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Datasheet for the decision of 9 October 2018

Case Number: T 1862/12 - 3.4.01

Application Number: 03713756.9

Publication Number: 1483565

IPC: G21K5/04, A61F13/15

Language of the proceedings: EN

Title of invention:
APPARATUS AND METHOD FOR MAKING AND INSPECTING PRE-FASTENED ARTICLES

Patent Proprietor:
KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:
THE PROCTER & GAMBLE COMPANY

Headword:
Inspecting Articles / KIMBERLEY-CLERK

Relevant legal provisions:
EPC Art. 56
RPBA Art. 13(1), 13(3)

Keyword:
Late-filed auxiliary requests - admitted (no) - diverging versions of claims - new issue - request clearly allowable (no)
Inventive step - (no) - technical problem not solved within whole area claimed - arbitrary modification

Decisions cited:
T 1459/11, T 0093/11, T 0939/92, T 0268/00

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Case Number: T 1862/12 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 9 October 2018

Appellant: (Opponent)	THE PROCTER & GAMBLE COMPANY One Procter & Gamble Plaza Cincinnati, Ohio 45202 (US)
Representative:	Anderson, James Edward George Elkington and Fife LLP Prospect House 8 Pembroke Road Sevenoaks, Kent TN13 1XR (GB)
Respondent: (Patent Proprietor)	KIMBERLY-CLARK WORLDWIDE, INC. 401 North Lake Street Neenah, WI 54956 (US)
Representative:	Dehns St. Brides House 10 Salisbury Square London EC4Y 8JD (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 11 June 2012 concerning maintenance of the European Patent No. 1483565 in amended form.**

Composition of the Board:

Chairman	P. Scriven
Members:	F. Neumann
	D. Rogers

Summary of Facts and Submissions

I. The appeal is directed against the interlocutory decision of the Opposition Division to maintain the European patent number 1 483 565 in amended form.

II. With the statement setting out the grounds of appeal, the appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked in its entirety. Oral proceedings were requested as an auxiliary measure. Objections were raised against the version of the claims maintained by the Opposition Division under Articles 123(2), 83, and 56 EPC.

III. With the reply to the grounds of appeal, the respondent (proprietor) requested that the appeal be dismissed and that the patent be maintained in the form in which it was maintained by the Opposition Division (Main Request). Oral proceedings were requested, in the event that the main request could not be granted. Three new sets of claims forming the bases of first to third auxiliary requests were filed.

IV. In a communication in preparation of oral proceedings, the Board set out its preliminary opinion with regard to the issues raised by the appellant.

V. With submissions of 20 August 2018, the respondent filed five new sets of claims for a main request and first to fourth auxiliary requests. Each of these sets of claims had been amended with respect to the sets of claims filed with the respondent's reply to the grounds of appeal.

VI. The final requests of the appellant were that the decision under appeal be set aside and that the patent be revoked in its entirety. In addition, the appellant requested that none of the respondent's requests of 20 August 2018 be admitted.

VII. The final requests of the respondent were that the patent be maintained on the basis of one of the sets of claims and amended description pages making up the main request and first to fourth auxiliary requests filed with the submissions of 20 August 2018. Remittal to the Opposition Division was requested, should further amendments to the description be required.

VIII. Claim 1 of the **main request** reads as follows:

> *A method of inspecting an article formed from multiple elements to determine if a first of the elements is properly located relative to a second of the elements in the article, the method comprising: irradiating the article with a radiation source comprised of at least first and second zones, the radiation source irradiating the article at said first zone with radiation having a first radiation intensity and irradiating the article at said second zone with radiation having a second radiation intensity different from said first radiation intensity, each zone being generally aligned with different portions of the article; and capturing an image of at least a portion of the irradiated article including the first and second elements thereof;*

wherein the irradiating step comprises irradiating one side of the article, the step of capturing an image comprising using at least one camera disposed on a side of the article opposite the irradiated side to capture an image of the first and second elements.

IX. Claim 5 of the **main request** reads as follows:

An apparatus for inspecting an article with multiple edges to determine if the edges exist and are properly located relative to each other on the article, the apparatus comprising:
a radiation source having first and second radiation zones, the radiation source emitting radiation from the first radiation zone at a first radiation intensity and emitting radiation from the second radiation zone at a second radiation intensity different from said first predetermined radiation intensity, each radiation zone being generally aligned with different ones of the multiple edges of the article for irradiating the article from a first side of the article; and
an image capturing device adapted to be disposed on a second side of the article such that a portion of the article is located between the radiation source and the image capturing device for capturing an image of the irradiated article including the edges thereof.

X. Claim 1 of the **first auxiliary request** adds the following bold text to claim 1 of the main request:

> *...including the first and second elements thereof;*
> ***wherein irradiating the article comprises: irradiating the article with light from light emitting diodes in the first and second zones of said radiation source;*** *and wherein the irradiating step comprises irradiating one side of the article ....*

XI. Claim 4 of the **first auxiliary request** is identical to claim 5 of the main request.

XII. Claim 1 of the **second auxiliary request** is identical to claim 5 of the main request.

XIII. Claim 1 of the **third auxiliary request** reads as follows (modifications with respect to claim 1 of the main request being indicated in bold):

> *A method of inspecting an article formed from multiple elements to determine if* ***an edge of*** *a first of the elements is properly located relative to* ***an edge of*** *a second of the elements in the article, the method comprising: irradiating the article with a radiation source comprised of at least first and second zones, the radiation source irradiating the article at said first zone with radiation having a first radiation intensity and irradiating the article at said second zone with radiation having a second radiation intensity different from*

said first radiation intensity, each zone being generally aligned with different portions of the article ***and different ones of said edges****; and capturing an image of at least a portion of the irradiated article including the first and second elements* ***and said edges*** *thereof;*
wherein the irradiating step comprises irradiating one side of the article, the step of capturing an image comprising using at least one camera disposed on a side of the article opposite the irradiated side to capture an image of the first and second elements.

XIV. Identical modifications have been carried out to claim 1 of the first auxiliary request to form claim 1 of the **fourth auxiliary request**.

XV. The arguments of the appellant, insofar as they are pertinent, are as follows:

Admissibility of the current requests
In accordance with Article 13(1) RPBA, none of the latest requests should be admitted into the proceedings. Since the objections giving rise to the amendments had already been raised in the grounds of appeal, there was no justification for waiting for the Board's communication before making the amendments. They could and should have been filed in response to the grounds of appeal. The submission of new requests at this late stage of the proceedings conflicted with the need for procedural economy. In addition thereto, the combination of features now defined in claim 3 of the first auxiliary request did not appear in the

originally filed application documents. The new auxiliary request 2 rendered the subject-matter of the requests non-convergent.

Inventive step

Document D1 (US-A-5 359 525) was the closest prior art and disclosed a method of inspecting an absorbent article to determine relative locations of elements making up the article. An image of the elements was captured using a uniform backlighting arrangement. The subject-mater of claim 1 was distinguished from the inspection method of D1 in that different portions of the article were irradiated with different zones of radiation having different intensities. The objective technical problem identified by the Opposition Division in the contested decision, i.e. the optimisation of the contrast ratio between different elements in the article, was incorrect because the claim did not require different irradiated portions to include different elements. The claim covered the case in which the elements of the article were irradiated with the same zone of radiation.

The provision of at least two zones of different intensities served no clear purpose in the broad context of claim 1. There was therefore no apparent technical benefit in providing zones of different intensities. In the absence of a technical effect, it was not possible to formulate an objective technical problem solved by a light source having multiple intensity zones for irradiating random portions of the article with different intensities. Consequently, this feature was nothing more than an arbitrary modification of the teaching of D1. As such, the distinguishing feature could not be considered to contribute to an inventive step.

In claim 1 of the first auxiliary request, LEDs were used to irradiate the article. This was a further difference with respect to the disclosure of D1. Since this feature was not functionally related to the distinguishing feature of the main request, inventive step could be assessed in terms of partial problems. The use of LEDs was common general knowledge at the priority date and, since the description did not suggest that they had any particular advantage, they could not be considered inventive.

Claim 1 of the second auxiliary request defined that each radiation zone was aligned with different ones of the edges of the article. However, the contrast issue did not arise in this claim, since the opacities of the various elements of the article were not mentioned in the claim. The wording of the claim encompassed the situation in which two edges defined by the same materials would be imaged. No apparent technical benefit arose from the use of different intensity irradiation zones in this situation. So in a similar manner to claim 1 of the main request, this feature was nothing more than an arbitrary modification of the teaching of D1 and could not be considered to contribute to an inventive step.

XVI. The arguments of the respondent, insofar as they are pertinent, are as follows:

Admissibility of requests
The amendments in each of the latest requests were performed as a direct reaction to the Board's communication which was the first indication that the EPO had doubts over the validity of certain claims. In particular, the amendments to the claims of the second, third and fourth auxiliary requests were necessary to

better define the features from which the objective technical problem could be derived. Since the amendments were simple and did not raise any new issues that could not be dealt with at the oral proceedings, the requests should be admitted.

Inventive step

The subject-matter of claim 1 of the main and first auxiliary requests was distinguished from D1 in that the irradiation source was comprised of at least first and second zones each producing a different intensity. Each zone was generally aligned with different portions of the article such that the different portions were irradiated with different intensities. The technical effect of these distinguishing features was that the different intensities of light produced better images of different parts of an article of non-uniform composition whilst reducing the occurrence of false readings. The objective technical problem solved by the distinguishing features of claim 1 of the main and first auxiliary requests was, therefore, the improvement of the ability to detect the locations of elements in different parts of an article of non-uniform composition. Claim 1 of the second, third and fourth auxiliary requests recited that each radiation zone was aligned with different ones of the multiple edges and therefore included a more specific definition of the technical features necessary to derive the technical problem.

No properly substantiated objection had been raised by the appellant against the independent apparatus claim as maintained by the Opposition Division which now appeared as claim 1 of the second auxiliary request. The inventive step arguments raised against the

independent method claim could not be mapped onto the apparatus claim.

Reasons for the Decision

Background

1. The invention concerns the inspection of an absorbent article, e.g. a disposable nappy, made of discrete components such as a plastic outer layer sheet, an absorbent liner sheet, absorbent pads, elastic bands and adhesive tapes. In particular, the invention concerns the imaging of an absorbent article in order to analyse the positional relationships of the various components. A backlighting arrangement is used, so that the article is irradiated from one side and imaged from the other. Since the various components of the absorbent article all have different opacities and are layered on top of each other, the illumination with a single light source can lead to the over- or under-exposure of some components, which results in a lack of contrast between the imaged components. It is this problem which the present application sets out to solve.

Main Request

2. *Admissibility*

2.1 The Board's communication, which was sent in preparation of the oral proceedings, indicated that there appeared to be no basis for a third zone emitting radiation at a third radiation intensity. In response, the respondent deleted those dependent claims which made reference to a third zone but made no further amendments to the claims.

2.2 Since this new main request was filed after filing of the reply to the grounds of appeal, it constitutes an amendment to the respondent's case in the sense of Article 13(1) RPBA. The Board's discretion to admit and consider such amendments "shall be exercised in view of inter alia the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy". One criterion frequently adopted by the boards when exercising their discretion in admitting late-filed amendments is that it must be immediately apparent that the amendments successfully address the issues raised without giving rise to new ones (see Case Law of the Boards of Appeal of the European Patent Office, 8th Edition, IV.E.4.4.2(a)).

2.3 The purpose of a communication of the Board pursuant to Article 15(1) RPBA is to establish the framework of discussion for the oral proceedings. The communication may draw attention to matters which seem to be of special significance or contain other observations that may help the parties to concentrate on the essentials during the oral proceedings. Whilst the communication is not an invitation to the parties to make further submissions or file further requests (see T 1459/11),

there is no general prohibition to react to a Board's communication by submitting new requests, in particular when these take account of the objections raised or repeated therein (see T 93/11).

2.4 In the present case, the amendments made to the main request represent a simplification of the submitted claims and serve to concentrate the discussion on the essential issue of inventive step of the independent claims. Moreover, since the independent claims are unchanged, there is no new material to examine and the focus of the invention has not been shifted. By deleting the offending dependent claims, the respondent successfully addresses the issue of the third zone without giving rise to any new issues.

2.5 The main request is, therefore, admitted into the proceedings.

3. *Inventive step*

3.1 D1 describes a method for measuring the positional relationships of the various components making up an absorbent article. The embodiment of Figure 3 involves illuminating one side of the article with a substantially uniform intensity of light and capturing an image of the other side. This backlighting arrangement means that those parts of the article which are substantially opaque appear as dark areas and those which are relatively translucent appear as light areas. Analysis of the image enables the presence and relative placement of the various components of the article to be determined.

3.2 It is not contested that the method defined in claim 1 is distinguished from the disclosure of D1 in that the irradiation source is comprised of at least first and second zones each producing a different intensity. Each zone is generally aligned with a different portion of the article, such that the different portions are irradiated with different intensities.

3.3 According to the respondent, the objective technical problem solved by these distinguishing features was an improvement in the ability to detect the locations of elements in different parts of an article of non-uniform composition. Indeed, this is the problem which is identified and discussed on page 3 of the patent application. The application as filed sets out no other problem that the invention addresses.

3.4 Decision T 939/92, *Triazoles/AGREVO, OJ EP 1996, 309*, sets out the principle that the technical problem which the patent application asserts to solve can only be taken into account in the assessment of inventive step if it can be accepted as having been successfully solved within the whole area claimed (see Reasons 2.6). T 268/00, *Purification/SYNGENTA*, followed this line, indicating that if all of the claimed embodiments did not exhibit the alleged improvement, the conclusion must be drawn that the claimed invention did not provide a solution to the technical problem with the consequence that the alleged improvement was to be disregarded in the determination of the objective problem underlying the invention, and thus in the assessment of inventive step.

3.5 Applying this principle to the present case, the problem as formulated by the respondent cannot be taken into account in the assessment of inventive step since

it is not solved over the whole breadth of claim 1, as will be shown below.

3.6 Claim 1 defines that the article is made up of different "elements" and that the inspection method is for determining if a first element is properly located with respect to a second element. As explained in the contested patent, since the various elements of the absorbent article generally have different opacities and are layered on top of each other, the illumination with a single light source can lead to the over- or under-exposure of some components which results in a lack of contrast between the imaged elements. The light source of claim 1 is, therefore, provided with different intensity zones which are each aligned with different "portions" of the article. The extent or content of these portions is, however, not further defined in claim 1. Consequently, the first and second elements are not necessarily located in the first and second portions respectively nor are they necessarily irradiated by the first and second intensities respectively. Instead, claim 1 encompasses the situation in which both elements are irradiated by a single intensity zone. In this respect, claim 1 places no restriction on the portions of the article which are irradiated by the different intensity zones.

3.7 Moreover, claim 1 defines the capture of an image of at least a "portion" of the article including the first and second elements thereof. However, claim 1 does not define that this imaged portion corresponds to the "portions" with which the intensity zones are aligned, nor does it define that the imaged portion extends over two intensity zones.

3.8 When the imaged portion of the article contains both elements irradiated with the same intensity, it will exhibit the same disadvantages as the imaged portion in D1: the different opacities of the elements will give rise to a non-optimal exposure in the image, resulting in low contrast between the various elements which leads to difficulties in identifying the positional relationships between the elements. Under these circumstances the objective technical problem identified by the respondent is not solved by the invention defined by claim 1, and the alleged improvement is not exhibited over all claimed configurations.

3.9 As noted by the appellant, in the situation described above, the provision of at least two zones of different intensities serves no clear purpose. No technical benefit can be seen in irradiating different portions of the article with different intensities if these portions do not contain elements of different opacities. It is, therefore, not apparent what the technical effect of the distinguishing features actually is.

3.10 The respondent made no attempt to redefine the problem, but, rather, insisted that the technical effect of claim 1 was to improve the ability to detect the locations of elements in different parts of an article of non-uniform composition.

3.11 In the absence of a technical effect, it is not possible to formulate an objective technical problem solved by the provision of two irradiation zones which irradiate random portions of the article with different intensities. Since no objective technical problem can be identified, this feature is nothing more than an

arbitrary modification of the teaching of D1. As such, the distinguishing feature cannot be considered to contribute to an inventive step.

First Auxiliary Request

4. *Admissibility*

4.1 Compared to the main request, claim 1 now specifies that the article is irradiated with light from LEDs. Claim 3, which is dependent on claim 1, defines that the radiation source emits radiation in a wavelength range of 300nm to 1200nm.

4.2 These two additional features were set out in the contested patent in separate dependent claims, each dependent on only claim 1.

4.3 At the oral proceedings, the appellant submitted that the wavelength range of claim 3 was not originally disclosed in combination with LEDs and therefore infringed Article 123(2) EPC.

4.4 The respondent neither provided written submissions as regards the compliance of this request with Article 123(2) EPC, nor attended the oral proceedings, at which it would have had to opportunity to make submissions on this issue. The Board, taking into account the current state of the proceedings and the need for procedural economy, does not admit this request into the proceedings (Article 13 RPBA).

Second Auxiliary Request

5. *Admissibility*

5.1 The claims of the second auxiliary request are restricted to the apparatus claims of the main request filed with the reply to the grounds of appeal. No changes have been made to those apparatus claims.

5.2 The restriction to apparatus claims was prompted by the Board's observation that the appellant's objections to the independent method claim did not completely apply to the independent apparatus claims. Since the independent claim of the second auxiliary request is identical to the apparatus claim on which the contested decision was based, there is no new material to examine and the amendments do not give rise to any new issues. In the present case, procedural economy is not negatively affected by these amendments.

5.3 The second auxiliary request is therefore admitted into the proceedings.

6. *Inventive step*

6.1 Claim 1 is directed to an apparatus for inspecting an article. The apparatus features defined in claim 1 do not exactly correspond to the method steps defined in claim 1 of the main request. In particular, the apparatus is defined as being suitable "for inspecting an article with multiple edges to determine if the edges exist and are properly located relative to each other on the article". In addition, each of the first and second radiation zones of the radiation source are defined as being "generally aligned with different ones

of the multiple edges of the article". The image capturing device is defined as being suitable "for capturing an image of the irradiated article including the edges thereof".

6.2 In addition to the features discussed in relation to claim 1 of the main request, D1 also discloses the inspection of edges of the various components making up the composite article.

6.3 The apparatus of claim 1 is distinguished from the disclosure of D1 in that the radiation source is comprised of at least first and second radiation zones each zone producing a different intensity and being generally aligned with different edges of the article.

6.4 Although claim 1 now defines that different edges of the article are aligned with different irradiation zones, it does not provide any details of the opacity of the areas in which the different edges are located. In fact, claim 1 covers the case in which two intensity zones illuminate two edges made up of the same materials.

6.5 As mentioned in paragraph 3.6 above, the contested patent explains that the problem of false readings is due to the layered construction of the article. The edges to be inspected are often concealed by differing thicknesses of overlying layers. Since the various layers exhibit different opacities, in order to image the concealed edges, the intensity of the radiation has to be tailored to the specific area of the article being imaged such that sufficient radiation is transmitted through the entire layered structure. This is not reflected in the wording of claim 1.

6.6 In the absence of any reference in claim 1 to the different opacities of the irradiated areas, the provision of at least two zones of different intensities serves no clear purpose and has no technical benefit. In the same way as argued above with respect to the main request, the distinguishing features thus represent nothing more than an arbitrary modification of the apparatus of D1 with no technical effect. In the absence of a technical effect, an objective technical problem cannot be formulated and the claimed subject-matter cannot be considered to comprise an inventive step.

Third and Fourth Auxiliary Requests

7. *Admissibility*

7.1 The claims of the third and fourth auxiliary requests are based on the method claims of the main and first auxiliary request respectively, the apparatus claims having been deleted. Furthermore, claim 1 of each of these requests has been amended to make reference to the edges of the elements and to define that each radiation zone is aligned with different edges.

7.2 Since claim 1 of each of these requests reverts to the method claim of the main and first auxiliary requests respectively, both of these requests diverge from the series of requests defined by the main request and first and second auxiliary requests.

7.3 Moreover, in view of the fact that claim 1 of the second auxiliary request, which also refers to the alignment of the different intensity zones with different edges of the article, has been found to be

not inventive, it is not apparent how the introduction of similar amendments to claim 1 of the third and fourth auxiliary requests could be considered to contribute to the inventive step of the claimed method.

7.4 These requests are, therefore, neither convergent nor clearly allowable. The Board, exercising its discretion under Article 13(1) RPBA, therefore does not admit them into the proceedings.

Conclusions

8. Only the Main Request and the Second Auxiliary Request are admitted.

9. Claim 1 of both of these admitted requests lacks inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar: The Chairman:

R. Schumacher P. Scriven

Decision electronically authenticated