(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 219 176**
A2

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **86201788.6**

(22) Date of filing: **15.10.86**

(51) Int. Cl.⁴: **B 65 D 5/52**

(30) Priority: **16.10.85 NL 8502826**

(43) Date of publication of application:
22.04.87 Bulletin 87/17

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

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(54) **Transport and display packing.**

(57) Transport and display packing made from a foldable material, for instance cardboard, provided with a tubular base and a box-shaped body positioned on top of the base for containing commercial goods, whilst the base is provided with two transverse folding lines running parallel to the basal plane of the foot, so that the base which is foldable along the longitudinal folding lines can be fitted snugly against the body, of such a design that the entire packing is made from a single plane sheet, with each section of the packing being continuously connected through other sections to each other section of the packing, and in which substantially all of the plane sheet surface is utilized with a minimum of wastage.

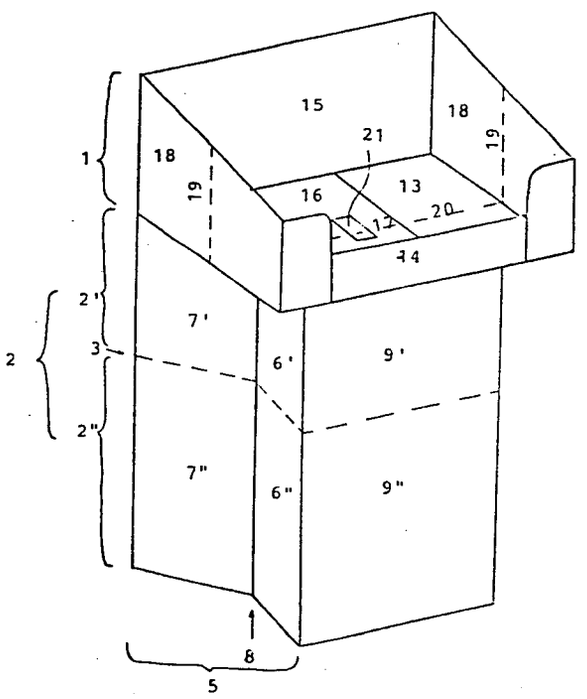

Fig.1

EP 0 219 176 A2

60.77.925
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TRANSPORT AND DISPLAY PACKING

The invention relates to a transport and display packing made from a foldable material, for instance cardboard, consisting of a tubular base having a polygonal cross-section and provided with longitudinal folding lines and a box-shaped body positioned on top of the base for containing commercial goods, which body rests on the base, whilst the base is also provided with at least two transverse folding lines running parallel to the basal plane of the foot and the distance between these two transverse folding lines approximately corresponds with a main dimension of the body, so that the base which can be folded along the longitudinal folding lines can be fitted snugly against the body such that the lower transverse folding line comes to rest against a top edge of the body.

Such a packing is known from the German Patent DE-29 02 573 C2, in which a foldable base is fastened with the aid of a fixing lug underneath a box-shaped body, for instance by gluing. The box-shaped body stands in a plumb position on the base.

Such a packing has to be composed of at least two plane sheets, namely one plane sheet for the base and one for the box-shaped body. In addition, it is not readily possible for one person to unfold the base correctly while holding the box-shaped body in a stable position.

It is an object of the invention to provide an improved transport and display packing of the type mentioned in the opening paragraph. This object is achieved in that the entire packing is made from a single plane sheet in such a fashion that each section of the packing is continuously

connected through other sections to each other section of the packing and that substantially all of the plane sheet surface is utilized with a minimum of wastage.

The economic advantage of the invention lies in the possibility of making the whole packing from one plane sheet. Consequently, instead of several subproduction lines only one production line is required, which affords a saving in machines, manpower, space and energy.

The packing according to the invention has a practical advantage in use in that the setting up of the packing so produced takes place automatically when the lid is released. No extra manipulations are required, so that the box-shaped body can at all times be held in a stable position by one person with two hands. This has become possible, because the packing is provided with an ancillary part for the automatic unfolding of the base to assume the only correct position underneath the box-shaped body, the said ancillary part being integral with the plane sheet.

Besides the possibility of folding out the base so as to form a lid for the box-shaped body, the packing can in its unfolded form also be folded together into a flat package. Therefore, a number of packing boxes ready to be filled and used can, in their flattened form, be stacked up and conveyed from the packing-material plant to the user, while occupying a minimum of space. By a simple manual action the user is able to make the packing ready for filling. Ease of manipulation is afforded, because the packing is provided with special folds which allow the packing made from one plane sheet to be collapsed into a flat package.

It is to be observed that from the European Patent EP-A-0 101 854 also a transport and display packing of the type

mentioned in the opening paragraph is known in which the base in its folded state acts as part of the lid. In this design the box-shaped body is disposed at an angle to the base.

The packing again consists of two separate plane sheets. Of the starting sheet to be used as plane sheet for the base, a good deal of material is lost in processing. In addition, the packing can assume only one (oblique) position relative to the base.

According to the invention, it is possible to bring the box-shaped body into different positions relative to the base, inasmuch as the packing is provided with separate folding lines, so that in one and the same packing the box-shaped body can be positioned at will at an angle to the base or in plumb position on the base.

A number of embodiments of the invention will now be described with reference to the accompanying figures, in which

Figure 1 is an isometric oblique view of an embodiment according to the invention in completely unfolded display position;

Figure 2 is a lateral view of the embodiment depicted in Figure 1;

Figures 3-5 show the embodiment of Figure 1 at the several stages of the base being folded in;

Figure 6 shows the embodiment of Figure 1 substantially folded together to serve as transport packing;

Figure 7 shows another embodiment according to the invention in a collapsed state;

Figure 8 shows a third embodiment according to the invention in a display position;

Figure 9 shows the embodiment of Figure 8 in a collapsed state;

Figure 10 represents a plane sheet for the embodiment of Figure 7;

Figure 11 represents a plane sheet for the embodiment of Figure 1;

Figure 12 represents a plane sheet for the embodiment of Figure 8;

Figure 13 represents an enlarged detail drawing of the forked line of intersection in Figure 10;

Figure 14 represents an enlarged detail drawing of the corresponding forked line of intersection in Figure 11; and

Figure 15 shows an enlarged detail from Figure 12.

As represented in Figure 1, one embodiment according to the invention consists of a box-shaped body (1) and a base (2) with a polygonal cross-section, which base (2) is provided with an transverse folding line (3) parallel to the basal plane of the foot, whereby the base (2) is divided into an upper base (2') and a lower base (2'').

In Figure 2 a second transverse folding line (4) is seen at the location where the base (2) is connected to the box-shaped body (1).

It can be observed in both Figures 1 and Figure 2 that the base side walls (5) consist of a front and a rear

side-wall part (6) and (7), respectively which are interconnected by a vertical fold (8).

The Figures 2-5 show the various stages in the folding of the base (2) round the box-shapes body (1), as will have to be performed after the box-shaped body (1) has been filled with commercial goods. The folding sequence is as follows:

- the entire packing comes clear of the ground by slightly lifting the box-shaped body (1);

- by exerting a force on the front of the base (9), this will rotate about the second transverse fold (4) which acts as a hinge;

- because of this rotating movement, the front of the base (9) leaves the box-shaped body (1) but remains connected to it by means of the ancillary part (10);

- as the ancillary part (10) is essentially undeformable and hinges on another axis (23) than the rest of the base (2), the front of the base (9) describes another arc than the rest of the base (2) such that the front of the base (9) is forced against the back of the base (11) (see Figures 3 and 4);

- now the base (2) folds in along the vertical folds (8), whereby the front side-wall parts (6) of the base finally come to rest against the rear side-wall parts (7) (see Figure 4);

- upon further rotation the folded base (2) bends on the transverse fold (3) so as to form the lid (12) of the box-shaped body (1).

It stands to reason that the unfolding of the base (2) takes place in the reverse order, in which operation the

energy stored in the material during the folding effects an automatic changeover of the base (2) to roughly the position depicted in Figure 4, whereupon gravity and moment cause the base (2) to change further to the position depicted in Figure 2, the parts of the base (2) being automatically restored to their proper position by the action of the ancillary part (10).

During the unfolding, the box-shaped body (1) can be held in a stable position by one person with two hands, as the lid (12), when released, automatically turns up and folds out to form a base (2). This base (2) invariably assumes a stable position of its own accord, so that no further adjustment (extra footwork!) is required.

Also, the packing can be folded together into a flat package, as represented in Figure 7, by turning up the lateral bottom parts (13) of the box-shaped body (1) and then moving the front (14) to the back wall (15). The main bottom parts (16) will then hinge upwards on the bottom folding line (17) indicated in Figure 1, whilst the side-wall parts (18) and the lateral bottom parts (13) of the box-shaped body (1) fold on the side-wall folding lines (19) and the lateral bottom part folding lines (20), respectively, which are now aligned in parallel with the side-wall folding lines (19).

The ancillary part (10), of which the fixing lug (21) is visible in Figure 1, will be received between the main bottom parts (16). As a result, the base (2) will also fold together.

Another embodiment according to the invention, as represented in Figure 8, is collapsed in a different manner. A bottom construction which can be visualized from the plane sheet of Figure 12 makes it possible to fold this packing together quite simply by merely exerting an

obliquely directed compressive force on an angular point, so as to reach the final result shown in Figure 9. The upright sections visible in Figures 8 and 9 are the lateral bottom parts (22).

The unfolding of a packing from the collapsed state is done in an equally simple manner in the reverse sequence.

From the plane sheets for the three embodiments according to the invention as represented in Figures 10, 11 and 12 it can be readily derived on what lines each type of packing has been designed. A distinction can be made between the plane sheets of Figures 10 and 11 on the one hand, which agree on several points, and the plane sheet of Figure 12 on the other hand.

The parts of the three plane sheets are denoted by three-digit numerals. On the plane sheets of Figures 10 and 11 the first digit is a 1 for each part and equal numbers indicate equal parts. On the plane sheet of Figure 12 the first digit is a 2 for each part which in essence corresponds with similar parts in Figures 10 and 11, and a 3 for parts that deviate. After a 2 follow the corresponding last two digits of the number denoting the analogous part in Figures 10 and 11. For the embodiments of Figures 10 and 11, the plane sheet from which the packing is formed can be taken in a general descriptive sense to comprise the following:

- a face (100) which is substantially divided lengthwise by means of a coinciding first longitudinal groove (101) and first longitudinal intersecting line parts (102) into
  - a part (103) for substantially all of the box-shaped body (1) and
  - a part (104) for substantially all of the base,

- whilst the part (103) for substantially all of the box-shaped body (1) is subdivided by means of a second longitudinal groove (105) into wall faces and bottom faces, and by means of transverse grooves and a forked line of intersection (106) into front, side and rear faces,
- whilst in top view of the plane sheet the wall faces for the box-shaped body (1) may form the entire right-hand side of the plane sheet, which side incorporates the following wall faces going from the bottom to the top:

  - a first narrow overlap face (107) for inter-connection
  - separated by a first transverse groove (108) from
  - a first side-wall face (109)
  - separated by a second transverse groove (110) from
  - a first incomplete front face section (111)
  - which is separated by a forked line of inter-section (106) from
  - a second incomplete front face section (112)
  - which is separated by a third transverse groove (113) from
  - a second side-wall face (114)
  - separated by a fourth transverse groove (115) from
  - a rear-wall face (116)

- whilst the faces for the bottom of the box-shaped box (1) comprise from the bottom to the top:

  - a first lateral bottom face (117),
  - which is separated by the second longitudinal groove (105) from
  - the first side-wall face (109)

- a second lateral bottom face (118)
- which is separated by the second longitudinal groove (105) from
- the second side-wall face (114) and
- a rearmost main bottom face (119)
- which is separated by the second longitudinal groove (105) from
- the rear-wall face (116) and
- by a third longitudinal groove (120) from
- a front most main bottom face (121)
- which is separated by a fourth longitudinal groove (122) from
- a front face (123),
- of which the rearmost main bottom face (119), the frontmost main bottom face (121) and the front face (123) in top view exhibit a funnel-shaped divergent profile from right to left, extending into the plane sheet section for the base,
- and are separated therefrom by funnel-like diverging lines of intersection (124) and a second longitudinal intersection line (125),
- whilst the rearmost main bottom face (119) is T-shaped,
- in which the top beam of the T is over its entire length adjacent to the rear-wall face (116) and has a width equal to virtually half the width of a lateral bottom face (117, 118),
- and the main beam of the T forms the narrow initial part of the funnel shape,

- whilst the faces for the base (2) are divided by a fifth longitudinal groove (126) into upper base faces (127) and lower base faces (128), of which the latter are in top view located along the far left-hand side of the plane sheet, and

- of which the upper base faces (127) comprise the following, going from the bottom to the top:

  - a second narrow overlap face (129) for interconnection
  - separated by the first transverse groove (108) from
  - a first rearmost upper-base side-wall face (130)
  - separated by a fifth transverse groove (131) from
  - a first frontmost upper-base side-wall face (132)
  - separated by a sixth transverse groove (133) from
  - an upper-base front face (134)
  - separated by a seventh transverse groove (135) from
  - a second frontmost upper-base side-wall face (136)
  - separated by an eighth transverse groove (137) from
  - a second rearmost upper-base side-wall face (138)
  - separated by the fourth transverse groove (115) from
  - an upper-base rear-wall face (139) which - consists of a first and a second upper-base rear-wall face section (139', 139'')
  - which are separated from one another by the funnel-like diverging lines of intersection (124)
  - and the intermediate parts of the rearmost main bottom face (119) and the front face (123) and the entire frontmost main bottom face (121) for the box-shaped body (1)

- and the lower-base faces (128) comprise, going from the bottom to the top:

  - a third narrow overlap face (140) for inter-connection
  - separated by the fifth longitudinal groove (126) from
  - the second narrow overlap face (129) for inter-connection
  - and by the first transverse groove (108) from
  - a first rearmost lower-base side-wall face (141)
  - separated by the fifth longitudinal groove (126) from
  - the first rearmost upper-base side-wall face (130)
  - and by the fifth transverse groove (131) from
  - a first frontmost lower-base side-wall face (142)
  - separated by the fifth longitudinal groove (126) from
  - the first frontmost upper-base side-wall face (132)
  - and by the sixth transverse groove (133) from
  - a lower-base front face (143)
  - separated by the fifth longitudinal groove (126) from
  - the upper-base front face (134)
  - and by the seventh transverse groove (135) from
  - a second frontmost lower-base side-wall face (144)
  - separated by the fifth longitudinal groove (126) from
  - the second frontmost upper-base side-wall face (136)
  - and by the eighth transverse groove (137) from
  - a second rearmost lower-base side-wall face (145)

- separated by the fifth longitudinal groove (126) from
- the second rearmost upper-base side-wall face (138)
- and by the fourth transverse groove (115) from
- a lower-base rear-wall face (146) from which a part of the front face (123) for the box-shaped body (1) has been separated by means of the funnel-like diverging lines of intersection (124) and the second longitudinal line of intersection (125) and
- which lower-base rear-wall face (146) is separated by means of
- two subgrooves of the fifth longitudinal groove (126', 126'') from
- the two upper-base rear-wall face sections (139', 139''),

- in which the upper-base front face (134) has an ancillary face (147) attached to it in symmetric disposition along part of its right-hand side,
- separated from it by the first longitudinal groove (101) and
- on the right-hand side of part of the ancillary face (147) a fixing lug (148) has been attached,
- separated therefrom by the second longitudinal groove (105),
- which lug (148) covers only a restricted area,
- whilst this lug (148) is separated by means of the forked line of intersection (106) from the first and the second incomplete front face sections (111, 112) intended for the box-shaped body (1), and
- the ancillary face (147) is separated by means of a first transverse line of intersection (149) from

- the first lateral bottom face (117) for the box-shaped body (1)
- and by means of a second transverse line of intersection (150) from
- the second lateral bottom face (118) for the box-shaped body (1),

- whilst the hingeable connection between the box-shaped body (1) and the upper base (2') comprises

- a first hinge face (151)
- which is separated by the second longitudinal groove (105) from
- the first narrow overlap (107) for interconnection
- and by a third transverse line of intersection (152),
- which is in direct line with the first transverse groove (108),
- from the first lateral bottom face (117) for the box-shaped body (1),
- and by the first longitudinal groove (101) from
- the second narrow overlap (129) for interconnection,
- the said first hinge face (151) being divided by
- a sixth longitudinal groove (153) into
- a first base hinge subface (151') and a first box-shaped-body hinge subface (152'')

- and

- a second hinge face (154)
- separated by a fourth transverse line of intersection (155),
- which is in direct line with the fourth transverse groove (115),

- from the second lateral bottom face (118) for the box-shaped body (1),
- separated by the second longitudinal groove (105) from
- the rear-wall face (116) for the box-shaped body (1)
- and separated by the first longitudinal groove (101) from
- the first upper-base rear-wall face section (139'),

- whilst this second hinge face (154) is divided by a seventh longitudinal groove (156),
- which is in direct line with the sixth longitudinal groove (153),
- into two hinge subfaces (154', 154'')
- such that the second base hinge subface (154') is separated from
- the rearmost main bottom face (119) for the box-shaped body (1) by
- a lower funnel-like diverging line of intersection (124') and
- the second box-shaped-body hinge subface (154'') forms part of
- the rearmost main bottom face (119) for the box-shaped body (1)

- and

- a third hinge face (157)

- which is separated by the second longitudinal groove (105) from
- the rear-wall face (116) for the box-shaped body (1)
- and by the first longitudinal groove (101) from

- the second upper-base rear-wall face section (139''),

- whilst this third hinge face (157) is divided by an eighth longitudinal groove (158),
- which is in direct line with the sixth and the seventh longitudinal groove (153, 156),
- into two hinge subfaces (157', 157'')
- such that the third base hinge subface (157') is separated from
- the rearmost main bottom face (119) for the box-shaped body (1) by an upper funnel-like diverging line of intersection (124'') and
- the third box-shaped-body hinge subface (157'') forms part of the rearmost main bottom face (119) for the box-shaped body (1).

A further point of agreement between the two embodiments is that for positioning the fixing lug (148) in the longitudinal centre of the rearmost main bottom face (119) for the box-shaped body (1) round about a hypothetical extended part of the first longitudinal groove (101) a rectangular aperture (159) has been provided over a restricted length which at least corresponds with the width of the fixing lug (148).

To facilitate folding of the four layers of material of the base (2) into the virtually collapsed state, the packings have been designed such that the following incisions (160) have been made along the fifth longitudinal groove (126):

- from the first transverse groove (108) as far as
- approximately halfway down the first rearmost upper- and lower-base side-wall faces (130, 141),
- from the sixth transverse groove (133) as far as approximately

- one third from the bottom of
- the upper- and lower-base front faces (134, 143),
- from approximately two thirds from the bottom of
- the upper- and lower-base front faces (134, 143)
- as far as the seventh transverse groove (135)
- from approximately halfway down the second rearmost upper- and lower-base side-wall faces (138, 145) as far as
- the fourth transverse groove (115),

and that at least some of the extremities of the longitudinal-groove incisions (160) have been provided with transverse incisions (161) of restricted length made at right angles thereto.

In both embodiments the box-shaped body (1) may be positioned perpendicularly on the base (2) but, if desired, also at an angle to the base (2), because a ninth longitudinal groove (162) has been provided at some distance to the left of the first longitudinal groove (101), between the sixth and the seventh transverse groove (133, 135) in the upper-base front face (134), parallel to the first longitudinal groove (101), as well as

- a first oblique groove (163) running
  - from the point of intersection of
    - the ninth longitudinal groove (162) and
    - the sixth transverse groove (133)
  - to the point of intersection of
    - the first longitudinal groove (101) and
    - the first transverse groove (108),
- a second oblique groove (164) running

- from the point of intersection of
  - the ninth longitudinal groove (162) and
  - the sixth transverse groove (133)
- to the point of intersection of
  - the first longitudinal groove (101) and
  - the first transverse line of intersection (149),

- a third oblique groove (165) running
  - from the point of intersection of
    - the ninth longitudinal groove (162) and
    - the seventh transverse groove (135)
  - to the point of intersection of
    - the first longitudinal groove (101) and
    - the second transverse line of intersection (150), and

- a fourth oblique groove (166) running
  - from the point of intersection of
    - the ninth longitudinal groove (162) and
    - the seventh transverse groove (135)
  - to the point of intersection of
    - the first longitudinal groove (101) and
    - the fourth transverse groove (115).

Folding about the ninth longitudinal groove (162) makes the upper-base front face (134) lower, whilst the upper-base rear-wall face sections (139) retain their height, so that the box-shaped body (1) in the unfolded state of the packing leans forward at an angle. This position is represented in Figure 2 with dashed lines.

Collapsing of a fully unfolded packing is possible, because the first and the second side-wall face (109, 114) have been provided with a ninth and a tenth transverse groove (167, 168), respectively, so that in top view, going from the bottom to the top,

- the first side-wall face (109) is divided into
- a first posterior and
- a first anterior side-wall face (109', 109''),
- and the second side-wall face (114) is divided into
- second anterior and
- a second posterior side-wall face (114', 114''),

- whilst the ninth and the tenth transverse groove (167, 168) also extend into the first and the second lateral bottom face (117, 118),
- in consequence whereof these faces are, in top view going from the bottom to the top, divided into
- a first posterior and
- a first anterior, and
- a second anterior and
- a second posterior lateral bottom face (117', 117'', and 118', 188'') respectively.

Besides the aforesaid points of agreement between the two embodiments according to Figures 10 and 11, there are also a number of differences. Starting from Figure 10, these differences consist in that

- the function of the first hinge face (151) has been entirely taken over by the second and the third hinge face (154, 157),
- the first and the second side-wall face (109, 114) of the box-shaped body (1) have been bevelled on what is in top view the right-hand side, so that in top view, going from the bottom to the top,

  - the first side-wall face (109) has an edge (169) sloping to the left and
  - the second side-wall face (114) has an edge (170) sloping to the right,
  - in such a fashion that when a packing is fully unfolded from the plane sheet the box-shaped body (1) assumes a trapezoid cross-section,
  - in which the front (14) is lower than the back wall (15) and
  - the front face (123) is of such dimensions that, when the packing is fully unfolded from the plane sheet, the ultimate height of the front face (123) corresponds with the height of the incomplete front-face sections (111, 112),

and that the front face (123) is divided by means of a double longitudinal groove (171) into an outer front-face section (123'), in top view to the right of the double longitudinal groove (171), and an inner front-face section (123''), in top view to the left of the double longitudinal groove, such that when a packing has been fully unfolded from the plane sheet, the inner front-face section (123'') has been folded back to the interior of the box-shaped body (1), the inner and the outer front-face section (123', 123'') having substantially the same length, and that the inner front-face section (123'') is provided over part of its length with at least one protruding cardboard closing lug (172), whilst at corresponding points in the fourth longitudinal groove (122)

matching apertures have been cut into which the closing lugs (172) slip after a packing has been unfolded from the plane sheet.

Points on which the two embodiments do agree again are that the incomplete front-face sections (111, 112) are of symmetrical design and that the boundary area of the first incomplete front-face section (111), located on the right-hand side in top view of the plane sheet, comprises the following subsections from the bottom to the top, starting from the second transverse groove (110) (see Figures 13 and 14):

- a substantially vertical first part (174), changing over into
- a substantially horizontal second part (175), changing over into
- a substantially vertical third part (176), changing over into
- a substantially horizontal fourth part (177), adjacent to the fixing lug (148) and changing over into
- a substantially vertical fifth part (178) bordering upon the ancillary face (147),
- up to this point constituting the forked line of intersection (106), changing over into
- the first transverse line of intersection (149).

In this context, it is to be understood that for the embodiment of Figures 1 and 11 the transition (179) from the first part (174) to the second part (175) is rounded, whereas the transition (180) from the second part (175) to the third part (176) forms a substantially right angle.

In view of the fact that various parts are liable to distortion at some points during the unfolding and collapsing of a packing, the plane sheets may be designed in such a way that a limited number of slots (181) are

provided for the accommodation of certain sections of the packing in its ready-for-use state.

Besides these two embodiments, another embodiment is represented in the Figures 8, 9 and 12, in the description of which the names of the parts are preceded by an A for distinction from corresponding elements in Figures 10 and 11. The plane sheet from which the packing is formed comprises:

- an A-face (200) which is lengthwise divided by means of a coincident A first longitudinal groove (201) and A first longitudinal line of intersection (202) into
- an A section (203) for the entire box-shaped body (1) and
- an A section (204) for the base (2),
- of which the A part (203) for the box-shaped body (1) is divided by means of an A second longitudinal groove (205) into A wall faces and A bottom faces, and
- by means of A transverse grooves into A front, A side and A rear faces,
- such that in top view of the plane sheet the A wall faces for the fox-shaped body (1) may constitute the entire right-hand side of the plane sheet, which side incorporates the following A wall faces going from the bottom to the top:

  - an A first narrow overlap face (207) for inter-connection
  - separated by an A first transverse groove (208) from
  - an A first side-wall face (209),
  - separated by an A second transverse groove (210) from
  - an A front face (223)

- separated by an A third transverse groove (213) from
- an A second side-wall face (214)
- separated by an A fourth transverse groove (215) from
- an A rear-wall face (216),

- and the following A bottom faces given from the bottom to the top:

  - an A first lateral bottom face (217) extending over virtually the full length, separated by the A second longitudinal groove (205) from
  - virtually the full length of the A first side-wall face (209), and

  - an A upper front bottom face (384) extending over virtually the full length, separated by the A second longitudinal groove (205) from
  - virtually the full length of the A second side-wall face (214), and

  - an A upper rear-wall bottom face (385), extending over virtually the full length, separated by the A second longitudinal groove (205) from
  - virtually the full length of the A rear-wall face (216)

as well as, going from the bottom to the top:

- an A lower front bottom face (386)
- separated by an A third longitudinal groove (387) from
- the A upper front bottom face (384), and

- an A lower rear-wall bottom face (388)

- separated by an A fourth longitudinal groove (389),
- which is in direct line with the A third longitudinal groove (387), from
- the A upper rear-wall bottom face (385),

- whilst the A part for the base (204) is divided by an A fifth longitudinal groove (226) into an A upper base part (227) and an A lower base part (228),

- of which the A upper base part (227) comprises the following faces, given from the bottom to the top:

  - an A second narrow overlap face (229) for interconnection,
  - separated by the A first transverse groove (208) from
  - an A first rearmost upper-base side-wall face (230)
  - separated by an A fifth transverse groove (231) from
  - an A first frontmost upper-base side-wall face (232)
  - separated by an A sixth transverse groove (233)
  - which is in direct line with the A second transverse groove (210), from
  - an A upper-base front face (234)
  - separated by means of the A first longitudinal groove (201) from
  - the A lower front bottom face (386)
  - and by means of an A seventh transverse groove (235),
  - which is in direct line with the A third transverse groove (213), from
  - an A second frontmost upper-base side-wall face (236)

- separated by an A eighth transverse groove (237) from
- an A second rearmost upper-base side-wall face (238)
- separated by an A ninth transverse groove (390),
- which is in direct line with the A fourth transverse groove (215), from
- an A upper-base rear-wall face (239)
- separated by the A first longitudinal groove (201) from
- the A lower rear-wall bottom face (388),

- whilst the A lower base part (228) comprises the following faces, going from the bottom to the top:

  - an A third narrow overlap face (240) for interconnection
  - separated by the A first transverse groove (201) from
  - an A first rearmost lower-base side-wall face (241)
  - separated by the A fifth longitudinal groove (226) from
  - an A first rearmost upper-base side-wall face (230) and
  - by the A fifth transverse groove (231) from
  - an A first frontmost lower-base side-wall face (242)
  - separated by the A fifth longitudinal groove (226) from
  - the A first frontmost upper-base side-wall face (232)
  - and by the A sixth transverse groove (233) from
  - an A lower-base front face (243)
  - separated by the A fifth longitudinal groove (226) from
  - the A upper-base front face (234)

- and by the A seventh transverse groove (235) from
- an A second frontmost lower-base side-wall face (244)
- separated by the A fifth longitudinal groove (226) from
- the A second frontmost upper-base side-wall face (236) and
- by the A eighth transverse groove (237) from
- an A second rearmost lower-base side-wall face (245)
- separated by the A fifth longitudinal groove (226) from
- an A second rearmost upper-base side-wall face (238)
- and by the A ninth transverse groove (390) from
- an A lower-base rear-wall face (246)
- separated by the A fifth longitudinal groove (226) from
- the A upper-base rear-wall face (239).

In this configuration, the A lower front bottom face (386) or the A lower rear-wall bottom face (388) acts as ancillary part (10) for the automatic folding-in and unfolding of the base (2). The other A lower and upper bottom face pair is in this case glued together. Depending on set-up chosen, the base (2) folds either forward or backward round the box-shaped body (1).

Again, in this plane sheet incisions have been made along the longitudinal groove (260) and the transverse groove (261) in order to facilitate folding.

The base (2) in this embodiment has the same cross-sectional area as the box-shaped body (1), whereas in the two other embodiments of Figures 10 and 11 the base (2)

has a smaller polygonal cross-sectional area than the box-shaped body (1).

The packing as unfolded from this plane sheet is collapsed in a different way from that used in the other two embodiments, as represented in Figure 9 in comparison with Figure 7. This stands to reason because the following faces have a form deviating from a rectangle:

- the A upper front and A upper rear-wall bottom faces (384, 385), which are equal in shape,
  - of which the A upper front bottom face (384) in top view has lower, left-hand and upper boundary lines which include, going from the bottom to the top (see Figure 15),
  - from the point of intersection of
    - the A second longitudinal groove (205) and
    - the A second transverse groove (210)
  - a first oblique section (391), at a positive acute angle α to the A second longitudinal groove,
  - a second virtually horizontal section (392) and
  - a third virtually vertical section (393), which is in direct line with the A third longitudinal groove (387),
  - whereupon the A third longitudinal groove (387) forms the dividing line between the A upper and A lower front bottom faces (384, 386),
  - whereupon the boundary further consists of
  - a fourth oblique section (394), at a negative acute angle β to the A second longitudinal groove (205),
  - as far as the point of intersection of

- the A second longitudinal groove (205) and
- the A third transverse groove (213);

- the A lower front and A lower rear-wall bottom faces (386, 388), which are equal in shape,
- of which the A lower front bottom face (386) in top view has lower, right-hand and upper boundary lines which include, going from the bottom to the top (see Figure 15),

- from the point of intersection of

  - the A first longitudinal groove (201) and
  - the A sixth transverse groove (233)

- a fifth oblique section (395), at a negative acute angle α to the A first longitudinal groove (201),
- a sixth virtually vertical section (396) and
- a seventh virtually horizontal section (397),
- whereupon the A third longitudinal groove (387) forms the dividing lines between the A upper and A lower front bottom faces (384, 386),
- whereupon the boundary further consists of
- an eighth oblique section (398), at a positive acute angle β to the A first longitudinal groove (201),
- as far as the point of intersection of

  - the A first longitudinal groove (201) and
  - the A seventh transverse groove (235);

- the A first and A second side-wall faces (209, 214), which are equal in shape and whose upper boundary line (382) runs obliquely in top view, at a negative acute angle β to the A second longitudinal rib (205),

whilst the oblique section (391) of the boundary line with angle α of the upper front and A upper rear-wall bottom faces (384, 385) in top view has been produced upwards to the left as an A oblique rib (399), is the packing, as constructed from this plane sheet, collapsed differently than the other both respresented embodiments, as represented in figure 9 in comparison with figure 7.

By the exertion of an oblique compressive force on an angular point, the bottom sections are automatically lifted and the whole packing collapses. Unfolding takes place in the reverse order.

An essential point here is the mode of attachment of the bottom sections: the projecting part (383) of an A lower and A upper bottom face pair which have been folded or glued together is glued to the appropriate A lateral bottom face. In collapsing, this projecting part folds round the A oblique rib (399). The appropriate A lateral bottom face is thereby lifted automatically.

By designing the plane sheet in such a way that the front face is divided by means of an A double longitudinal groove (271) into an A outer front face (223') and an A inner front face (223''), and that of the A first and A second side-wall faces (209, 214), which are line-symmetrical round a transverse line, in top view the top right-hand corner and bottom right-hand corner, respectively, have been cut off obliquely, it is possible to obtain a lowered front (14), whereby the commercial goods present in the box-shaped body (1) become better visible and more easily accessible.

A similar adaptation of the embodiment depicted in Figure 1 affords the same advantage, which can be enhanced still further by positioning the box-shaped body (1) in a

sloping position on the base, as represented with dashed lines in Figure 2.

A similar sloping position can be achieved with the packing of Figure 8. The requisite groove lines in the plane sheet follow a pattern corresponding to that of Figures 10 and 11.

As a final point of interest, it should be observed that the drawings are not altogether true to scale. Especially the parts 241, 239, 388, 385 and 216 and their respective counterparts 243, 234, 386, 384 and 233, which are of the same dimensions, have been represented in the drawing of Figure 12 with different dimensions.

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CLAIMS

1. A transport and display packing made from a foldable material, for instance cardboard, consisting of a tubular base having a polygonal cross-section and provided with longitudinal folding lines and a box-shaped body positioned on top of the base for containing commercial goods, which body rests on the base, whilst the base is also provided with at least two transverse folding lines running parallel to the basal plane of the foot and the distance between these two folding lines approximately corresponds with a main dimension of the body, so that the base which can be folded along the longitudinal folding lines can be fitted snugly against the body in such a fashion that the lower transverse folding line comes to rest against a top edge of the body, characterized in that the entire packing is made from a single plane sheet such that each section of the packing is continuously connected through other sections to each other section of the packing and that substantially all of the plane sheet surface is utilized with a minimum of wastage.

2. A transport and display packing according to claim 1, characterized in that the packing is provided with an ancillary part for the automatic unfolding of the base to assume the only correct position underneath the box- shaped body, the said ancillary part being integral with the plane sheet.

3. A transport and display packing according to claim 1 or 2, characterized in that the packing is provided with separate folding lines which make it possible to

fold the packing composed of a single plane sheet into a flat package.

4. A transport and display packing according to any one of claims 1-3, characterized in that the packing is provided with separate folding lines, so that in one and the same packing the box-shaped body can be positioned at will at an angle to the base or in plumb position on the base.

5. A transport and display packing according to claim 1, characterized in that the plane sheet from which the packing has been formed comprises:

- a face which is substantially divided lengthwise by means of a coinciding first longitudinal groove and first longitudinal intersecting line parts into
  - a part for substantially all of the box-shaped body and
  - a part for substantially all of the base,
- whilst the part for substantially all of the box-shaped body is subdivided by means of a second longitudinal groove into wall faces and bottom faces,
- and by means of transverse grooves and a forked intersecting line into front, side and rear faces,
- whilst in top view of the plane sheet the wall faces for the box-shaped body may form the entire right-hand side of the plane sheet, which side may incorporate the following wall faces, going from the bottom to the top:

- a first narrow overlap face for interconnection
- separated by a first transverse groove from
- a first side-wall face
- separated by a second transverse groove from
- a first incomplete front face section,
- which is separated by a forked line of intersection from
- a second incomplete front face section,
- which is separated by a third transverse groove from
- a second side-wall face
- separated by a fourth transverse groove from
- a rear-wall face,

- whilst the faces for the bottom of the box-shaped body comprise, going from bottom to top:

- a first lateral bottom face,
- which is separated by the second longitudinal groove from
- the first side-wall face,
- a second lateral bottom face,
- which is separated by the second longitudinal groove from
- the second side-wall face and
- a rearmost main bottom face,
- which is separated by the second longitudinal groove from
- the rear-wall face and
- by a third longitudinal groove from
- a frontmost main bottom face,
- which is separated by a fourth longitudinal groove from

- a front face,
- of which the rearmost main bottom face, the frontmost main bottom face and the front face in top view exhibit a funnel-shaped divergent profile from right to left, extending into the plane sheet section intended for the base,
- and are separated therefrom by funnel-like diverging lines of intersection and a second longitudinal intersecting line,
- whilst the rearmost main bottom face is T-shaped,
- with the top beam of the T being over its entire length adjacent to the rear-wall face and having a width virtually equal to half the width of a lateral bottom face,
- and the main beam of the T forming the narrow initial part of the funnel shape,

- whilst the faces for the base are divided by a fifth longitudinal groove into upper base faces and lower base faces, of which the latter are in top view located along the far left-hand side of the plane sheet and
- of which the upper base faces comprise the following, going from the bottom to the top:

- a second narrow overlap face for inter-connection
- separated by the first transverse groove from
- a first rearmost upper-base side-wall face
- separated by a fifth transverse groove from
- a first frontmost upper-base side-wall face
- separated by a sixth transverse groove from
- an upper-base front face,

- separated by a seventh transverse groove from
- a second frontmost upper-base side-wall face
- separated by an eighth transverse groove from
- a second rearmost upper-base side-wall face
- separated by the fourth transverse groove from
- an upper-base rear-wall face which
- consists of a first and a second upper-base rear-wall face section
- which are separated from one another by the funnel-like diverging lines of intersection
- and the intermediate parts of the rearmost main bottom face and the front face and the entire frontmost main bottom face for the box-shaped body,

- and the lower base faces comprise, going from the bottom to the top:

  - a third narrow overlap face for interconnection
  - separated by the fifth longitudinal groove from
  - the second narrow overlap face for interconnection
  - and by the first transverse groove from
  - a first rearmost lower-base side-wall face
  - separated by the fifth longitudinal groove from
  - the first rearmost upper-base side-wall face
  - and by the fifth transverse groove from
  - a first frontmost lower-base side-wall face

- separated by the fifth longitudinal groove from
- the first frontmost upper-base side-wall face
- and by the sixth transverse groove from
- a lower-base front face
- separated by the fifth longitudinal groove from
- the upper-base front face
- and by the seventh transverse groove from
- a second frontmost lower-base side-wall face
- separated by the fifth longitudinal groove from
- the second frontmost lower-base side-wall face
- and by the eighth transverse groove from
- a second rearmost lower-base side-wall face
- separated by the fifth longitudinal groove from
- the second rearmost upper-base side-wall face
- and by the fourth transverse groove from
- a lower-base rear-wall face from which a part of the front face for the box-shaped body has been separated by means of the funnel-like diverging lines of intersection and the second longitudinal intersecting line and
- which lower-base rear-wall face is separated by means of two subgrooves of the fifth longitudinal groove from
- the two upper-base rear-wall face sections
- in which an ancillary face has been attached in symmetric disposition along part of the right-hand side of the upper-base front face,

- separated from it by the first longitudinal groove,
- and on the right-hand side of part of the ancillary face a fixing lug has been attached,
- separated from it by the second longitudinal groove,
- which lug covers only a restricted area,
- whilst this lug is separated by means of the forked line of intersection from the first and the second incomplete front face section for the box-shaped body and
- the ancillary face is separated by means of a first transverse line of intersection from
- the first lateral bottom face for the box-shaped body
- and by means of a second transverse line of intersection from
- the second lateral bottom face for the box-shaped body,

- whilst the hingeable connection between the box-shaped body and the upper base comprises:

  - a first hinge face
  - which is separated by the second longitudinal groove from
  - the first narrow overlap for interconnection
  - and by a third transverse line of intersection
  - which is in direct line with the first transverse groove,
  - from the first lateral bottom face for the box-shaped body,
  - and by the first longitudinal groove from

- the second narrow overlap for interconnection
- the said first hinge face being divided by
- a sixth longitudinal groove into
- a first base hinge subface and a first box-shaped body hinge subface

- and

- a second hinge face
- separated by a fourth transverse line of intersection,
- which is in direct line with the fourth transverse groove
- from the second lateral bottom face for the box-shaped body,
- separated by the second longitudinal groove from
- the rear-wall face for the box-shaped body
- and separated by the first longitudinal groove from
- the first upper-base rear-wall face section,
- whilst this second hinge face is divided by a seventh longitudinal groove,
- which is in direct line with the sixth longitudinal groove
- into two hinge subfaces
- such that the second base hinge subface is separated from
- the rearmost main bottom face for the box-shaped body by
- a lower funnel-like diverging line of intersection and
- the second box-shaped body hinge subface forms part of

- the rearmost main bottom face for the box-shaped body

- and

- a third hinge face

  - which is separated by the second longitudinal groove from
  - the rear-wall face for the box-shaped body
  - and by the first longitudinal groove from
  - the second upper-base rear-wall face section
  - whilst this third hinge face is divided by an eighth longitudinal groove,
  - which is in direct line with the sixth and the seventh longitudinal groove,
  - into two hinge subfaces,
  - such that the third base hinge subface is separated from
  - the rearmost main bottom face for the box-shaped body by an upper funnel-like diverging line of intersection and
  - the third box-shaped body hinge subface forms part of the rearmost main bottom face for the box-shaped body.

(Figures 10 and 11)

6. A transport and display packing according to claim 5, characterized in that for positioning the fixing lug in the longitudinal centre of the rearmost main bottom face for the box-shaped body round about a hypothetical extended part of the first longitudinal groove, a rectangular aperture has been provided over a restricted length which at least corresponds with the width of the fixing lug.

7. A transport and display packing according to any one of the claims 4-6, characterized in that the following incisions have been made along the fifth longitudinal groove:

- from the first transverse groove as far as approximately halfway down the first rearmost upper and lower-base side-wall faces,
- from the sixth transverse groove as far as approximately one third from the bottom of the upper and lower-base front faces,
- from approximately two thirds from the bottom of the upper and lower-base front faces, as far as the seventh transverse groove,
- from approximately half down the second rearmost upper and lower-base side-wall faces, as far as the fourth transverse groove.

8. A transport and display packing according to any one of the claims 5-7 characterized in that at least some of the extremities of the longitudinal groove incisions have been provided with transverse incisions of restricted length made at right angles thereto.

9. A transport and display packing according to any one of the claims 5-8 characterized in that a ninth longitudinal groove has been provided at some distance to the left of the first longitudinal groove, and running parallel thereto, between the sixth and the seventh transverse groove, in the upper-base front face as well as

- a first oblique groove running

  - from the point of intersection of

- the ninth longitudinal groove and
- the sixth transverse groove

- to the point of intersection of

- the first longitudinal groove and
- the first transverse groove,

- a second oblique groove running

- from the point of intersection of

- the ninth longitudinal groove and
- the sixth transverse groove

- to the point of intersection of

- the first longitudinal groove and
- the first transverse intersecting line,

- a third oblique groove running

- from the point of intersection of

- the ninth longitudinal groove and
- the seventh transverse groove

- to the point of intersection of

- the first longitudinal groove and
- the second transverse intersecting line, and

- a fourth oblique groove running

- from the point of intersection of

- the ninth longitudinal groove and
- the seventh transverse groove

- to the point of intersection of

- the first longitudinal groove and
- the fourth transverse groove.

10. A transport and display packing according to any one of claims 5-9, characterized in that the first and the second side-wall face of the box-shaped body have been provided with a ninth and tenth transverse groove, respectively, so that in top view, going from the bottom to the top,

- the first side-wall face is divided into
- a first posterior and
- a first anterior side-wall face
- and the second side-wall face is divided into
- a second anterior and
- the second posterior side-wall face,

- whilst the ninth and tenth transverse groove also extends into the first and second lateral bottom face
- in consequence whereof these faces are, in top view going from the bottom to the top, divided into
- a first posterior and
- a first anterior, and
- a second anterior and
- a second posterior lateral bottom face, respectively.

11. A transport and display packing according to any one of claims 5-10, characterized in that

- the function of the first hinge face has been taken over completely by the second and the third hinge face, whilst
- the first and the second side-wall face of the box- shaped body have been bevelled on what is in top view the right-hand side, so that in top view, going from the bottom to the top

  - the first side-wall has an edge sloping to the left and
  - the second side-wall has an edge sloping to the right,
  - in such a fashion that when a packing is fully unfolded from the plane sheet the box-shaped body assumes a trapezoid cross-section,
  - in which the front is lower than the back wall and
  - the front face is of such dimensions that when a packing is fully unfolded from the plane sheet, the ultimate height of the front face corresponds with the height of the incomplete front-face sections.

12. A transport and display packing according to claim 11, characterized in that the front face is divided by means of a double longitudinal groove into an outer front-face section, located in top view to the right of the double longitudinal groove, and an inner front-face section located on the left-hand side, such that when a packing has been fully unfolded from the plane sheet, the inner front-face section has been folded back to the interior of the box-shaped body.

13. A transport and display packing according to claim 12, characterized in that the inner and the outer

front-face section have substantially the same length and that the inner front-face section is provided over part of its length with at least one protruding cardboard closing lug, whilst at corresponding points in the fourth longitudinal groove matching apertures have been cut into which the said closing lugs slip when a packing has been fully unfolded from the plane sheet.

14. A transport and display packing according to any one of claims 5-13, characterized in that the incomplete front face sections are of symmetrical design.

15. A transport and display packing according to any one of claims 5-14, characterized in that the boundary area of the first incomplete front face section, located in the top right-hand side in top view of the plane sheet, comprises the following subsections from the bottom to the top, starting from the second transverse groove:

- a substantially vertical first part, changing over into
- a substantially horizontal second part, changing over into
- a substantially vertical third part, changing over into
- a substantially horizontal fourth part, adjacent to the fixing lug and changing over into
- a substantially vertical fifth part bordering upon the ancillary face,
- up to this point constituting the forked line of intersection, changing over into
- the first transverse intersecting line.

16. A transport and display packing according to claim 15, characterized in that the transition from the first part to the second part is rounded, whereas the transition from the second part to the third part forms a substantially right angle.

17. A transport and display packing according to any one of the preceding claims characterized in that a limited number of slots have been provided for the accommodation of certain sections of the packing when ready for instant use.

18. A transport and display packing according to any one of claims 1-3, characterized in that the plane sheet from which the packing is formed comprises:

- an A face which is lengthwise divided by means of a coincident A first longitudinal groove and an A first longitudinal line of intersection into:
- an A section for the entire box-shaped body and
- an A section for the base
- of which the A section for the box-shaped body is divided by means of an A second longitudinal groove into A wall faces and A bottom faces, and
- by means of A transverse grooves into A front, A side and A rear faces,
- such that in top view of the plane sheet the A wall faces for which the box-shaped body may constitute the entire right-hand side of the plane sheet, which side incorporates the following A wall faces, going from bottom to top:

    - an A first narrow overlap face for interconnection
    - separated by an A first transverse groove from

- an A first side-wall face
- separated by an A second transverse groove from
- an A front face
- separated by an A third transverse groove from
- an A second side-wall face
- separated by an A fourth transverse groove from
- an A rear-wall face ,

- and the following A bottom faces given from the bottom to the top:

  - an A first lateral bottom face extending over virtually the full length, separated by the A second longitudinal groove from
  - virtually the full length of the A first sidewall face, and
  - an A upper front bottom face extending over virtually the full length, separated by the A second longitudinal groove from
  - virtually the full length of the A front face, and
  - an A second lateral bottom face extending over virtually the full length, separated by the A second longitudinal groove from
  - virtually the full length of the A second side-wall face, and
  - an A upper rear-wall bottom face extending over virtually the full length, separated by the A second longitudinal groove from
  - virtually the full length of the A rear-wall face

as well as, going from the bottom to the top,

- an A lower front bottom face,
- separated by an A third longitudinal groove from
- the A upper front bottom face, and
- an A lower rear-wall bottom face,
- separated by an A fourth longitudinal groove
- which is in direct line with the A third longitudinal groove, from
- an A upper rear-wall bottom face,

- whilst the A part for the base is divided by an A fifth longitudinal groove into an A upper base part and an A lower base part,
- of which the A upper base comprises the following faces, given from the bottom to the top:

  - an A second narrow overlap face for interconnection,
  - separated by the A first transverse groove from
  - an A first rearmost upper-base side-wall face,
  - separated by the A fifth transverse groove from
  - an A first frontmost upper-base side-wall face,
  - separated by the A sixth transverse groove,
  - which is in direct line with the A second transverse groove, from
  - an A upper-base front face,
  - separated by means of the A first longitudinal groove from
  - an A lower front bottom face
  - and by means of an A seventh transverse groove,

- which is in direct line with the A third transverse groove, from
- an A second frontmost upper-base side-wall face,
- separated by the A eighth transverse groove from
- an A second rearmost upper-base side-wall face,
- separated by the A ninth transverse groove,
- which is in direct line with the A fourth transverse groove, from
- an A upper-base rear-wall face,
- separated by the A first longitudinal groove from
- the A lower rear-wall bottom face,

- whilst the A lower base part comprises the following faces, going from the bottom to the top:

  - an A third narrow overlap face for inter-connection,
  - separated by the A first transverse groove from
  - an A first rearmost lower-base side-wall face,
  - separated by the A fifth longitudinal groove from
  - an A first rearmost upper-base side-wall face and
  - by the A fifth transverse groove from
  - an A first frontmost lower-base side-wall face,
  - separated by the A fifth longitudinal groove from
  - the A first frontmost upper-base side-wall face

- and by the A sixth transverse groove from
- an A lower-base front face,
- separated by the A fifth longitudinal groove from
- the A upper-base front face
- and by the A seventh transverse groove from
- an A second frontmost lower-base side-wall face,
- separated by the A fifth longitudinal groove from
- the A second frontmost upper-base side-wall face and
- by the A eighth transverse groove from
- an A second rearmost lower-base side-wall face,
- separated by the A fifth longitudinal groove from
- an A second rearmost upper-base side-wall face,
- and by the A ninth transverse groove from
- an A lower-base rear-wall face,
- separated by the A fifth longitudinal groove from
- the A upper-base rear-wall face.

(Figure 12)

19. A transport and display packing according to claim 18, characterized in that the following faces have a form deviating from a rectangle:

- the A upper front and A upper rear-wall bottom faces, which are equal in shape,

- of which the A upper front bottom face in top view has lower, left-hand and upper boundary lines which include, going from the bottom to the top,

- from the point of intersection of
  - the A second longitudinal groove and
  - the A second transverse groove
- a first A oblique section, at a positive acute angle α to the A second longitudinal groove,
- a second virtually horizontal section and
- a third virtually vertical section, which is indirect line with the A third longitudinal groove,
- whereupon the A third longitudinal groove forms the dividing line between the A upper and A lower front bottom faces,
- whereupon the boundary further consist of
- a fourth oblique section, at a negative acute angle β to the A second longitudinal groove,
- as far as the point of intersection of
  - the A second longitudinal groove and
  - the A third transverse groove;

- the A lower front and A lower rear-wall bottom faces, which are equal in shape,
  - of which the A lower front bottom face in top view has lower, right-hand and upper boundary lines which include, going from the bottom to the top,
  - from the point of intersection of

- the A first longitudinal groove and
- the A sixth transverse groove

- a fifth oblique section, at a negative acute angle α to the A first longitudinal groove,
- a sixth virtually vertical section and
- a seventh virtually horizontal section,
- whereupon the A third longitudinal groove forms the dividing line between the A upper and A lower front bottom faces,
- whereupon the boundary further consists of
- an eighth oblique section, at a positive acute angle β to the A first longitudinal groove,
- as far as the point of intersection of

  - the A first longitudinal groove and
  - the A seventh transverse groove;

- the A first and A second lateral bottom faces, which are equal in shape and whose upper boundary lines runs obliquely in top view, at a negative acute angle β to the A second longitudinal groove.

20. A transport and display packing according to claim 18 or 19, characterized in that the oblique section of the boundary line with angle α of the A upper front and A upper rear-wall bottom faces in top view has

been produced upwards to the left as an A oblique groove.

21. A transport and display packing according to claim 19, characterized in that the front face is divided by means of an A double longitudinal groove into an A outer front face and an A inner front face, and that of the A first and A second side-wall faces, which are line-symmetrical round a transverse line, in top view the top right-hand corner and bottom right-hand corner, respectively, have been cut off obliquely.

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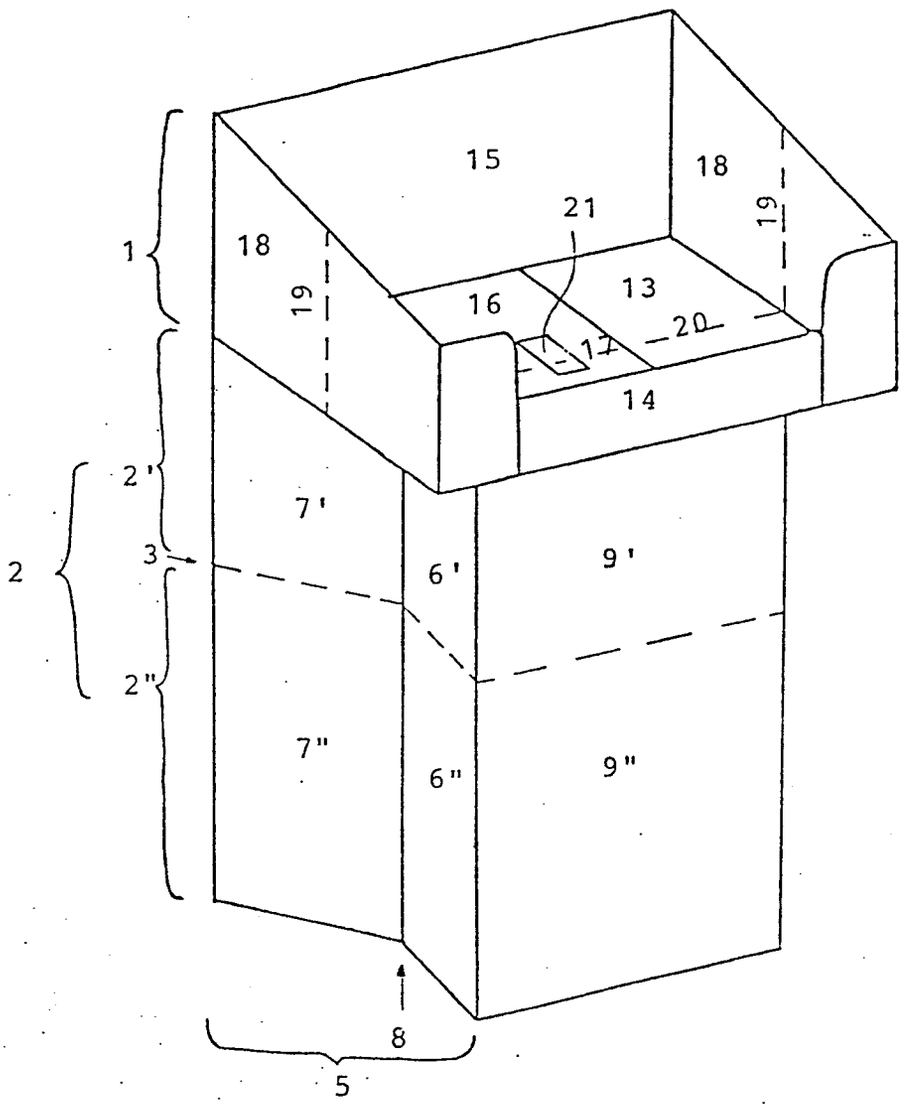

Fig.1

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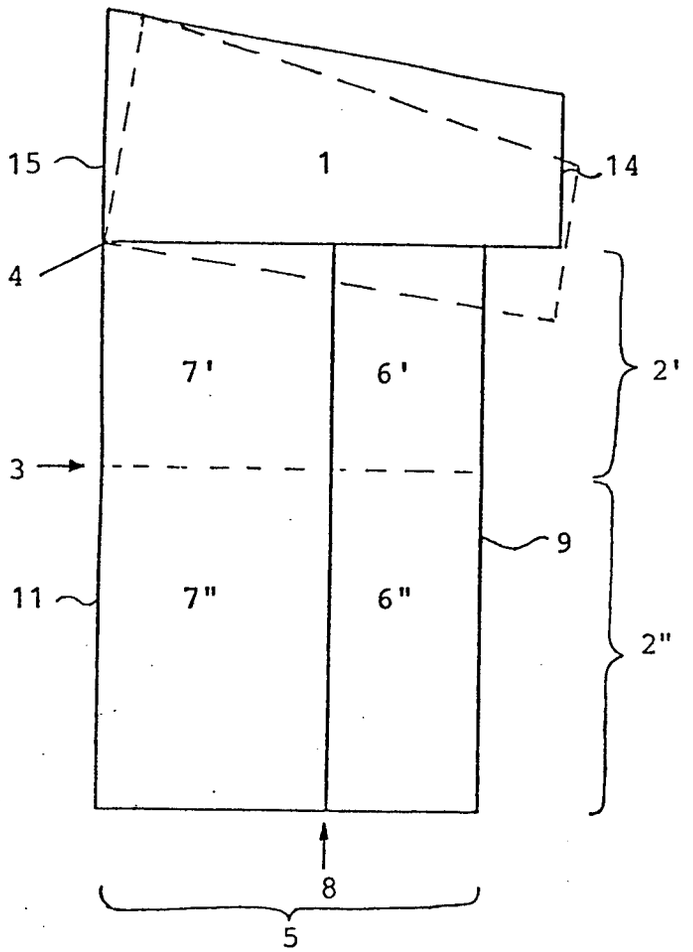

Fig.2

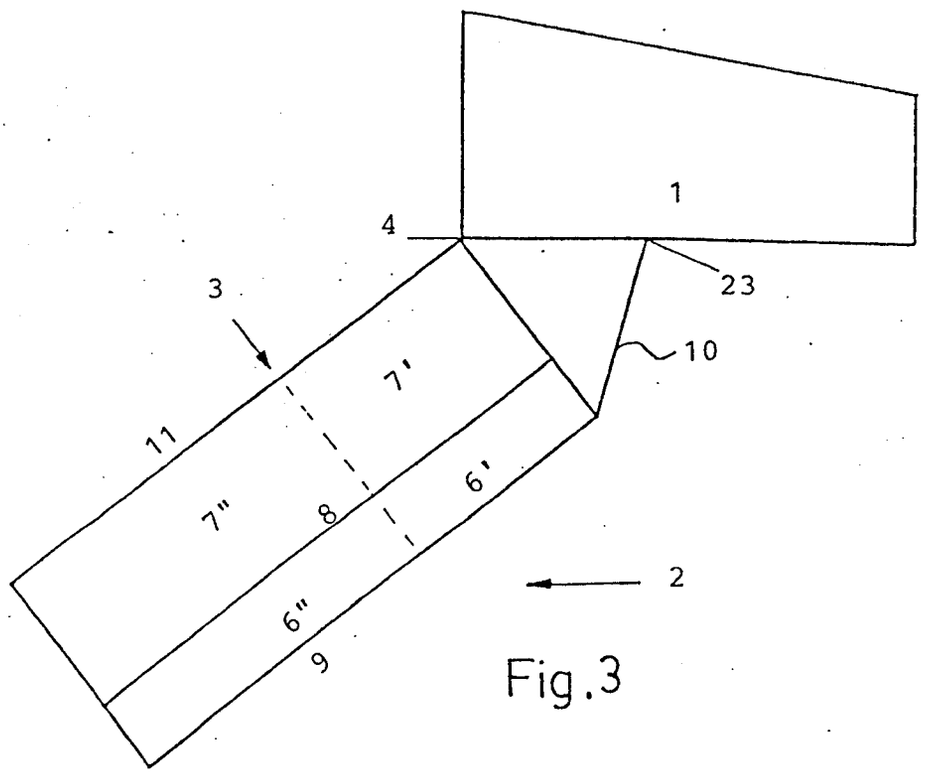

Fig.3

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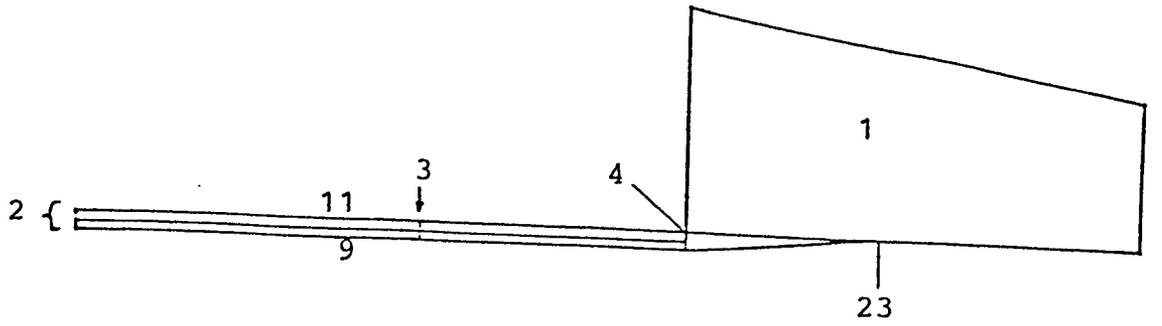

Fig.4

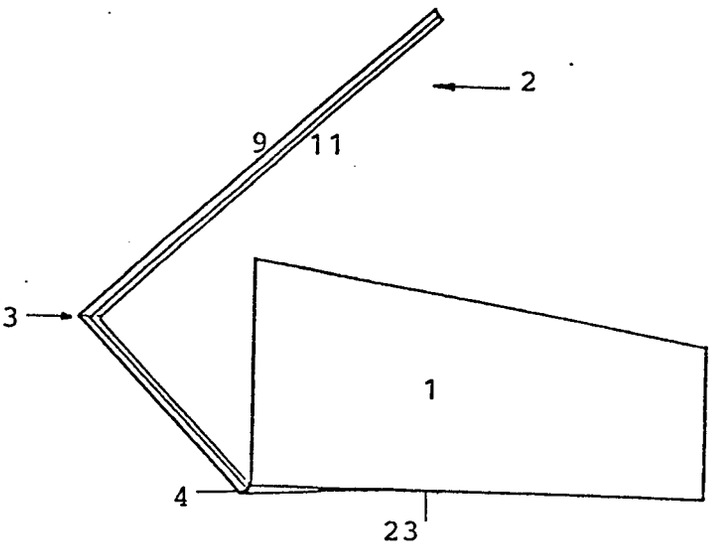

Fig.5

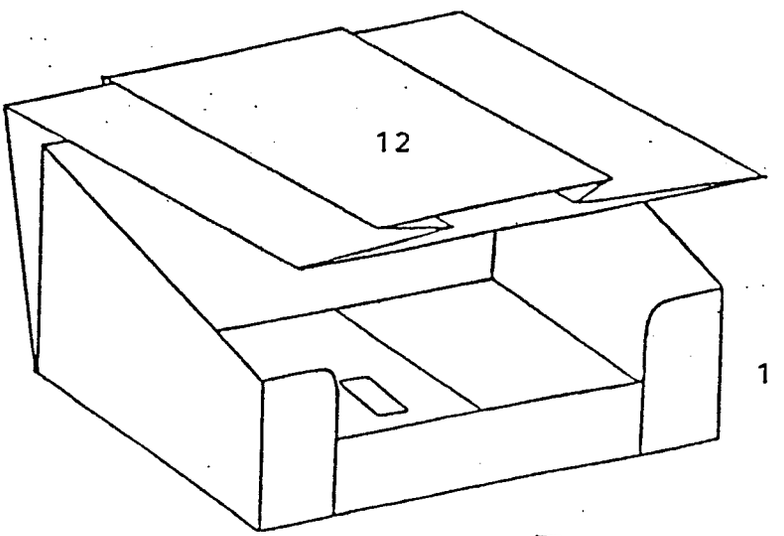

Fig.6

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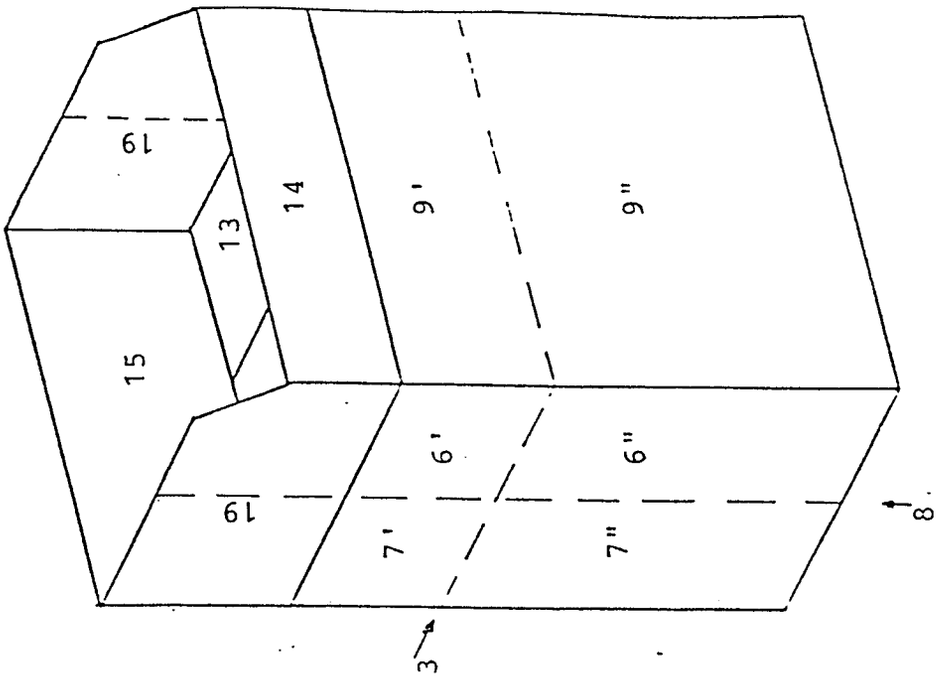

Fig.8

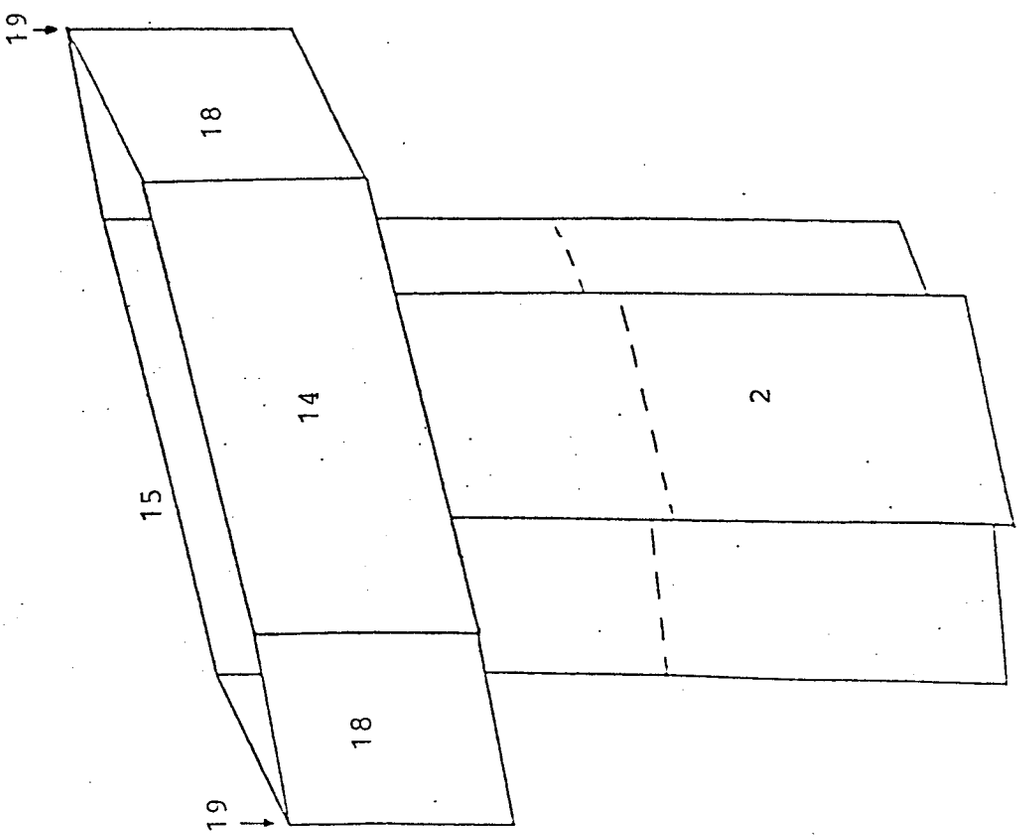

Fig.7

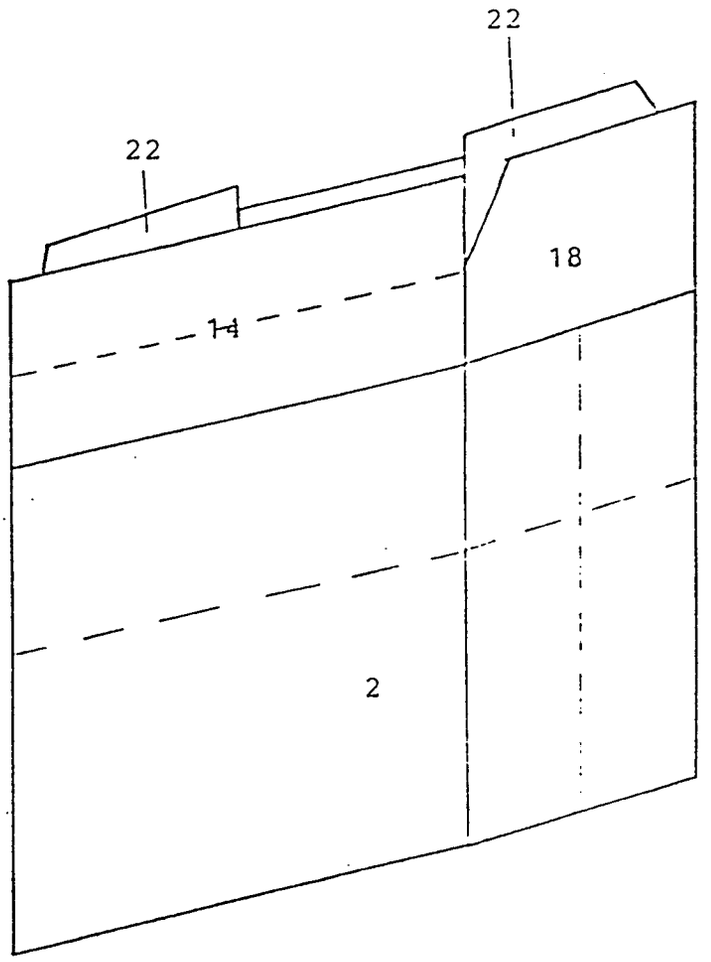

Fig.9

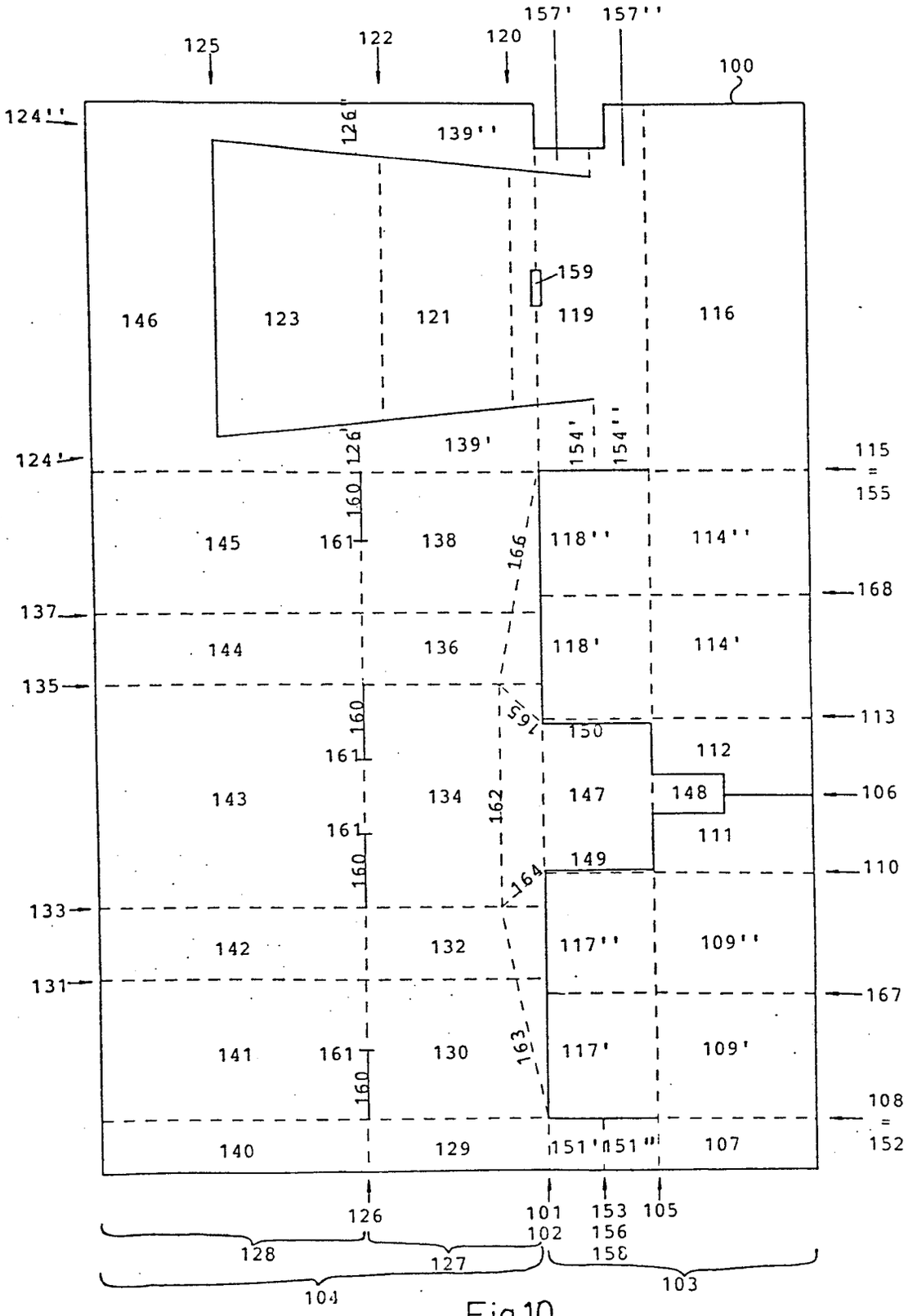
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Fig.10

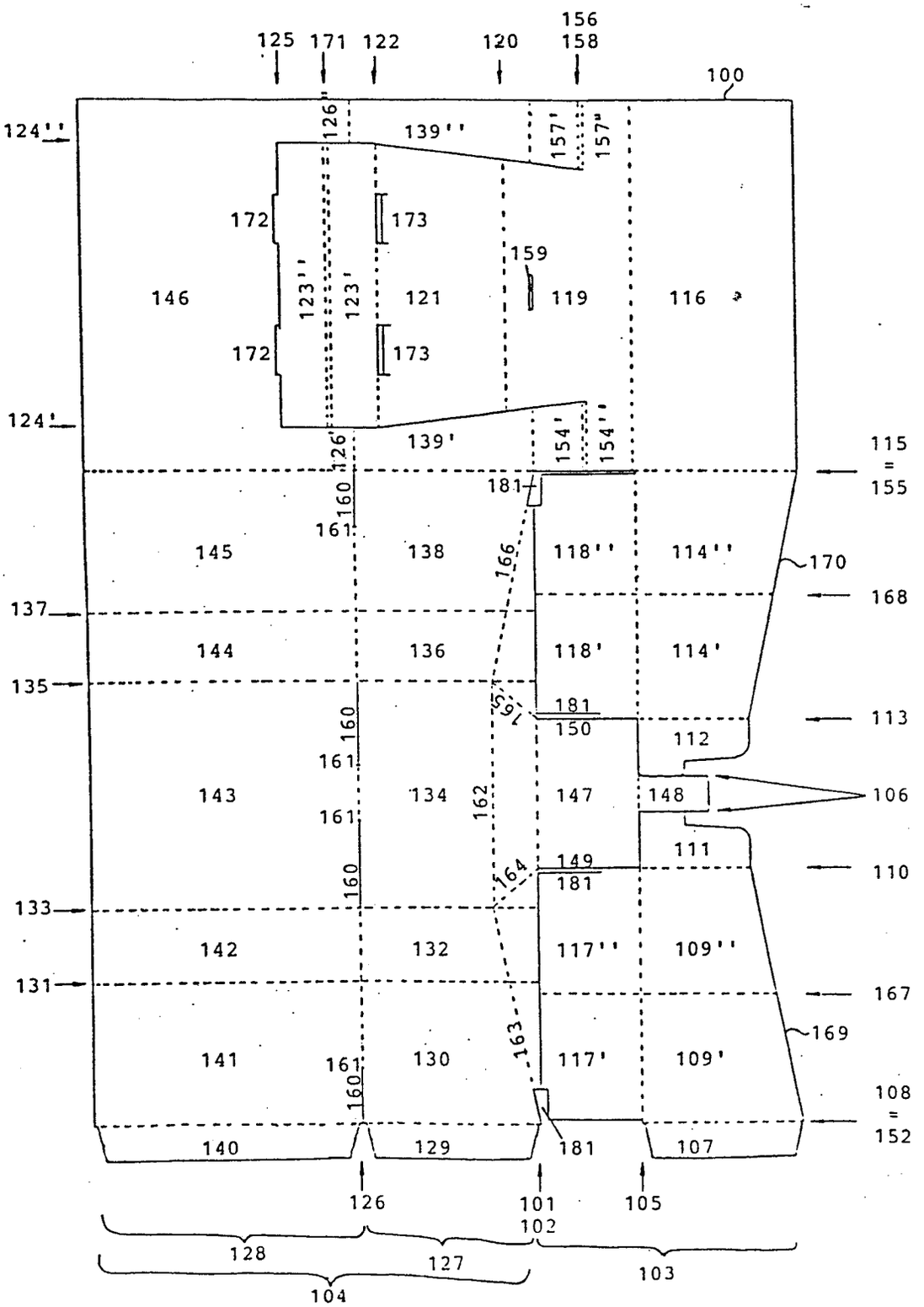
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Fig.11

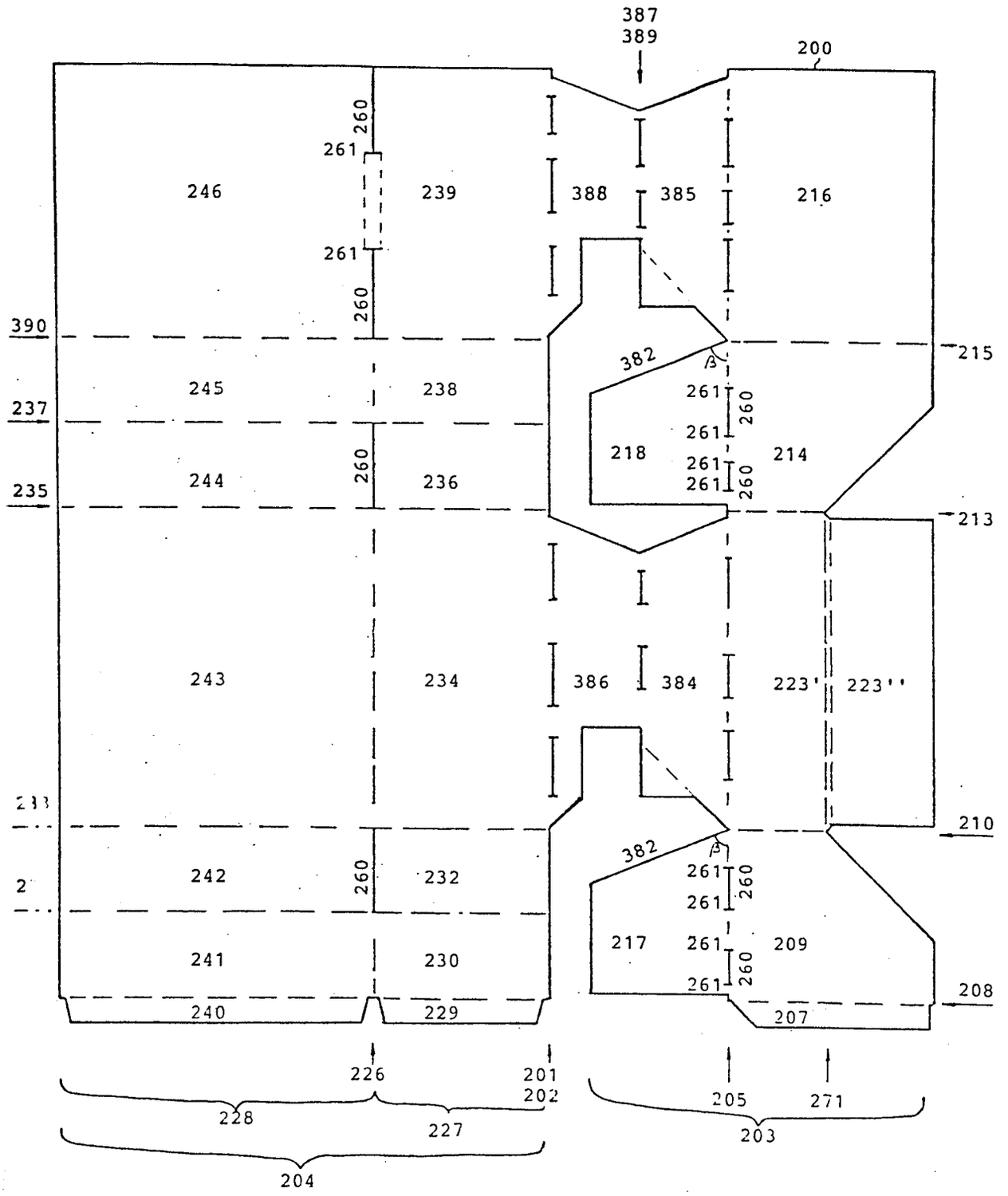
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Fig. 12

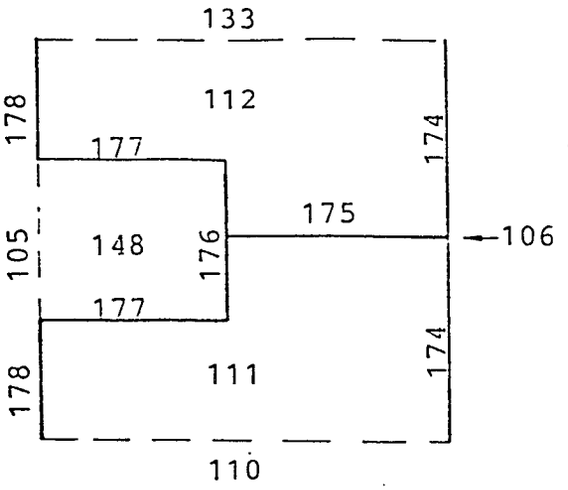

Fig.13

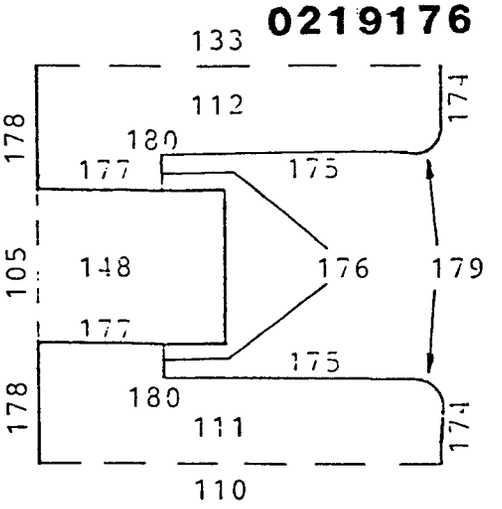

Fig.14

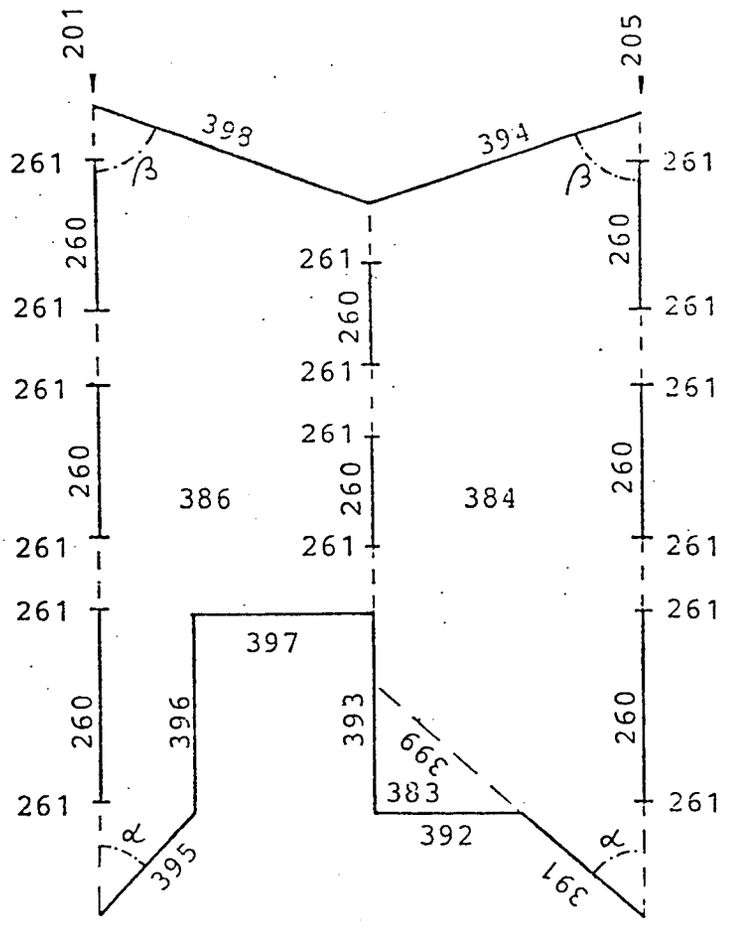

Fig.15