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(54) Shelf for refrigerator

(57) Shelf for refrigerators comprising a rest surface (1) surrounded by a frame (2) that covers the edges (3, 4, 5) of said rest surface (1), characterised in that it provides for at least one bare segment of at least one of said edges (3, 4, 5) not covered by said frame so as to allow the outflow of liquids from the rest surface (1).

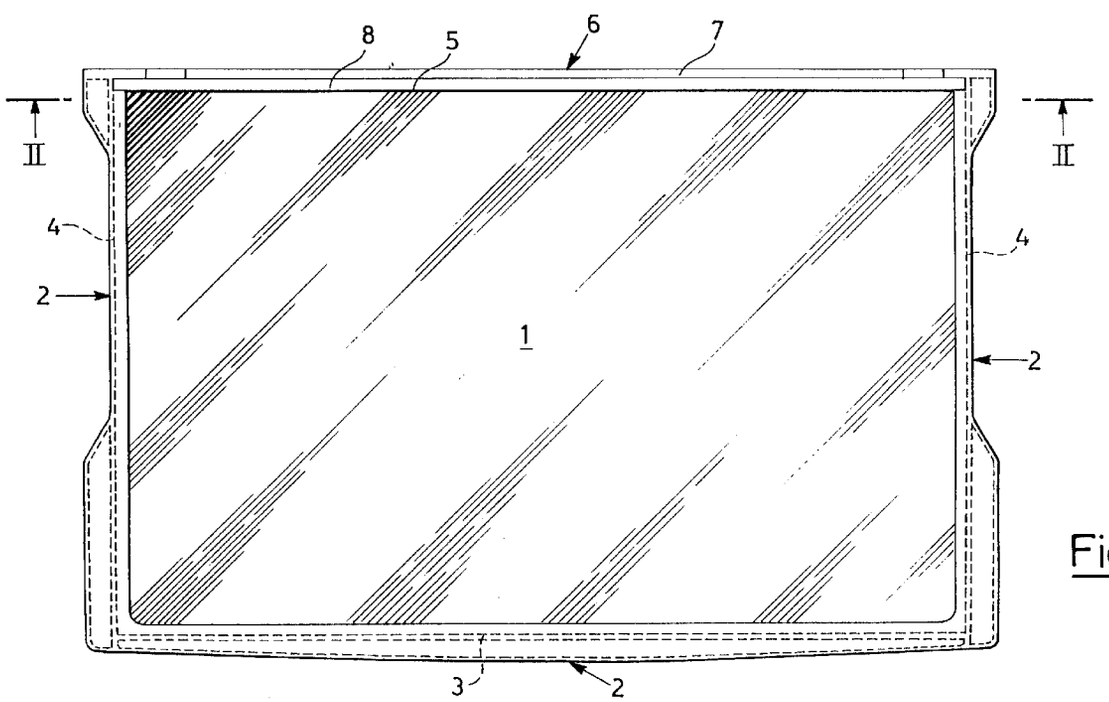

Fig. 1

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Description

The present invention refers to a shelf for refrigerator, in particular to a shelf comprising a rest surface of transparent material, particularly but not exclusively of glass, and a frame.

In the field of refrigerators, shelves comprising a rest surface consisting of a glass sheet surrounded by a frame of plastic material moulded by injection on the glass sheet are already known.

An example of such shelves is found in the Italian Patent Application No. MI91A001543, that describes a refrigerator shelf comprising a rest surface consisting of a glass sheet flushed in an enclosing frame of plastic material formed by injection moulding which covers all the edges of the glass sheet for their entire length.

In the aforementioned shelf the enclosing frame creates a raised edge all around the upper surface of the glass sheet. However, this bears the inconvenience that possible spills of liquids from containers laying on the shelf, or even simple condensate, cannot be let out and they accumulate on the shelf.

In view of the state of the art described, an object of the present invention is to provide for a refrigerator shelf that is not subject to the aforementioned inconvenience.

According to the present invention, such object is attained by means of a refrigerator shelf comprising a rest surface surrounded by a frame that covers the edges of said rest surface, characterised in that it provides for at least one bare segment of at least one of said edges not covered by said frame so as to allow the outflow of liquids from the rest surface.

Owing to the shelf according to the present invention, the possibility of outflow of liquids from the shelf is guaranteed, thus preventing accumulations of liquid on the same shelf.

These and other features of the present invention will be made more evident in the following detailed description of some embodiments thereof, described as non-limiting examples in the enclosed drawing, in which:

Figure 1 is a plan view of a shelf according to a first embodiment of the present invention;

Figure 2 is a section according to line II-II of Figure 1;

Figure 3 is a plan view of a shelf according to a second embodiment of the present invention;

Figure 4 is a section according to line IV-IV of Figure 3;

Figure 5 is a plan view of a shelf according to a third embodiment of the present invention;

Figure 6 is a section according to line VI-VI of Figure 5;

Figure 7 is plan view of a portion of a shelf according to the fourth embodiment of the invention;

Figure 8 is a section according to line VIII-VIII of Figure 7; and

Figure 9 is a section according to line IX-IX of Figure 7.

With reference to Figures 1 and 2, a refrigerator shelf according to a first embodiment of the present invention is shown, respectively in plan and in section. The shelf comprises a rest surface 1 of transparent material, for example a glass sheet, and an enclosing frame 2 that entirely covers the front edge 3 and the side edges 4 of the glass sheet 1. The back edge 5 of the sheet 1 is instead not covered by the frame 2, as the back edge 6 of the frame 2 is at a distance from the back edge 5 of the sheet 1.

In addition the back edge 6 of the frame 2 forms a raised flange 7 that functions as a back stop for the items to be placed on the shelf and at the same instance as a protection for the back wall of the refrigerator.

The frame 2 is advantageously made of plastic material and it is formed by injection moulding on the sheet 1. The frame 2 forms a raised edge along the front and side edges of the sheet 1. But since the back edge 5 of the sheet 1 is at a distance from the back edge 6 of the frame 2, the shelf is provided with a back opening 8 that allows the outflow of liquids present on the same shelf deriving from accidental spills from the containers laying on the shelf or from condensate, in such a way as to prevent accumulations of such liquids on the shelf from occurring. The opening 8 also provides for a more efficient convective flow of the air inside the refrigerator.

In Figures 3 and 4 a second embodiment of a shelf according to the present invention is shown, respectively in plan and in section. In this embodiment, unlike the previous, the back edge 5 of the sheet 1 also is covered by the frame 2, but in the back edge 6 of the latter (that as in the case of the previous embodiment is provided with a flange 7) at least one break 9 is provided in correspondence of which the edge 5 of the sheet 1 is bare. The frame 2 is therefore not closed, and the break 9 allows the outflow of liquids from the shelf.

The dimension of the break 9 must be such as to allow an effective outflow of liquids. A dimension within the interval form 3 to 5 mm is suitable to guarantee the desirable outflow of liquids.

The break 9, that in Figure 3 is explicatively shown in a central position along the back edge 6 of the frame 2, could also be made in other positions of the back edge 5 of the sheet 1; however, for reasons of easiness of the shelf manufacturing, it is preferable that the break is made at a distance from one of the side edges 4 of the sheet 1 equal to 1/2÷1/5 of the length of the back edge 5 of the sheet 1. It is also possible to provide for more than one break 9 of the back edge 6 of the frame 2 along the back edge 5 of the sheet 1.

In Figure 3 there is also shown an alternative embodiment, that, instead of the break 9 in the back edge 6 of the frame 2, (or possibly in combination with it), provides two breaks 9' in the side edges of the frame 2, in correspondence of which a portion of the side edges

4 of the sheet 1 is bare. Again, for reasons of manufacture easiness, it is preferable that the breaks 9' are located at a distance from the back edge 6 of the frame 2 equal to 1/2÷1/3 of the length of the side of the shelf.

In Figures 5 and 6 a third embodiment according to the present invention is shown, respectively in plan and in section. In this embodiment, the back edge 6 of the frame 2 still covers the back edge 5 of the sheet 1, however, in the edge 6 of the frame 2 a break 10 is provided (in correspondence of which the back edge 5 of the sheet 1 is bare) having a greater length as compared with the break 9 of Figures 3 and 4. However, the raised flange 7 of the back edge 6 of the frame 2 extends also inside the break 10, but in correspondence of the break 10 it is raised as regards the sheet 1 in such a way so as to leave a space 12 for the outflow of liquids present on the shelf; in addition the flange 7 itself has a substantially central break 11 that facilitates the passage of liquids, which outflow through the break 10. As compared with the previous one, this embodiment allows a more efficient outflow of the liquids present on the shelf.

Finally, in Figures 7, 8 and 9 a forth embodiment of the shelf according to the present invention is shown. In this embodiment, the frame 2 entirely covers the back edge 5 of the sheet 1. However, in correspondence of the back end of the side edge 4 of the sheet 1, the side edge 13 of the frame 2 has a break, in such a way that a final segment 14 of the side edge 4 of the sheet 1 is bare as a result. Below the bare segment 14 of the edge 4 of the sheet 1 the frame 2 has a flange 15 built into the frame 2, that functions as a drip for the liquids flowing from the shelf through the break in the frame. The flange 15 is provided with a raised side edge 16, and in addition its bottom part is at a distance from the lower side of the sheet 1. The break and the flange 15 can be provided in one of the side edges 13 of the frame 2 only, or in both side edges of the frame 2.

Claims

1. Shelf for refrigerators comprising a rest surface (1) surrounded by a frame (2) that covers the edges (3, 4, 5) of said rest surface (1), characterised in that it provides for at least one bare segment of at least one of said edges (3, 4, 5) not covered by said frame so as to allow the outflow of liquids from the rest surface (1).

2. Shelf according to claim 1, characterised in that said rest surface (1) is of transparent material.

3. Shelf according to claim 2, characterised in that said rest surface (1) is a sheet of glass.

4. Shelf according to claim 3, characterised in that said frame (2) is of a plastic material moulded by injection around said rest surface (1).

5. Shelf according to claim 4, characterised in that said frame (2) entirely covers the fore edge (3) and the side edges (4) of the rest surface (1), said frame (2) comprising a back edge (6) at a distance from the back edge (5) of the rest surface in such a way that the entire back edge (5) of the rest surface is bare and the liquids present on the rest surface can outflow through an elongated opening (8) between the back edge (5) of the rest surface (1) and the back edge (6) of the frame (2).

6. Shelf according to claim 4, characterised in that said frame (2) entirely covers the fore edge (3) and the side edges (4) of the rest surface (1), said frame (2) comprising also a back edge (6) that covers the back edge (5) of the rest surface and in which at least one break (9, 10) is provided, in correspondence of which the back edge (5) of the rest surface is bare.

7. Shelf according to claim 4, characterised in that said frame (2) entirely covers the fore edge (3) and the back edge (5) of said rest surface, said frame (2) comprising in addition two side edges that cover the side edges (4) of the rest surface (1) and in each one of which at least one break (9') is provided, in correspondence of which the side edge (4) of the rest surface (1) is bare.

8. Shelf according to claim 4, characterised in that said frame (2) entirely covers the fore edge (3) of the rest surface (1), said frame (2) comprising also two side edges and a back edge (6) that cover respectively the side edges (4) and the back edge (5) of the rest surface (1) and in each one of which at least one break (9', 9) is provided, in correspondence of which the side edges (4) and the back edge (5) of the rest surface (1), respectively, are bare.

9. Shelf according to any of the claims from 5 to 8, characterised in that the back edge (6) of the frame (2) comprises a raised flange (7) substantially extending along the entire back edge (6) of the frame.

10. Shelf according to claim 9 as depending on claim 6 or 9,
characterised in that said raised flange (7) has a break in correspondence of the break (9; 10) in the back edge (6) of the frame (2).

11. Shelf according to claim 10, characterised in that said break in the raised flange (7) has dimensions substantially identical to those of said break (9) in the back edge of the frame (2).

12. Shelf according to claim 11, characterised in that in correspondence of said break (10) in the back edge (6) of the frame (2) said raised flange (7) is raised

from the rest surface (1).

13. Shelf according to claim 4, characterised in that said frame (2) entirely covers the fore edge (3) and the back edge (5) of the rest surface (1), said frame (2) comprising also two side edges (13) that cover the side edges (4) of the rest surface (1), in at least one of said side edges (13) of the frame (2) at least one break being provided, for leaving a terminal segment (14) of the corresponding side edge (4) of the rest surface (1) bare, and said frame (2) comprising, below said terminal segment (14), a drip flange (15) to receive the liquid flowing from the rest surface (1) through said terminal segment (14).

Fig.2

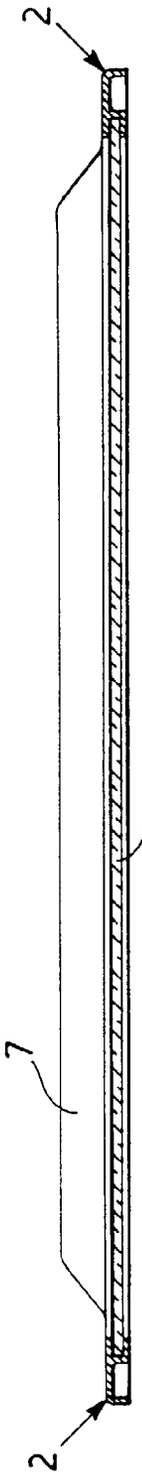


Fig.1

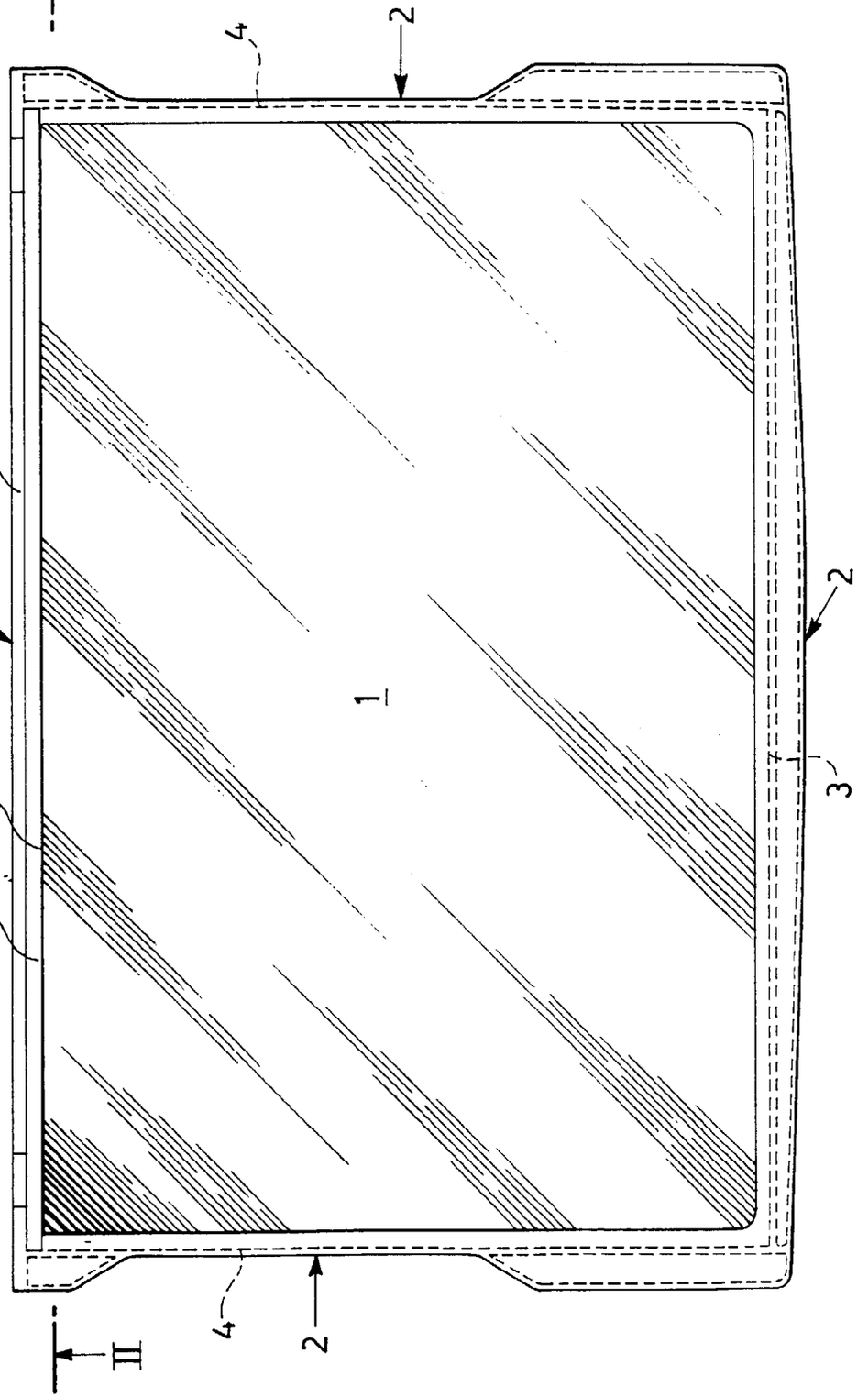


Fig.4

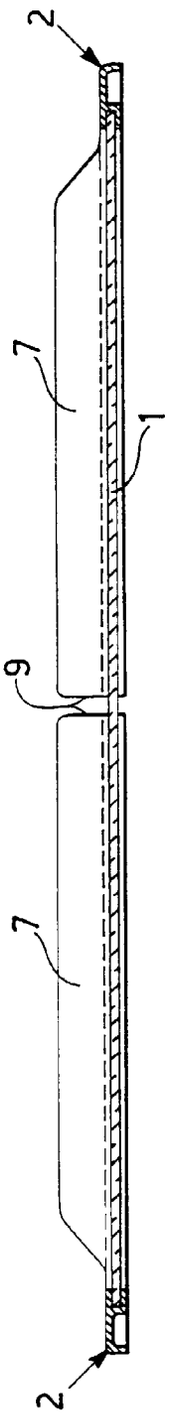


Fig.3

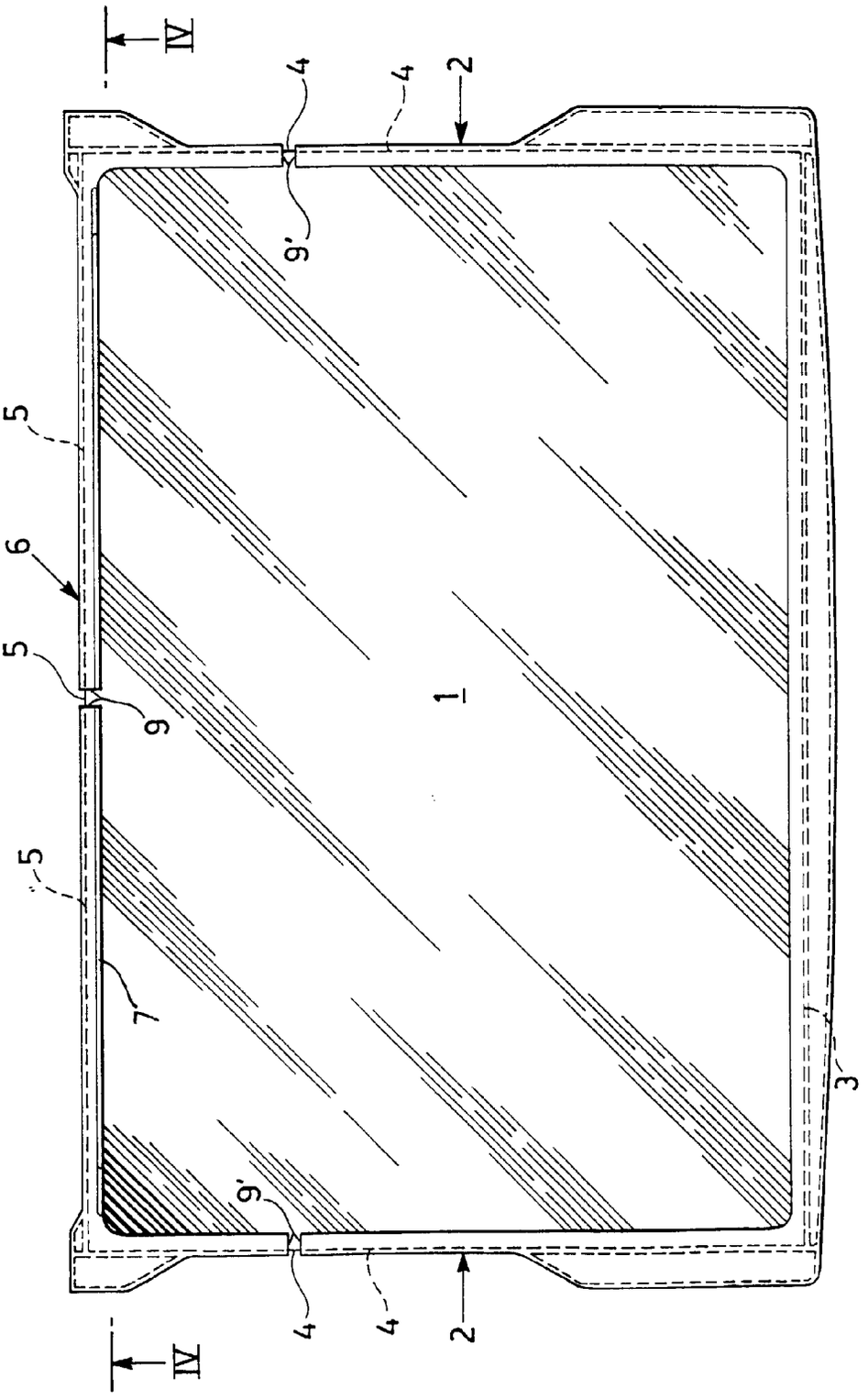


Fig.6

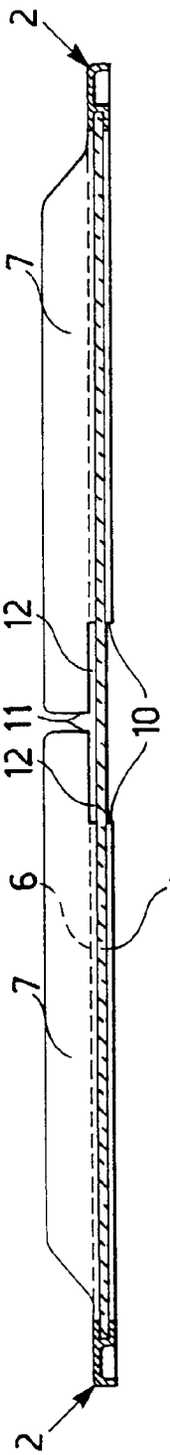
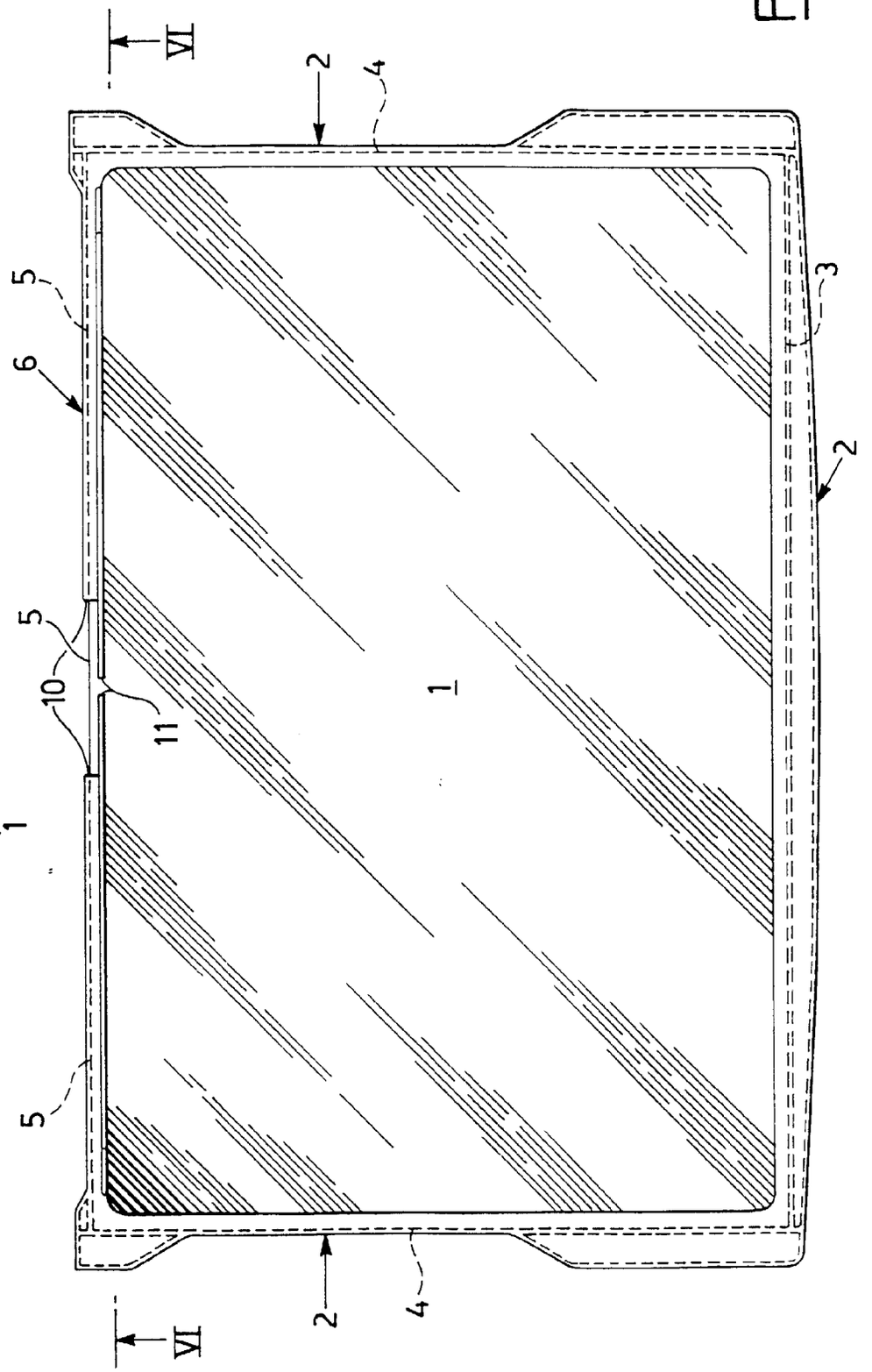


Fig. 5



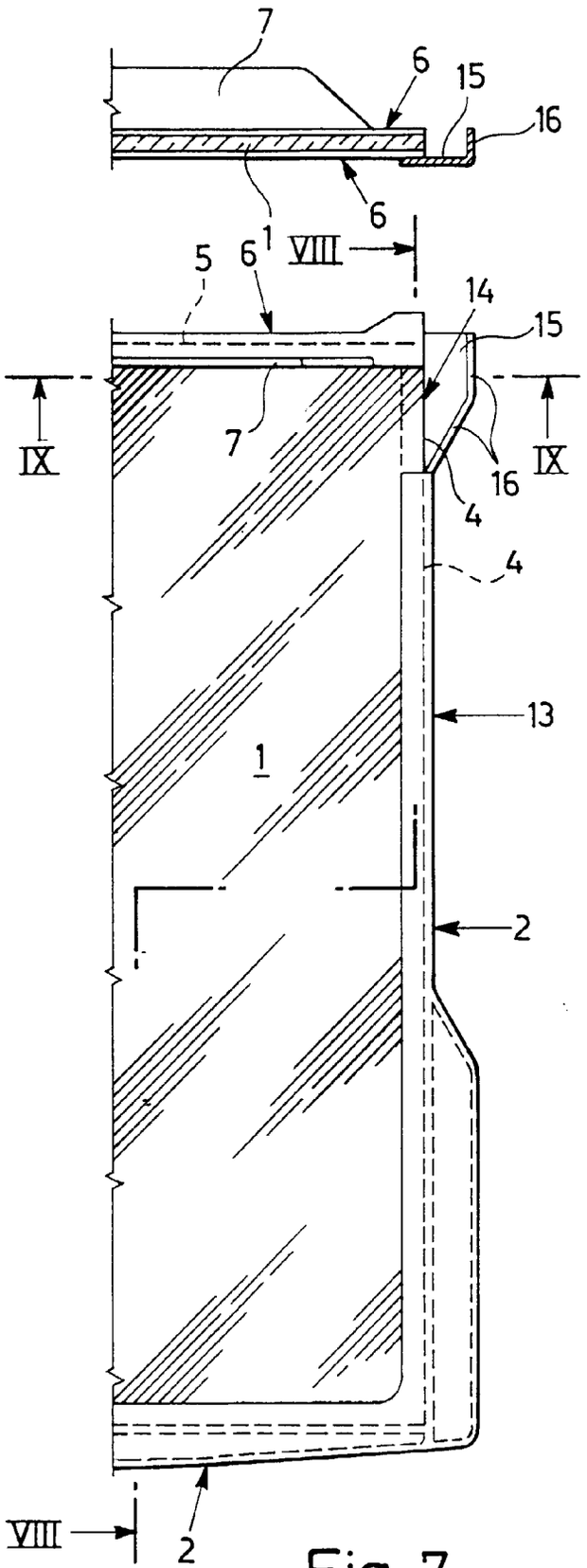


Fig. 7

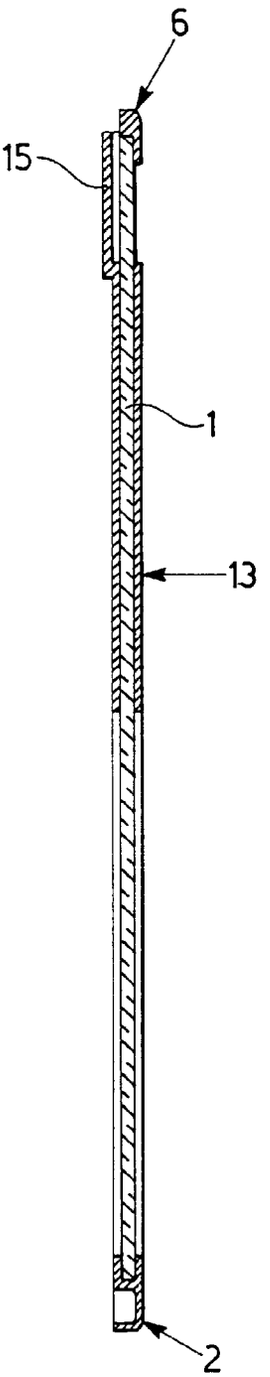


Fig. 8

Fig. 9