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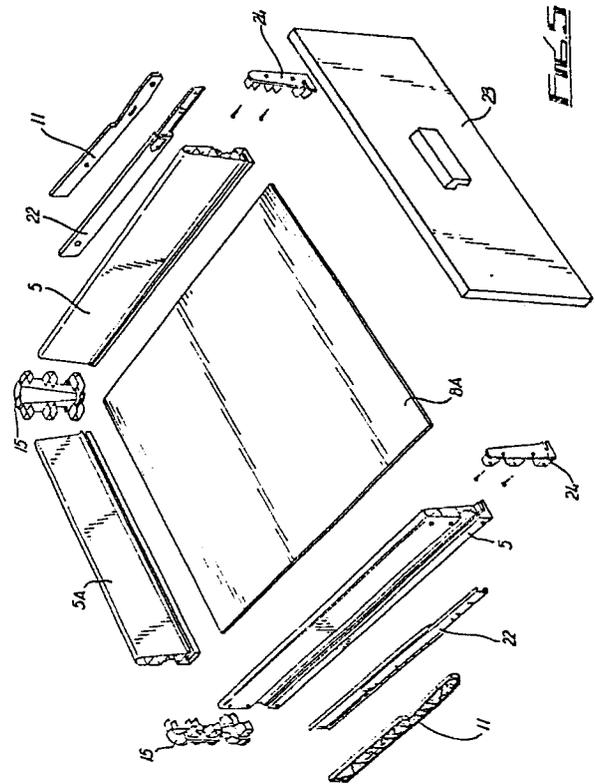
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54 **Drawers and drawer components.**

57 A drawer assembly comprising a drawer adapted to be mounted on roller runner assemblies (22) or on fixed runners (11), the drawer comprising separate back (5A) and side members (5) interconnected by corner pieces (15) at the rear corners of the drawer, said corner pieces incorporating stop members co-operable with projections on said fixed runners to limit outward movement of the drawer on the runners during normal operation, and the drawer side panels incorporating longitudinal channels or recesses adapted to receive either of said forms of runner and so constructed that the stop members on the corner connectors do not interfere with operation of the roller runner assemblies when the drawer is fitted therewith.



**EP 0 289 256 A1**

## Drawers and Drawer Components

This invention relates to drawers and drawer components.

It is desirable that drawers should be provided with some means preventing complete removal of the drawer from the cabinet or the like in which it is mounted during normal opening and closing movement. Inadvertent complete withdrawal of the drawer from the cabinet can cause injury to the user, particularly where the drawer may be heavily loaded, and damage to the drawer itself. At the same time some means must necessarily be provided to enable removal of the drawer from the cabinet when this is desired.

It has previously been proposed to provide stop members at the rear corners of a drawer engageable with abutments towards the forward end of the runners on which the drawer is mounted, in order to limit opening movement of the drawer during normal use. Such arrangements operate satisfactorily but problems arise in relation to drawers which are designed to receive alternative types of running gear. Drawers adapted to be mounted on roller runner assemblies which incorporate their own internal stop mechanisms do not require a separate stop member at the rear corner of the drawer. Consequently provision has to be made for the stop member to be removable. This means it is a separate component which is not only liable to become detached and lost but, when not fitted, leaves an unsightly aperture in the drawer which is undesirable. There is therefore a need to provide a means whereby a drawer may be adapted to be mounted on different types of running gear and may incorporate appropriate stop members to limit outward movement of the drawer regardless of the type of running gear employed, without requiring the use of separate components and without impairing the visual appearance of the drawer when the stop member is not employed. It is an object of the present invention to provide a means whereby the above problems may be obviated or mitigated.

According to one aspect of the present invention there is provided a drawer assembly comprising a drawer adapted to be mounted on roller runner assemblies or on fixed runners, the drawer comprising separate back and side members interconnected by corner pieces at the rear corners of the drawer, said corner pieces incorporating stop members co-operable with projections on said fixed runners to limit outward movement of the drawer on the runners during normal operation, and the drawer side panels incorporating longitudinal channels or recesses adapted to receive either of said forms of runner and so constructed that the

stop members on the corner connectors do not interfere with operation of the roller runner assemblies when the drawer is fitted therewith.

Preferably said channels or recesses in the drawer side walls are of stepped form comprising an outer recess adapted to receive said roller runner assemblies and the main portion of said fixed runners and an inner recess along which the projections on said fixed runners travel during opening and closing movement of the drawer, the stop members on said corner connectors projecting across said inner but not said outer recesses.

Preferably each corner connector comprises a body portion defining a corner post and spigot members projecting therefrom in two directions at right angles, said spigot members being adapted for engagement in apertures in the ends of the back and side wall panels of the drawer, said body member being cut away at a level corresponding to that of said recesses in the drawer side walls to the extent of said outer recess but not to the extent of said inner recess whereby to form an abutment portion on the body member which constitutes the stop member engageable with the projection on the associated fixed runner.

Preferably said body member closes a portion only of said inner recess whereby by manipulation of the drawer the corner connectors may be withdrawn past the projections on said fixed runners when it is desired to withdraw the drawer from the cabinet or the like in which it is mounted in use.

The invention also provides a kit of parts for use in constructing a drawer system comprising a plurality of wall panels adapted to form the side walls of a drawer and provided with longitudinally extending tracks or channels of stepped form defining an outer channel adapted to receive a roller runner assembly or a fixed runner and an inner channel along which a projection carried by said fixed runner may traverse during sliding movement of the drawer on the runners, corner connectors adapted for engagement with said side wall panels and with the drawer back to connect same together at right angles to one another, said corner connectors being provided with recessed portions aligned with said channels in the side wall panels, abutment portions of said corner connectors projecting across the inner portions but not the outer portions of said recesses whereby to form stop members adapted to interfere with the projections on said fixed runners to define an outward limit of drawer movement on the associated runners, and either a set of roller runners or a set of fixed runners adapted to be mounted in said recesses in the drawer side panels.

Preferably said corners connectors are provided with two of said cut-away portions in positions at right angles to one another, both provided with said abutment portions whereby the same corner connector may be used at either rear corner of the drawer.

An embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view of a drawer wall panel;

Fig. 2 is a perspective view of a corner connector for use in connecting panels of the kind shown in Fig. 1 at right angles to one another to form a drawer back and side;

Fig. 3 is a perspective view of a drawer runner;

Fig. 4 is a similar view of a roller runner assembly; and

Fig. 5 is a perspective view of a drawer assembly incorporating wall panels according to claim 1.

Referring to the drawings, the drawer wall panel comprises an extruded plastic panel 5 of hollow section having an upper wall portion 6 and a lower portion incorporating a longitudinally extending track or channel 7 in its outer face and a longitudinally extending slot 8 in its inner face. The panel is cut to an appropriate length to form a drawer side or back wall and apertures 9 are punched adjacent each end of the panel for co-operation with detents on front and rear connecting pieces as hereinafter described. The inwardly directed slot 8 is adapted to receive the edge of a drawer bottom shown at 8A in Fig. 5.

The outwardly directed channel 7 comprises an outer recess 10A and an inner recess 10B of lesser height than the recess 10A. The recess 10A is adapted to receive either a roller runner assembly shown at 22 in Fig. 4 which fits wholly within recess 10A and does not project into recess 10B, or a fixed runner shown at 11 in Fig. 3 which incorporates a body portion 11A adapted to locate in the outer recess 10A and an inwardly directed projection 11B which extends into the recess 10B when the drawer is mounted on the runner. As the drawer is moved between open and closed positions the projection 11B traverses along the recess 10B from a position at the forward end of the recess to a position adjacent the rear end when the drawer is in its outermost or fully opened position. The runner 11 is provided with apertures 12 by means of which it may be secured to the side of a cabinet or other housing in which the drawer is mounted in use by screws or the like (not shown).

The drawer panel 5 is connected to an identical drawer panel forming the drawer back, shown at 5A in Fig. 5, by means of a corner connector shown at

15. The corner connector is shown in greater detail in Fig. 2 and comprises a body portion 16 defining a corner post and spigot portions 17 projecting therefrom in two directions at right angles to one another and adapted to engage in the open ends of the wall panels 5. Detents 18 on the spigots engage in the apertures 9 in the wall panels to secure same together at right angles to form the drawer back and side. A similar corner connector is employed at the other end of the drawer back panel to interconnect same to the other side of the drawer. The drawer is completed by a fascia panel of different construction shown at 23 in Fig. 5 and secured to the front ends of the two side walls by means of fascia connectors 24 adapted to engage within the front ends of the side wall panels and to be secured to the fascia panel.

Towards the lower end of the corner connector the body portion 16 is cut away to form a recess 19 which corresponds in shape to the cross-section of the channel 7 in the drawer side wall save that a shelf portion 20 of the corner connector projects across the lower portion of the recess 19 to form abutment members 21 disposed at right angles to one another and projecting across the lower portion of the inner recess 10B of the channel 7 in the drawer. The abutment portions 21 do not project into the outer recess 10A of channel 7. The projection 11B on the runner 11 is located such that it runs in the lower portion of the inner recess 10B of the drawer side wall and hence when the drawer is drawn fully forward to its open position the abutment 21 projecting across the channel 7 in the side wall contacts the projection 11B on the runner and prevents further outward movement of the drawer. At this corner of the drawer the other abutment 21 serves no useful purpose but enables the same corner piece to be used at the other corner of a drawer in which event this abutment co-operates with the runner at that side of the drawer and the other abutments serves no purpose. In this way the same corner connector can be employed at either corner of a drawer.

Thus in use the drawer is assembled by inter-connecting the back and side walls using corner connectors of the kind shown in Fig. 2 and attaching the drawer fascia using the fascia connectors referred to previously. During assembly the drawer floor is engaged in the recesses 8 in the back and side wall panels and in a similar recess formed in the fascia. The drawer may then be mounted either on roller runner assemblies of the kind shown in Fig. 4 which incorporate their own stop members or on fixed runners of the kind shown in Fig. 3. Where roller runner assemblies are fitted these locate wholly within the outer recesses 10A of the channels 7 and do not project into the channels 10B. The rear corners of the drawer may therefore

be drawn forwardly of the roller runner mechanisms without interfering with them. Complete withdrawal of the drawer from the cabinet during normal use is prevented by stop members incorporated within the roller runner assemblies themselves.

Where it is desired to mount the drawer on fixed runners of the kind shown in Fig. 3 of the drawings, these locate within the outer recesses 10A of the channels 7 but with the projections 11B projecting into the recesses 10B. When the drawer is moved to its outermost position the abutments 21 on the corner connectors 15 contact the projections 11B on the respective runners and thereby prevent complete withdrawal of the drawer from the cabinet. The construction of the corner connectors and fixed runners is such that the drawer may be disengaged from the runners and removed from the cabinet when this is desired. For this purpose the upper surfaces of the runners 11 are cut away in the regions 11C. This permits the drawer, when in its outermost position, to be tilted upwardly about the forward end of the runners, the rear ends of the channels 7 dropping into the recesses 11C. This brings the stops 11B into alignment with the portions of the recesses 19 in the corner connectors which are located above the abutments 21, thereby enabling the drawer to be drawn past the projections 11B in its tilted position and hence disengaged from the cabinet in which it is mounted. Re-engagement is effected by reversing the movement and once the drawer has been restored to a horizontal position further sliding movement is limited by engagement of the projections 11B with the abutments 21 on the corner pieces.

By virtue of the arrangement described there is provided a drawer assembly adapted to be mounted either on roller runner or fixed runner assemblies and incorporating means to limit outward movement of the drawer in normal use without requiring the provision of separate stop members and without detracting from the appearance of the drawer.

Various modifications may be made without departing from the invention. For example, the manner of construction of the wall panels, corner connectors and of the runners may be altered substantially provided the corner connectors incorporate abutment members adapted to engage with projections on the fixed runners but which do not interfere with the action of roller runner assemblies. Moreover while the corner connectors are preferably constructed so as to be non-handed and hence useable at either rear corner of a drawer, separate left and right hand connectors may be produced if desired.

Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it

should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or shown in the drawings whether or not particular emphasis has been placed thereon.

## Claims

10 1. A drawer assembly comprising a drawer adapted to be mounted on roller runner assemblies or on fixed runners, the drawer comprising separate back and side members interconnected by corner pieces at the rear corners of the drawer characterised in that, said corner pieces (15) incorporate stop members (21) co-operable with projections (11B) on said fixed runners (11) to limit outward movement of the drawer on the runners during normal operation, and in that the drawer side panels (5) incorporate longitudinal channels or recesses (7) adapted to receive either of said forms of runner and so constructed that the stop members (21) on the corner connectors (15) do not interfere with operation of the roller runner assemblies (22) when the drawer is fitted therewith.

15 2. A drawer assembly according to claim 1 characterised in that said channels or recesses (7) in the drawer side walls are of stepped form comprising an outer recess (10A) adapted to receive said roller runner assemblies (22) and the main portion of said fixed runners (11) and an inner recess (10B) along which the projections (11B) on said fixed runners travel during opening and closing movement of the drawer, the stop members (21) on said corner connectors (15) projecting across said inner but not said outer recesses.

20 3. A drawer assembly according to claim 2 wherein each corner connector comprises a body portion defining a corner post and spigot members projecting therefrom in two directions at right angles, said spigot members being adapted for engagement in apertures in the ends of the back and side wall panels of the drawer, characterised in that said body member (16) is cut away at a level corresponding to that of said recesses (7) in the drawer side walls (5) to the extent of said outer recess (10A) but not to the extent of said inner recess (10B) whereby to form an abutment portion (21) on the body member which constitutes the stop member engageable with the projection (11B) on the associated fixed runner (11).

25 4. A drawer assembly according to claim 3 characterised in that said corner connectors (15) are provided with two of said cut-away portions (19) in positions at right angles to one another, both provided with said abutment portions (21) whereby the same corner connector may be used at either rear corner of the drawer.

5. A drawer assembly according to claim 3 or 4 characterised in that said body member (16) closes a portion only of said inner recess (10B) whereby by manipulation of the drawer the corner connectors (15) may be withdrawn past the projections (11B) on said fixed runners (11) when it is desired to withdraw the drawer from the cabinet or the like in which it is mounted in use.

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6. A kit of parts for use in constructing a drawer system comprising a plurality of wall panels adapted to form the side walls of a drawer characterised in that said panels are provided with longitudinally extending tracks or channels (7) of stepped form defining an outer channel (10A) adapted to receive a roller runner assembly (22) or a fixed runner (11) and an inner channel (10B) along which a projection (11B) carried by said fixed runner (11) may traverse during sliding movement of the drawer on the runners, corner connectors (15) adapted for engagement with said side wall panels (5) and with the drawer back (5A) to connect same together at right angles to one another, said corner connectors being provided with recessed portions (19) aligned with said channels (7) in the side wall panels, abutment portions (21) of said corner connectors projecting across the inner portions but not the outer portions of said recesses (7) whereby to form stop members adapted to interfere with the projections (11B) on said fixed runners to define an outward limit of drawer movement on the associated runners, and either a set of roller runners (22) or a set of fixed runners (11) adapted to be located in said recesses in the drawer side panels.

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7. A kit of parts according to claim 6 characterised in that said corner connectors (15) are provided with two of said cut-away portions (19) in positions at right angles to one another, both provided with said abutment portions whereby the same corner connector may be used at either rear corner of the drawer.

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8. A drawer characterised in that it is constructed from a kit of parts according to any of claims 7 to 9.

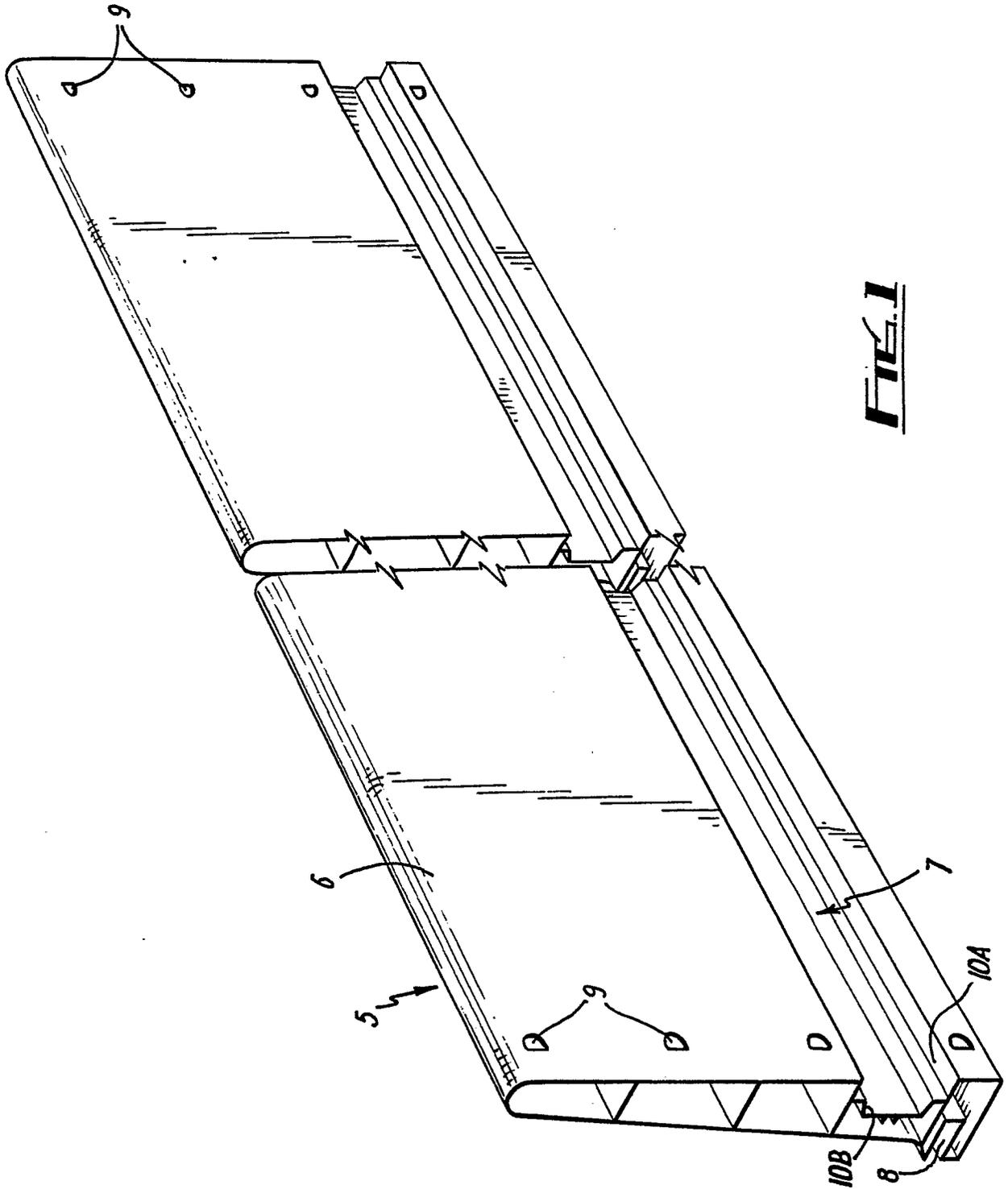
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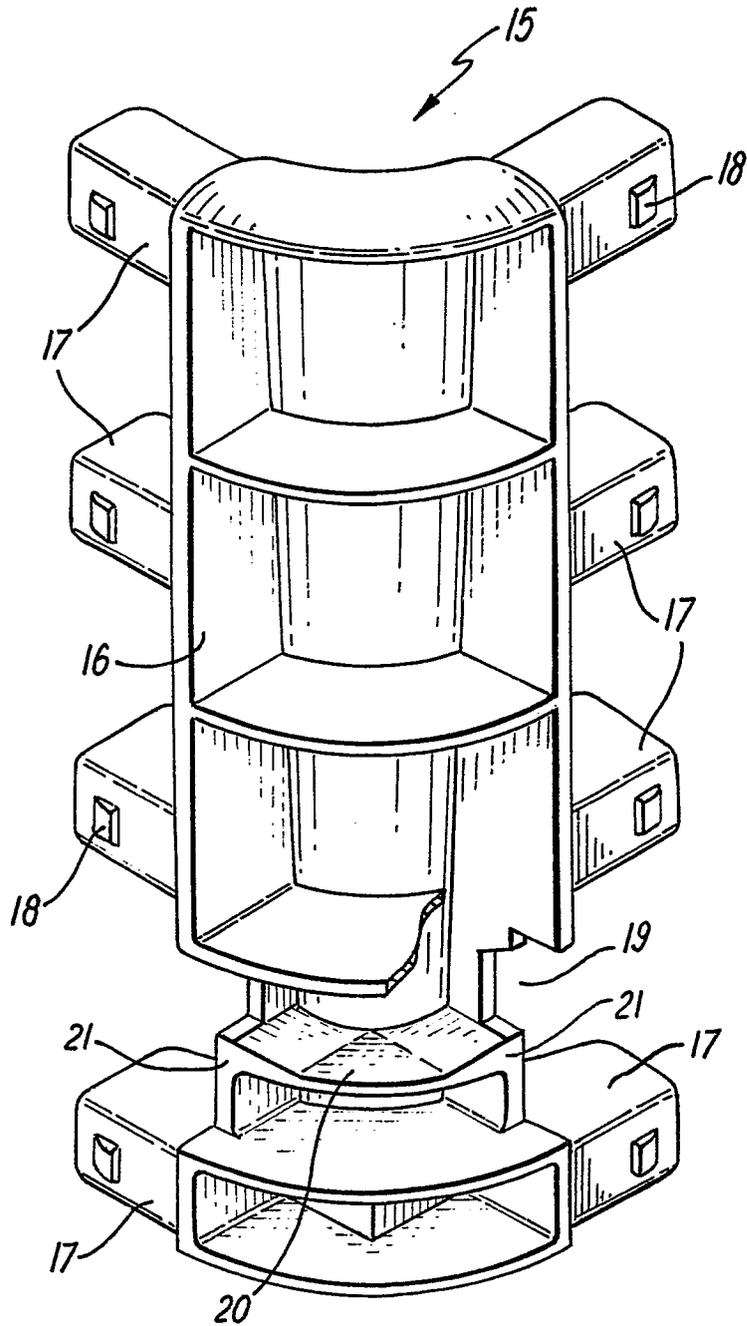
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Neu eingereicht / Newly filed  
Nouvellement déposé





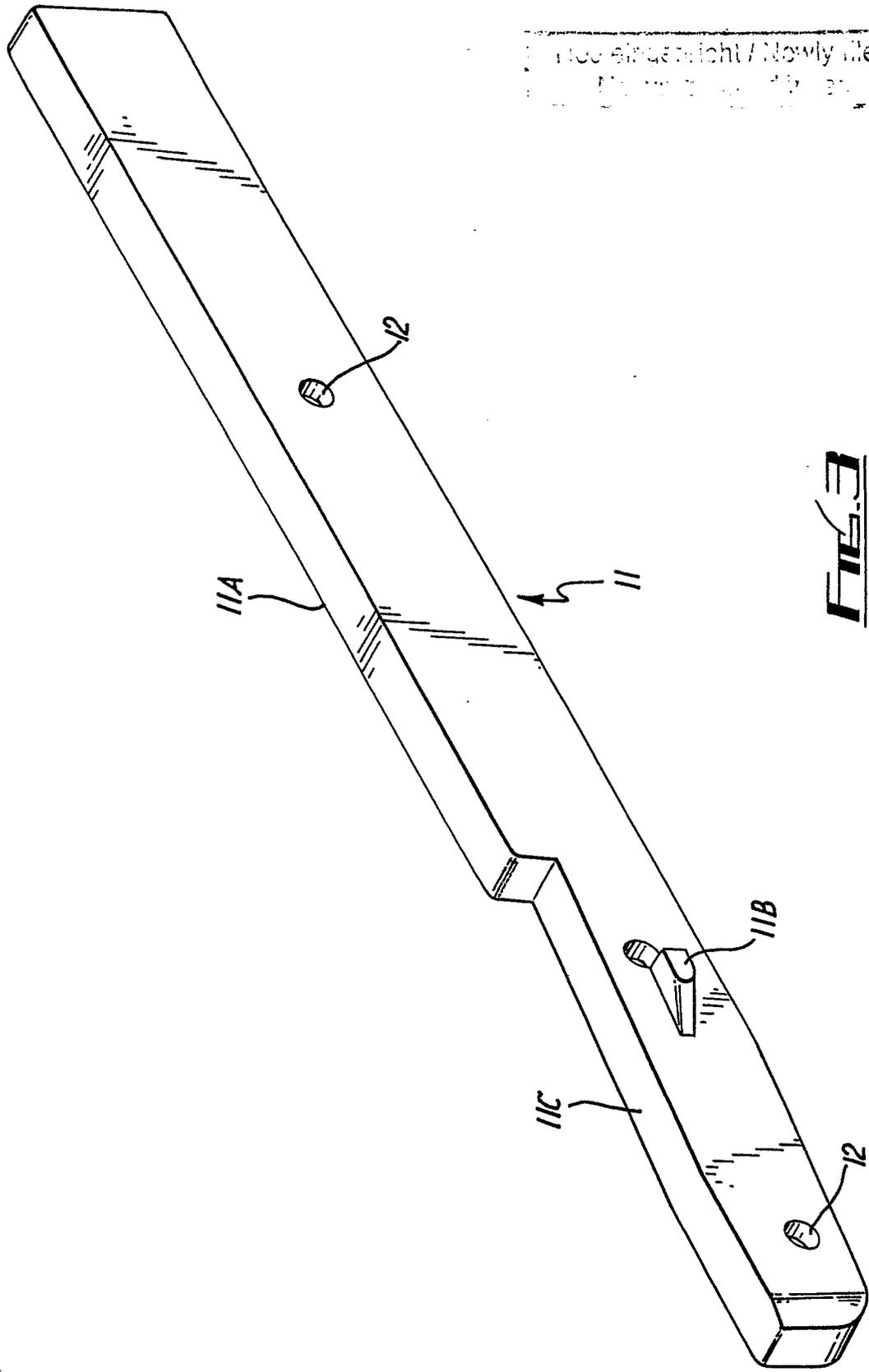
Neu eingereicht / Newly filed  
Nouvelles demandes



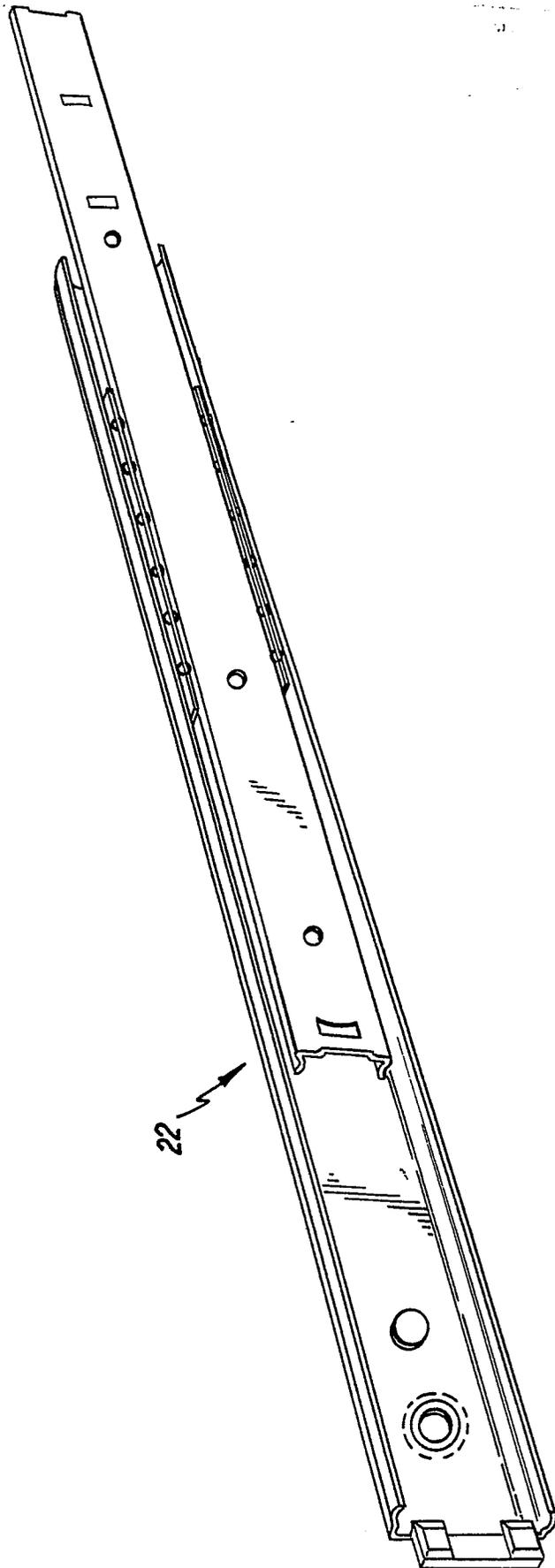
**FIG. 2**



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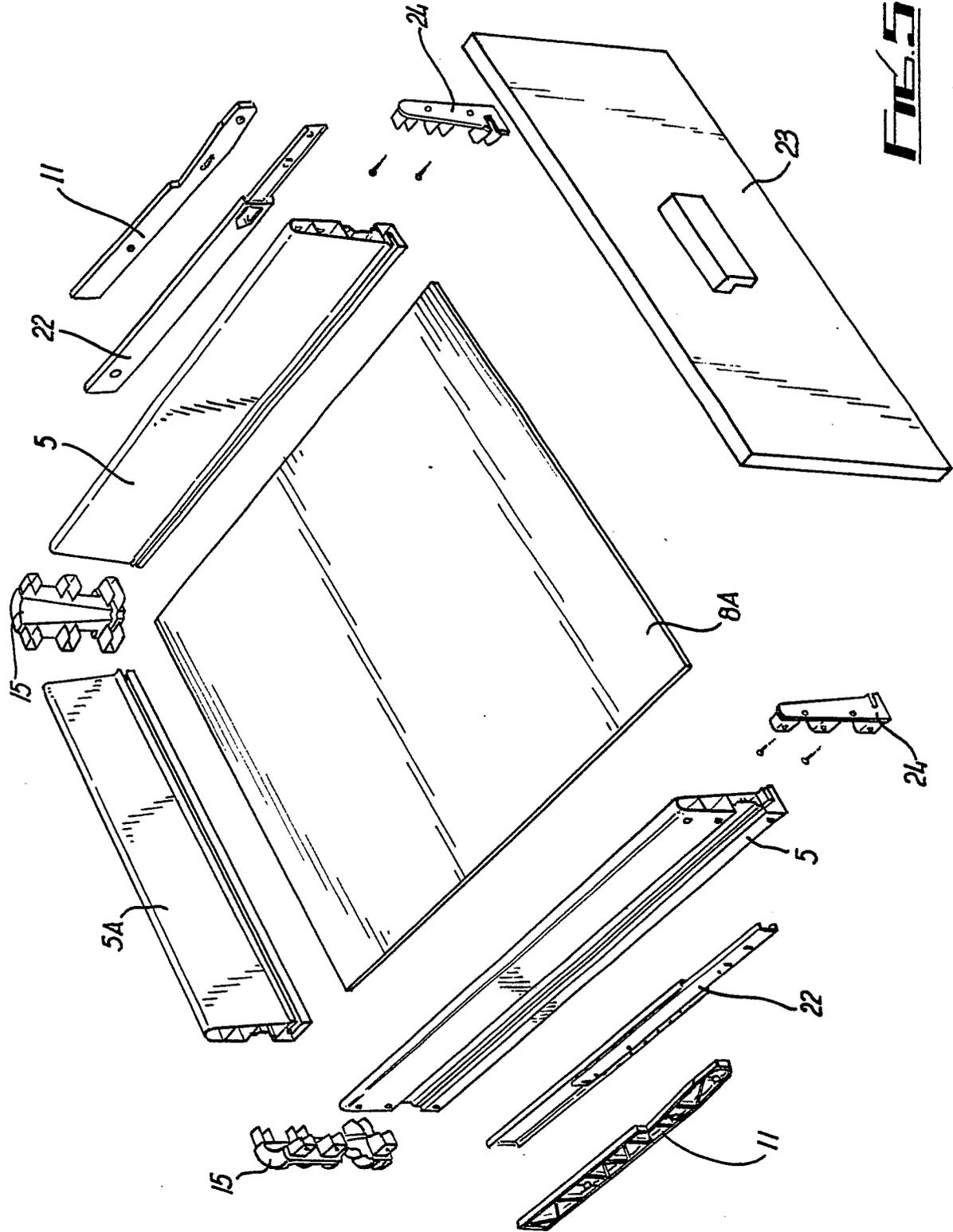
**FIG. 3**



**FR4**



**FIB.5**





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	FR-A-2 358 129 (L.B. PLASTICS LTD) * Figures 1-6; pages 1-4; page 15, lines 3-37 * -----	1,3,4,6 ,7,8	A 47 B 88/00
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			A 47 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14-07-1988	Examiner NOESEN R. F.
<p><b>CATEGORY OF CITED DOCUMENTS</b></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</p> <p>.....  &amp; : member of the same patent family, corresponding document</p>			