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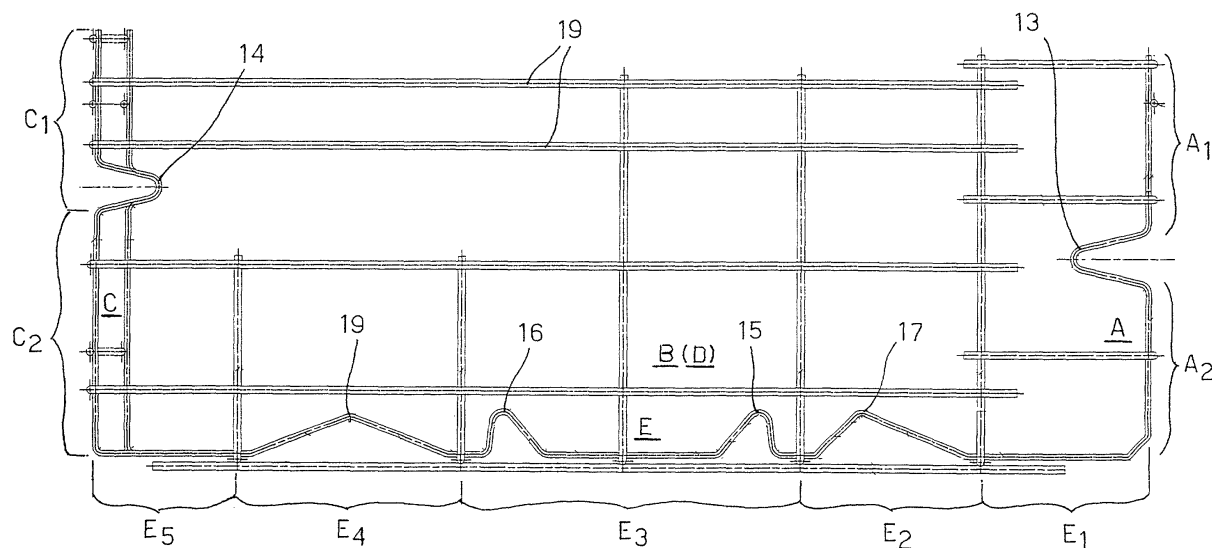
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### (54) **Basket for dish-washing machine**

(57) The invention concerns a basket for dish-washing machines, comprising a body (11) of metal wire in which four vertical walls (A, B, C, D) and a horizontal bottom (E) are defined, and in which a first plurality of

rounded projections (13, 14) is defined on at least one of said vertical walls, which projections are directed towards the basket interior, are intended to hold the plates and co-operate with as many rounded projections (15, 16, 17, 19) provided on the basket bottom (E).



**FIG. 2**

**EP 1 266 602 A1**

## Description

[0001] The present invention relates to a basket for dish-washing machine.

[0002] Dish-washing machines for domestic use, as presently produced, generally have a pair of baskets for containing the dishes to be submitted to the washing cycle.

[0003] According to the known technique, the baskets for dish-washing machines are made of welded steel wire, coated with plastic material preventing corrosion of the wires, and have a drawer-like shape.

[0004] Indeed said baskets are arranged inside the chamber of the dish-washing machine on suitable guides, so as to be slidable towards the outside of the dish-washing machine to allow dish loading and unloading.

[0005] Conventionally, especially but not only in dish-washing machines for domestic use, the two baskets are differentiated so as to allow putting a great number of dishes with different shapes and sizes into the machine.

[0006] More particularly, in the conventional machines, there are provided an upper basket with closer meshes for containing cups, glasses and other items of small size, and a lower basket with wider meshes intended to contain pans and other dishes of greater size.

[0007] Both baskets generally have metal points or combs formed by the same wire as the baskets and also coated to prevent corrosion, which points are to hold the plates in substantially upright position within the basket.

[0008] According to the above construction principle, wherein the upper and lower baskets are differentiated, also the above-mentioned points have different sizes and they are arranged with different relative spacings depending on whether the upper or the lower basket is concerned, in order to contain small plates in the upper basket and larger plates in the lower basket, respectively.

[0009] The presence of the points in the baskets of dish-washing machines has eventually proven to be a drawback, mainly for three kind of reasons.

[0010] The first drawback is that said points are an encumbrance inside the basket, preventing use of the basket plane to contain large objects.

[0011] The second drawback is that said points can cause excoriation to the hands of a user contacting them during the basket loading and unloading operations.

[0012] The third drawback is instead that said points are particularly exposed to impact with the dishes being introduced into the basket, and therefore they are subjected to scratches and abrasion of the coating protecting against corrosion. Hence said points generally are the basket parts where more frequently corrosion starts.

[0013] According to the invention a basket for dish-washing machines is provided that obviates said drawbacks and is of easy and cheap construction.

[0014] The above objects of the invention are

achieved by the basket for dish-washing machine as claimed in the appended claims.

[0015] Advantageously, the basket according to the invention is not provided with point-like projections and the surface of its bottom plane is substantially free from projections and therefore can be wholly exploited.

[0016] Even though the basket according to the invention has been conceived for use as lower basket in a conventional dish-washing machine, it could be used with advantage even as upper basket.

[0017] The invention will now be described with reference to the accompanying drawings, relating to a preferred and non-limiting embodiment, in which:

- Fig. 1 is a plan view of the basket;
- Fig. 2 is a side view of the basket shown in Fig. 1;
- Fig. 3 is a view of the front wall of the basket shown in Fig. 1;
- Fig. 4 is a view of the rear wall of the basket shown in Fig. 1.

[0018] Referring to the accompanying drawings, the basket of the invention comprises a body 11 formed by steel metal wire suitably coated for protection against corrosion and bent to define four vertical walls A, B, C, D and a bottom E.

[0019] Walls A and C define the front and rear walls of the basket, respectively, whereas walls B and D define the side walls or sides of the basket.

[0020] As better shown in Fig. 2, according to the invention walls A and C are provided with a set of rounded projections denoted 13 and 14, respectively. Those projections are directed towards the basket interior and are substantially perpendicular to the planes defined by walls A and C, respectively.

[0021] Preferably, said projections 13 and 14 are formed by bending the metal wire defining the vertical portions of the same walls A and C of the basket.

[0022] Also basket bottom E has sets of rounded projections 15, 16, 17, 19, arranged in a direction perpendicular to the plane of bottom E and obtained by bending the metal wire defining the longitudinal portions of basket bottom E.

[0023] It is to be appreciated that projections 13 to 19 have a rounded shape and they do not exhibit sharp edges.

[0024] Front wall A comprises a vertical upper portion A<sub>1</sub> where projections 13 are formed, and a vertical lower portion A<sub>2</sub>.

[0025] Similarly, rear wall C comprises a vertical upper section C<sub>1</sub> where projections 14 are formed, and a vertical lower section C<sub>2</sub> to which the wires forming side walls B, D of body 11 are joined.

[0026] The profile of bottom E presents, from wall A towards wall C, a first substantially horizontal section defining a first planar portion E<sub>1</sub> of bottom E, followed by a section including first rounded projections 17 directed towards the basket interior and defining a shaped

portion  $E_2$  of bottom E.

[0027] Then, a second set of rounded projections 15, connected to shaped portion  $E_2$ , and a third set of rounded projections 16, joined to the first projections by a second horizontal section, are provided in succession.

[0028] Said rounded projections 15 and 16 and the horizontal connecting section define a corresponding shaped portion  $E_3$  of basket bottom E.

[0029] Said portion  $E_3$  is connected to fourth rounded projections 19 directed towards the basket interior and defining a shaped portion  $E_4$  of basket bottom E.

[0030] Said portion  $E_4$  is followed by a last substantially horizontal section defining a third planar portion  $E_5$  of bottom E.

[0031] It is to be appreciated that the described succession allows holding both soup plates and other plates, depending on the transversal distance between the projections (pitch of the wires of body 11), while keeping reduced the vertical development of projections 15, 16, 17 and 19 formed on bottom E.

[0032] Turning now to Figs. 3 and 4, there are shown front wall A and rear wall C of the basket, respectively. Moreover, the drawings laterally show, in correspondence of side wall B and D, corresponding side rods 19 arranged at higher level than projections 13 and 14 provided in the front and rear walls, which rods are to prevent dishes from hitting the gasket and the walls of the chamber of the dish-washing machine.

[0033] According to the invention, thanks to the provision of projections 13 and 14 on walls A and C of the basket, it has been possible to keep limited the vertical development of projections 15 and 16 provided on basket bottom E, thus leaving the surface of bottom E substantially free from obstacles, in order to receive large-size dishes.

[0034] Thus, the basket according to the invention can receive dishes of different kinds, since it is free from the encumbrance due to the metal point combs conventionally used in the prior art baskets to hold the plates.

[0035] Moreover, as shown in Fig. 2, bottom E of the basket is free from downward-directed projections, which can interfere with the machine bottom or, should the basket be used as the upper basket, with the dishes present in the lower basket.

[0036] Turning again to the accompanying drawings, it is to be appreciated that projections 13, 14, 15, 16 and 17 provided in basket body 11 are obtained by bending the same wire mesh defining body 11, without addition of further material.

[0037] Even if the invention has been disclosed with reference to a presently preferred embodiment, generally it can have other applications and undergo modifications, which are intended to be within the scope of the invention, as it will be apparent to the skilled in the art.

## Claims

1. A basket for dish-washing machines, comprising a body (11) of metal wire in which four vertical walls (A, B, C, D) and a horizontal bottom (E) are defined, **characterised in that** at least a first plurality of rounded projections (13, 14) is defined on at least one of said vertical walls, which projections are directed towards the basket interior and co-operate with as many rounded projections (15, 16, 17, 19) projecting from the horizontal plane of the bottom (E) so as to define corresponding means for holding the plates in a substantially upright position.
2. A basket as claimed in claim 1, wherein said first and second projections are formed by bending the metal wire forming the basket body (11), and have a substantially triangular shape with rounded corners, said first projections (13, 14) being arranged at  $90^\circ$  with respect to the plane of the corresponding wall where they are defined and said second projections (15, 16, 17) being substantially perpendicular to said bottom (E).
3. A basket as claimed in claim 2, comprising a first set of projections on the front wall, a second set of projections on the rear wall, and two sets of projections on the bottom, each of the latter projections co-operating with a corresponding projection in a set provided on said walls.
4. A basket as claimed in claim 3, wherein the bottom (E) of the basket body (11) presents, starting from the front wall (A), a first substantially horizontal portion ( $E_1$ ), a shaped portion ( $E_2$ ) provided with a first set of rounded projections (17), a second and a third set of rounded projections (15, 16), separated by a horizontal section and defining a corresponding shaped portion ( $E_3$ ), fourth rounded projections (19) defining a shaped portion ( $E_4$ ) and a substantially horizontal planar portion ( $E_5$ ).
5. A basket as claimed in claim 3, wherein the side walls of the basket comprise two side rods (19) arranged at higher level than the projections provided on the front (A) and rear (C) walls, to hold the plates.
6. A wash-dishing machine, **characterised in that** it includes at least one basket according to any of claims 1 to 5.

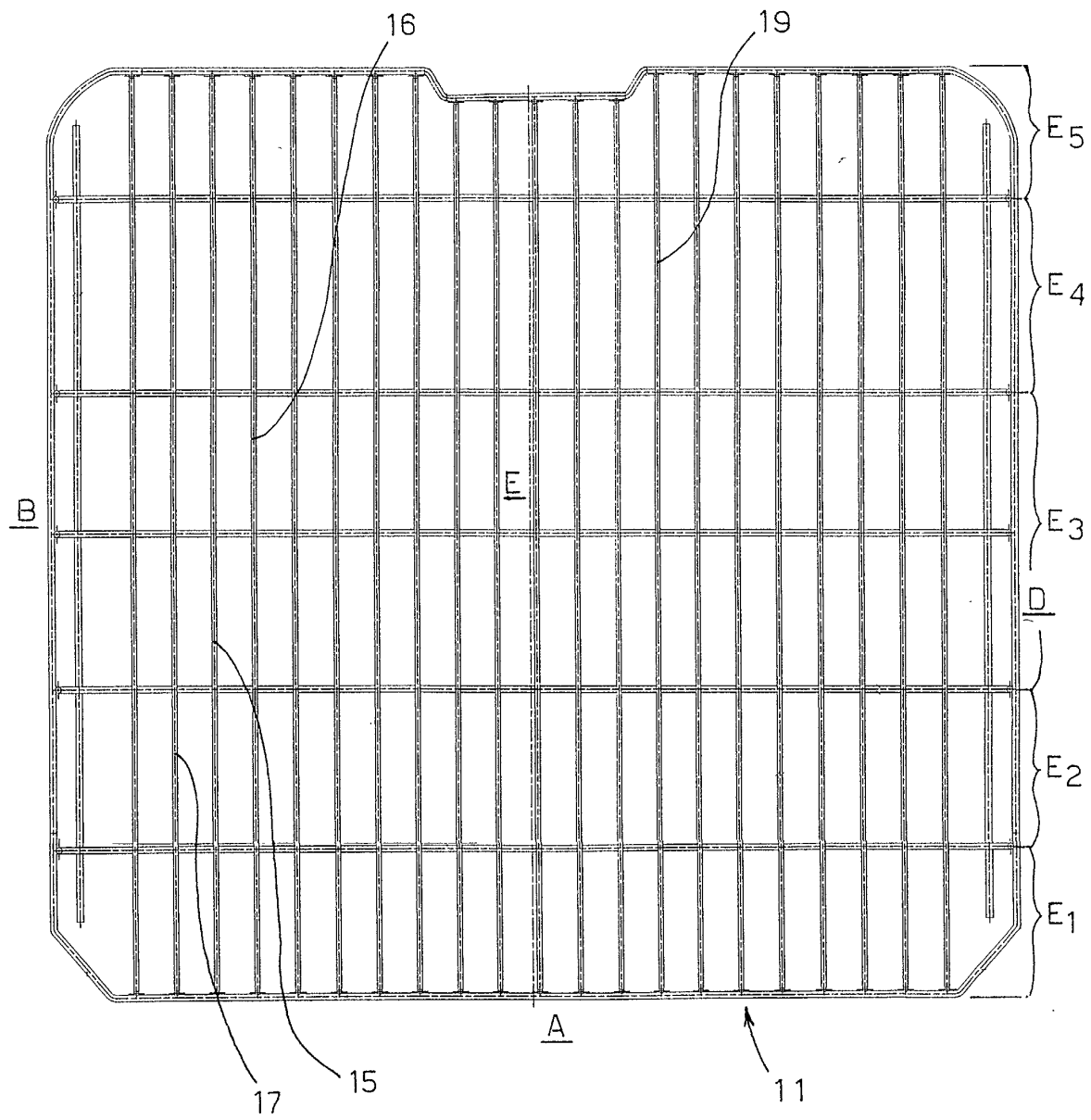


FIG. 1

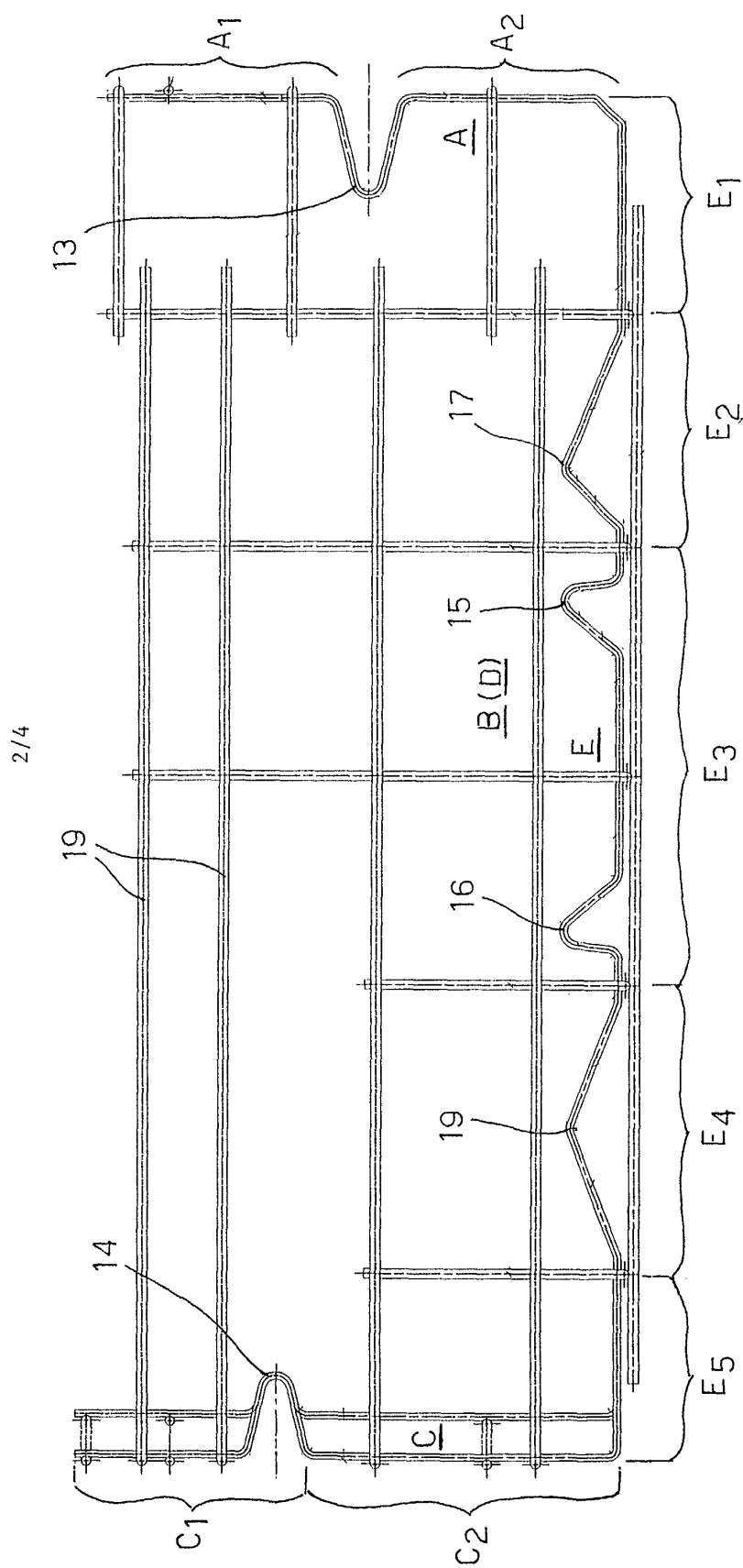
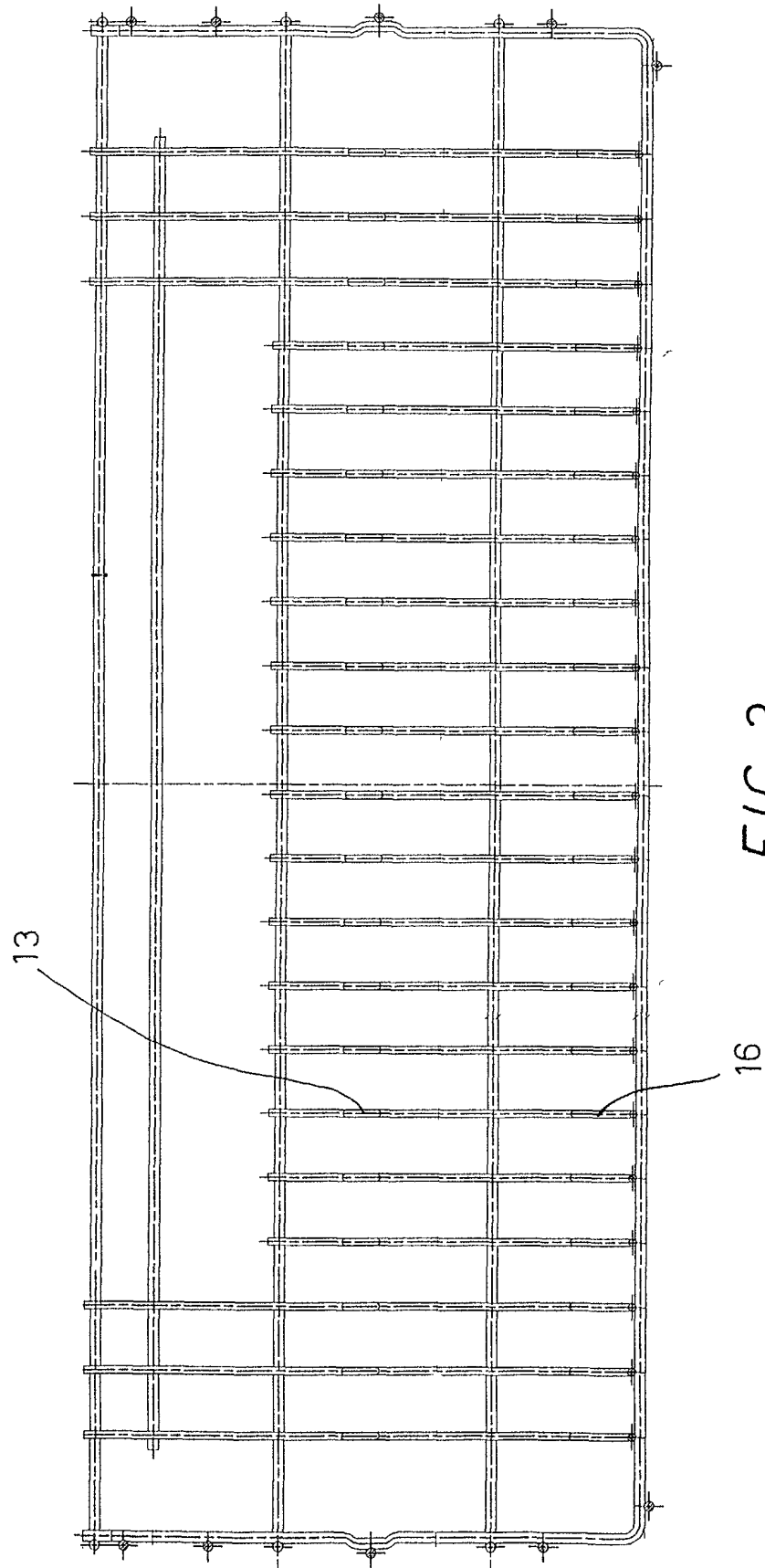
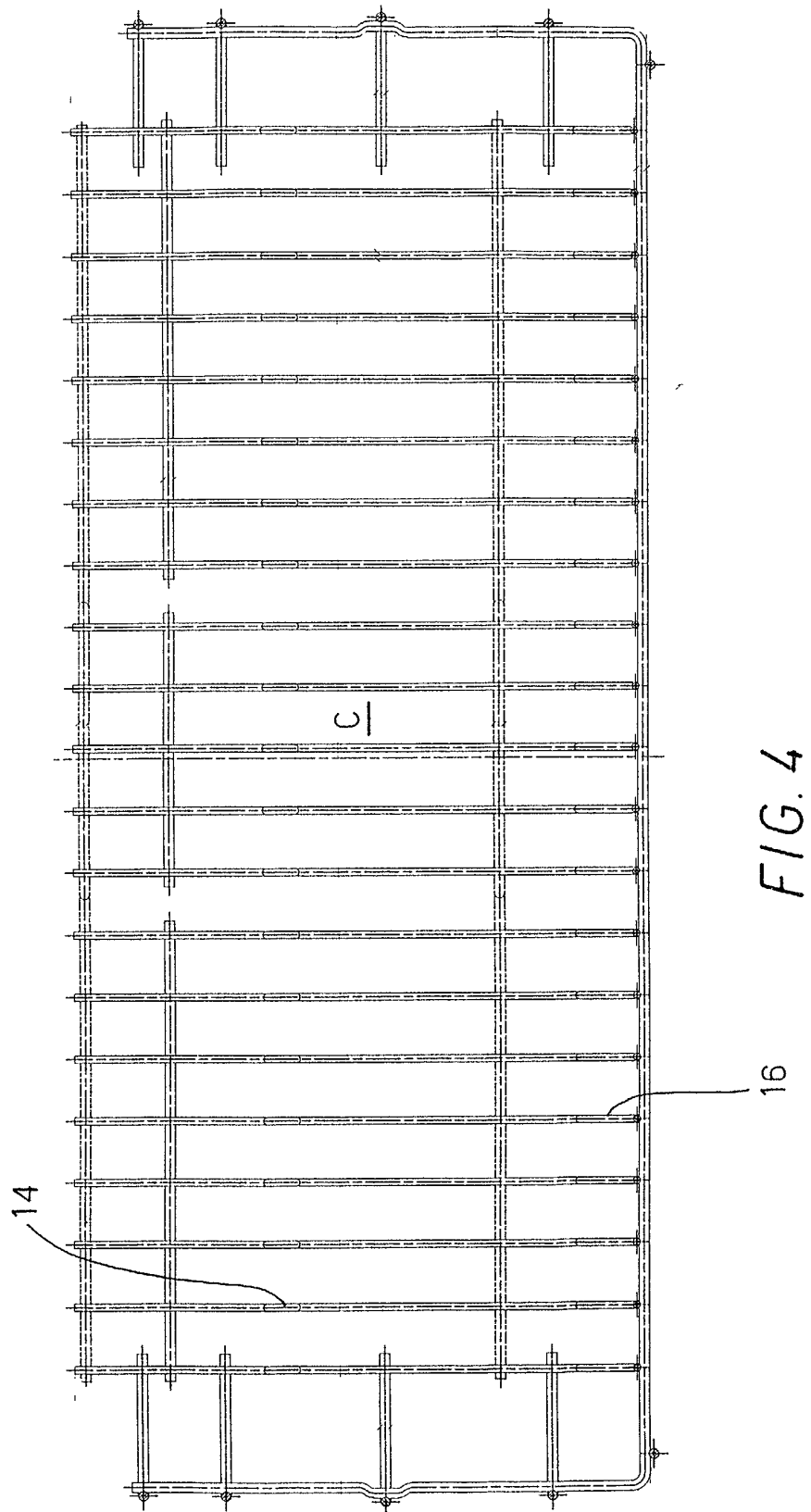


FIG. 2







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# EUROPEAN SEARCH REPORT

Application Number  
EP 01 83 0385

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                 |                                  |                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Citation of document with indication, where appropriate, of relevant passages                                   | Relevant to claim                | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | US 3 203 557 A (R. ETTLINGER JR)<br>31 August 1965 (1965-08-31)<br>* column 2, line 24 - line 34; figures 1-4 * | 1,2,4,6                          | A47L15/50                                    |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | EP 0 968 679 A (COMPAGNUCCI S.P.A.)<br>5 January 2000 (2000-01-05)<br>* column 2, line 8 - line 18; figure 1 *  | 1,2,6                            |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | US 3 040 901 A (GENERAL MOTORS CORPORATION) 26 June 1962 (1962-06-26)<br>* figures *                            | 1                                |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | GB 2 039 212 A (INDUSTRIE ZANUSSI S.P.A.)<br>6 August 1980 (1980-08-06)<br>* figures *                          | 1                                |                                              |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                 |                                  | TECHNICAL FIELDS SEARCHED (Int.Cl.7)         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                 |                                  | A47L                                         |
| Place of search                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                 | Date of completion of the search | Examiner                                     |
| THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                 | 10 January 2002                  | Courrier, G                                  |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/> Y : particularly relevant if combined with another document of the same category<br/> A : technological background<br/> O : non-written disclosure<br/> P : intermediate document</p> <p>T : theory or principle underlying the invention<br/> E : earlier patent document, but published on, or after the filing date<br/> D : document cited in the application<br/> L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                 |                                  |                                              |

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 83 0385

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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10-01-2002

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s)                    | Publication<br>date                    |
|-------------------------------------------|---|---------------------|-----------------------------------------------|----------------------------------------|
| US 3203557                                | A | 31-08-1965          | DE 1428390 A1<br>FR 1395469 A<br>GB 1004892 A | 20-02-1969<br>09-04-1965<br>15-09-1965 |
| EP 968679                                 | A | 05-01-2000          | EP 0968679 A1                                 | 05-01-2000                             |
| US 3040901                                | A | 26-06-1962          | NONE                                          |                                        |
| GB 2039212                                | A | 06-08-1980          | ES 247842 Y<br>FR 2446625 A3                  | 01-11-1980<br>14-08-1980               |

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82