

673201

AUSTRALIA

Patents Act 1990

REQUEST FOR A STANDARD PATENT

The Applicant identified below requests the grant of a patent to the nominated person identified below for an invention described in the accompanying standard complete patent specification.

[70,71]Applicant and Nominated Person:

Uni-Charm Corporation
182 Shimobun, Kinsei-cho, Kawano-shi, Ehime-ken, JAPAN

[54]Invention Title:

SANITARY NAPKIN

[72]Names Of Actual Inventors:

Masamitsu Yamamoto

[74]Address for Service:

PHILLIPS ORMONDE & FITZPATRICK
Patent and Trade Mark Attorneys
367 Collins Street
Melbourne 3000 AUSTRALIA

[31,33,32]

Details of basic application(s):-
4-79168 JAPAN

JP 17 November 1992

The nominated person is not an opponent or eligible person described in section 33-36 of the Act

16 November 1993

PHILLIPS ORMONDE & FITZPATRICK
Attorneys for:
Uni-Charm Corporation

By:

David B Fitzpatrick

Our Ref : 348365

MO5 0 885 1611 93

AUSTRALIA

Patents Act 1990

NOTICE OF ENTITLEMENT

INSTRUCTIONS

(a) Name of person making statement.

1(a) Nobumasa Hayashi

(b) Position of that person.

(b) Division Head, Legal Division

(c) Name of applicant

of (c) Uni-Charm Corporation

(d) Address of applicant

of (d) 182 Shimobun, Kinsei-cho, Kawano-shi, Ehime-ken Japan

(e) Delete as necessary

State the following:-

1. The nominated person (applicant) is entitled to the grant of a patent

(e) ~~(i) as assignee of the actual inventor(s)~~

(ii) by contract of employment of the actual inventor(s)

or ~~(iii) as~~

••••• (f) Insert details if not covered by (i) or (ii)

•••••

•••••

••••• (g) Delete as necessary

2. The nominated person (applicant) is entitled to claim priority from the basic convention application(s).

(g) (i) as applicants of the said application(s)

~~(ii) as the assignee of the applicants of the said application(s)~~

~~(iii) with the consent of the applicants of the said application(s)~~

•••••

•••••

(h) Delete for non-convention applications

3. The basic convention application(s) was/were the first made in a Convention country in respect of the invention the subject of the application. (h)

••••• (i) Insert DATE of signing

Dated (i) November 5, 1995

(j) Signature(s) of person making statement

(j) Nobumasa Hayashi
Division Head, Legal Division

Note: No legalization or other witness required

To: The Commissioner of Patents

PHILLIPS ORMONDE AND FITZPATRICK
Patent and Trade Mark Attorneys
367 Collins Street
Melbourne, Australia



AU9350727

(12) PATENT ABRIDGMENT **(11) Document No. AU-B-50727/93**
(19) AUSTRALIAN PATENT OFFICE **(10) Acceptance No. 673201**

(54) Title
SANITARY NAPKIN

International Patent Classification(s)
(51)⁵ **A61F 013/56**

(21) Application No. : **50727/93**

(22) Application Date : **16.11.93**

(30) Priority Data

(31) Number (32) Date (33) Country
4-79168 U 17.11.92 JP JAPAN

(43) Publication Date : **02.06.94**

(44) Publication Date of Accepted Application : **31.10.96**

(71) Applicant(s)
UNI-CHARM CORPORATION

(72) Inventor(s)
MASAMITSU YAMAMOTO

(74) Attorney or Agent
PHILLIPS ORMONDE & FITZPATRICK , 367 Collins Street, MELBOURNE VIC 3000

(56) Prior Art Documents
AU 32926/93 A61F 13/15

(57) Claim

1. A sanitary napkin having wings, including:
 - (a) an absorbent core having a top surface, a bottom surface and two laterally spaced apart sides,
 - (b) a topsheet including a liquid-permeable sheet
 - (1) that substantially entirely surrounds said absorbent core,
 - (2) that is in direct face-to-face contact with both said top and bottom surfaces of said absorbent core, and
 - (3) that extends laterally outwardly a spaced distance away from said absorbent core sides so as to form two laterally spaced apart sleeve portions,
 - (c) an elastic member in a stretched condition extending along the interior of each of said sleeve portions so that each sleeve portion stands up and forms a side barrier,
 - (d) a liquid-impermeable backsheet
 - (1) that is bonded to the portion of said topsheet that is in direct face-to-face contact with said bottom surface of said absorbent core, and

(11) AU-B-50727/93
(10) 673201

-2-

- (2) that has two spaced apart wing portions that are separate from said sleeve portions, each wing portion extending laterally outwardly with respect to each said absorbent core side, each wing portion having a top face and a back face,
and
- (e) an adhesive means on said back face of each said wing portion which permits attachment of said wing portion to the outer surface of the crotch portion of an undergarment.

SANITARY NAPKIN

BACKGROUND OF THE INVENTION

The present invention generally relates to a sanitary napkin or a sanitary pad for absorbing and retaining menses, more particularly to a sanitary napkin having wing portions which encircle a crotch portion of an undergarment for attaching the napkin thereto.

There exist different types of sanitary napkin constructions in the prior art. One type of the constructions has a liquid permeable topsheet, a liquid impermeable backsheet and an absorbent core interposed between the topsheet and the backsheet. The backsheet and the topsheet co-extend outwardly from each side edge of a longitudinal middle portion of the absorbent core to form wing portions. When a sanitary napkin of such construction is put into use, each of the wing portions is folded outwardly toward a back face of an undergarment crotch portion, and is attached thereto by means of adhesives applied onto respective back face of the wing portions. This type of construction therefore is advantageously effective in attaching the sanitary napkin firmly to the undergarment crotch portion.

Another type of the construction has a side barrier which extends longitudinally along each side of a sanitary napkin. The side barrier has an elastic member so that the side barrier is spaced away or stands upwardly from a top surface of the sanitary napkin as the elastic member elastically contracts. The
5 side barrier is advantageously effective in preventing side leakage of body fluid.

Accordingly, conventional sanitary napkin constructions fail to effectively prevent side leakage of body fluid and to firmly attach the sanitary napkin to the undergarment crotch portion.

Therefore, it would be desirable to provide a sanitary napkin which
10 incorporates the advantageous features that each of the former and latter napkin constructions individually has.

SUMMARY OF THE INVENTION

In accordance with the present invention, there is provided a sanitary
15 napkin which comprises a liquid permeable topsheet having opposite side edges, a liquid impermeable backsheet and an absorbent core interposed between the

5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95



topsheet and the backsheet. The sanitary napkin further comprises a wing portion extending laterally outwardly from each side edge of the absorbent core, and a fastener disposed at least on a back face of the wing portion for attaching the wing portion to an undergarment.

Each of the side edges of the topsheet extends from a top face toward a back face of the absorbent core for securement thereof to the backsheet so that the topsheet surrounds the respective side edges of the absorbent core. The topsheet is spaced outwardly from each side edge of the absorbent core at least along a proximal edge of the respective wing portion to define a sleeved, side barrier that extends outwardly from the side edge of the absorbent core. Each of the side barriers incorporates an elastic member which extends longitudinally along a distal edge of the side barrier, so that the side barrier stands up by contracting force of the elastic member.

In a particular embodiment of the present invention, the wing portion extends laterally outwardly from a middle section of the absorbent core. The topsheet is illustrated to completely surround the absorbent core. The fastener may comprise adhesives applied onto the back face of the wing portion.

Thus, in at least one preferred embodiment, this invention provides a sanitary napkin having wings, including:

- (a) an absorbent core having a top surface, a bottom surface and two laterally spaced apart sides,
- 5 (b) a topsheet including a liquid-permeable sheet
 - (1) that substantially entirely surrounds the absorbent core,
 - (2) that is in direct face-to-face contact with both the top and bottom surfaces of the absorbent core, and
 - (3) that extends laterally outwardly a spaced distance away from
10 the absorbent core sides so as to form two laterally spaced apart sleeve portions,
- (c) an elastic member in a stretched condition extending along the interior of each of the sleeve portions so that each sleeve portion stands up and forms a side barrier,
- 15 (d) a liquid-impermeable backsheet
 - (1) that is bonded to the portion of the topsheet that is in direct face-to-face contact with the bottom surface of the absorbent core, and
 - (2) that has two spaced apart wing portions that are separate
20 from the sleeve portions, each wing portion extending laterally outwardly with respect to each the absorbent core side, each wing portion having a top face and a back face,and
- (e) an adhesive means on the back face of each the wing portion which
25 permits attachment of the wing portion to the outer surface of the crotch portion of an undergarment.

30 Preferably, each wing portion is provided with a reinforcing piece which has a rigidity greater than that of the backsheet forming the wing portion and which is attached to the wing portion. Preferably, also, the absorbent core sides are not in complete direct face-to-face contact with the topsheet.

Optionally, each sleeve portion establishes an open space between the interior of the topsheet and each of the absorbent sides.



When in use, an underface of the napkin is placed on an inner face of a crotch portion of an undergarment. Each of the wing portions can be folded outwardly onto an outer face of the crotch portion for securement thereto by the fastener. The side barrier then stands up by contracting force of the elastic member to snugly fit to a user's skin, without the side barrier being fallen outwardly by the influence of the folded wing portion.

Numerous other features and advantages of the present invention will become readily apparent from the following detailed description, the accompanying drawings, and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a plan view of a sanitary napkin embodying the principles of the present invention;

Fig. 2 is a perspective cut-away view of the sanitary napkin, illustrating an enlarged cross-section taken along lines X-X of Fig. 1; and,

Fig. 3 is an enlarged cross-sectional view, illustrating another embodiment of a wing portion.

PREFERRED EMBODIMENTS OF THE INVENTION

While the present invention is susceptible of embodiment in various forms, there is shown in the drawing and will hereinafter be described in detail specific embodiment thereof, with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention, and is not intended to limit the invention to the specific embodiment illustrated.

Referring now to Figs. 1 and 2, there is illustrated a sanitary napkin 10 embodying the principles of the present invention. The sanitary napkin 10 has a liquid permeable topsheet 11, a liquid impermeable backsheet 12 and an absorbent core 13 interposed between the topsheet 11 and the backsheet 12. The absorbent core 13 is configured to have smaller width and length dimensions than the topsheet 11 and the backsheet 12. The sanitary napkin 10 further has a side barrier 14 which is positioned forwardly toward a front end of the sanitary napkin 10 and extends outwardly from each side thereof. A wing portion 15 is disposed outwardly of each of the side barriers 14, and extends outwardly from the respective side of the sanitary napkin 10.

In the illustrated embodiment, the side barrier 14 comprises a sleeve portion constructed by a portion of the topsheet 11. Specifically, the topsheet 11 extends from a

top face of the absorbent core 13 toward a back face thereof to encircle the absorbent core 13. As best seen in Fig. 2, between the top and back faces of the absorbent core 13, the topsheet 11 extends outwardly of each side edge of the absorbent core 13 at least along a proximal edge of the wing portion 15 so that the topsheet portion is spaced outwardly from the side edge of the absorbent core 13 to define the sleeved, side barrier 14.

The side barrier 14 encloses an elastic member 16 within its sleeve. In this embodiment, the elastic member 16 extends longitudinally along a distal edge of the side barrier 14, and is at least at its opposite ends attached to an inner face of the side barrier 14 in its stretched condition. The side barrier 14 has a proximal edge integrally connected to the absorbent core 13 and the backsheet 12 by respective adhesives 22. Accordingly, the side barrier 14 is configured to maintain its width dimension extending outwardly from the proximal edge thereof, and its inner volume enclosed by the sleeve thereof.

Although the side barrier 14 comprises a part of the liquid permeable topsheet 11 in this embodiment, the side barrier 14 may be rendered hydrophobic or liquid-impermeable, when desired, by suitable treatment.

A lateral spacing of the respective distal edges of the opposite side barriers 14 of the sanitary napkin 10 is suitably dimensioned to be greater than a width of a crotch portion of an undergarment (or a sanitary undergarment), so that the distal edge of each side barrier 14 extends a proper distance outwardly from the respective outer edge of the undergarment crotch portion. This dimensioning desirably abates side leakage of menses. However, the foresaid lateral spacing may be suitably dimensioned for the distal edge of each side barrier 14 so as not to extend outwardly from the respective outer edge of the foresaid crotch portion.

In Fig. 2, the backsheet 12 is illustrated to comprise a liquid impermeable sheet 12a laminated onto a liquid permeable sheet 12b. The backsheet 12 may comprise the liquid impermeable sheet 12a only. Alternatively, the liquid permeable sheet 12b may be replaced by another liquid impermeable sheet.

A pair of laterally spaced, parallel lines or bands of adhesives 17 is disposed to extend longitudinally on a central lower surface of backsheet 12. A rectangular shape of adhesives 18 is placed on a central lower surface of each of the wing portions 15. These adhesives 17, 18 are respectively covered by release sheets 19, 20 for protection

thereof.

As illustrated in Fig. 3, a reinforcing piece 21 is integrally interposed between the two sheets 12a, 12b of the wing portion 15. The reinforcing piece 21 is sized to be slightly larger than a wing portion area where the adhesives 18 is placed, and is positioned over the wing portion area. The reinforcing piece 21 has rigidity greater than that of either one of the sheets 12a, 12b or that of the laminated combination thereof. Accordingly, such construction helps prevent occurrence of an undesirable occasion that the wing portion 15 adheres onto itself through the adhesives 18 when it is wrinkled or twisted during application procedures by a user. The reinforcing piece 21 may be integrally attached onto a lower surface of the sheet 12a, although not shown in the drawings. Then, the adhesives 18 may be conveniently disposed on an exposed surface of the reinforcing piece 21.

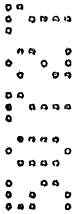
A user can apply the sanitary napkin 10 to an undergarment by first removing the release sheets 19 to expose the adhesives 17. Then the central section of the sanitary napkin 10 is pressed onto an inner surface of the undergarment crotch portion so that the central section is adhered to the inner surface through the adhesives 17. The user now removes the release sheets 20 to expose the

adhesives 18, and folds each wing portion 15 outwardly onto an outer surface of the crotch portion to adhere each wing portion 15 to the outer surface through the adhesives 18. When the sanitary napkin 10 is completely attached to the undergarment, each of the side barriers 14 stands up by a contracting force of the respective elastic member 16. Since the side barrier 14 is configured to be separated from the respective wing portion 15, when the wing portion 15 is folded onto the outer side of the undergarment crotch portion for securement thereto, the folding does not act to drag the side barrier 15 outwardly.

Various materials as known in the art may be utilized to construct elements of the sanitary napkin 10 of the present invention. For example, the topsheet 11 may comprise a non-woven fabric or an apertured plastic film. The sheets 12a, 12b may comprise a plastic film and a hydrophobic non-woven fabric, respectively.

From the foregoing, it will be observed that numerous modifications and variations can be effected without departing from the true spirit and scope of the novel concept of the present invention. It will be appreciated that the present disclosure is intended as an exemplification of the invention, and is not intended to limit the invention to the

specific embodiment illustrated. The disclosure is intended to cover by the appended claims all such modifications as fall within the scope of claims.



THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A sanitary napkin having wings, including:
- (a) an absorbent core having a top surface, a bottom surface and two laterally spaced apart sides,
 - 5 (b) a topsheet including a liquid-permeable sheet
 - (1) that substantially entirely surrounds said absorbent core,
 - (2) that is in direct face-to-face contact with both said top and bottom surfaces of said absorbent core, and
 - (3) that extends laterally outwardly a spaced distance away from
10 said absorbent core sides so as to form two laterally spaced apart sleeve portions,
 - (c) an elastic member in a stretched condition extending along the interior of each of said sleeve portions so that each sleeve portion stands up and forms a side barrier,
 - 15 (d) a liquid-impermeable backsheet
 - (1) that is bonded to the portion of said topsheet that is in direct face-to-face contact with said bottom surface of said absorbent core, and
 - (2) that has two spaced apart wing portions that are separate from said sleeve portions, each wing portion extending laterally outwardly with respect to each said absorbent core side, each wing portion having a top face and a back face,
20 and
 - (e) an adhesive means on said back face of each said wing portion
25 which permits attachment of said wing portion to the outer surface of the crotch portion of an undergarment.
2. A sanitary napkin with wings as claimed in Claim 1, wherein each said wing portion is provided with a reinforcing piece which has a rigidity greater than that of
30 the backsheet forming said wing portion and which is attached to said wing portion.



3. A sanitary napkin with wings as claimed in Claim 1, wherein said absorbent core sides are not in complete direct face-to-face contact with said topsheet.

4. A sanitary napkin with wings as claimed in Claim 1, each said sleeve
5 portion establishes an open space between the interior of said topsheet and each of said absorbent sides.

5. A sanitary napkin substantially as herein described with reference to any one of the embodiments illustrated in the accompanying drawings.

10

DATED: 22 July, 1996

PHILLIPS ORMONDE & FITZPATRICK

Attorneys for:

UNI-CHARM CORPORATION

5
5
5

5
5
5

5
5
5



A B S T R A C T

The present invention provides a sanitary napkin which comprises a side barrier incorporating an elastic member and disposed in each side of the sanitary napkin, and a wing portion disposed outwardly of the side barrier. The side barrier is configured to be separated from the respective wing portion. Accordingly, when the wing portion is folded onto an outer side of an undergarment crotch portion for securement thereto, the folding does not act to drag the side barrier outwardly.

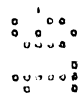
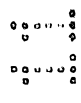
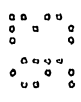
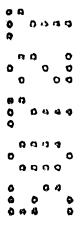


FIG.2

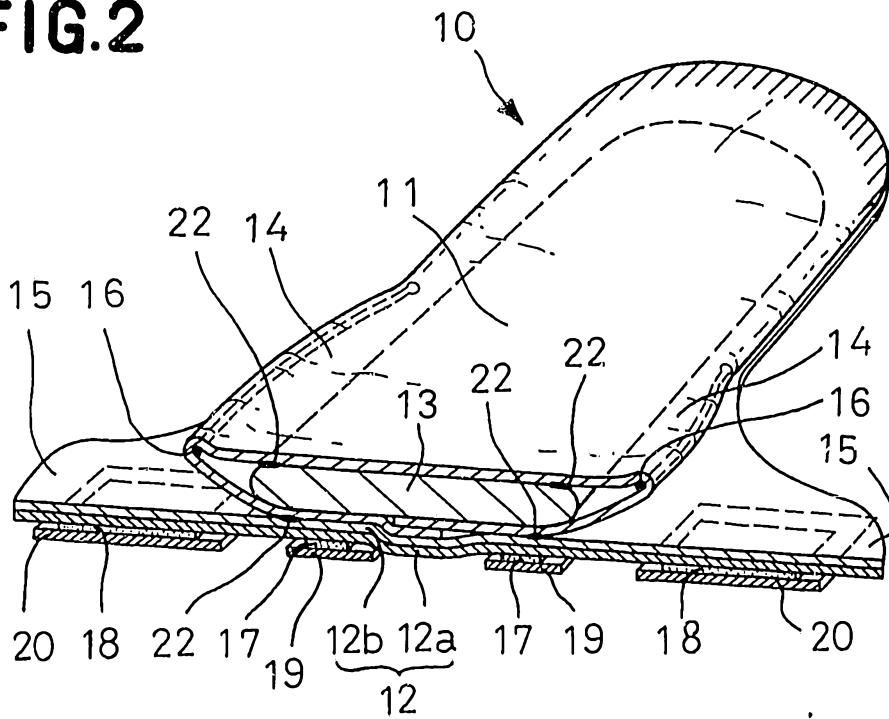


FIG.3

