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(54) **Ergonomic hand-held shopping basket**

Ergonomischer handgetragener Einkaufskorb

Panier à commissions ergonomique tenu à la main

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Description

Field Of The Invention

[0001] This invention relates to the general field of hand baskets, and more particularly to stackable hand-held shopping baskets which are used for carrying groceries and other goods in supermarkets and other retail stores.

Background of the Invention

[0002] It is common for retail stores to have hand baskets available as a courtesy to their customers for carrying groceries or other items being purchased. Shoppers tend to appreciate the convenience of these hand-baskets, particularly when they do not wish to use large shopping carts. However, hand baskets are often uncomfortable and sometimes even painful to use when heavily loaded.

[0003] Hand baskets commonly used in retail settings generally have a rectangular crate-like construction. These baskets usually have one or two pivoting handles which are attached to the long sides of the rectangular basket and extend over the opposite sides to permit stacking. The handles are usually thin strips of wire or plastic, often having a small diameter or a sharp edge which can cut into or pinch the hand, making them uncomfortable to grip and carry as the baskets become filled and heavy.

[0004] Most handles do not provide proper balance for carrying a shopping basket. The manner in which these handles are attached to shopping baskets, the long moment arm of the load, and the small diameter of the grip allow the basket to pivot and sway when the shopper is walking, which may cause items to shift in the basket or spill from it. Fragile items within the basket may be damaged if shifting causes impact against a hard surface.

[0005] When a basket is carried, and particularly if it is permitted to swing because of the handle design, the edges and corners of traditional rectangular baskets impact the user's body. Because the length of these handles is largely dictated by the size of the basket (as the handles must fold completely out of the way to allow stacking), these baskets often hang low and impact the user's legs in the knee or upper shin area.

[0006] When a heavy load is carried in such known baskets, a considerable torque is placed on the user's back, elbow and wrist. The orientation of the handles on existing shopping baskets tends to twist and lock the user's elbow in an uncomfortable position, typically with the palm of the hand facing fore or aft, rather than the more natural position of the palm turned inward facing the user's body.

[0007] In addition to the problems related to handles, the traditional shopping baskets are not ergonomically shaped, generally having straight sides which do not

conform to the curve of a user's body. If the basket is held close to the body, the straight rigid sides make the baskets awkward and uncomfortable to carry and walk with.

[0008] Some attempts have been made to address the deficiencies and uncomfortable nature of these hand-baskets and shoppers' displeasure with them. Some have fit pieces of tubing, foam, vinyl, etc., over the grip portion in efforts to make the handles less painful to hold. These attempted solutions only slightly increased the diameters of the handles, did little to decrease pinching between the two handles, and completely failed to address the many other problems (such as handle length, shape of the basket, point-of-contact with the body, swinging, etc.). Baskets with traditional plastic handles also tend to break at the pivot points where the handles connect to the basket.

[0009] DE 29 508 742 (Hoffmann, Siegfried) describes a hand-held shopping basket comprising a bottom, side walls and two end walls defining a cavity, the walls having an outwardly-turned peripheral top edge forming a lip, the basket having a handle and an area of curvature in the proximal side wall.

[0010] There is a need for a hand-held shopping basket that is comfortable for a user to hold and carry.

[0011] There is a need for a hand-held shopping basket that has a handle of proper thickness and orientation that is comfortable for a user to carry.

[0012] There is a need for a hand-held shopping basket that is shaped to conform to the body of an average adult human, allowing for comfortable walking while carrying the basket.

[0013] There is a need for a hand-held shopping basket that allows a user to comfortably hold the weight of the user's groceries closer to the user's body to decrease torque on the user's body, and with the palm turned inward to decrease torque on the user's elbow and wrist.

[0014] There is a need for a hand-held shopping basket that has a dividing element projecting from the bottom surface, decreasing the tendency of heavy items to slide around in the basket.

[0015] There is a need for a hand-held shopping basket that can be stacked neatly and easily, without the need to fold away handles that may otherwise obstruct stacking.

[0016] These needs may be satisfied by a novel basket of the present invention.

Summary of the Invention

[0017] The invention is directed to a stackable ergonomic hand-held shopping basket according to claim 1. Further, preferred embodiments are disclosed in dependent claims 2 to 14.

Description of the Drawings

[0018]

Fig. 1 shows a top isometric view of a hand-held shopping basket made in accordance with the present invention.

Fig. 2 shows a bottom isometric view of the hand-held shopping basket of Fig. 1.

Fig. 3 shows a partial cutaway side view of the hand-held shopping basket of Fig. 1 shown in an about to be nested position with a substantially identical basket.

Fig. 4 shows an exploded view of an embodiment of the handle of a hand-held shopping basket made in accordance with the present invention.

Fig. 5 shows a side elevational schematic view of an embodiment of a hand-held shopping basket made in accordance with the present invention

Fig. 6 shows a top isometric view of an alternate embodiment with additional ventilation slots of a hand-held shopping basket made in accordance with the present invention.

Detailed Description of the Preferred Embodiment

[0019] Referring to the drawings, wherein like numerals refer to like elements, the present invention generally comprises a stackable, ergonomic hand-held shopping basket 10 contoured to the shape of an average adult human user's natural body curve and having a centrally located handle projecting from the bottom. The basket is preferably constructed of thermo-plastic material by injection molding process.

[0020] As shown in Figs. 1 and 2, the shopping basket has a bottom 12 having an inner side 14 and an outer side 16. Extending upwardly from the inner side 14 of the bottom 12 are opposed side walls 18, 19 and end walls 20 defining a cavity adapted to receive items. For ease of description and differentiation, the side wall 18 to the top of Figure 1 is the wall intended to be proximate to the user's body when carried, and may be referred to in this description and in the claims as the proximal side or proximal side wall 18. The opposite side wall may be referred to as the distal side or distal side wall 19. The side walls 18, 19 and the end walls 20 slope generally outwardly from the center of the basket 10, providing a basket that can be stacked with an identical basket 10 (a) in a nested arrangement, as shown in Fig. 3.

[0021] The proximal side wall 18 curves inwardly towards the center of the shopping basket 10 in a contour adapted to the shape of an adult user's natural body curve, so the basket can be held comfortably against the user's body. As used in this description and the claims, the term curved is intended to encompass a smooth curvature such as shown in the drawings, and also to encompass an effective curvature which can be obtained by straight surfaces angled inward toward the

longitudinal axis of the basket. When the basket is carried by a user with the curved proximal side wall facing the side of the user's body, such orientation shifts the center of gravity of the load closer to the user, and spreads the point of contact with the user's body over a larger surface area than contact with a straight side wall. The curvature is adapted to an adult user's natural body curve in the sense that the basket will normally be along the side of the body at the mid to lower thigh region, and must accommodate fore and aft movement of the thigh during walking. The basket can also be held against the torso along the upper hip area using the alternative finger grip described below. These considerations usually result in a relatively long and shallow curvature.

[0022] The side walls 18, 19 and end walls 20 have an outwardly-turned peripheral top edge to form a lip 22. In one embodiment of the present invention, as shown in Fig. 2, the lip is extended further downward along the proximal side wall to form a cushion portion 28 to further spread the point of contact and make the contact against a yielding surface.

[0023] The distal side wall 19 may be straight, or also be curved inward, but in the depicted embodiment the distal side wall is curved outward away from the longitudinal axis of the basket. In a preferred embodiment, the distal side wall has an outward curvature substantially symmetrical to the inward curvature of the proximal side wall 18. The lip on the distal side wall may have a short center extension wherein the lip is extended outward along a center section of the distal side wall to form a finger grip 29. The finger grip 29 allows the user an alternative means to grasp the basket, usually while pressing the proximal side wall against the torso. The finger grip 29 also acts as a bumper and shield for advertising material beneath it, as described hereafter

[0024] The basket bottom 12 may be provided with ventilation slots 24, as shown in Figs. 1 and 2, to prevent the trapping of air between adjacent baskets while nesting and allow drainage from the basket. The side walls 18 or end walls 20 may also have ventilation slots 25, as shown in the embodiment in Fig. 6. These slots 24, 25 also reduce the amount and weight of plastic material, and hence the cost of the basket.

[0025] In one of the embodiments of the present invention, shown in Fig. 5, the distal side wall 30 has a display panel 32. In the depicted embodiment, the display panel 32 is a smooth surface (no ventilation slots) where advertising may be displayed. A transparent cover (not shown) may be placed over the display panel 32, creating a pocket for receiving advertising sheets. Alternatively, the owner (such as a supermarket chain) may have its name printed or embossed on the panel to reduce theft and to promote the store's name. The finger grip 29 previously described acts as a bumper and shield for display panel, transparent cover, and advertising material.

[0026] Standoff fins 27 are located along the periphery of the basket, between the side walls 18 and the lip

22, and the end walls 20 and the lip 22. Although shown primarily at the corners in the depicted embodiments, the standoff fins may be located at other spaced intervals. The standoff fins act as points of contact with the lip of a lower nested basket when the baskets are stacked, and thus can be placed at many combinations of regular locations. However, these standoff fins 27 are not provided beneath the cushion portion 28, thus allowing the cushion portion 28 to flex and cushion impact with the user's body.

[0027] A centrally located handle 34 extends upwardly from the bottom wall 12. The handle 34 comprises a first upstanding post 36, a second upstanding post 38, and a grip portion 40. The grip portion 40 extends between and connects the upstanding posts, defining a hand-receiving opening 42 so that a user may grasp the grip portion. The handle 34 is oriented so that the longitudinal axis L_g of the grip portion 40 is substantially aligned with, herein parallel to and above, the longitudinal axis L_b of the basket, as shown in the Fig. 5. This orientation provides for a more natural and comfortable grip by the user, much like carrying a suit case.

[0028] The first upstanding post 36 and second upstanding post 38 are generally rounded at their top edge, as shown in Fig. 4. The handle 34 may also be formed so that the first upstanding post 36 and second upstanding post 38 slope outwardly toward the bottom wall 12 (i.e. narrow as they rise from bottom to top). This provides an inherent tendency to self-align as one basket is nested on top of another basket.

[0029] The handle 34 defines a channel 44 which extends through the bottom 12 of the basket and is open to the outer side 16 of the bottom 12. As shown in Figs. 2 and 3, this channel 44 is adapted to receive the handle 34 of a substantially identical shopping basket 10 when the baskets are stacked in a nesting condition.

[0030] As shown in Fig 4, the grip portion 40 comprises a hollow channeled body portion 46 having a longitudinal center beam crossed by lateral reinforcing webs 48, and a lower portion 50 contoured to provide a gripping surface 52. The body portion 46 has slots 54 located adjacent the first upstanding post 36 and the second upstanding post 38. A detachable cover 56 is provided with flanges 58 adapted to removably engage through the slots 54. When the gripping portion 40 is assembled, it produces a robust, thick, ergonomically shaped and comfortable handle that provides the user substantial control of basket movement.

[0031] Because the handle need not be folded away for stacking, it is kept to a relatively short vertical dimension above the cavity of the basket to raise the basket higher on the user's body when carried and give the user more control with less torque. Preferably the handle should extend above the lip of the basket, but not more than about eight inches above the lip of the basket. The handle also serves as a dividing element, decreasing the tendency of heavy items to slide around. In a preferred scaling, the areas in front and behind the handle

(between the handle and the end walls) are each the approximate size of a one gallon plastic milk container.

[0032] As also shown in Fig.4, a display plate 60 may be disposed in the grip between the hollow channeled body portion 46 and the cover 56, and is supported by the reinforcing webs 48. The display plate 60 is adapted to support or contain advertising material. In this embodiment, the cover 56 is made of a transparent material, so that the advertising may be viewed.

[0033] The basket 10 may be injection molded in a one-piece or two-piece injection mold thermo-plastic construction.

Claims

1. A hand-held basket (10) comprising:

a bottom (12), a proximal side wall (18), a distal side wall (19), and two end walls (20) defining a cavity, the cavity having a longitudinal axis and the proximal side wall being curved inwardly towards the axis in a contour adapted to an adult human body and the side walls and end walls having an outwardly-turned peripheral top edge forming a lip (22), **characterised in that** the distal side wall (19) is curved outwardly from the axis in a contour substantially symmetrical to the contour of the proximal side wall (18).

2. A hand-held basket as in claim 1, wherein the lip (22) is extended downward along at least a portion of the proximal side wall to form a cushion portion (28).

3. A hand-held basket according to claim 1 or claim 2, wherein the lip is extended outward along a center section of the distal side wall (19) to form a finger grip (29).

4. A hand-held basket as claimed in any one of the preceding claims, wherein a handle (34) is provided having a grip portion (40) positioned above the cavity when the basket is carried by the user.

5. A hand-held basket as claimed in any one of the preceding claims, wherein stand-off fins (27) are provided along the periphery of the basket between the lip (22) and the end walls (20) and side walls (18, 19).

6. A hand-held basket as claimed in claim 4 or 5, wherein the handle (34) defines a channel (44) which extends through the basket bottom (12), the channel being adapted to receive the handle of a substantially identical basket nesting directly below in a stack.

7. A stackable hand-held basket as claimed in claim 4, 5 or 6 further comprising the handle (34) extending from the bottom of the basket to the grip portion (40) positioned higher than the top edge of the proximal side wall (18).

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8. A stackable hand-held basket as claimed in claim 7, wherein a longitudinal axis of the grip portion (40) is substantially aligned with the longitudinal axis of the basket (10).

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9. A hand-held basket as claimed in any one of the preceding claims, wherein at least one side wall has a display panel (32).

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10. A hand-held basket as claimed in claim 9 further comprising a transparent cover over the display panel, the display panel and transparent cover defining a pocket adapted to receive removable advertising sheets.

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11. A stackable hand-held basket as claimed in any of claims 4 to 10, wherein the handle comprises first and second upstanding posts (36, 38) the posts being connected to form the grip portion.

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12. A stackable hand-held basket as claimed in claim 11, wherein the first upstanding post (36) and the second upstanding post (38) slope outwardly as they intersect the bottom wall.

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13. A hand-held basket as claimed in any one of claims 4 to 12, wherein the grip portion (40) of the handle (34) includes a transparent detachable top cover (36) and means for supporting an advertising display beneath the cover.

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14. A hand-held basket as claimed in claim 13, the grip portion further comprising a hollow channeled body (46) having lateral reinforcing webs (48) therein, and the advertising display being a plate (60) disposed in and supported by the webs.

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Patentansprüche

1. Handgetragener Korb (10) aufweisend:

einen Boden (12), eine proximale Seitenwand (18), eine distale Seitenwand (19) und zwei Stirnwände (20), die eine Mulde definieren, wobei die Mulde eine Längsachse aufweist und die proximale Seitenwand zur Achse hin in einer Kontur einwärts gebogen ist, die an den menschlichen Körper eines Erwachsenen angepaßt ist, und die Seitenwände und Stirnwände einen nach außen umgebogenen oberen Umfangsrand aufweisen, der eine Lippe (22)

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bildet, **dadurch gekennzeichnet, daß** die distale Seitenwand (19) von der Achse in einer Kontur nach außen gebogen ist, die im wesentlichen symmetrisch zur Kontur der proximalen Seitenwand (18) ist.

2. Handgetragener Korb nach Anspruch 1, in welchem die Lippe (22) zumindest entlang einem Abschnitt der proximalen Seitenwand zur Ausbildung eines Polsterungsbereiches (28) nach unten verlängert ist.

3. Handgetragener Korb nach Anspruch 1 oder Anspruch 2, in welchem die Lippe entlang einem mittleren Abschnitt der distalen Seitenwand (19) zur Ausbildung eines Fingergriffs (29) nach außen verlängert ist.

4. Handgetragener Korb nach einem der vorhergehenden Ansprüche, in welchem ein Haltegriff (34) vorgesehen ist, der einen Griffabschnitt (40) aufweist, der oberhalb der Mulde positioniert ist, wenn der Korb vom Benutzer getragen wird.

5. Handgetragener Korb nach einem der vorhergehenden Ansprüche, in welchem Abstandsrippen (27) längs des Umfangs vom Korb zwischen der Lippe (22) und den Stirnwänden (20) und Seitenwänden (18, 19) vorgesehen sind.

6. Handgetragener Korb nach Anspruch 4 oder 5, in welchem der Haltegriff (34) einen Kanal (44) definiert, der sich durch den Korbboden (12) erstreckt, wobei der Kanal dazu ausgelegt ist, den Haltegriff eines im wesentlichen identischen Korbes aufzunehmen, der direkt unterhalb in einem Stapel eingeschoben ist.

7. Stapelbarer handgetragener Korb nach Anspruch 4, 5 oder 6, ferner umfassend den Haltegriff (34), der sich vom Boden des Korbes zum Griffabschnitt (40) erstreckt, welcher höher als der obere Rand der proximalen Seitenwand (18) liegt.

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8. Stapelbarer handgetragener Korb nach Anspruch 7, in welchem eine Längsachse des Griffabschnitts (40) im wesentlichen mit der Längsachse des Korbes (10) ausgerichtet ist.

9. Handgetragener Korb nach einem der vorhergehenden Ansprüche, in welchem zumindest eine Seitenwand ein Anzeigefeld (32) aufweist.

10. Handgetragener Korb nach Anspruch 9, ferner aufweisend eine transparente Abdeckung über dem Anzeigefeld, wobei das Anzeigefeld und die transparente Abdeckung eine Tasche begrenzen, die dazu ausgelegt ist, austauschbare Werbeblätter auf-

zunehmen.

11. Stapelbarer handgetragener Korb nach einem der Ansprüche 4 bis 10, in welchem der Haltegriff einen ersten und zweiten aufrecht stehenden Pfeiler (36, 38) umfaßt, wobei die Pfeiler zur Ausbildung des Griffabschnitts verbunden sind. 5
12. Stapelbarer handgetragener Korb nach Anspruch 11, in welchem der erste aufrecht stehende Pfeiler (36) und der zweite aufrecht stehende Pfeiler (38) sich, sowie sie die Bodenwand durchsetzen, nach außen neigen. 10
13. Handgetragener Korb nach einem der Ansprüche 4 bis 12, in welchem der Griffabschnitt (40) des Haltegriffs (34) eine transparente abnehmbare obere Abdeckung (36) und Mittel umfaßt, um eine Werbeanzeige unterhalb der Abdeckung zu halten. 15
14. Handgetragener Korb nach Anspruch 13, wobei der Griffabschnitt ferner ein hohles rinnenartiges Gehäuse (46) umfaßt, in welchem laterale Verstärkungsstege (48) vorgesehen sind, und wobei die Werbeanzeige eine Platte (60) ist, die in den Stegen angeordnet und von diesen gehalten ist. 20 25

Revendications

1. Panier à main (10) comprenant : 30

un fond (12), une paroi latérale proximale (18), une paroi latérale distale (19) et deux parois d'extrémité (20) définissant une cavité, la cavité ayant un axe longitudinal et la paroi latérale proximale étant incurvée vers l'intérieur vers l'axe selon un profil adapté pour un corps humain d'adulte et les parois latérales et les parois d'extrémité comportant un bord supérieur périphérique tourné vers l'extérieur formant une lèvre (22), **caractérisé en ce que** la paroi latérale distale (19) est incurvée vers l'extérieur par rapport à l'axe selon un profil sensiblement symétrique au profil de la paroi latérale proximale (18). 35 40 45

2. Panier à main selon la revendication 1, dans lequel la lèvre (22) est étendue vers le bas le long au moins d'une partie de la paroi latérale proximale afin de former une partie d'amortissement (28). 50
3. Panier à main selon la revendication 1 ou la revendication 2, dans lequel la lèvre est étendue vers l'extérieur le long d'une section centrale de la paroi latérale distale (19) afin de former un élément de préhension (29). 55

4. Panier à main selon l'une quelconque des revendications précédentes, dans lequel une poignée (34) est prévue comportant une partie de préhension (40) positionnée au-dessus de la cavité lorsque le panier est porté par l'utilisateur.
5. Panier à main selon l'une quelconque des revendications précédentes, dans lequel des ailettes verticales (27) sont prévues le long de la périphérie du panier entre la lèvre (22) et les parois d'extrémité (20) et les parois latérales (18, 19).
6. Panier à main selon la revendication 4 ou 5, dans lequel la poignée (34) définit un canal (44) qui s'étend à travers le fond (12) du panier, le canal étant adapté pour recevoir la poignée d'un panier sensiblement identique logé directement au-dessous dans une pile.
7. Panier à main empilable selon la revendication 4, 5 ou 6, comprenant, de plus, la poignée (34) s'étendant depuis le fond du panier jusqu'à la partie de préhension (40) positionnée plus haut que le bord supérieur de la paroi latérale proximale (18). 20
8. Panier à main empilable selon la revendication 7, dans lequel un axe longitudinal de la partie de préhension (40) est sensiblement aligné avec l'axe longitudinal du panier (10). 25 30
9. Panier à main selon l'une quelconque des revendications précédentes, dans lequel au moins une paroi latérale comporte un panneau d'affichage (32).
10. Panier à main selon la revendication 9, comprenant, de plus, un couvercle transparent par-dessus le panneau d'affichage, le panneau d'affichage et le couvercle transparent définissant une poche adaptée pour recevoir des feuilles publicitaires susceptibles d'être enlevées. 35 40
11. Panier à main empilable selon l'une quelconque des revendications 4 à 10, dans lequel la poignée comprend des premier et deuxième montants verticaux (36, 38), les montants étant reliés afin de former la partie de préhension.
12. Panier à main empilable selon la revendication 11, dans lequel le premier montant vertical (36) et le deuxième montant vertical (38) s'inclinent vers l'extérieur alors qu'ils croisent la paroi inférieure.
13. Panier à main selon l'une quelconque des revendications 4 à 12, dans lequel la partie de préhension (40) de la poignée (34) comprend un couvercle supérieur transparent amovible (36) et des moyens pour supporter un affichage publicitaire au-dessous du couvercle. 55

14. Panier à main selon la revendication 13, la partie de préhension comprenant, de plus, un corps de canal creux (46) comportant des nervures de renforcement latérales (48) à l'intérieur de celui-ci, et l'affichage publicitaire étant une plaque (60) disposée dans les nervures et supportée par les nervures.

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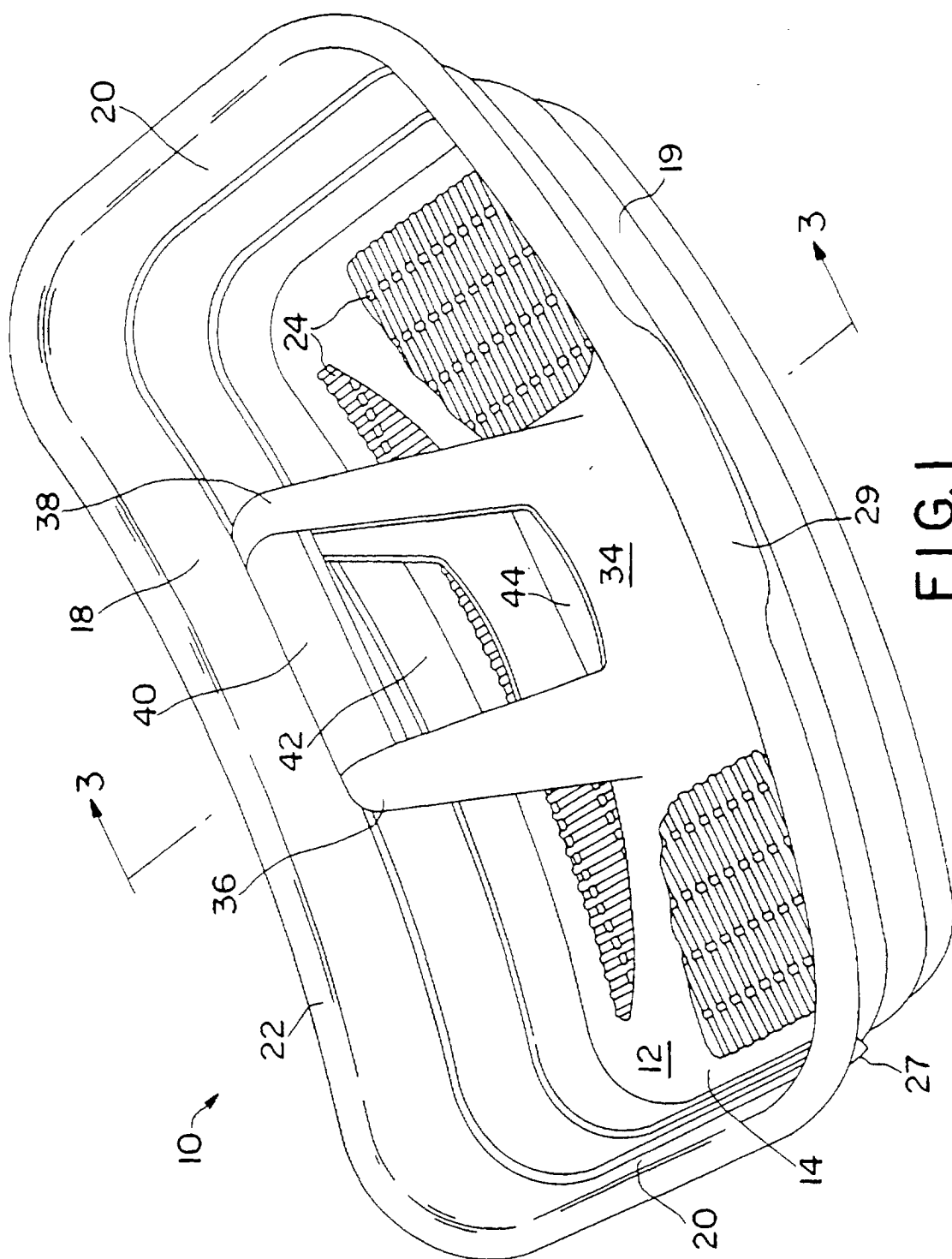
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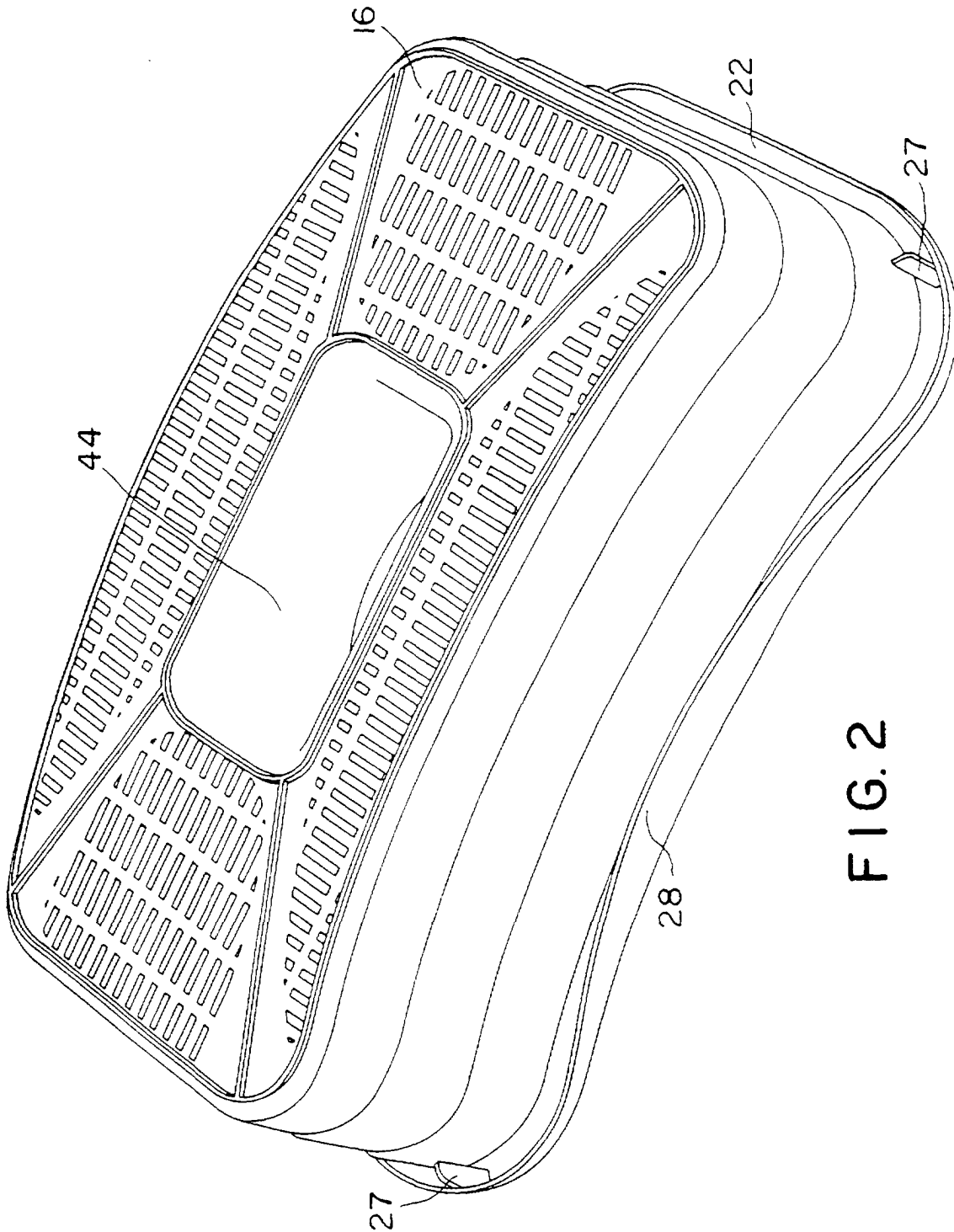


FIG. 2

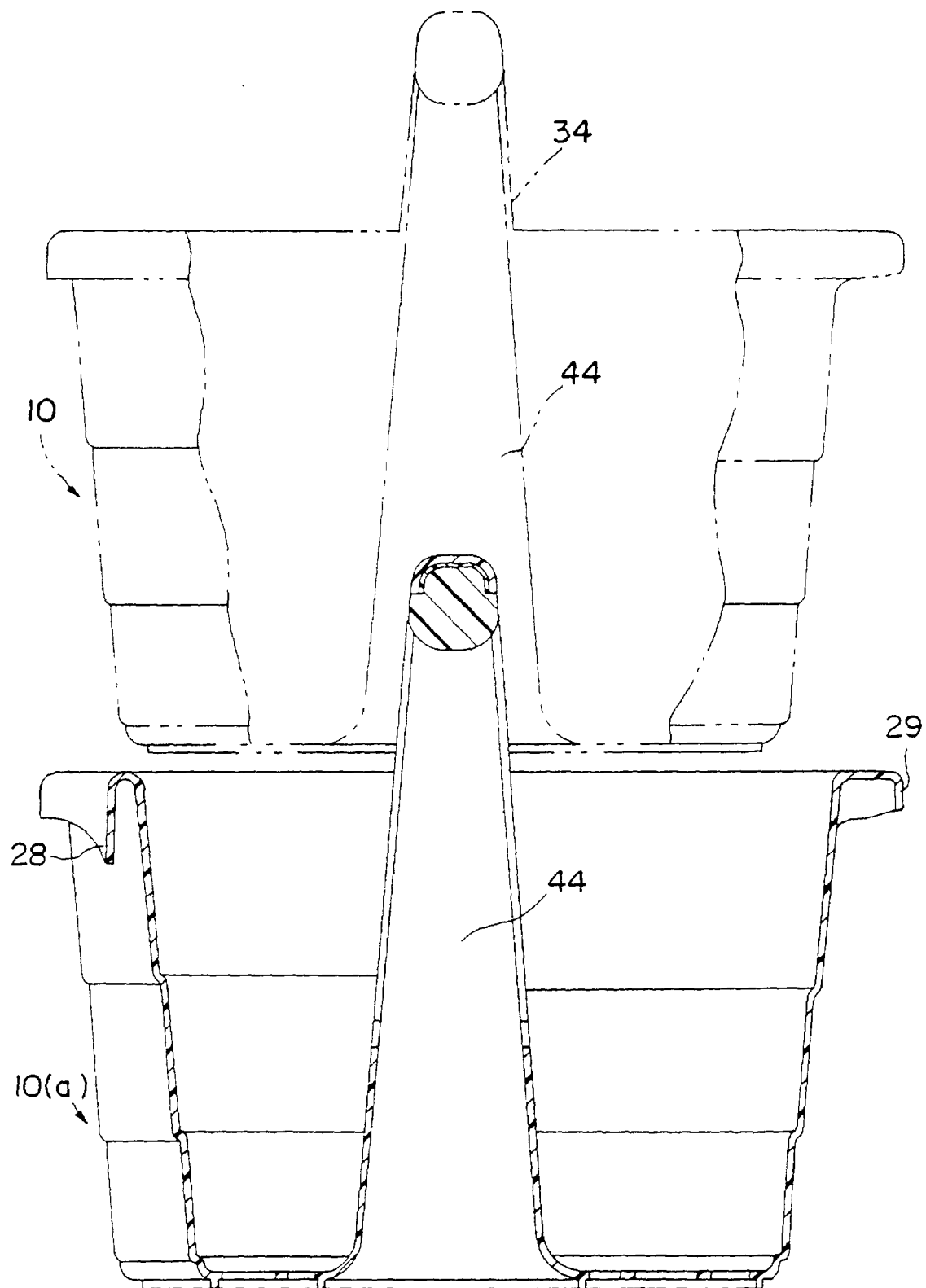
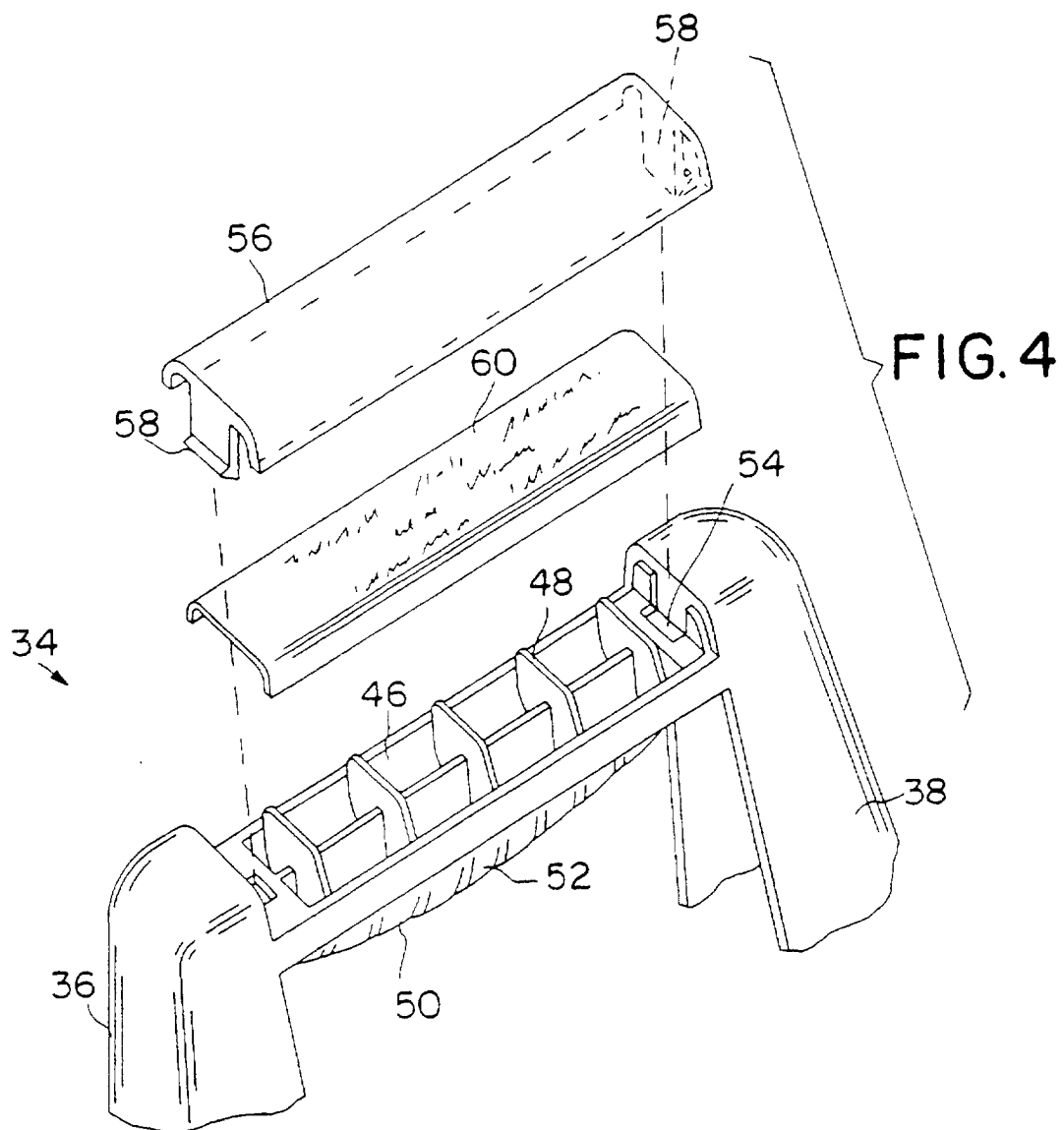


FIG. 3



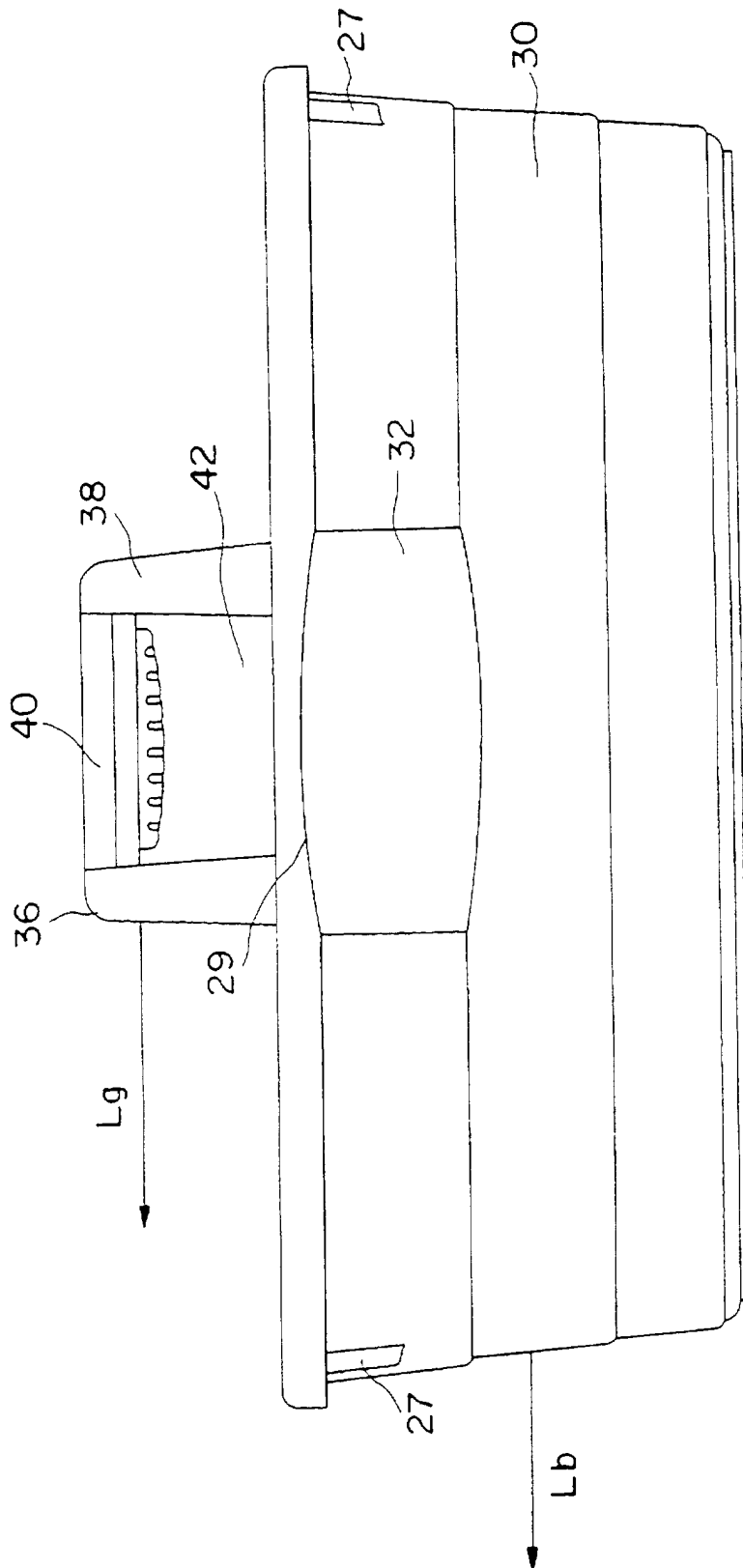


FIG. 5

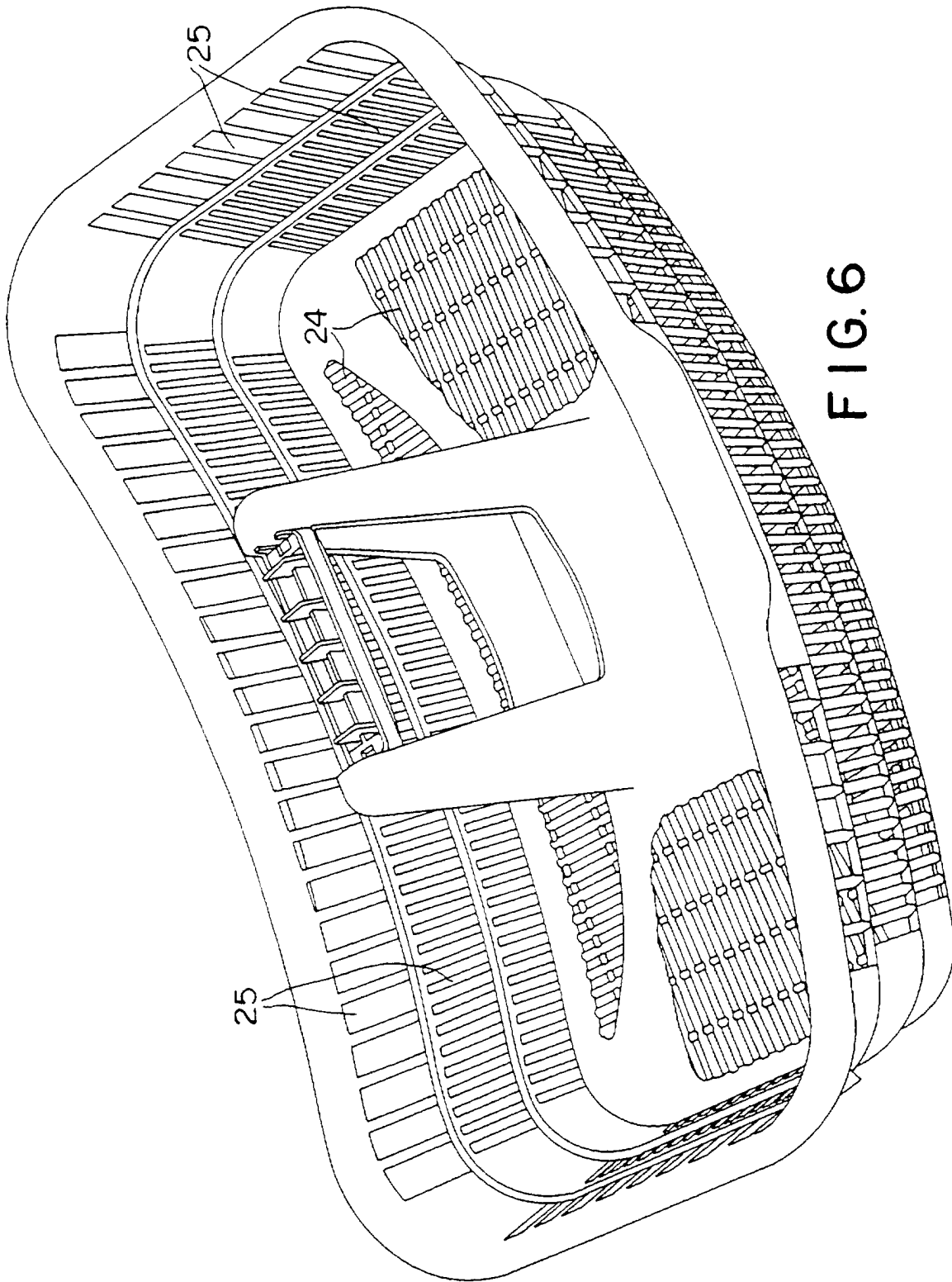


FIG. 6