

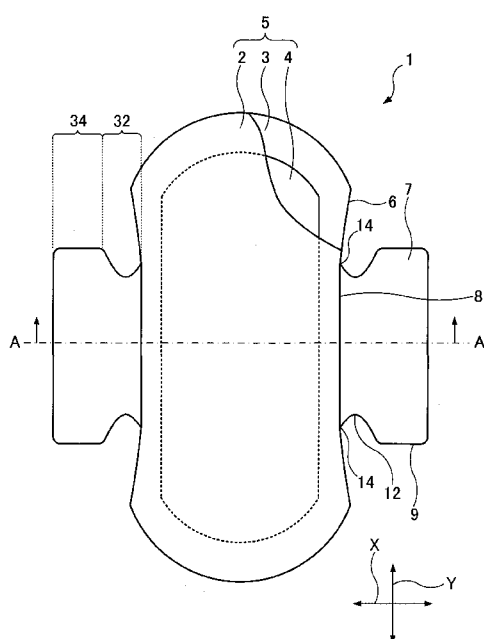


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[Continued on next page]

(54) Title: ABSORBENT ARTICLE

Fig.1



(57) **Abstract:** To provide an absorbent article ensuring that the absorbent article can be prevented from being bent on the inner side relative to the root of the wing part when folding back the wing part to the outer surface side of the underwear so as to fix the absorbent article to underwear. The present invention is an absorbent article 1 comprising a body part 5 having a longitudinal direction and a width direction and including a liquid-permeable surface sheet 2 provided on the skin side, a liquid-impermeable backside sheet 3 provided on the clothing side, and a liquid-retentive absorber 4 between the surface sheet 2 and the backside sheet 3, and a pair of wing parts 7 extending from side edges 6 of the body part 5 in the width direction, wherein each of the wing parts 7 has a narrowest dimension point 12 in which the longitudinal dimension of the wing part 7 is smallest, at a position, on the widthwise outer side relative to the root 8 of the wing part 7 contacting the side edge 6 of the body part 5, which is spaced from the root in the widthwise direction.

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[NAME OF DOCUMENT] Description

[TITLE OF THE INVENTION]

Absorbent Article

[TECHNICAL FIELD]

5 [0001]

The present disclosure invention relates to an absorbent article.

[BACKGROUND ART]

[0002]

10 As an absorbent article, such as a light incontinence pad, sanitary napkin or pantiliner, an absorbent article with wings extending from both side edges of an absorbent body, is known, wherein the absorbent article is fixed by folding back both wings
15 onto the outer surface side of underwear. For example, a wing having an inverted trapezoid shape, i.e., a wing being wider at the free end than at the fixed end of the wing, is disclosed in Patent Literatures 1 and 2.

[CITATION LIST]

20 [Patent Literature]

[0003]

[Patent Literature 1] Kokai (Japanese Unexamined Patent Publication) No. 11-192262

[Patent Literature 2] Japanese Patent No. 3279582

25 [SUMMARY OF THE INVENTION]

[Technical Problem]

[0004]

30 However, the inventor(s) has recognized that in the above mentioned absorbent article, the absorbent article is likely to be bent on the inner side relative to the root of the wing when the wings of the absorbent article are folded back onto the outer surface side of the undergarment and this may cause lateral leakage of body fluid.

35 [Solution to Problem]

[0005]

According to a first aspect of the present invention

is an absorbent article comprising a body part having a longitudinal direction and a width direction and including a liquid-permeable surface sheet provided on the skin side, a liquid-impermeable backside sheet provided on the clothing side, and a liquid-retentive absorber between the surface sheet and the backside sheet, and a pair of wing parts extending from side edges of the body part in the width direction, wherein each of the wing parts has a narrowest dimension point in which the longitudinal dimension of the wing part is smallest, at a position, on the widthwise outer side relative to the root of the wing part contacting with the side edge of the body part, which is spaced from the root in the widthwise direction.

[Brief Description of Drawings]

[0006]

[Fig. 1] Fig. 1 is a partially cut-away plan view of the absorbent article in one embodiment of the present invention.

[Fig. 2] Fig. 2 is a schematic cross-sectional view taken along the A-A line of Fig. 1.

[Fig. 3] Fig. 3 is a bottom view of the absorbent article of Fig. 1.

[Fig. 4] Fig. 4 is a partially cut-away plan view of a modification example of the absorbent article in one embodiment of the present invention.

[Description of Embodiments]

[0007]

Some embodiments of the present invention are described below with reference to the drawings, but the present invention is not limited to the embodiments illustrated in the drawings and/or details specifically described below.

[0008]

Fig. 1 is a partially cut-away plan view of the absorbent article 1 in one embodiment of the present invention, Fig. 2 is a schematic cross-sectional view

taken along the A-A line of Fig. 1, and Fig. 3 is a bottom view of the absorbent article. The absorbent article 1 comprises a body part 5 including a liquid-permeable surface sheet 2 provided on the skin side, a liquid-impermeable backside sheet 3 provided on the clothing side, and a liquid-retentive absorber 4 between the surface sheet 2 and the backside sheet 3, and a pair of wing parts 7 extending from both side edges 6 of the body part 5 in the width direction. A garment engaging part, e.g., a pressure-sensitive adhesive part, 21 is preferably provided on the clothing side of each wing part 7 for engaging a garment, in use. In Figs. 1 and 3, the width direction of the absorbent article 1 is the X-axis direction, and the longitudinal direction is the Y-axis direction.

[0009]

The shape of the body part 5 is not particularly limited as long as it is a shape suitable for a woman's body. An example of the shape of the body part 5 includes rectangular, elliptical and gourd shape. As length of the body part 5 in the longitudinal direction is preferably from 100 to 500 mm, more preferably from 150 to 350 mm, and a width of the body part 5 in the width direction is preferably from 30 to 200 mm, more preferably from 40 to 180 mm.

[0010]

The surface sheet 2 has a function of passing a liquid excrement from the body, such as urine and menstrual blood, to the absorber 4 provided below the surface sheet and at the same time, holds the absorber 4 by sandwiching the absorber 4 between the surface sheet and the backside sheet 3. The surface sheet 2 is entirely or partially liquid-permeable, and the liquid-permeating zone may be formed of, for example, a resin film having formed therein a large number of liquid-permeating pores, a net-like sheet having a large number of mesh pores, or a liquid-permeable nonwoven or woven

5 fabric. As the resin film or net-like sheet, a film or sheet formed of polypropylene (PP), polyethylene (PE), polyethylene terephthalate (PET) or the like can be used. Also, as the nonwoven fabric, for example, a spun-laced
10 nonwoven fabric formed of a cellulose fiber such as rayon, a synthetic resin fiber or the like, or an air-through nonwoven fabric formed of the synthetic resin fiber may be used. Furthermore, as the raw material of the surface sheet 2, a biodegradable natural material
15 such as polylactic acid, chitosan or polyalginic acid may also be used. In addition, it may be also possible to form a large number of liquid-permeating pores and at the same time, apply a silicon- or fluorine-based water-repellent oil solution so that the body fluid does not
20 adhere to the external surface of the surface sheet 2.

[0011]

The basis weight of the surface sheet 2 is preferably from 15 to 100 g/m², more preferably from 20 to 50 g/m². If the basis weight is more than 15 g/m², it is
25 ensured that sufficient surface strength is obtained and the sheet may not be ruptured during use, whereas if it is less than 100 g/m², it is ensured that an excessively coarse texture is not developed and an uncomfortable feeling is not produced during use. In the case of use
30 for a long time, if the basis weight is less than 50 g/m², it is ensured that the liquid is not held on the surface sheet 2 and this will not remain in a sticky state to give discomfort. The density is preferably 0.12 g/cm³ or less and is not particularly limited as long as the sheet
35 is liquid-permeable. If the density is in this range, it is ensured that liquid smoothly passes through fibers of the surface sheet 2.

[0012]

In the case where the liquid-permeating zone
35 constituting the entirety or a part of the surface sheet 2 is a porous film such as a film having formed therein a large number of liquid-permeating pores, the open pore

diameter is preferably from 0.05 to 3 mm, the pitch between adjacent pores is preferably from 0.2 to 10 mm, and the open pore area ratio of a total pore area to a total area of the liquid-permeating zone is preferably from 3 to 30%.

[0013]

In the absorbent article 1 according to one embodiment of the present invention, a second liquid-permeable sheet may be further provided between the surface sheet 2 and the absorber 4. A sheet formed of a material similar to the surface sheet 2 (for example, a nonwoven fabric) and having a slightly higher density than the surface sheet 2 may be used for the second liquid-permeable sheet, and this sheet may be provided so as to improve the liquid drainage or suppress the liquid backflow.

[0014]

The backside sheet 3 has a function of preventing liquid, such as urine and menstrual blood that has been absorbed in the absorber 4, from leaking, and a material capable of preventing such a liquid from leaking is used. Also, when a material impermeable to a liquid but permeable to air is preferably used, the humidity of the absorbent article during wearing can be reduced and in turn, discomfort during wearing can be reduced. Examples of such a material include a liquid-impermeable film mainly including of polyethylene (PE), polypropylene (PP) or the like, an air-permeable film, and a composite sheet obtained by laminating a liquid-impermeable film on one surface of a nonwoven fabric such as spunbond. Preferably, for example, a hydrophobic nonwoven fabric, a water-impermeable plastic film, or a laminate sheet of a nonwoven fabric and a water-impermeable plastic film may be used. An spunbonded-meltblown-spunbonded (SMS) nonwoven fabric obtained by sandwiching a highly water-resistant meltblown nonwoven fabric with high-strength spunbond nonwoven fabrics may be also used.

[0015]

The absorber 4 has a function of absorbing a liquid, such as urine and menstrual blood, and holding the liquid, and a high-bulk material unlikely to lose shape and/or irritate the skin is preferred. Examples of materials suitable for the absorber 4 include a mixture of a fluff pulp or an air-laid nonwoven fabric and a superabsorbent polymer (SAP). In place of the fluff pulp, for example, a chemical pulp, a cellulose fiber, or an artificial cellulose fiber such as rayon and acetate may be used. The basis weight of the absorbent fiber such as pulp is preferably from 100 to 800 g/m², and the mass ratio of the superabsorbent polymer is preferably from 30 to 65% based on the absorbent fiber taken as 100%. The basis weight of the liquid-permeable material such as tissue, for covering the mixture where an absorbent fiber and a superabsorbent polymer are overall uniformly distributed is preferably from 12 to 30 g/m². Examples of the air-laid nonwoven fabric include a nonwoven fabric where pulp and a synthetic fiber are thermally fused or bonded by a binder. The superabsorbent polymer has a three-dimensional network structure in which a water-soluble polymer is appropriately crosslinked, and this polymer absorbs from 30 to 60 times of water but is substantially water-insoluble and does not release the absorbed water even when pressure is applied. Examples thereof include starch-based, acrylic acid-based and amino acid-based particulate or fibrous polymers. The shape and structure of the absorber may be changed as necessary, provided that the total absorption amount of the absorber responds to the designed insertion amount as an absorbent article and the desired use. Also, the size, absorption capacity and the like of the absorber are varied according to use.

[0016]

The absorber 4 may include two layers of an upper absorber layer and a lower absorber layer, and the upper

absorber layer may be formed of a hydrophilic sheet and a superabsorbent polymer. The hydrophilic sheet is a sheet having hydrophilicity and including a nonwoven fabric, a porous plastic sheet or the like. In the case of a nonwoven fabric, a porous plastic sheet or the like, a hydrophilization treatment is applied, if desired. Also, as the nonwoven fabric, a nonwoven fabric such as spunlace, spunbond, thermal bond, meltblown, needle-punched or air-through nonwoven fabric is used. Examples of the raw material fiber constituting the nonwoven fabric include a synthetic fiber such as olefin (e.g., polyethylene, polypropylene), polyester and polyamide, a regenerated fiber such as rayon and cupra, and a natural fiber such as cotton. The upper absorber layer is formed in a sheet by spreading a superabsorbent polymer in a predetermined pattern on one side of a hydrophilic sheet, stacking another hydrophilic sheet to sandwich the superabsorbent polymer, and joining the hydrophilic sheets at a portion where the superabsorbent polymer is not spread, by a joining technique (for example, heat sealing using a hot-melt adhesive). The superabsorbent polymer is preferably fixed to the hydrophilic sheet with an adhesive such as hot-melt adhesive but may be covered with the hydrophilic sheet without being fixed to the hydrophilic sheet. As for the hydrophilic sheet sandwiching the superabsorbent polymer, one hydrophilic sheet may be folded and joined, or two hydrophilic sheets which are the same or different may be used to sandwich the superabsorbent resin and joined. The upper absorber layer may be formed by the end parts and edge parts of the hydrophilic sheet being folded back toward the central part. By such a folded structure, the swollen superabsorbent polymer does not leak from the upper absorber layer even when body pressure is excessively imposed after absorption, and the folded end parts provides an effect of increasing the basis weight of the sheet material and further enhancing the compression

recoverability. The lower absorber layer may include an absorber material suitable for use as the absorber body in an absorbent article such as an incontinence pad, sanitary napkin or disposable diaper. A representative
5 absorbent material contains a mixture of an absorbent fiber and a superabsorbent polymer.

[0017]

The width (X-axis direction) of the body part 5 is preferably increased, away from the intersection point 14
10 between the border 9 of each wing part 7 and the respective side edge 6 of the body part 5, towards the longitudinal direction (Y-axis direction). Due to such a configuration, the width of the body part 5 at the intersection point 14 between the border 9 of the wing
15 part 7 and the side edge 6 of the body part 5 is smaller than the width of the body part 5 in the periphery of the body part that is provided longitudinally outwardly from the intersection point 14, as a result, it is easy to longitudinally bend the body part 5 at the intersection
20 point 14, and this facilitates correct wearing of the absorbent article 1 on the body.

[0018]

The wing parts 7 are provided in the absorbent article 1 for stably fixing the absorbent article 1 to
25 the underwear. The wing parts 7 are bent toward the outer surface of the underwear and then engaged or attached to the crotch part of the underwear through the pressure-sensitive adhesive parts 21, whereby the absorbent article 1 can be stably fixed to the underwear.
30 In order to improve the air permeability of the underwear's crotch part where the wing parts 7 are fixed to the underwear, a nonwoven fabric or an air-permeable liquid-impervious plastic film is preferably used for the wing parts 7. Also, the material described above as the
35 material for forming the backside sheet 3 or the surface sheet 2 may be used as the material for forming the wing parts 7. A material having a low basis weight is

preferably used as the material for the wing parts so that the wing parts 7 can be easily bent and a good feeling when wearing can be obtained when the wing parts 7 are fixed to the underwear.

5. [0019]

Each wing part 7 has a narrowest dimension point 12 at which the longitudinal (Y-axis direction) dimension of the wing part 7 is smallest, at a position in the widthwise (X-axis direction) on an outer side relative to the root 8 of the wing part 7, which contacts with the side edge 6 of the body part 5. That is, the narrowest dimension point 12 is spaced transversely outwardly from the side edge 6 of the body part 5 and from the root 8. The rigidity of the absorbent article 1 is greatly changed between one side of the root 8 of the wing part 7 in the transverse direction and the other side in the transverse direction. Therefore, the wing part 7 is easily bent at the root 8. In addition, the wing part 7 is easily bent also at the narrowest dimension point 12 where the longitudinal dimension of the absorbent article 1 (or the wing part 7) is the smallest. That is, other than the root 8, the wing part 7 has another easily bendable portion on the outer side of the root 8, so that when the wing part 7 is bent at the root 8, the body part 5 present on the inner side of the root 8 of the wing part 7 can be kept from bending. If the body part 5 is bent when the absorbent article 1 is fixed to the underwear, lateral leakage of the body fluid readily occurs. The lateral leakage of the body fluid can be suppressed by forming the narrowest dimension point 12 in the wing part 7 as described above.

[0020]

Furthermore, since the wing part 7 has another easily bendable portion on the outer side of the root 8 in the width direction, in addition to the root 8, the strain produced in the absorbent article 1 when the wing part 7 is bent toward the outer surface of the underwear

can be relieved. Also, in the production process of the absorbent article 1, the wing part 7 can be prevented from tearing as a result of a jig used for folding the wing part being caught on the intersection point 14
5 between the border 9 of the wing part 7 and the side edge 6 of the body part 5 when folding the wing part 7 by using the jig. In the absorbent articles described in the Background Art section, the narrowest dimension point of the wing part coincides with the root of the wing part
10 and, therefore, a jig used for folding the wing part is readily caught on the intersection point between the border of the wing part and the side edge of the body part, as a result, in the production process of the absorbent article, the wing part is sometimes torn when
15 folding the wing part.

[0021]

In addition, the wing part 7 is likely to be bent at the root 8 and at the narrowest dimension point 12 and in turn, the wing part 7 is readily bent between the root 8
20 and the narrowest dimension point 12, so that even when the width of the crotch part of the underwear is somewhat larger than the width of the body 5, the wing part 7 can be bent between the root 8 and the narrowest dimension point 12 and stable fixing can be achieved. That is, the
25 narrowest dimension point 12 is present on the outer side of the root 8 in the width direction and, therefore, the bending start point can be created other than at the root 8 of the wing part 7, as a result, even when the underwear has a crotch part with a wide width, the
30 bending position of the wing part 7 can be easily adjusted to the crotch part of the underwear and the uncomfortable feeling due to, for example, turning up the edge of the crotch part of the underwear during use can be reduced.

35 [0022]

Preferably, the wing part 7 essentially consists of a narrow width region (first region) 32 and a wide width

region (second region) 34 on an outer side (or outboard) of the narrow width region 32 in the width direction. The longitudinal (Y-axis direction) dimension of the narrow width region 32 is smaller than the longitudinal dimension of the wide width region 34. Also, the shape of the wide width region 34 is preferably substantially rectangular. The narrow width region 32 has the narrowest dimension point 12, and the longitudinal dimension of the narrow width region 32 is preferably decreased away from the root 8 towards the narrowest dimension point 12 in the transverse direction and then increased away from the narrowest dimension point 12 towards the wide width region 34 in the transverse direction. Due to this configuration, the absorbent article 1 can be stably fixed to the underwear by the wide width region 34 (which carries the pressure-sensitive adhesive part 21) having a large longitudinal dimension, and the portion in which the wing part 7 is bent can be adjusted to the curve in the portion of the underwear between the legs by the narrow width region 32 having a small longitudinal dimension. Also, due to the above-described shape of the wing part 7, when the absorbent article 1 is worn, a force can be prevented from concentrating on the intersection point 14 between the border 9 of the wing part 7 and the side edge 6 of the body part 5, and the wing part 7 can be prevented from being broken away from the body part 5 at the root 8 of the wing part 7. In addition, at the time of pulling the pair of wing parts 7 towards the right and left sides when fixing the absorbent article 1 to the underwear, the force can be dispersed without focusing on one point and therefore, it is not necessary to use a material having a high basis weight for the wing part 7 or use a lamination-processed material for the wing part 7 so as to ensure the strength of the wing part 7. As a result, a material with a low basis weight can be used for the wing part 7. By virtue of using a material with a low

basis weight for the wing part 7, an easily foldable wing part 7 improved in the feeling of wearing can be formed.

[0023]

5 In a modification example, as in the absorbent article 1A shown in Fig. 4, the shape of the wide width region 34A of the wing part 7A may be substantially elliptical. Also in this case, the absorbent article 1A can be stably fixed to the underwear by the wide width region 34A (which carries the pressure-sensitive adhesive part 21), and the portion in which the wing part 7A is bent can be adjusted to the curve in the portion of the underwear between the legs by the narrow width region 32A. Furthermore, the wide width region 34A as a whole is rounded and lacks an angulated portion and therefore, 15 even when the end of the wing part 7A is abutted to the wearer during use of the absorbent article 1A, this is less likely to cause discomfort.

[0024]

20 The wing part 7 is preferably prepared as a separate member from the body part 5. A wing part-forming member 16 for forming the wing part 7 may be fixed to the clothing side of the body part 5 by using an adhesive such as hot-melt adhesive or using heat sealing, whereby the wing part 7 is formed. Incidentally, the wing part-forming material may alternatively be fixed to the body 25 part by sandwiching the wing part-forming member between the surface sheet and backside sheet, between the surface sheet and the absorber, between the backside sheet and the absorber, or among the surface sheet, the backside sheet and the absorber. Also, the wing part may be 30 formed by extensions of the surface sheet and/or the backside sheet in the width direction, or may be formed by a member integral with the member constituting the body part. For example, one member in which the backside sheet and the wing part are integrally connected may be 35 formed by cutting out one sheet into a shape containing both the backside sheet and the wing part. Furthermore,

one member in which the surface sheet and the wing part are integrally connected may be formed by cutting out one sheet into a shape containing both the surface sheet and the wing part. In the case where the surface sheet and the wing part and/or the backside sheet and the wing part are integral with each other, as for the side edge of the body part and the root of the wing part in the portion where the wing part is connected to the body part, a straight line connecting a first intersection point between the border of the wing part and the side edge of the body part and a second intersection point between the border of the wing part and the side edge of the body part, which is present in the longitudinal direction with respect of the first intersection point, is regarded as the side edge of the body part and the root of the wing part.

[0025]

In the case where the wing part 7 is formed of a nonwoven fabric, the fiber orientation of the non-woven fabric of the wing part 7 is preferably perpendicular to the longitudinal direction (Y-axis direction) of the absorbent article 1. Due to this configuration, the strength in the width direction of the wing part 7 can be increased, and the wing part 7 can be made to be hardly broken away from the absorbent article 1. As for the fiber orientation, the longitudinal direction of the fiber as viewed on the surface of the nonwoven fabric, is the fiber orientation. Regarding the nonwoven fabric, the expression "the fiber orientation is perpendicular to the longitudinal direction" means that fibers that form from 50% to 100% of the total weight of fibers constituting the nonwoven fabric have a fiber orientation in the range of -45° to $+45^{\circ}$ with respect to the width direction X, i.e., perpendicular to the longitudinal direction Y. As for the method for measuring the fiber orientation of the nonwoven fabric, a measuring method generally employed can be used. For example, the method

may be a measuring method in accordance with a fiber orientation test method by the zero-span tensile strength of TAPPI Standard Method T481. As a simple and easy method, the fiber orientation may also be measured from the tensile strength ratio (MD/CD) between the production line direction (MD) of the nonwoven fabric and its orthogonal direction (CD). As the specific procedure of the simple and easy method, a test piece of 200 mm in length and 50 mm in width is tested under the conditions of a crosshead speed of 500 mm/min and a chuck-to-chuck distance of 150 mm by using a tester, Autograph (AGS-G100N), manufactured by SHIMADZU and while the tensile strength is determined from the maximum load during pulling, the elongation is calculated from the elongation under the maximum load. A large tensile strength ratio (MD/CD) indicates that the nonwoven fabric has fiber orientation in the MD direction (which in the absorbent article 1 coincides with the width direction X).

[0026]

The pressure-sensitive adhesive part 21 fixes the absorbent article 1 to the crotch part of the underwear. The pressure-sensitive adhesive used for forming the pressure-sensitive adhesive part 21 is suitably an adhesive where, for example, the main component is any of a styrene-based polymer, a tackifier and a plasticizer. Examples of the styrene-based polymer include a styrene-ethylene-butylene-styrene block copolymer, a styrene-butylene copolymer, a styrene-butylene-styrene block copolymer, and a styrene-isobutylene-styrene copolymer. Only one of these may be used, or a polymer blend of two or more thereof may be used. Among these, a styrene-ethylene-butylene-styrene block copolymer is preferred due to good thermal stability. As the tackifier and the plasticizer, those which are solid at ordinary temperature may preferably be used. Examples of the tackifier include a C5-type petroleum resin, a C9-type petroleum resin, a dicyclopentadiene-based petroleum

resin, a rosin-based petroleum resin, a polyterpene resin, and a terpene phenol resin, and examples of the plasticizer include a monomer plasticizer such as tricresyl phthalate, dibutyl phthalate and dioctyl phthalate, and a polymer plasticizer such as vinyl polymer and polyester.

[0027]

The pressure-sensitive adhesive part 21 provided on the clothing side of the wing part 7 fixes the wing part 7 to the outer surface of the crotch part of the underwear. The pressure-sensitive adhesive part 21 is preferably present on the outer side of the narrowest dimension point 12 in the width direction (X-axis direction). The rigidity of the wing part 7 in the region provided with the pressure-sensitive adhesive part 21 is high, and the rigidity of the wing part 7 in the narrowest dimension point 12 not provided with the pressure-sensitive adhesive part 21 is low, which makes it easy to bend the wing part 7 at the narrowest dimension point 12.

[0028]

The embodiment may be combined with one or more modification examples. Also, modification examples may be combined in any combination.

[0029]

The description above is merely an example, and the present invention is not limited to the above-described embodiments.

[0030]

The first aspect described above may be arranged in at least the following item:

An absorbent article comprising a body part having a longitudinal direction and a width direction and including a liquid-permeable surface sheet provided on the skin side, a liquid-impermeable backside sheet provided on the clothing side, and a liquid-retentive absorber between said surface sheet and said backside

sheet, and a pair of wing parts extending from side edges of said body part in the width direction, wherein each of said wing parts has a narrowest dimension point in which the longitudinal dimension of said wing part is smallest, at a position, on the widthwise outer side relative to the root of said wing part contacting with the side edge of said body part, which is spaced from the root in the widthwise direction.

[0031]

The first aspect described above may include at least the following embodiments, which may be taken in isolation or in combination with one another:

The width of said body part is preferably increased away from the intersection point between the border of said wing part and the side edge of said body part towards the longitudinal outer end.

[0032]

The wing part preferably essentially consists of a first region on the root side of said wing part and a second region on the widthwise outer side of said wing part, the longitudinal dimension of said first region is smaller than the longitudinal dimension of said second region, said first region has said narrowest dimension point, and

the longitudinal dimension of said first region is decreased away from said root to said narrowest dimension point in the width direction and increased away from said narrowest dimension point to said second region in the width direction. The wing part may consist only of the first and second regions.

[0033]

The wing part may be continuously curved between said root and said narrowest dimension point.

[0034]

The wing part may be continuously curved between said narrowest dimension point and said second region.

[0035]

The shape of said second region may be substantially rectangular or substantially elliptical.

[0036]

5 A pressure-sensitive adhesive part may be provided on the clothing side of said wing part, and said pressure-sensitive adhesive part may be present on the widthwise outer side relative to said narrowest dimension point.

[0037]

10 The wing part may be formed of a nonwoven fabric, and the direction of fiber orientation of said wing part may be perpendicular to the longitudinal direction. The wing parts may be formed separately from the body part.

15 [0038]

A wing part-forming member may be provided, which is fixed to the body part and is shorter than the body part in the longitudinal direction and wider than the body part in the width direction, wherein the wing parts
20 comprise the portions of the wing part-forming member which extend outwardly beyond the opposed side edges of the body part.

[0039]

25 The wing part-forming member may be fixed to the body part by adhesive or heat sealing and may be fixed to the clothing side of the body part, may be sandwiched between the surface sheet and backside sheet, may be sandwiched between the surface sheet and the absorber, or
30 may be sandwiched between the backside sheet and the absorber.

[0040]

The narrowest dimension point of each wing part may be formed by a pair of opposed notches in the wing part-forming member, which notches overlap with a respective
35 side edge of the body part. The notches may be continuously curved.

[Industrial Applicability]

[0041]

The absorbent article in accordance with some embodiments of the present invention can be used as an incontinence pad, a sanitary napkin, pantiliner, etc., and in particular, can be suitably used as a light incontinence pad. The light incontinence pad is a product used for a long time compared with a sanitary napkin and requires a configuration suitable for the long-time use, and the absorbent article in accordance with some embodiments of the present invention can be stably fixed to the underwear for a long time and, therefore, is preferably used for a light incontinence pad above all.

[0042]

This application claims the benefit of Japanese Application No. 2011-077875 the entire disclosure of which is incorporated by reference herein.

[0043]

This application is further related to Japanese Application No. 2011-020146 and Japanese Application No. 2011-021026 the entire disclosure of both of which are incorporated by reference herein.

[Description of Numerical References]

[0044]

- | | | |
|----|-------|--|
| 25 | 1, 1A | Absorbent article |
| | 2 | Surface sheet |
| | 3 | Backside sheet |
| | 4 | Absorber |
| | 5 | Body part |
| 30 | 6 | Side edge of body part |
| | 7, 7A | Wing part |
| | 8 | Root of wing part |
| | 9 | Border of wing part |
| | 12 | Narrowest dimension point |
| 35 | 14 | Intersection point between border of wing and side edge of body part |
| | 16 | Wing part-forming member |

- 19 -

21 Pressure-sensitive adhesive

32, 32A Narrow width region

34, 34A Wide width region

[NAME OF DOCUMENT] Claims

[Claim 1] An absorbent article comprising a body part having a longitudinal direction and a width direction and including a liquid-permeable surface sheet provided on the skin side, a liquid-impermeable backside sheet provided on the clothing side, and a liquid-retentive absorber between said surface sheet and said backside sheet, and a pair of wing parts extending from side edges of said body part in the width direction, wherein

each of said wing parts has a narrowest dimension point in which the longitudinal dimension of said wing part is smallest, at a position, on the widthwise outer side relative to the root of said wing part contacting with the side edge of said body part, which is spaced from the root in the widthwise direction.

[Claim 2] The absorbent article as claimed in claim 1, wherein a width of said body part in the width direction is increased away from an intersection point between a border of each said wing part and the respective side edge of said body outwardly in the longitudinal direction.

[Claim 3] The absorbent article as claimed in claim 1 or 2, wherein:

said wing part includes a first region and a second region on an outer side of said first region in the width direction,

the longitudinal dimension of said first region is smaller than the longitudinal dimension of said second region,

said first region has said narrowest dimension point, and

the longitudinal dimension of said first region is decreased away from said root to said narrowest dimension point and then increased away from said narrowest dimension point to said second region.

[Claim 4] The absorbent article as claimed in claim

3, wherein said wing part is continuously curved between said root and said narrowest dimension point.

[Claim 5] The absorbent article as claimed in claim 3 or 4, wherein said wing part is continuously curved
5 between said narrowest dimension point and said second region.

[Claim 6] The absorbent article as claimed in claim 3, 4 or 5, wherein the shape of said second region is substantially rectangular or substantially elliptical.

10 [Claim 7] The absorbent article as claimed in any preceding claim, wherein:

a pressure-sensitive adhesive part is provided on the clothing side of said wing part, and

said pressure-sensitive adhesive part is present on
15 the widthwise outer side relative to said narrowest dimension point.

[Claim 8] The absorbent article as claimed in any preceding claim, wherein when said wing part is formed of a nonwoven fabric, and a fiber orientation of the non-woven fabric of said wing part is perpendicular to the
20 longitudinal direction.

[Claim 9] The absorbent article as claimed in any preceding claim, wherein the wing parts are formed separately from the body part.

25 [Claim 10] The absorbent article as claimed in claim 7, wherein a wing part-forming member is provided, which is fixed to the body part and is shorter than the body part in the longitudinal direction and wider than the body part in the width direction, wherein the wing parts
30 comprise the portions of the wing part-forming member which extend outwardly beyond the opposed side edges of the body part.

[Claim 11] The absorbent article as claimed in claim 8, wherein the wing part-forming member is fixed to the
35 body part by adhesive or heat sealing and is fixed to the clothing side of the body part, is sandwiched between the surface sheet and backside sheet, is sandwiched between

the surface sheet and the absorber, or is sandwiched between the backside sheet and the absorber.

5 [Claim 12] The absorbent article as claimed in claim 10 or 11, wherein the narrowest dimension point of each wing part is formed by a pair of opposed notches in the wing part-forming member, which notches overlap with a respective side edge of the body part.

[Claim 13] The absorbent article as claimed in claim 12, wherein the notches are continuously curved.

10 [Claim 14] The absorbent article as claimed in claim 1 or 2, wherein:

said wing part includes a first region and a second region on an outer side of said first region in the width direction,

15 the longitudinal dimension of said first region is smaller than the longitudinal dimension of said second region,

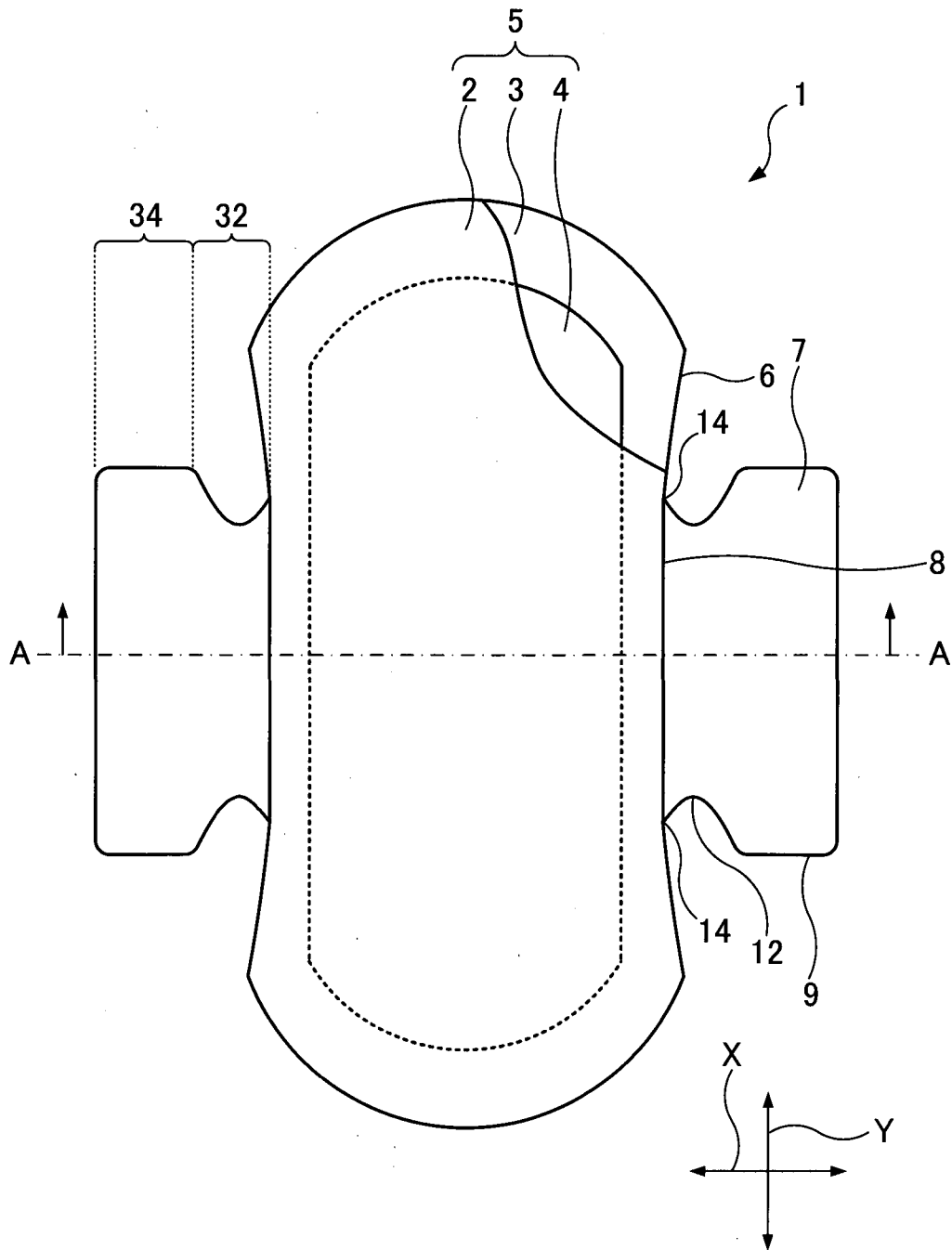
said first region has said narrowest dimension point, and

20 the longitudinal dimension of said first region is decreased from said root to said narrowest dimension point and then increased from said narrowest dimension point to said second region,

25 wherein the second region carries the garment engaging part.

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Fig.1



$\frac{2}{3}$
Fig.2

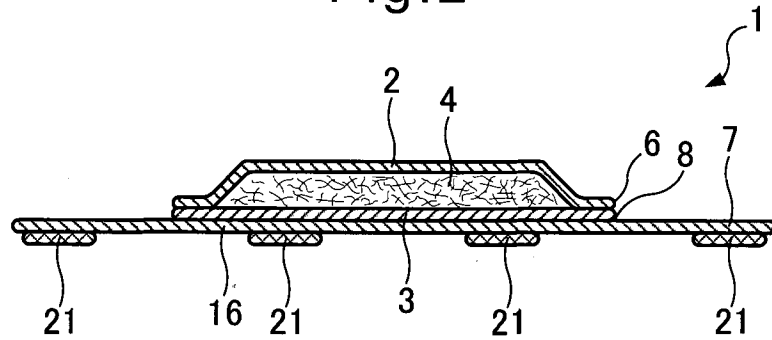
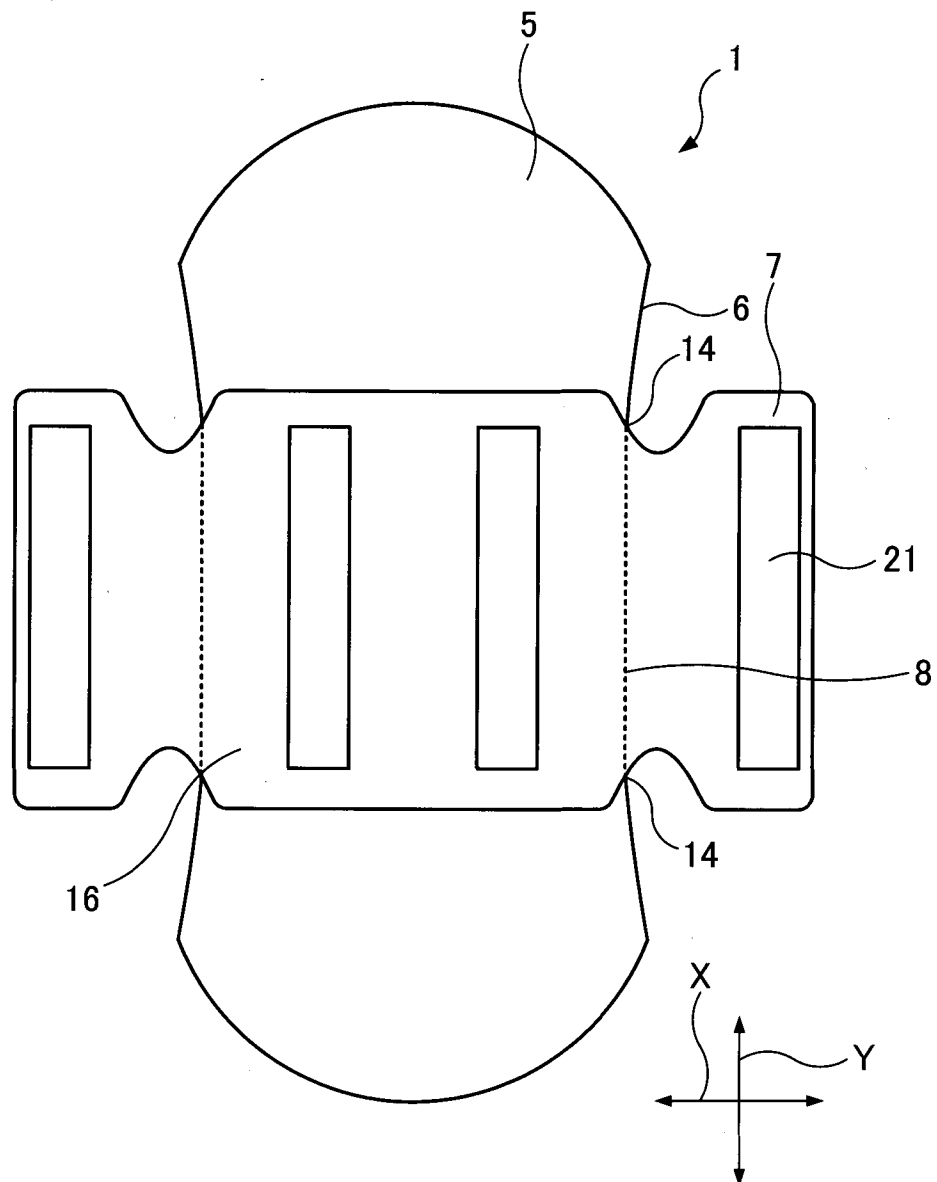
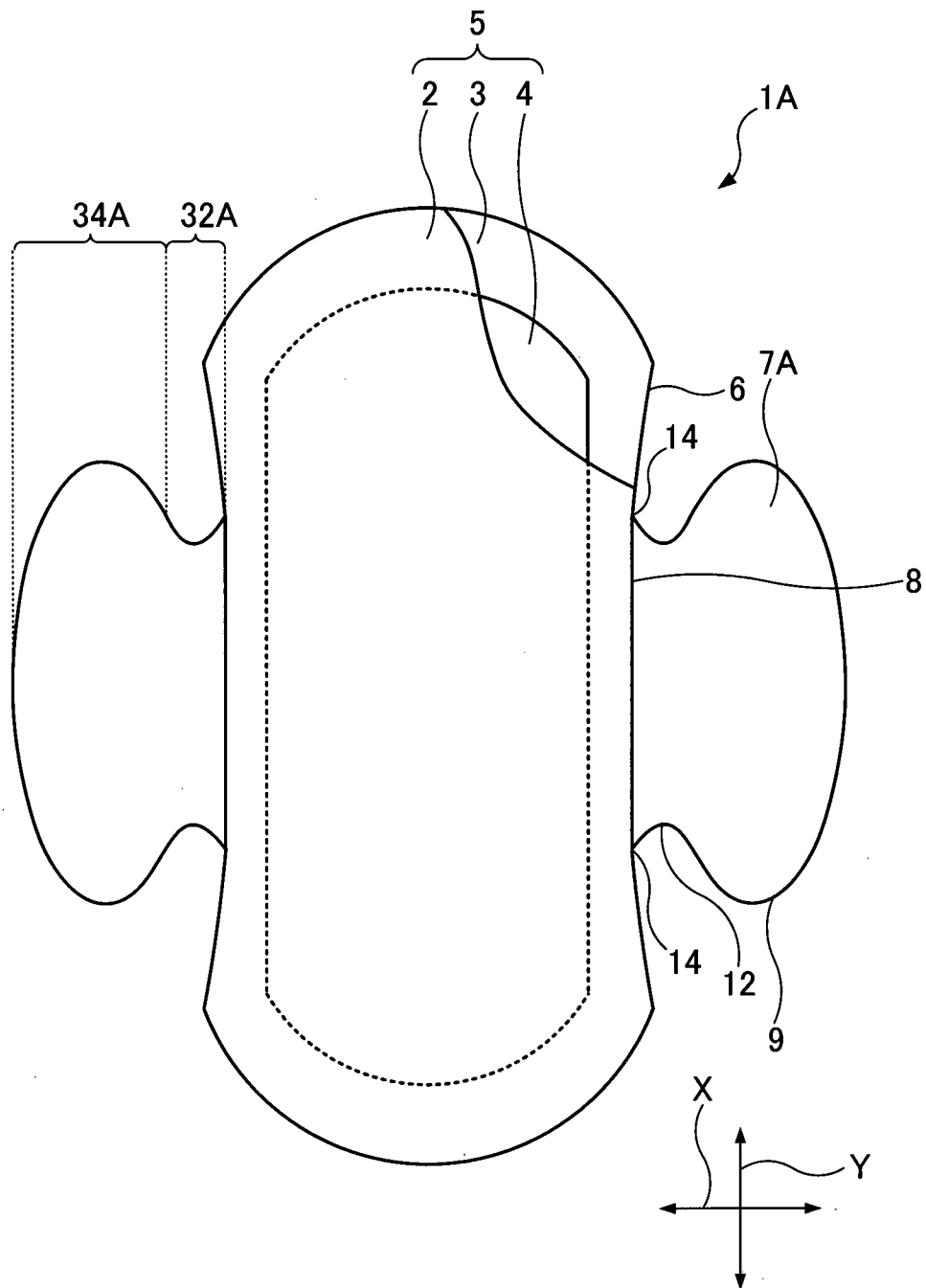


Fig.3



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Fig.4



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2012/058045

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. A61F13/15 (2006.01) i, A61F13/472 (2006.01) i, A61F13/56 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl. A61F13/15, A61F13/472, A61F13/56

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1922-1996
 Published unexamined utility model applications of Japan 1971-2012
 Registered utility model specifications of Japan 1996-2012
 Published registered utility model applications of Japan 1994-2012

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2000-24036 A (MCNEIL-PPC, INCORPORATED) 2000.01.25, Figure 6 & US 6176850 B1 & EP 966942 A2 & BR 9902457 A & RU 2193381 C & CN 1162133 C & CA 2275560 A1	1-14
A	JP 9-512454 A (THE PROCTER & GAMBLE COMPANY) 1997.12.16, Figure 4 & US 5788686 A & EP 750485 A & WO 1995/029653 A1 & AU 2205095 A & ZA 9503382 A & CA 2188020 A & MX PA96004988 A	1-14
A	JP 2005-507744 A (SCA HYGIENE PRODUCTS AB) 2005.03.24, Figure 3 & EP 1448142 A & WO 2003/039424 A1 & DE 60237385 D & SE 103704 A & AT 477777 T & MX PA04003696 A & SE 103704 D0	1-14

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

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