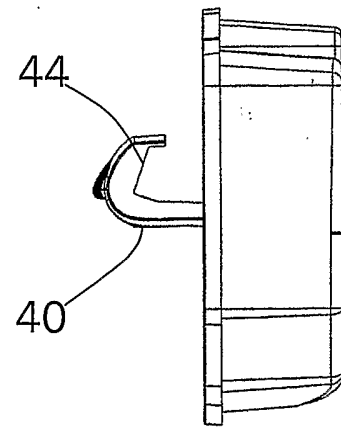


Fig 6

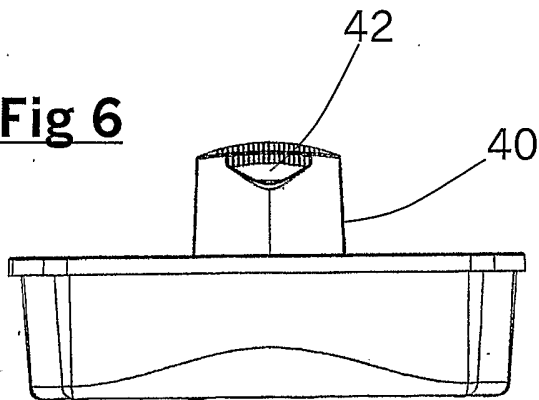
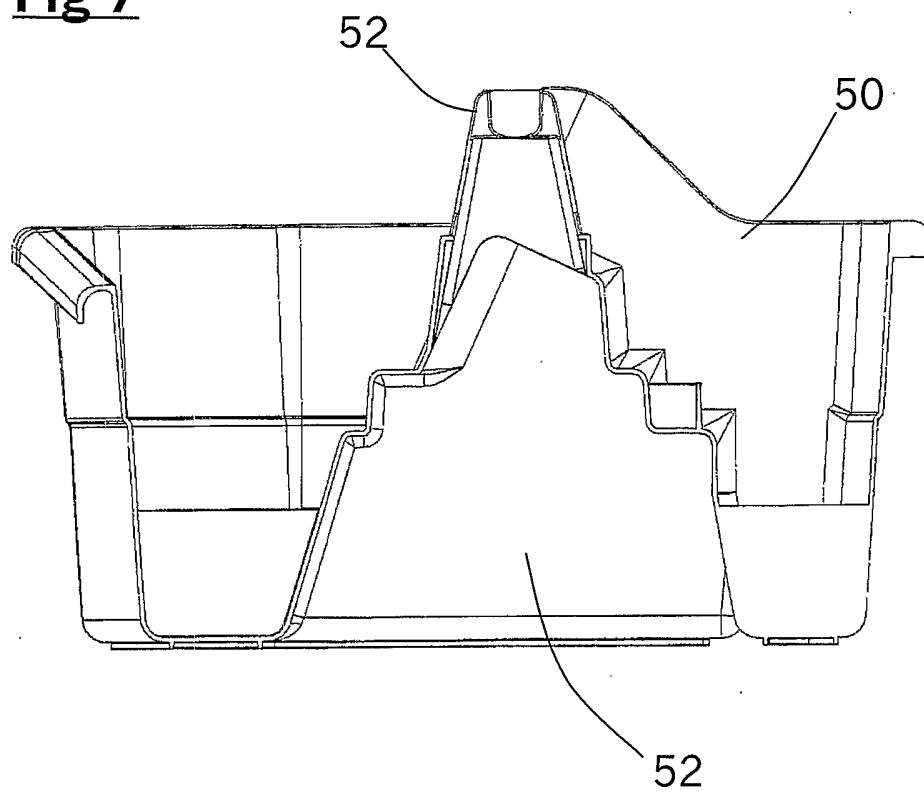


Fig 7



INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E06C7/14 B25H3/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 E06C B25H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

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X A	WO 01/76828 A (KLESZ MICHAEL ; MUELLER OSCAR (DE)) 18 October 2001 (2001-10-18) page 1, line 1 - page 14, line 8; figures 1-11	1,2,5,6, 8-13 3,4,7
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X A	US 5 836 043 A (ROVAS STEVEN C) 17 November 1998 (1998-11-17) figures 1-5	1,4,12, 13 2,3
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

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