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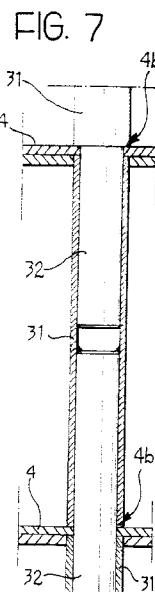
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(54) **Display shelf**

(57) The display unit, which is formed entirely or mostly of sheet material such as cardboard, comprises a base (2) and a plurality of shelves (4) supported by uprights (3). The uprights have a modular structure, being constituted by a plurality of modules which can be coupled to one another in a generally mortice-and-tenon-like configuration. Each module comprises an outer tubular element (31) in which a precisely determined length of an inner element (32), which can penetrate a complementary portion of another module, is engaged.



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Description

The present invention relates to display units with shelves.

The display units concerned are usable, for example, for displaying products such as food products at points of sale such as shops, supermarkets, hypermarkets, etc. The relevant state of the art is extremely abundant and extensive as shown, for example, by United States patents 1 444 268 and 1 930 787, as well as 2 689 050, and by German application 21 31 870 and by Swiss patents 281 702 and 498 605, to mention only a few background examples.

Specifically, the present invention relates to a display unit with shelves according to the preamble to Claim 1 which is known, for example, from US-A-4 050 386. This prior document describes a display unit comprising a plurality of polygonal, typically rectangular, shelves made of sheet material, supported at their corners by uprights having L-shaped cross-sections. Each upright is constituted by a plurality of adjoining sections which can be coupled in a generally male-and-female configuration (more precisely, in the configuration generally known as a "mortice-and-tenon" configuration). The same document describes the possibility of producing the uprights by bending from a composite wood or cardboard panel possibly having a covering of flexible, decorative material such as polyvinyl chloride or other plastics materials.

The object of the present invention is to provide a display unit of the type specified above which can be produced almost exclusively from bent cardboard elements. The display unit can consequently be produced in the form of one or more pre-cut and punched cardboard blanks which can be stored and transported to the place of use in the form of a generally flat body. The various parts of the display unit can thus be formed by bending operations and the display unit can then be erected in the place of use by the assembly of the parts thus obtained.

Naturally, all of this should be achieved without adversely affecting the strength and stability of the assembled display unit. For this purpose, some of the patent documents of the prior art cited in the introductory part of the description provide for the use of uprights comprising cores or reinforcing portions extending continuously throughout the length of the respective uprights. However, this solution conflicts with the need outlined above, to produce a display unit which can be stored and transported to the place of use in the form of a flattened body of limited dimensions; the reinforcing elements of the uprights described above in fact of necessity have to be of a length substantially equal to the height of the display unit. In many solutions currently in use, this height may be of the order of 1.5-2 metres.

The object of the present invention is therefore to provide a solution which, on the one hand, satisfies the requirements outlined above and, on the other hand,

avoids the problems stressed above.

According to the present invention, this object is achieved by means of a display unit with shelves having the further characteristics recited in Claim 1.

The invention will now be described, purely by way of nonlimiting example, with reference to the appended drawings, in which:

Figure 1 is a general perspective view of a display unit according to the invention,

Figure 2 is a partial view, reproduced on a slightly enlarged scale, of a portion of the display unit of Figure 1 in which some parts have been removed for clarity of illustration,

Figures 3 and 4 show in greater detail an imaginary, exploded, perspective view and an imaginary vertical section, respectively, of the structure of the uprights of the display unit according to the invention,

Figure 5 shows an element of sheet material such as cardboard in the form of a flat blank used to form some of the parts illustrated in the preceding drawings, and

Figures 6 and 7 show schematically a possible variant of the invention.

In Figures 1 and 2, a display unit with shelves usable, for example, for displaying food products (for example, confectionery products) in sales locations, such as shops, supermarkets, hypermarkets, etc., is generally indicated 1.

The display unit 1 according to the invention is formed entirely or mostly from elements of sheet material, typically cardboard, mostly produced initially in the form of flat blanks. The display unit 1 can therefore be stored (before and after use) and transported to and from the place of use in the form of a flattened body. For use, the various component parts of the display unit, which will be described further below, are formed by means of a bending and shaping operation in order to be connected to one another during the assembly of the display unit. After use, the unit can be dismantled if necessary and the respective parts spread out and flattened again for storage in the form of a flat body.

The criteria and the technical solutions which enable parts made of sheet material such as cardboard to be produced in the form of flat blanks which have been pre-cut, punched, etc., for subsequent building-up (shaping) are widely known in the art. These criteria and solutions are currently used, for example, in the packaging field, for example, for forming boxes such as chocolate boxes, etc., and will not therefore be recited in the present description except for the parts which are useful for explaining some structural details of the solution according to the invention; this applies in particular to the

portion of the present description relating to Figure 5.

The display unit 1 according to the invention usually comprises, according to known criteria, a base 2 for bearing on the ground. One or more uprights 3 (four in the embodiment shown) extend upwardly from the base 2 in order to support a plurality of shelves 4; in the embodiment shown in Figure 1, the display unit 1 comprises four shelves 4 supported above the base 2 (the upper face 5 of which may also constitute a further shelf), plus a structurally similar element, indicated 40, which acts as a top surface or cover of the display unit 1. The element 40 may also hold further products (some of these are schematically indicated P and shown on one of the shelves 4) or may be used for supporting a decorative element (for example, a notice) fitted on top of the display unit 1 as a final touch.

In the embodiment shown in Figure 1, the shelves 4, as well as the top element 40 and the upper face 5 of the base 2 are rectangular and are interconnected by four uprights 3 situated in generally inner positions of the various elements 4, 40 and 5. In other words, the uprights 3 are situated at the corners of an imaginary rectangle having diagonals (or principal axes) coinciding with the diagonals (and the principal axes) of the rectangles defined by the various elements 4, 40 and 5 whilst having smaller dimensions than the latter rectangles.

In any case, it should be pointed out that the characteristics recited above and, in particular, for example:

- the presence of the base 2 and/or of the top element 40,
- the number of shelves 4,
- the rectangular shape of the shelves 4, as well as of the base 2 and of the element 40,
- the presence of four uprights 3, and
- the location of the uprights 3 in inner positions of one or more of the elements connected by the uprights 3, and not at the corners,

all constitute characteristics given by way of example (or at most preferred characteristics) but are certainly not essential for the purposes of the implementation of the invention.

In fact, the use of a different number of uprights 3 (for example, by the provision of an additional upright situated in the centre of the shelves 3) or the use of one or more shelves 4 of different shapes (for example square, round, or elliptical), etc., may be considered without thereby departing from the scope of the present invention.

As a general rule, the base 2 (if present) is configured as a kind of box of sheet material produced (according to widely known criteria) in the form of a flat

blank which, at the time of use, can be shaped so as to adopt a generally parallelepipedal shape closed at the top by the wall defining the face 5 in which there are respective holes 5a through which the uprights 3 can extend.

The base 2 may be filled with a mass of expanded material (such as expanded polystyrene) with the function of strengthening and/or increasing weight. When the weight-increasing function is to have a principal role, the box forming the base 2 may be at least partially filled with a material having a certain intrinsic weight, such as expanded clay, etc.

In the embodiment of Figures 1 to 5, the shelves 4 are preferably configured in the form of flat trays each having a base 4a in which there are respective holes 4b through which the uprights 3 can extend. Further holes such as those schematically indicated 0 solely in Figure 1 may also be provided, defining seats for housing respective products.

The shelves 4 may be generally flat or, as shown in the drawings, may have portions 4c turned up or down along their peripheries and extending perpendicularly to the base 4a (or in any case deviating therefrom). This preferably has the function of stiffening the base 4a structurally. In particular, in the embodiment (and assembly) shown in Figures 1 and 2, the portion 4c is turned upwardly and can thus act as a wall for containing products P on the shelf 4.

Naturally, reversed assembly criteria such that the part 4c is turned downwardly instead of upwardly as in the appended drawings, to constitute a kind of skirt surface surrounding the base 4a and stiffen it from a structural point of view could be considered without appreciable structural modification.

A solution of this type is shown in Figure 1 with reference to the element 40 situated at the top of the display unit 1.

In this case, the element in question is composed precisely of a flat portion 40a surrounded by a downwardly-turned skirt portion 40b.

The criteria which enable the shelves 4 and the element 40 to be formed according to the criteria described above (that is, with a generally tank- or tray-like configuration, with an upwardly-turned wall or with a downwardly-turned skirt portion) from a flat blank of sheet material such as cardboard are widely known in the art and do not need to be described in detail herein.

From an observation of Figures 2 and 3 in combination, it can be seen that the uprights 3 are constituted by a series of adjoining elements coupled to one another (according to general "mortice-and-tenon"-like coupling criteria). This result is achieved by the production of the uprights 3 in the form of adjoining modules defining an alternating sequence of tubular elements indicated 31 (outer elements) and 32 (inner elements), respectively.

Starting (for simplicity of description) with the elements 32, it can be seen that, in the embodiment shown, these are constituted by tubular sleeve-like bodies of

square cross-section (the section could, however, be different, for example, triangular). According to the currently-preferred embodiment, each element 32 is formed by a rectangular blank of sheet material (for example cardboard) in which four bend lines perpendicular to the longer sides of the blank (and hence parallel to the shorter sides of the blank) are formed, spaced apart by almost identical distances. The blank is thus divided into five approximately identical strips and can be bent (rolled up) into a tube, forming a tubular body with a square cross-section; three walls of this body are constituted by three of the aforementioned five strips (for precision, by the central strip and by the two strips adjacent thereto), whilst the fourth wall is constituted by the remaining two of the aforesaid strips (for precision, the end strips) which overlap, as schematically indicated 331, 332 in Figure 3.

The element 32 is formed in a manner such that its sides have dimensions exactly corresponding (except for the minimal tolerance which is, of course, necessary) to the dimensions of the holes 4b formed in the shelves 4 and the holes 5a in the upper face 5 of the base 2.

Naturally, although the solution described for the formation of the elements 32 is preferred, it should not be considered essential. For example, it is not in fact necessary for one of the faces of the tubular element to result from a complete overlap of two strips of the flat blank from which the element 32 is produced. There may be no overlap (and in this case the blank will comprise only four strips) or only a partial overlap, in accordance with the criteria illustrated for the formation of the elements 31 of Figure 5 which shows the development of the respective blank of sheet material in a plane.

In this case also, the elements are formed starting with a flat, approximately rectangular blank in which four bend lines are formed (perpendicular to the longer sides and parallel to the shorter sides) so as to create five strips indicated in order 310 to 314. The last strip, which is to be folded onto the first strip 310 when the blank in question is closed to form a tube, as shown in Figure 3, generally has smaller dimensions than the other strips.

The dimensions of the blank shown in Figure 5 and the positions of the bend lines which create the various strips 310 to 314 are selected in a manner such that, once it has been bent to form a tube as shown in Figure 3, the internal cavity of the element 31 has dimensions such that an element 32 of the type described above can be housed for sliding within it (preferably without giving rise to appreciable play or interference).

As already stated, the square cross-section illustrated with reference to the element 32 is not essential (to give only one example, a triangular shape would be possible). The same reasoning thus also applies to the elements 31 which, in general, should have a shape complementary to that of the elements 32 so that they can be coupled in a continuously extending arrangement.

The closure of the elements 31 as tubes is usually

strengthened by fixing the strip 314 to the strip 310 in some way. This fixing may take place, for example, by adhesive means which may already be provided on the blank (for example, in the form of adhesive lines covered by strips for subsequent removal) or by the interposition of fasteners, etc.

Similar fixing is not generally required for the elements 32. The latter are in any case held in the closure position in the assembled display unit 1 as a result of their insertion inside the elements 31 in the manner which can be inferred from Figure 4.

This drawing shows how each element 32, a certain length of which is fitted inside a respective element 31, gives rise to a module of the tubular structure having:

- an end (the lower end in Figure 5) constituting a female element (a mortice) and
- an opposite end (the upper end in Figure 4) acting as a male element (a tenon) which can fit in the female element 31 of an module disposed above it (shown in broken outline).

Conversely, the female element 31 of the element shown in continuous outline in Figure 4 can house, in its lower end, the male element 32 of an identical module (also shown in broken outline) placed in position within the structure of each upright 3.

Naturally, the orientation described could be reversed by the arrangement of the modules of each upright with the male portion (the element 32 projecting from a respective element 31) facing downwardly and not upwardly as shown in the appended drawings.

In any case, the modular structure described permits the formation of successive sections of upright between which the shelves 4 of the display unit are interposed; in this connection, it should be noted, as already stated above, that the holes 4b in the shelves (and the holes 5a in the base 2) have dimensions approximately corresponding to the external dimensions of the elements 32.

Tests carried out by the Applicant show that each upright 3 thus formed has excellent and uniform characteristics of stiffness (in the sense of resistance to bending relative to its axis). This is also achieved by a reduction in the overall length of the elements 32 so that it corresponds to only a fraction, which may be quite small, of the overall length (height) of the upright, with the elements 32 spaced apart, preferably with uniform spacing, within the respective upright 3. For this purpose, it is important to be able to regulate the extent or distance to which the element 32 penetrates the element 31 housing it, in all of the modules composed of an element 31 housing an element 32.

To ensure this result, within the blank used to manufacture the element 31 (see Figure 3), two C-shaped incisions 315 are formed in at least one of two strips which are to define two of the faces of the element 31

(for example, in the two strips 311 and 313, in the solution to which Figure 5 relates), the concave sides of the incisions 315 facing away from the end of the element 31 which is to house the element 32. As can best be seen in Figures 3 and 4, the portion of the strip which is surrounded by the incision 315 can thus be bent inwardly relative to the element 31 so as to create (again see Figures 3 and 4) a tab projecting like a bracket into the element 31. A stop or abutment element, indicated 316, is thus formed and interferes with the path of the penetration of the element 32 into the element 31 (see Figure 4 in this connection) so as to regulate precisely the extent of its travel.

The operation to form the incision 315 is preferably repeated on two of the strips (the strips 311 and 313 in the embodiment shown) which are to form opposite faces of the element 31 so as to achieve the aforementioned resistance to the penetration of the element 32 symmetrically in diametrically-opposed positions relative to the development of the element 31.

The elements 32 are thus spaced apart in each assembled upright 3.

Two further tabs, indicated 317, (rectangular tabs in the embodiment shown) project from the strips 311, 313 at the end of the element 31 in which the element 32 is engaged. This is the end at which a respective shelf 4 is intended to bear on the element 31 (see in particular Figure 4).

The presence of the tabs 317 which, in the final position of use shown in Figure 4, project outwardly from the element 31 like brackets, further improves the support of the shelves 4 by the uprights 3.

Clearly, however, a function of this type could also be performed with only one of the tabs 317.

However, the presence of two diametrically-opposed tabs 317 permits a more uniform distribution of the stresses applied to the upright 3 by the shelf 4 (which supports the products P).

Naturally, any number of tabs 317, that is, a number equal to the number of faces of the element 32, or a smaller or larger number could be provided (for example, by the imaginary division of a single tab into separate tabs). In particular, the location of the tabs 317 on the same faces in which the notches 315 are formed corresponds to a constructionally practical selection but does not constitute an absolute requirement.

With regard to the top element 40, this may simply bear on the upper ends of the uprights 3 formed by elements 31 without corresponding elements 32 mounted inside them, or may have a box-like structure substantially similar to that of the base 2 with holes for housing elements 32 situated at the tops of the uprights.

The base 2 may have inside it, extending vertically beneath the holes 5a, respective elements 31 structurally similar to the elements 31 shown in Figures 3 and 5 except for, preferably, a greater axial length. This is to take account of the fact that the height of the base 2 is preferably greater than the distance (identified by the

heights of the elements 31) separating the shelves vertically.

The variant shown in Figures 6 and 7 (the latter, in practice, corresponding to Figure 4) again corresponds, with regard to its general characteristics and the respective methods of use, to the description given above with reference to Figures 1 to 5.

The most important difference to be found in the variant of Figures 6 and 7 is the structure of the uprights 3 which are constituted by respective outer and inner cylindrical, tubular elements 31 and 32. In the variant of Figures 6 and 7, the elements 31 and 32 are of a cylindrical shape and can easily be formed, for example, with paper or cardboard, by the techniques currently used for producing cardboard tubes used as cores for rolls of fabric, wallpaper and paper for other uses, film for preserving food products, adhesive tapes, etc.

On the other hand, the above-described male-and-female (mortice-and-tenon) coupling remains unchanged and may be formed with the male portions of the various upright sections projecting upwards or, preferably, (for reasons which will become clearer from the following) downwards.

In particular, the inside diameter of the elements 31 and the outside diameter of the elements 32 are selected so as to give rise to a shaped coupling which is tight enough to prevent undesired relative movements whilst also avoiding too tight a fit such as to hinder the disconnection of the adjacent sections of each upright 3 when it is dismantled.

Each element 32 can easily be fixed inside the respective element 31 of which the element 32 constitutes the upwardly-or downwardly-projecting tenon, for example, by gluing.

This prevents one or more elements 32 from accidentally sliding inside the respective elements 31 when the sections of each upright 3 are connected to one another, so that the precise vertical spacing of the elements 32 shown, for example, in Figure 7 is not observed.

The same drawing shows how the shelves 4 are held in the desired position because they are gripped, in the region of the holes 4b aligned with each upright 3, between two adjacent elements 31 belonging to two successive sections of the upright 3 concerned.

It can also be seen from an observation of Figure 7 that, in the variant illustrated therein, the shelves 4 are produced in the form of double-layered panels, for example, of corrugated cardboard or a similar product, with the aforementioned adjacent elements 31 exerting their gripping action on one of the layers (usually that which is in the upper position in use) of the double-layered panel. It has been found that the structure described above can ensure excellent structural strength, even with a considerable number of holes or openings O, particularly with shelves formed by two layers of cardboard glued together.

The lower portion of Figure 6 shows how, with a so-

lution which, moreover, can also be used in the embodiment shown in Figures 1 to 5, the downward projection of the tenons (the elements 32) associated with the lower sections of each upright 3 can be used to anchor the uprights 3 to the base 2.

In the specific embodiment, the base 2 has an internal reinforcing framework comprising a set of walls made of cardboard (or similar sheet material) arranged in two perpendicular rows 60, 61. Each row comprises two walls (but the number could be different, for example, larger) with cross-like intersections, particularly with intersection points - of which there are four in the embodiment shown located in the regions of the uprights 3.

An arrangement of walls of this type can easily be produced by criteria widely known in the paper and cardboard industry, for example, by the provision of upwardly- or downwardly-facing vertical slots in the regions of the walls of each row corresponding to the walls of the other row. The walls of one row, which have complementary vertical slots at the points of intersection, and hence slots facing downwardly or upwardly, in the opposite direction to the slots provided at the points of intersection in the wall of the other row, are slid into these slots.

Further upwardly-opening U-shaped slots (or notches), indicated 70, are provided in the walls of each row 60, 61 at the intersection points which are aligned with the uprights 3. These slots or notches have a width and a length (depth) corresponding to the diameter and to the length (or height) of the elements 32 projecting downwardly from the uprights 3. The slots or notches 70 thus define respective seats for the engagement of the aforesaid elements which can be fitted firmly in the base 2 in the seats defined by the U-shaped slots or notches 70.

Each of the aforesaid U-shaped slots or notches preferably has an appendage or tab 71 projecting upwardly in its base so as to be able to penetrate the axial cavity of the aforesaid tenon, fixing it more firmly in its engagement position.

Figure 6 also shows that the walls 60, 61 of the reinforcing framework of the base 2 may have lower appendages 80, 81, preferably at intersection points (advantageously but not necessarily in alignment with the uprights 3). These appendages which preferably have a cross-like structure, form respective feet for supporting the base 2, or reinforcing elements for shaped (for example mushroom-shaped and hollow) feet F associated with the base 2.

Claims

1. A display unit comprising a plurality of shelves (4) supported by at least one upright (3) defined by a plurality of modules coupled to one another in a generally male-and-female configuration, characterized in that each module comprises an outer tubular element (31) defining a female coupling element at one of its ends and carrying an inner tubular element (32) engaged in its opposite end and projecting from the outer tubular element (31) so as to form a male element which can be engaged in the female element of an adjacent module.

2. A display unit according to Claim 1, characterized in that the overall length of the inner tubular elements (32) included in the at least one upright (3) is a fraction of the overall length of the upright (3).

3. A display unit according to Claim 2, characterized in that the inner tubular elements (32) are spaced apart in the at least one upright (3).

4. A display unit according to Claim 1, characterized in that the outer tubular element (31) has at least one appendage (316) projecting into its cavity in order to cooperate with the inner tubular element (32) in a stopping arrangement so as to set at a predetermined value the extent to which the inner tubular element (32) penetrates the said opposite end of the outer tubular element (31) in a coupling arrangement.

5. A display unit according to Claim 4, characterized in that the at least one appendage (316) is constituted by a portion of the wall of the outer tubular element (31) which is bent inwardly relative to the outer tubular element (31).

6. A display unit according to Claim 4 or Claim 5, characterized in that the outer tubular element comprises two of the said appendages (316) located in diametrically-opposed positions.

7. A display unit according to any one of Claims 1 to 6, characterized in that the outer tubular element (31) has, at the said opposite end, at least one appendage-like element (317) which can project outwardly from the outer tubular element (31) like a bracket so as to constitute a support element for a respective shelf (4).

8. A display unit according to Claim 7, characterized in that the outer tubular element (31) comprises a pair of appendage-like elements (317) located in diametrically-opposed positions.

9. A display unit according to any one of Claims 1 to 8, characterized in that the outer tubular element (31) and the inner tubular element (32) have polygonal cross-sections.

10. A display unit according to Claim 9, characterized in that the polygonal cross-section is a square cross-section.

11. A display unit according to Claim 9 or Claim 10, characterized in that each of the outer tubular element (31) and the inner tubular element (32) is produced from a respective flat blank made of sheet material and divided into a plurality of strips (331, 332; 310 to 314) by bending so that the flat blank can be closed to form a tube. 5

12. A display unit according to Claim 9 and Claim 11, characterized in that the flat blank is divided into a number of strips greater by one unit than the number of sides of the polygonal cross-section so that two of the strips (331, 332; 310, 314) of the respective flat blank at least partially overlap in the outer tubular element (31) and the inner tubular element (32) when they have been closed to form tubes. 10 15

13. A display unit according to Claim 12, characterized in that the two at least partially overlapping strips (310, 314) are fixed to one another by gluing or tacking. 20

15. A display unit according to Claim 4 and Claim 7, characterized in that the at least one appendage (316) and the at least one appendage-like element (317) are aligned axially relative to the development of the respective outer tubular element (31). 25

16. A display unit according to Claim 11 and Claim 15, characterized in that the at least one appendage (315) and the at least one appendage-like element (317) are associated with the same strip (311; 313) of the flat blank. 30

17. A display unit according to any one of Claims 1 to 16, characterized in that the shelves (4) have holes (4b) through which the at least one upright (3) can extend, the holes (4b) having inside dimensions substantially corresponding to the outside dimensions of the inner tubular element (32). 35 40

18. A display unit according to any one of Claims 1 to 17, characterized in that it has a top element (40) supported by the upper end of the at least one upright (3). 45

19. A display unit according to any one of Claims 1 to 18, characterized in that it comprises a base element (2) having at least one tubular element (31) for housing the lower end of the at least one upright (3). 50

20. A display unit according to Claim 19, characterized in that the tubular housing element (31) has a structure substantially similar to the structure of the outer tubular elements (31) of the modules. 55

21. A display unit according to Claim 20, characterized in that the tubular housing element (31) has an axial length greater than the axial length of the outer tubular element (31) of each module.

22. A display unit according to any one of Claims 1 to 21, characterized in that each shelf (4) has a flat bearing portion (4a) surrounded by a bent element (4c) with a stiffening function.

23. A display unit according to Claim 22, characterized in that the bent element (4c) is oriented upwardly in the assembled display unit (1).

24. A display unit according to Claim 22, characterized in that the bent element (4c) is oriented downwardly in the assembled display unit (1).

25. A display unit according to any one of the preceding claims, characterized in that it comprises a plurality of uprights (3) located in generally inner positions of the shelves (4) .

26. A display unit according to any one of Claims 1 to 8, characterized in that the outer tubular element (31) and the inner tubular element (32) are cylindrical.

27. A display unit according to Claim 26, characterized in that the outer tubular element (31) and the inner tubular element (32) are formed as cardboard tubes.

28. A display unit according to Claim 26 or Claim 27, characterized in that the inner tubular element (32) is fixed to the respective outer tubular element (31) by gluing.

29. A display unit according to any one of the preceding claims, characterized in that the shelves (4) have a multilayered structure with at least one layer which, in the assembled display unit (1), is gripped between two adjacent outer tubular elements (31) in the respective upright (3).

30. A display unit according to Claim 1, characterized in that it comprises a base structure (2) with reinforcing walls (60, 61) arranged in rows and intersecting at least at one intersection point aligned with the at least one upright (3), and in that the reinforcing walls (60, 61) have, at the at least one intersection point, respective U-shaped notches (70) opening upwardly and defining a seat for the engagement of a respective male element constituted by the inner tubular element (32) of the module situated in the lower position within the at least one upright (3).

31. A display unit according to Claim 30, characterized in that at least one of the U-shaped notches (70) has, in its base, a tab-like appendage (71) which can penetrate the male element, fixing it firmly in its engagement position.

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32. A display unit according to Claim 30 or Claim 31, characterized in that the reinforcing walls (60, 61) have lower projecting appendages (80, 81) constituting support elements for the base structure (2).

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33. A display unit according to Claim 32, characterized in that the support elements (80, 81) extend into respective support feet (F) of the base structure (2).

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FIG. 1

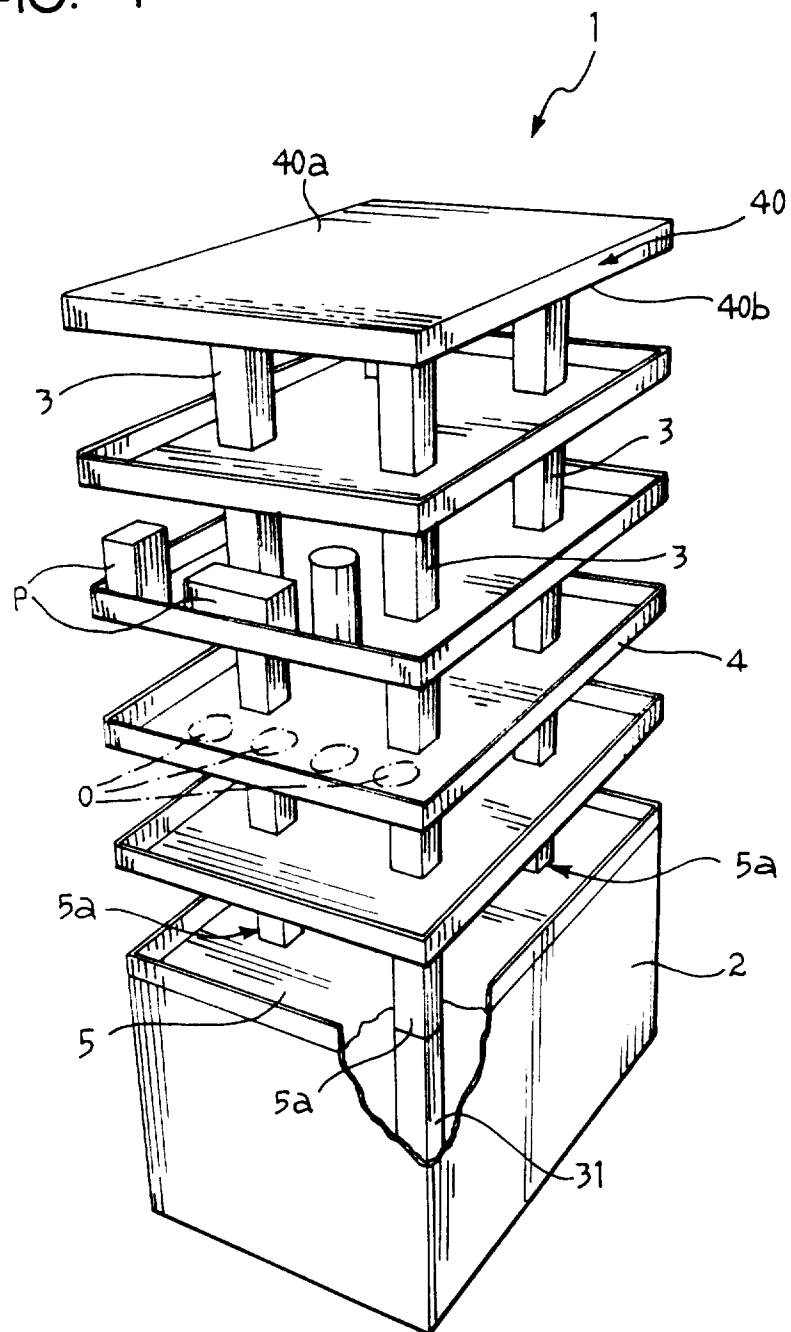


FIG. 2

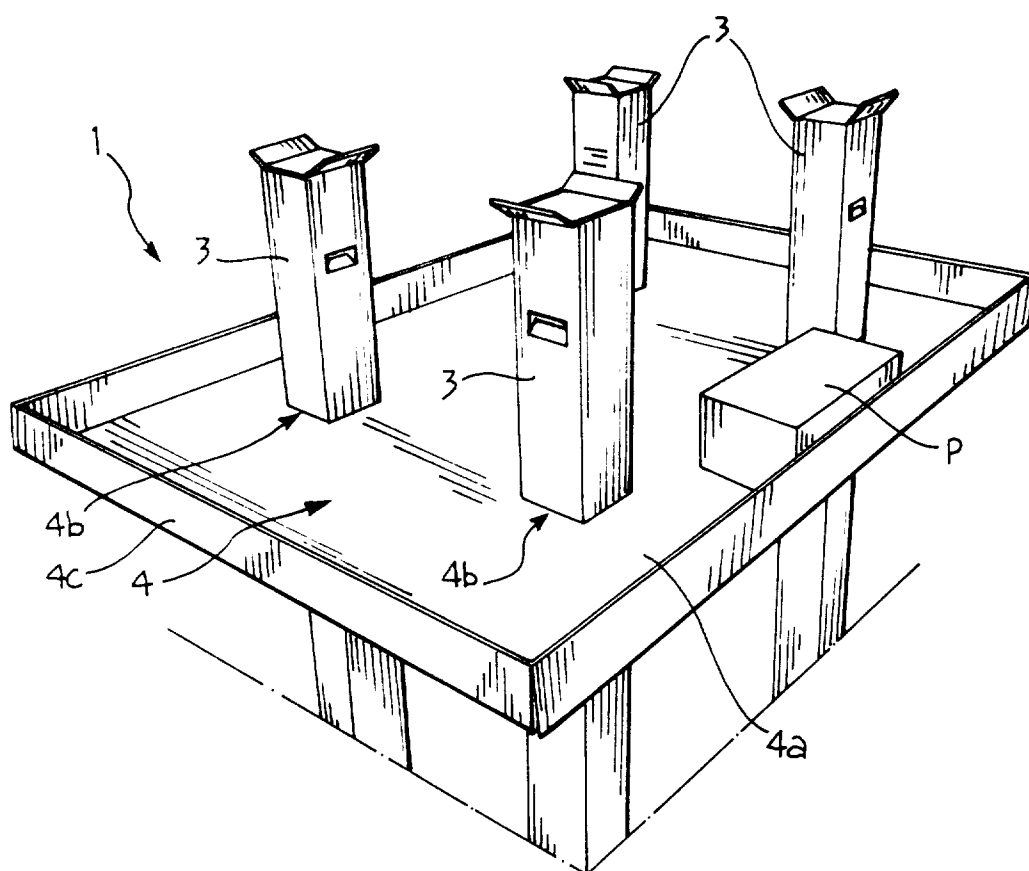


FIG. 3

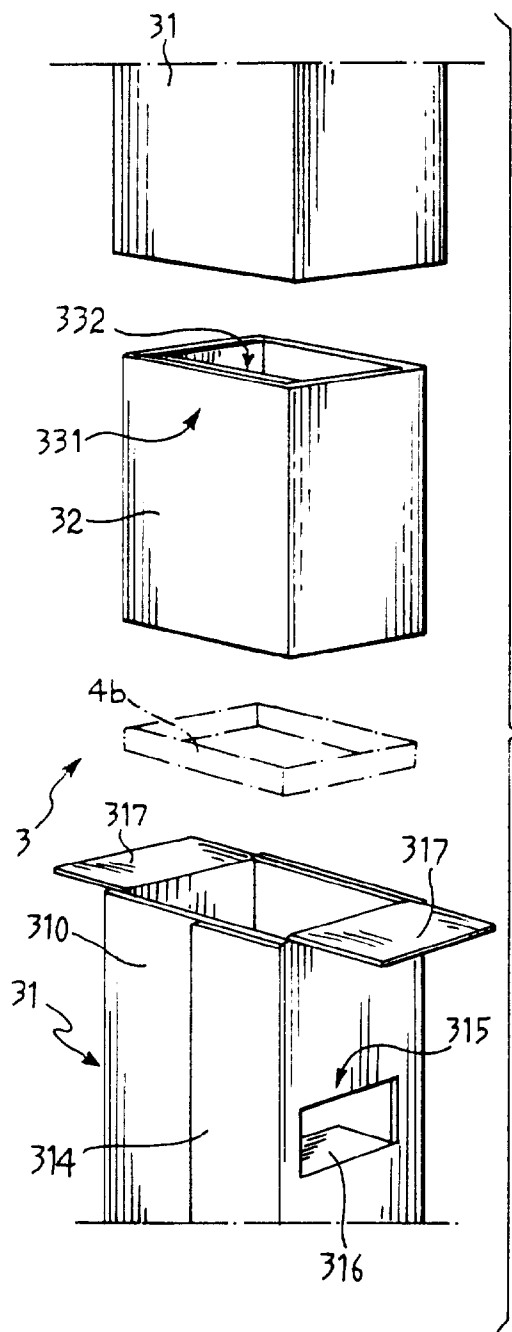


FIG. 4

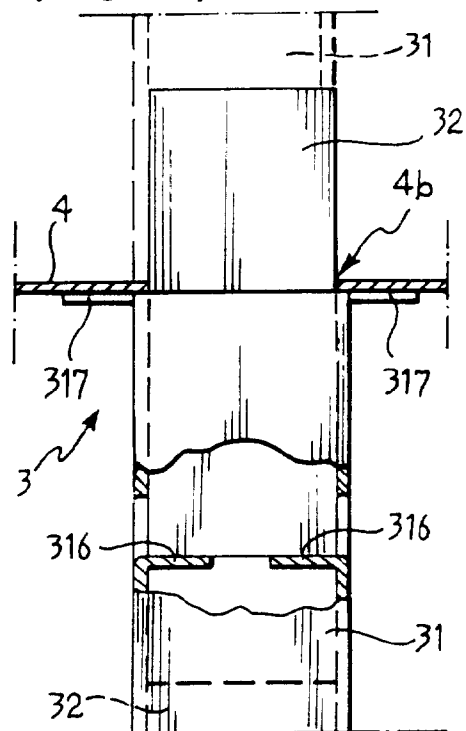
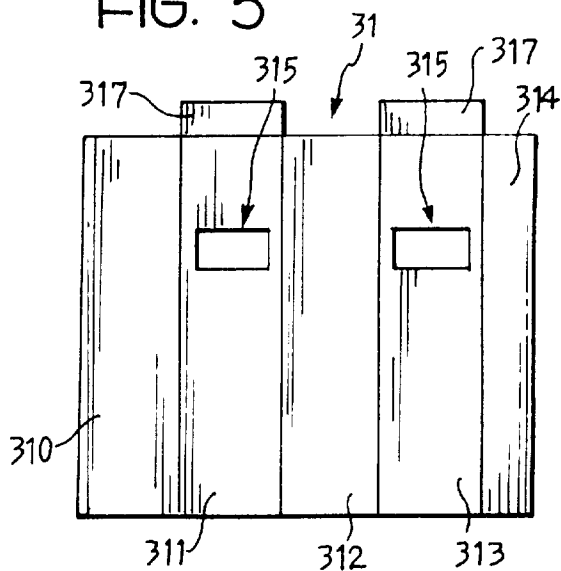
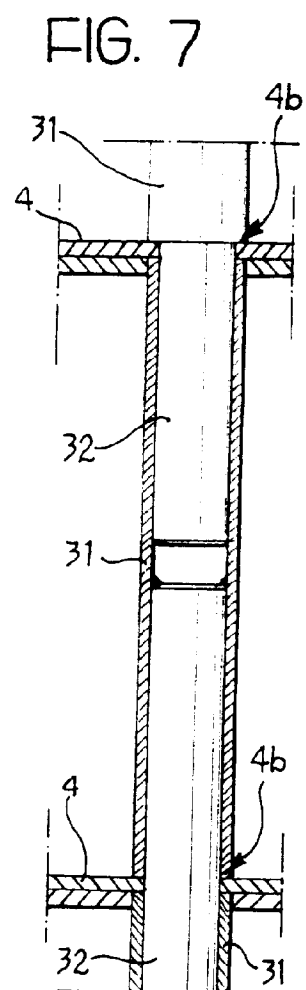
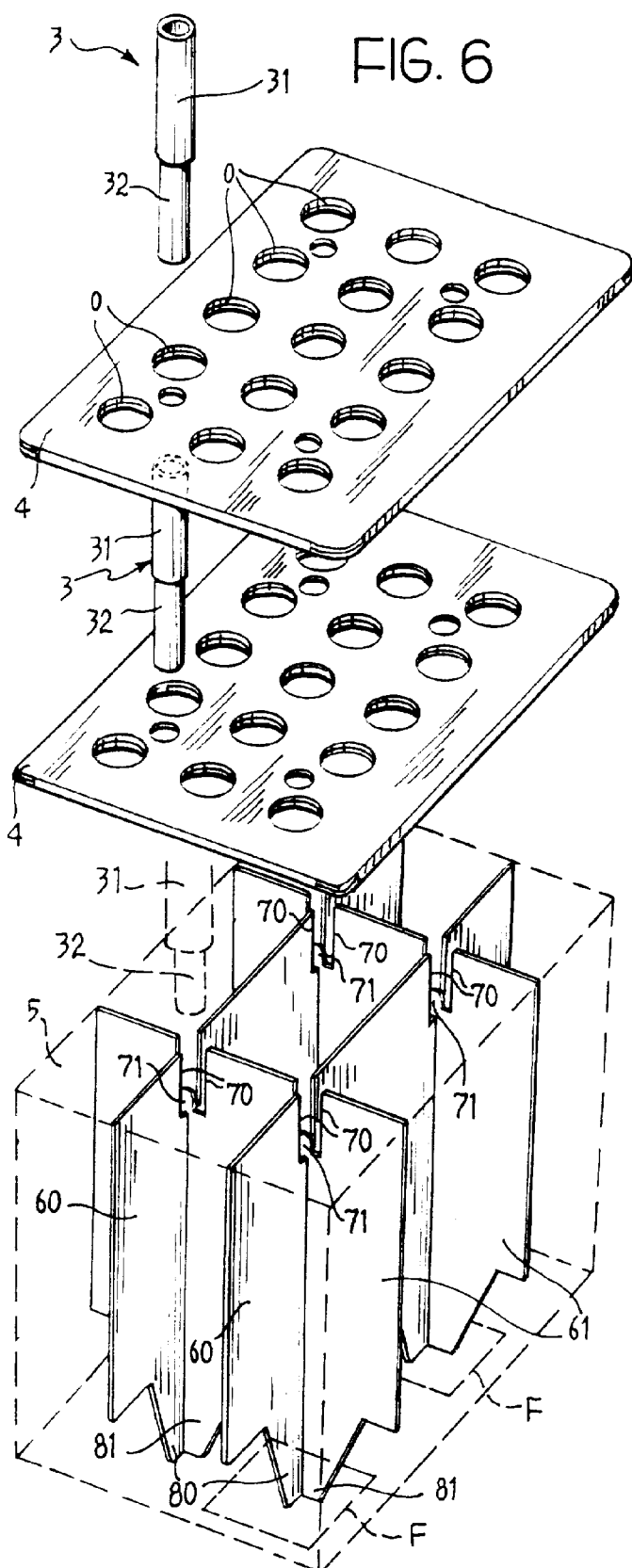


FIG. 5







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 11 1250

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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	* column 3, line 1 - line 43; figures 1-6 *		TECHNICAL FIELDS SEARCHED (Int.Cl.6)
	* column 4, line 25 - line 58 *		A47F A47B

The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 9 October 1997	Examiner Jones, C
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			

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