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(72) Inventor: **Fumagalli, Silvano**
20052 Monza (IT)

(74) Representative: **Mittler, Enrico**
c/o Mittler & C. s.r.l.,
Viale Lombardia, 20
20131 Milano (IT)

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(71) Applicant: **CANDY S.p.A.**
I-20052 Monza (Milano) (IT)

(54) **Shelf for refrigerator**

(57) A shelf (1, 20) for refrigerator for the support of containers or food is described. The shelf (1, 20) comprises a plate (6, 23) and a cutting board (8, 25); the

plate (6, 23) is revolving in order to facilitate the handling of the containers or food supported by it while the cutting board (8, 25) is movable so as to leave an area for the passage (7, 24) of various types of containers.

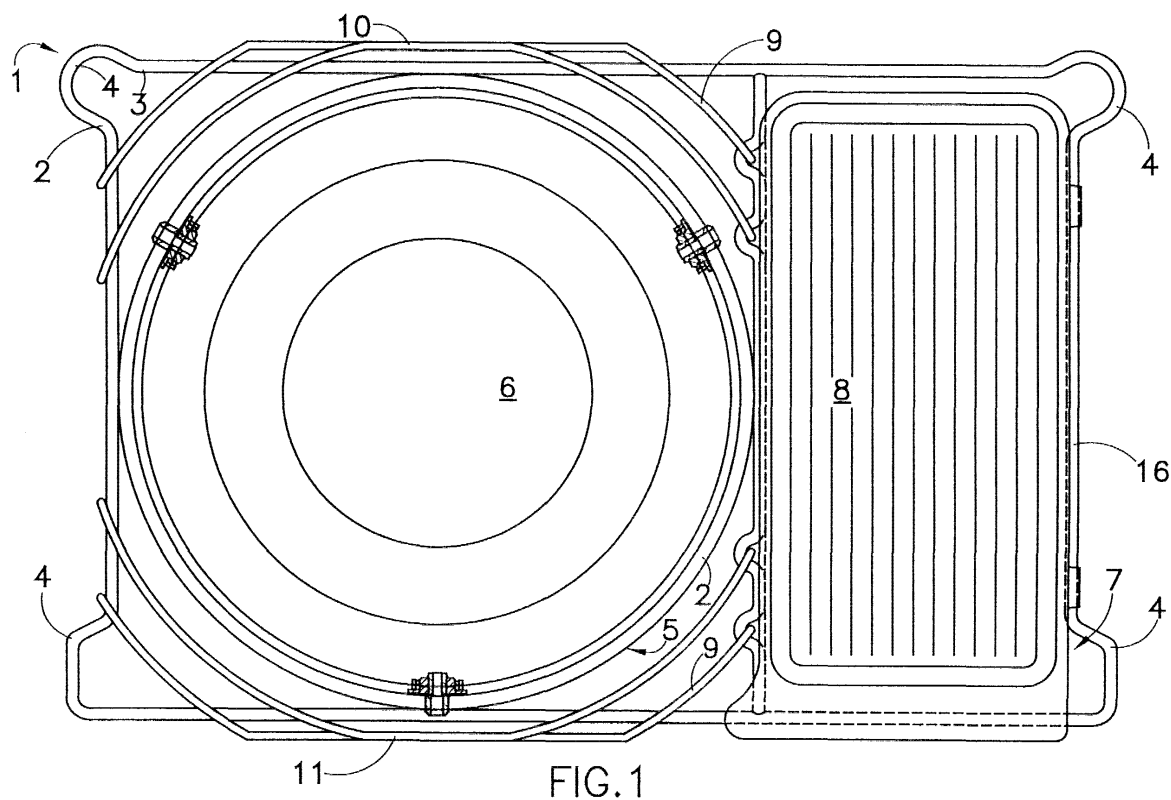


FIG.1

Description

[0001] The present invention refers to a shelf for refrigerator, in particular for a household refrigerator.

[0002] Generally refrigerators are provided with shelves for the support of food to be cooled. Usually such shelves are insertable in an adjustable way in height into guides obtained in the internal side walls of the refrigerator and they can be formed by means of interlacement of metal rods or with glass plates or they can also be directly moulded in plastic.

[0003] However such shelves are at fixed positions inside the refrigerator and some containers or food of various kind that are supported by them are in a difficult position for the user's handling.

[0004] Indeed, such containers or food can be in positions hidden inside the refrigerator and their handling can become difficult for the user since it causes the movement of other containers or food and sometimes even the undesired spill of substances on the same shelves, with a consequent difficult cleaning operation of the same. In addition the described handling operation causes a prolonged opening of the door of the refrigerator thus allowing a greater energy consumption.

[0005] In view of the state of the art herein described, scope of the present invention is to form a shelf for refrigerator that allows an easier handling of the containers or food inside the refrigerator.

[0006] According to the present invention, such scope is attained by means of a shelf for refrigerator for the support of containers or food, characterised in that it comprises a revolving plate and a cutting board, said plate being revolvable in order to facilitate the handling of said containers or food supported by it, said cutting board being movable so as to leave an area for the passage of containers of various type.

[0007] Owing to the present invention it is possible to realize a shelf for refrigerator that by means of a rotation of its revolving plate allows an easy handling of any container or food that is on it. In addition the greater speed of the handling operation of such containers or food, and therefore minor time for the opening of the door of the refrigerator, determines a certain energy saving.

[0008] The characteristics and the advantages of the present invention will become evident from the following detailed description of an embodiment thereof, that is illustrated as a non limiting example in the enclosed drawings, in which:

Figure 1 is a top view of a shelf for refrigerator according to an embodiment of the present invention; Figure 2 is a partially sectioned side view of the shelf for refrigerator in Figure 1;

Figure 3 is a magnified view of a detail of the shelf in Figure 2;

Figure 4 is a top view of a shelf for refrigerator according to a variation of the embodiment of the present invention;

Figure 5 is a side view of the shelf for refrigerator in Figure 4;

Figure 6 is a magnified view of a detail of the shelf in Figure 5.

[0009] With reference to Figures 1-3 a shelf 1 for refrigerator according to an embodiment of the present invention is shown. The structure of the shelf 1 is realized with a first metal rod 2 that is moulded according to a rectangular shape 3 with angular projection 4 for the sliding fastening of the shelf 1 on guides realized in side walls inside a refrigerator, not visible in the figures. The metal rod 2 is moulded in such a way so as to create inside the rectangular shape 3 a round housing 5 for a revolving plate 6 and a rectangular housing 7 for a panel 8. A second metal rod 9 with minor thickness than the metal rod 1 is moulded around the round housing 5 so as to create a barrier 10 that gets in abutment with the internal back wall of the refrigerator on the back and a handle 11 for the handling of the shelf 1 by the user on the front.

[0010] In addition the barrier 10 allows any container or food that is placed on the revolving plate 6 not to go in abutment with the internal back wall of the refrigerator.

[0011] The plate 6 is anchored to the metal rod of the housing 5 by means of curved tangs 12 and it rests on rollers 13 for the sliding of the plate 6 either clockwise or counter-clockwise, as better visible in Figure 2. The rollers 13 are fastened onto round supports 14 that are connected with curved pins 15 that are fixedly mounted to the metal rod of the round housing 5, as better visible in Figure 3. The plate 6 can be made of various materials, glass fiber or metal and it can preferably be transparent or have serigraph motifs. The rotary sliding of the plate 6 allows a user an easy handling of any container or food that is placed in the same plate 6 inside the refrigerator.

[0012] The panel 8 rests on the edge of the housing 7 and it is coupled to one side of housing 7, which also corresponds to a side 16 of the shelf 1, so as to be capable to rotate around the same side 16 but upward, as shown in Figure 2, so as to create a passage area in order to allow the positioning of several containers such as bottles with long neck, and so that it can be completely extracted from the housing 7, with function of cutting board. For this last reason the panel 7 must be made of materials that are suitable to the use as cutting board, such as plastic, wood or metal.

[0013] In figures 4-6 a shelf 20 for refrigerator as a variation of the above described embodiment is shown. The shelf 20 in this case is realised by moulding in a single piece of a material such as glass, plastic or metal. The rectangular shape shelf 20 is provided with fins 21 of support for the fastening onto guides of the internal side walls of the refrigerator and with a round hollow housing 22 for a revolving plate 23 and with a rectangular hollow housing 24 for a panel 25.

[0014] The plate 23 is resting on rollers 26 that can

slide in a round guide 27 obtained in the hollow housing 22 of the shelf 20, as visible in Figure 6; in that way the plate 23 can rotate clockwise and counter-clockwise thus allowing a user an easy handling of any container or food that is placed in the same plate 23 inside the refrigerator. In addition the plate 23 is thus easily removable for a use external to the refrigerator.

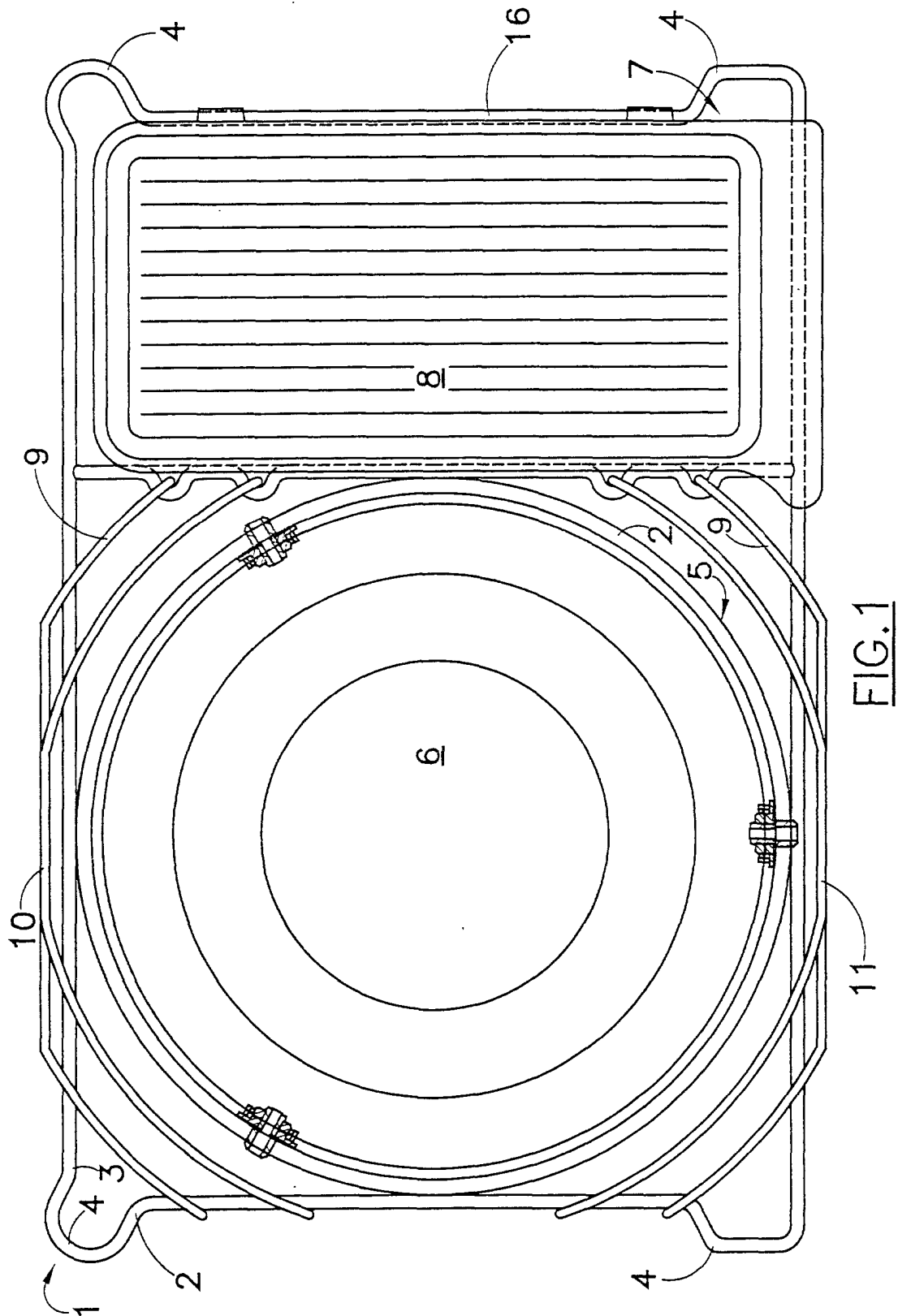
[0015] The panel 25 thus rests on the edge of the hollow housing 24 of the shelf 20 and it can be turned upside down, a visible in Figure 5, so as to create a passage area in order to allow the different positioning of containers such as bottles with long neck, or it can be removed; in this latter case it can be used as a cutting board and it is therefore made of materials suitable to such use such as metal, plastic, wood.

Claims

1. Shelf (1, 20) for refrigerator for the support of containers or food, **characterised in that** it comprise a plate (6, 23) and a cutting board (8, 25), said plate (6, 23) being revolving in order to facilitate the handling of said containers or food supported by it, said cutting board (8, 25) being movable so as to leave an area for the passage (7, 24) of various types of containers .
2. Shelf according to claim 1, **characterized in that** said cutting board (8, 25) is turnable upside down.
3. Shelf according to claim 1, **characterized in that** said cutting board (8, 25) is removable.
4. Shelf according to claim 1, **characterized in that** said shelf (1) is made of metal rods and said revolving plate (6) is anchored into a hollow housing (5) of said shelf (1), said hollow housing (5) being provided with means (13-15) for the sliding of said revolving plate (6).
5. Shelf according to claim 4, **characterized in that** said sliding means (13-15) comprise rollers (13) that are movably coupled to pins (15) fixedly mounted to said hollow housing (5), said revolving plate (6) resting on said rollers (13).
6. Shelf according to claim 1, **characterized in that** said revolving plate (23) is removable.
7. Shelf according to claim 6, **characterized in that** said revolving plate (23) is placed on a hollow housing (22) of said shelf (20), being said hollow housing (22) provided with means (26, 27) for the sliding of said revolving plate (23).
8. Shelf according to claim 7, **characterized in that** said sliding means (26, 27) are rollers (26) sliding

on round guides (27) obtained in said hollow housing (22), said revolving plate (23) resting on said rollers (26).

9. Shelf according to claim 1, **characterized in that** said shelf (1, 20) is slidingly arranged onto guides of internal side walls of said refrigerator.
10. Shelf according to claim 1, **characterized in that** said revolving plate (6, 23) is made of a transparent material.
11. Shelf according to claim 1, **characterized in that** said revolving plate (6, 23) and said cutting board (8, 25) are made of plastic or glass or metal.
12. Shelf according to claim 1, **characterized in that** said refrigerator is a household refrigerator.



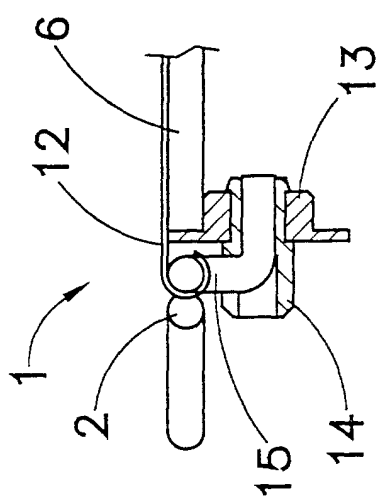


FIG. 3

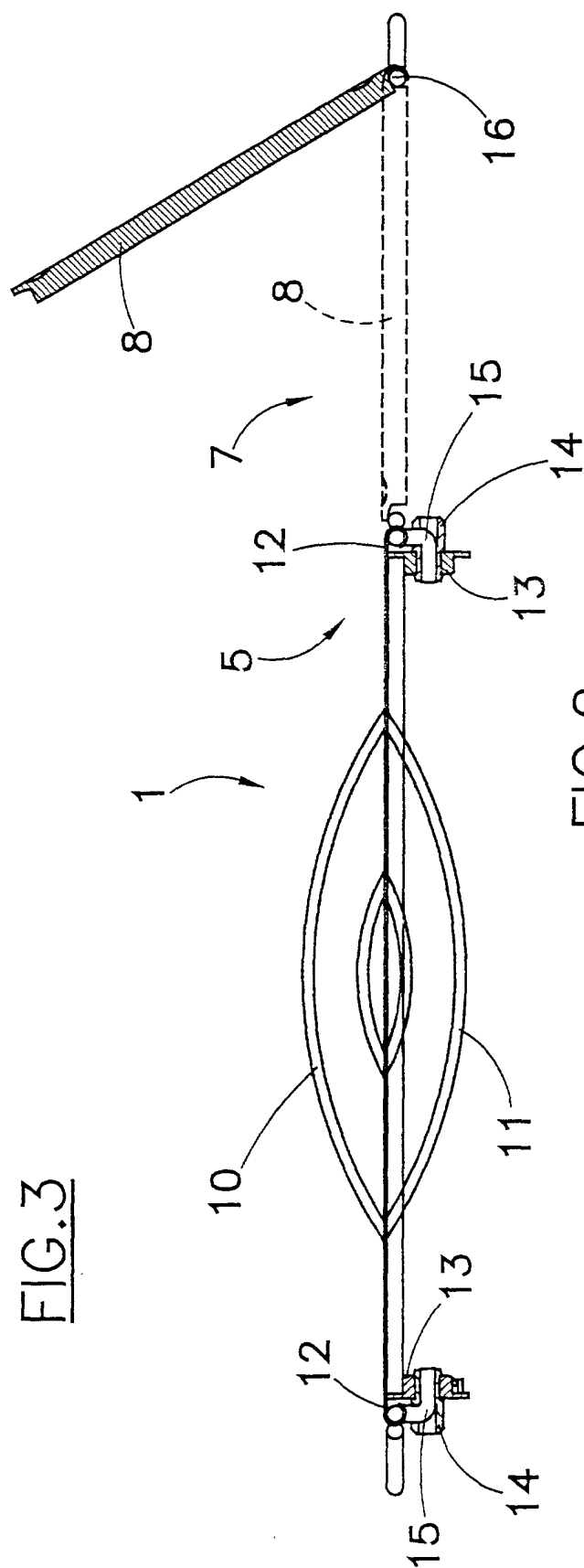
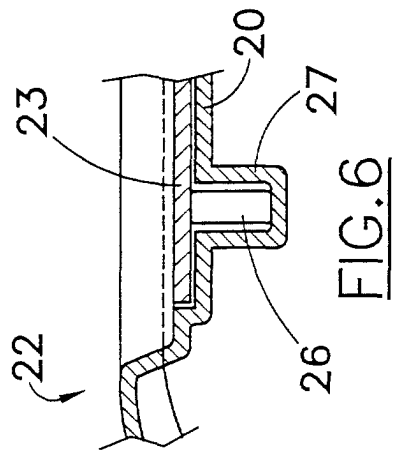
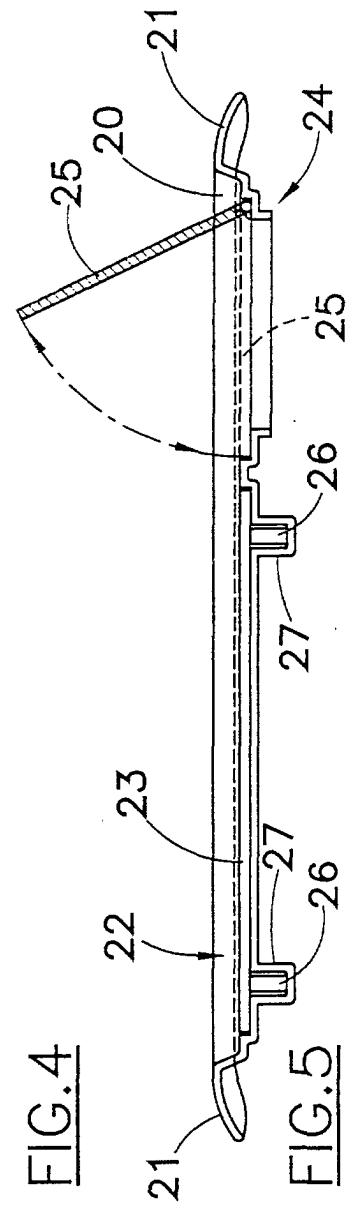
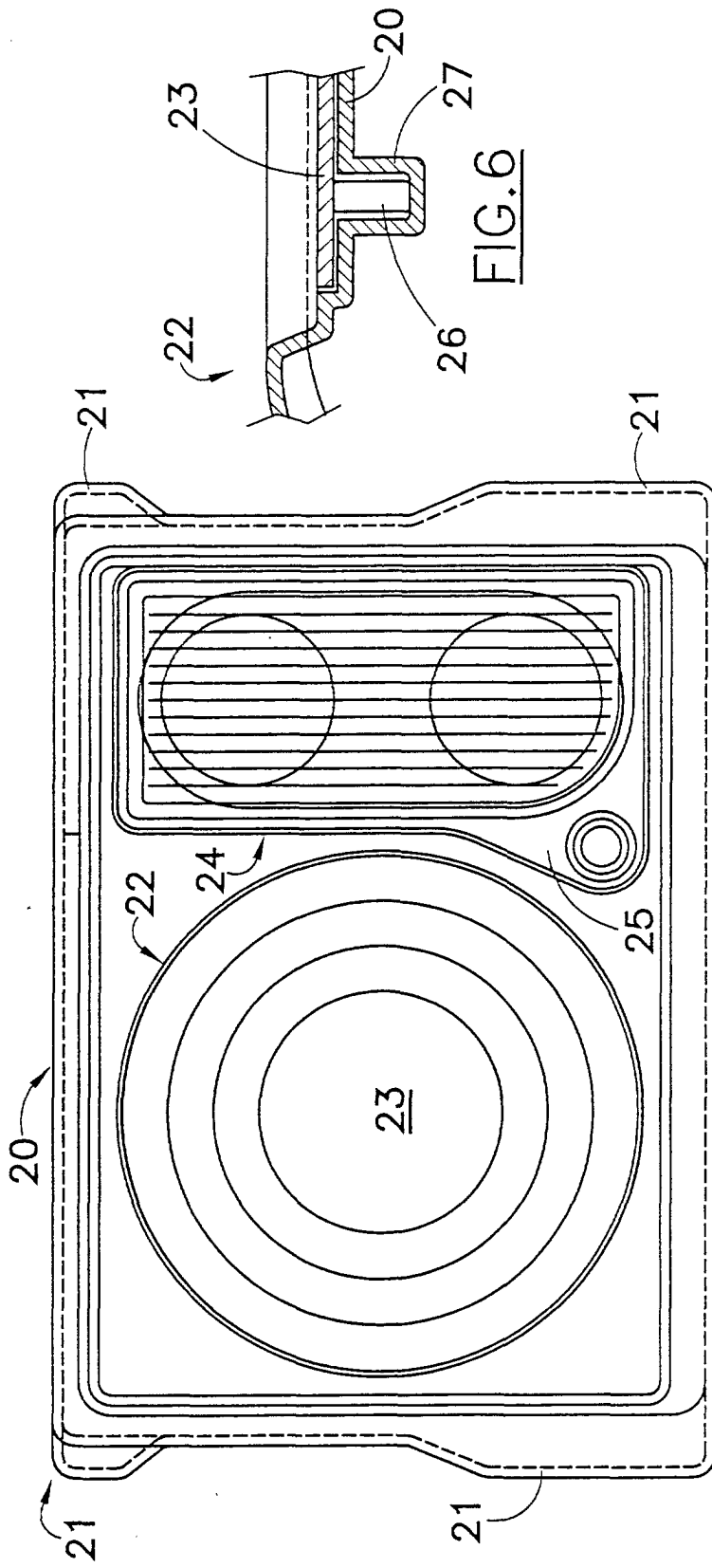


FIG. 2





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 20 1907

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Place of search THE HAGUE		Date of completion of the search 12 September 2001	Examiner Boets, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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