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**Datasheet for the decision  
of 13 November 2015**

**Case Number:** T 1840/11 - 3.2.06

**Application Number:** 02258797.6

**Publication Number:** 1430861

**IPC:** A61F13/15, D04H1/00, D04H3/00

**Language of the proceedings:** EN

**Title of invention:**  
Perforated plastically deformable sheet and method for making  
the same

**Patent Proprietor:**  
Huang, Chen-Cheng

**Opponent:**  
The Procter & Gamble Company

**Relevant legal provisions:**  
EPC Art. 123(2)

**Keyword:**  
Omission of features - allowable (no)

**Decisions cited:**  
T 0962/98, T 0879/09, G 0002/10, T 0331/87



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Case Number: T 1840/11 - 3.2.06

**D E C I S I O N  
of Technical Board of Appeal 3.2.06  
of 13 November 2015**

**Appellant:**  
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**Decision under appeal:**

**Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
24 June 2011 concerning maintenance of the  
European Patent No. 1430861 in amended form.**

**Composition of the Board:**

**Chairman** M. Harrison  
**Members:** G. de Crignis  
M.-B. Tardo-Dino

## **Summary of Facts and Submissions**

- I. By way of its interlocutory decision, the opposition division held that, account being taken of the amendments made by the patent proprietor during the opposition proceedings, European Patent No. 1 430 861 and the invention to which it relates, meet the requirements of the European Patent Convention (EPC).
- II. An appeal was filed against this decision by the patent proprietor (appellant) requesting maintenance of the patent on the basis of a main request or on the basis of one of auxiliary requests 1 to 3, auxiliary request 3 being maintenance of the patent in the form found allowable by the opposition division. Drawing sheets including four figures of polygonal arrangements were also submitted.
- III. In a communication annexed to the summons to oral proceedings, the Board indicated its preliminary view that with regard to claim 1 of the main request and of auxiliary requests 1 and 2 the requirement of Article 123(2) EPC was not met.
- IV. Oral proceedings were held before the Board on 13 November 2015.

As announced with letter of 4 October 2015, the respondent did not attend the oral proceedings. In its reply to the grounds of appeal it had requested that the decision of the opposition division be upheld.

The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request or, alternatively, of one of the auxiliary requests 1 to 3 as filed during the

opposition proceedings and filed again with the statement of grounds.

Claim 1 of the main request reads as follows:

"A perforated plastically deformable sheet (3) characterized by:

a plastically deformable sheet (4) having opposite top and bottom surfaces (41, 42) and formed with a plurality of spaced apart recesses (44) and a plurality of spaced apart capillary units that are vertically and respectively aligned with said recesses (44), each of said capillary units including at least one capillary (40) that has a cross-section less than that of the respective one of said recesses (44), each of said recesses (44) being indented from said top surface (41) toward said bottom surface (42) and being confined by a recess-confining wall (43) that has a peripheral surface (431) extending downwardly from said top surface (41) toward said bottom surface (42), and a bight surface (432) that extends laterally from said peripheral surface (431), said capillary (40) of each of said capillary units extending downwardly from said bight surface (432) of said recess-confining wall (43) of the respective one of said recesses (44) in a transverse direction relative to said bight surface (432) and having a top opening (401) adjoining the respective one of said recesses (44) and a bottom opening (403) opposite to said top opening (401) and spaced apart from said bottom surface (42) in a direction away from said top surface (41); wherein said recesses (44) have two different sizes, each of the larger and smaller ones (200, 100) of the recesses (44) spans a plurality of capillaries (40), the number of capillaries (40) spanned by the larger one (200) of the recesses (44) is larger than that

spanned by the smaller one (100) of the recesses (44), and all of said recesses (44) and said capillaries (40) are shaped as a polygon that has interior obtuse angles."

Claim 1 of the first auxiliary request includes the following final feature, replacing the corresponding final feature of claim 1 of the main request:

"... wherein said recesses (44) are hexagonal in shape and have two different sizes, each of the larger and smaller ones (200, 100) of the recesses (44) spans a plurality of capillaries (40), the number of the capillaries (40) spanned by the larger one (200) of the recesses (44) is larger than that spanned by the smaller one (100) of the recesses (44), and all of said capillaries (40) are shaped as a polygon that has interior obtuse angles."

Claim 1 of the second auxiliary request includes the following final feature replacing the corresponding final feature of claim 1 of the first auxiliary request:

"... wherein said recesses (44) are hexagonal in shape and have two different sizes, each of the larger ones (200) of the recesses (44) is surrounded by a plurality of the smaller ones (100) of the recesses (44), each of the larger and smaller ones (200, 100) of the recesses (44) spans a plurality of capillaries (40), the number of the capillaries (40) spanned by the larger one (200) of the recesses (44) is larger than that spanned by the smaller one (100) of the recesses (44), and all of said capillaries (40) are shaped as a polygon that has interior obtuse angles."

Claim 1 of the third auxiliary request includes the following final feature replacing the corresponding final feature of claim 1 of the second auxiliary request:

"... wherein said recesses (44) are hexagonal in shape and have two different sizes, each of the larger ones (200) of the recesses (44) is surrounded by a plurality of the smaller ones (100) of the recesses (44), each of the larger recesses (200) spans seven capillaries (40) and each of the smaller recesses (100) spans three capillaries (40), and all of said capillaries (40) are shaped as a polygon that has interior obtuse angles."

V. The arguments of the appellant may be summarised as follows:

There were a number of Appeal Board decisions relating to intermediate generalisations and the conditions under which they were allowable. As discussed in T 962/98 and in T 879/09, intermediate generalisations were allowed if the skilled person would recognise, without any doubt from the application as filed, that the characteristics taken from the embodiment were not closely related to the other characteristics and applied directly and unambiguously to the more general concept (see point 2.1.3 in T 879/09). The gist of these decisions was applicable here.

Claim 1 of the main request included in addition to claim 1 as granted further features which were disclosed as a preferred embodiment in paragraph [0013] of the patent application. It was not necessary to include the other features referred to in this paragraph since the omitted features were not essential to the invention. The skilled person would understand

that this paragraph related to a preferred embodiment such that it was not essential to use hexagonally shaped recesses, and that the same applied for the design of the larger recesses being surrounded by smaller recesses as well as to the feature related to the number of capillaries being spanned by each of the larger and smaller recesses. These features were merely details of implementation. Hence, when applying the essentiality test, it would be unambiguously understood that these features could be omitted. Also, drawings were submitted demonstrating that the use of hexagons was not essential and that other polygons could be used.

Further, paragraph [0019] presented a basis for the features being looked at individually. Also, the essentiality (three-step) test had to be applied individually for each feature. The first step was given in that the hexagonal recesses were not disclosed literally as being essential. The second step was also given: the feature of the recesses being hexagonal was not indispensable as such for solving the stated problem of improved surface dryness and drainage velocity nor was it essential to solve the problem of ease of manufacturing. The third step was also fulfilled in that no further modification of the features was necessary by omitting one of the individual features.

All these arguments also applied for claim 1 of auxiliary request 1, such that no further comments were to be made.

With regard to claim 1 of auxiliary request 2, the omitted feature of the number of capillaries spanned by the larger and smaller recesses was not disclosed as

being essential, the skilled person could miss out the central or another capillary without any change in the manufacturing steps and without the characteristics of the sheet being altered. No further modifications were necessary.

VI. The written arguments of the respondent may be summarised as follows:

The case law of the Boards of Appeal indicated that intermediate generalisations were allowable in very limited cases and only if the skilled person could recognise without any doubt that an amendment was directly and unambiguously derivable from the application as filed.

The patent in suit provided no guidance as to which elements of the example upon which the proprietor's amendments were based had to remain unchanged and which elements could be varied at will. Therefore, an amended claim that failed to include all the features of the example resulted in an impermissible intermediate generalisation in contravention of Article 123(2) EPC.

The additionally submitted drawings showed undisclosed hypothetical embodiments so that these provided no further evidence that the generalisations asserted by the appellant were directly and unambiguously derivable from the application as filed.



## Reasons for the Decision

### 1. Main request

1.1 Claim 1 as originally filed and as granted does not include the final feature of current claim 1. The amended feature is, as also agreed by the appellant, mainly based on the application as filed at page 6, line 20 to page 7, line 4 (corresponding to paragraph [0013] of the published patent application to which the further citations are directed) and the Figures. Paragraph [0013] concerns the embodiment illustrated in Figures 3 and 4 and reads:

*"In this preferred embodiment, the recesses 44 are hexagonal in shape, are classified into two different sizes, and have a pattern such that each of the larger ones (indicated as reference numeral 100 in Fig. 3) of the recesses 44 is surrounded by a plurality of the smaller ones (indicated as reference numeral 200 in Fig. 3) of the recesses 44. Each of the larger ones 100 of the recesses 44 spans seven capillaries 40 of a respective one of the capillary units. Each of the smaller ones of the recesses 44 spans three capillaries 40 of a respective one of the capillary units."*

1.2 Only one further (preferred) embodiment is disclosed in the specification (in paragraph [0015]). This alternative embodiment differs from the first embodiment only in that a top layer and a bottom layer are added to the structure disclosed in Figures 3 and 4. Hence, concerning the design of the polygons as a particular sheets structure involving specific hexagonal arrangements in three dimensions, the two embodiments are identical. Thus, the skilled person had no indication which would allow him to conclude

- unambiguously that e.g. alternative designs for the recesses or capillaries could be used.
- 1.3 Moreover, there is no further more general disclosure elsewhere in the application suggesting to a skilled person, let alone unambiguously, that any of the particular characteristics of the structure shown and described with regard to Figures 3 and 4 could in some way be abstracted from the combination of features set out in that example (hexagonal shape, larger recesses being surrounded by a plurality of the smaller recesses; each of the larger recesses spanning seven capillaries and each of the smaller recesses spanning three capillaries), e.g. such that alternative structures for the design of the recesses and capillaries of the sheet might be applicable. Thus, even though the structure shown in Figures 3 and 4 is described as being a "preferred" embodiment, the skilled person is left with no indication of what particular aspect of the structure might be in some sense "preferred".
- 1.4 In the written procedure prior to the oral proceedings the appellant argued that the omission of part of the features of the exemplary embodiment would not result in an unallowable intermediate generalisation taking into account the case law of the Boards of Appeal. T 962/98 and T 879/09 were cited to demonstrate that intermediate generalisations would be allowable under specific circumstances.
- 1.4.1 In T 962/98 it was indeed decided (see in particular point 2.5) that there may exist situations where some characteristics taken from a working example may be combined with other features disclosed in a more general context without necessarily creating an

inadmissible intermediate generalisation. However, it was also held that under Article 123(2) EPC such an intermediate generalisation is only admissible if the skilled person can recognise without any doubt from the application as filed that those characteristics are not closely related to the other characteristics of the working example **and** apply directly and unambiguously to the more general context.

The Board therefore sees nothing in this decision which would lead the Board to a different finding in the present case.

- 1.4.2 In T 879/09 (see point 2.1.3 and 2.1.6 to 2.2.2) reference was made to point 2.5 of T 962/98. However, the findings in that case are different. The material of the tubular element in T879/09 was considered irrelevant for the invention since the invention concerned the design of a robotized manipulator which had a surface staying parallel to the same plane when moved around. Accordingly, not specifying the material of the tubular element did not contravene Article 123(2) EPC (see point 2.1.5 in T 879/09). Concerning the further feature of the rigidity of the tie-rods, this feature was considered implicitly as being present and the reasons were explained at length (point 2.1.6 to 2.2.2 in T 879/09).

Since entirely different considerations apply in the present case, this decision appears to add nothing of more relevance than that in T 962/98 and gives no cause for the Board to alter its findings.

- 1.5 During the oral proceedings the appellant argued additionally that some of the features of the embodiment could be omitted based on the "essentiality

test" as mentioned in T331/87. This test defines the following three criteria according to which an amendment that removes a feature from a claim is allowable:

- (a) the feature is not presented as essential in the disclosure,
- (b) the feature is not indispensable for the function of the invention in the light of the technical problem it serves to solve, and
- (c) the removal requires no real modification of other features to compensate for the change.

1.6 The Board is of the view that this test is not applicable in that its use is related to the consideration of whether a feature can be deleted from a claim. However when attempting to undertake the exercise of applying these criteria to the current case, the application of this test would, in the Board's view, first necessitate including into claim 1 all the features disclosed in the embodiment in paragraph [0013] and then identifying which ones could be removed. The appellant's suggestion that the features might be taken one by one and added to claim 1 individually to apply the test finds no support in T 331/87, nor does it appear logical to the Board. Undertaking the operation as aforementioned, the conclusion is that even when applying this test, the outcome does not differ from the conclusion drawn from the considerations necessary for considering compliance with Article 123(2) EPC (see e.g. G2/10, item 4.3), as shown in the following.

1.6.1 Concerning criteria a) of the essentiality test, none of the features of the embodiment disclosed in paragraph [0013] is specified explicitly as being an

- essential feature. Hence, criteria a) of the essentiality test can be considered met.
- 1.6.2 Concerning criteria b) of the essentiality test, it has to be considered whether the omitted feature is indispensable for the function of the invention in the light of the technical problem it serves to solve. The problem to be solved, when taking the problem disclosed in the patent, is set out in paragraph [0018] and concerns surface dryness as well as improving the velocity of drainage.
- 1.6.3 Surface dryness as well as velocity of drainage are extremely dependent on the structural design of the sheet. When considering the embodiment set out in paragraph [0013] in this respect, it refers to the sheet being formed with recesses which are hexagonal in shape, which recesses have two different sizes and a pattern whereby each of the larger ones of the recesses is (completely) surrounded by a plurality of the smaller ones. Additionally, the number of capillaries spanned by the larger and smaller recesses is defined by this shape relationship.
- 1.6.4 When considering the features of the recesses being hexagonal and having two different sizes, the pattern is not disclosed as being anything other than the particular structure shown in Figure 3. It is self-evident that drainage velocity and surface dryness would be altered significantly when changing this pattern. When assessing the relationship between the shape of the recesses, the relationship between the large and small sized recesses and between the (number of) capillaries being spanned, the shape of the recesses clearly causes that relationship to be present, since in the embodiment of Figures 3 and 4,

the capillaries are extensions of the recesses via the bight surfaces. Hence, all the structural features are interrelated and none of these features can be considered as being dispensable in view of their function concerning drainage and surface dryness.

- 1.6.5 Hence, already for the reasons above, criteria b) of this test cannot be seen to be met.
- 1.6.6 Regarding criteria c) of the essentiality test, the removal of one of the structural features (hexagonal shape, larger recesses surrounded by a plurality of smaller recesses, number of capillaries spanned) would indeed require a real modification of the further features to compensate for the change. Thus, for example when considering the use of recesses not being hexagons, the issue would be how to make up for the change in drainage characteristics by adapting for example the number of capillaries being spanned by the larger and smaller recesses. In this regard, the appellant suggested that the central capillary in a large recess could simply be filled in such that only six capillaries would be present; this would however involve not only increasing the width of the bight surface when manufacturing the structure (i.e. which is a necessary adaptation) but which would mean that the capillaries on either side of the wider bight surface would then be smaller, resulting in reduced drainage which is not only a necessary adaptation but would even be counter-intuitive. Hence, this consideration highlights that there is no disclosure for the claimed combination of features (omitting the hexagonal shape, omitting the surrounding of the large recesses by a plurality of the smaller recesses and omitting the number of capillaries spanned by the larger and smaller recesses); accordingly, criteria c) would not be met.

- 1.7 Hence, the application of the essentiality test in the only acceptable form for the Board leads to the conclusion that even this would not lead to the conclusion that certain features are not "essential".
- 1.8 The additional reference of the appellant to paragraph [0019] which states that "each feature disclosed in this specification (which term includes the claims) and/or shown in the drawings may be incorporated in the invention independently of other disclosed and/or illustrated features" does not alter the above finding. This paragraph does not provide a clear and unambiguous disclosure but is simply a general and non-specific disclosure. Thus it cannot remedy the lack of a disclosure concerning which features of the preferred embodiment might be considered per se as preferred features which could be omitted.
- 1.9 However, as stated above, the Board considers the "essentiality-test" as not applicable. Instead, the Board considers the issue to be decided remains as being whether the amended subject-matter of claim 1 is directly and unambiguously derivable from the application as filed, taking into account the skilled person's common general knowledge. According to the case law of the boards of appeal, when deciding on whether amended subject-matter is disclosed in the application as filed, the basic principle when applying Article 123(2) EPC is to be found in the jurisprudence of the Enlarged Board of Appeal and was summarised and confirmed in its decision G 2/10 (OJ EPO 2012, 376, point 4.3): *"From these rulings it follows that any amendment to the parts of a European patent application or of a European patent relating to the disclosure (the description, claims and drawings) is subject to the*

*mandatory prohibition on extension laid down in Article 123(2) EPC and can therefore, irrespective of the context of the amendment made, only be made within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of these documents as filed, points 1., 1.3 and 3. of the Reasons."*

1.10 As set out above, the skilled person is not provided with any disclosure which would allow him to recognise immediately and without any doubt that one or more of the individual structural features of the embodiment disclosed in paragraph [0013] could be considered in a more general sense (i.e. any shape of recess, altered pattern of larger recesses surrounded by smaller recesses of a different number of sides, number of spanned capillaries). So it is not directly and unambiguously derivable, from what is disclosed in the application as filed, that the exemplary structure of the sheet is not technically relevant for the disclosed invention. Accordingly, claim 1 does not meet the requirement of Article 123(2) EPC and the main request is not allowable.

2. *Auxiliary request 1*

Claim 1 has been amended to include, in addition, the feature that the recesses are hexagonal in shape. Hence claim 1 is not amended so as to include all of the features discussed above. For the reasons given above for the main request, the deficiency under Article 123(2) EPC is not overcome. No additional arguments being presented, claim 1 does not meet the requirement of Article 123(2) EPC and also the auxiliary request 1 is not allowable.



3. *Auxiliary request 2*

3.1 Claim 1 has been amended to include, in addition, also the feature that each of the larger ones of the recesses is surrounded by a plurality of the smaller ones of the recesses. However, the further feature defined in the embodiment in paragraph [0013] is omitted, which refers to the number of capillaries spanned by the larger and smaller recesses.

3.2 The issue remains as to whether the amended subject-matter of claim 1 is directly and unambiguously derivable from the application as filed, taking into account the skilled person's common general knowledge. The finding on this issue does not differ from the one concerning the preceding requests. The amendment is based on the embodiment disclosed in paragraph [0013] and no general disclosure of the claimed combination of features is present, nor is a more general disclosure present which would allow the skilled person to reach a conclusion that any particular feature could be omitted.

3.3 It may also be noted that the way this structure is produced in Figures 3 and 4 does not lend itself to be easily altered without influencing the desired characteristics. In particular, it is not disclosed how drainage and surface dryness could be maintained when trying to structure the central capillaries differently with regard to the number and size of the further capillaries.

3.4 It appears that any design other than the particular design shown in these Figures would lead to a decrease in drainage and surface dryness compared to that shown,

such that any alteration of design would lead alter the structural and functional relationship which exists between these features. At least no information is given which would render any of the features - including the number of capillaries being spanned by the larger and the smaller ones of the recesses - set out for the embodiment as being optional.

3.5 The drawing sheets 1 to 4 which were submitted with the grounds of appeal in order to demonstrate that the use of other polygons would be possible do not contradict the above finding. First and foremost these drawings are not part of the original disclosure and do not correspond to any item thereof. For example, the polygons therein have a different number of sides, whilst the disclosure in paragraph [0013] shows larger and smaller recesses having the same number of sides.

3.6 This was already communicated to the appellant with the Board's provisional opinion sent before the oral proceedings and the appellant did not comment thereon. The Board therefore confirms its provisional opinion herewith for the reasons given above.

3.7 Thus, the patent in suit does neither provide any guidance nor is it apparent to the skilled person which elements of the embodiment upon which the appellant's amendments are based could be varied. There is also a structural and functional link between features of the structure referred to in paragraph [0013] and shown in Figures 3 and 4. Therefore, an amended claim that fails to include all the features of the embodiment results in an impermissible intermediate generalisation of the disclosure in the application as originally filed in contravention of Article 123(2) EPC. Hence, claim 1

does not meet the requirement of Article 123(2) EPC and the request is not allowable.

4. *Third auxiliary request*

This request was found to meet the requirements of the EPC by the opposition division. Since the patentee is the sole appellant, no consideration of such a request may be carried out as the patentee is not disadvantaged by the decision to allow this request.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated