

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets

(11)

Publication number:

0 059 024
A1

(12)

EUROPEAN PATENT APPLICATION

(21)

Application number: 82300048.4

(51)

Int. Cl.³: B 65 D 85/32

(22)

Date of filing: 06.01.82

(30)

 Priority: 22.06.81 GB 8119152
 30.01.81 GB 8103010
 23.01.81 GB 8102130
 06.01.81 GB 8100163

(71)

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(43)

 Date of publication of application: 01.09.82
 Bulletin 82/35

(72)

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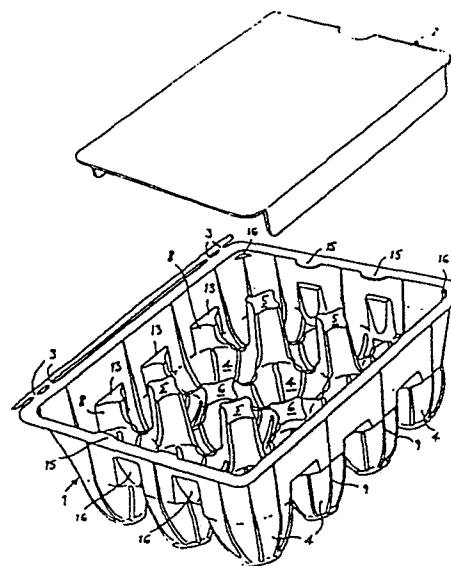
 Designated Contracting States: AT BE CH DE FR GB IT
 LI NL SE

(74)

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(54) Box or carton for packaging eggs or the like.

(57) The present invention concerns a box or carton for packaging eggs, fruit or other articles, comprising a moulded base part (1) having article receiving pockets (4), a separate flat lid (2) which, in its closed position on the base part, is centrally supported by posts (5) upstanding from the base part between the article receiving pockets, and has flaps (18) depending from at least two opposite edges of the lid, and means (15) for fastening the lid in its closed position. The flaps (18) depend within the base part juxtaposed side walls thereof and have lower edges resting on supports (13) projecting inwardly from the side walls of the base part and spaced below the rim (12) of the base part, whereby to support the edges of the lid.


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TITLE MODIFIED

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IMPROVEMENTS IN OR RELATING TO BOXES OR CARTONS

The present invention relates to boxes or cartons for packaging eggs, fruit or other articles and, more particularly, to such boxes or cartons of the type comprising a moulded base part having article receiving
5 pockets and a separate flat cover part or lid which, in its closed position, is disposed over the open, upper ends of the pockets in the base part and is at least partially supported by posts upstanding from the base part between the pockets.

10 Egg boxes of the above type are known and may comprise a base part which is of rectangular shape in plan and moulded from plastics sheet material and a rectangular flat cardboard lid. The base part is of a height greater than that of the eggs to be disposed
15 in its article receiving pockets. The separate flat lid can be printed on in the flat position and readily permits the egg boxes to be provided with advertising and other information required by suppliers. However, known boxes of this type have presented problems with
20 regard to ease of closing and fastening the separate lids and with regard to providing sufficient structural integrity, particularly, at the edges of the lid, to permit the boxes to be stacked one on top of the other for the purpose of transport, storage and display with-
25 out damage to their contents.

In one commercial form of egg box of the type described, the cardboard lid is clipped to the upstanding posts of the base part in order to hold it in its closed position. The lid has tags of barb-like shape which
30 are stamped from the lid material and are depressed through holes in the tops of the posts. Such devices are difficult to fasten. Moreover, the edges of the lid rest on a lip formed about the inside of the rim of the base part so that, whilst the lid is adequately

supported centrally by the posts, its edges are not and have a tendency to bend downwardly within the base part, thereby risking damage to the contents of the box, particularly, under the weight of a stack of boxes.

5 British Specification No. 1008481 described an egg box having a moulded base part and a flat lid in which the lid overlaps opposite longitudinal edges of the base part and has flaps depending from the longitudinal edges of the lid and extending downwardly against the
10 outsides of the base parts. These flaps may be printed with advertising or other information so that such information is visible from the side when the boxes are stored or displayed in a stack and are fastened to the sides of the base part, for example, by adhesive, in order to
15 retain the lid in its closed position. Whilst this construction provides satisfactory support for the lid so that boxes can be stacked without risk of damage to their contents, they may be difficult to open and, once open, may not be readily fastened.

20 It is an object of the present invention to alleviate the disadvantages of the above described type of packaging and to provide a moulded box or carton having a separate flat lid which is adequately supported
25 at its edges. It is another object to provide such a box or carton in which the lid may be readily fastened in its closed position, is easy to open, and if required, refastened.

30 The invention consists in a box or carton for packaging eggs, fruit or other articles, comprising a moulded base part having article receiving pockets, a separate flat cover part or lid which, in its closed position on the base part, is centrally supported by posts upstanding from the base part between the article
35 receiving pockets, and has flaps depending from at least

two opposite edges of the lid, and means for fastening the lid in its closed position, characterised in that the flaps depend within the base part juxtaposed side walls thereof and have lower edges resting on ledges projecting inwardly from the side walls of the base part spaced below the rim of the base part, whereby to support the edges of the lid. The base part and lid may be of conventional rectangular shape in plan and the base part may comprise mutually parallel rows of article receiving pockets with the posts being formed at suitable positions between the rows and projecting upwardly to positions slightly below the rim of the base part. Conveniently the ledges or other support means for the lower edges of the flaps may be formed by the upper ends of half posts moulded in the side walls of the base part between the pockets of the rows adjoining the side walls.

Preferably, the lid is fastened in its closed position by pips or lugs projecting inwardly from opposite side walls of the base part at or adjacent its rim and adapted to engage over the top of the lid when closed. These retaining pips or lugs are preferably disposed on the side walls of the base part adjacent edges of the lid not provided with the depending supporting flaps. Alternatively, the retaining pips or lugs may be disposed on the walls of the base part juxtaposed the support flaps and be adapted to engage in openings in the latter in order to fasten the lid in its closed position.

In order that the present invention may be more readily understood, reference will now be made to the accompanying drawings in which:-

Figure 1 is a perspective view of an egg box constructed in accordance with the present invention and showing the base part and lid separated,

Figure 2 is a plan view of the box of Figure 1, and

Figure 3 is a section on the line III-III of Figure 2 showing the lid in its closed position.

Referring to the drawings, the egg box comprises a moulded plastics base part 1 and a separate cardboard lid 2 which are of generally rectangular shape in plan. The base part may be a one piece moulding of plastics sheet material. For example, conveniently, it is a fluid pressure-formed or vacuum formed from high impact polystyrene sheet material. In the preferred form of the invention used for packaging eggs, the package comprises two such base parts 1 formed as an integral unit and joined together at mutually adjacent longitudinal edges by small spaced plastic webs 3 (Figure 1) which provide a line of weakness along which the package can be readily split into its two component base parts each containing, for example, twelve eggs. The two component base parts are identical and therefore only one base part is illustrated in full and will be described in detail.

The base part 1 comprises twelve egg receiving pockets 4 disposed in three mutually parallel rows extending longitudinally of the base part and has side and end walls projecting upwardly from the tops of the pockets at the sides and ends of the base part. The height of the base part is somewhat greater than that of the eggs to be packaged in the base part.

Within the base part, the rows of pockets 4 are separated from one another by hollow posts 5,6 moulded at the centre at each array of four adjacent pockets and hollow partitions interconnecting the posts and the end walls of the base part. Thus adjacent pockets in each row are separated from one another by transverse hollow partitions 7 which interconnect the hollow posts 5,6 and join the latter to hollow half posts 8 moulded in the side walls of the base part 1.

The walls of the posts, half posts, partitions, side and end walls of the base part are so shaped that each pocket is of generally part egg-shape. Moulded on the outsides of the pockets are hollow axially extending ribs 9 which serve to stiffen the pocket and acts as cushions to protect the eggs against side blows or shocks. The closed bottom of each pocket 4 is formed with an internal hollow boss 10, which serves as a protective cushion for the bottom of an egg and to stiffen the closed bottom of the pocket.

It will be seen that the central posts 6 are shorter than the other posts 5 in order to facilitate removal of eggs from the base part 1. The four taller posts 5 terminate in flat ends 11 which are disposed slightly below the level of the rim flange 12 of the base part. The half posts 8 moulded in the side walls of the base part have flat upper ends spaced some distance below the rim flange and arranged to serve as ledges or supports 13 for side flaps of the lid 2, as will be hereinafter more fully described.

Projecting inwardly from each end wall of the base part, at and adjacent the rim flange 12, are a pair of hollow retaining lugs 15 for the lid. Small shoulders 16 are moulded at each corner of the base part just below the rim flange in order to support the corners of the lid when it is disposed in position on the base. Moulded in the end walls of the base part below and in alignment with the retaining lugs 15 are hollow protuberances 17 which terminate at spaced positions below the lugs 15 and provide stacking shoulders on the outsides of the end walls of the base part for engagement by the lugs. For the purpose of storage, transportation and feeding into automatic egg packing machinery, the bases are stacked in nested relation. When so stacked, the stacking shoulders of an upper box rest on the

lugs of the base within which it is nested in order to prevent the parts from wedging or jamming together and facilitate de-stacking of the bases by mechanical separating devices.

5 The rectangular lid 2 has a flat top with flaps 18 depending from opposite longitudinal edges of the top. The flaps 18 are integral with the top and are folded downwardly about creases 19 formed in the lid material. In its stacked position, prior to folding
10 down of the flaps, the lid 2 may readily be printed with advertising and other information. The top of the lid is formed with a curved finger notch 20 which facilitates opening of the closed lid.

 When the lid 2 is fitted onto the base part 1
15 to close the latter, the flaps 18 fit within the base part juxtaposed the side walls and the lower edges thereof rest on the flat support ledges 13 provided by the half posts 8. These serve to support the edges of the lid whilst the central portion rests on the four
20 posts 5. Hence, the lid is firmly supported and the boxes may be stacked one on top of another without risk of damage to the contents. As the lid is fitted into position, the end walls of the base part can be flexed outwardly so that the lugs engage over the adjacent
25 end edges of the lid to clip and retain the latter in its closed position. When the box is to be opened, it is a simple matter for a person to insert a finger through the notch in the lid and lift the lid passed the retaining lugs. Thereafter, the lid may be easily
30 refastened in its closed position by inserting the lid under the lugs at one end and snapping it underneath the lugs at the opposite end.

 Whilst a particular embodiment has been described, it will be understood that some modifications
35 may be made without departing from the scope of the

invention, as defined by the appended claims. For example, the egg box may be constructed so as to contain a different quantity of eggs. Thus both the number of pockets 4, and their arrangement can be altered. For example, the base part might have ten pockets divided into two parallel rows of five pockets each.

Furthermore the lid 2 may be provided with an additional pair of flaps so that all four edges thereof have flaps. In such a case it may be necessary to provide openings in the creases which join the additional flaps to the lid into which the lugs 15 on the base part 1 can be inserted so as to hold the lid in its closed position. In this variant the notch in the lid will become an opening through which, to open the box, a finger can be inserted.

It will also be appreciated that in, for example, an embodiment having ten receptacles arranged in only two rows that only one lug for retaining the lid need be provided at each end wall of the base part.

The combination of the flat cardboard lid and a transparent thermoplastics base part is particularly advantageous in that the box or pack so formed affords a clear view of its contents, and that the flat, paper-based lid is ideally suited to carry publicity or information material.

However, it is, of course, entirely feasible for alternative materials to be used both for the lid and the base parts such as materials already well known in the manufacture of egg boxes and cartons.

CLAIMS

1. A box or carton for packaging eggs, fruit or other articles, comprising a moulded base part (1) having article receiving pockets (4), a separate flat lid (2) which, in its closed position on the base part, is centrally supported by posts (5) upstanding from the base part between the article receiving pockets, and has flaps (18) depending from at least two opposite edges of the lid, and means (15) for fastening the lid in its closed position, characterised in that the flaps (18) depend within the base part (1) juxtaposed side walls thereof and have lower edges resting on supports (13) projecting inwardly from the side walls of the base part and spaced below the rim (12) of the base part, whereby to support the edges of the lid.
2. A box or carton as claimed in claim 1, characterised in that the central posts (5) project upwardly to position slightly below the rim (12) of the base part and the supports (13) for the edge flaps of the lid comprise ledges formed at the upper ends of half posts (8) moulded in the side walls of the base part between the pockets adjacent thereto.
3. A box or carton as claimed in claim 1 or 2, characterised by retaining pips or lugs (15) projecting inwardly from opposite walls of the base part at or adjacent the rim (12) thereof and engaging over the top of the lid (2), when closed, in order to retain the lid in its closed position.
4. A box or carton as claimed in claim 1 or 2, characterised by pips or lugs (15) projecting inwardly from opposite walls of the base part and engaging in openings in the flaps, of the lid, when closed, in order to retain the lid in its closed position.
5. A box or carton as claimed in any one of the preceding claims, characterised in that the base part and lid are of generally rectangular shape in plan, the

base part includes mutually parallel rows of the article receiving pockets, two flaps (18) depend respectively from opposite longitudinal edges of the lid, and the retaining lugs (15) project inwardly from opposite end walls of the base part to engage over opposite end edges of the lid.

6. A box or carton as claimed in claim 5, characterised in that the base part has hollow protuberances (17) in alignment with said lugs and which terminate at spaced positions below the lugs, the protuberances providing stacking shoulders on the outsides of the wall of the base part for engagement with the lugs of another similar base part when the latter is stacked in nested relationship therewith to prevent the nested base parts from wedging or jamming together.

7. A box or carton as claimed in any one of the preceding claims wherein each corner of the base part is formed with a shoulder (16) to support the corners of the lid when it is disposed in position on the base part.

8. A box or carton as claimed in any one of the preceding claims in combination with a similar box or carton characterised in that the base parts of the two boxes or cartons are joined together along mutually adjacent longitudinal edges in such a manner that the two base parts can be readily separated.

9. A combination as claimed in claim 8, wherein the two base parts are joined by small spaced plastic webs (3) which provide a line of weakness.

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Fig. 2

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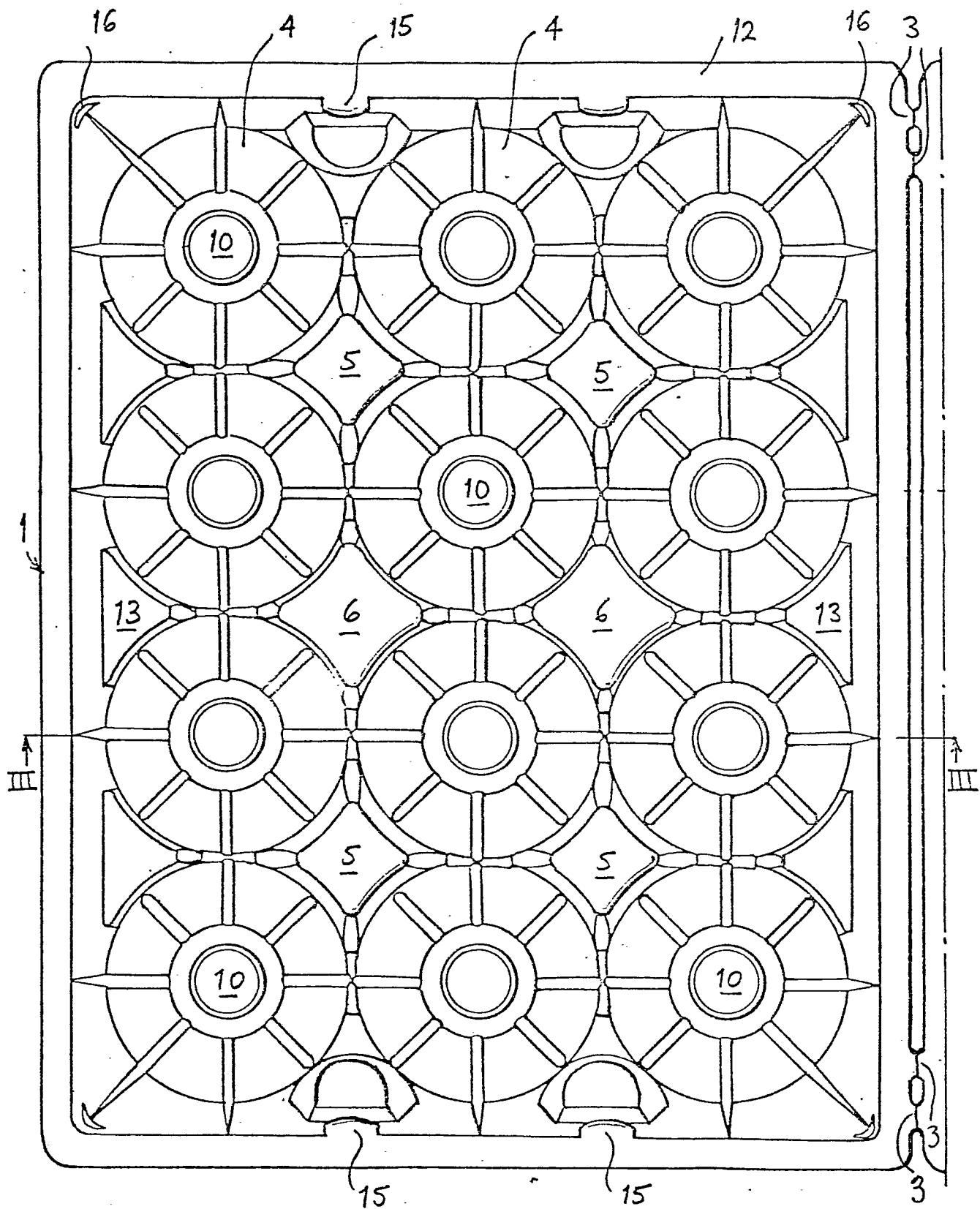
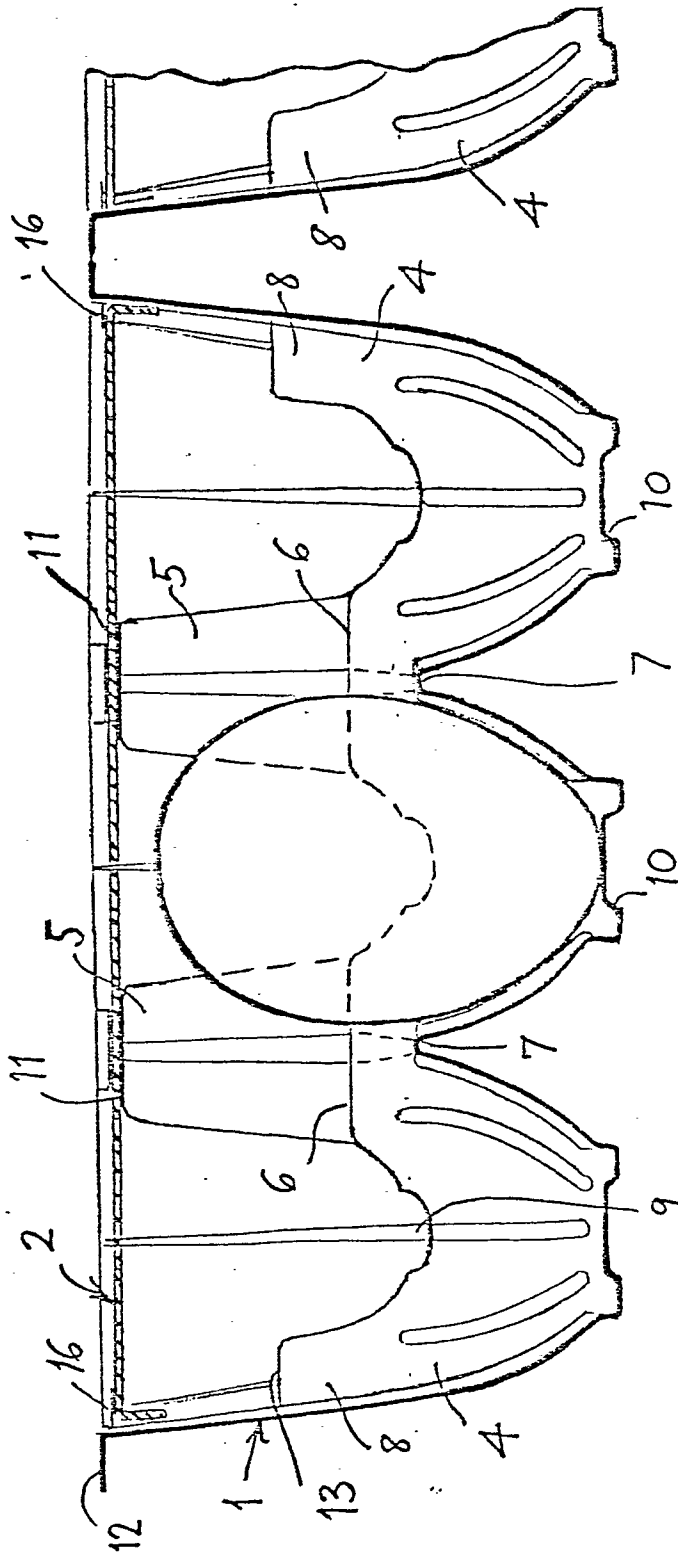


Fig. 3





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EUROPEAN SEARCH REPORT

0059024
Application number

EP 82300048.4

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	DE - A - 1 905 991 (ILLINOIS TOOL WORKS INC.) & US-A-3 493 164 --	5	B 65 D 85/32
D, A	GB - A - 1 008 481 (KEYES FIBRE COMPANY) --	2, 5	
P	EP - A1 -.0 036 785 (HINTEREGGER) & GB-A-2 072 628 (07-10-1981) ----		
			TECHNICAL FIELDS SEARCHED (Int.Cl. 3)
			B 65 D 1/00 B 65 D 43/00 B 65 D 81/00 B 65 D 85/00 B 65 B 23/02
			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
X	The present search report has been drawn up for all claims		
Place of search VIENNA		Date of completion of the search 16-04-1982	Examiner MELZER