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(54) SHEET DISPENSER WITH OPTIONAL SUPPORT OR ATTACHMENT MEANS

BLATTSPENDER MIT WAHLWEISER STÜTZ- ODER BEFESTIGUNGSVORRICHTUNG

DISTRIBUTEUR DE FEUILLES A SUPPORT OU ELEMENTS DE FIXATION OPTIONNELS

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(56) References cited:
FR-A- 1 016 522
US-A- 606 914
US-A- 2 356 722
US-A- 2 908 519
US-A- 3 737 130
US-A- 3 826 407
US-A- 4 136 805
US-A- 4 401 233
US-A- 4 595 154
US-A- 4 735 317
US-A- 4 770 320
US-A- 4 907 825
US-A- 4 928 864
US-A- 5 014 946
US-A- 5 080 254
US-A- 5 086 946
US-A- 5 127 545
US-A- 5 165 570
US-A- 5 222 643

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Description

[0001] The present invention relates generally to dispensers for pressure sensitive adhesive coated sheets and retaining means to which such dispensers can be attached to releasably retain them at predetermined locations.

[0002] Refillable dispensers adapted to dispense pressure sensitive adhesive coated sheets are known, as are retaining means to which such dispensers can be attached to releasably retain them at predetermined locations. US-A-5,086,946, which forms the preamble of claim 1, describes such a dispenser, and includes a discussion of the background art relating to such dispensers.

[0003] A further known dispenser is described in US-A-4,907,825 comprising the features of the preamble of the attached independent claim. This known dispenser is provided with an arc-like shaped cavity for receiving the stack of sheets. The dispenser is provided with a substantially planar support surface to position the dispenser on the surface of an object like a desk or the like.

[0004] It is the object of the present invention to provide a dispenser from which sheets in a stack of sheets can be dispensed wherein the dispenser can be positioned at predetermined locations such as along the back of a user's hand or wrist, or along a vertical or horizontal surface.

[0005] According to the invention, this object is solved by means of a dispenser as defined in claim 1. The subclaims relate to preferred embodiments of the invention.

[0006] According to the present invention there is provided a dispenser for pressure sensitive adhesive coated flexible sheets from a stack of such sheets adhered one on top of another, which sheets may, for example be used for securing gift wrapping paper, marking electrical wire, or highlighting portions of a document. The dispenser comprises walls having surfaces defining a cavity adapted to receive the stack, which walls can include an arcuate bottom wall defining a bottom surface for the cavity and an opposite generally cylindrically convex outer surface, end walls defining end surfaces for the cavity at opposite ends of the bottom surface, first and second arcuate top wall portions normally both in normal positions extending generally toward each other from the end walls and defining arcuate top surface portions for the cavity spaced from the bottom surface, which top wall portions in their normal positions have spaced adjacent end surfaces defining an outlet opening from the cavity between the top wall portions, and opposite side walls defining opposing side surfaces for the cavity extending between the top surface portions and the bottom surface. The surfaces defining the cavity are shaped to afford longitudinal movement of the stack of sheets within the cavity in response to a force manually applied to the second end portion of the uppermost sheet on the stack projecting through the opening so that the uppermost sheet on the stack can be manually pulled through the opening and will carry with it the second end pottion of the sheet beneath it on the stack to which the uppermost sheet is adhered by the adhesive coating, placing that second end portion in a position where it also may be grasped and pulled to withdraw that sheet from the stack. The dispenser comprises a first housing portion including its bottom wall, end walls, side walls and first top wall portion, a second housing portion comprising the second top wall portion which is mounted on the first housing portion for relative movement between its normal position and an open position spaced from the first top wall portion to afford inserting a stack of sheets in the cavity, and means for releasably retaining the second top wall portion in its normal position.

[0007] In the dispenser described in this application the arcuate top wall portions include base parts adjacent the end walls and flexible cantilever parts extending toward each other from those base parts adapted to deflect in response to forces applied to the stack to remove the uppermost sheet from the dispenser to thereby decrease the amount of force required to remove the uppermost sheet from the dispenser. The base part of the first top wall portion is fixed to the side walls. The base part of the second top wall portion is fixed with respect to the side walls when it is in its normal position and is mounted on the side walls for longitudinal sliding movement between its normal and open positions, and the means for releasably retaining the second top wall portion in its normal position comprises latch parts mounted on the base part of the second top wall portion and on the first housing portion adapted for releasable engagement to releasably retain the second top wall portion in its normal position.

[0008] The first and second top wall portions can have pairs of parallel ribs extending generally parallel to the side walls to define portions of the arcuate top surface portions for the cavity. Such ribs restrict adhesive on the sheets from transferring to the top surface portions, and tend to guide movement of the stack in the cavity as sheets are withdrawn from the dispenser, which is particularly useful when only a small number of sheets remain in the stack.

[0009] Also, the side walls can have top edges adjacent and unattached to the top wall portions, and the ribs can be spaced smaller distances from the bottom wall than the top edges of the side walls so that the ribs restrict sheets on the stack from becoming wedged between the top surfaces and the top wall portions.

[0010] The dispenser further includes attaching means adapted for releasably attaching it to several different retaining means adapted for releasably retaining the dispenser at various predetermined locations including attached to a surface, attached along the back of a user's hand or wrist, or supported on a horizontal surface. Those attaching means include (1) two trans-

versely extending loop like portions of the dispensers bottom wall, each adjacent a different one of its end walls. The bottom wall has transverse openings along opposite edges of the loop like portions affording positioning a strap around the sides of said loop like portions adjacent the cavity by which strap the dispenser can be releasably secured with the outer surface of the bottom wall along the top surface of a user's hand or wrist with the strap extending around the palm of the user's hand or around the user's wrist. Also included in those attaching means are (2) two transversely extending openings in the bottom wall partially defined by lip like portions of the bottom wall that extend toward the end walls of the dispenser on opposite sides of the central opening. The lip-like portions of the bottom wall are adapted to be engaged by opposed hook-like distal end portions of a novel support member. That support member has finger engagement surfaces that face in opposite directions on opposite sides, which finger engagement surfaces are shaped to engage adjacent side surfaces of a user's fingers. The support member includes a narrow web like portion between the finger engagement surfaces adapted to comfortably extend between a user's fingers positioned along the finger engagement surfaces. Also, the support member has a retainer portion that is wider than the web like portion and is adapted to be positioned along the inner surfaces of a user's fingers. Using this support member, a person can comfortably and conveniently hold the dispenser along the outer surface of his fingers, while retaining almost complete use of his fingers to accomplish a task, such as applying wrapping material to a package that will be attached in place by pressure sensitive adhesive coated sheets from the dispenser. Additionally, the attaching means includes (3) two docking tabs extending in opposite directions from opposite sides of the bottom wall and centrally along the bottom wall. Those docking tabs are adapted to be releasably engaged under locking tabs in a base having a slot in which the bottom wall of the dispenser can be inserted or removed by moving its bottom wall longitudinally into or out of the slot. Such a base can either be weighted and adapted to be supported on a horizontal surface, or can be unweighted and adapted to be attached to a surface by means such as adhesive, a suction cup or magnetic material.

[0011] The present invention will be further described with reference to the accompanying drawing wherein like reference numerals refer to like parts in the several views, and wherein:

Figures 1 and 2 are perspective views of a first embodiment of a sheet dispenser according to the present invention respectively showing a second housing portion of the dispenser in a normal and open position relative to a first housing portion of the dispenser;

Figure 3 is a reduced top view of the dispenser of Figure 1;

Figure 4 is a reduced side view of the dispenser of Figure 1;

Figure 5 is a reduced bottom view of the dispenser of Figure 1;

Figure 6 is a sectional view taken approximately along line 6-6 of Figure 3;

Figure 7 shows the second housing portion of The dispenser removed from the first housing portion of the dispenser;

Figures 8, 9 and 10 are cross sectional views respectively taken approximately along lines 8-8, 9-9 and 10-10 of Figure 3;

Figures 11-18 are sectional views taken approximately along line 6-6 of Figure 3 that sequentially illustrate dispensing a sheet from the dispenser of Figure 1.

Figure 19 is a cross sectional view of the sheet dispenser shown in Figure 1 in combination with a strap by which the dispenser can be attached to a user's hand or wrist;

Figure 20 is a perspective view of the sheet dispenser of Figure 1 releasably engaged with a support member adapted to be held between a persons fingers;

Figure 21 is a side view of the sheet dispenser and support member shown in Figure 20;

Figure 22 is a sectional view taken approximately along line 22-22 of Figure 20;

Figure 23 is a perspective view of the sheet dispenser of Figure 1 releasably engaged with a weighted base;

Figure 24 is a side view of the sheet dispenser and weighted base shown in Figure 23;

Figure 25 is a sectional view taken approximately along line 25-25 of Figure 23;

Figure 26 is a perspective view of the sheet dispenser of Figure 1 releasably engaged with a base adapted to be attached to a substrate;

Figure 27 is a side view of the sheet dispenser and base shown in Figure 26; and

Figure 28 is a sectional view taken approximately along line 28-28 of Figure 26.

[0012] Referring now to the drawing and in particular to Figures 1 through 10, there is shown a dispenser according to the present invention generally designated by the reference numeral 20. The dispenser 20 can be used for dispensing flexible sheets from a stack 10 of sheets (see Figures 11-18) of the type described in US-A-5,086,946, with the same reference numerals being used in this application as in that patent to describe parts of the sheets and stack 10.

[0013] Generally, as can be seen in Figure 3A of US-A-5,086,946, the stack 10 is of sheets 11 disposed one on top of another, with each sheet 11 comprising a backing B having first and second opposite major side surfaces 3 and 5 and first and second opposite ends 4

and 6 with the first end 4 of each sheet 11 being in alignment with the second end 6 of an adjacent sheet 11 in the stack 10, and a layer 2 of adhesive permanently adhered to the first side surface 3 of the sheet backing B. The layer 2 of adhesive of each sheet 11 is releasably adhered along the second surface 5 of the adjacent sheet 11 in The stack 10. The sheets 11 comprise release means in the form of premium low adhesion backsize 1' for providing a first adhesion level (which nay be no adhesion) along a first end portion 15 of each of the sheets 11 adjacent the first end 4 of the backing B between the layer 2 of adhesive and the second side surface 5 of the adjacent sheet 11 in the stack 10 to which the layer 2 of adhesive is releasably adhered, which first adhesion level provides a sufficiently low release force between the layer 2 of adhesive and the adjacent sheet 11 to which the layer 2 of adhesive is releasable adhered to afford sliding movement between the side surfaces 3 and 5 of the adjacent sheets 11 along the first end portion 15, and attachment means for providing a second adhesion level along a second end portion 17 of each of the sheets 11 adjacent the second end 6 of the backing B between the layer 2 of adhesive and the second side surface 5 of the adjacent sheet 11 in the stack 10 to which the layer 2 of adhesive is releasably adhered, which second adhesion level provides a release force that is higher than the low release force along the first end portion 15 and firmly adheres the sheet 11 to the adjacent sheet 11 in the stack 10 during sliding movement of the sheet 11 relative to the adjacent sheet 11 along the first end portion 15 while affording peeling away of the sheet 11 from the stack 10 along the second end portion 17. Alternatively, the stack of sheets could be the stack described in US-A-4,907,825 (i.e., the stack of sheets sold in a dispenser under the trade designation "Post-it" (T.M.) Tape Flags).

[0014] The dispenser 20 comprises walls having surfaces defining a cavity 22 which is adapted to receive the stack 10. Those walls include a generally arcuate bottom wall 23 defining a generally cylindrically convex bottom surface 24 for the cavity 22 and an opposite generally cylindrically convex outer surface 25, end walls 26 defining end surfaces 27 for the cavity 22 at opposite ends of the bottom surface 24, and first and second arcuate top wall portions 28 and 29 normally both in normal positions extending generally toward each other from the end walls 26 and defining arcuate top surface portions 30 for the cavity 22 spaced from the bottom surface 24. The top wall portions 28 and 29 in their normal positions have spaced adjacent end surfaces 31 defining an outlet opening 32 for the cavity 22 between the top wall portions 28 and 29. Also the top wall portions 28 and 29 have central through openings 34 so that a user can see the stack 10 in the cavity 22 to determine the number of sheets 11 remaining in it. The walls of the dispenser 20 include opposite side walls 33 defining opposing side surfaces for the cavity 22 extending between the top surface portions 30 and the bottom surface 24. The surfaces defining the cavity 22 are shaped to afford longitudinal reciprocating movement of the stack 10 of sheets 11 within the cavity 22 in response to a force manually applied to the second end portion 17 of the uppermost sheet 11 in the stack 10 projecting through the opening 32 (see Figures 11 through 18) so that the uppermost sheet 11 in the stack 10 can be manually pulled through the opening 32 and will carry with it the second end portion 17 of the sheet 11 beneath it in the stack 10 to which the uppermost sheet 11 is adhered by the coating 2 of adhesive, placing that second end portion 17 in a position where it also may be grasped and pulled to withdraw that sheet 11 from the stack 10.

[0015] The dispenser 20 comprises a first housing portion 35 including the bottom wall 23, the end walls 26, side walls 33 and the first top wall portion 28; a second housing portion 36 (shown separated from the first housing portion 35 in Figure 7) comprising the second top wall portion 29; and means for mounting the second housing portion 36 or second top wall portion 36 on the first housing portion 35 for relative movement between the normal position of the housing portions 35 and 36 (Figures 1,3 and 4) and an open position of the housing portions 35 and 36 (Figure 2) with the second top wall portion 29 spaced from the first wall portion 28 to uncover an opening in the first housing portion 35 through which a stack 10 of sheets 11 can be inserted into the cavity 22. Also included are means for releasably retaining the housing portions 35 and 36 in their normal positions. As illustrated, the arcuate wall portions 28 and 29 include base parts 37 adjacent the end walls 26 and flexible cantilever parts 38 extending toward each other from the base parts 37 that are adapted to deflect in response to forces applied to the stack 10 to remove the uppermost sheet 11 from the dispenser 20 and thereby decrease the amount of force required to remove the uppermost sheet 11 from the dispenser 20. The base part 37 of the first top wall portion 28 is fixed relative to the side walls 33, whereas the base part 37 of the second top wall portion 29 is releasably attached in a fixed position relative to the side walls 33 when the second housing portion 36 of second top wall portion 29 is in its normal position, and is mounted on the first housing portion 35 for longitudinal sliding movement between the normal and open positions of the second top wall portion 29 or second housing portion relative to the first housing portion 35.

[0016] The means for mounting the second housing portion 36 or second top wall portion 29 on the first housing portion 35 for longitudinal sliding movement between the normal and open positions of the second top wall portion 29 or second housing portion 36 include flange portions 40 extending transversely outwardly along opposite sides of the second top wall portion 29 adapted to slide between the top edges of the side walls 33 that are opposite the bottom wall 23 and flange portions 41 of the first housing portion 35 that extend over

those top edges of the side walls 33.

[0017] The means for releasably retaining the second top wall portion 29 in its normal position comprises latch parts including tabs 43 projecting toward the cavity 22 from the sides of the flange portions 41 of the first housing portion 35 which are releasably received in openings 44 along the flange portions 40 on the second top wall portion 29 when the second top wall portion 29 is in its normal position. When a user presses the second top wall portion 29 toward its open position at a lug 45 along its top surface, latch parts 46 of the flange portions 40 on the sides of the openings 44 adjacent the end surface 31 will deflect and move past the tabs 43, which deflection will be assisted by a component of the opening force applied to the lug 45 pressing the flanges 40 toward the ends of the tabs 43; and when the second top wall portion 29 is moved back from its open to its normal position, the latch parts 46 of the flange portions 40 will again deflect and move past the tabs 43 so that the tabs 43 can again move back into the openings 44 to again releasably retain the second top wall portion 29 in its normal position.

[0018] The end surfaces 31 of the top wall portions 28 and 29 are defined by a plurality of spaced bars 47 which restrict the coating 2 of adhesive on the sheets 11 from "wetting" the opposed end surfaces 31. Such "wetting" could make it difficult to dispense the sheets 11 because of adhesion of the sheets 11 to the dispenser 20.

[0019] The inner or top surface portions 30 on the first and second arcuate top wall portions 28 and 29 are each partially defined by distal and proximal pairs of longitudinally extending parallel spaced ribs 48 and 49 included in the arcuate top wall portions 28 and 29, which ribs 48 and 49 project toward the bottom wall 23. The upper surface of the stack 10 of sheets 11 bears against the ribs 48 and 49 as the stack 10 moves within the cavity 22 as a sheet 11 is withdrawn from the dispenser 20. The ribs 48 and 49 restrict adhesive on the sheets 11 from transferring to the top surface portions 30. Also the ribs 48 and 49 tend to guide movement of stacks 10 that have only small numbers of sheets 11 remaining so that such stacks 10 move in directions parallel with the ribs 48 and 49 as sheets 11 are withdrawn from the dispenser 20. The proximal pairs of ribs 49 are more closely spaced than, and are centered between, the distal pairs of ribs 48, and the distal pairs of ribs 48 normally are more closely spaced from the bottom wall 23 than the top edges of the side walls 33. When only a small number of sheets 11 remain in the stack 10, the ribs 48 thus projecting to below the top edge of the side walls 33 insures that the side edges of the sheets 11 will not become jammed in the space along the top edge of one of the side walls 33.

[0020] The inner or bottom surface 24 of the bottom wall 23 is in part defined by the arcuate top surfaces opposite the outlet opening 32 of transversely spaced longitudinally extending ribs 50. The ribs 50 defining the central portion of the bottom wall 23 and the ribs 48 and 49 partially defining the inner or top surface portions 30 of the arcuate top wall portions 28 and 29 can be sized and shaped to provide desired arcs for the top surface portions 30 and bottom surface 24 defining the cavity 22 to accommodate stacks 10 of different numbers of sheets 11 between those top surface portions 30 of the first and second arcuate top wall portions 28 and 29 and bottom surface 24 of the bottom wall 23.

[0021] The second housing portion 36 or second top wall portion 29 may be a unitary molded structure (e.g., a polymeric molding of polystyrene), and the first housing portion 35 may be formed of two such unitary moldings (one including the bottom wall 23, the side walls 33 and the end walls 26; and the other the first top wall portion 28) that have mating peripheries 51 at which the two unitary moldings are glued or heat fused together.

[0022] Figures 11 through 18 illustrate dispensing the top sheet 11 from the stack 10 of sheets 11 using the dispenser 20. As illustrated in Figure 11, initially the stack 10 is positioned with its opposite ends contacting the top wall surface portions 30, with a portion of the stack 10 opposite the outlet opening 32 contacting the arcuate top surfaces of longitudinally extending ribs 50 defining the bottom surface 24 of the cavity 22 in that location so that the stack 10 is slightly bowed by the curved surfaces 30 and 24, and with the first end portion 15 of the uppermost sheet 11 in the stack 10 projection through the outlet opening 32. Initially when, as illustrated in Figure 12, as tension is first applied to the first end portion 15 of the uppermost sheet 11 to pull it from the dispenser 20 through the outlet opening 32, the upper surface of the stack 10 will fully engage the arcuate top wall surface portions 30, and the stack 10 will begin to move along the cavity 22 as the uppermost sheet is pealed from the sheet beneath it. When, as illustrated in Figure 13, the stack 10 of sheets 11 moves to a position with the first end portion 15 of the second sheet 11 in the stack beneath the outlet opening 32, that first end portion 15 will start to slide along the sheet it beneath it (initially the third sheet in the stack 10) causing a slight buckle in the second sheet 11 in the stack, which buckle increases significantly after movement of the stack 10 along the cavity 22 is stopped by contact with the end wall 26 as is illustrated in Figure 14, whereafter, the top wall portion 28 around which the sheet 11 is being pulled will be flexed in the direction toward which the uppermost sheet 11 is being pulled as is illustrated in Figure 15 to reduce the force required to pull the end of the uppermost sheet 11 adhered to the first end portion 15 of the second sheet through the outlet opening 32 to the position illustrated in Figure 16, whereupon the first end portion 15 of what originally was the second sheet in the stack will be pulled through the outlet opening 32, causing the stack to move away from the adjacent end wall 26 as illustrated in Figure 17 to the position illustrated in Figure 18 where the upper-

most sheet will be pealed away from what was originally the second sheet 11 in the stack 10 and now becomes the uppermost sheet 11 positioned in a position at the opposite end of the dispenser corresponding to that of the stack 10 before the sheet 11 was withdrawn with its first end portion 15 projecting through the outlet opening 32 where it too can be engaged to pull that sheet from the dispenser 20.

[0023] The dispenser 20 includes attaching means adapted for releasably attaching the dispenser 20 to several different retaining means for releasably retaining the dispenser 20 at predetermined locations.

[0024] As can be seen in Figure 19, those attaching means comprise (1) two transversely extending cantilevered strap receiving portions 52 included in the bottom wall 23, each of which strap receiving portions 52 is adjacent a different one of the end walls 26. The bottom wall 23 has transverse openings 53 along opposite edges of the strap receiving portions 52 affording positioning a strap 54 around the sides of the loop like portions 52 adjacent the cavity 22, by which strap 54 the dispenser 20 can be releasably secured with the outer surface 25 of the bottom wall 23 along a surface such as the top surface of a user's hand or wrist with the strap 54 extending around the palm of the user's hand, or around a user's wrist. The bottom wall 23 also has a side opening 55 along a different side of each of the strap receiving portions 52 (see Figures 4 and 5), which side openings 55 join the openings 53 along opposite edges of the strap receiving portions 52 and afford movement of the strap 54 sideways to its position on sides of the cantilevered strap receiving portions 52 adjacent the cavity 22. The strap receiving portions 52 each have a lip adjacent the side opening 55 projecting toward the cavity 22 and adapted to help retain the strap 54 along the side of the strap receiving portion 52 adjacent the cavity 22. The strap receiving portions 52 space the rest of the bottom wall 23 from the user's hand or wrist to provide ventilation beneath it, and help distribute the pressure applied to the user's hand or wrist by the strap 54. The strap 54 may be of elastic or non-elastic material, and ends of the strap 54 may be releasably joined by a conventional buckle or other attachment means (not shown) such as lengths of hook and loop fastener.

[0025] As can be seen in Figures 20 through 22, those attaching means also comprise (2) the bottom wall having two transversely extending openings 58 partially defined by lip like portions 59 of the bottom wall 23 extending toward the end walls 26 of the dispenser 20 on opposite sides of the central outlet opening 32. The lip-like portions 59 are adapted to be engaged by opposed hook-like distal end portions 60 of a support member 61 extending through the openings 58, which hook like distal end portions 60 provide means for releasably attaching the support member 61 to the bottom wall 23 of the dispenser 20. The support member 61 is adapted to be engaged by a user's fingers and has finger engagement surfaces 62 that face in opposite directions on opposite sides of the support member 61. The finger engagement surfaces 62 on the support member 61 are shaped to engage adjacent side surfaces of a user's fingers, and the support member 61 includes a narrow web like portion 64 between the finger engagement surfaces 62 adapted to comfortably extend between the fingers of a user positioned along the finger engagement surfaces 62. Also, the support member 61 includes a semi spherical retainer portion 66 wider than the web like portion 64 that is adapted to be positioned along the inner surfaces of a user's fingers. As illustrated, the finger engagement surfaces 62 that face in opposite directions on opposite sides of the support member 61 are arcuate around parallel axes so that they can fit closely along the surface of the fingers, however, the finger engagement surfaces 62 could have other contours that contact the side surfaces of the fingers only in spaced locations. Also as illustrated, the retainer portion 66 that is significantly wider than the web like portion 64 and is adapted to be positioned along the inner surface of a user's fingers is generally semi-spherical. The retainer portion 66 has parts including spaced projecting parts 68 around its distal end that define a socket opening through the side of the retainer portion 66 opposite the web like portion 64. The assembly further includes a pedestal 70 including a generally conical base portion 71 having a circular bottom surface 72 adapted to be attached to a substrate (e.g., by adhesive, a magnet or a suction cup), and a spherical portion 73 attached to the apex of the base portion 71 and adapted to be removably received in the socket with the projecting parts 68 frictionally and releasably engaging the spherical portion 73. The bottom surface 72 of such a pedestal 70 can be attached to a surface and used to support the retainer portion 66 at times when the user does not choose to support it between his fingers, and provide an anchor for the retainer portion 66 so that sheets 11 can be removed from the dispenser 20 with one hand when the retainer portion 66 is engaged with the pedestal 70. The retainer portion 66 can always be easily removed from the pedestal 70 by pulling it off of the spherical portion 73 so that it can again be positioned between a user's fingers to support the dispenser 20 along the back surface of the user's hand. The support member 61 could optionally be used to support different types of dispensers for sheets, tape or other items along the back surface of a user's hand. As an example, the dispenser package 32 illustrated in US-A-4,907,825 could be modified for engagement by the opposed hook-like distal end portions 60 of the support member 61 by cutting spaced slots in its bottom wall 37. Optionally, those opposed hook-like distal end portions 60 of the support member 61 could be spaced to engage around the peripheral edge of that dispenser package 32.

[0026] As illustrated, those attaching means also comprise (3) the dispenser 20 having two docking tabs 76 extending in opposite directions from opposite sides

of the bottom wall 23 of the dispenser 20 generally centrally along the length of the bottom wall 23 and having distal end portions spaced from the outer surface 25 of the bottom wall 23. The docking tabs 76 are adapted to be engaged in either a weighted base 78 (Figures 23, 24 and 25) or an un-weighted base 80 (Figures 26, 27 and 28), each of which bases 78 and 80 has, respectively, a top surface 82 or 83, a recessed surface 84 or 85 defining a recess from the top surface 82 or 83 of the base 78 or 80 that is adapted to closely receive the outer surface 25 of the dispenser 20, and retaining tabs 86 or 87 projecting into the recess from opposite sides at locations spaced from the recessed surface 84 or 85. Those retaining tabs 86 and 87 are adapted to engage the sides of the docking tabs 76 adjacent the outer surface 25 of the bottom wall 23 of the dispenser 20 in the recess in the base 78 or 80 to thereby releasably retain the dispenser 20 in a docked position in engagement with the base 78 or 80. The outer surface 25 of the bottom wall 23 includes curved cam surfaces adjacent its ends adapted for engagement with the top and recessed surfaces 82, 84 or 83, 85 of the base 78 or 80 to afford movement of the docking tabs 76 under the retaining tabs 86 or 87 while deflecting the bottom wall 23 or tabs 76 and/or 86 or 87 upon longitudinal movement of the bottom wall 23 along the recess from a disengaged position with the docking tabs 76 and retaining tabs 86 and 87 side by side. Also, the same cam surfaces afford movement of the docking tabs 76 from under the retaining tabs 86 or 87 while deflecting the bottom wall 23 or tabs 76 and/or 86 or 87 upon longitudinal movement of the bottom wall 23 along the recess from their engaged position to a disengaged position. The need to thus deflect the bottom wall 23 or tabs 76 and/or 86 or 87 provides a detent to releasably retain the dispenser 20 in the docked position in engagement with the base 78 or 80.

[0027] The weighted base 78 for use with the dispenser 20, illustrated in Figures 23, 24 and 25, has a bottom surface 89 adapted to be supported on a horizontal surface and has sufficient weight that one of the sheets 11 can be withdrawn from the dispenser 20 with one hand without moving the dispenser 20 attached to the weighted base 78. As can be seen in Figure 25, the weighted base 78 includes two portions 90 and 91 having peripheries engaged and sealed together (e.g., by glue or heat fusion) to define a chamber 92 filled with ballast such as sand, gravel or rocks. As illustrated in Figure 25, the weighted based 78 includes walls defining a replacement stack supply chamber 94 accessible from the top of the weighted base 78 when the dispenser 20 is removed from the base 78, which supply chamber 94 is adapted to receive and store a number (e.g., 4) of stacks 10 of sheets 11 prior to their use.

[0028] The un-weighted base 80 for use with the dispenser 20, illustrated in Figures 26, 27 and 28, is adapted to be attached to a horizontal or vertical surface so that one of the sheets 11 can be withdrawn from the dispenser 20 with one hand without detaching the un-weighted base 80 from the surface. The un-weighted base 80 has a generally circular planar surface 96 on its side opposite the recess for the dispenser 20, which surface 96 can be attached to such a horizontal or vertical surface by means (not shown) such as a length of foam tape coated with pressure sensitive adhesive on both sides, a length of magnetic material, a suction cup, or a sheet of flexible material attached at its center to the center of the surface 96 in the manner described in US-A-5,014,946, which flexible material then momentarily acts like a suction cup against a surface on which the un-weighted base 80 is supported when a sheet 11 is withdrawn from the dispenser 20.

Claims

1. A dispenser for flexible sheets from a stack of sheets disposed one on top of another, said dispenser comprising:

- walls having surfaces defining a cavity (22) for receiving the stack (10), said walls including an arcuate bottom wall (23) defining a bottom surface (24) for said cavity (22) and an opposite generally cylindrically convex outer surface (25),
- end walls (26) defining end surfaces (27) for said cavity (22) at opposite ends of said bottom surface (24),
- first and second arcuate top wall portions (28,29) having normal positions in which the first and second top wall portions (28,29) extend toward each other from said end walls (26) and define arcuate top surface portions (30) for said cavity (22) spaced from said bottom surface (24), said top wall portions (28,29) in said normal positions having spaced adjacent end surfaces (31) defining an outlet opening (32) for said cavity (22) between said top wall portions (28,29), and
- opposite side walls (33) defining opposing side surfaces for said cavity (22) extending between said top surface portions (30) and said bottom surface (24),
- wherein said dispenser comprises a first housing portion (35) and a second housing portion, and
- the dispenser further comprises means (40, 41) mounting said second housing portion (36) on said first housing portion (35) for relative movement of said housing portions (35,36) between said normal position and an open position with said second top wall portion (29) spaced from said first wall portion (28) to afford inserting a said stack (10) of sheets (11) into said cavity (22), and means (43-46) for releasably retaining said second housing portion (36)

in said normal position, and

- said arcuate top wall portions (28,29) include base parts (37) adjacent said end walls (26) and flexible cantilever parts (38) extending toward each other from said base parts (37) adapted to deflect in response to forces applied to the stack (10) to remove the uppermost sheet (11) from the dispenser to thereby decrease the amount of force required to remove the uppermost sheet (11) from the dispenser; said base part (36) of said first top wall portion (28) is fixed with respect to said side and end walls (33,26), said base part (36) of said second top wall portion (29) is fixed with respect to said side and end walls (33,26) when said second housing portion (36) is in said normal position and

characterized by

- the first housing portion including said bottom wall (23), said end walls (26), said side walls (33) and said first top wall portion (28); the second housing portion (36) comprising said second top wall portion (29) and the base part of the second top wall portion is mounted on said first housing portion (35) for longitudinal sliding movement between said normal and open positions of said first and second housing portions (35,36), and said means (43-46) for releasably retaining said second portion in said normal position comprises latch parts (46) mounted on said second top wall portion (29) and on said first housing portion (35) adapted for releasable engagement to releasably retain said housing portions (35,36) in said normal position.

2. A dispenser for sheets according to claim 1, wherein said first and second top wall portions (35,36) have pairs of parallel ribs (48,49) extending generally parallel to said side walls (33) and defining portions of said arcuate top surface portions (30) for said cavity (22).

3. A dispenser for sheets according to claim 1 further including attaching means on said dispenser adapted for releasably attaching said dispenser to several different retaining means for releasably retaining said dispenser at predetermined locations, said attaching means comprising:

- said bottom wall (23) including two transversely extending strap receiving portions (52) each adjacent a different one of said end walls (33) and said bottom wall (23) having transverse openings (53) along opposite edges of said strap receiving portions (52) for receiving a strap (54),
- said bottom wall (23) having two transversely extending openings (58) partially defined by lip-like portions (59) of said bottom wall (23) extending toward the end walls (26) of said dispenser on opposite sides of said central opening (32), said lip-like portions (59) being adapted to be engaged by opposed hook-like distal end portions (60) of a support member (61) extending through said openings (58), and
- said bottom wall (23) having two docking tabs (76) extending in opposite directions from opposite sides of said bottom wall (23) generally centrally along said bottom wall (23) and having distal end portions spaced from said outer surface (25), said docking tabs (76) being adapted to releasably retain the dispenser in engagement with a base (78;80), said bottom surface (24) of said dispenser having cam surfaces adapted for engagement with the base (78;80).

4. A dispenser for sheets according to claim 3 wherein said bottom wall (23) has a side opening (55) along one side of each of said strap receiving portions (52) joining said openings (53) along opposite edges of the strap receiving portion (52) and affording movement of the strap (54) sideways to the position on side of the strap receiving portion (52) adjacent said cavity (22), and said strap receiving portions (52) each have a lip adjacent said side opening (55) projecting toward said cavity (22) and adapted to help retain the strap (54) along the side of the strap retaining portion (52) adjacent the cavity (22).

5. A dispenser for sheets according to claim 4 wherein said side openings (55) in said bottom wall (23) are along opposite sides of said strap receiving portions (52).

6. A dispenser for flexible sheets according to claim 2 wherein said side walls (33) have top edges adjacent and unattached to said top wall portions (28,29), and said ribs (48) are spaced smaller distances from said bottom wall (23) than the top edges of said side walls (33) so that said ribs (48) restrict sheets (11) on said stack (10) from becoming wedged between said top surfaces and said top wall portions (28,29).

7. A dispenser for flexible sheets according to claim 2 wherein the inner surface of the bottom wall (23) is in part defined by the arcuate top surfaces opposite the outlet opening (32) of transversely spaced ribs (50) extending generally parallel to said side walls (33).

8. A dispenser as defined in claim 1 wherein at least one of said first or second top wall portions (28,29)

contains a through opening (34), thereby allowing a user to see the remaining stack (10) of sheets (11) in the cavity (22).

Patentansprüche

1. Spender zum Ausgeben flexibler Blätter von einem Stapel übereinander angeordneter Blätter, mit:

- Wänden mit Flächen, die einen Hohlraum (22) zur Aufnahme des Stapels (10) definieren, wobei die Wände eine gekrümmte Bodenwand (23), die eine Bodenfläche (24) für den Hohlraum (22) bildet, und eine gegenüberliegende, im wesentlichen zylindrische. konvexe Außenfläche (25) aufweisen,
- Endwänden (26), die an einander gegenüberliegenden Enden der Bodenfläche (24) Endflächen (27) für den Hohlraum (22) definieren,
- erste und zweite gekrümmte obere Wandabschnitte (28,29) mit normalen Positionen, in denen sich die ersten und zweiten oberen Wandabschnitte (28,29) von den Endwänden (26) her zueinander hin erstrecken und von der Bodenfläche (24) beabstandete gekrümmte obere Flächenabschnitte (30) für den Hohlraum (22) definieren, wobei die oberen Wandabschnitte (28,29) in den normalen Positionen voneinander beabstandete angrenzende Endflächen (31) aufweisen, die zwischen den oberen Wandabschnitten (28,29) eine Auslaßöffnung (32) für den Hohlraum (22) definieren, und
- einander gegenüberliegende Seitenwände (33), die einander gegenüberliegende Seitenflächen für den Hohlraum (22) definieren, die sich zwischen den oberen Flächenabschnitten (30) und der Bodenfläche (24) erstrecken,
- wobei der Spender einen ersten Gehäuseabschnitt (35) und einen zweiten Gehäuseabschnitt aufweist, und
- der Spender ferner aufweist: eine Vorrichtung (40,41), mit der der zweite Gehäuseabschnitt (36) an dem ersten Gehäuseabschnitt (35) zur relativen Bewegung der Gehäuseabschnitte (35,36) zwischen der normalen Position und einer offenen Position befestigt ist, in der der zweite obere Wandabschnitt (29) von dem ersten Wandabschnitt (28) beabstandet ist, um das Einführen des Stapels (10) von Blättern (11) in den Hohlraum (22) zu ermöglichen, und eine Vorrichtung (43-46) zum lösbaren Rückhalten des zweiten Gehäuseabschnitts (36) in der normalen Position, und
- wobei die gekrümmten oberen Wandabschnitte (28,29) Basisteile (37) nahe den Endwänden (26) und flexible Auslegerteile (38) aufweisen, die sich von den Basisteilen (37) aus zueinander hin erstrecken und in der Lage sind, sich als Reaktion auf Kräfte, die zum Ausgeben des obersten Blatts (11) aus dem Spender auf den Stapel (10) aufgebracht werden, zu biegen, um dadurch die zum Ausgeben des obersten Blatts (11) aus dem Spender erforderliche Kraft zu reduzieren; wobei das Basisteil (36) des ersten oberen Wandabschnitts (28) in bezug auf die Seiten- und Endwände (33,26) festgelegt ist, und das Basisteil (36) des zweiten oberen Wandabschnitts (29) in bezug auf die Seiten- und Endwände (33,26) festgelegt ist, wenn sich der zweite Gehäuseabschnitt (36) in der normalen Position befindet,
  dadurch gekennzeichnet,
- daß der erste Gehäuseabschnitt die Bodenwand (23), die Endwände (26), die Seitenwände (33) und den ersten oberen Wandabschnitt (28) aufweist; der zweite Gehäuseabschnitt (36) den zweiten oberen Wandabschnitt (29) aufweist und der Basisteil des zweiten oberen Wandabschnitts derart an dem ersten Gehäuseabschnitt (35) befestigt ist, daß eine längsverlaufende Gleitbewegung der ersten und zweiten Gehäuseabschnitte (35,36) zwischen den normalen und offenen Positionen ermöglicht wird, und die Vorrichtung (43-46) zum lösbaren Rückhalten des zweiten Abschnitts in der normalen Position Verriegelungsteile (46) aufweist, die an dem zweiten oberen Wandabschnitt (29) und an dem ersten Gehäuseabschnitt (35) befestigt sind und zum lösbaren Zusammengriff in der Lage sind, um die Gehäuseabschnitte (35,36) lösbar in der normalen Position zu halten.

2. Spender für Blätter gemäß Anspruch 1, bei dem die ersten und zweiten oberen Wandabschnitte (35,36) Paare paralleler Rippen (48,49) aufweisen, die sich im wesentlichen parallel zu den Seitenwänden (33) erstrecken und Teile der gekrümmten oberen Flächenbereiche (30) für den Hohlraum (22) definieren.

3. Spender für Blätter gemäß Anspruch 1, ferner mit einer an dem Spender angeordneten Befestigungsvorrichtung, die zum lösbaren Befestigen des Spenders an mehreren unterschiedlichen Haltevorrichtungen in der Lage ist, um den Spender abnehmbar an verschiedenen vorbestimmten Stellen zu halten, wobei die Befestigungsvorrichtung die Merkmale aufweist, daß:

- die Bodenwand (23) zwei querverlaufende Gurtaufnahmeteile (52) aufweist, die jeweils an einem unterschiedlichen Element aus den Endwänden (33) und der Bodenwand (23) angeordnet sind und die entlang einander ent-

gegengesetzter Ränder der Gurtaufnahmeteile (52) querverlaufende Öffnungen (53) zur Aufnahme eines Gurts (54) aufweisen,

- die Bodenwand (23) zwei querverlaufende Öffnungen (58) aufweist, die teilweise durch lippenartige Teile (59) der Bodenwand (23) definiert sind, welche sich an entgegengesetzten Seiten der zentralen Öffnung (32) zu den Endwänden (26) des Spenders erstrecken, wobei die lippenartigen Teile (59) in der Lage sind zur eingreifenden Aufnahme gegenüberliegender hakenartiger distaler Endabschnitte (60) eines Halteteils (61), die sich durch die Öffnungen (58) erstrecken, und
- die Bodenwand (23) zwei Andockvorsprünge (76) aufweist, die sich von entgegengesetzten Seiten der Bodenwand (23) im wesentlichen mittig längs der Bodenwand (23) in entgegengesetzte Richtungen erstrecken und von der Außenfläche (25) beabstandete distale Endabschnitte aufweisen, wobei die Andockvorsprünge (76) in der Lage sind, den Spender lösbar in Zusammengriff mit einer Basis (78;80) zu halten, und wobei die Bodenfläche (24) des Spenders Nockenflächen aufweist, die zum Zusammengriff mit der Basis (78;80) in der Lage sind.

4. Spender für Bahnen gemäß Anspruch 3, bei dem die Bodenwand (23) entlang einer Seite jedes der Gurtaufnahmeteile (52) eine Seitenöffnung (55) aufweist, die an Öffnungen (53) entlang gegenüberliegender Ränder des Gurtaufnahmeteils (52) anschließen und eine seitliche Bewegung des Gurts (54) zu der Position an der nahe dem Hohlraum (22) gelegenen Seite des Gurtaufnahmeteils (52) erlauben, und wobei die Gurtaufnahmeteile (52) jeweils nahe der Seitenöffnung (55) eine Lippe aufweisen, die zu dem Hohlraum (22) hin absteht und in der Lage ist, das Rückhalten des Gurts (54) entlang der nahe dem Hohlraum (22) gelegenen Seite des Gurtaufnahmeteils (52) zu unterstützen.

5. Spender für Bahnen gemäß Anspruch 4, bei dem die Seitenöffnungen (55) in der Bodenwand (23) entlang gegenüberliegender Seiten der Gurtaufnahmeteile (52) angeordnet sind.

6. Spender für flexible Bahnen gemäß Anspruch 2, bei dem die Seitenwände (33) obere Ränder aufweisen, die nahe den oberen Wandabschnitten (28,29) angeordnet und nicht an diesen befestigt sind, und bei dem die Rippen (48) mit kleineren Abständen von der Bodenwand (23) beabstandet sind als die oberen Ränder der Seitenwände (33), derart, daß die Rippen (48) die Blätter (11) auf dem Stapel (10) derart einfassen, daß sie sich nicht zwischen den oberen Flächen und den oberen Wandabschnitten (28,29) verkeilen.

7. Spender für flexible Bahnen gemäß Anspruch 2, bei dem die innere Fläche der Bodenwand (23) teilweise durch die die der Auslaßöffnung (32) gegenüberliegenden gekrümmten oberen Flächen in Querrichtung beabstandeter Rippen (50) definiert ist, die sich im wesentlichen parallel zu den Seitenwänden (33) erstrecken.

8. Spender gemäß Anspruch 1, bei dem mindestens einer der ersten oder zweiten Bodenwandabschnitte (28,29) eine Durchgangsöffnung (34) aufweist, durch die der Benutzer den verbleibenden Stapel (10) von Blättern (11) in dem Hohlraum (22) sehen kann.

Revendications

1. Distributeur de feuilles souples à partir d'une pile de feuilles disposées l'une sur l'autre, ledit distributeur comportant :

- des parois ayant des surfaces définissant une cavité (22) pour recevoir la pile (10), lesdites parois comportant une paroi de fond en forme d'arc (23) définissant une surface de fond (24) de ladite cavité (22) et une surface extérieure opposée convexe de manière générale cylindrique (25),
- des parois d'extrémité (26) déterminant des surfaces d'extrémité (27) de ladite cavité (22) aux extrémités opposées de ladite surface de fond (24),
- une première et une seconde partie de paroi supérieure en forme d'arc (28, 29) ayant des positions normales dans lesquelles les première et seconde parties de paroi supérieure (28, 29) s'étendent l'une vers l'autre à partir desdites parois d'extrémité (26) et définissent des parties supérieures en forme d'arc (30) de ladite cavité (22) écartées de ladite surface de fond (24), lesdites parties de paroi supérieure (28, 29) dans lesdites positions normales ayant des surfaces d' extrémité adjacentes écartées (31) définissant une ouverture de sortie (32) de ladite cavité (22) située entre lesdites parties de paroi supérieure (28, 29), et
- des parois latérales en vis-à-vis (33) définissant des surfaces latérales opposées de ladite cavité (22) s'étendant entre lesdites parties de surface supérieure (30) et ladite surface de fond (24),
- dans lequel ledit distributeur comporte une première partie de boîtier (35) et une seconde partie de boîtier, et
- le distributeur comporte de plus des moyens (40, 41) de montage de ladite seconde partie

de boîtier (36) sur ladite première partie de boîtier (35) pour avoir un mouvement relatif desdites parties de boîtier (35, 36) entre ladite position normale et une position ouverte, ladite seconde partie de paroi supérieure (29) étant écartée de ladite première partie de paroi (28) pour permettre l'insertion de ladite pile (10) de feuilles (11) dans ladite cavité (22), et des moyens (43-46) pour la retenue de manière libérable de ladite seconde partie de boîtier (36) dans ladite position normale, et

- lesdites parties de paroi supérieure en forme d'arc (28, 29) comportent des parties de base (37) adjacentes auxdites parois d'extrémité (26) et des parties souples en porte-à-faux (38) s'étendant l'une vers l'autre à partir desdites parties de base (37) adaptées pour se déformer en réponse à des forces appliquées à la pile (10) pour enlever la feuille la plus au-dessus (11) à partir du distributeur pour ainsi diminuer la quantité de force nécessaire pour enlever la feuille la plus au-dessus (11) à partir du distributeur ; ladite partie de base (36) de ladite première partie de paroi supérieure (28) est fixée par rapport auxdites parois latérales et d'extrémité (33, 26), ladite partie de base (36) de ladite seconde partie de paroi supérieure (29) est fixée par rapport auxdites parois latérales et d'extrémité (33, 26) quand ladite seconde partie de boîtier (36) est dans ladite position normale et

caractérisé en ce que

- la première partie de boîtier comporte ladite paroi de fond (23), lesdites parois d'extrémité (26), lesdites parois latérales (33), et ladite première partie de paroi supérieure (28) ; la seconde partie de boîtier (36) comporte ladite seconde partie de paroi supérieure (29) et la partie de base de la seconde partie de paroi supérieure est montée sur ladite première partie de boîtier (35) pour avoir un mouvement de coulissement longitudinal situé entre lesdites positions normale et ouverte desdites première et seconde parties de boîtier (35, 36), et lesdits moyens (43-46) pour retenir de manière libérable ladite seconde partie dans ladite position normale comportent des parties formant verrou (56) montées sur ladite seconde partie de paroi supérieure (29) et sur ladite première partie de boîtier (35) adaptée pour une mise en prise libérable pour retenir de manière libérable lesdites parties de boîtier (35, 36) dans ladite position normale.

2. Distributeur de feuilles selon la revendication 1, dans lequel lesdites première et seconde parties de paroi supérieure (35, 36) ont des paires de nervures parallèlement (48, 49) s'étendant de manière générale parallèlement auxdites parois latérales (33) et définissant des parties desdites parties de surface supérieure en forme d'arc (30) de ladite cavité (22).

3. Distributeur de feuilles selon la revendication 1, comportant de plus des moyens de fixation situés sur ledit distributeur adaptés pour fixer de manière libérable ledit distributeur à plusieurs moyens de retenue différents pour retenir de libérable ledit distributeur à plusieurs emplacements prédéterminés, lesdits moyens de fixation comportant :

- ladite paroi de fond (23) comportant deux parties de réception de sangle s'étendant transversalement (52) chacune étant adjacente à une paroi différente desdites parois d'extrémité (33) et ladite paroi de fond (23) ayant des ouvertures transversales (53) situées le long des bords opposés de ladite partie de réception de sangle (52) pour recevoir une sangle (54),
- ladite paroi de fond (23) ayant deux ouvertures s'étendant transversalement (58) partiellement définies par des parties analogues à une lèvre (59) de ladite paroi de fond (23) s'étendant vers les parois d'extrémité (26) dudit distributeur sur des côtés opposés de ladite ouverture centrale (32), lesdites parties analogues à une lèvre (59) étant adaptées pour être mises en prise par des parties d'extrémité distale opposées en forme de crochet (60) d'un élément de support (61) s'étendant à travers lesdites ouvertures (58), et
- ladite paroi de fond (23) ayant deux pattes d'ancrage (76) s'étendant dans des directions opposées à partir des côtés opposés de ladite surface de fond (23) généralement de manière centrale le long de ladite paroi de fond (23) et ayant des parties d'extrémité distale écartées de la surface extérieure (25), lesdites pattes d'ancrage (76) étant adaptées pour retenir de manière libérable le distributeur en prise avec une base (78 ; 80), ladite surface de fond (24) dudit distributeur ayant des surfaces de came adaptées pour la mise en prise avec la base (78 ; 80).

4. Distributeur de feuilles selon la revendication 3 dans lequel ladite paroi de fond (23) a une ouverture latérale (55) située le long d'un côté de chacune desdites parties de réception de sangle (52) reliant lesdites ouvertures (53) le long des bords opposés de la partie de réception de sangle (52) et permettant le déplacement de la sangle (54) latéralement vers la position située du côté de la partie de réception de sangle (52) adjacente à ladite cavité (22), et lesdites parties de réception de san-

gle (52) ont chacune une lèvre adjacente à ladite ouverture latérale (55) faisant saillie vers ladite cavité (22) et adaptée pour aider à retenir la sangle (54) le long du côté de la partie de réception de sangle (52) adjacente à la cavité (22).

5. Distributeur de feuilles selon la revendication 4 dans lequel lesdites ouvertures latérales (55) situées dans ladite paroi de fond (23) sont situées le long des côtés opposés desdites parties de réception de sangle (52).

6. Distributeur de feuilles souples selon la revendication 2 dans lequel lesdites parois latérales (33) ont des bords supérieurs adjacents et non-reliés auxdites parties de paroi supérieure (28, 29), et lesdites nervures (48) sont espacées par des distances plus petites à partir de ladite paroi de fond (23) que les bords supérieurs desdites parois latérales (33) de sorte que lesdites nervures (48) empêchent des feuilles (11) de ladite pile (10) de se coincer entre lesdites surfaces supérieures et lesdites parties de paroi supérieure (28, 29).

7. Distributeur de feuilles souples selon la revendication 2 dans lequel la surface intérieure de la paroi de fond (23) est en partie définie par les surfaces supérieures en forme d'arc en vis-à-vis de l'ouverture de sortie (32) des nervures espacées transversalement (50) s'étendant généralement parallèlement auxdites parois latérales (33).

8. Distributeur selon la revendication 1 dans lequel au moins une desdites première ou seconde parties de paroi supérieure (28, 29) comporte une ouverture traversante (34) permettant ainsi à un utilisateur de voir la pile restante (10) de feuilles (11) située dans la cavité (22).

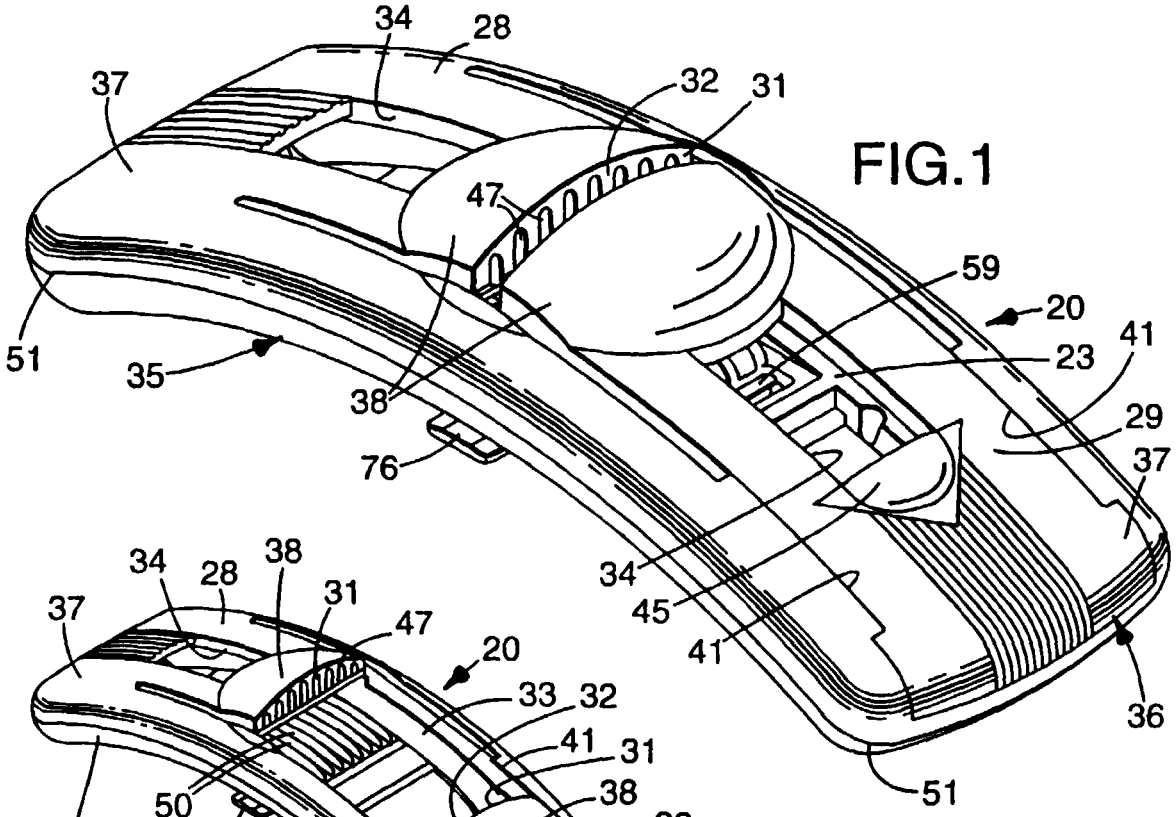


FIG.1

FIG.2

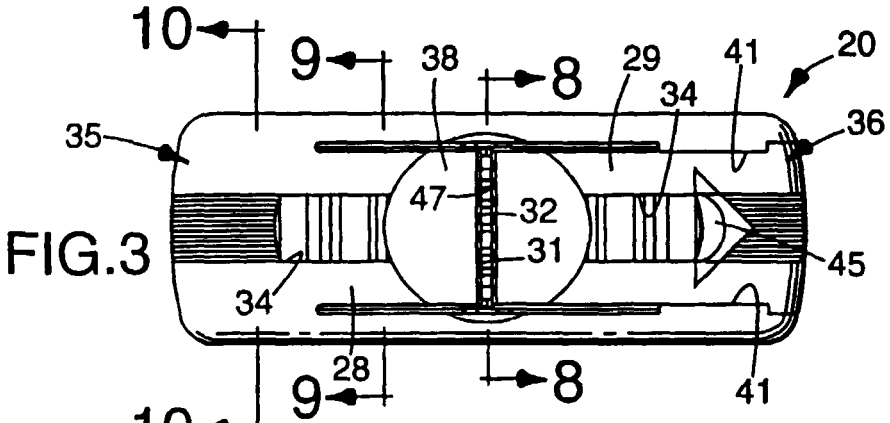


FIG.3

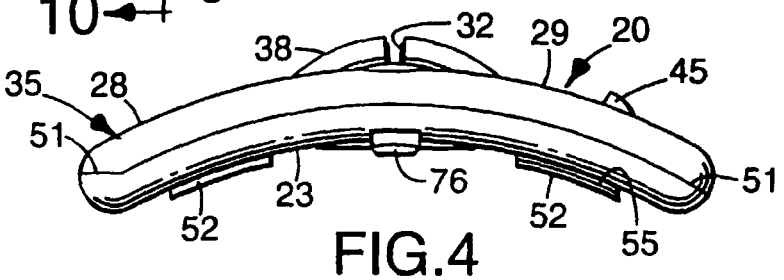


FIG.4

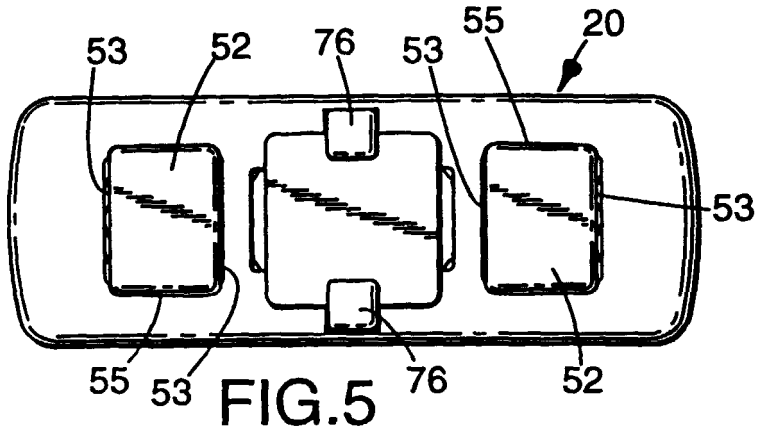


FIG.5

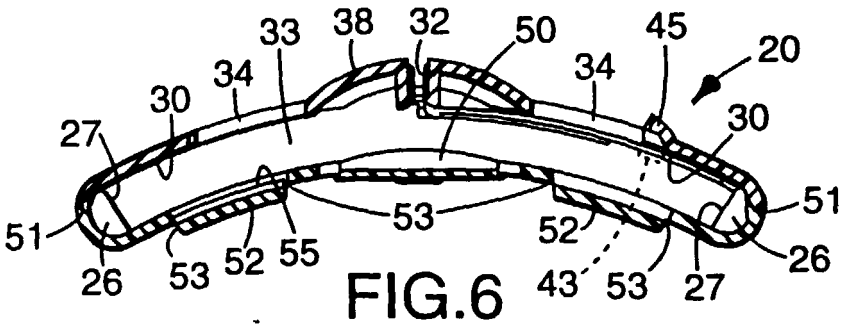


FIG.6

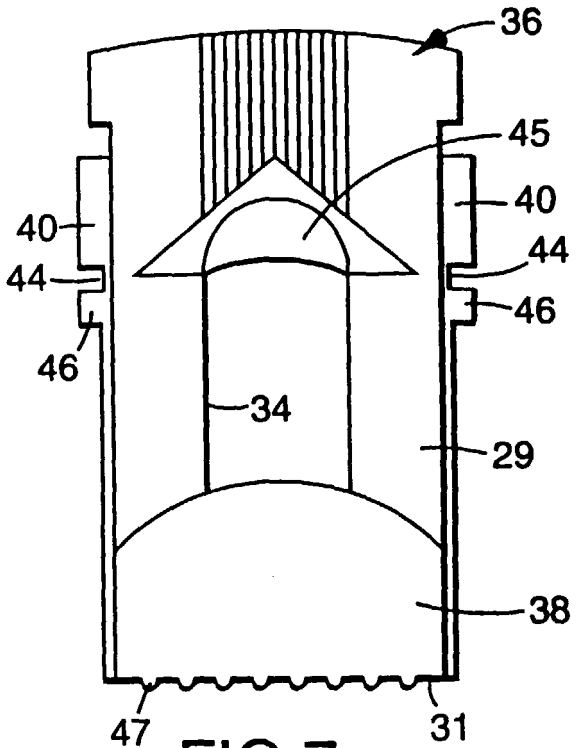


FIG.7

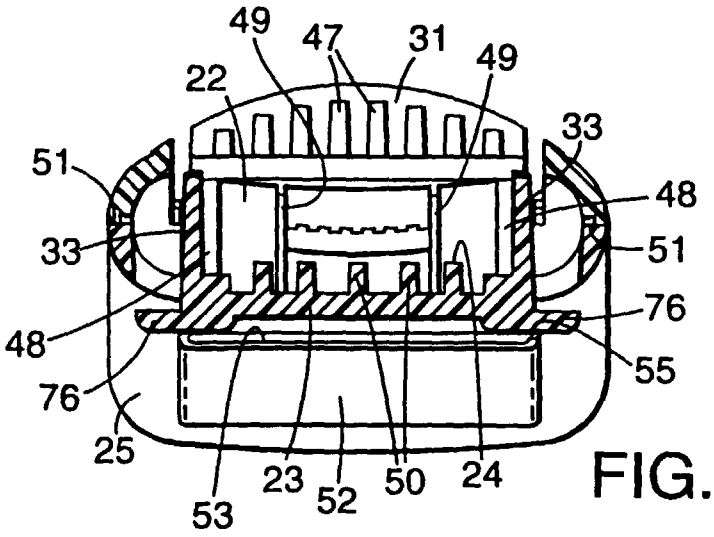


FIG.8

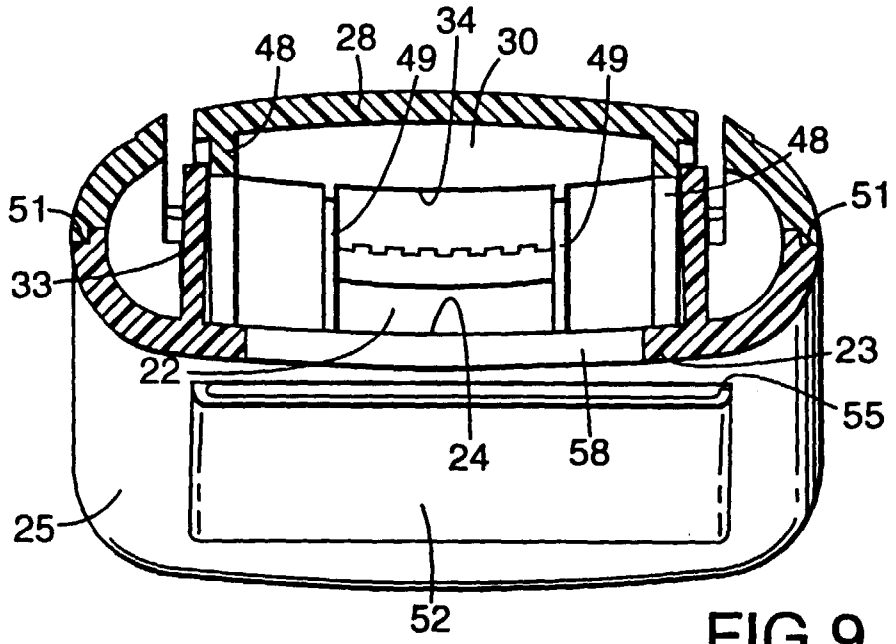


FIG.9

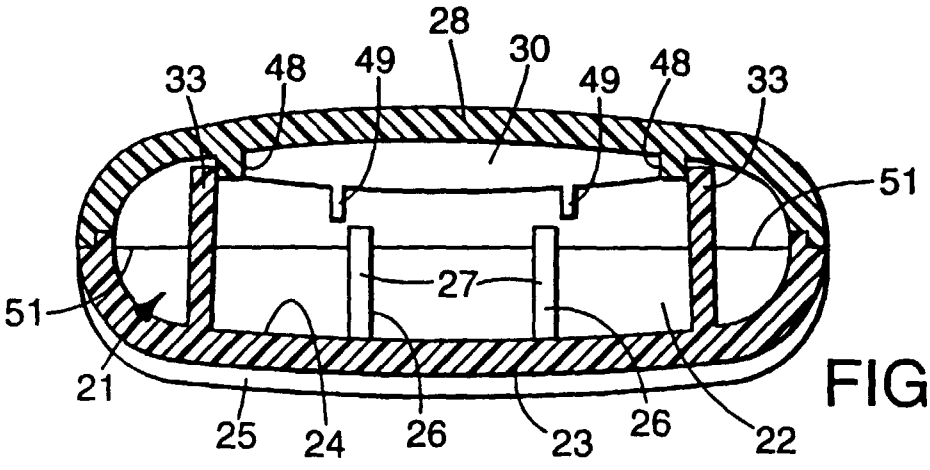


FIG.10

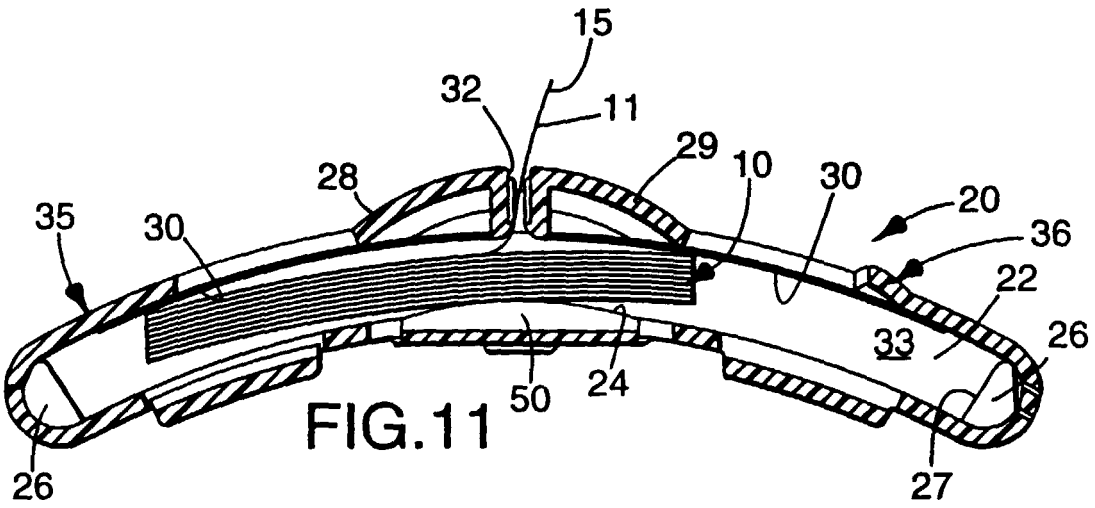


FIG.11

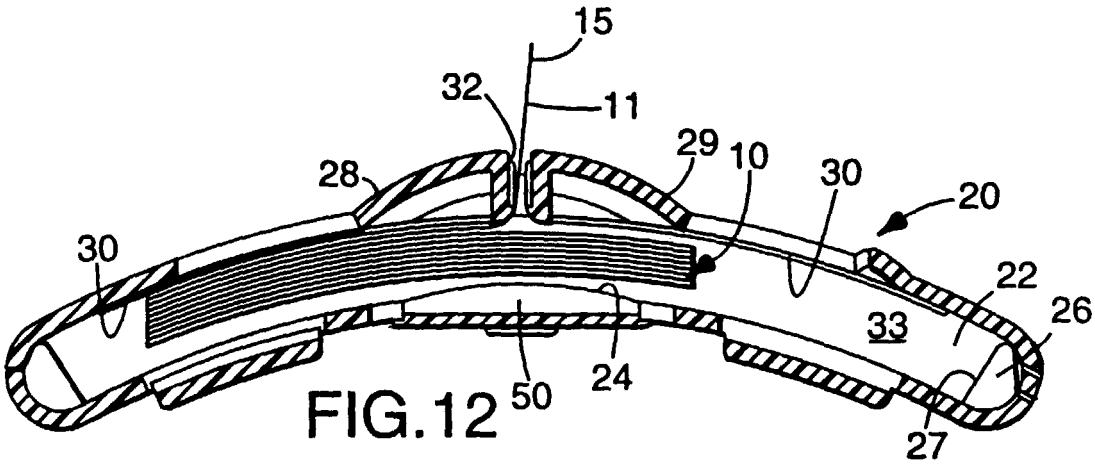


FIG.12

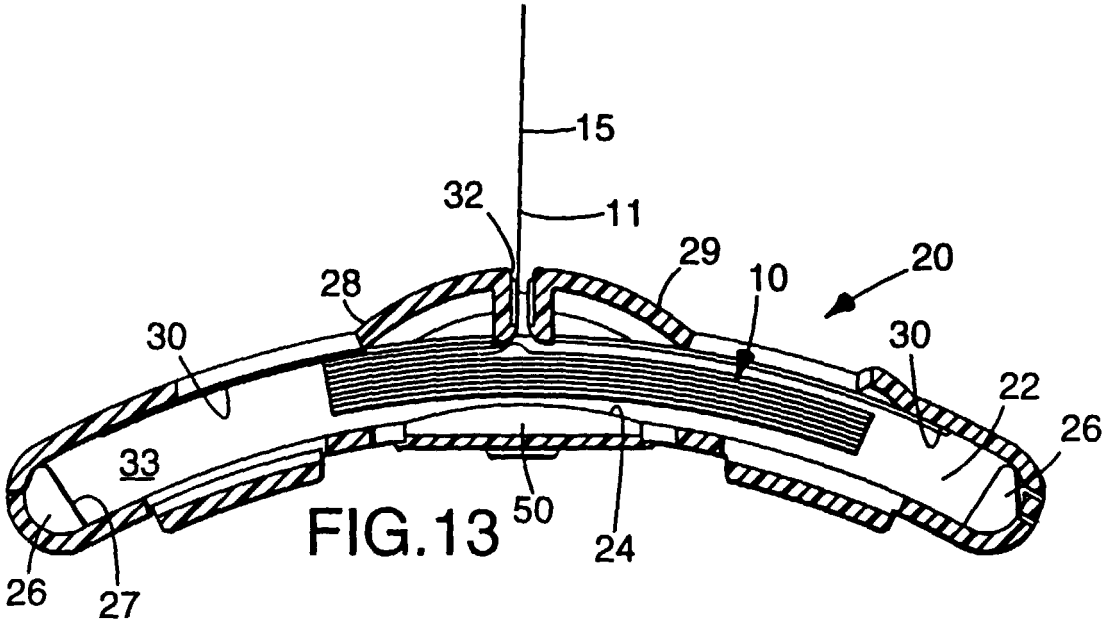


FIG.13

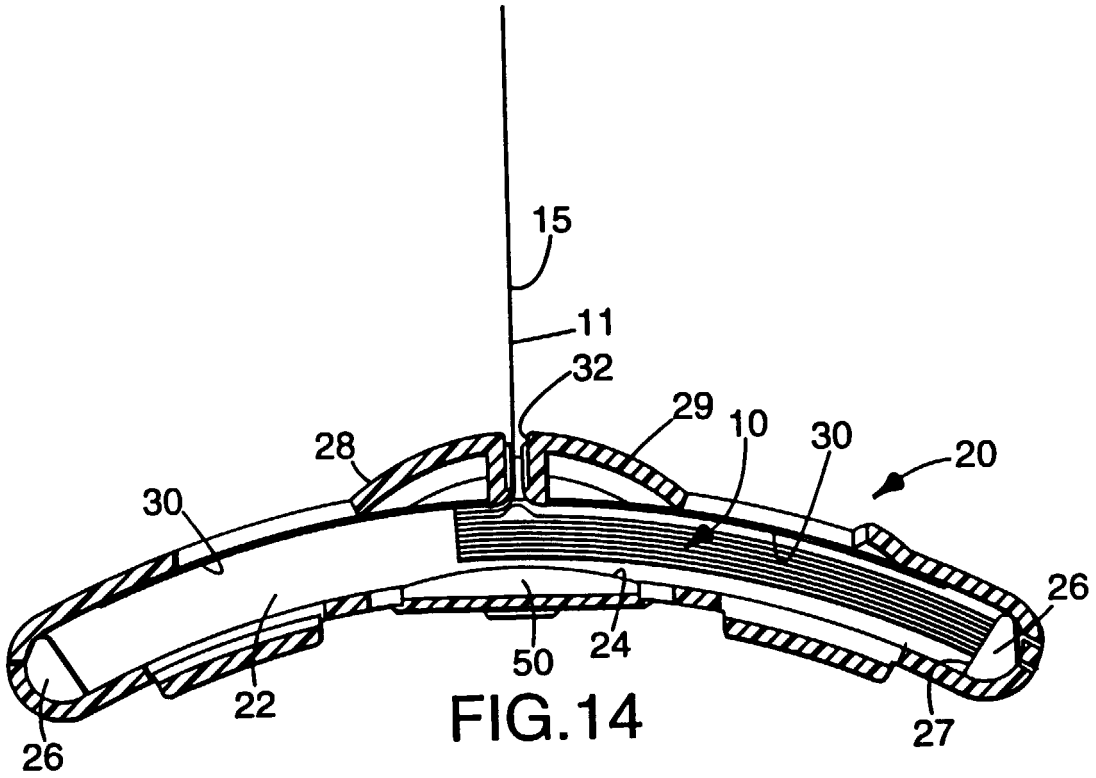

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FIG.14

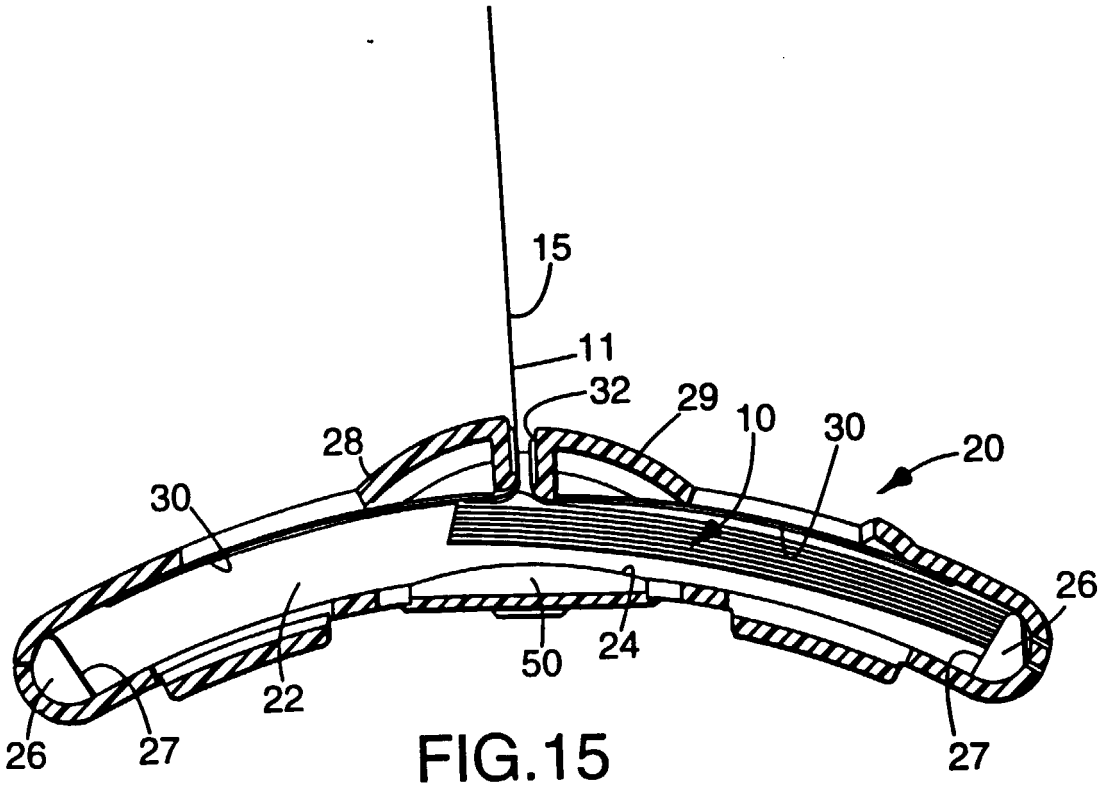

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FIG.15

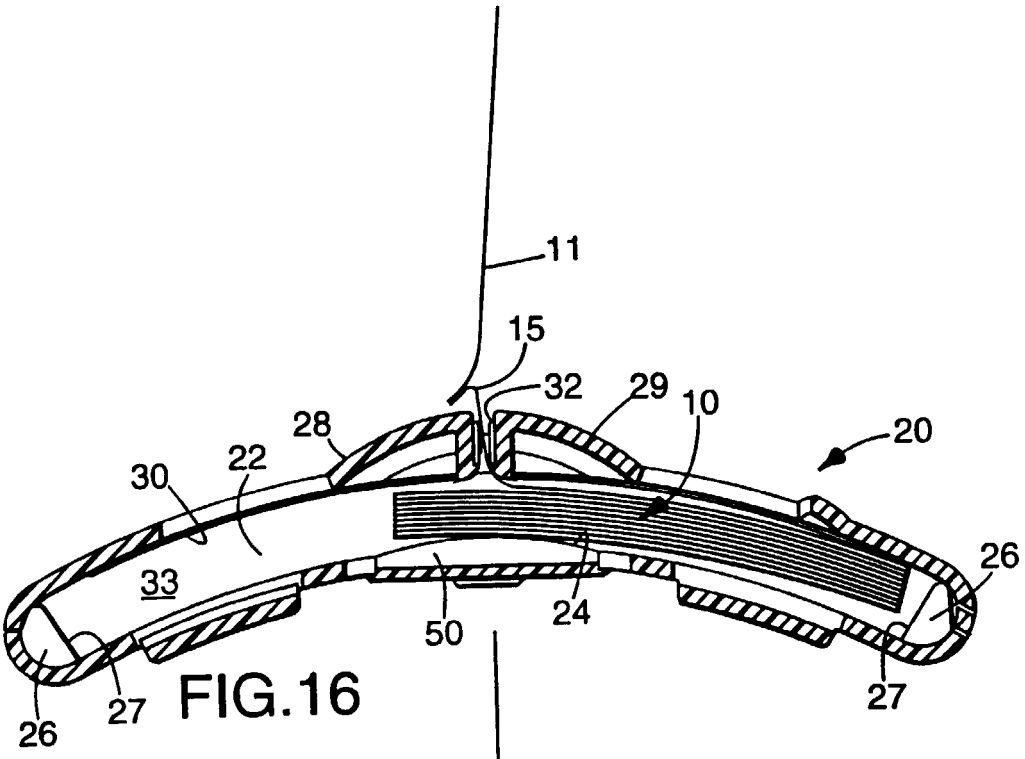


FIG.16

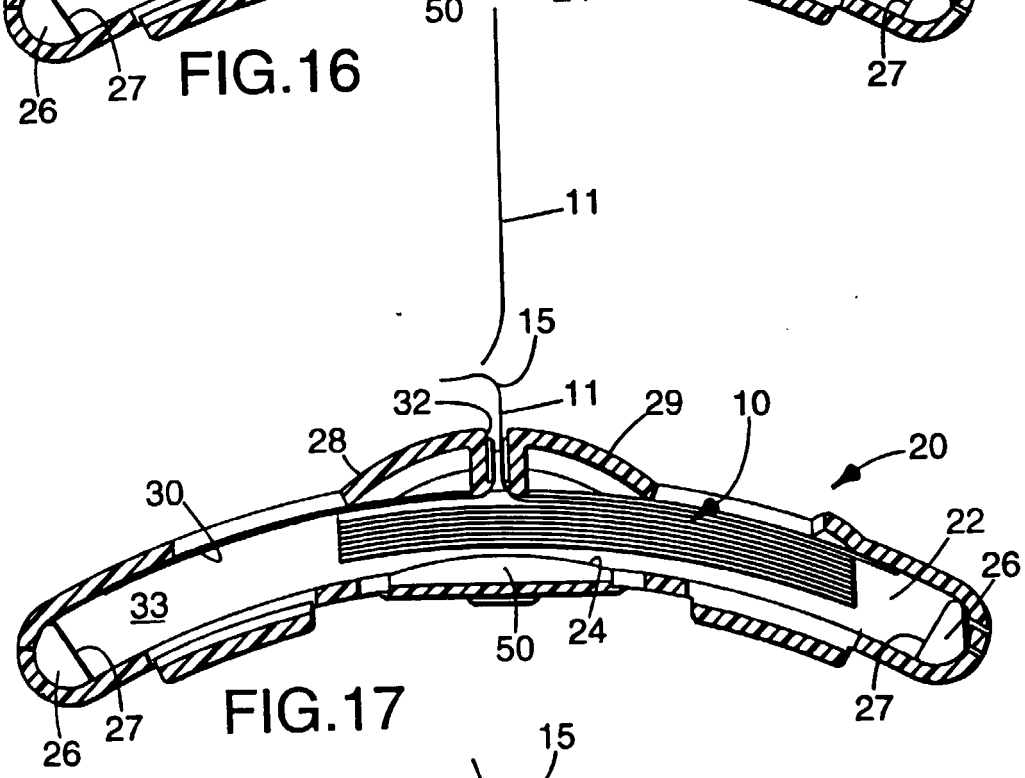


FIG.17

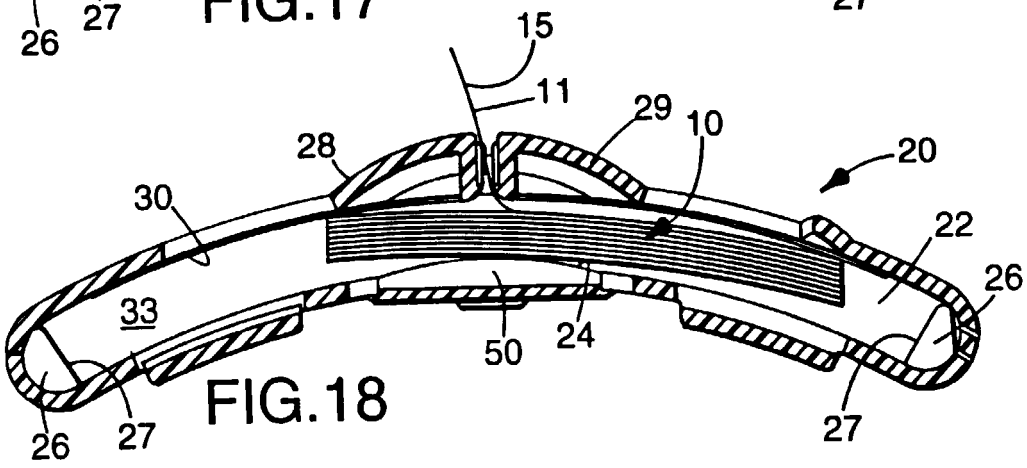


FIG.18

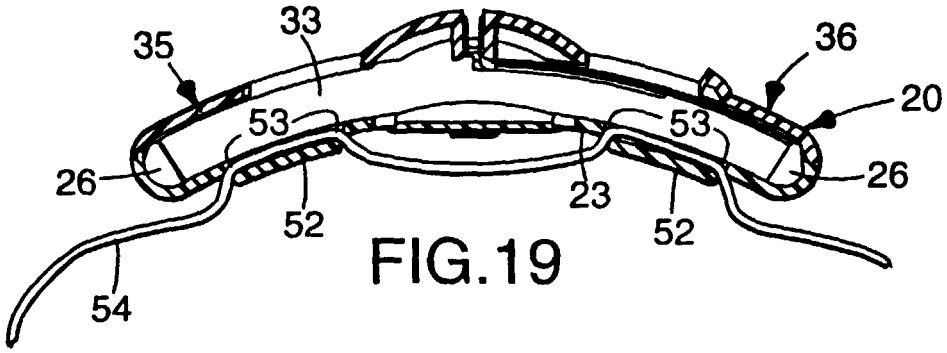


FIG.19

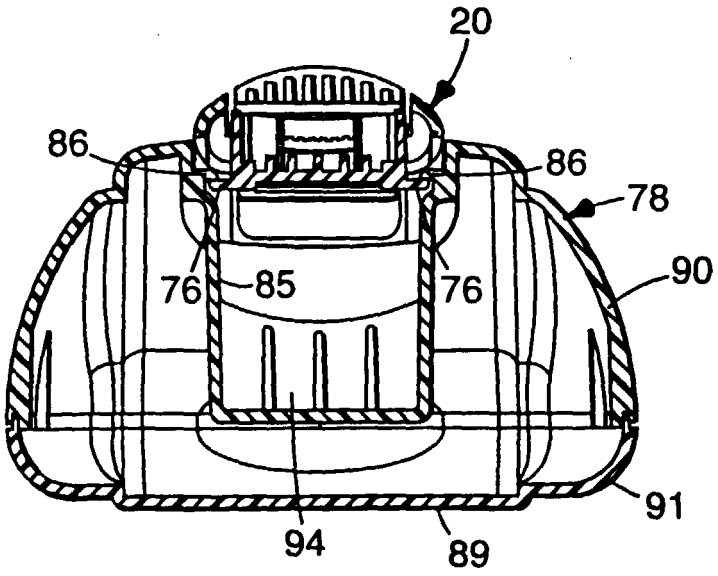


FIG.25

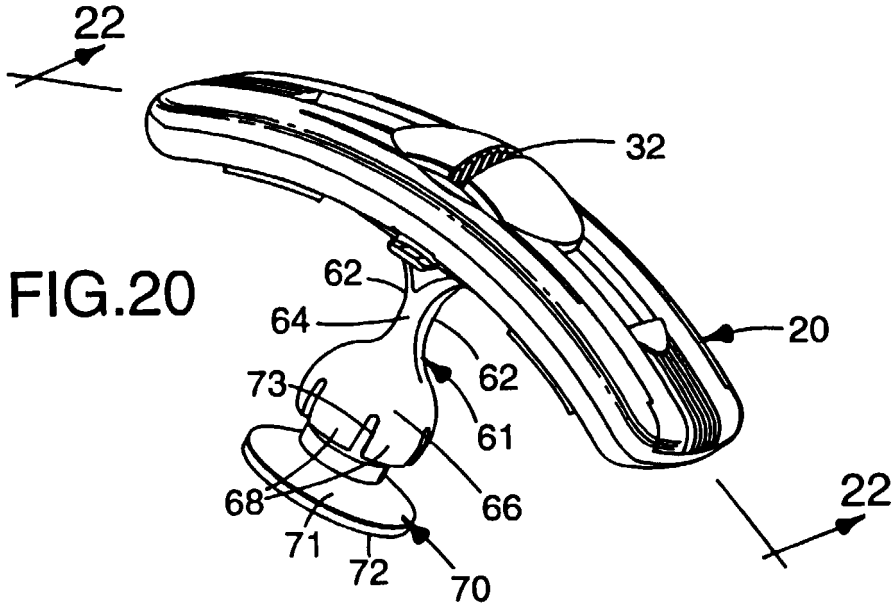


FIG.20

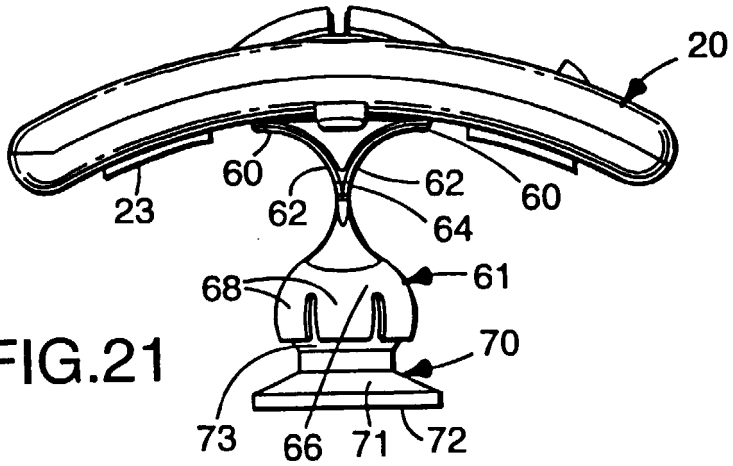


FIG.21

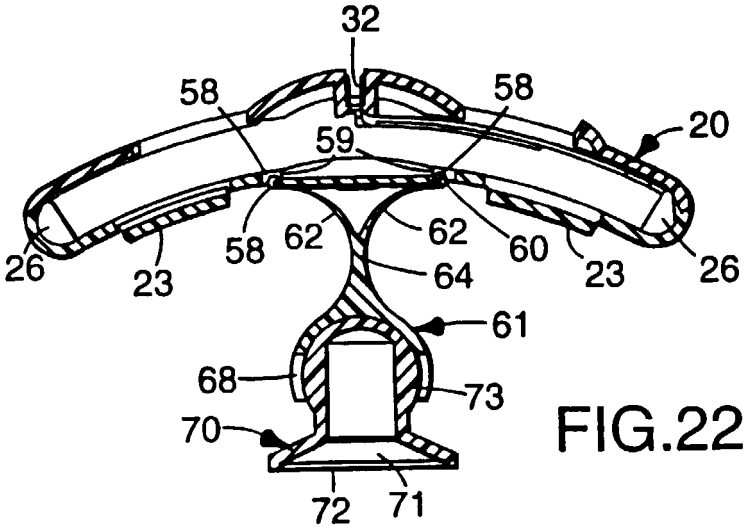


FIG.22

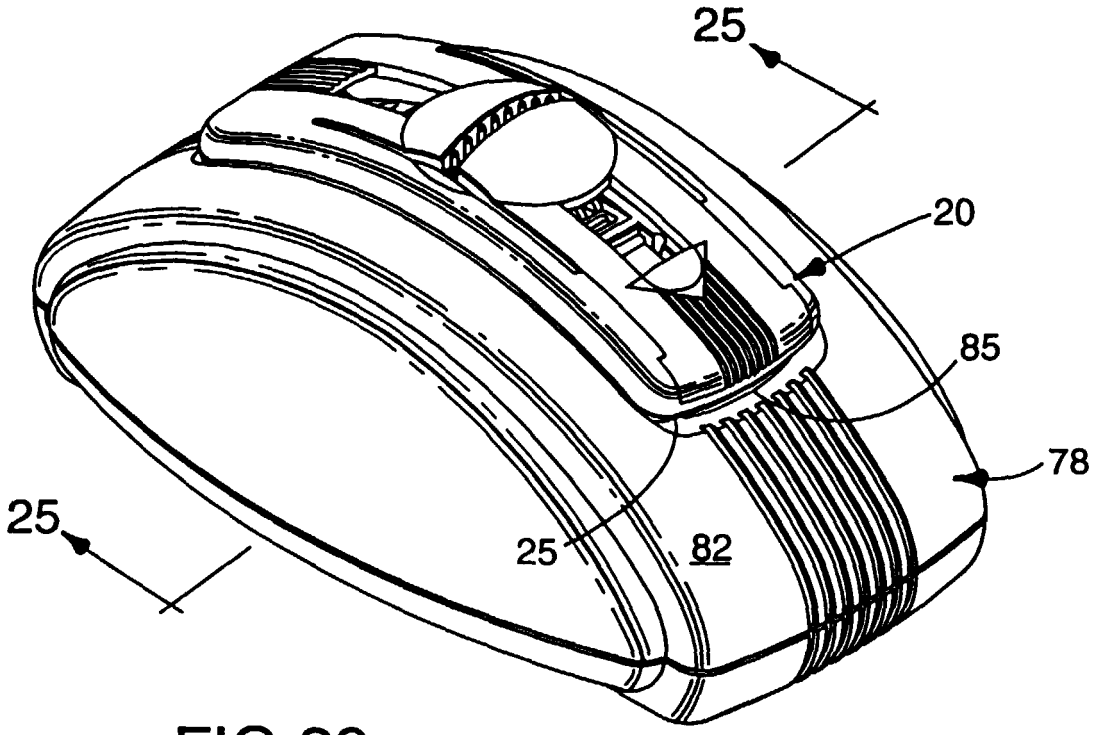


FIG.23

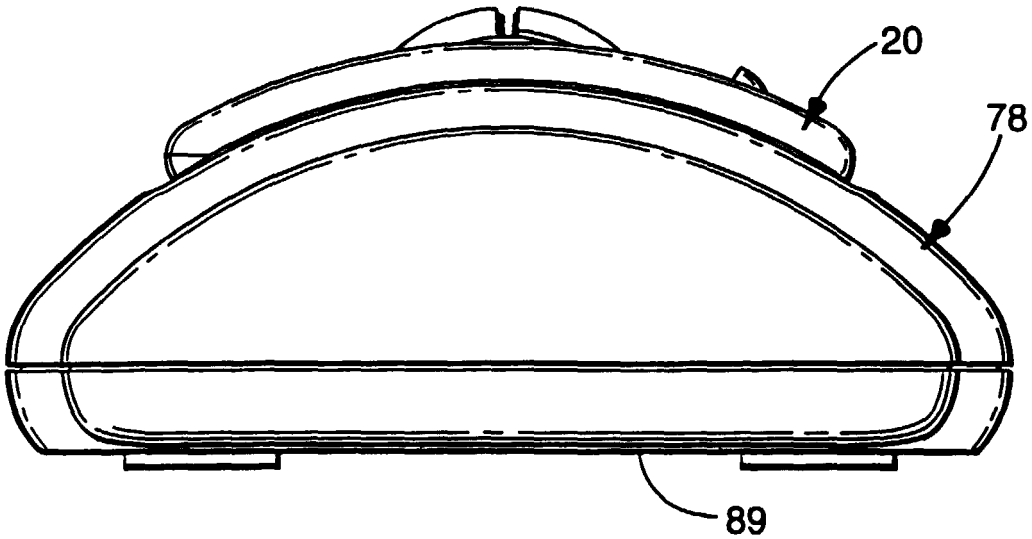


FIG.24

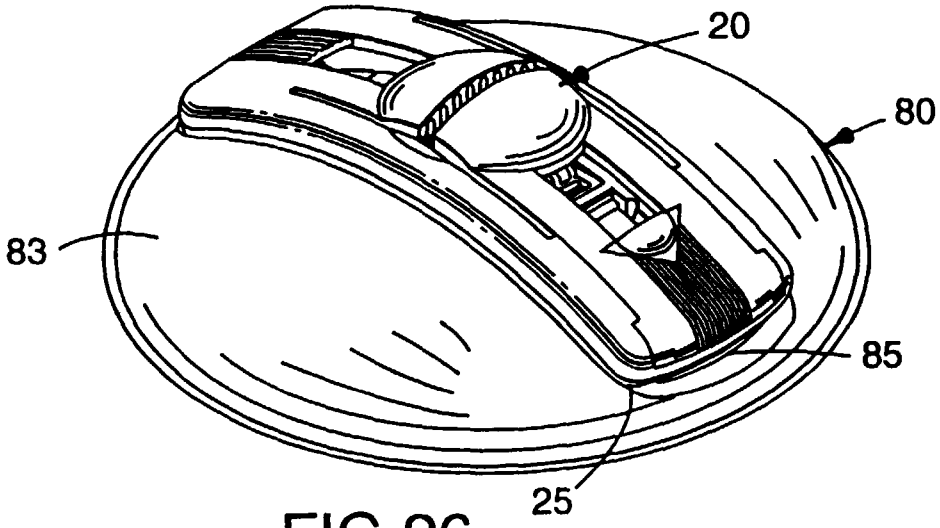


FIG.26

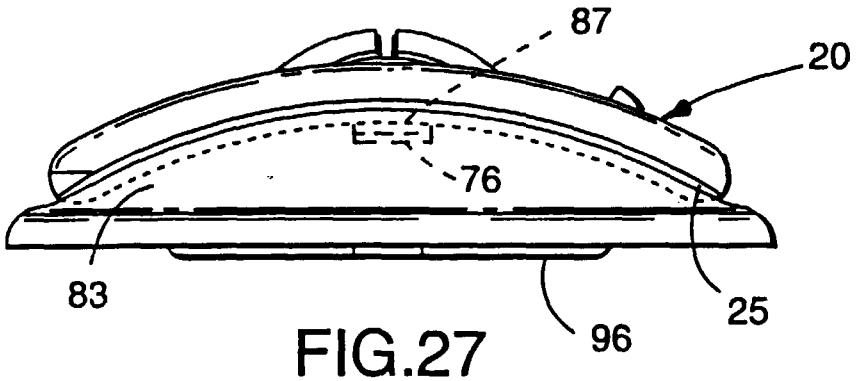


FIG.27

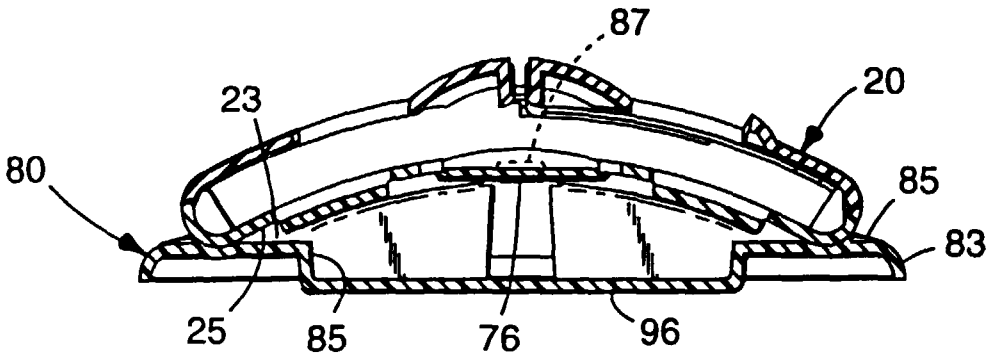


FIG.28