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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 :		(11) International Publication Number: WO 92/20259
A47B 77/18, 96/18	A1	(43) International Publication Date: 26 November 1992 (26.11.92)

(21) International Application Number: PCT/SE92/00309

(22) International Filing Date: 13 May 1992 (13.05.92)

(30) Priority data:
9101510-7 17 May 1991 (17.05.91) SE

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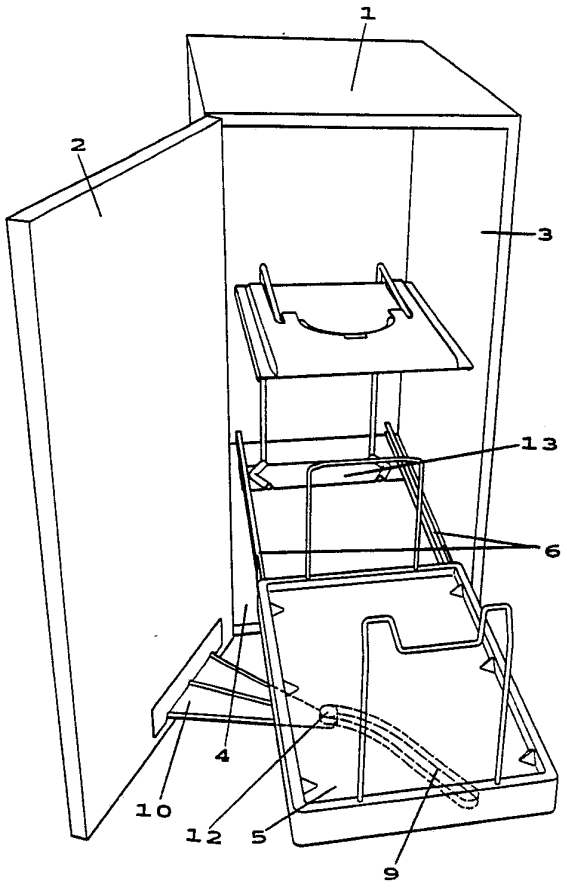
(81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CI (OAPI patent), CM (OAPI patent), DE, DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (European patent), GN (OAPI patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC (European patent), MG, ML (OAPI patent), MR (OAPI patent), MW, NL, NL (European patent), NO, PL, RO, RU, SD, SE, SE (European patent), SN (OAPI patent), TD (OAPI patent), TG (OAPI patent), US.

Published
With international search report.

(54) Title: CABINET EQUIPMENT FOR A KITCHEN CABINET OR THE LIKE

(57) Abstract

Cabinet equipment including a door (2), sidewalls (3) and a bottom (4). An extension module (5) placed inside the cabinet moves automatically out or in on opening or closing of the door (2). The equipment comprises two sliding ledges or rails (6) mounted on the bottom (4), parallelly to each other. The extension module (5) housing e.g. a refuse bucket is supported by the ledges (6) through cylinder bearings or runners (8), inserted into the ledges (6) and fixed along the two longitudinal side edges of the extension module (5). The underside of the extension module (5) has a curve shaped groove (9) and the innerside of the door (2) fittings (10) with an arm with an upwards directed pin (12) running in the groove (9). The placing and curve shape of the groove (9) provides a co-operation with the pin (12) whereby the extension module (5) automatically runs in the ledges (6) on opening or closing of the door (2).



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CABINET EQUIPMENT FOR A KITCHEN CABINET OR THE LIKE

The present invention relates to a cabinet equipment for a kitchen cabinet or the like, which cabinet includes a door, side walls and a bottom wall and/or a fixed shelf, whereby an extension module or the like placed inside the cabinet is automatically moved out of respectively into the cabinet when the door is opened and closed respectively.

It is known before to place extensible shelves and drawers in kitchen cabinets and kitchen sink cabinets for instance. Then the shelves and the drawers are usually hung up in sliding ledges and they must be manually pushed into respectively pulled out of the cabinet. There is a need to be able to handle the shelves and the drawers respectively automatically.

According to the present invention it has been possible to meet this need and bring about a cabinet equipment for a kitchen cabinet or the like, which cabinet comprises a door, side walls and a bottom wall and/or a fixed shelf, whereby an extension module or the like placed inside the cabinet is automatically moved out of respectively into the cabinet when the door is opened and closed respectively.

The cabinet euipment comprises two sliding ledges or sliding rails mounted on the bottom wall or on the fixed shelf in the cabinet, parallelly to each other and preferably parallelly to the side walls of the cabinet.

The extension module which is intended to house a refuse bucket or the like is supported by the sliding ledges by means of cylinder bearings, runners or the like inserted into the sliding ledges and fixed along the two longitudinal side edges of the extension module. The lower side of the extension module is provided with a curve shaped groove.

The inner side of the door has got fittings with an arm furnished with an upwards directed pin intended to run in the groove. Preferably the arm is horizontal. The placing and the curve form of the groove is such that a co-operation is obtained with the pin of the fittings, whereby the extension module will automatically run in the sliding ledges when the door of the cabinet is opened or closed.

Advantageously the cabinet equipment can be used in a kitchen sink cabinet, but of course it can also be used for other cabinets. In a kitchen sink cabinet the extension module can for instance be used for carrying two or more refuse containers intended for waste separation of refuse.

Preferably, the groove on the under side of the extension module has got one circular part and one straight part. It is very suitable that the groove has such a form that the extension module will run straightly out of and into the cabinet. In this way the whole depth of the cabinet can be used in a rational way. Then the length of the extension module can be about the same as the internal length of the cabinet.

The cylinder bearings, the runners or the like can be placed on the under side of the extension module along the two longitudinal side edges thereof. Thereby the cylinder bearings etc can be hidden by the extension module for instance if the latter has the form o a non open-work tray. This placing is preferable from a hygienic viewpoint.

According to an alternative embodiment of the invention the upwards directed pin on the fittings on the door can work as an axle for a cylinder bearing, a wheel etc which per se is

intended to run in the groove at the under side of the extension module.

The two sliding ledges or sliding rails can be connected with each other by means of at least one bar or the like. In this way the construction will be somewhat more solid than if separate sliding ledges are used. However, the greatest advantage is that the risk of mounting the sliding ledges in the cabinet at a wrong distance between them is eliminated.

The invention will be explained further in connection with the enclosed figures which illustrate two different embodiments of the invention. Fig. 1 then shows a perspective view of the inner side of a cabinet 1 including a door 2, side walls 3 and a bottom wall 4. An extension module 5 is placed inside the cabinet. The module 5 is automatically moved out of respectively into the cabinet when the door 2 is opened and closed respectively. Two sliding ledges 6 are mounted on the bottom 4 of the cabinet. The ledges are mounted parallelly to each other and parallelly to the side walls 3 of the cabinet. The extension module 5 which is intended to house a refuse bucket or the like is supported by the sliding ledges 6 by means of runners 8 (fig 2) inserted into the sliding ledges 6 and fixed under the extension module 5 along the two longitudinal side edges thereof. The under side of the extension module 5 is provided with a curve shaped groove 9 (fig 2). The inner side of the door is provided with fittings 10 with a horizontal plate shaped arm furnished with an upwards directed pin 12 (fig 3) intended to run in the groove 9. The placing and the curve shape of the groove 9 are such that a good co-operation is obtained with the pin 12 of the fittings 10. At one end the groove 9 has got one part shaped as an arc of a circle while the rest is straight. The extension module 5 will automatically run

without any problems in the sliding ledges 6 when the door of the cabinet is opened or closed. The module 5 will move parallelly to the side walls of the cabinet and in such a way that it will not touch the door 2 or the side walls 3 at any part of its movement.

Fig 2 shows in perspective from below the same cabinet as according to fig 1 with belonging extension module 5, curve shaped groove 9, runners 8 and fittings 10.

Fig 3 shows in perspective from below another embodiment of a cabinet equipment according to the invention. This embodiment differs only in details from the embodiment disclosed first above. Thus, now the fittings 10 comprises two thread shaped arms instead of one plate shaped arm. It is shown on the figure that the fittings 10 have been provided with an upwards directed pin 12, which carries a wheel 14 running in the groove 9. The under side of the extension module is furnished with a detachable plate having two grooves 9. Thereby, the extension module will fit left-hand as well as right-hand doors. Then it is only necessary to turn the plate back to front to be able to use the other groove. The two sliding ledges 6 are connected with each other by means of two bars 13.

The invention is not limited to the embodiments shown since these can be modified in different ways within the scope of the invention.

CLAIMS

1. Cabinet equipment for a kitchen cabinet (1) or the like, which cabinet includes a door (2), side walls (3) and a bottom wall and/or a fixed shelf (4), whereby an extension module or the like (5) placed inside the cabinet is automatically moved out of respectively into the cabinet (1) when the door (2) is opened and closed respectively, which comprises two sliding ledges or sliding rails (6) mounted on the bottom wall or on the fixed shelf (4) in the cabinet (1), parallelly to each other and preferably parallelly to the side walls (3) of the cabinet, the extension module (5) which is intended to house a refuse bucket or the like being supported by the sliding ledges (6) by means of cylinder bearings, runners or the like (8), inserted into the sliding ledges (6) and fixed along the two longitudinal side edges of the extension module (5), the under side of the extension module (5) being provided with a curve shaped groove (9), the inner side of the door (2) having fittings (10) with an arm furnished with an upwards directed pin (12), intended to run in the groove (9), the placing and the curve shape of the groove (9) being such that a co-operation is obtained with the pin (12) of the fitting (10) whereby the extension module (5) will run automatically in the sliding ledges (6) when the door of the cabinet is opened or closed.

2. Cabinet equipment according to claim 1, wherein the extension module (5) carries two or more refuse containers intended for source sorting of refuse.

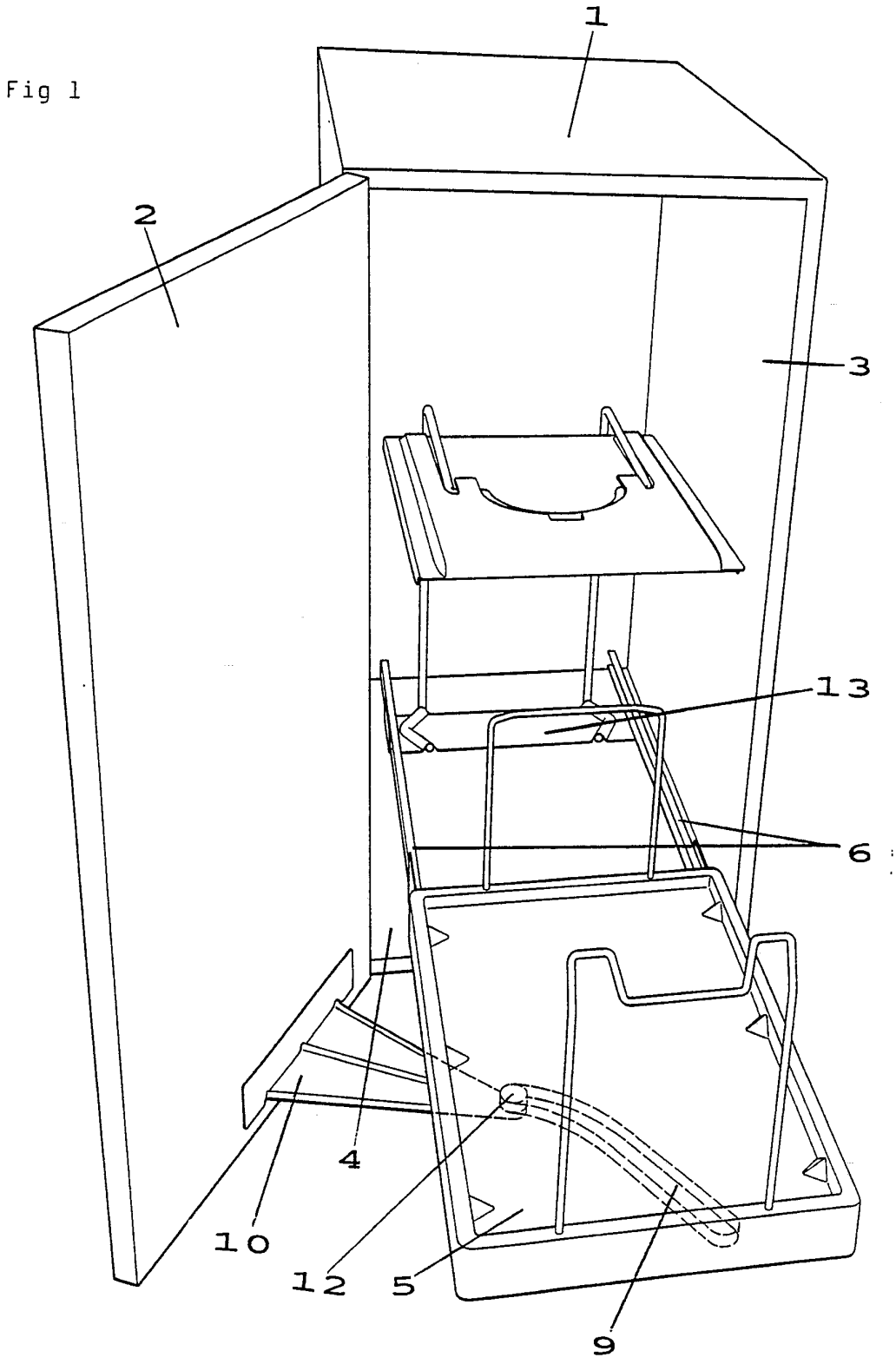
3. Cabinet equipment according to claim 1 or 2 wherein the groove (9) has got one circular part and one straight part.

4. Cabinet equipment according to any one of claims 1-3, wherein the cylinder bearings, the runners or the like (8) are placed on the under side of the extension module (5) along the two longitudinal side edges thereof.

5. Cabinet equipment according to any one of claims 1-4, wherein the upwards directed pin (12) works as an axle for a cylinder bearing or a wheel (14) which per se is intended to run in the groove (9).

6. Cabinet equipment according to any one of claims 1-5, wherein the two sliding ledges or sliding rails (6) are connected with each other by means of at least one bar or the like (13).

Fig 1



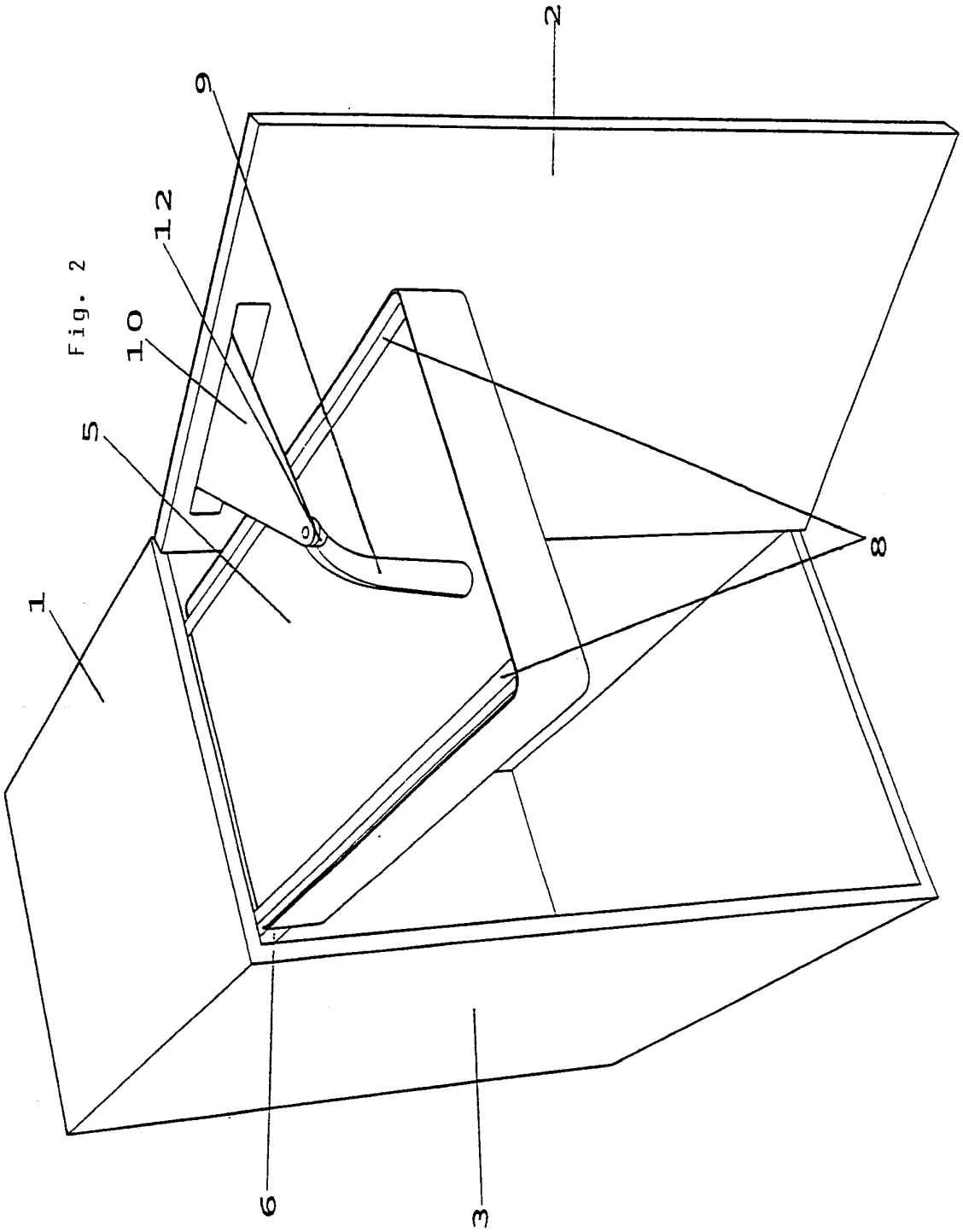
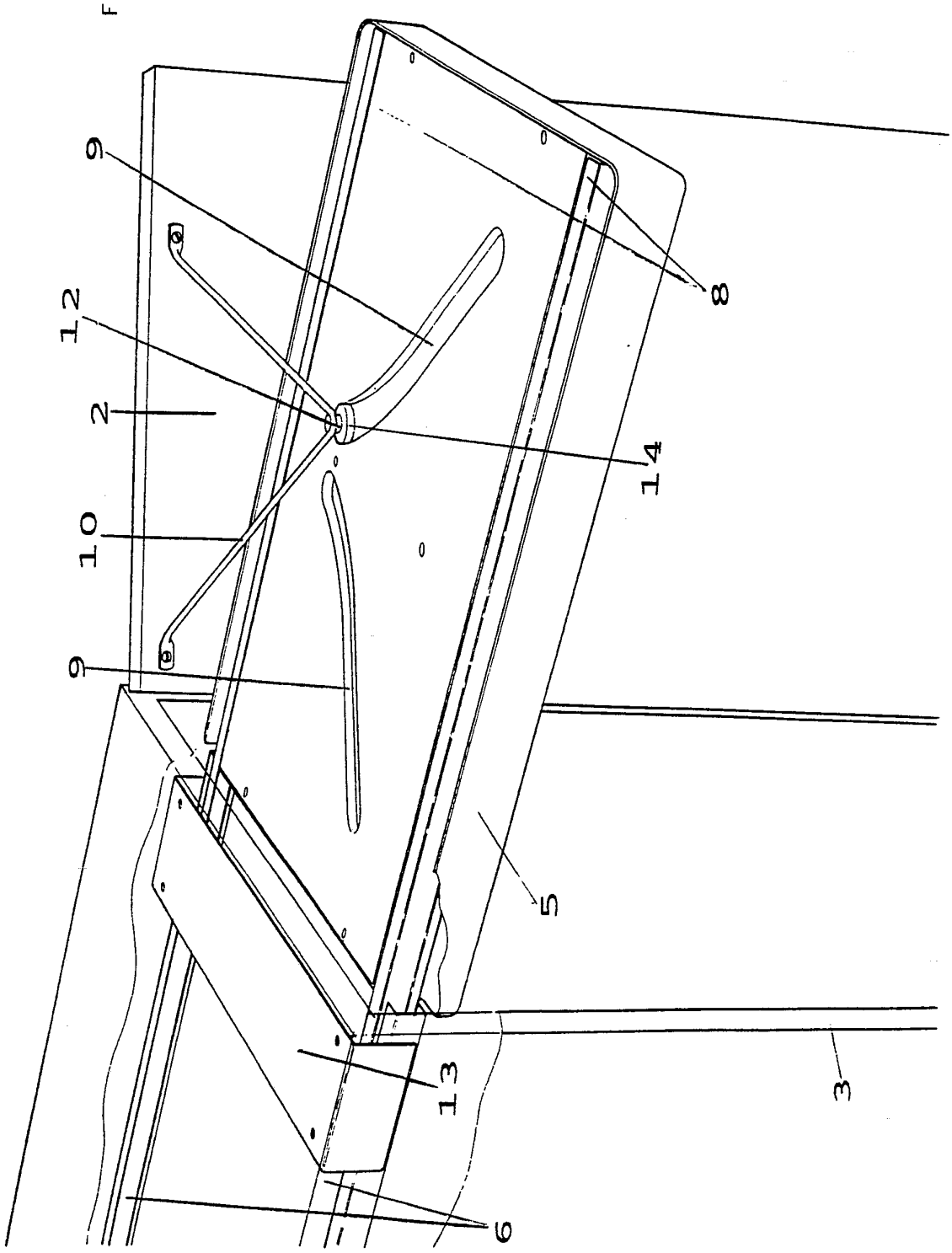


Fig. 2

Fig. 3



INTERNATIONAL SEARCH REPORT

International Application No PCT/SE 92/00309

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)[6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC5: A 47 B 77/18, 96/18

II. FIELDS SEARCHED

Minimum Documentation Searched[7]

Classification System	Classification Symbols
IPC5	A 47 B; B 65 F

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched[8]

SE,DK,FI,NO classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT[9]

Category *	Citation of Document,[11] with indication, where appropriate, of the relevant passages[12]	Relevant to Claim No.[13]
A	FR, A, 1199658 (ROBERT BOURBON ET AL) 15 December 1959, see the whole document --	1-6
A	GB, A, 763253 (ROBERT EDWARD WILLIAM POND) 12 December 1956, see the whole document --	1-6

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IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
20th August 1992	1992 -08- 21
International Searching Authority	**Signature of Authorized Officer**
SWEDISH PATENT OFFICE	Nils Ekström / Leif Vingård

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL PATENT APPLICATION NO. PCT/SE 92/00309

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the Swedish Patent Office EDP file on 01/07/92
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR-A- 1199658	59-12-15	NONE	
GB-A- 763253	56-12-12	NONE	