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(54) **Rolling papers and methods for packing same**

(57) Rolling papers and apparatus for holding rolling papers are provided. In one aspect of the invention, a stack of individually removable rolling papers is provided, the stack including a spine (2, 22, 32), an initial sheet (18) disposed on the spine (2, 22, 32), an end sheet (19) disposed on the spine (2, 22, 32), and a plurality of sheets (20) disposed on the spine (2, 22, 32) between the initial

sheet (18) and the end sheet (19) with each of the initial sheet (18), the end sheet (19), and the plurality of sheets (20) therebetween having an adhesive (4, 24, 34) disposed thereon and the adhesive (4, 24, 34) is coupled to the spine (2, 22, 32) to define a gummed edge (7), and the spine (2, 22, 32) separates each of the gummed edge (7) from a proceeding gummed edge (7).

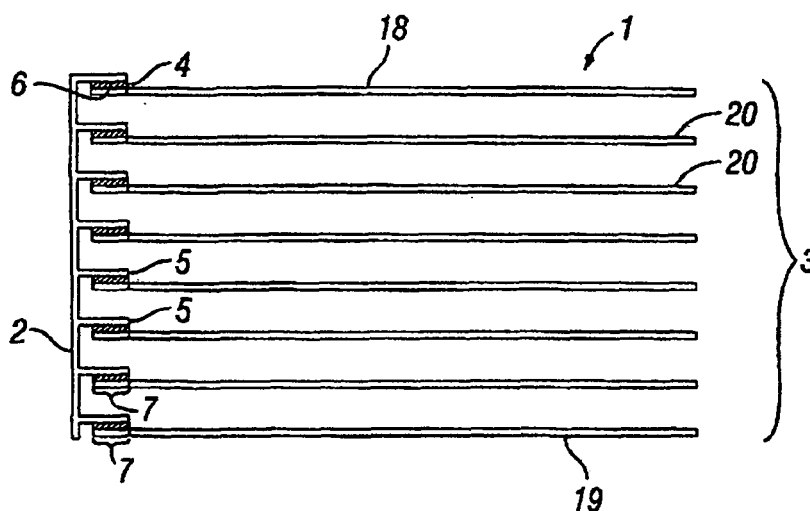


FIG. 1

Description

Field of the Invention

[0001] The present invention relates generally to rolling papers prepared and packaged such that a consumer may roll a smokable tobacco product from a single rolling paper sheet.

Background and Prior Art

[0002] The roll-your-own tobacco market continues to grow and in some countries the roll-your-own products now hold a substantial share of the tobacco market. This may be explained by the ability of a consumer to create a tailor-made product as opposed to commercially available smoking articles. As a result, a wide variety of papers used to roll-your-own products is available to consumers.

[0003] Conventional rolling papers that are used to make self-rolled cigarettes can be made from a variety of materials such as cotton, hemp, and tobacco. Rolling papers typically have a pair of long edges and a pair of wide edges and are sold in packets of folded and interleaved oblong-shaped sheets. Rolling papers may be ungummed or gummed, that is, one marginal edge of one of the two sides of each sheet is provided with an adhesive, also known as a gumline, such as a remoistenable gum, for example acacia gum, to seal the cigarette after it has been rolled. Such papers can be described as self-sticking and are preferable to ungummed papers because they do not require considerable moistening with saliva or water to prevent the finished smoking article from unrolling while it is being smoked or to prevent pre-rolled cigarettes from unrolling when in storage.

[0004] Gummed rolling papers are frequently packaged in a manner where they are stacked in a predetermined number and packaged by a bound pad comparable to the 3M® Post-it® office paper note pads. However, applying gums and adhesives to rolling papers presents problems. When the gum or adhesive is applied, it seeps through the paper, contaminating the reverse side of the paper as well as adjacent sheets in the stack. This results in the sheets sticking together and hinders the removal of individual sheets from the pack. The prior art has solved this problem by applying a coating of film-forming substances comprised of synthetic polymers such as polyvinyl alcohol, ethylene vinyl acetate, cellulose derivatives, and extruded thermoplastics to prevent penetration of adhesive through the paper. See for example, U.S. Patent No. 4,104,431.

[0005] However, the prior art coatings are undesirable because they change burn characteristics, accelerate combustion, and worsen product viability. Moreover, most consumers prefer smoking articles made with natural rolling papers that do not have added chemicals or coating additives, which can be hazardous.

[0006] Another problem with the prior art gummed rolling papers is that while rolling a smoking article, the to-

bacco frequently gets stuck on the adhesive strip. This ruins the adhesive strip and hence, the cigarette by making it impossible to get a tight seal. An additional problem is prior art gummed papers are not adjustable since you cannot pre-roll the cigarette and then wet the gumline as you would with a conventional paper.

[0007] Therefore, it can be appreciated that there exists a continuing need for new and improved rolling papers that are self-sticking. Accordingly, the present invention provides self-stick rolling papers that do not require additives or chemical coatings to prevent them from sticking to adjacent sheets in a pack, while still allowing easy release of each sheet.

[0008] The present invention provides for a stack or plurality of rolling papers with each gummed edge of the respective rolling paper is separated from adjacent papers. The stack or plurality of rolling papers may be disposed on a flat or tubular spine. The stack or plurality of rolling papers may be disposed in a container and may be configured from removal from the container. The stack or plurality of rolling papers may be stacked vertically or interleaved.

[0009] In one embodiment of the invention, a stack of individually removable rolling papers is provided, the stack including a spine, an uppermost sheet, a lowermost sheet and a plurality of sheets between the uppermost and lowermost sheets, wherein each sheet includes an adhesive tearably bound to the spine to define a gummed edge, and wherein the spine separates each gummed edge from a proceeding gummed edge. In one embodiment the spine is circular in order to form a roll of papers. In another embodiment, the adhesive is not bound to the spine, but rather is protected by a removable strip.

[0010] In another aspect of the invention, a stack of individually removable rolling papers is provided, the stack including a spine, an initial sheet disposed on the spine, an end sheet disposed on the spine, and a plurality of sheets disposed on the spine between the initial sheet and the end sheet with each of the initial sheet, the end sheet, and the plurality of sheets therebetween having an adhesive disposed thereon and the adhesive is coupled to the spine to define a gummed edge, and the spine separates each the gummed edge from a proceeding gummed edge.

[0011] In another aspect of the invention, a stack of individually removable rolling paper sheets is provided, the stack including a plurality of sheets stacked in a predetermined number, each of the paper sheets is of substantially the same shape and size with a top side and a bottom side, and the top side of each paper includes an adhesive and a removable strip disposed on the adhesive.

[0012] A rolling paper is provided, including a paper structure having four sides of a first width edge, a second width edge, a first height edge, and a second height edge, an adhesive disposed along a first width edge, and a removable strip disposed on the first width edge.

[0013] These and other features, aspects, and advan-

tages of the present invention will become better understood with reference to the following description and claims.

[0014] FIG. 1 illustrates a schematic side view of a stack of rolling papers that are bound to a spine;

[0015] FIG. 2A illustrates a schematic side view n alternative embodiment of a stack of bound rolling papers;

[0016] FIGS. 2B-2C illustrate perspective views of the stack of bound rolling papers in FIG. 2A;

[0017] FIG. 3 illustrates a schematic side view another embodiment of the invention where spine is circular;

[0018] FIG. 4 illustrates a schematic side view of a container enclosing the embodiment shown in FIG. 3;

[0019] FIG. 5 illustrates a top perspective view of the container enclosing the embodiment shown in FIGS. 3 and 4;

[0020] FIG. 6 illustrates a top view of one embodiment of a sheet; and

[0021] FIG. 7 is a top view of another embodiment of a rolling sheet of the invention described herein.

[0022] These and other features, aspects, and advantages of the present invention will become better understood with reference to the following description, appended claims and accompanying drawings.

[0023] Turning now to FIG. 1, one embodiment of the invention illustrates one or more sheets of rolling papers, or sheets 1, are attached to a binding 2. The binding 2 may be interchangeably referred to as a spine. The rolling papers, or sheets, 1 may have an adhesive 4 disposed on a proximate edge of the sheet 1. The adhesive 4 may be from the group consisting of a natural gum, a sugar-based gum, a chemical gum, or combinations thereof. Examples of suitable adhesives include cellulose gum, animal gum, acacia gum, sugar gum, and combinations thereof. The weight of the adhesive 4 may vary from 8 grams per square meter (gsm) to 110 gsm. Each sheet 1 of paper in the stack may have a weight from 8 grams per square meter (gsm) to 110 gsm, such as from about 8 gsm to about 50 gsm, if it is normal bleached or unbleached paper. If homogenized tobacco sheets are used to make the rolling papers, then the paper weight may be from about 8 gsm to about 110 gsm.

[0024] The spine 2 may be made of a material that allows easy release of each individual sheet 1 from the spine 2 and that also allows retention of a portion or all of the adhesive 4 on the sheets 1 being removed. Suitable spine materials include a plastic sheet, wax paper, a gluesheet, or a combination thereof. The spine 2 may be a flat structure. In one embodiment of the spine 2, the spine 2 has a plurality of lateral portions 5 disposed at regular intervals along the spine 2 and provides a surface or contact 6 for coupling with an adhesive 4 disposed on each sheet 1. In one example of the spine 2, the spine comprises between about 20 and about 100 lateral portions. The contact 6 may be the same area, width or size as the adhesive 4 disposed on the sheet 1, and alternatively may have a larger area, width, or size than the adhesive 4.

[0025] The adhesive 4 is coupled to the spine 2 to define a gummed edge 7, and the spine 2 separates each the gummed edge 7 from a proceeding gummed edge 7. By forming a gumline between the sheet 1 and the spine 2, the sheets become "self-stick" since to other mechanism is required for the sheets 1 to be retained on the spine 2. In this manner, it effectively separates the gummed edge 7 of each sheet 1 from the adjacent gummed edge 7, thereby eliminating the need for an additional chemical coating that would remain on the paper when smoked. In one example of the spine, the sheets 1 may include a first or initial sheet 18, an end or terminal sheet 19, and a plurality of sheets 20 therebetween. The number of sheets may vary based on the number of lateral portions of the spine and FIG. 1 is provided for illustrative purposes and should not be interpreted or construed so as to limit the scope of the invention.

[0026] In another embodiment shown in FIGS. 2A-2C. In FIG. 2A-2B, the gummed portion or adhesive 24 of each rolling paper 21 is attached in succession directly to the surface 23 of spine 22. Each rolling paper sheet 21 is displaced along the spine 22 from each other such that the adhesive 24 of each sheet 21 does not contact the adhesive 24 of any other sheet 21 as shown in FIG. 2B. The sheets 21 may be horizontally aligned so as to have the body 25 of each sheet 21 being disposed over one or of the succeeding sheets, overlapping, such that as the consumer pulls each sheet 21 off in succession, the next sheet 21 is exposed as shown in FIG 2C.

[0027] In a further embodiment, the rolling papers are disposed sequentially in a vertical manner, so that each successive sheet 21 is disposed on the previous sheet 21, with the first or bottommost rolling paper disposed on the surface 23 of the spine 22. The adhesive 24 for all of the sheets 21 may be disposed with the same orientation, such as along one edge, or may be disposed sequentially with orientations of 90° or 180° from that of the adhesive 4 of the previous sheet 21. The uppermost sheet 21 of a configuration may then be removed to expose an underlying sheet 21.

[0028] In another embodiment depicted in FIGS. 3-5, the spine 32 is circular in shape. The gummed portion or adhesive 34 of each sheet 31 is attached to the spine 32 and the sheets 31 are rolled or wrapped around the spine 32 forming a roll 38. The sheets 31 may be configured on the spine 32 to be displaced from one another such that the adhesive 34 of each sheet 31 does not contact the adhesive 34 of any other sheet 31, and to allow for the sheets to overlap one another when rolled. The spine 32 is sufficiently rigid so as to support the sheets 31 in a rolled format without deformation of the sheets 31. The spine may comprise a suitable material such as plastic to provide both sufficient support as well as allows easy release of each individual sheet 31 from the spine 32 and that also allows retention of a portion or all of the adhesive 34 on the sheets 31 being removed.

[0029] This spine and the rolled sheets 31 can be stored in a container 39 as shown in FIG. 4. The container

39 may be provided in the form of a tubular container 40, such as a hollow cylindrical tube, as shown in FIG. 5. The roll 38 may be removable from the tubular container 40 for removal of a sheet 31 disposed on the roll 38. Alternatively, the tubular container 40 may have an opening 41 extending along a portion or the entire length 42 of the container 40, and of sufficient size to allow removal of one or more sheets 21, for example of sufficient size to allow the sheets 31 to be removed one by one. In one embodiment of the roll 38 and tubular container 40, the sheets 31 are rolled around the spine 32 in a configuration to allow the removal of a sheet 31 through the opening 41 in a manner as to displace a portion of another sheet 31 through the opening to facilitate removal.

[0030] In another embodiment of the present invention shown in FIG. 6, a rolling paper or sheet 61 has a top side 63, a bottom side 65, an adhesive 64 disposed on the top side 63 of each sheet 61, and a removable strip 62 disposed on the adhesive 61. The removable strip comprises a material that is capable of contacting and being held by the adhesive until removed and still allows the retention of a portion or all of the adhesive on the sheet 61 when the strip 62 is removed from the adhesive 64. In practice, the removable strip 62 may allow the consumer to partially roll a smoking article with the sheet 61 before removing the strip 62 to expose the adhesive 64, and then closing the smoking article with the exposed adhesive. The removable strip may comprise a material selected from the group of a plastic sheet, wax paper, or a combination thereof. Alternatively, the strip 62 is made of a material that is non-toxic when burned, such as a cellulose paper, for example, cellophane (cellulose and glycerin paper). The use of a no-toxic material when burned is believed to allow effective and safe use of the smoking article in case the strip 62 is not removed from the adhesive 64.

[0031] The present embodiment of the sheet 61 would allow for the use of current rolling paper production technology and standard packaging such as interleaving. Sheet 61 may be disposed in a container or stage structure in either an unfolded format, known as a "flat" format, or may be interleaved with other sheets 61. Alternatively, Sheet 61 may be a series of sheets separated by perforations that may be rolled around a spine with the last sheet being adhered to the spine, which rolled perforated sheets may be disposed in a container 39, such as a tubular container as shown in FIGS. 4 and 5. Each of these sheets may be separated at the perforation from the roll of sheets for individual use. The tubular container for the perforated sheets may have an opening with a shape or separator device to facilitate separation of the sheets along the perforations. The embodiment of the sheet 61 as shown in FIG. 6 would allow for the use of current rolling paper production technology.

[0032] Referring to FIG. 7, a second embodiment of the disposition of adhesives on a sheet described herein is illustrated. The sheet 100 has a length, also referred to as a height, having a first height edge 110, second

height edge 115 and a width having a first width edge 120 and a second width edge 125. A first adhesive 130, an adhesive is also known as a gumline, is deposited along the length of at least one of the first height edge 110 or second height edge 115 edge, and a second adhesive 140 is deposited along the width of at least one of the first width edge 120 or second height edge 125. The adhesives 130 and 140 may be disposed on the same side of the sheet.

[0033] The adhesive 140 may be disposed at a length (height) between about 1% and about 25% of the height of the sheet 100 along at least one of the first width edge 120 or second height edge 125 as shown in FIG. 7. The adhesive 130 may be disposed at a width (height) between about 1% and about 25% of the width of the sheet 100 along at least one of the first height edge 110 or second height edge 115 edge as shown in FIG. 7. For example, the adhesive 130 may be deposited at about 9% of the height and/or width of the sheet 100 along the respective edges of a 54 mm height sheet. Alternatively, the adhesive 130 may be disposed inward between 0.5 and about 5 mm from the respective edges 110 and/or 115 so as to provide a region of ungummed paper between the adhesive 130 and the respective edges 110 and/or 115.

[0034] Alternatively, the respective adhesive layers may be disposed between about 1 mm and about 10 mm of the respective height or width of the sheet 100 along the respective edges. For example, the adhesive may be disposed at about 5 mm of the height and/or width of the sheet 100 along the respective edges of a 54 mm height sheet. The respective adhesives are disposed proximal to the respective edges. The respective adhesives 130 and 140 may intersect at a corner formed by the respective height edges and width edges.

[0035] The adhesives 130, 140 used on the sheet 100, may be protected by one or more removable strips 112 as described above. In one embodiment of the sheet 100, a single strip 112 is disposed on both adhesives 130 and 140. Alternatively, two or more strips 112 are used for covering the adhesives 130 and 140 and may be configured to provide the optimum rolling experience. In one example, a first strip is applied to the adhesive 140 and a second strip is applied to the adhesive 130 with the second strip ending at line 150. In the present example, removal of the first strip exposes the entire adhesive 140 for sealing the paper along the entire width of the sheet, and then removal of the second strip covering adhesive 130 allows for the exposure of the adhesive 130 for securing the filter. In a second example, a first strip is applied to the adhesive 140 and a second strip is applied to the adhesive 130 with the first strip ending at line 160. In the second example, removal of the first strip exposes the a portion of adhesive 140 for sealing the paper along a majority of the width of the sheet, and then removal of the second strip covering the entire adhesive 130 allows for the exposure of the adhesive 130 for securing the filter. In a third example, the first and second strips ter-

minate at line 170, allowing for a least a portion of the respective adhesives to be exposed along the respective height or width.

[0036] The one or more strips 122 allow the consumer to partially roll a smoking article before removing the strip 112 to expose the adhesive 140. Preferably, the strip 12 is made of a material that is non-toxic when burned, such as natural cellophane, in case the consumer inadvertently forgets to remove the strip 112. This version of the invention would allow for the use of current rolling paper production technology and standard packaging such as interleaving.

[0037] It is possible to use existing rolling paper production technology by modifying it to allow for the adhesive 130. Conventionally, using current production methods, the second adhesive 140 is applied to a large bobbin in bulk. The bobbin is unrolled through a gumming machine during which time an adhesive 140 is applied and dried. In order to implement the adhesive 130, a separate machine to apply gum may be employed or the gum can be applied onto each sheet after it has been cut. Alternatively, a double-width adhesive extending widthwise can be applied to the bulk paper, after which it can be cut in two equal halves, resulting in two sheets, each with the appropriate adhesive 130.

[0038] A filter (not shown), such as a cellulose acetate or paper filter although any type of filter appropriate for use in smoking may be used with the respective adhesives 130 and 140. The filter may be between about 10 and about 17 mm in size for a convention filter. In practice, the rolling paper 100 is moistened along the adhesives 130, 140 after rolling the paper 100 around the tobacco. The adhesive 140 is used to adhere a portion of the rolling paper 100 to another portion of the paper, with the adhesive 130 being used to adhere the rolling paper 100 to an inserted filter. The adhesive sheets 100 with two adhesive lines may be also be packaged as described herein.

[0039] The invention also contemplates that the one or more removable strips described herein for use with adhesive disposed on rolling papers may be used on a variety of paper formats including rolling papers disclosed in "Structures For Creating Smoking Articles And Method Of Packaging Same", United States Patent Application Serial No. 11/763,865, filed on June 15, 2007, which paragraphs [0019]-[0046] and the accompanying figures, are incorporated herein by reference to the extent not inconsistent with the description and claimed aspects herein.

[0040] As can be seen for the foregoing description of the preferred and alternate embodiments, the present invention is intended to provide self-stick rolling papers that do not require the top of each sheet to be coated to prevent it from sticking to the sheet above it. Although exemplary embodiments of the present invention have been shown and described, many changes, modifications, and substitutions may be made by one having ordinary skill in the art without necessarily departing from

the spirit and scope of the invention.

Claims

1. A stack of individually removable rolling papers, comprising:
 - a spine (2, 22, 32);
 - an initial sheet (18) disposed on the spine (2, 22, 32);
 - an end sheet (19) disposed on the spine (2, 22, 32); and
 - a plurality of sheets (20) disposed on the spine (2, 22, 32) between the initial sheet (18) and the end sheet (19) with each of the initial sheet (18), the end sheet (19), and the plurality of sheets (20) therebetween having an adhesive (4, 24, 34) disposed thereon and the adhesive (4, 24, 34) is coupled to the spine (2, 22, 32) to define a gummed edge (7), and the spine (2, 22, 32) separates each the gummed edge (7) from a proceeding gummed edge (7).
2. The stack of rolling papers of claim 1, wherein the spine (2, 22, 32) further comprises one or more lateral portions (5) and each of the lateral portions (5) contacts an initial sheet (18), an end sheet (19), or one of the plurality of sheets (20) therebetween.
3. The stack of rolling papers of claim 1 or 2, wherein the spine (2, 22, 32) is a material selected from the group consisting of plastic, wax paper, a gluesheet, or a combination thereof.
4. The stack of rolling papers of one of the claims 1 to 3, wherein the spine (2, 22, 32) is circular in shape.
5. The stack of rolling papers of one of the claims 1 to 4, wherein the sheets (1, 21, 31) are rolled around the spine (2, 22, 32).
6. The stack of rolling papers of one of the claims 1 to 5, wherein the spine (2, 22, 32) and sheets (1, 21, 31) are enclosed in a tubular container (40).
7. The stack of rolling papers of claim 6, wherein the tubular container (40) includes an opening (41) extending along the length (42) of the tubular container (40).
8. A stack of individually removable rolling paper sheets comprising a plurality of sheets (1, 21, 31), each of the paper sheets (1, 21, 31) is of substantially the same shape and size with a top side (63) and a bottom side (65), and the top side (63) of each paper includes an adhesive (64) and a removable strip (62) disposed on the adhesive (64).

9. The stack of claim 8, wherein one side of the stack is bound to a spine (2, 22, 32).
10. The stack of claim 8 or 9, wherein the rolling papers (1, 21, 31) are interleaved in the stack. 5
11. The stack of one of the claims 8 to 10, wherein the removable strip (62) is comprised of a non-toxic substance. 10
12. The stack of claim 11, wherein the removable strip (62) is comprised of cellophane.
13. The stack of one of the claims 8 to 12, wherein the rolling papers (1, 21, 31) are comprised of bleached rolling paper, unbleached rolling paper, or combinations thereof. 15
14. A rolling paper, comprising: 20
 a paper structure having four sides of a first width edge (120), a second width edge (125), a first height edge (110), and a second height edge (115);
 an adhesive (140) disposed along a first width edge (120); and 25
 a removable strip (112) disposed on the first width edge (120).
15. The rolling paper of claims 17, further comprising: 30
 an adhesive (130) disposed along at least the first height edge (110); and
 a second removable strip (112) disposed on the at least first height edge (110). 35

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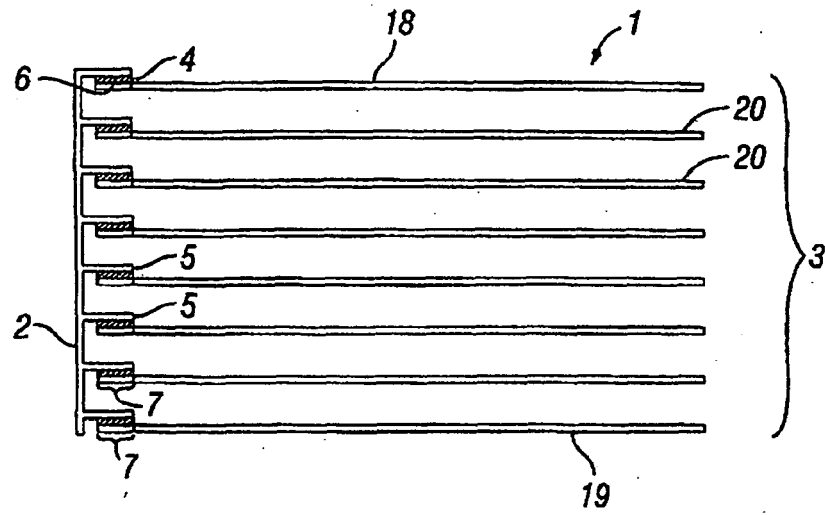


FIG. 1

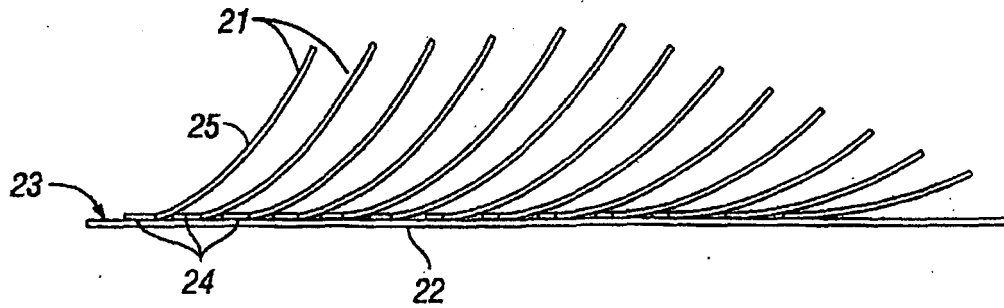


FIG. 2A

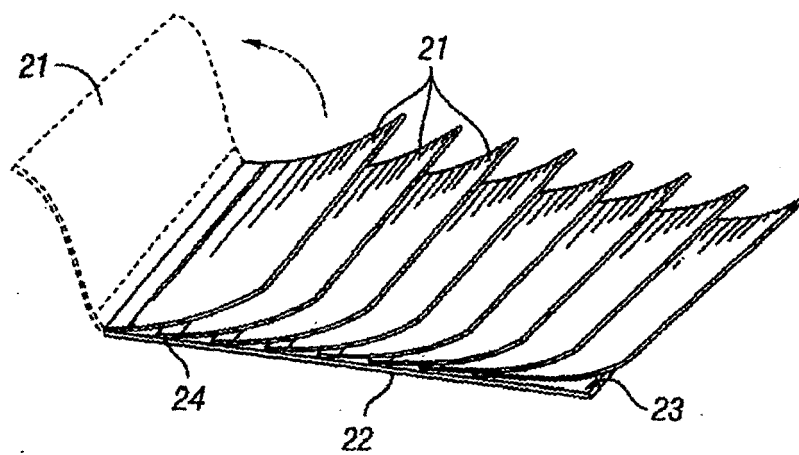


FIG. 2B

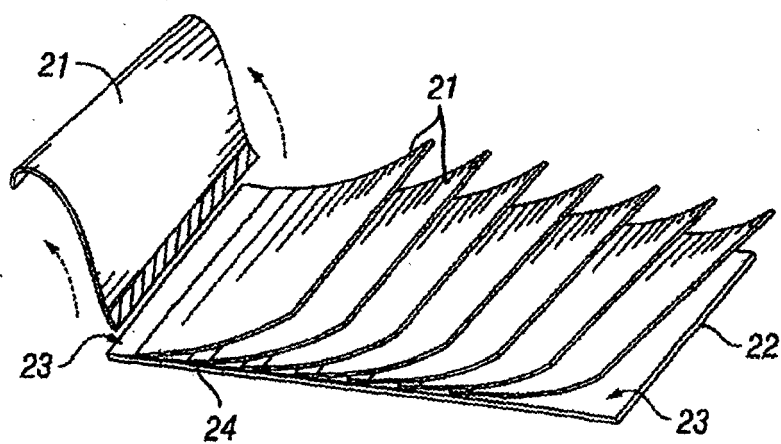


FIG. 2C

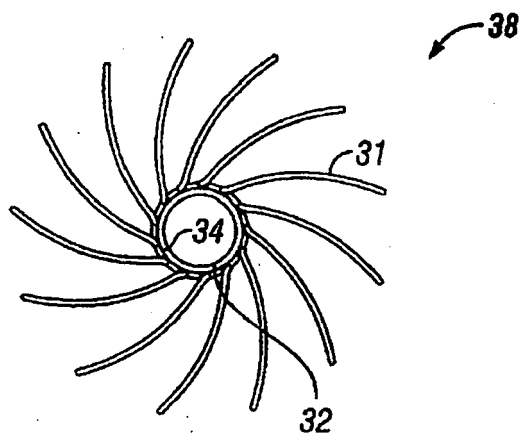


FIG. 3

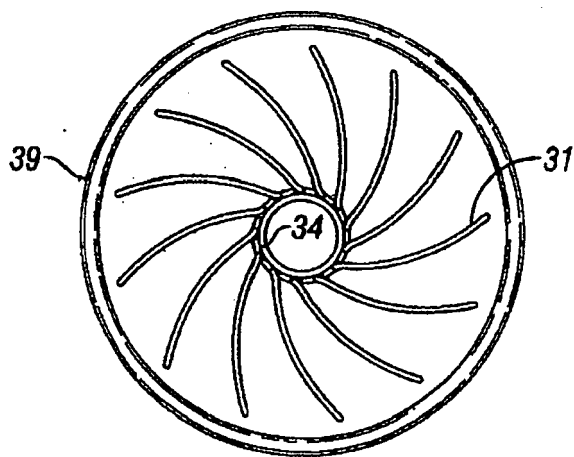


FIG. 4

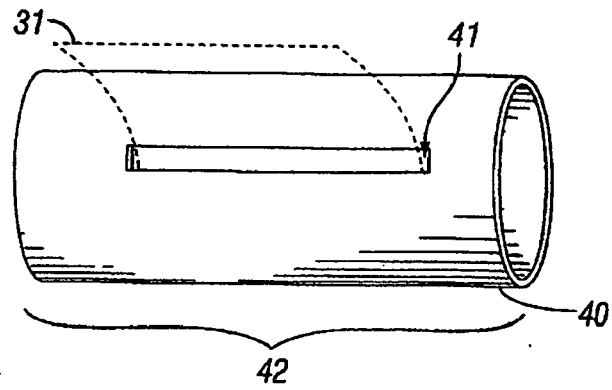


FIG. 5

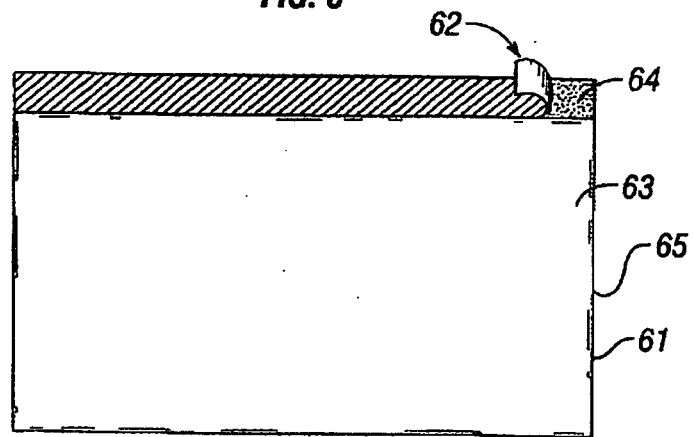


FIG. 6

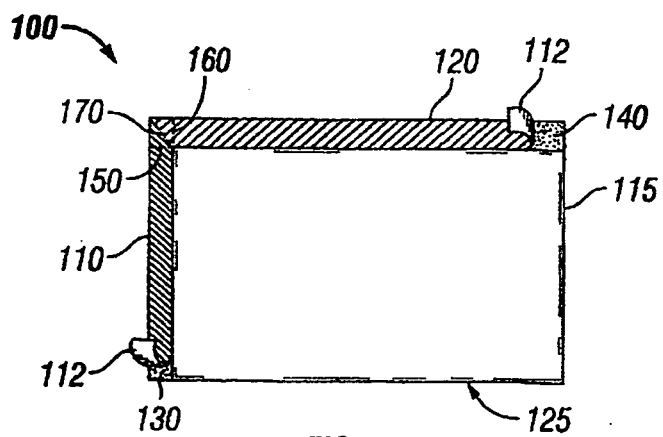


FIG. 7

REFERENCES CITED IN THE DESCRIPTION

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