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Datasheet for the decision of 3 March 2022

Case Number: T 0537/18 - 3.2.06

Application Number: 11814443.5

Publication Number: 2601921

IPC: A61F13/42, A61F13/15, A61F13/49

Language of the proceedings: EN

Title of invention:
DISPOSABLE ITEM OF CLOTHING

Patent Proprietor:
Unicharm Corporation

Opponent:
Procter & Gamble, Inc.

Headword:

Relevant legal provisions:
EPC Art. 56, 123(2)

Keyword:
Inventive step - main request (no) - auxiliary request 1 (no)
Amendments - auxiliary requests 2 to 4 - added subject-matter (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0537/18 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 3 March 2022

Appellant: (Opponent)	Procter & Gamble, Inc. One Procter & Gamble Plaza Cincinnati, OH 45202 (US)
Representative:	Elkington and Fife LLP Prospect House 8 Pembroke Road Sevenoaks, Kent TN13 1XR (GB)
Respondent: (Patent Proprietor)	Unicharm Corporation 182 Shimobun Kinsei-cho Shikokuchuo-shi Ehime 799-0111 (JP)
Representative:	Dolleymores 9 Rickmansworth Road Watford, Hertfordshire WD18 0JU (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 21 December 2017 rejecting the opposition filed against European patent No. 2601921 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	M. Harrison
Members:	P. Cipriano
	E. Kossonakou

Summary of Facts and Submissions

I. An appeal was filed by the appellant (opponent) against the decision of the opposition division rejecting the opposition to European patent No. 2 601 921. It requested that the decision under appeal be set aside and the patent be revoked.

II. With its reply, the respondent (patent proprietor) requested that the appeal be dismissed or, in the alternative, that the patent be maintained according to one of auxiliary requests 1 to 4 filed therewith.

III. The following documents, referred to by the appellant in its grounds of appeal, are relevant to the present decision:

D2 EP 2 067 458 A1
D3a EP 2 272 476 A1
D4 EP 0 674 891 A2
D6 JP 2010075464 and its English translation D6a

IV. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion, in which it indicated *inter alia* that claim 1 of the main request did not seem to involve an inventive step when starting from D6 and that the requirement of Article 123(2) EPC regarding claim 1 of auxiliary requests 2 to 4 appeared to require discussion.

V. With letter dated 30 July 2021, the respondent filed new auxiliary requests 1 to 3 replacing its previous requests, conditional on the amended auxiliary requests 1 to 3 being admitted into the proceedings.

VI. Oral proceedings were held by videoconference before the Board on 3 March 2022, during which the respondent withdrew auxiliary requests 1 to 3 filed on 30 July 2021.

At the close of oral proceedings,

- the appellant requested that the decision under appeal be set aside and the European patent No. 2 601 921 be revoked,

- and the respondent requested that the appeal be dismissed (main request), alternatively that the patent be maintained in amended form on the basis of one of auxiliary requests 1 to 4 filed with the reply to the statement of grounds of appeal of 30 August 2018.

VII. Claim 1 of the main request (patent as granted) reads as follows:

"1. A disposable wearing article having a longitudinal direction and a transverse direction, including:

a skin-facing side;

a non-skin-facing side opposite to the skin-facing side;

front and rear waist regions;

a crotch region extending between the front and rear waist regions;

a liquid-permeable topsheet lying on the skin-facing side;

a liquid-impermeable backsheet lying on the non-skin-facing side; and

a liquid-absorbent structure interposed between these top- and backsheets and placed at least in the crotch region, wherein

the backsheet is formed on the surface thereof facing the liquid-absorbent structure with at least one indicator adapted to develop a color reaction when the indicator comes in contact with at least one of moisture and body exudates, wherein:

the topsheet is formed of a fibrous nonwoven fabric of which most of fibers of the fibrous nonwoven fabric has a fiber orientation along one of the longitudinal direction and the transverse direction and an area in which the at least one indicator is provided extends in one of the longitudinal direction and the transverse direction so that the direction of the at least one indicator's area substantially coincides with the fiber orientation of the topsheet;

the liquid-absorbent structure includes a liquid absorbent core and a wrapping sheet adapted to wrap the skin-facing side and the non-skin facing side of the core and being continuous outboard of the core in the transverse direction; and

between the non-skin-facing side of the core and the wrapping sheet, a hydrophobic bottom element is located to overlap with the at least one indicator and the at least one indicator contains a hot melt polymer and an indicating agent and is provided at least in the crotch region."

VIII. Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the following feature has been appended at the end of the claim:
"and wherein a dimension in the transverse direction of the bottom element is larger than that of the area in which the at least one indicator is provided and smaller than that of the core."

IX. Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that the following feature has been added:
"wherein the bottom element is a bottom sheet formed of a sheet material".

X. Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in that the following feature appended at the end of the claim:
"wherein the core contains at least superabsorbent polymer particles and a content percentage of the superabsorbent polymer particles is in a range of 35 to 70% by mass of a total mass of the core."

XI. Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 1 in that the following feature has been added:
"wherein the bottom element is a bottom sheet formed of a sheet material having a water bearing pressure in a range of 10 to 350 mmH_20".

XII. The appellant's arguments relevant to this decision may be summarised as follows:

Main request - Article 56 EPC

The subject-matter of claim 1 did not involve an inventive step when starting from D6 in combination with the teaching of D4.

D6 disclosed all the features of claim 1 with the exception of the feature that "the topsheet is formed of a fibrous nonwoven fabric of which most of fibers of the fibrous nonwoven fabric has a fiber orientation along one of the longitudinal direction and the transverse direction and an area in which the at least one indicator is provided extends in one of the longitudinal direction and the transverse direction so that the direction of the at least one indicator's area substantially coincides with the fiber orientation of the topsheet".

The fibre alignment feature defined in claim 1 did not provide a more visible indication contrary to what the respondent had argued, since providing this effect required a disposable wearing article comprising further features that were however not defined in claim 1. For example, in the absence of a specific disposition of the indicator or the hydrophobic element this effect did not solve any meaningful technical problem. It merely provided an alternative nonwoven material for use as a topsheet.

The use of a nonwoven topsheet having fibres oriented in the longitudinal direction would have been a routine design choice for the skilled person, as hinted at in D6 and disclosed in D4.

Auxiliary request 1 - Article 56 EPC

The subject-matter of claim 1 did not involve an inventive step when starting from D6 in combination with the teaching of D4 and using common general knowledge or D3.

D6 did not disclose a bottom element with a dimension in the transverse direction smaller than that of the core.

Making the bottom element narrower than the core did not solve any problem as the position of the indicators was not defined in the claim and the bottom element was not required to cover the indicators completely or to be permeable. The objective problem was thus simply to find an alternative topsheet.

D6 already disclosed a holding sheet (corresponding to the bottom element) inside the wrapping sheet such that the skilled person only needed to adjust its width. In addition, D6 did not teach against having any specific width of the holding sheet; it simply needed to cover the liquid acceptance region and the super absorbent polymer (SAP).

Alternatively, the embodiment of Figure 2 of D3 also disclosed the missing feature. A bottom element narrower than the width of the core was therefore already known by the skilled person to be a suitable alternative for the holding sheet of D6 having its particular width.

Auxiliary requests 2 to 4 - Article 123(2) EPC

The subject-matter of claim 1 of auxiliary requests 2 to 4 failed to meet the requirement of Article 123(2) EPC.

Neither the claim dependency of the originally filed claims nor paragraphs [0015] or [0028] provided a basis for the amendments made to these claims.

XIII. The respondent's arguments relevant to this decision may be summarised as follows:

Main request - Article 56 EPC

The subject-matter of claim 1 involved an inventive step when starting from D6 in combination with the teaching of D4.

D6 disclosed all the features of claim 1 with the exception of the feature that the topsheet was formed of a fibrous nonwoven fabric, most of the fibers of which had a fiber orientation along one of the longitudinal direction and the transverse direction (coinciding with the indicator).

With the (synergistic) technical effect of the fibre orientation of the topsheet and its alignment with the indicator as correctly interpreted, the objective technical problem to be solved was to provide a more visible indication, both for large and small amounts of urine. There was no reason to assume that the effect was not credible. The disposable wearing article of claim 1 was specific enough for the indicator indication to become more visible.

There was no hint for the skilled person starting from D6 to choose any other topsheet than the ones disclosed in D6. D4 and D6 did not teach that fiber orientation influenced liquid distribution. Even if the skilled person applied the teaching of D4, D4 did not disclose a topsheet and the skilled person would have no incitement to align the fibre orientation with the direction of the indicator.

Auxiliary request 1 - Article 56 EPC

The subject-matter of claim 1 involved an inventive step when starting from D6 when considering the teaching of D4 and common general knowledge or D3.

D6 did not disclose a bottom element with a dimension in the transverse direction smaller than that of the core. This shortened the path for the liquid between the topsheet and the indicator and thus had the effect of reducing the time for the fluid to reach the indicator and thus provided a way to reduce the time taken for the indicator to be activated. The holding sheet in D6 served to reinforce stiffness and improve the touch of the user such that the skilled person would not narrow it and would always make it of the width of the core.

Further, D3 taught the skilled person to place such a cover outside the wrapping sheet whereby a combination with D3 would not lead the skilled person to the subject-matter of claim 1 without exercising an inventive step.

Auxiliary requests 2 to 4 - Article 123(2) EPC

Claim 1 of auxiliary requests 2 to 4 fulfilled the requirement of Article 123(2) EPC.

Although claim 3 was dependent directly on claim 1, paragraph [0028] of the application as filed provided a basis for the skilled person to combine the features of dependent claims 2, 3, 4 and 6.

Further, paragraphs [0007] to [0010] and [0015] of the published application also provided a basis for the combination of features of claim 1 of auxiliary request 2.

The same arguments as for auxiliary request 2 applied to claim 1 of auxiliary requests 3 and 4.

Reasons for the Decision

1. Main request - Article 56 EPC

1.1 It is not contested between the parties that the starting point D6 differs from claim 1 only in that:
- "the topsheet is formed of a fibrous nonwoven fabric of which most of fibers of the fibrous nonwoven fabric has a fiber orientation along one of the longitudinal direction and the transverse direction and an area in which the at least one indicator is provided extends in one of the longitudinal direction and the transverse direction so that the direction of the at least one indicator's area substantially coincides with the fiber orientation of the topsheet".

The Board sees no reason to find otherwise.

1.2 The respondent argued that this feature provided an article with a more reliable visible indication as stated in paragraph [0033] of the patent specification. The fibre disposition increased the wicking in the fiber direction which then resulted in a bigger part of the indicator area being wetted and thus in a more reliable indication.

1.2.1 The Board does not find this argument convincing. Even if it were assumed that the orientation of the fibres of the fibrous nonwoven fabric of the topsheet provided a predominant wicking direction along this orientation, this preferred wicking orientation does not by itself create a more reliable indication.

Claim 1 defines that an area in which the indicator is provided (rather than the area of the indicator(s) itself/themselves) coincides with the fiber alignment. Without defining the number and the position of the indicators in the indicator area as well as the amount of longitudinal overlap between the indicators and the bottom element, the claim encompasses many possibilities in which the preferential wicking in the fibre direction would result in a smaller part of the indicator being wetted, or at least, being wetted at a later point in time and not earlier. For example, if the indicators are more spaced apart from the point of insult in a direction other than the fiber alignment, it will take longer for the indication to become visible.

1.2.2 In addition, as explained in the mechanism in paragraphs [0032] and [0033] of the patent

specification, the hydrophobic bottom sheet needs to be permeable and the specific wicking (diffusion) rates of the core and the wrapping sheet in relation to the topsheet would need to be appropriately adjusted to create a preferential wicking in the fiber direction and for the mechanism to work effectively. None of this is defined in claim 1.

1.3 For the reasons stated above, the differing feature does not provide a more reliable visible indication nor any other recognisable technical effect over the scope of the claim. The objective problem to be solved by the invention is thus only to provide an alternative topsheet.

1.4 To provide a topsheet with component fibers oriented in a preferential direction is, however, an obvious design choice that is already known from the prior art. D6 (see paragraph [0021] of D6a) discloses spunbond nonwoven fabric as a possible material in the method of producing the surface sheet 30 (which corresponds to the topsheet of claim 1). This method inherently produces a sheet having more fibres in a preferential direction.

1.5 The respondent argued that D4 taught the provision of a liquid distribution layer having fibre directionality and not a topsheet. D4 also did not teach that fiber orientation influenced liquid distribution nor to align the fibers with an indicator.

1.5.1 The Board does not find these arguments persuasive. Whilst it is true that D4 discloses a further liquid permeable facing layer 12 on top of the liquid transmission layer 14, the skilled person knows that a topsheet may be made of several layers and is not

limited to a single component sheet, i.e. the topsheet may comprise several layers as such and the liquid transmission layer may also be considered part of the topsheet.

1.6 The abstract and Figure 1 of D4 teach that a liquid distribution layer 14 may have its fibers distributed along one of two planar dimensions (X or Y in Figure 1 of D4) of the web. As explained above, the skilled person is not looking to solve any technical problem other than providing an alternative topsheet such that it is not required that the teaching of D4 associates any specific advantage to the orientation of the fibers.

1.7 The skilled person would thus add the liquid distribution layer disclosed in D4 to the topsheet of D6 and arrive at the subject-matter of claim 1 without exercising an inventive step. Although D4 discloses two possible planar directions, it is merely one of two obvious choices for the skilled person to choose the proposed planar direction X and arrive at a fiber orientation that coincides with the indicator's area formed by the indicators 90 shown in D6, it again being remembered that the problem to be solved is simply choosing an alternative topsheet and a skilled person would do this not least simply for using the characteristics of the topsheet in D4.

1.8 The subject-matter of claim 1 therefore does not involve an inventive step, such that the main request is not allowable.

2. Auxiliary request 1 - Article 56 EPC

2.1 Claim 1 of auxiliary request 1 has been amended to include the following feature at the end of the claim: "wherein a dimension in the transverse direction of the bottom element is larger than that of the area in which the at least one indicator is provided and smaller than that of the core"

2.2 It was not disputed that Figure 2 of D6 discloses a bottom element with a dimension in the transverse direction larger than that of the area in which the at least one indicator is provided. It was further not disputed that D6 does not disclose a bottom element with a dimension in the transverse direction smaller than that of the core. The Board also sees no reason to take a different view.

2.3 The respondent argued that making the bottom element narrower shortened the path for the liquid between the topsheet and the indicator and thus had the effect of reducing the time for the fluid to reach the indicator. The objective technical problem was therefore to provide a way of reducing the time taken for the indicator to be activated.

2.3.1 The Board does not find this argument persuasive. The claim does not define the "direction" of the indicator area (which can be in the longitudinal or transverse direction within the scope of claim 1) nor of the bottom element, the latter also not being required to be permeable or cover the whole indicator area. Without a more specific arrangement defined in claim 1, making the bottom element narrower does not solve the problem proposed by the respondent (reducing the time for the

indicator to be activated) over the whole scope of the claim.

2.3.2 Making the bottom element of a disposable wearing article as defined in claim 1 narrower than the core therefore does not provide any recognisable technical effect and the objective problem is thus simply to provide a suitable width for the bottom element.

2.4 The respondent also argued that the skilled person would not make the holding sheet of D6 (which corresponds to a bottom element according to claim 1) narrower than the core since the holding sheet in D6 served to reinforce stiffness and improved the touch of the user by disguising any roughness on the surface of the core, as explained in paragraphs [0049] and [0055] of D6. Even if D6 did not explicitly disclose a holding sheet having the same width as the core, this was implicit for the skilled person trying to reinforce stiffness and improve the touch of the user as described in paragraphs [0049] and [0055].

2.4.1 The Board does not accept this argument either. Figure 2 of D6 shows the cross-section of a bottom element 80 having the same width as the core. However, this cross-section is taken at a narrow section of the hourglass shaped core of Figure 1. Since D6, particularly paragraphs [0049] and [0055], do not specify the shape or the size of the bottom element further, it is not unambiguous that the width of the bottom element in Figure 1 equals that of the core more than accidentally, i.e. over a substantial part or its whole length. Paragraphs [0049] and [0055] also do not teach that the core and the holding sheet should be of the same width, only that positioning a sheet of a certain material placed before the SAP polymer particles 54 has

the desired effects mentioned above. The teaching of D6 does therefore not teach the skilled person away from adopting a bottom sheet with a width smaller than the width of the core.

2.4.2 The skilled person looking for a suitable width for the bottom element would choose a width narrower than the core but still wider than the indicator area without exercising an inventive step, as this is a common design choice already known from the prior art (see for example, D3, Figure 2).

2.5 The respondent argued that D3, paragraphs [0018], [0019] and Figure 2, disclosed a hydrophobic cover sheet 22 outside the wrapping sheet to protect the indicators from direct contact with the latter such that D3 allegedly taught the skilled person to place such a cover outside the wrapping sheet.

The Board is not persuaded by this argument. The starting point D6 already discloses the holding sheet next to the core and inside the wrapping sheet. The skilled person is only solving the problem of providing a suitable width for the holding sheet under the core and not of changing its location. D3 also does not disclose any particular benefits or problems that would prompt the skilled person to change the position of the holding sheet of D6 such that the skilled person would not contemplate changing the position of the holding sheet of D6 when trying to solve the technical problem posed.

2.6 For the reasons stated above, the subject-matter of claim 1 of auxiliary request 1 does not involve an inventive step. Auxiliary request 1 is therefore not allowable.

3. Auxiliary request 2 - Article 123(2) EPC

3.1 Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that the following feature has been added:
"wherein the bottom element is a bottom sheet formed of a sheet material".

3.2 The subject-matter of claim 1 is a combination of claims 1, 2 and 3 as originally filed (and as granted). However, claims 2 and 3 as filed were dependent only on claim 1 such that there is no explicit combination of originally filed claims 1, 2 and 3.

3.3 The respondent argued that paragraph [0028] of the application as filed provided a basis for the skilled person to combine the features of dependent claims 2, 3, 4 and 6 since it disclosed the specific features of dependent claims 2, 3, 4 and 6 in combination.

This argument is not accepted by the Board. Paragraph [0028] is part of the description of the specific embodiment of Figures 3 and 4 which discloses a liquid absorbent structure with *inter alia* a more specific bottom sheet having, for example, a longitudinal dimension L1 larger than the dimension L2 of the indicator 15. Such a relationship between longitudinal dimensions has not been defined in claim 1 of auxiliary request 2 despite relating to the shape of the bottom element and of the indicators and being thus functionally and structurally linked to other features of the bottom sheet and of the indicator area.

3.4 The respondent argued that no subject-matter had been added and that a further basis for the combination was

provided by paragraphs [0007] to [0010] and [0015] of the published application. The skilled person reading the expression "[p]articularly according to one or more embodiments of the present invention" at the beginning of paragraph [0015] understood that the embodiments described before in paragraphs [0007] to [0014] were combinable. Since paragraphs [0007] and [0008] described the "present invention" and disclosed a disposable wearing article with the features of claim 1 as filed, paragraph [0009] described "one embodiment of the present invention" with the specific features of claim 2 as filed/granted and paragraph [0010] described "another embodiment of the present invention" with the specific features of claim 3 as filed/granted, the skilled person directly and unambiguously derived the combination of their subject-matter and arrived at the subject-matter of claim 1 of auxiliary request 2.

3.4.1 The Board does not find these arguments persuasive. Paragraph [0015] does describe the advantages of the several embodiments mentioned before, however the expression "[p]articularly according to one or more embodiments of the present invention" does not establish a link between the embodiments and just states that the advantages described immediately after are present in some of the embodiments without specifying which particular advantage corresponds to which particular embodiment, i.e. "one or more embodiments" may present a certain advantage.

3.4.2 The skilled person reading paragraph [0015] would thus not directly and unambiguously derive from this paragraph that the embodiments of paragraphs [0007] to [0014], more specifically of paragraphs [0007] to [0010] in the case of claim 1 of auxiliary request 2, are combinable among themselves.

3.5 Claim 1 of auxiliary request 2 does not fulfil the requirement of Article 123(2) EPC. Auxiliary request 2 is thus not allowable.

4. Auxiliary requests 3 and 4 - Article 123(2) EPC

4.1 Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in the following feature appended at the end of the claim:
"wherein the core contains at least superabsorbent polymer particles and a content percentage of the superabsorbent polymer particles is in a range of 35 to 70% by mass of a total mass of the core."

4.2 However, this amendment does not overcome the objections made against claim 1 of auxiliary request 2 above as claim 1 still contains the specific features of dependent claim 3 as filed. The added feature is specifically disclosed in paragraph [0012], and claim 5 of the published application. However, as explained above under items 3.2 to 3.4, this does not overcome the fact that originally filed claim 3 is not dependent on originally filed claim 2, that paragraph [0028] discloses a more specific bottom sheet and that paragraph [0015] does not provide a basis for combining the features in paragraphs [0007] to [0009] at will.

4.3 The amendment to claim 1 of auxiliary request 3 therefore does not fulfil the requirement of Article 123(2) EPC.

4.4 Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 2 in that the following feature has been added:

"wherein the bottom element is a bottom sheet formed of a sheet material having a water bearing pressure in a range of 10 to 350 mmH_20".

4.5 This added feature was specifically disclosed in paragraphs [0009],[0013], [0028] and claim 6 of the published application. For similar reasons to the ones stated above under item 3.2, claim 6 was originally dependent on claim 2 but claim 3 (which is also comprised in the wording of the claim) was only originally dependent on claim 1 such that the original claim dependency does not provide a basis for this combination of features. The addition of the feature of originally filed claim 6 also does not overcome the objections made above for claim 1 of auxiliary request 2.

4.6 In addition, and as explained above under items 3.3 and 3.4, paragraph [0028] discloses a more specific bottom sheet and paragraph [0015] does not provide a basis for combining the features in paragraphs [0007] to [0014].

4.7 Claim 1 of auxiliary request 4 therefore does not fulfil the requirement of Article 123(2) EPC.

4.8 Auxiliary requests 3 and 4 are thus not allowable.

5. In the absence of an allowable request, the patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside

2. The patent is revoked.

The Registrar: The Chairman:

D. Grundner M. Harrison

Decision electronically authenticated