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(54) **An absorbent sheet product**

(57) An absorbent sheet product (1) comprising a first sheet section (2) partially coupled to a distinct second sheet section (3), wherein the first sheet section (2) is at least partially coupled to the second sheet section (3) along a first edge of said sheet sections (2, 3) so as to form:
- at the first edge, an association area (4) forming a grip-

ping zone (5) for a user hand (10), and
- at another edge opposite to the first edge, a free edge (15) forming an openable area wherein the first sheet section (2) is freely separable from the second sheet section (3) such as to form a contacting and absorbing zone (8) when opened.

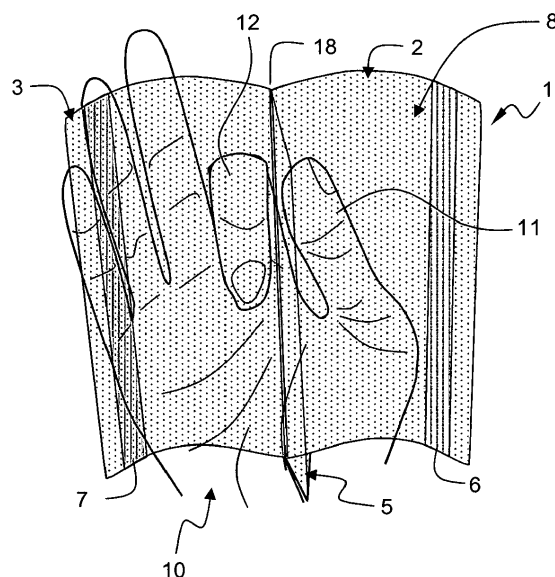


FIG. 7

Description

FIELD OF THE INVENTION

[0001] An aspect of the invention relates to an absorbent sheet product. The absorbent sheet product may be manufactured from a web of tissue paper (obtained by a Conventional Wet Press or Through Air Drying manufacturing method or other manufacturing method) or a non-woven fabric (obtained by an air-laid manufacturing method or spun-laid manufacturing method or other manufacturing method). Such absorbent sheet product finds a particular, though non exclusive, use as sanitary or domestic purposes. As an example, such an absorbent sheet product may be used as an handkerchief. Others uses as toilet paper, towels, bath tissues, etc... may be possible.

BACKGROUND OF THE INVENTION

[0002] A tissue paper relates to an absorbent paper based on cellulose fibers which is also called tissue paper base-sheet in this field of technology. A typical absorbent paper has a low basis weight, in the range from 10 to 50 g/m².

[0003] A nonwoven fabric comprising cellulosic fibers relates to an absorbent paper which is also called non-woven or web made of fibers like air-laid web in this field of technology. A typical absorbent paper has a basis weight, in the range from 30 to 250 g/m², preferably 40 to 200 g/m².

[0004] The document FR 895731 describes a manufacturing process of handkerchiefs comprising a number of layers and a closed portion forming a pocket. The pocket can be opened and is used to collect nasal secretions. The manufacturing process is characterized by the following features:

- assembling a number of strips, one or more being impregnated, after cutting them to the desired length, folding them in the lengthwise direction, and then joining the strips together along the lines of cut up to about mid-height;
- the impregnated strips lie between paper strips twice as wide;
- joining the longitudinal edges together by an embossed seal;
- laying one or more grooves next to the embossed seal; and
- the end of the embossed seal and grooves is closed by a short length of embossed seal directed across.

[0005] The manufacturing process is complex; in particular it requires a folding step. The resulting handkerchief requires a long strip for manufacturing the pocket and the end portions. The area offered by the opened end portions is very limited in size. The user must seize the end portions in order to open the pocket. The use is

limited to handkerchiefs.

[0006] Thus, there is a need to offer a surface of use of greater size with strip of less length. Further, there is a need to improve the way the user can seize the product while protecting the hand during use. Furthermore, this should be obtained in economical or cost effective manner.

SUMMARY OF THE INVENTION

[0007] It is an object of the invention to propose an absorbent sheet product that overcomes the drawbacks of the prior art. In particular, it is desirable to improve protection of the hand of the user.

[0008] The invention relates to an absorbent sheet product comprising a gripping zone that can be seized by a user hand. This gripping zone is obtained by associating two distinct sheet sections on an edge of each sheet section. As a consequence of this association according to a limited area, an individual absorbent sheet product can be opened in order to present, on the one hand, a surface of usage that is doubled compared to the surface of one sheet section, and, on the other hand, a gripping zone positioned underneath the surface of usage. Therefore, an efficient protection of the hand and a convenient way of grasping/seizing the absorbent sheet product during usage is achieved.

[0009] More precisely, according to one aspect, there is provided an absorbent sheet product comprising a first sheet section partially coupled to a distinct second sheet section, the first sheet section is at least partially coupled to the second sheet section along a first edge of said sheet sections so as to form:

- at the first edge, an association area forming a gripping zone for a userhand, and
- at another edge opposite to the first edge, a free edge forming an openable area wherein the first sheet section is freely separable from the second sheet section such as to form a contacting and absorbing zone when opened.

[0010] The first sheet section may comprise at least two plies, each ply being coupled together at the gripping zone and further coupled together at the free edge.

[0011] The second sheet section may comprise at least two plies, each ply being coupled together at the gripping zone and further coupled together at the free edge.

[0012] The plies may be coupled together at the free edge by means of a knurled band, or embossed band, or by embossing substantially a whole surface of the plies, or by micro-embossing substantially a whole surface of the plies.

[0013] The association area may have a surface less than 50% of an overall surface of any one of the sheet sections.

[0014] The first edge of the sheet sections may be the edge parallel to a machine direction, or a cross-direction

(CD), or an angled direction (ID).

[0015] The first sheet section may have a larger surface than the second sheet section.

[0016] The association area may have a shape chosen among the group comprising: a continuous parallelepipedic band, a discontinuous parallelepipedic band, a triangle positioned on a corner of the gripping zone, a triangle positioned substantially in the middle of the gripping zone, at least one semicircle, at least one circle, a continuous band comprising uncoupled portions, a waved shape portion, and at least one aesthetical shape.

[0017] The sheet sections may have a square or rectangular or triangular shape.

[0018] The ply of the sheet section forming an internal ply may comprise a marking suggesting a use of the absorbent sheet product when opened.

[0019] According to another aspect, there is provided a stack of absorbent sheet product of the invention.

[0020] According to a further aspect, there is provided a roll of absorbent sheet product of the invention.

[0021] According to still another aspect, there is provided a use of the absorbent sheet product according to the invention as towels, kitchen towels, hand towels, toilet papers, wipes and facial tissues.

[0022] With the invention, it is possible to limit the consumption of tissue paper or non-woven because the user is not tempted anymore to use a plurality of usual absorbent sheet product in order to form a sheet of appropriate size to protect his hand.

[0023] The invention is also well adapted to children that learn the handling of toilet paper or handkerchief.

[0024] Other advantages will become apparent from the hereinafter description of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] The present invention is illustrated by way of examples and not limited to the accompanying drawings, in which like references indicate similar elements:

- FIGS. 1 and 2 are a top plan view and a side cross-section view schematically illustrating an exemplary embodiment of an absorbent sheet product of the invention in a closed state wherein the association is parallel to a machine direction, respectively;
- FIGS. 3 and 4 are a top plan view and a side cross-section view schematically illustrating another exemplary embodiment of an absorbent sheet product of the invention in a closed state wherein the association is parallel to a machine direction, respectively;
- FIGS. 5 and 6 are side cross-section views schematically illustrating the exemplary embodiments depicted in FIGS. 1 to 4 in an opened state, respectively;
- FIG. 7 is a perspective view schematically illustrating an example of use of an absorbent sheet product of

the invention;

- FIG. 8 is a top plan view (left part) and two side cross-section views (right part) according to planes A-A and B-B schematically illustrating still another exemplary embodiment of an absorbent sheet product of the invention in a closed state wherein the association area is parallel to a cross-machine direction;
- FIG. 9 is a top plan view schematically illustrating still another exemplary embodiment of an absorbent sheet product of the invention in a closed state wherein the association area is parallel to angled directions;
- FIGS. 10 and 11 are perspective views schematically illustrating a stack and a roll of absorbent sheet products of the invention, respectively;
- FIGS. 12 to 19 are top plan views schematically illustrating various examples of association area forming a gripping zone for the hand;
- FIGS. 20 and 21 are a top plan view and a side cross-section view schematically illustrating another exemplary embodiment of an absorbent sheet product of the invention in a closed state, respectively;
- FIG. 22 is a top plan view schematically illustrating another exemplary embodiment of an absorbent sheet product of the invention in an opened state; and
- FIG. 23 schematically illustrates a converting assembly used for manufacturing the absorbent sheet products of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0026] FIGS. 1 and 2 are a top plan view and a side cross-section view schematically illustrating an exemplary embodiment of an absorbent sheet product 1, respectively. The absorbent sheet product 1 is depicted in a closed state which is obtained after the manufacturing, or when stored in a packaging state before usage. Further, FIGS. 1 and 2 show multiple absorbent sheet products 1, 1A, 1B that are optionally separated from each other by tear lines 9. A tear line 9 is a line of weakness comprising alternating perforated segments and unperforated segments, said line of weakness being positioned between two adjacent absorbent sheet products 1 and 1A, 1 and 1B. The tear lines ease separation of an absorbent sheet product by the user. Alternatively, two adjacent absorbent sheet products may be individually defined by being separated by cutting during the manufacturing.

[0027] The absorbent sheet product 1 comprises a first sheet section 2 and a distinct second sheet section 3. The first and second sheet sections 2, 3 are at least par-

tially coupled together along a longitudinal edge of said sheet sections. The longitudinal edge of the sheet sections may be the edge parallel to a machine direction MD. The sheet sections may have a rectangular shape. The coupling is obtained by embossing together said sheet sections 2, 3. Additionally, an adhesive may be applied to enhance the coupling between said sheet sections 2, 3. This coupling defines, at said longitudinal edge, an association area 4 forming a gripping zone 5 for a user hand 10 (see FIG. 7). It further defines, at another edge opposite to the longitudinal edge, a free edge 15 where the first sheet section is freely separable from the second sheet section, thus forming an openable area. FIG. 5 is a side cross-section view schematically illustrating the absorbent sheet product 1 in an opened state.

[0028] FIGS. 3 and 4 are a top plan view and a side cross-section view schematically illustrating another exemplary embodiment of an absorbent sheet product 1, respectively. The absorbent sheet product 1 is depicted in a closed state. This exemplary embodiment differs from the embodiment of FIGS. 1 and 2 in that the first sheet section 2 comprises three plies 2A, 2B, 2C, and the second sheet section 3 comprises three plies 3A, 3B, 3C. All the plies 2A, 2B, 2C, 3A, 3B, 3C are coupled together at the longitudinal edge, defining an association area 4 forming a gripping zone 5 for a user hand. The plurality of plies brings at least additional thickness and bulkiness to the absorbent sheet product 1. Further, one of the ply may be treated with a chemical agent offering a barrier effect (e.g. a temporary wet strength chemical agent, an anti-bacteria chemical agent, a water-soluble material like polyvinylpyrrolidone, etc...). FIG. 6 is a side cross-section view schematically illustrating the absorbent sheet product 1 in a opened state.

[0029] Optionally, each ply 2A, 2B, 2C of the first sheet section 2, and separately each ply 3A, 3B, 3C of the second sheet section 2 may be also coupled together at the opening zone closed to the free edge 15. For example, the plies 2A, 2B, 2C are coupled together at the opening zone by means of a knurled band or embossed band 6, and the plies 3A, 3B, 3C are coupled together at the opening zone by means of another knurled band or embossed band 6, 7. Further, as an alternative means of coupling the plies 2A, 2B, 2C or 3A, 3B, 3C, the plies may be embossed or micro-embossed together, said embossing or micro-embossing covering substantially the whole surface of the plies. This association eases separation by the user of the first sheet section 2 relatively to the second sheet section 3 when the sheet sections are made of a plurality of plies. Further, micro-embossing brings softness to the absorbent product in particular to the usage zone of the sheet section (contacting and absorbing zone). Furthermore, at the coupling of the plies 2A, 2B, 2C or 3A, 3B, 3C messages (e.g. "open here") or markings (e.g. an arrow) may be included to suggest the opening of the absorbent sheet products 1.

[0030] As a further option schematically illustrated in FIG. 22, the internal plies 2A and 3A may be colored or

printed with a marking 16A, 16B (target, sign, text) in order to suggest the use of the absorbent sheet products 1 (an example of use is illustrated hereinafter in FIG. 7). In particular, this may help children in suggesting the use of the absorbent sheet products 1, for example by inviting positioning the nose between the internal ply 2A and the internal ply 3A. Thus, an educational message may be derived from using an appropriate marking.

[0031] As illustrated in FIGS. 10 and 11 the absorbent sheet products 1 may be packaged as a stack 20 or as a roll 30, respectively. However, the invention is not limited to these two examples of packaging, the absorbent sheet products 1 may also be packaged as individual handkerchiefs in soft pack or box. Once an absorbent sheet product 1 is separated from either the stack or the roll by cutting 13 the tear line 9, it can be used as depicted in FIG. 9.

[0032] FIG. 7 is a perspective view schematically illustrating an example of use of an absorbent sheet product 1. When the first and second sheet sections 2, 3 are separated from each other, they form a contacting and absorbing zone 8. The contacting and absorbing zone 8 extends from the crease 18 generated by the association area 4 towards, on the one side, the edge of the first sheet section 2, and, on the other side, the edge of the second sheet section 3. The gripping zone 5 can be seized between a thumb finger 11 and an index finger 12, and deployed above and over the hand 10. The extension of the contacting and absorbing zone 8 perpendicularly to the MD direction is particularly well adapted to protect the hand 10 when the absorbent sheet product 1 is in the depicted opened state. Advantageously, after use, both sheet sections 2, 3 may be folded on each other so as to trap dirt inside the absorbent sheet product 1.

[0033] Numerous sanitary or domestic applications of the absorbent sheet product are possible (e.g. towels, kitchen towels, hand towels, toilet papers, wipes, facial tissues, bath tissues, etc...).

[0034] FIG. 8 (left part) is a top plan view schematically illustrating another exemplary embodiment of an absorbent sheet product 1 of the invention in a closed state. In this exemplary embodiment, the association area 4 is parallel to a cross-machine direction CD. The absorbent sheet product 1 is depicted in a closed state. The first sheet section 2 comprises two plies 2A, 2B, and the second sheet section 3 comprises two plies 3A, 3B. All the plies 2A, 2B, 3A, 3B are coupled together at the longitudinal edge, defining an association area 4 forming a gripping zone 5 for a user hand. Further, this exemplary embodiment differs from the embodiment of FIGS. 1 and 4 in that the plies of the first sheet section 2 are coupled to the plies of the second sheet section 3 at a longitudinal edge parallel to the cross direction CD. In the present example, an association area 4 is overlapping one of two tear lines 9. This means that when an absorbent sheet product 1A is separated from an adjacent absorbent sheet product 1B, the absorbent sheet product 1A comprises an association area 4A along one longitudinal

edge, and the other absorbent sheet product 1B comprises another association 4B along the other longitudinal edge. In this way, an absorbent sheet product 1 with one association area 4 forming a gripping zone 5 for a user hand is clearly defined between two consecutive tear lines 9. FIG. 8 (right part - top) shows a side cross-section view according to plane A-A in the embodiment depicted in FIG. 8 (left part) illustrating a full association all along the edge. Optionally, each ply 2A, 2B of the first sheet section 2, and separately each ply 3A, 3B of the second sheet section 3 may be also coupled together at both edges parallel to the machine direction MD, for example through knurled band 6A, 7A and 6B, 7B. FIG. 8 (right part - bottom) shows a side cross-section view according to plane B-B in the embodiment depicted in FIG. 8 (left part) illustrating such an optional coupling. All the means of coupling said plies together that have been described hereinbefore with regard to FIG. 4 are applicable to this embodiment.

[0035] FIG. 9 is a top plan view schematically illustrating a further exemplary embodiment of an absorbent sheet product 1 of the invention in a closed state. In this exemplary embodiment, the first sheet section 2 is at least partially coupled to the second sheet section 3 (not visible) along a first edge of the sheet sections 2, 3 that is inclined according to an angled direction either ID or ID' with respect to the machine direction MD. The association area 4 and the tear lines 9 are parallel to said angled directions ID, ID'. For example, the angled directions ID, ID' are inclined at an angle of 45° to the cross-machine direction CD or the machine direction MD. Other angles are within the scope of the present invention. Similarly to the embodiment of FIG. 8, knurled band 6A and 6B may be used on both edges parallel to the machine direction MD in order to associate at least two plies of the first sheet section 2 on the one side, and the at least two plies of the second sheet section 3 on the other side. The particular position of the association area 4 and the tear lines 9 in this embodiment defines sheet sections 2, 3 having a triangular shape. The side cross-section views according to plane A-A and B-B depicted in FIG. 8 further shows such associations between sheet sections 2, 3 and between the plies 2A, 2B and 3A, 3B. All the means of coupling said plies together that have been described hereinbefore with regard to FIG. 4 are applicable to this embodiment.

[0036] FIGS. 1 to 11 schematically illustrate an example of association area forming a gripping zone for the hand having a continuous parallelepipedic (rectangular) band shape. However, other kinds of shape are possible. FIGS. 12 to 19 are top plan views schematically illustrating various examples of association area forming a gripping zone for the hand. The association area 4 forming the gripping zone 5 for a user hand 10 is schematically illustrated by a hatched area. Generally, the association area 4 covers a surface less than 50% of an overall surface of any one of the sheet sections, either the first sheet section 2 or the second sheet section 3.

[0037] In FIG. 12, the association area 4 forming the gripping zone 5 has a shape of a continuous band 40 comprising uncoupled portions 41, 42. The uncoupled portions 41, 42 are zones where the first and second sheet sections 2, 3 are not associated together. As an example, the uncoupled portions 41, 42 are substantially semicircular in shape.

[0038] In FIG. 13, the association area 4 forming the gripping zone 5 is substantially semicircular in shape 43.

[0039] In FIGS. 14 and 15, the association area 4 forming the gripping zone 5 has a shape of a triangle 44. In the example of FIG. 14, the triangle 44 is positioned around the middle of the length of the sheet sections 2, 3 in the MD direction. In the example of FIG. 15, the triangle 44 is positioned on a corner of the sheet section. Any type of triangle is appropriate.

[0040] In FIG. 16, the association area 4 forming the gripping zone 5 has a shape of a discontinuous band comprising, as an example, at least one circle 45, or at least one aesthetical shape 46 (e.g. a butterfly, a heart, a flower, etc...).

[0041] In FIG. 17, the association area 4 forming the gripping zone 5 has a shape of a discontinuous parallelepipedic band, for example comprising three zones of association 47, 48 and 49 having a square shape.

[0042] In FIG. 18, the association area 4 forming the gripping zone 5 has a shape of a continuous band 50 forming a wave.

[0043] In FIG. 19, the association area 4 forming the gripping zone 5 has a shape of a line 51 positioned at a distance D from the edge of said sheet sections 2, 3. As an example, the distance may be 1 / 5th of the length L of the sheet section 2, 3. Other ratios are possible depending on the size of the gripping zone relatively to the usage zone. Therefore, the absorbent sheet product 1 can be seized by the gripping zone 5 defined between the edge and the line 51.

[0044] In the hereinbefore presented examples, the shape of the association area 4 between the first and second sheet sections results in an easy formation of an absorbent sheet product in a usage state, once the first and second sheet sections are separated from each other, having a tridimensional structure protecting the hand from a body substance (nasal secretion, urine, feces, etc...) or substance to be wiped from a worktop. Further, these substances may be trapped inside the absorbent sheet product 1 when folded after use.

[0045] FIGS. 20 and 21 are a top plan view and a side cross-section view schematically illustrating another exemplary embodiment of an absorbent sheet product 1 in a closed state, respectively. The length L1 of the first sheet section 2 is smaller than the length L2 of the second sheet section 3. Thus, the first sheet section 2 defines a smaller surface than the second sheet section 3. The difference of length D between both sheet sections 2, 3 eases the grasping of one the sheet section in order to better separate the sheet sections at use. In this embodiment, the association area 4 forming the gripping zone

for the hand has a continuous rectangular band shape. However, the other shapes as depicted in FIGS. 12-19 may also be implemented.

[0046] The manufacturing of the absorbent sheet products of the invention (for example the embodiment of FIGS. 3 and 4) is based on a known converting assembly used for manufacturing multi-ply tissue paper products. The converting assembly depicted in FIG. 23 comprises a knurling unit 61, 62 associated with the first and second sheet section 2, 3, respectively, an embossing unit 63 (that may comprise a glue dispenser - not shown), a tear line cutting unit 64, and a log handling and cutting unit 65 or a folding unit 66. Each knurling unit 61, respectively 62 associates the plies of the first sheet section 2 independently from the plies of the second sheet section 3 at an edge in the machine direction MD. Then, the first and second sheet sections 2, 3 are superposed and associated at the opposite edge in the machine direction in the embossing unit 63. These associations are implemented in a continuous manner on one or more web(s) of tissue paper or nonwoven. Then, tear lines are cut in the first and second sheet sections in the tear line cutting unit 64.

[0047] In case of rolls 30 manufacturing, the resulting web of absorbent sheet products is rewound as a log 67. Then said log 67 is cut in multiple rolls 30 (the cutting takes place at short distance from the association area in order to avoid coupling of the first and second sheet sections at the free edge of an adjacent roll produced from the log.

[0048] In case of stack 20 manufacturing, the resulting web of absorbent sheet products may be either folded as a continuous strip, or cut and stack as individual absorbent sheet products. The individual absorbent sheet products may be folded, interfolded or interleaved depending on the intended packaging. Also, the absorbent sheet product may be folded according to various type of folding within the stack (interfolded or not, 1/2 fold, % fold, 1/8 fold, ...V-fold, C-fold, M-fold, etc... type of folding) if desired or deemed necessary with respect to, for example, the way of intended dispensing to be achieved.

[0049] Such a converting assembly and converting method is based on a facility designed for manufacturing a conventional multi-ply paper product without requiring substantial changes in components or adjustments. Thus, manufacturing the absorbent sheet product of the invention on an existing converting assembly is particularly cost effective.

[0050] The drawings and their descriptions hereinbefore illustrate rather than limit the invention.

[0051] Though the invention has been described with respect to various embodiments of absorbent sheet products made of sheet sections comprising one ply, two plies and three plies, these are not limitative examples. The skilled person will readily recognize that the absorbent sheet product may comprise more plies, e.g. four, five, etc... Further, the shape of the sheet sections have always been depicted as rectangular while other shape,

e.g. a square shape, may be appropriate for the intended use.

[0052] The numbers, positions and shapes of the association area in the depicted embodiments are non limitative examples. The skilled person will readily recognize that these numbers, positions and shapes may be changed if desired or deemed necessary with respect to for example the tridimensional structure effect to be achieved by the absorbent sheet product when deployed to protect the hand.

[0053] Any reference sign in a claim should not be construed as limiting the claim. The word "comprising" does not exclude the presence of other elements than those listed in a claim. The word "a" or "an" or "at least one" preceding an element does not exclude the presence of a plurality of such element.

Claims

1. An absorbent sheet product (1) comprising a first sheet section (2) partially coupled to a distinct second sheet section (3),
characterized in that the first sheet section (2) is at least partially coupled to the second sheet section (3) along a first edge of said sheet sections (2, 3) so as to form:

- at the first edge, an association area (4) forming a gripping zone (5) for a user hand (10), and
- at another edge opposite to the first edge, a free edge (15) forming an openable area wherein the first sheet section (2) is freely separable from the second sheet section (3) such as to form a contacting and absorbing zone (8) when opened.

2. The absorbent sheet product (1) of claim 1, wherein the first sheet section (2) comprises at least two plies (2A, 2B, 2C), each ply being coupled together at the gripping zone (5) and further coupled together at the free edge (15).
3. The absorbent sheet product (1) of claim 1 or 2, wherein the second sheet (3) section comprises at least two plies (3A, 3B, 3C), each ply being coupled together at the gripping zone (5) and further coupled together at the free edge (15).
4. The absorbent sheet product (1) of claim 2 or 3, wherein the plies are coupled together at the free edge (15) by means of a knurled band, or an embossed band (6, 7), or by embossing substantially a whole surface of the plies, or by micro-embossing substantially a whole surface of the plies.
5. The absorbent sheet product (1) according to any one of the claims 1 to 4, wherein the association area

(4) has a surface less than 50% of an overall surface of any one of the sheet sections (2, 3).

6. The absorbent sheet product (1) according to any one of the claims 1 to 5, wherein the first edge of the sheet sections (2, 3) is the edge parallel to a machine direction (MD), or a cross-direction (CD), or an angled direction (ID). 5
7. The absorbent sheet product (1) according to any one of the claims 1 to 6, wherein the first sheet section (2) has a larger surface than the second sheet section (3). 10
8. The absorbent sheet product (1) according to any one of the claims 1 to 7, wherein the association area (4) has a shape chosen among the group comprising: a continuous parallelepipedic band (40), a discontinuous parallelepipedic band (47, 48, 49), a triangle (44) positioned on a corner of the gripping zone, a triangle (44) positioned substantially in the middle of the gripping zone, at least one semicircle (43), at least one circle (45), a continuous band (40) comprising uncoupled portions (41, 42), a waved shape portion (50), and at least one aesthetical shape (46). 15 20 25
9. The absorbent sheet product (1) according to any one of the claims 1 to 8, wherein the sheet sections (2, 3) have a square shape, or a rectangular shape, or a triangular shape. 30
10. The absorbent sheet product (1) according to any one of the claims 1 to 9, wherein the ply of the sheet section forming an internal ply (2A, 3A) comprises a marking (16A, 16B) suggesting a use of the absorbent sheet product (1) when opened. 35
11. A stack (20) of absorbent sheet product (1) according to any one of the claims 1 to 10. 40
12. A roll (30) of absorbent sheet product (1) according to any one of the claims 1 to 10.
13. Use of the absorbent sheet product (1) according to any one of the claims 1 to 10 as towels, kitchen towels, hand towels, toilet papers, wipes and facial tissues. 45

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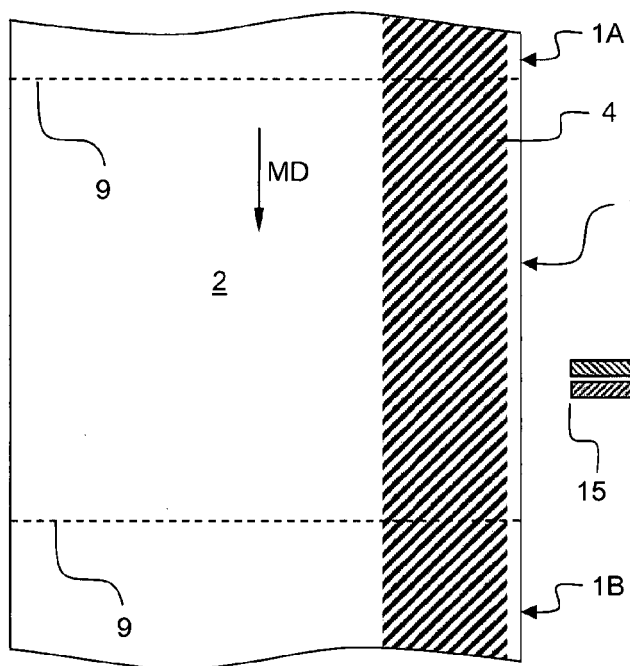


FIG. 1

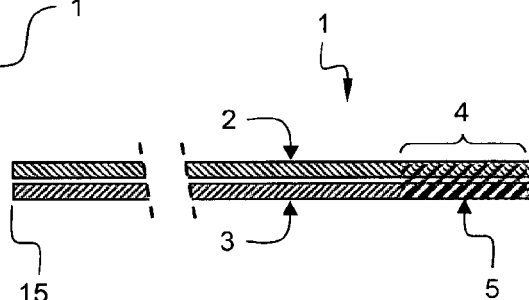


FIG. 2

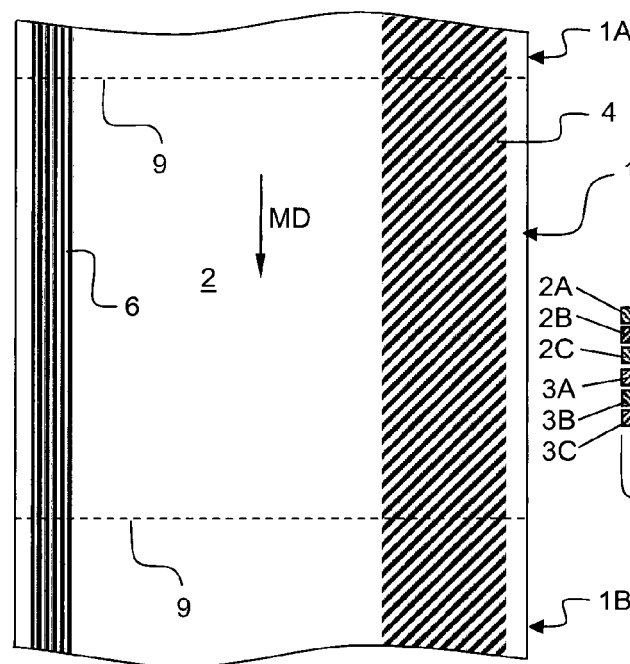


FIG. 3

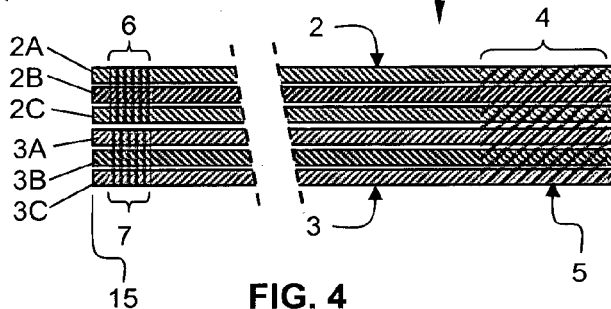


FIG. 4

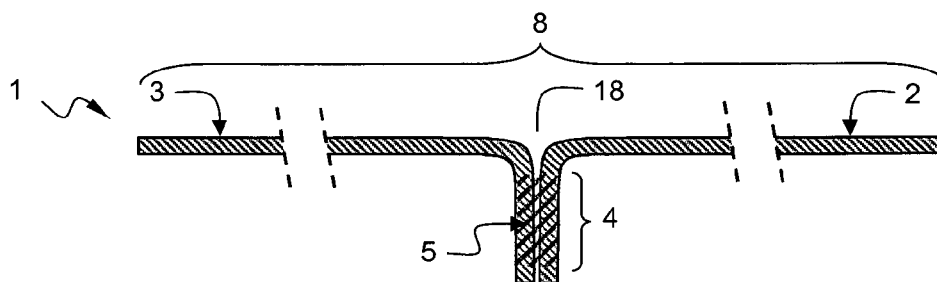


FIG. 5

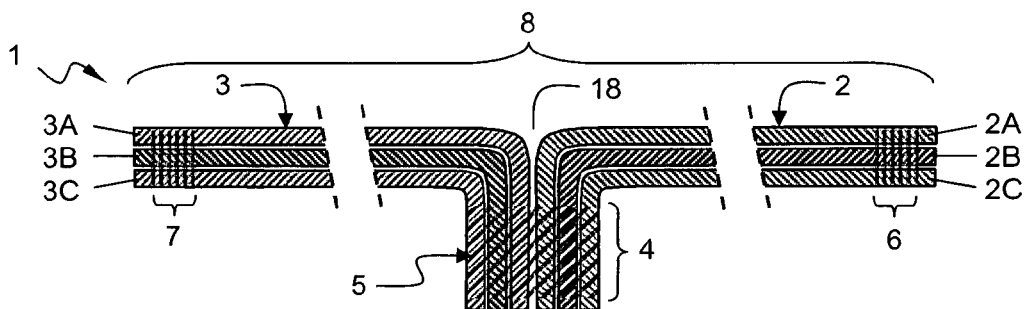


FIG. 6

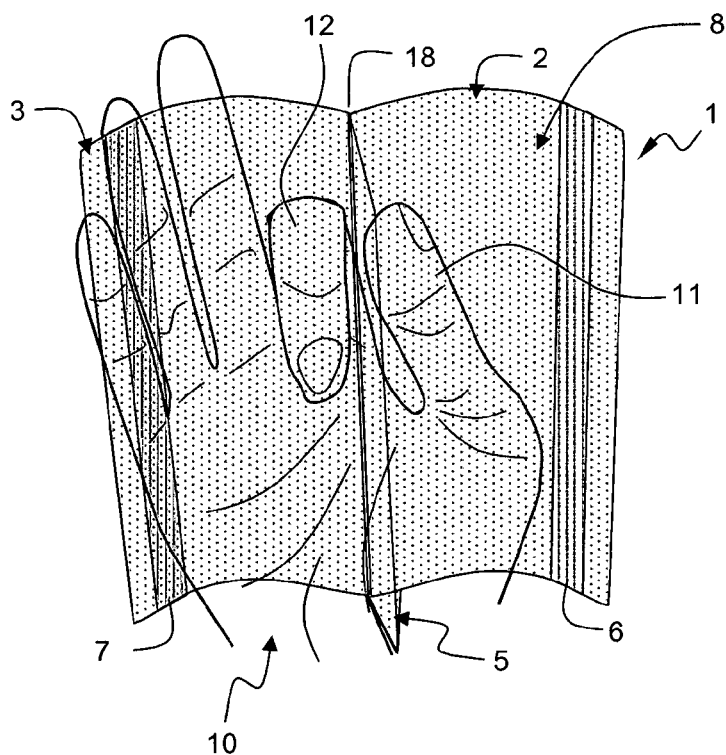


FIG. 7

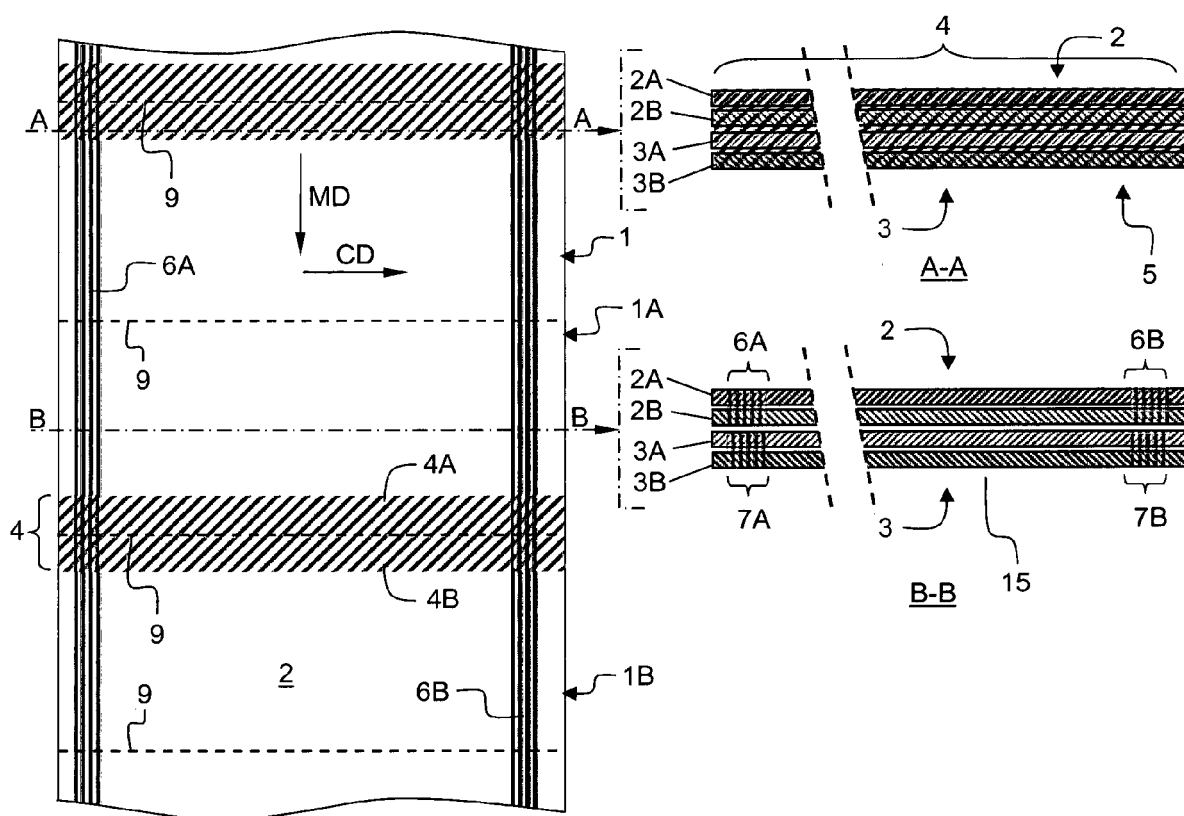


FIG. 8

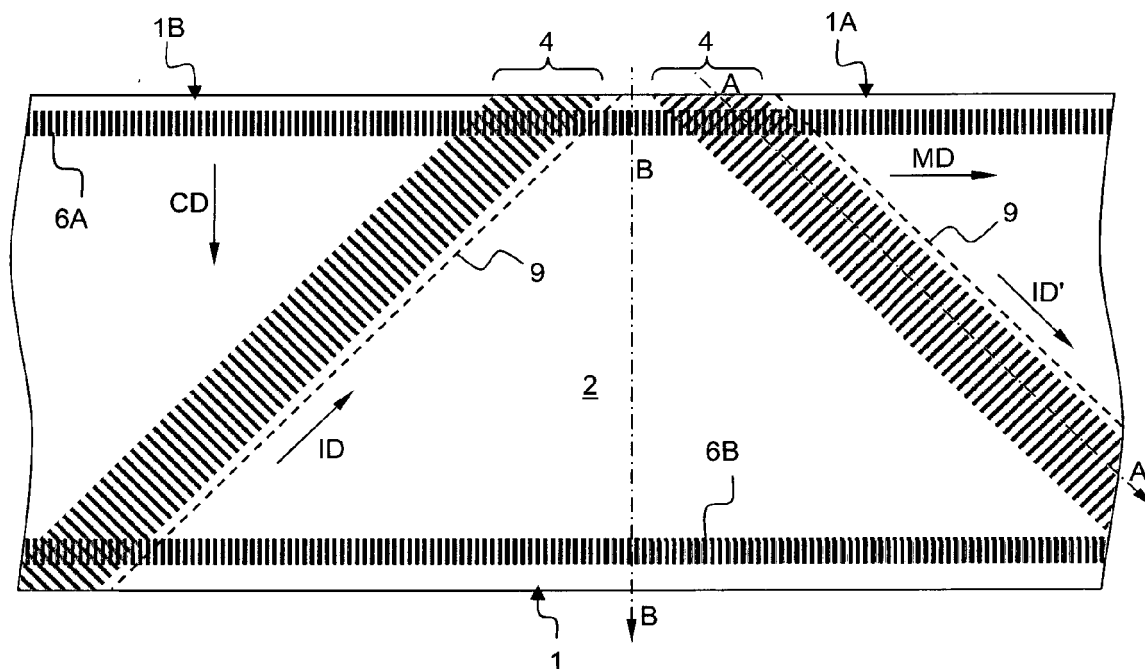


FIG. 9

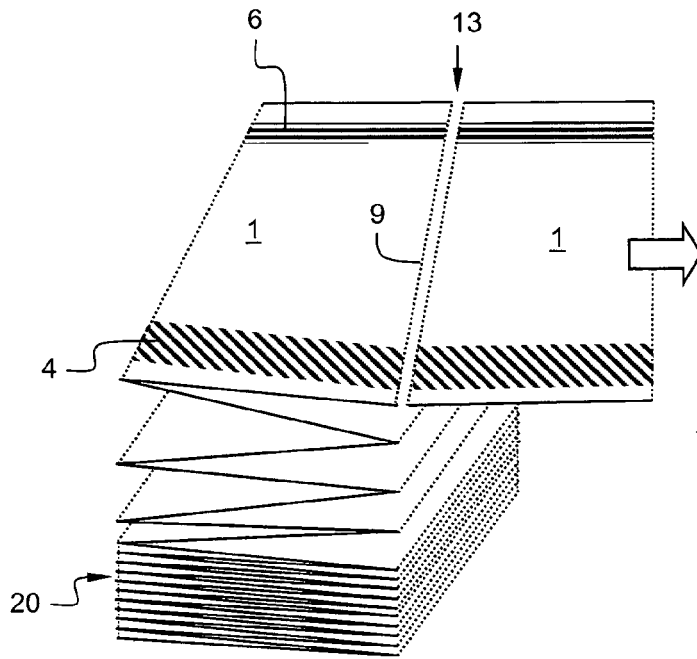


FIG. 10

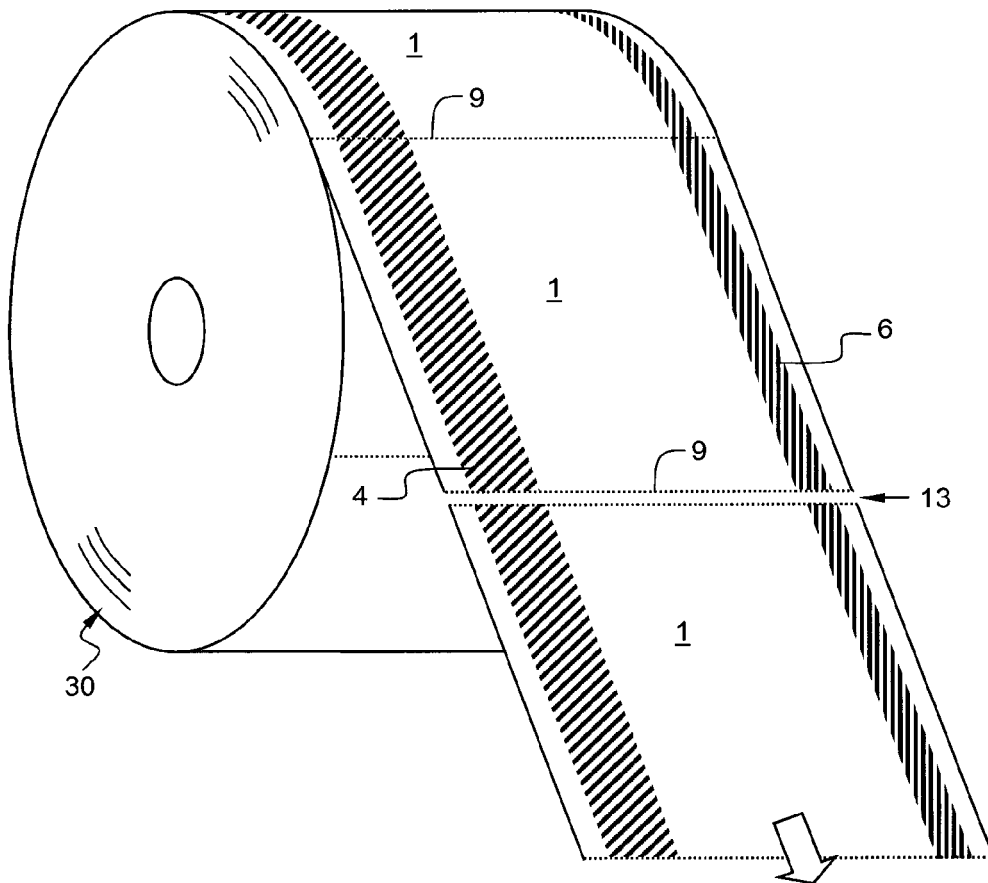
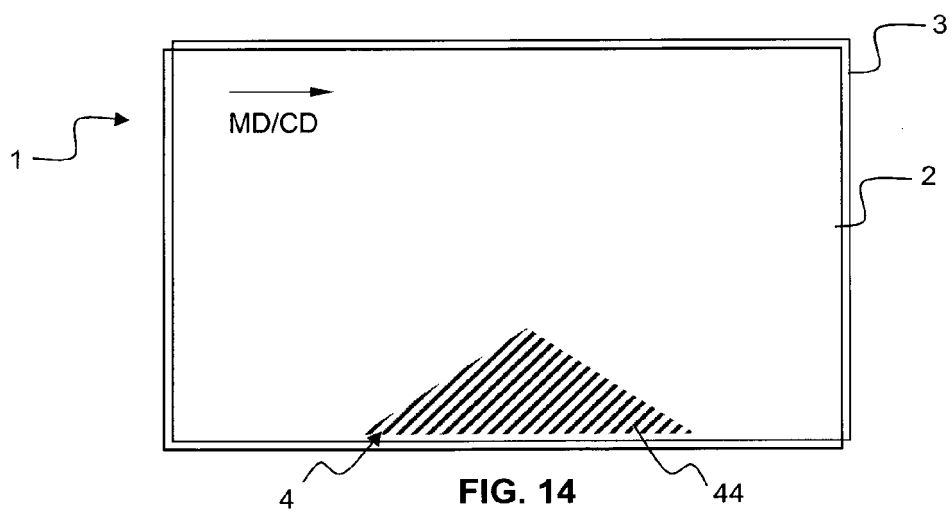
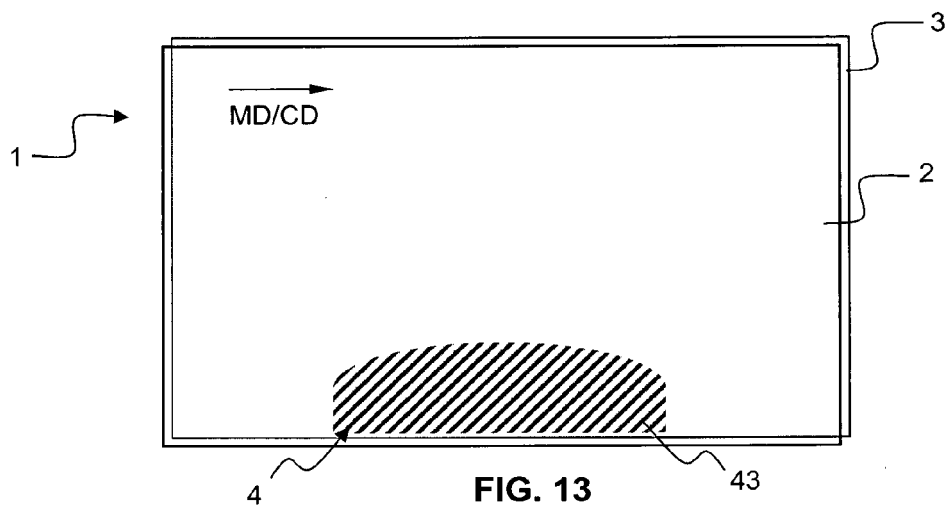
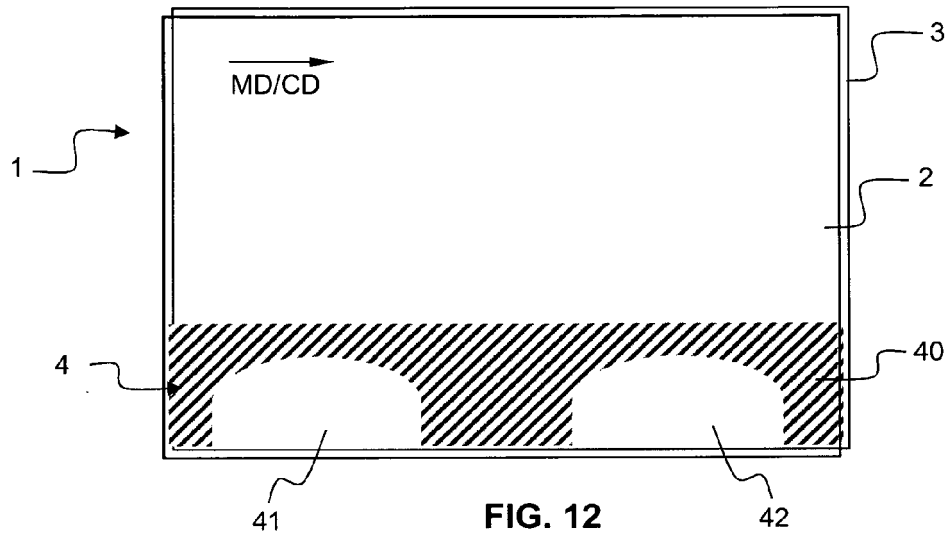


FIG. 11



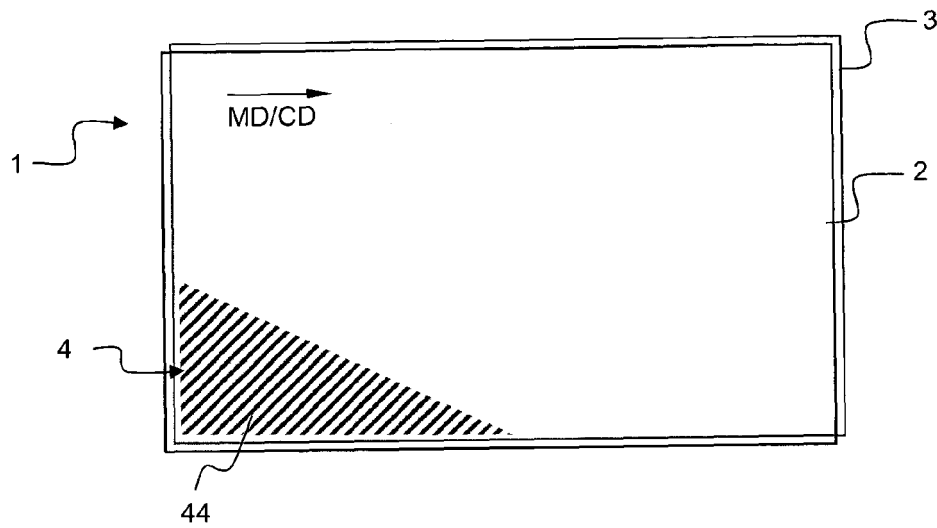


FIG. 15

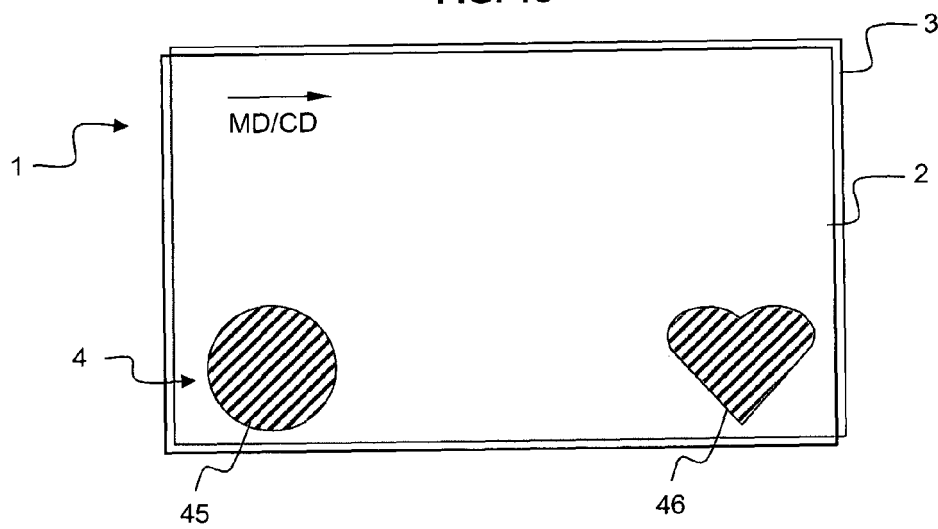


FIG. 16

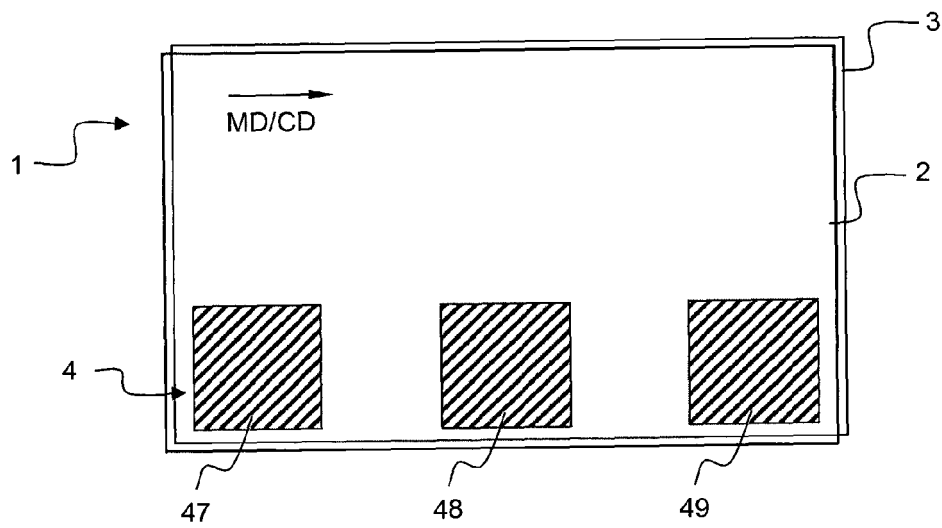


FIG. 17

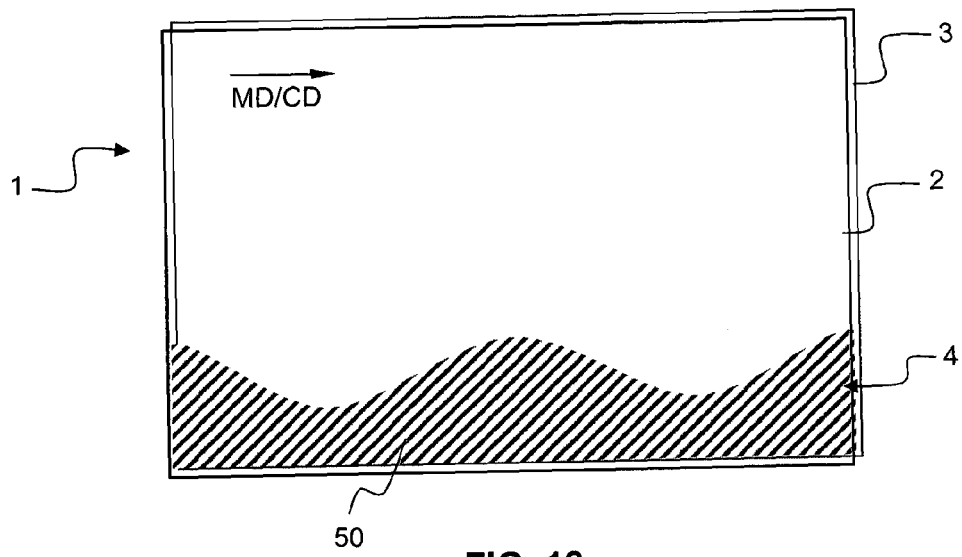


FIG. 18

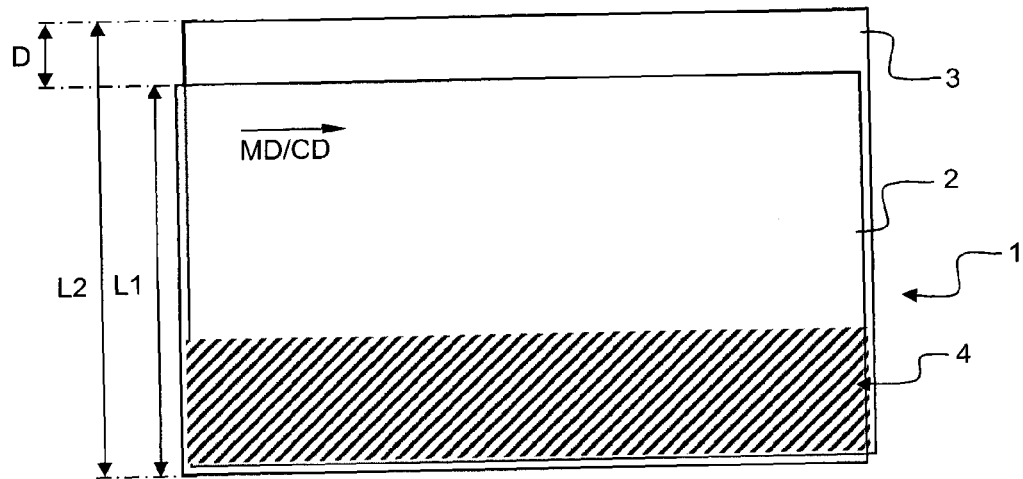


FIG. 20

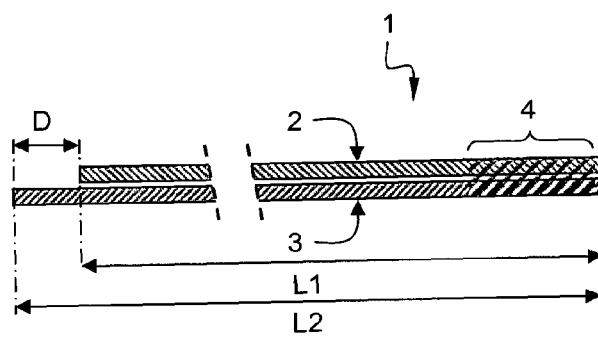


FIG. 21

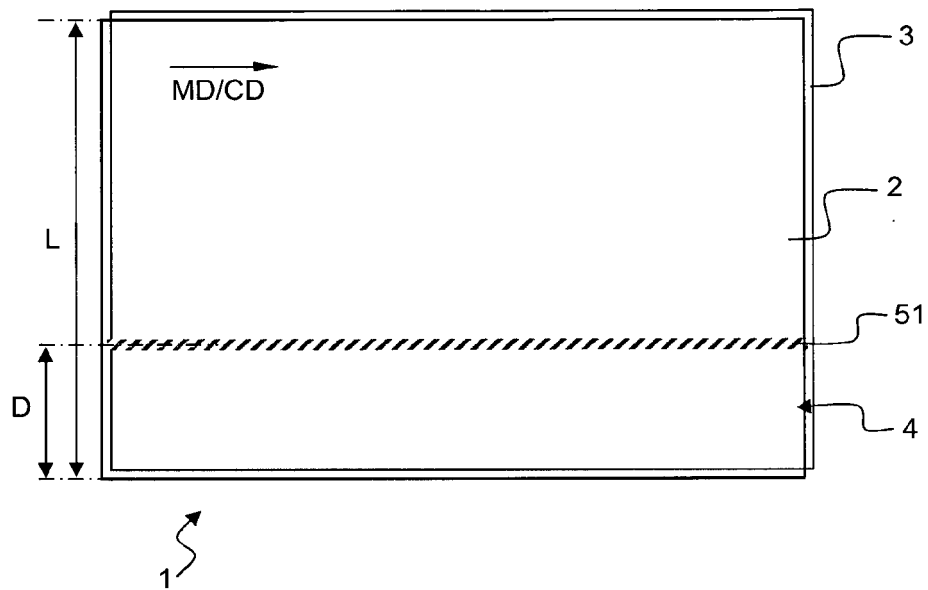


FIG. 19

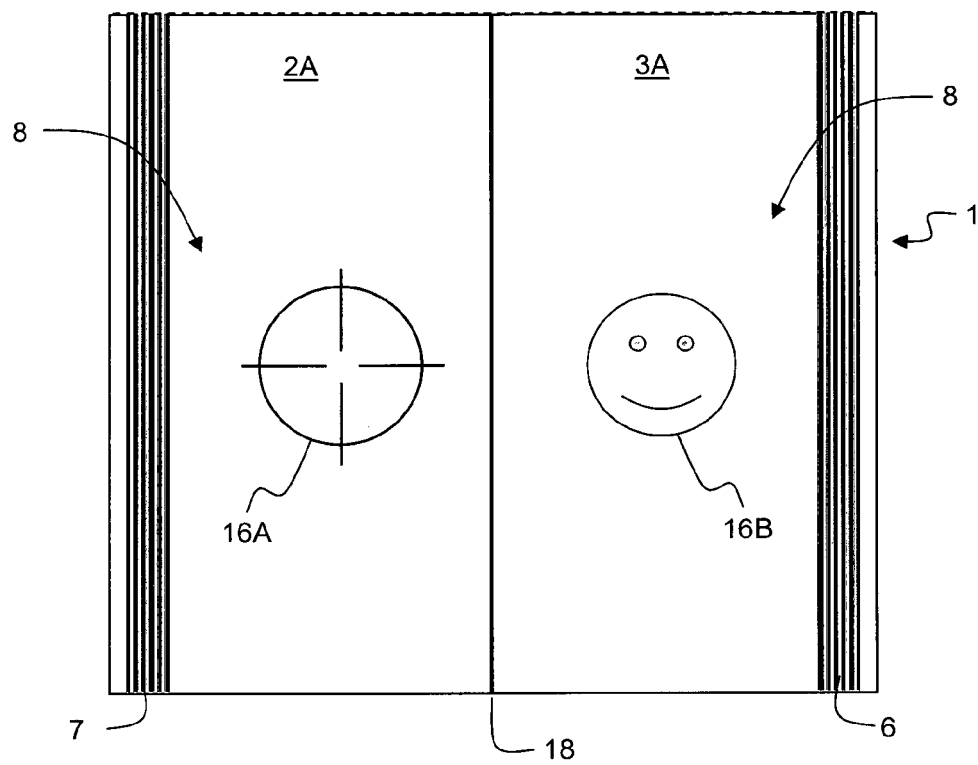
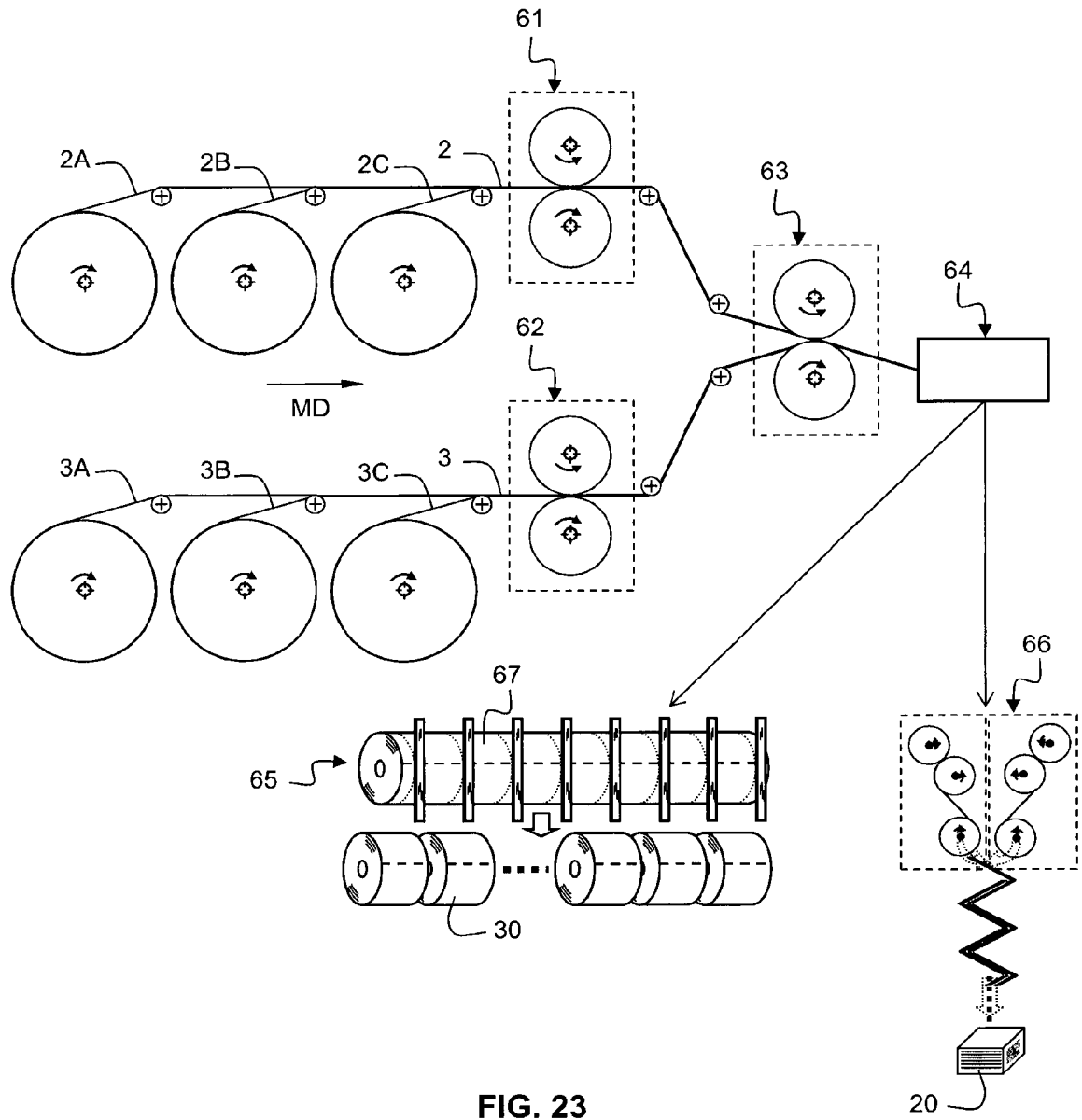


FIG. 22





EUROPEAN SEARCH REPORT

Application Number
EP 14 00 2495

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Place of search Munich		Date of completion of the search 8 January 2015	Examiner Beins, Ulrika
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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