



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
20.04.2011 Bulletin 2011/16

(51) Int Cl.:
B25H 3/02 (2006.01)

(21) Application number: **09172900.4**

(22) Date of filing: **13.10.2009**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL
PT RO SE SI SK SM TR
Designated Extension States:
AL BA RS

(72) Inventor: **Lin Ta-Sen**
Taichung City 407 (TW)

(74) Representative: **Lang, Christian et al**
LangRaible GbR
Patent- und Rechtsanwälte
Rosenheimerstrasse 139
81671 München (DE)

(71) Applicant: **Pard Hardware Industrial Co., Ltd.**
Taichung City 407 (TW)

(54) **Storing apparatus for use with tool cart**

(57) A storing apparatus (30) includes an attaching portion (31), a handle (41) and at least one storing portion (50). The attaching portion (31) is used for attaching the

storage apparatus (30) to a drawer (20) of a tool cart (10). The handle (41) is operable for moving the drawer (20). The storing portion (50) is used for storing small stuff such as screws and nuts.

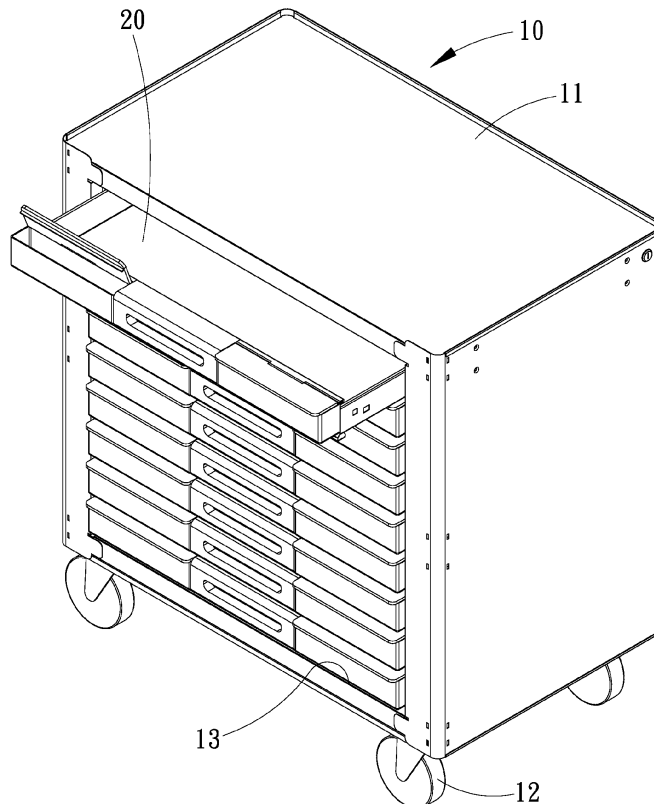


FIG. 1

Description

BACKGROUND OF INVENTION

1. FIELD OF INVENTION

[0001] The present invention relates to a tool cart and, more particularly, to a storing apparatus for use with a tool cart.

2. RELATED PRIOR ART

[0002] As disclosed in Taiwanese Patent M318554, a tool cart includes a frame, drawers movably connected to the frame and casters attached to the frame. Each of the drawers is equipped with a handle operable to move the drawer.

[0003] The drawers can store tools and parts, big or small. However, the tools and parts are stored in the drawers randomly. A user has to search an entire drawer for a desired small part such as a screw or nut, and this is troublesome. The small parts can be stored in cases that are in turn stored in the drawers. However, these cases occupy unnecessarily large space in the drawers.

[0004] The present invention is therefore intended to obviate or at least alleviate the problems encountered in prior art.

SUMMARY OF INVENTION

[0005] It is the primary objective of the present invention to provide a tool cart with a storing apparatus.

[0006] To achieve the foregoing objective, the storing apparatus includes an attaching portion, a handle and at least one storing portion. The attaching portion is used for attaching the storage apparatus to a drawer of a tool cart. The handle is operable for moving the drawer. The storing portion is used for storing small stuff such as screws and nuts.

[0007] Other objectives, advantages and features of the present invention will be apparent from the following description referring to the drawings.

BRIEF DESCRIPTION OF DRAWINGS

[0008] The present invention will be described via detailed illustration of four embodiments referring to the drawings.

Fig. 1 is a perspective view of a tool cart equipped with a storing apparatus according to the first embodiment of the present invention.

Fig. 2 is a perspective view of a drawer and the storing apparatus shown in Fig. 1.

Fig. 3 is a partial, cross-sectional view of the drawer and the storing apparatus shown in Fig. 1.

Fig. 4 is a partial, perspective view of a drawer and a storing apparatus according to the second embodiment of the present invention.

Fig. 5 is a cross-sectional view of the storing apparatus of Fig. 4.

Fig. 6 is a perspective view of a drawer and a storing apparatus according to the third embodiment of the present invention.

Fig. 7 is a cross-sectional view of the drawer and the storing apparatus shown in Fig. 6.

Fig. 8 is a cross-sectional view of a drawer and a storing apparatus according to the fourth embodiment of the present invention.

DETAILED DESCRIPTION OF EMBODIMENTS

[0009] Referring to Figs. 1 through 3, a tool cart 10 is equipped with a storing apparatus 30 according to a first embodiment of the present invention. The tool cart 10 includes a frame 11, casters 12 attached to a lower portion of the frame 11 and drawers 20 movably connected to the frame 11. An opening 13 is defined in a front portion of the frame 11.

[0010] As clearly shown in Fig. 3, each of the drawers 20 includes floor 21 and four walls 22 provided on the floor 21. A front one of the walls 22 (the "front wall 22") includes a horizontal edge 23 extending from a rear side thereof.

[0011] The storing apparatus 30 includes a curved edge 31 extending from a rear wall thereof. The curved edge 31 of the storing apparatus 30 is engaged with horizontal edge 23 of a drawer 20 so that the storing apparatus 30 is attached to the drawer 20 without occupying any space within the drawer 20. The storing apparatus 30 can be attached to the drawer 20 by any other proper means.

[0012] The storing apparatus 30 includes a handle 40 formed between two storing portions 50. The handle 40 includes a slot 41 defined therein. A user can insert at least one finger through the slot 41 and operate the handle 40 to move the drawer 20.

[0013] Each of the storing portions 50 is a case which is open on an upper side. Each of the cases 50 includes a tube 54 formed thereon, near the rear wall of the storing apparatus 30. A pivotal cover 51 is connected to each of the cases 50. The pivotal cover 51 includes two tubes 52 separated by a gap 53. The tube 54 is located in the gap 53, i.e., between the tubes 52. A pin 57 is inserted in the tubes 52 and 54, thus connecting the pivotal cover 51 to the related case 50. A rib 55 is formed on lower side of the pivotal cover 51. As the pivotal cover 51 covers the related case 50, the rib 55 of the pivotal cover 51 is in contact with a front wall 22 of the related case 50 to avoid undesired opening.

[0014] Referring to Figs. 4 and 5, a storing apparatus according to a second embodiment of the present invention is shown. The second embodiment is like the first embodiment except that each of the cases 50 is equipped with two sliding covers 62 instead of a pivotal cover 51. Each of the cases 50 includes two tracks 61 formed on

two opposite walls thereof. Each of the sliding covers 62 is engaged with both of the tracks 61 and movable in the related case 50.

[0015] Referring to Figs. 6 and 7, a storing apparatus according to a third embodiment of the present invention is shown. The third embodiment is like the first embodiment except two things. Firstly, two cells 70 are formed instead of the cases 50. The cells 70 are open on a front side. A pivotal bucket 71 is located in and connected to each of the cells 70. The pivotal bucket 71 includes two axles 72 disposed in two recesses defined in the related cell 70, thus connecting the pivotal bucket 71 to the related cell 70. The pivotal bucket 71 may include two bosses disposed in two arched grooves defined in the related cells 70, thus avoiding excessive pivoting thereof from the related cell 70. Secondly, the handle 40 is not located between the cells 70.

[0016] Referring to Fig. 8, there is shown a storing apparatus according to a fourth embodiment of the present invention. The fourth embodiment is like the third embodiment except of two drawers 81 instead of the pivotal buckets 71. The drawers 81 are movable into the cells 70. Each of the drawers 81 is formed with a handle 82 operable to move the drawer 81.

[0017] It should be noted that the pivotal covers 51, the sliding covers 62, the pivotal buckets 71 or drawers 81 can be omitted without jeopardizing the function of the cases 50 or 70.

[0018] The present invention has been described via the detailed illustration of the embodiments. Those skilled in the art can derive variations from the embodiments without departing from the scope of the present invention. Therefore, the embodiments shall not limit the scope of the present invention defined in the claims.

Claims

1. A storing apparatus comprising:

an attaching portion formed thereon for attaching the storage apparatus to a drawer of a tool cart;
a handle formed thereon and operable for moving the drawer; and
at least one storing portion formed thereon for storing stuff.

2. The storing apparatus according to claim 1 comprising at least one cover for covering the storing portion.

3. The storing apparatus according to claim 2 comprising a pin, wherein the storing portion comprises a tube formed thereon, and the cover comprises two tubes between which the tube of the storing portion is located, and the pin is inserted in the tubes to pivotally connect the cover to the storing portion.

4. The storing apparatus according to claim 3, wherein the cover comprises a rib in contact with the storing portion for keeping the cover on the storing portion.

5. The storing apparatus according to claim 1 comprising two sliding covers for covering the storing portion, wherein the storing portion comprises two tracks in sliding engagement with the sliding covers.

6. The storing apparatus according to claim 1, wherein the storing portion is a case which is open on an upper side.

7. The storing apparatus according to claim 1, wherein the storing portion is a cell which is open on a front side.

8. The storing apparatus according to claim 7 comprising a bucket pivotally connected to the cell.

9. The storing apparatus according to claim 7 comprising a drawer movably connected to the cell.

10. The storing apparatus according to claim 1, wherein the attaching portion is a curved edge for engagement with a bent edge of the drawer.

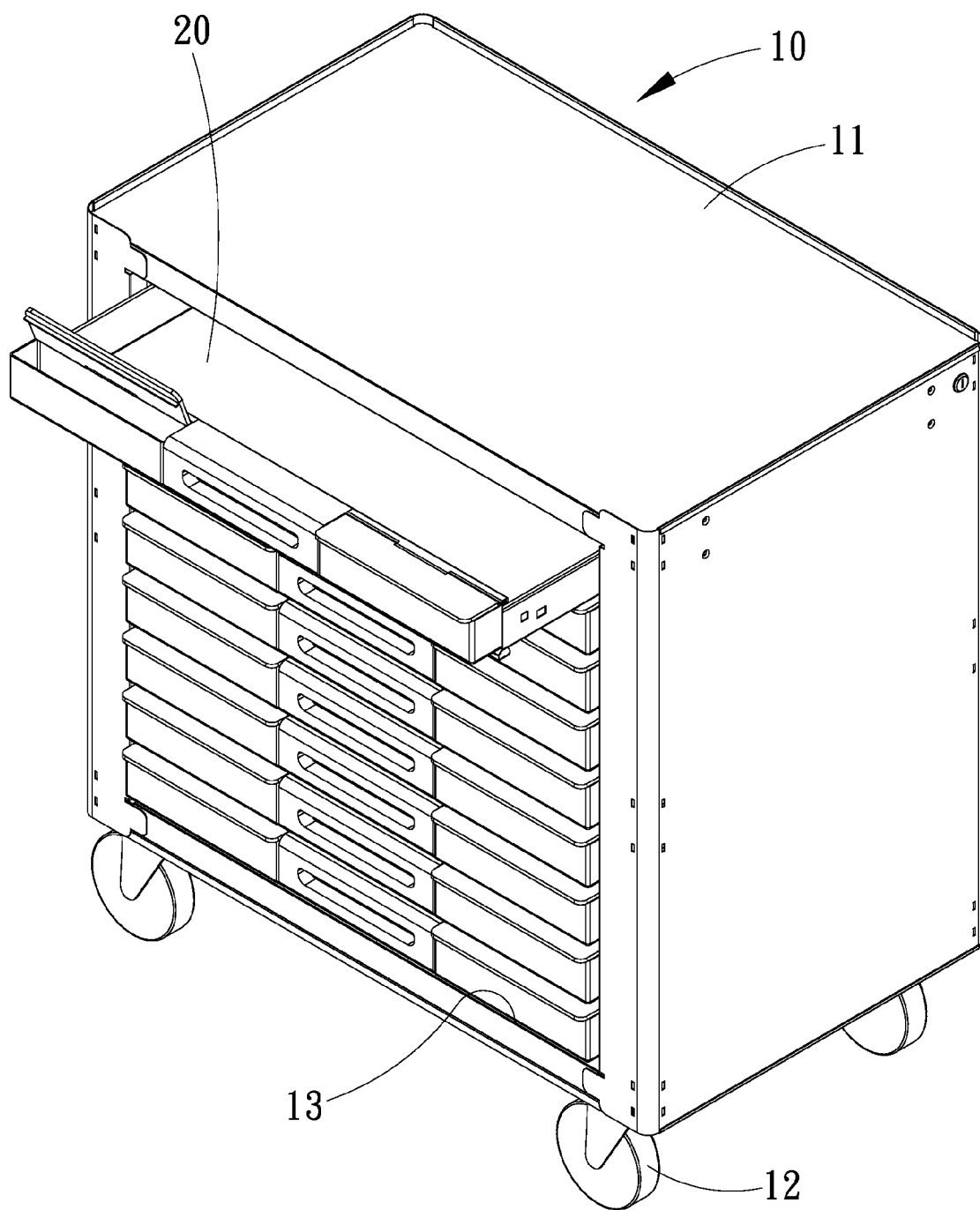


FIG. 1

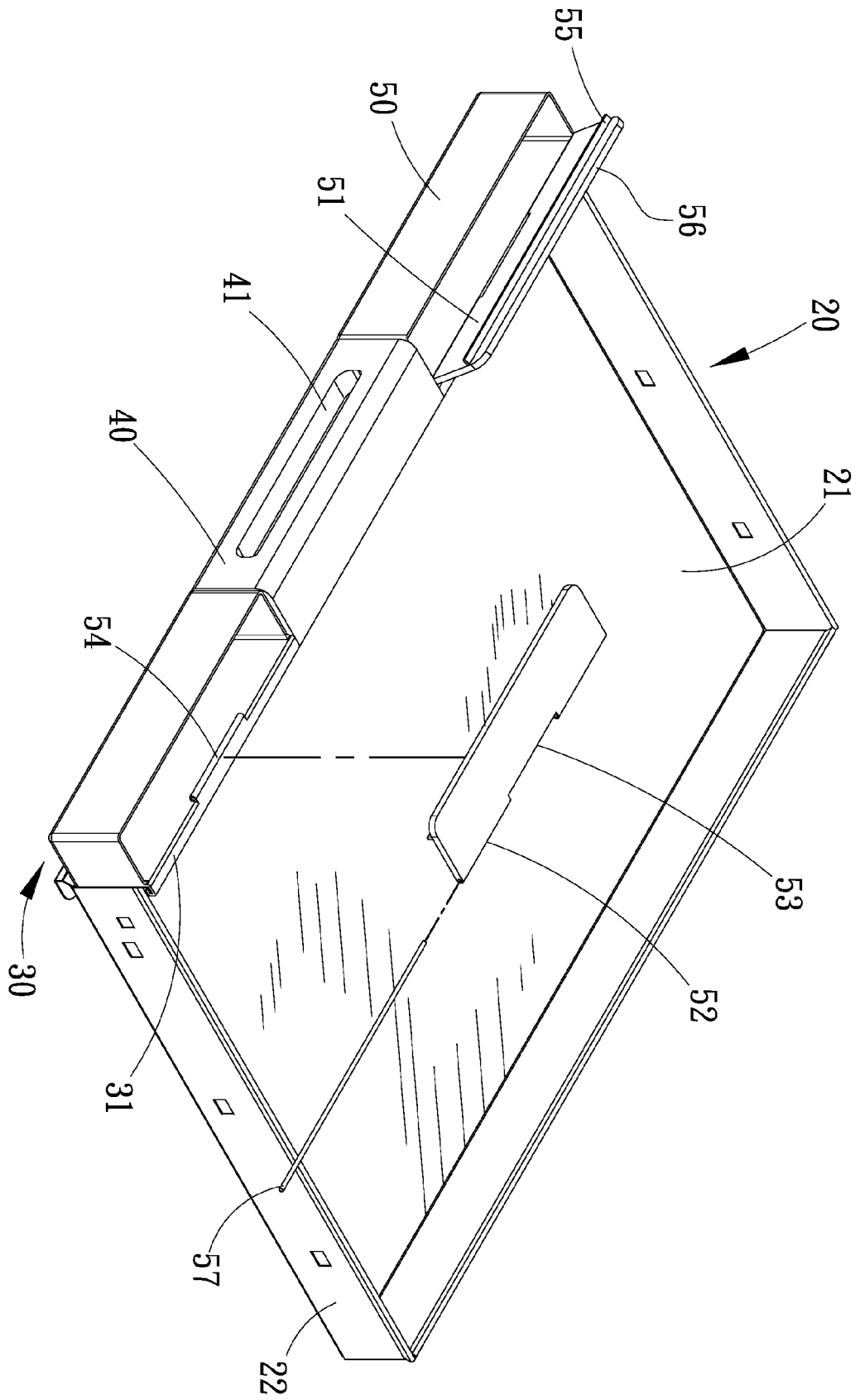


FIG. 2

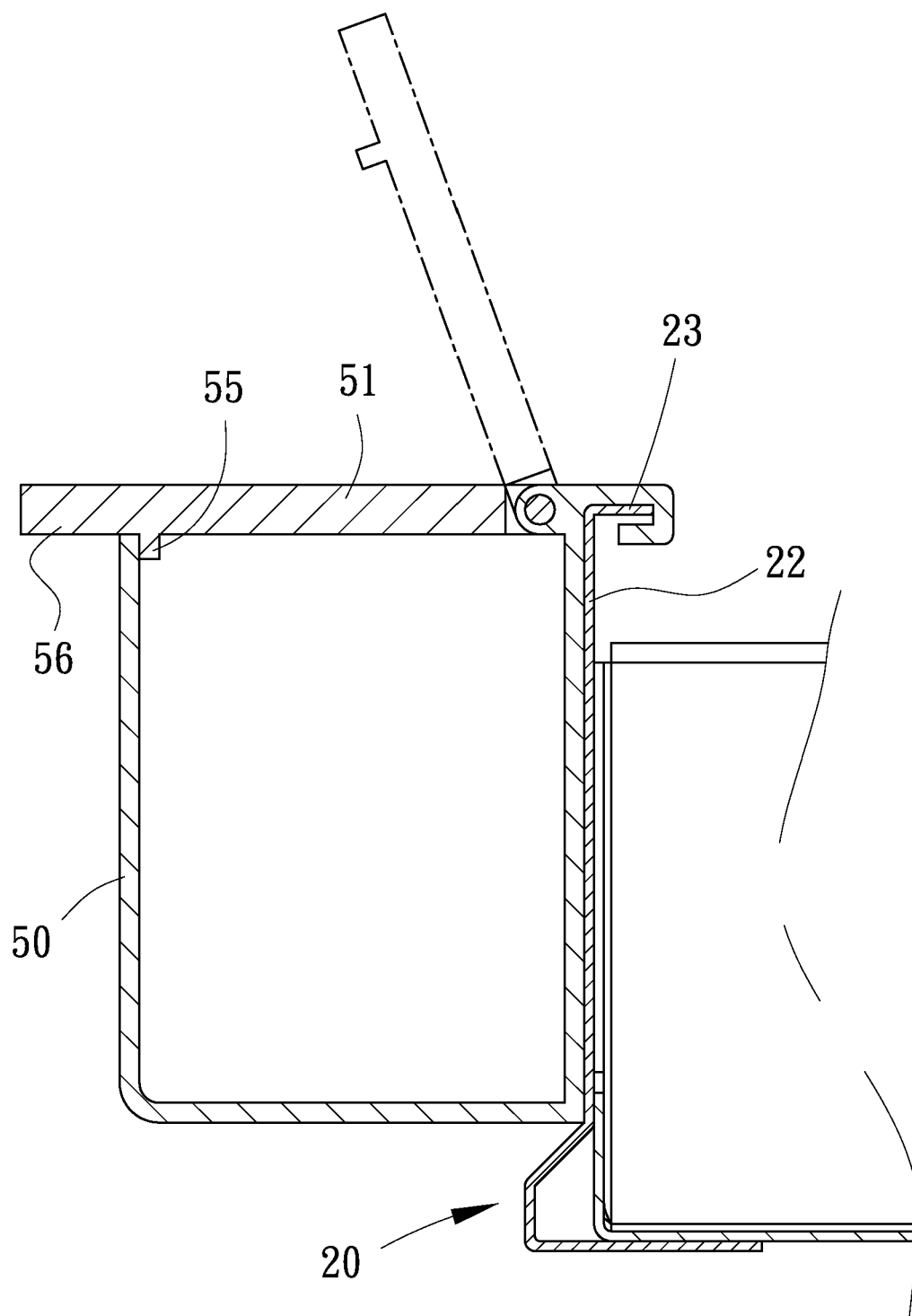


FIG. 3

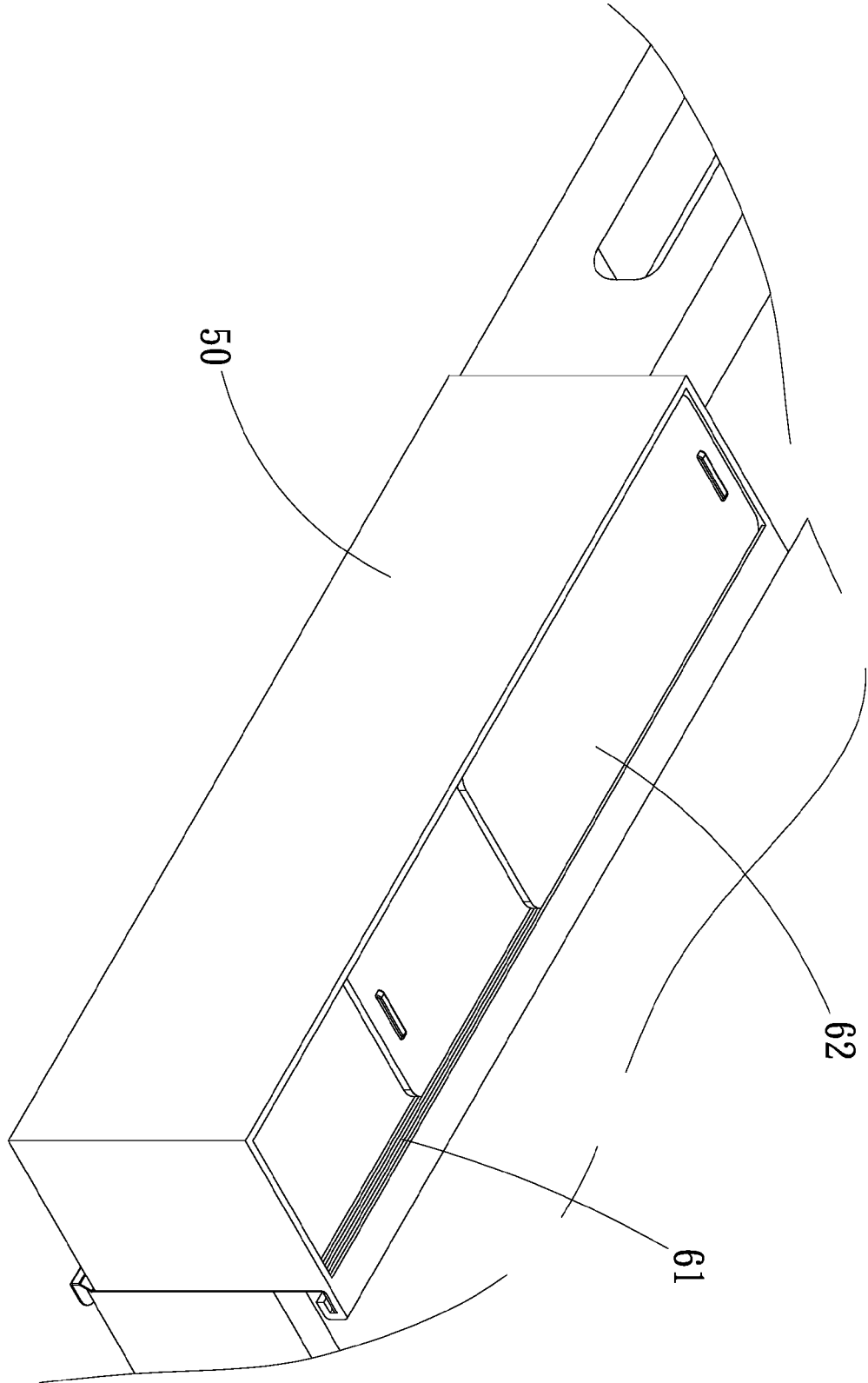


FIG. 4

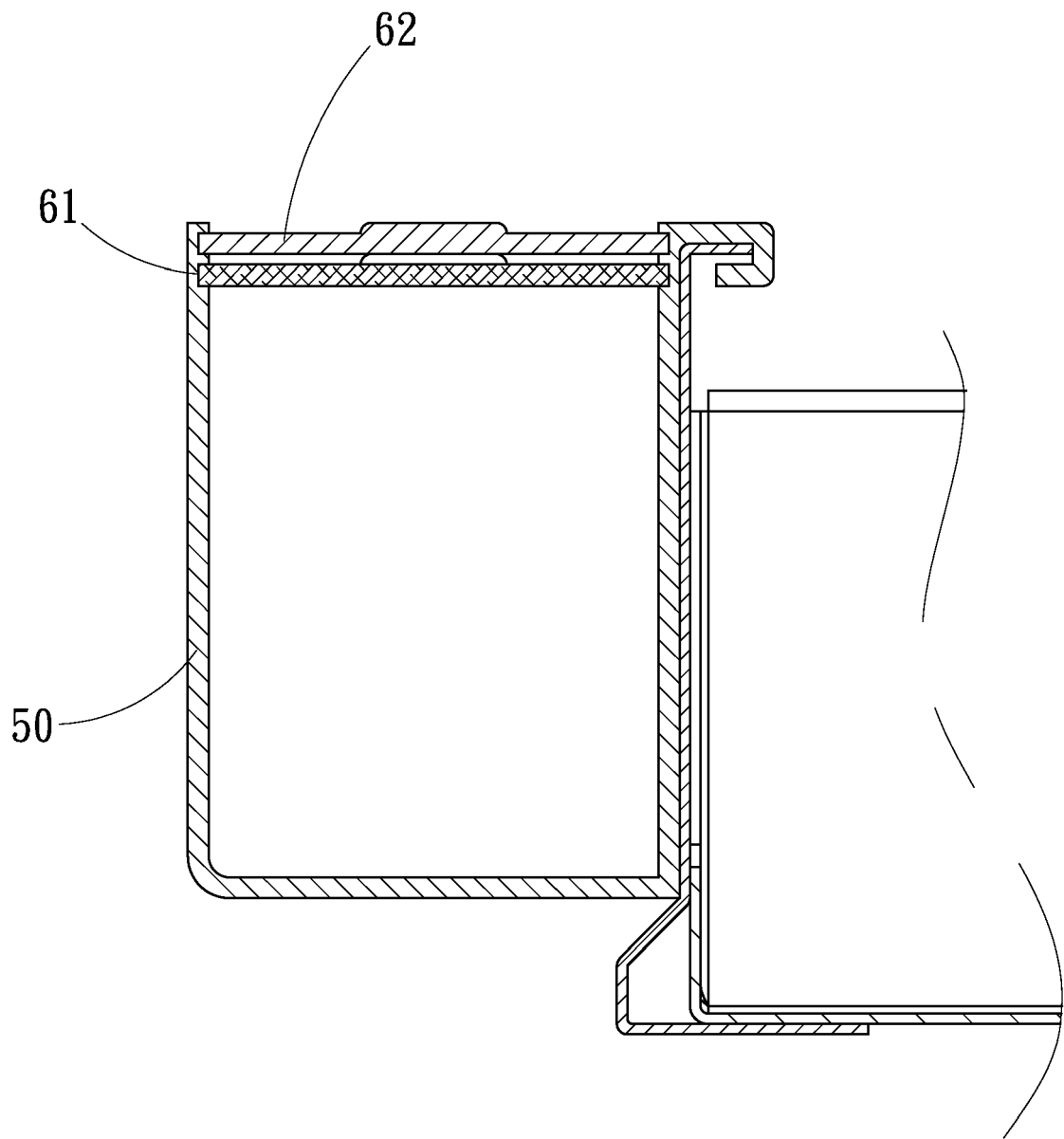


FIG. 5

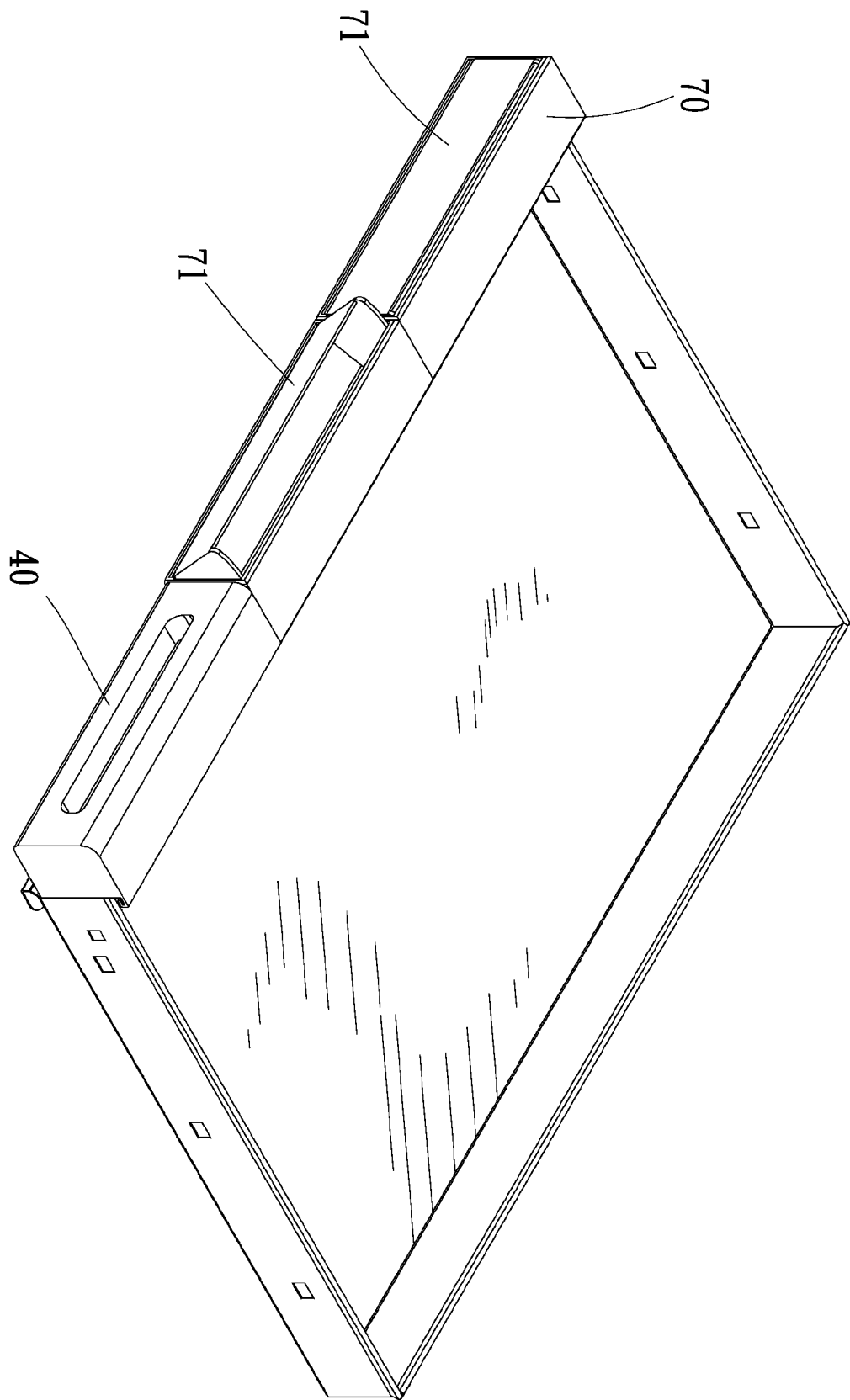


FIG. 6

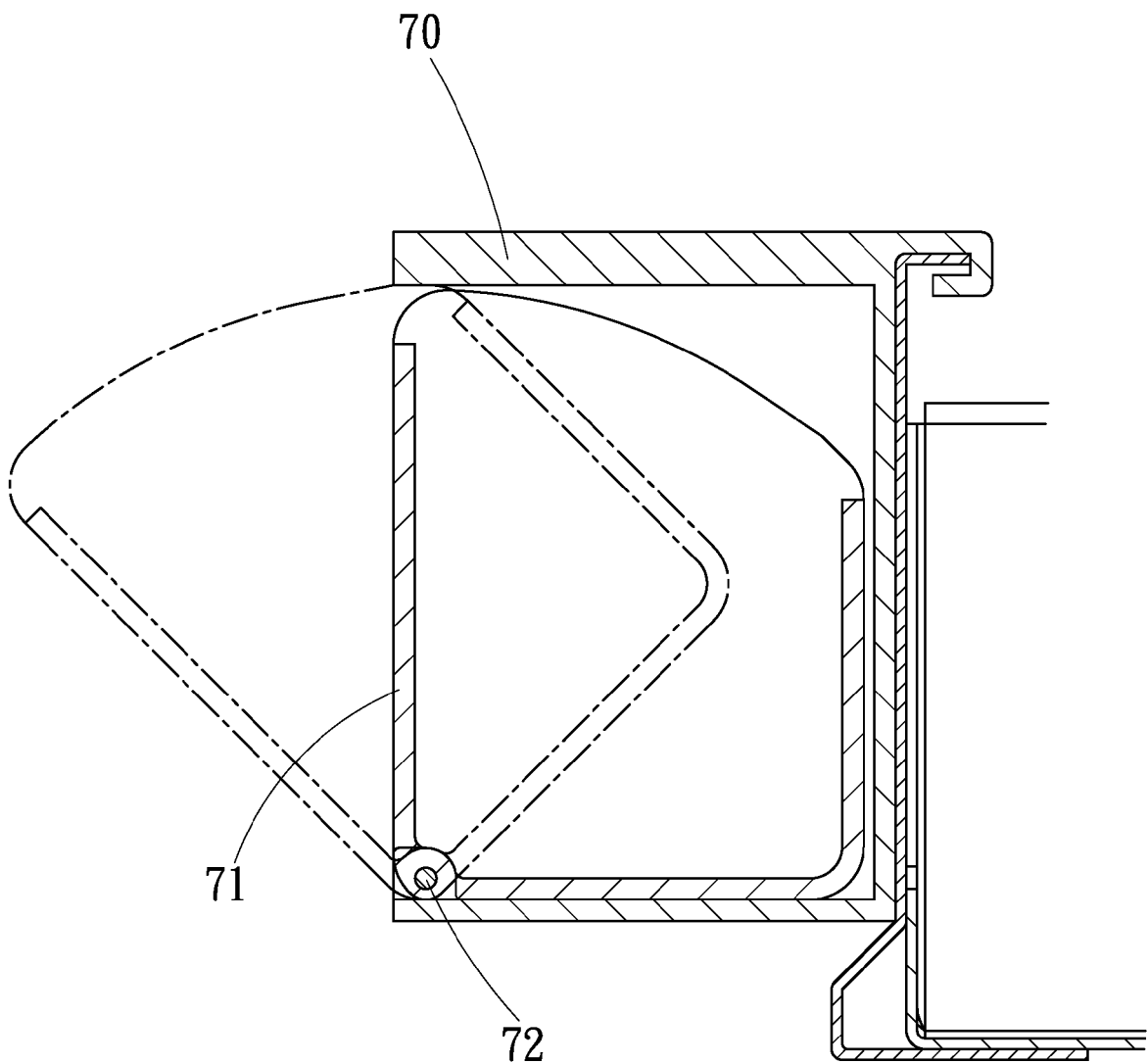


FIG. 7

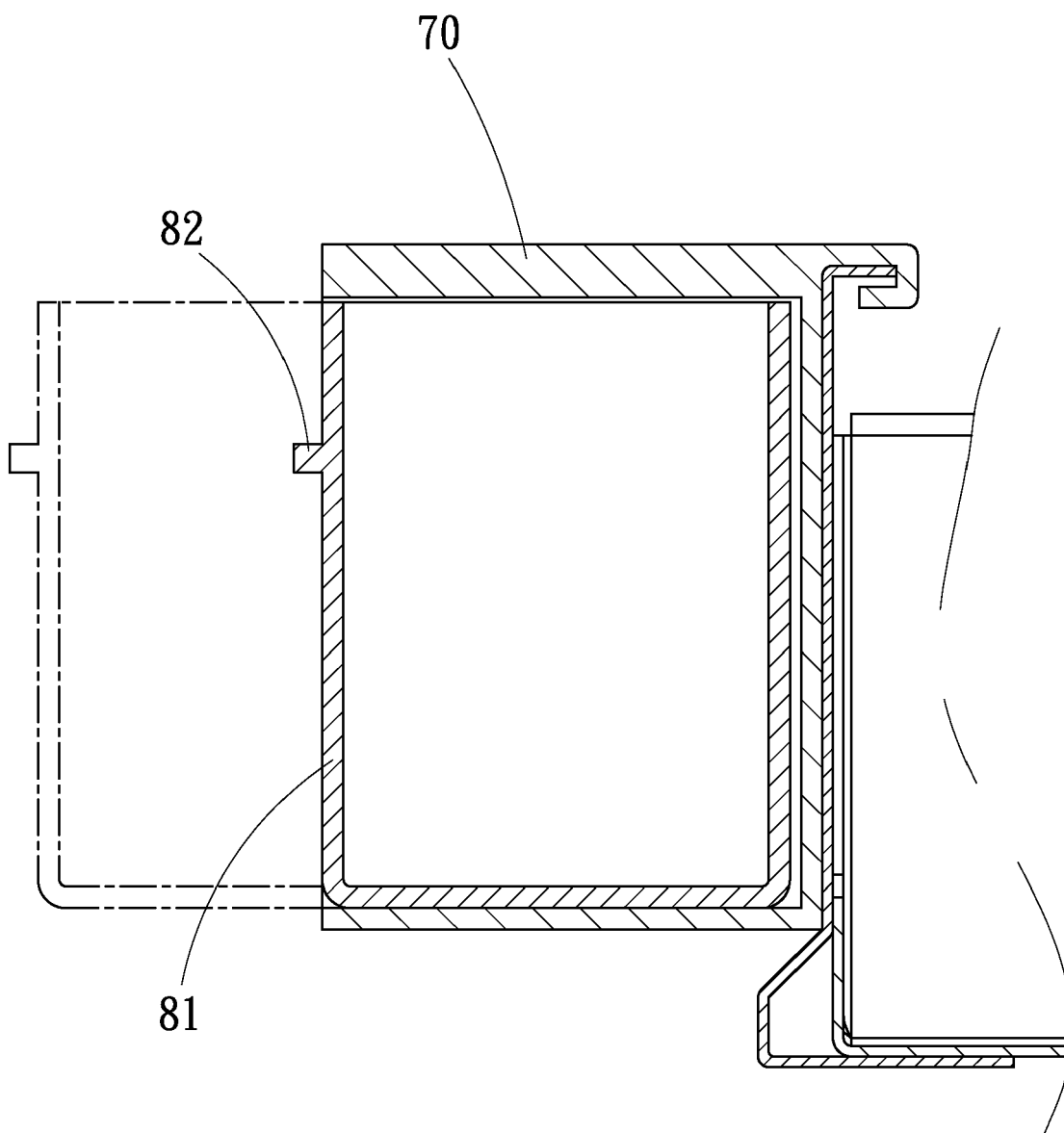


FIG. 8



EUROPEAN SEARCH REPORT

Application Number
EP 09 17 2900

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 5 878 882 A (KOHAGURA RONALD S [US]) 9 March 1999 (1999-03-09) * abstract; figures 2,3 *	1-4,6-7,9	INV. B25H3/02
X	US 6 209 977 B1 (VONDREJS FRANK [CA]) 3 April 2001 (2001-04-03) * figure 2 *	1-2,4,6,9	
X	EP 0 482 337 A1 (BERNER ALBERT GMBH CO KG [DE]) 29 April 1992 (1992-04-29) * column 5, line 54 - column 6, line 3; figures 1,6,7 *	1-3,7,9	
X	DE 92 06 749 U1 (CHIANG CHING-AN) 6 August 1992 (1992-08-06) * figures *	1-3,7,9	
A	US 5 799 958 A (BISHOP RYAN S [CA]) 1 September 1998 (1998-09-01) * figure 6 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			B25H
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 23 March 2010	Examiner Popma, Ronald
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			

2

EPO FORM 1503 03.82 (P4/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 17 2900

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

23-03-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5878882	A	09-03-1999	NONE
US 6209977	B1	03-04-2001	CA 2274028 A1 04-12-2000
EP 0482337	A1	29-04-1992	AT 160681 T 15-12-1997 DE 9014795 U1 17-01-1991
DE 9206749	U1	06-08-1992	NONE
US 5799958	A	01-09-1998	NONE