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(54) **Cutlery basket for dishwasher**

Besteckkorb für Geschirrspülmaschinen

Panier à couverts pour lave-vaisselle

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(56) References cited:
FR-A- 2 240 708 **FR-A- 2 736 534**
US-A- 5 287 984 **US-A- 5 431 294**

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Description

[0001] The present invention relates to cutlery baskets for dishwashers, and in particular to a basket with internal mobile partitions which greatly enhance its possibilities of use.

[0002] Cutlery baskets for dishwashers with internal removable partitions are known from FR-A-2 240 708

[0003] It is known that inside a dishwasher, usually in the lower rack, there is placed a cutlery basket wherein the cutlery is held in a substantially vertical position. The conventional basket generally has a grid-like structure (or perforated in some way) of parallelepiped shape, the internal volume being divided into smaller areas by vertical dividing partitions to keep the cutlery upright. Moreover, a top handle is provided to make it easy to be introduced into and removed from the rack, so as to be able to load and unload it conveniently outside the dishwasher.

[0004] Normally there are also available one or more horizontal perforated shelves to be placed on the top edge of the basket, so as to insert the cutlery therein whereby it remains exactly vertical and regularly spaced. In this way an optimum washing is obtained, even though the capacity of the basket is reduced and therefore said horizontal shelves are not always used. However, when the shelves are removed from the basket they have to be stored outside the dishwasher, this resulting in that often they actually are removed and never used again although they could be useful in certain instances.

[0005] Clearly it is also possible to use only one horizontal shelf leaving uncovered the other half of the basket, so as to achieve a compromise between capacity and washing effectiveness. In any case, cutlery can never be placed outside the basket.

[0006] Therefore the object of the present invention is to provide a cutlery basket which overcomes the above-mentioned limits. This object is achieved by means of a cutlery basket provided with internal mobile partitions which can take either a vertical or horizontal position, and in the latter case even partially cantilevered outside the basket. Other advantageous features of the present cutlery basket are specified in the dependent claims.

[0007] The main advantage of the present basket is that it is even possible to arrange cutlery outside the parallelepiped structure by inserting it in the cantilever horizontal shelves, so as to increase the basket capacity.

[0008] Another advantage is that of having the maximum flexibility of use, in that the mobile partitions allow it to take a conventional configuration with vertical partitions, or with horizontal shelves inside or outside the basket in addition to any intermediate configuration (e. g. a vertical partition and a horizontal cantilever shelf).

[0009] Still another advantage stems from the fact that the mobile partitions can be made integral with the basket structure, whereby the user is guided in their positioning through suitable guiding slots and the partitions

can not be removed and get lost.

[0010] Further advantages and characteristics of the cutlery basket according to the present invention will be clear to those skilled in the art from the following detailed description of an embodiment thereof, with reference to the annexed drawings wherein:

Fig.1 is an exploded perspective view showing the elements which make up a basket according to the invention with two mobile partitions;

Fig.2 is a perspective view of the basket with the mobile partitions positioned horizontally in the configuration of minimum capacity; and

Fig.3 is a perspective view of the basket in an intermediate configuration with one mobile partition arranged in a position of vertical dividing wall and the other one arranged in a position of horizontal cantilever shelf.

[0011] With reference to fig.1, there is seen that the present basket is made up of a containing body S of parallelepiped shape open at the top in which there are inserted a central fixed partition F with a handle H and two mobile partitions M, M'. More specifically, partition F is inserted into a vertical guide L formed between two central ribs and is snap-coupled to container S, whereas the mobile partitions M, M' are provided at the bottom end with lateral pins P which slide along guide slots G formed in the sides of container S. These guides G are substantially shaped as an inverted L, with the horizontal leg extending toward the basket center but also extending outward in the opposite direction slightly beyond the point where the vertical leg branches out.

[0012] The mobile partitions M, M' are also provided at their top end with lateral teeth N, and at mid-height with recesses R orthogonal to the plane of the mobile partition and formed in the sides extending on the face facing outward. Teeth N can be inserted into corresponding vertical seats V formed in raised portions of the top edge E of container S, while recesses R are shaped to fit over said top edge E.

[0013] All the above-mentioned elements S, F, M and M' have a grid-like structure, i.e. a plurality of holes arranged in regular rows to allow the passage of water. In particular, in the case of the mobile partitions M, M' holes A are sized to insert therein the handles of cutlery and/or the blades of knives.

[0014] As clearly illustrated in figs.2 and 3, the mobile partitions M, M' can be positioned either vertically to act as dividing walls, or horizontally to act as shelves for inserting cutlery therein. In this second use they can be arranged inside container S as in fig.2, or in a cantilevered manner so as to project halfway outside container S as in fig.3. In the first case pins P reach the inner end of the horizontal leg of guide G, whereas in the second case they reach the outer end of said leg and recesses R are fit over edge E of container S.

[0015] It should be noted that in the illustrated embod-

iment the basket height is greater than half its length, whereby when the mobile partition is arranged vertically it does not touch the basket bottom. Therefore solid ribs D are preferably provided on the basket bottom at seats V, so as to obtain a continuous vertical partition from edge E to the bottom. Moreover there is also preferably provided a solid rib D', still of small height, which longitudinally divides in half the basket inner volume.

[0016] From the description above it is clear how the basket according to the invention allows, since each mobile partition has 24 holes A, to house from a minimum of 48 spaced pieces of cutlery (fig.2) to a maximum of 48 spaced pieces of cutlery plus all the cutlery which can be contained between the two horizontal cantilever shelves and the central partition F. It should be noted that in this latter case 24 spaced pieces of cutlery are hanging outside container S, thus achieving a substantial increase in the basket capacity.

[0017] It is clear that the above-described and illustrated embodiment of the cutlery basket according to the invention is just an example susceptible of various modifications. In particular, depending on the shape and size of the basket the number of mobile partitions may be greater or lower than two, and the shape of the mobile partitions and the number and arrangement of holes A formed therein may change as well. Also the number of recesses R could be greater than one per side, so as to increase the possibilities of adjustment of the shelf portion projecting from container S. In this case, as a consequence, guide G would take in practice a T shape.

[0018] Similarly, the coupling mechanisms between the mobile partitions and container S may be different from the above-described couplings pin P/guide G, tooth N/seat V and recess R/edge E. For example, the partitions could be vertically inserted into lateral guides same as the central partition F, and then horizontally arranged in similar guides formed in edge E. In this case the partitions would no longer be integral with container S, but it would be possible to adjust at will the extent of the cantilever portion taking the increase in the basket capacity to the maximum.

Claims

1. Cutlery basket for dishwasher including a containing body (S) of parallelepiped shape open at the top in which there is arranged at least one vertical partition (M), **characterized in that** said at least one partition (M) is provided with a plurality of holes (A) for inserting cutlery and it is mobile between the vertical position inside said container (S) and a plurality of horizontal positions at the top edge (E) of the container (S), in at least one of said positions being arranged at least partially cantilevered outside said edge (E), said mobile partition (M) and the container (S) being provided with coupling means for blocking the mobile partition (M) in each of the positions it

can take.

2. Cutlery basket according to claim 1, **characterized in that** the coupling means make said at least one mobile partition (M) integral with the container (S).
3. Cutlery basket according to claim 2, **characterized in that** the coupling means consist of lateral pins (P) located at the bottom end of the partition (M) which slide in guide slots (G) formed in the sides of the container (S), of lateral teeth (N) located at the top end of the partition (M) and of recesses (R) orthogonal to the plane of the partition (M), said teeth (N) being insertible into corresponding vertical seats (V) formed in the edge (E) of the container (S) while said recesses (R) are shaped to fit over said edge (E).
4. Cutlery basket according to claim 3, **characterized in that** the recesses (R) are formed at mid-height of the partition (M).
5. Cutlery basket according to claim 3 or 4, **characterized in that** along the height of the partition (M) there are formed multiple pairs of recesses (R).
6. Cutlery basket according to claim 5, **characterized in that** the guide slots (G) formed in the container (S) have a T shape.
7. Cutlery basket according to one or more of the preceding claims, **characterized in that** on the bottom of the container (S), at the vertical position of the partition (M), there is arranged a solid rib (D) having a height equal to the difference in height between the container (S) and the partition (M).

Patentansprüche

1. Besteckkorb für Geschirrspülmaschinen mit einem Korpus (S) in Quaderform mit offener oberer Seite, in dem wenigstens eine senkrechte Trennwand (M) vorgesehen ist, **dadurch gekennzeichnet, daß** die wenigstens eine Trennwand (M) mit einer Anzahl von Öffnungen (A) zum Einfügen von Besteck versehen und beweglich ist zwischen der senkrechten Position innerhalb des Behälters (S) und einer Anzahl von waagerechten Stellungen am oberen Rand des Behälters (S), in wenigstens einer der Positionen wenigstens teilweise außerhalb des Randes (E) auskragend, wobei die bewegliche Trennwand (M) und der Behälter (S) mit Kupplungsmitteln zum Blockieren der beweglichen Trennwand (M) in jeder der Positionen, die sie einnehmen kann, versehen sind.
2. Besteckkorb nach Anspruch 1, **dadurch gekenn-**

zeichnet, daß die Kupplungsmittel die wenigstens eine bewegliche Trennwand (M) fest mit dem Behälter (S) verbinden.

3. Besteckkorb nach Anspruch 2, **dadurch gekennzeichnet, daß** die Kupplungsmittel aus seitlichen Stiften (P) bestehen, die am unteren Ende der Trennwand (M) vorgesehen sind und in Führungsschlitzen (G) gleiten, die in den Seiten des Behälters (S) ausgebildet sind, aus seitlichen Zähnen (N), die am oberen Ende der Trennwand (M) vorgesehen sind, und aus Ausnehmungen (R), die senkrecht zur Ebene der Trennwand (M) verlaufen, welche Zähne (N) in entsprechende Sitze (V) einfügbar sind, die in dem Rand (E) des Behälters (S) ausgebildet sind, während die Ausnehmungen (R) so ausgebildet sind, daß sie über den Rand (E) greifen. 5 10 15
4. Besteckkorb nach Anspruch 3, **dadurch gekennzeichnet, daß** die Ausnehmungen (R) in mittlerer Höhe der Trennwand (M) ausgebildet sind. 20
5. Besteckkorb nach Anspruch 3 oder 4, **dadurch gekennzeichnet, daß** entlang der Höhe der Trennwand (M) mehrere Paare von Ausnehmungen (R) ausgebildet sind. 25
6. Besteckkorb nach Anspruch 5, **dadurch gekennzeichnet, daß** die Führungsschlitze (G), die in dem Behälter (S) ausgebildet sind, eine T-Form aufweisen. 30
7. Besteckkorb nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** auf dem Boden des Behälters (S) in der senkrechten Stellung der Trennwand (M) eine feste Rippe (D) ausgebildet ist, die eine Höhe aufweist, die gleich der Höhendifferenz zwischen dem Behälter (S) und der Trennwand (M) ist. 35 40

Revendications

1. Panier pour couverts de table destiné à un lave-vaisselle comprenant un corps pour conteneur (S) à forme parallélépipédique ouvert vers le dessus dans lequel est agencée au moins une séparation verticale (M), **caractérisé en ce qu'**au moins l'une desdites séparations (M) est constituée avec un ensemble de trous (A) destiné à insérer des couverts de table et est mobile entre la position verticale à l'intérieur dudit conteneur (S) et un ensemble de positions horizontales vers l'arête supérieure (E) du conteneur (S), dont au moins l'une desdites positions étant agencée au moins partiellement en porte-à-faux à l'extérieur de ladite arête (E), ladite séparation mobile (M) et le conteneur (S) étant constitués avec des moyens de couplage destinés à blo- 45 50 55

quer la séparation mobile (M) dans chacune des positions qu'elle peut prendre.

2. Panier pour couverts de table selon la revendication 1, **caractérisé en ce que** les moyens de couplage rendent au moins l'une desdites séparations mobiles (M) d'un seul tenant avec le conteneur (S).
3. Panier pour couverts de table selon la revendication 2, **caractérisé en ce que** les moyens de couplage consistent en des tiges latérales (P) disposées vers l'extrémité du fond de la séparation (M) qui coulissent dans des fentes de guidage (G) formées dans les côtés du conteneur (S), en des dents latérales (N) disposées vers l'extrémité du dessus de la séparation (M) et en des creux (R) perpendiculaires au plan de la séparation (M), lesdites dents (N) pouvant être insérées dans des sièges verticaux (V) formés dans l'arête (E) du conteneur (S) tandis que lesdits creux (R) sont conformés afin de se monter au dessus de ladite arête (E).
4. Panier pour couverts de table selon la revendication 3, **caractérisé en ce que** les creux (R) sont formés à mi-hauteur de la séparation (M).
5. Panier pour couverts de table selon la revendication 3 ou 4, **caractérisé en ce que** de multiples paires de creux (R) sont formées le long de la hauteur de la séparation (M).
6. Panier pour couverts de table selon la revendication 5, **caractérisé en ce que** les fentes de guidage (G) formées dans le conteneur (S) présentent une forme en T.
7. Panier pour couverts de table selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'**une nervure fixée (D) présentant une hauteur égale à la différence de hauteur entre le conteneur (S) et la séparation (M) est agencée sur le fond du conteneur (S), vers les positions verticales de la séparation (M).

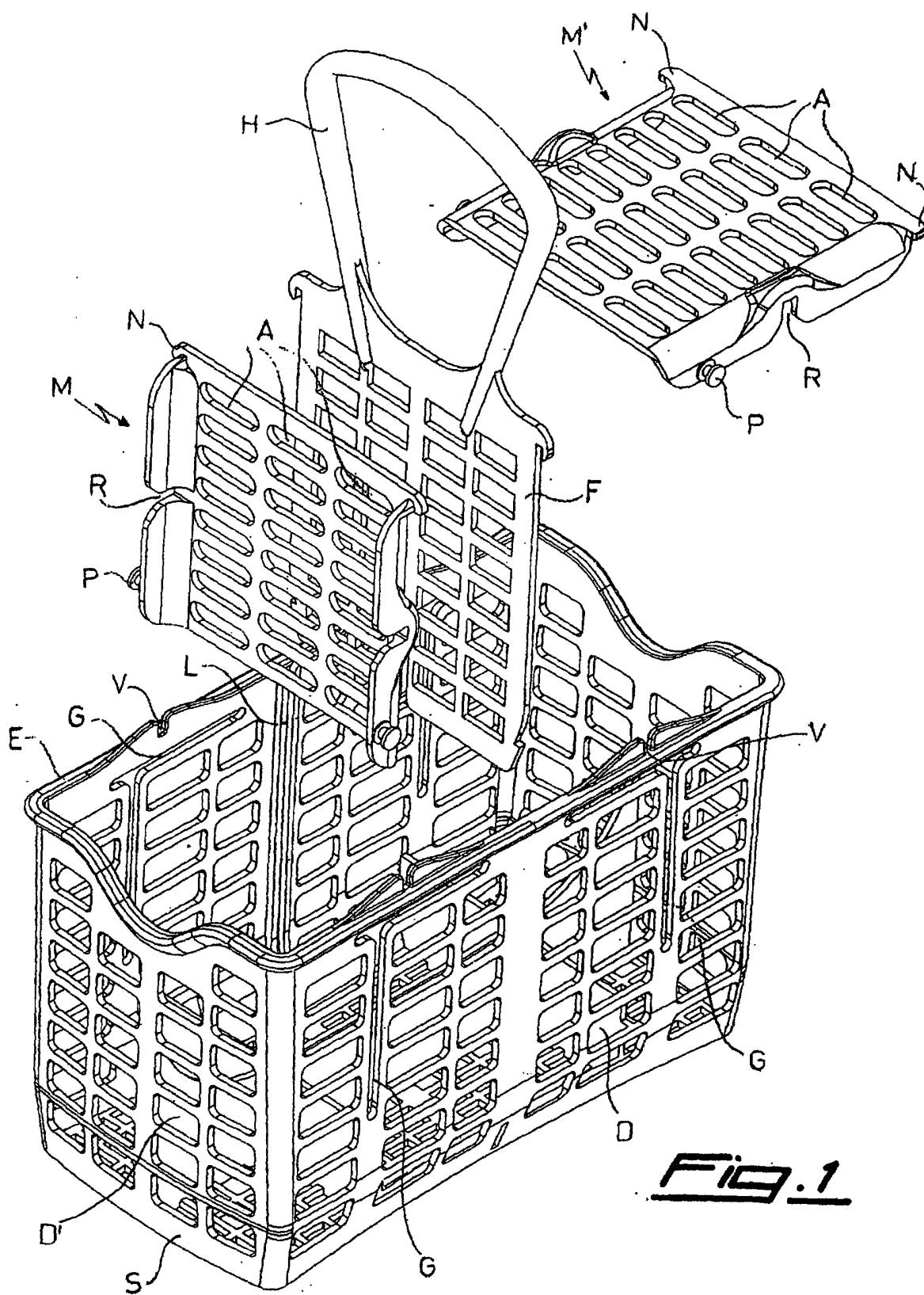
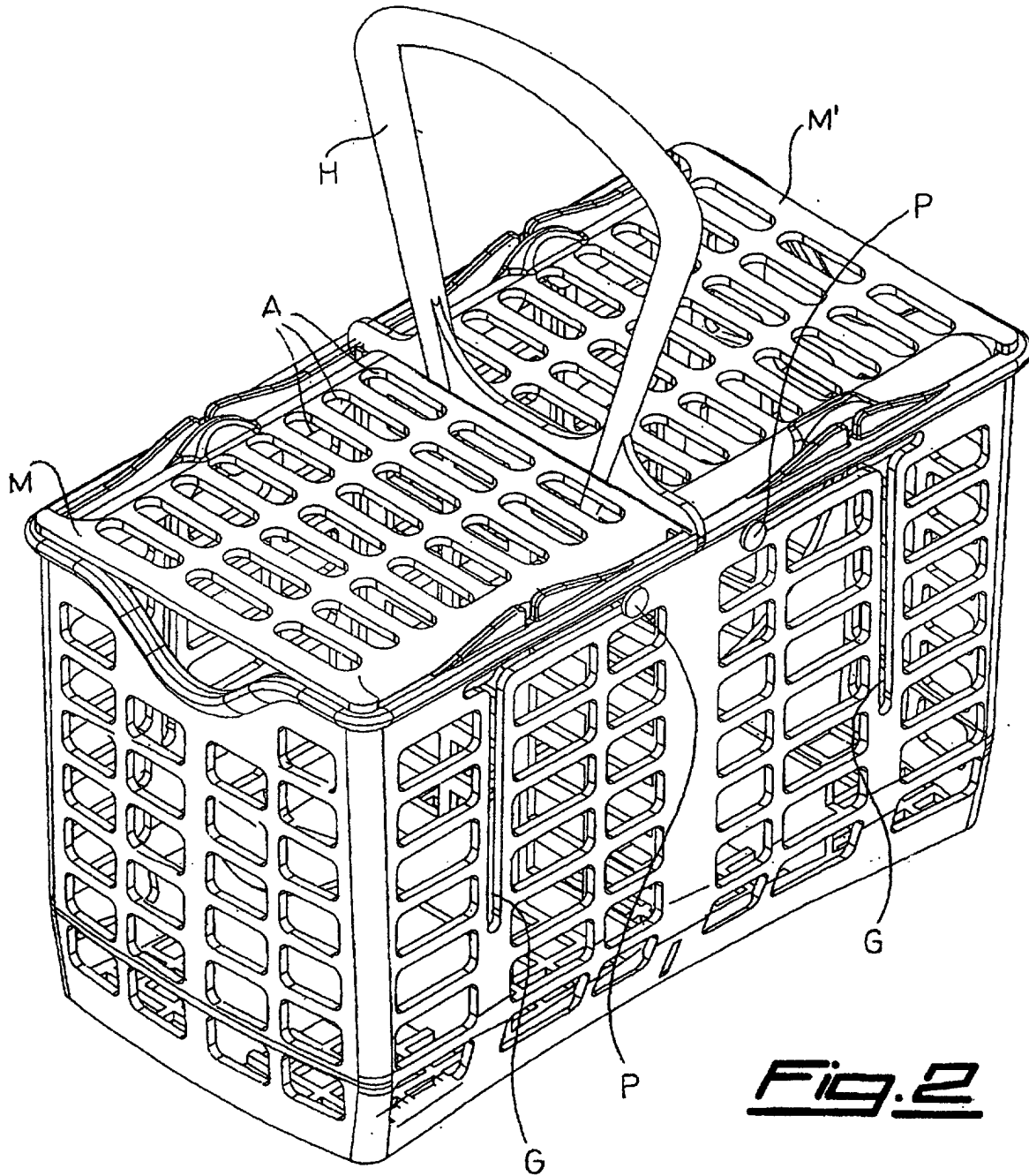


Fig. 1



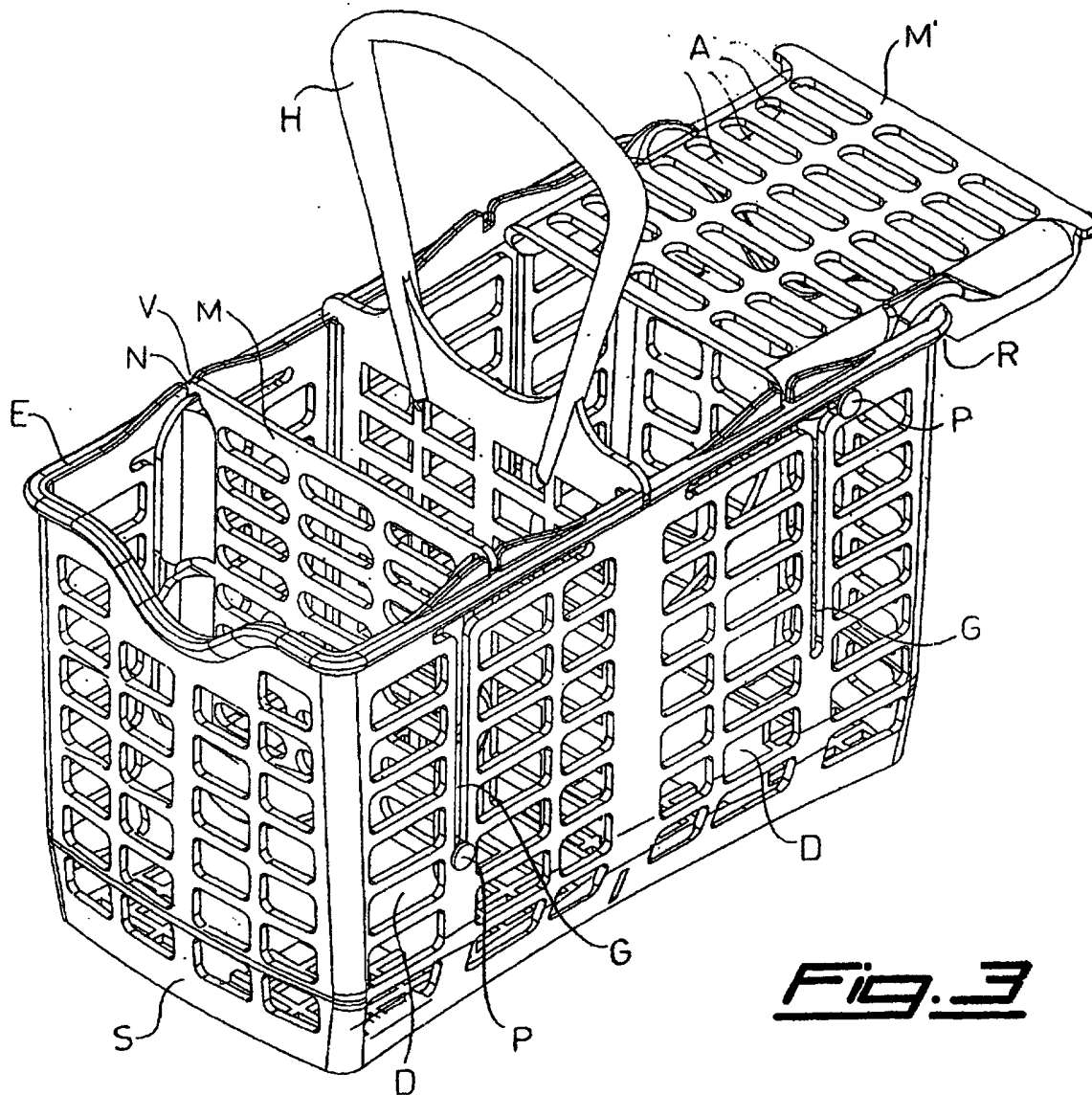


Fig. 3