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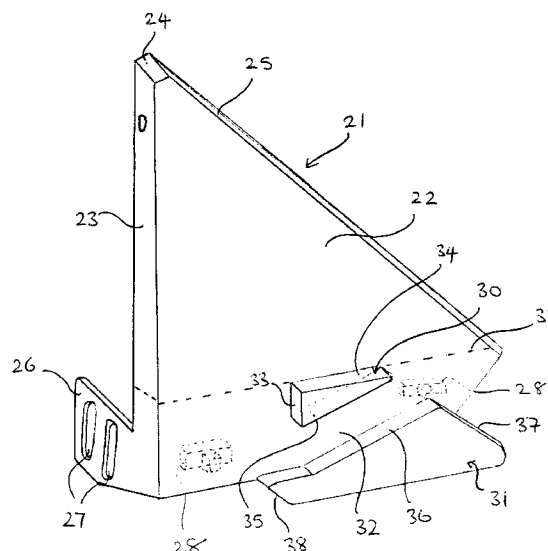
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(54) **A drawer and a bracket for use therewith.**

(57) A drawer comprising a main body (1) having a base (2) and upstanding side, front and rear walls (3, 4, 5) has means (11) enabling a fascia panel to be mounted adjacent the outwardly directed surface of the front wall (4). The drawer also comprises a bracket (21) mountable upon the drawer body, the bracket (21) being formed with an abutment (30) which cooperates with a locking pin forming part of a drawer locking mechanism. The bracket may serve as a reinforcing web between a fascia panel and the drawer body (1). Combining the abutment required for the drawer locking mechanism with the bracket represents a cost effective way of providing the drawer with both of these features.

FIGURE 3



THE PRESENT INVENTION relates to a drawer such as is provided in an item of office or household furniture and also to a bracket for use with the drawer.

Drawers of this type commonly comprise a drawer body and a separate fascia panel which is mounted on the front of the drawer body. Sometimes it is necessary for a reinforcing web to be provided between the fascia panel and the drawer body in order to provide support and rigidity.

If the drawer is to be lockable then the item of furniture of which the drawer forms part may commonly comprise a locking mechanism which requires the provision of an abutment on the drawer body which cooperates with a pin provided in the cabinet or housing which receives the drawer body. Thus, a separate component carrying the abutment is usually formed and mounted on the drawer body.

In addition, if the drawer is provided in a filing cabinet comprising several drawers arranged one above the other then it is desirable to provide the filing cabinet with a so-called anti-tilt mechanism which prevents more than one drawer from being opened simultaneously. Typically an anti-tilt mechanism of this type requires the provision of two abutments on the drawer body in order to define a channel along which a locking pin is guided. Whilst one of the abutments may be constituted by the abutment which forms part of the drawer locking mechanism, it is still necessary to provide the drawer body with a second abutment or similar means defining the channel along which the locking pin passes.

The provision of these features on a drawer can result in expensive production costs when several separate components must be produced and assembled. This is particularly so if the components are formed as plastics mouldings when expensive tooling costs are involved. In addition the position of abutments forming part of the locking or anti-tilt mechanism on the drawer body will need to vary from one drawer to another depending upon the particular item of furniture in which the drawer is to be used. This is because the location of the locking pin of the drawer locking mechanism will vary in the cabinet or housing of different items of furniture and the abutments on the drawer body need to be positioned appropriately so that they cooperate effectively with the locking pin. The need to vary the position of these abutments is usually addressed by providing various mounting locations for the components carrying the abutments on the drawer body. However, this is rather unsightly.

This invention also addresses a problem which arises when a drawer is formed from a drawer body and a separate fascia panel which is mounted on the front of the drawer body. A simple arrangement for permanently mounting the fascia panel on the drawer body involves forming the front wall of the drawer body with apertures through which screws may be passed and then screwed into the fascia panel in or-

der to secure the panel on the drawer body. The drawer body is commonly formed from a plastics material and may, for example, be formed from polystyrene. The fascia panel is often formed of wood. The mounting locations where screws pass through the drawer body and into the fascia panel represent weak points in the drawer body and over a prolonged period of use or upon excessive loading the drawer body is liable to fail at this point. In addition, mounting the fascia panel on the front of the drawer body with screws passed through the front wall of the drawer body results in a rather unattractive internal surface on the front wall of the drawer body where the heads of the fixing screws are visible. In addition, a plurality of screw fixing apertures are often provided in order to allow for different fixing points and in this case the additional apertures provided are also visible on the internal surface of the front wall of the drawer body.

The present invention seeks to provide a drawer which may be used in an item of office furniture and which does not suffer from the above-mentioned problems, as well as a bracket for use with the drawer.

According to one aspect of this invention there is provided a drawer comprising a main body having a base and upstanding side, front and rear walls the drawer body having means enabling a fascia panel to be mounted adjacent the outwardly directed surface of the front wall, the drawer further comprising a bracket mountable upon the drawer body to extend between the drawer body and the rear surface of a fascia panel mounted adjacent the front wall of the drawer body, characterised in that the bracket is formed with an abutment which cooperates with a locking pin forming part of a drawer locking mechanism.

Preferably the bracket has a main portion which is disposed substantially parallel to the side walls of the drawer body and a front portion which extends substantially at rights angles to the main portion, the front portion being designed to engage the rear surface of a fascia panel mounted adjacent the front wall of the drawer body, the front portion having a region which is sandwiched between the fascia panel and the front wall of the drawer body when the fascia panel is mounted on the drawer body.

Conveniently the bracket is formed from a material of greater strength than the material of the main body of the drawer, the region which is sandwiched between the fascia panel and the front wall being positioned adjacent the means which enable the fascia panel to be mounted on the drawer body and serving to strengthen this region of the drawer.

Advantageously the bracket is mountable upon part of the side wall of the drawer body, said part of the side wall defining one or more apertures to receive and retain one or more corresponding projections formed on the bracket.

Preferably two abutments are formed on the

bracket, there being an upper abutment and a lower abutment with an inclined channel defined therebetween along which the locking pin is guided during opening and closing of the drawer, the upper and lower abutments providing both a locking and anti-tilt function.

Conveniently the lower abutment has an upper surface comprising a front inclined portion which bounds one edge of the inclined channel and a rear inclined portion which slopes in the opposite sense to the front inclined portion.

Advantageously the or each abutment is formed integrally with the bracket as a plastics moulding, the position of the or each abutment in relation to the bracket being selectable prior to moulding of the bracket and being adjustable by means of a movable insert in the moulding tool.

Preferably the drawer further comprises a panel or cover which may be releasably mounted within the drawer body adjacent the inwardly directed surface of the front wall so as to conceal the means which enable a fascia panel to be mounted adjacent the outwardly directed surface of the front wall.

According to a second aspect this invention provides a bracket for use with a drawer comprising a main body having a base and upstanding side, front and rear walls, the bracket having means for mounting the bracket upon the main body of the drawer so that the bracket extends between the drawer body and the rear surface of a fascia panel mounted adjacent the front wall of the drawer body, characterised in that the bracket is formed with an abutment which cooperates with a locking pin forming part of a drawer locking mechanism.

In order that the present invention may be more readily understood and so that further features thereof may be appreciated the invention will now be described by way of example, with reference to the accompanying drawings, in which:

FIGURE 1 is a perspective view, from the rear, of a drawer body for a drawer in accordance with this invention;

FIGURE 2 is a view corresponding to Figure 1 showing part of the drawer body removed;

FIGURE 3 is a perspective view of a bracket designed to extend between the drawer body of Figures 1 and 2 and a fascia panel mounted thereon; FIGURES 4 is a side elevation of the bracket of Figure 3 showing the internal side of the bracket; and

FIGURE 5 is a part cross-sectional view taken on the line V-V of Figure 4.

Referring initially to Figures 1 and 2 of the accompanying drawings, a drawer body 1 comprises an integrally moulded unit having a base 2, opposed, mirror image side walls 3, a front wall 4 and a rear wall 5. The side walls 3 and the rear wall 5 have an upwardly inclined portion 6 at their upper edge which ex-

tends into a horizontal portion 7. The horizontal portion 7 also extends along the upper edge of the front wall 4. Each of the side walls 3 is provided with an outer skirt 8 which depends from the outermost edge of the horizontal projection 7. Each skirt 8 extends downwardly from the horizontal portion 7 before extending outwardly at an angle to the vertical portion for a short distance and then again turning to extend downwardly towards, but not reaching, the level of the base of the drawer body. A space is therefore defined between each side wall 3 and its respective skirt 8, this space serving to accommodate a drawer runner. There is also a short, downwardly extending projection 9 formed on the horizontal portion 7 behind the rear wall 5.

A drawer runner may be mounted in the space between each side wall 3 and the associated skirt 8 by way of cooperating projections formed on the runner and recesses in the side walls of the drawer body (details of these, conventional elements are not shown in the drawings). In addition a pair of screw holes 10 extend through each of the side walls 3 at a position close the front wall 4 to enable fixing screws to be passed therethrough into a part of the drawer runner.

As can be clearly seen from Figure 2 of the drawings the front wall 4 is formed with two sets of oval apertures, each set comprising four apertures 11 positioned adjacent each end of the front wall. The apertures 11 of each set are arranged with two upper apertures disposed above two lower apertures. The apertures 11 serve to receive fixing screws used to secure a fascia panel onto the outer surface of the front wall 4. The provision of elongate oval apertures with their longitudinal axis disposed vertically allows for vertical adjustment of the fascia panel whilst the provision of apertures 11 at different positions across the width of the front wall 4 allow fascia panels with different fixing points to be mounted on the drawer body.

The junction between the base 2 and the upstanding front, rear and side walls of the drawer body is formed with a 45 degree fillet 12. At the bottom of the front wall 4 the fillet 12 defines two apertures 13 which extend through the base of the drawer body at positions relatively close to the side walls 3. Only one of the apertures 13 is visible in Figure 2 of the drawings. At the base of the side walls 3 the fillet 12 defines a number of recesses 14, at which point the side wall 3 meets perpendicularly with the base 2. Thus a small portion of the fillet 12 is removed. Vertically above the recesses 14 the side walls 3 are formed with small bores 15. The purpose of the apertures 13 and the recesses 14 is to receive a drawer divider or partition which may be mounted within the drawer body.

The drawer body also comprises a panel or cover 16 which may be releasably mounted within the drawer body adjacent the internal surface of the front wall 4 so as to conceal the apertures 11 and any fixing

screws or the like which may be received therein. The panel 16 has a planar main body which extends across the full width of the front wall 4 and has an inclined portion 17 formed along its upper edge, the inclination of the portion 17 corresponding to the inclination of the portion 6 formed around the top of the side walls and the rear wall of the drawer body. The overall depth of the panel 16 is equal to the overall depth of the front wall 4 so that when the panel is in position, as shown in Figure 1, the panel completely covers the front wall, with the inclined portion 17 blending in with the inclined portions 6. The inclined portion 17 at the upper edge of the panel projects beyond the side edges of the main body of the panel and these projecting portions are received immediately adjacent the inclined portions 6 at the top of the side walls 3.

The lower edge of the panel 16 is formed with two downwardly directed lugs 18 which are dimensioned to be received snugly within the apertures 13 formed in the fillet at the base of the front wall 4. The lugs 18 serve to retain the lower region of the panel in position immediately adjacent the front wall 4. In similar manner the projecting ends of the inclined portion 17 engage in appropriate recesses formed in the side walls 3 and serve to retain the upper region of the panel in position adjacent the front wall 4. As an alternative to providing the lugs 18 and apertures 13 a single slot could be provided across the width of the drawer body at the junction between the base 2 and the front wall 4 in order to receive the entire bottom edge of the panel 16.

The side edges of the main body of the panel 16 are each formed with a tab 19 which projects perpendicularly away from the main body of the panel in a direction towards the rear of the drawer body when the panel is in position. These tabs are dimensioned to cover the bores 10 formed through the side wall 3 and thereby to conceal the screws which serve to mount the draw runners in position.

The main body of the panel 16 defines six small apertures 20 arranged at three positions across the width of the panel with two apertures disposed one above the other at each position. The apertures serve to enable a divider or partition which is to extend from front to back within the drawer body to be connected to the panel. Of course, a different number of apertures 20 could be provided to give any desired number of fixing positions for a divider.

When the drawer is being installed the panel 16 will initially be removed to allow a fascia panel to be screwed in position adjacent the outer surface of the front wall of the drawer body. The panel 16 will then be lowered into position vertically, passing the lugs 18 into the apertures 13 (or passing the lower edge of the panel into a single slot) and pushing the panel down until the upper portion lines up with the upper edge of the front and side walls at the drawer body. The panel is removed by engaging the tabs 19 and lifting verti-

cally upwardly.

Figure 3 of the drawings shows a bracket 21 which may be mounted on the drawer body so as to extend between a side wall thereof and a fascia panel mounted upon the front wall 4. The bracket is integrally moulded from a relatively strong plastics material (as compared with the material from which the drawer body is formed) such as acetal or nylon. The bracket comprises a planar main portion 22 which has a front portion 23 which extends at right angles thereto. Along its upper edge the bracket is formed with an uppermost portion 24 and a rear portion 25 both of which extend at right angles to the planar main portion 22, with the uppermost portion 24 extending rearwardly from the front portion 23 and the rear portion 25 extending rearwardly and downwardly from the uppermost portion 24. The lower end of the front portion 23 has an inwardly extending projection 26 which defines two adjacent oval or elongate apertures 27.

The bracket 21 is designed to be mounted upon the side of the drawer body adjacent the front thereof so that the front portion 23 will engage the rear surface of a fascia panel subsequently mounted upon the front wall 4 of the drawer body. The main portion 22 of the bracket carries a pair of inwardly directed projections 28 on its inner surface by way of which the bracket may be mounted upon the side of the drawer body. The projections 28 are best seen in Figures 4 and 5 of the drawings, from which it is clear that each projection is of T-shaped cross-section in plan view with the stem of the T extending inwardly from the internal surface of the main portion 22 of the bracket and with the head of the T of each projection extending parallel to the main portion 22.

A pair of T-shaped apertures 29 are formed through the upper portion of the skirt 8 on each side of the drawer body (as shown in Figure 2), the apertures 29 serving to receive the projections 28 and mount the bracket on the side of the drawer body. Thus, the projections 28 are dimensioned and positioned on the bracket 21 dimensioned such that they will each pass into a respective aperture 29 through the head thereof, whereupon the bracket is lowered until the head of each T-sectioned projection 28 is held captive behind the skirt 8. The bracket can then only be removed if it is once again raised so that the projections 28 are aligned with the heads of the T-shaped apertures 29. When the bracket 21 is mounted upon the drawer body the inwardly extending portion 26 at the bottom of the front portion 23 extends adjacent the outer surface of the front wall 4 of the drawer body and the apertures 27 are aligned with the apertures 11 formed in the front wall 4. It is proposed that the apertures 29 will be defined in a recessed area in the side walls of the drawer body so that when the bracket 21 is mounted on the side wall it lies flush with the outer surface of the side wall (this recess is not shown in the drawings).

When a drawer is to be assembled a pair of handed brackets 22 are mounted on opposite sides of the drawer body (it will be appreciated that the bracket illustrated in Figure 3 would be mounted upon the right hand side of the drawer body as seen from the front) and then the fascia panel is offered up to the outer surface of the front wall 4 and secured in position by passing fixing screws or the like through the apertures 11 and 27 and into the rear of the fascia panel. The panel or cover 16 can then be located in position in the manner as mentioned above. It will be appreciated that in the assembled drawer the inwardly directed portion 26 is sandwiched between the fascia panel and the front wall of the drawer body with the remainder of the front portion 23 of the bracket extending up the back of the fascia panel. An elongate bore is provided through the front portion 23 adjacent the upper end thereof in order to allow an additional fixing screw or the like to be passed therethrough and into the back of the fascia panel. Sandwiching the inwardly extending portion 26 of the bracket between the fascia panel and the front wall of the drawer body in the area where the fascia panel is mounted on the front of the drawer body serves to strengthen this region which has previously been a relatively weak point in the construction of the prior art drawers. Thus the relatively strong material from which the bracket is moulded surrounds the screw fixings which retain the fascia panel on the front of the drawer body and strengthens this region. In addition the front corners of the drawer are reinforced due to the fact that the brackets are "wrapped around" these corners at their lower ends.

The outer surface of the main portion 22 of the bracket carries a pair of abutments which cooperate with a locking pin forming part of a drawer locking mechanism. There is an upper abutment 30 and a lower abutment 31, between which an inclined channel 32 is defined along which the locking pin passes when the drawer is opened and closed in the normal manner. The upper abutment 30 is generally triangular in shape and defines a vertical front face 33, a horizontal upper surface 34 and an inclined under surface 35 which bounds the upper edge of the channel 32. The lower abutment 31 is also generally triangular in shape having a generally horizontal lower surface and an upper surface comprising a front inclined section 36 which is inclined parallel to the under surface 35 of the upper abutment and which serves to bound the lower edge of the channel 32. The upper surface of the lower abutment 31 also has a downwardly sloping rear portion 37. The lower, horizontal edge of the abutment 31 is disposed below the lower edge of the main portion 22 of the bracket as is most clearly seen in Figure 4 of the drawings. It can also clearly be seen from Figures 3 and 4 of the drawings that the front end of the lower abutment 31 is formed with a nose 38 which extends upwardly from the lower edge of the abutment 31 to the lower edge of the main portion 22

of the bracket and then extends rearwardly to the lower end of the inclined surface 36.

When the drawer is to be locked it is initially closed whereupon the locking pin of the drawer locking mechanism is disposed slightly in front of the lower end of the channel 32. When the locking mechanism is actuated the locking pin is raised so that it is located adjacent the vertical face 33 formed at the front of the upper abutment 30. The drawer cannot now be opened.

In addition to serving a locking purpose, the abutments also serve an anti-tilt purpose. When a filing cabinet comprises a number of drawers disposed one above the other there is a risk of the cabinet tilting forwards if two or three adjacent drawers at the top of the cabinet are opened simultaneously since the centre of mass of the cabinet and the drawer contents will move outside of the area of the base of the cabinet which is in contact with the ground. The abutments 30, 31 are designed to prevent the risk of a cabinet tilting forwards in this way. Each drawer provided in the filing cabinet is provided with abutments 30, 31, each drawer being associated with a locking pin forming part of the drawer locking mechanism mounted within the filing cabinet. The locking pins associated with the drawers are interconnected so that vertical movement of any one pin will result in a similar, vertical movement of all of the pins associated with the drawers. Thus, when the top drawer of a filing cabinet is opened the locking pin of the drawer locking mechanism passes from its initial position in front of the lower end of the channel 32 upwardly along the channel, thereby being raised vertically. Simultaneously the locking pins associated with the other drawers in the cabinet are raised vertically so that they are located adjacent the vertical face 33 at the front of the upper abutment 30 so that those drawers cannot be opened. Thus, it will be appreciated that when any one drawer in the filing cabinet is opened it is not possible to open a further drawer in the cabinet without first closing the drawer which has been opened. This minimizes the risk of the filing cabinet falling forwards due to several drawers being opened at once.

The downwardly sloping configuration of the rear surface 37 of the lower abutment 31 ensures that the locking pin of the drawer locking mechanism does not become trapped behind the lower abutment when the drawer is closed. If the lower abutment had a vertical rear face then the locking pin could become trapped in this way and closure of the drawer might be prevented.

As mentioned above, the position of the locking mechanism including the locking pins within a filing cabinet can vary from one design of cabinet to another. It is therefore envisaged that the position of the abutments 30, 31 relative to the remainder of the bracket 21 may be variable along a line passing from front to back of the bracket. The bracket is to be

formed as an integrally moulded plastics component and it is envisaged that the moulding tool will be provided with a movable insert which may be positioned at any one of a number of different positions within the tool in order to dictate the position of the abutments 30, 31 relative to the remainder of the bracket.

It is envisaged that the outer surface of the bracket will be formed with a shallow recess designed to receive a label or the like carrying a manufacturers logo.

It will be appreciated that a pair of handed brackets 21 will be provided for each drawer body, although only one of the brackets will be provided with the abutments 30, 31 since a locking pin is normally only provided on one side of a drawer cabinet. Thus, each of the right hand brackets (as seen from the front of the drawer) could be provided with the abutments 30, 31 whilst the outer surface of each of the left hand brackets would be a flat outer surface.

In some instances, for example where relatively small drawers are involved, it may not be necessary to provide a bracket which is as tall as the bracket illustrated in Figure 3 and it is therefore proposed that brackets of a much reduced height will also be provided and a dotted line referenced 39 in Figure 3 of the drawings shows where the upper edge of a smaller bracket would be positioned. Thus, the smaller bracket would be identical to the lower part of the bracket illustrated in Figure 3.

Whilst the drawer body of Figures 1 and 2 has been described and illustrated as an integrally mounted component, it is to be appreciated that the drawer body could be produced in "knocked down" form i.e. as individual components to be assembled in order to form the drawer body.

The features disclosed in the foregoing description, in the following claims and/or in the accompanying drawings may, both separately and in any combination thereof, be material for realising the invention in diverse forms thereof.

Claims

1. A drawer comprising a main body (1) having a base (2) and upstanding side, front and rear walls (3, 4, 5), the drawer body (1) having means (11) enabling a fascia panel to be mounted adjacent the outwardly directed surface of the front wall (4), the drawer further comprising a bracket (21) mountable upon the drawer body (1) to extend between the drawer body (1) and the rear surface of a fascia panel mounted adjacent the front wall (4) of the drawer body (1), characterised in that the bracket (21) is formed with an abutment (30) which cooperates with a locking pin forming part of a drawer locking mechanism.
2. A drawer according to Claim 1 wherein the bracket

et (21) has a main portion (22) which is disposed substantially parallel to the side walls (3) of the drawer body (1) and a front portion (23) which extends substantially at right angles to the main portion (22), the front portion (23) being designed to engage the rear surface of a fascia panel mounted adjacent the front wall (4) of the drawer body (1), the front portion (23) having a region (26) which is sandwiched between the fascia panel and the front wall (4) of the drawer body (1) when the fascia panel is mounted on the drawer body.

3. A drawer according to Claim 2 wherein the bracket (21) is formed from a material of greater strength than the material of the main body (1) of the drawer, the region (26) which is sandwiched between the fascia panel and the front wall (4) being positioned adjacent the means (11) which enable the fascia panel to be mounted on the drawer body and serving to strengthen this region of the drawer.
4. A drawer according to Claim 1, 2 or 3 wherein the bracket (21) is mountable upon part of the side wall (3) of the drawer body (1), said part of the side wall (3) defining one or more apertures (29) to receive and retain one or more corresponding projections (28) formed on the bracket (21).
5. A drawer according to any one of Claims 1 to 4 wherein two abutments (30, 31) are formed on the bracket (21), there being an upper abutment (30) and a lower abutment (31) with an inclined channel (32) defined therebetween along which the locking pin is guided during opening and closing of the drawer, the upper and lower abutments (30, 31) providing both a locking and anti-tilt function.
6. A drawer according to Claim 5 wherein the lower abutment (31) has an upper surface comprising a front inclined portion (36) which bounds one edge of the inclined channel (32) and a rear inclined portion (37) which slopes in the opposite sense to the front inclined portion (36).
7. A drawer according to any one of the preceding claims wherein the or each abutment (30, 31), is formed integrally with the bracket (21) as a plastics moulding, the position of the or each abutment in relation to the bracket (21) being selectable prior to moulding of the bracket and being adjustable by means of a movable insert in the moulding tool.
8. A drawer according to any one of the preceding claims wherein the drawer further comprises a panel or cover (16) which may be releasably

mounted within the drawer body (1) adjacent the inwardly directed surface of the front wall (4) so as to conceal the means (11) which enable a fascia panel to be mounted adjacent the outwardly directed surface of the front wall (4).

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9. A bracket for use with a drawer comprising a main body (1) having a base (2) and upstanding side, front and rear walls (3, 4, 5), the bracket having means (28) for mounting the bracket upon the main body (1) of the drawer so that the bracket (21) extends between the drawer body (1) and the rear surface of a fascia panel mounted adjacent the front wall (4) of the drawer body (1), characterised in that the bracket (21) is formed with an abutment (30) which cooperates with a locking pin forming part of a drawer locking mechanism.

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FIGURE 1

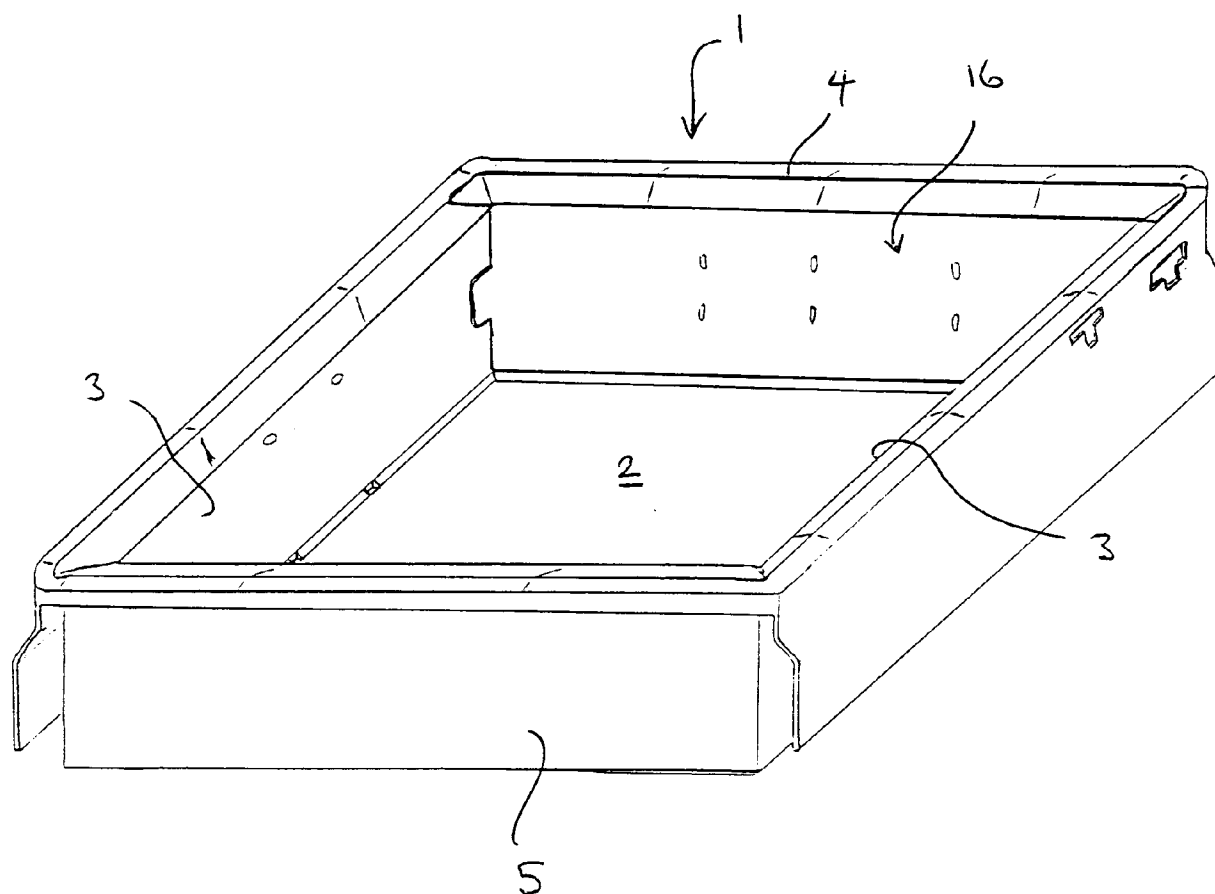


FIGURE 2

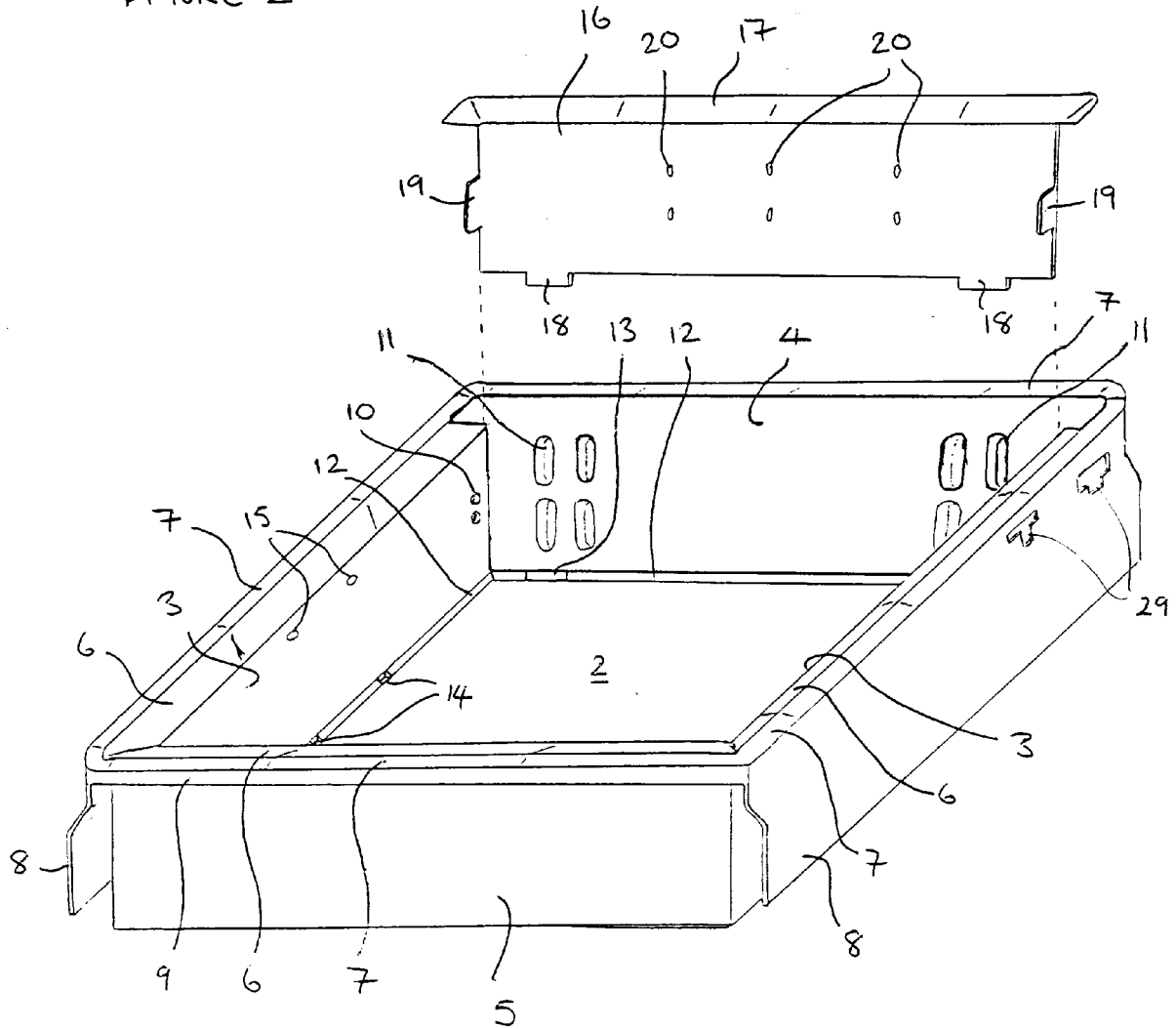


FIGURE 3

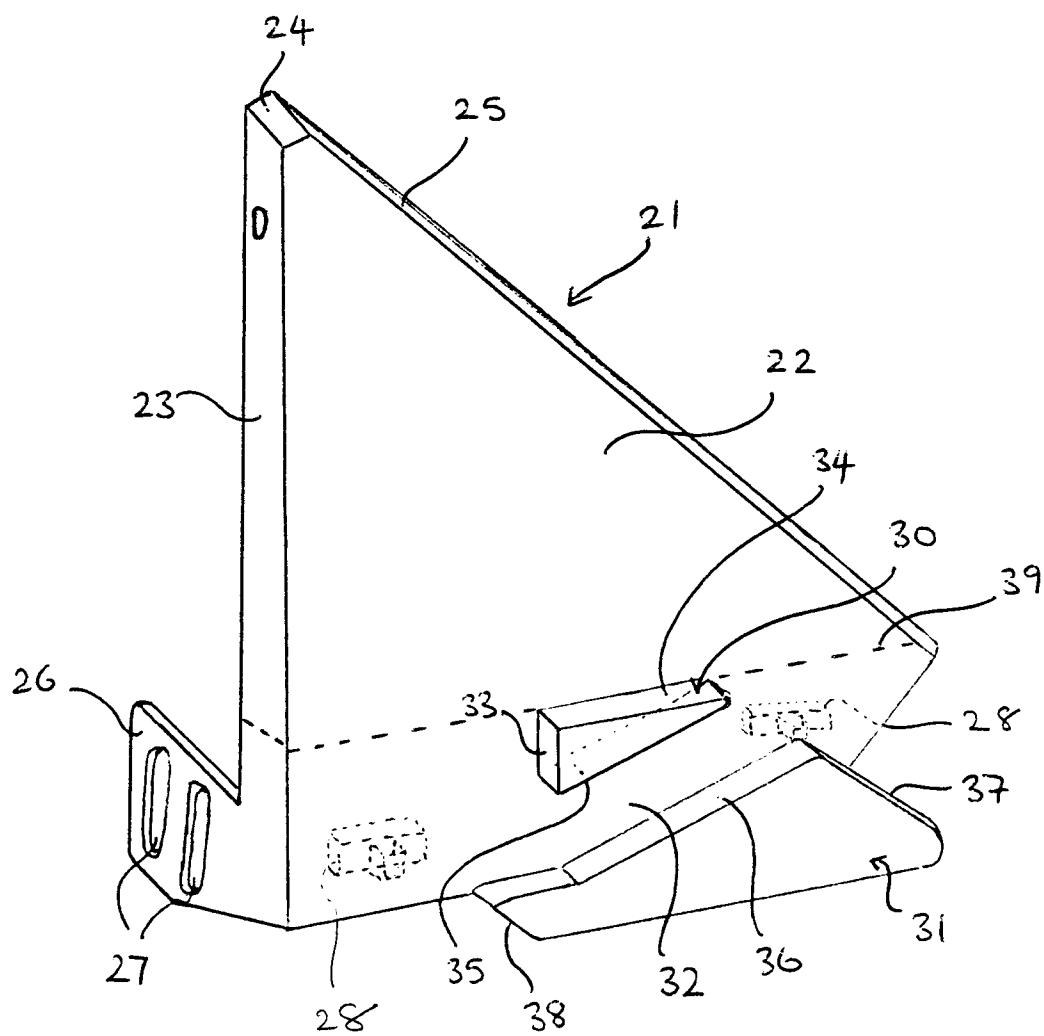


FIGURE 4

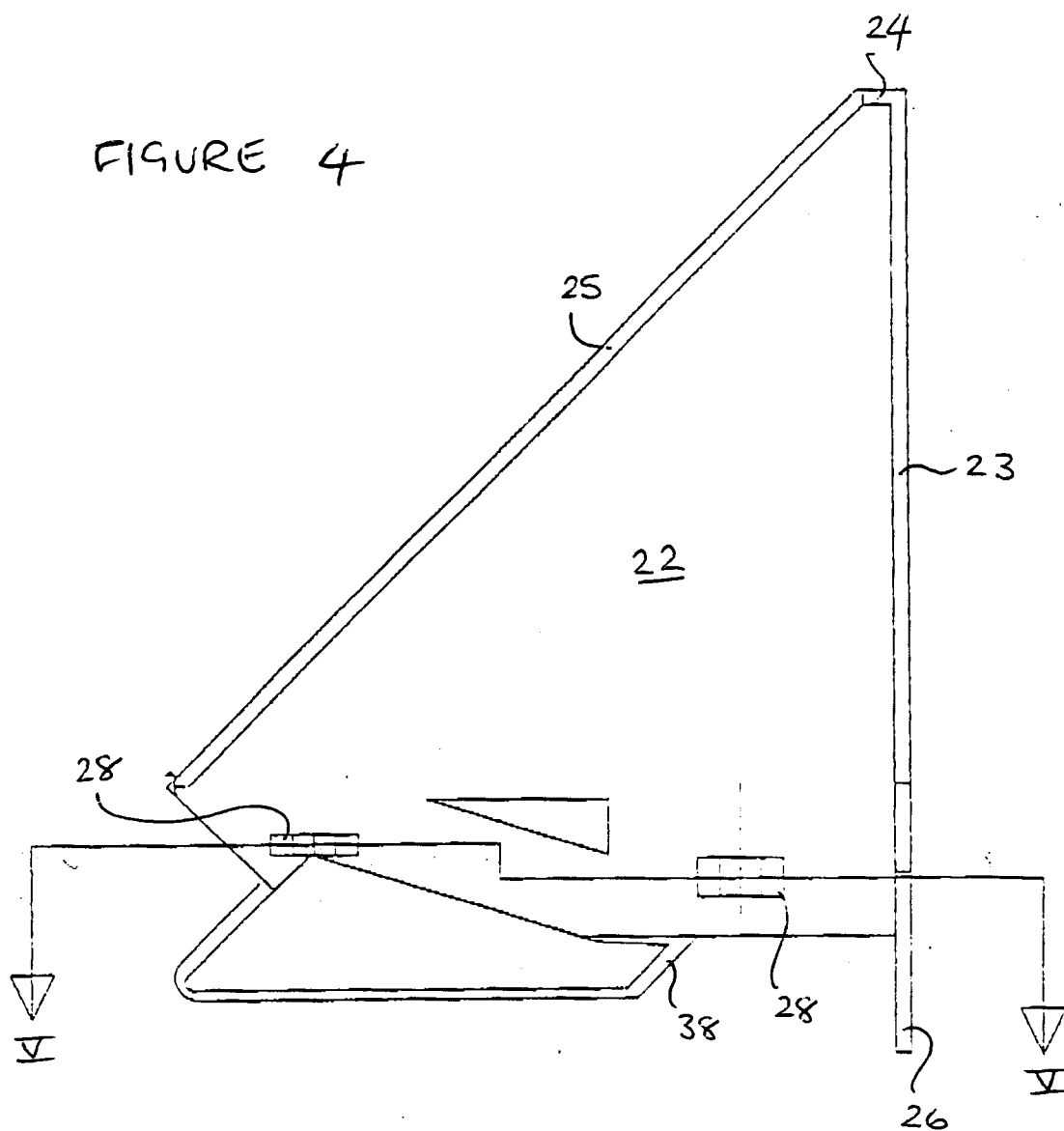
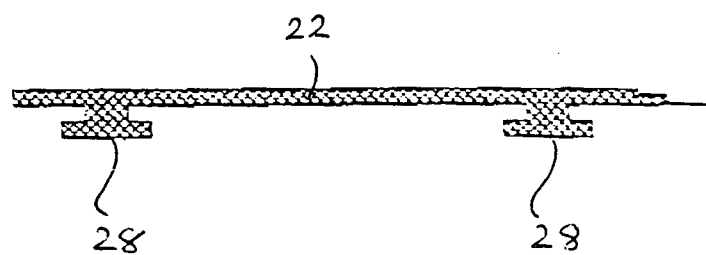


FIGURE 5





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 30 3964

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.5)
Y	AT-A-304 802 (OSTA WERKE BERLIN MÖBELINDUSTRIE GMBH) * page 2, paragraph 1; figures 1-5 * * page 2, line 31 - line 32 *	1, 2, 5, 6, 9	A47B88/00 E05B65/46
A	---	3	
Y	US-A-3 404 929 (D.M. WRIGHT, ET AL.) * abstract; figures 1, 1A, 2 * ---	1, 2, 5, 6, 9	
A	FR-A-2 245 843 (BARRY WRIGHT CORPORATION.) * page 1, paragraph 2; figure 3 * * page 6, line 33 - page 7, line 6 * -----	4	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A47B E05B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 JULY 1992	Examiner JONES C.T.
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			

EPO FORM 1503 (03.92) (P0401)