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Datasheet for the decision of 2 May 2018

Case Number: T 1416/14 - 3.2.05

Application Number: 07425604.1

Publication Number: 1911574

IPC: B31F1/07

Language of the proceedings: EN

Title of invention:
A paper material with an improved embossed pattern and method for the production thereof

Patent Proprietor:
SOFIDEL S.p.A.

Opponent:
SCA Hygiene Products AB

Relevant legal provisions:
EPC 1973 Art. 54, 56
EPC Art. 123(2)
RPBA Art. 13(1)

Keyword:

Novelty (main request) – no
Admittance of the first to third auxiliary requests – yes
Inventive step: first auxiliary request – no, second auxiliary request – yes

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Case Number: T 1416/14 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 2 May 2018

Appellant I: (Patent Proprietor)	SOFIDEL S.p.A. Via di Lucia, 23 55016 Porcari (LU) (IT)
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Appellant II: (Opponent)	SCA Hygiene Products AB 405 03 Göteborg (SE)
Representative:	Andreas Görg Hoffmann Eitle Patent- und Rechtsanwälte PartmbB Arabellastraße 30 81925 München (DE)
Decision under appeal:	**Interlocutory decision of the opposition division of the European Patent Office posted on 2 May 2014 concerning maintenance of the European Patent No. 1911574 in amended form.**

Composition of the Board:

Chairman	M. Poock
Members:	H. Schram
	G. Weiss

Summary of Facts and Submissions

I. Appellant I (patent proprietor) and appellant II (opponent) each lodged an appeal on 27 June 2014 and 9 July 2014, respectively, against the interlocutory decision of the opposition division on posted 2 May 2014 concerning the maintenance of European patent No. 1 911 578 in amended form. The respective statements setting out the grounds of appeal were filed on 10 September 2014 and 22 August 2014.

The opposition had been filed against the patent as a whole on the basis of Article 100(a) EPC (lack of inventive step, Article 56 EPC) and Article 100(b) EPC (insufficiency of disclosure, Article 83 EPC).

The opposition division held that the subject-matter of claim 1 of the main request (claims as granted) was not new, that the subject-matters of claims 1 and 4 of said request did not involve an inventive step (see Reasons, point 3), that the subject-matters of claims 1 and 4 of the first and second auxiliary requests did not involve an inventive step (see Reasons, point 4), but that the grounds of opposition under Article 100(a) EPC (lack of inventive step, Article 56 EPC), Article 100(b) EPC (insufficiency of disclosure, Article 83 EPC) and Article 100(c) EPC (inadmissible extension, Article 123(2) EPC) did not prejudice the maintenance of the patent on the basis of the final version of the third auxiliary request filed during the oral proceedings before the opposition division (see Reasons point 5).

II. Oral proceedings were held before the board of appeal on 2 May 2018.

III. Appellant I requested that the decision under appeal be set aside and that the patent be maintained as granted (main request), or in amended form on the basis of any one of the sets of claims filed as first or third auxiliary requests under cover of a letter dated 30 March 2018 or on the basis of the set of claims filed at the oral proceedings as second auxiliary request.

Appellant II requested that the decision under appeal be set aside and that the European patent be revoked.

IV. Claims 1 and 4 of the main request (claims as granted) read as follows:

"1. Method for producing an embossed multi-ply tissue paper sheet, (N) comprising at least a first outer ply (V1) and a second outer ply (V3), said first outer ply having a first, outwardly facing surface and a second, inwardly facing surface, wherein at least said first outer ply is embossed to obtain surface portions defining outwardly projecting protuberances of the ply formed by bulging portions of sheet material, at least partly surrounded by substantially linear grooves (201) projecting towards the inside of the sheet, and wherein glue (C) is applied on the second, inwardly facing surface of said first outer ply in correspondence of said linear grooves, to join said first outer ply (V1) to said second outer ply (V3); and wherein between said first outer ply (V1) and said second outer ply (V3) at least a first intermediate embossed ply (V5) is arranged; embossing protrusions of said first intermediate embossed ply being arranged in correspondence of the bulging embossed protuberances of at least said first outer ply (V3)."

"4. A tissue paper multi-ply sheet material comprising at least a first outer ply (V1) and a second outer ply (V3) of tissue paper bonded by gluing, said first outer ply (V1) having a first, outwardly facing surface and a second, inwardly facing surface; wherein at least said first outer ply (V1) has a three-dimensional surface pattern comprising outwardly projecting, bulging embossed protuberances defined by portions of said first outer ply (V1), at least partly surrounded by substantially linear grooves, extending towards the inside of said sheet material; and wherein said first outer ply (V1) is provided with glue (C) applied on the second, inwardly facing surface of said first outer ply (V1) in correspondence of said linear grooves; and wherein between said first outer ply (V1) and said second outer ply (V3) at least a first intermediate embossed ply (V5) is arranged, embossing protrusions of said first intermediate embossed ply (V5) being arranged in correspondence of the bulging embossed protuberances of at least said first outer ply."

First auxiliary request filed under cover of a letter dated 30 March 2018

Claim 1 of the first auxiliary request differs from claim 1 of the main request in that the wording "at least" in the expression "wherein at least said first outer ply" has been deleted, that the expression "wherein said second outer ply (V3) is embossed to form a three-dimensional surface pattern comprising outwardly projecting, bulging embossed protuberances defined by portions of said second outer ply (V3), at least partly surrounded by substantially linear grooves, extending towards the inside of said sheet material (N)" (cf the first additional feature of claim 2 as granted) has been inserted before the expression

"and wherein between", and in that the reference sign V3 at the end of the claim has been corrected to read V1.

Second auxiliary request filed at the oral proceedings

Claim 1 of the second auxiliary request differs from claim 1 of the main request in that the wording "at least" in the expressions "at least said first outer ply" and "at least a first intermediate embossed ply" has been deleted, that the expression "wherein said second outer ply (V3) is embossed to form a three-dimensional surface pattern comprising outwardly projecting, bulging embossed protuberances defined by portions of said second outer ply (V3), at least partly surrounded by substantially linear grooves, extending towards the inside of said sheet material (N)" has been added after the expression "said second outer ply (V3);", that the expression "is arranged; embossing protrusions" is replaced by the expression "and a second intermediate embossed ply (V7) are arranged, said first and second intermediate embossed plies (V5, V7) being provided each with embossing protrusions facing towards the first outer ply (V1) and the second outer ply (V3) respectively, embossing projections" and in that the expression "said first outer ply (V3)" has been replaced by the expression "said first outer ply (V1) and said second outer ply (V3)".

Claim 3 of the second auxiliary request differs from claim 4 of the main request in that the wording "at least" in the expressions "at least said first outer ply" (twice) and "at least a first intermediate embossed ply" has been deleted, that the word "and" before the expression "wherein said first outer ply" has been replaced by the expression "wherein said

second outer ply (V3) has a three-dimensional surface pattern comprising outwardly projecting, bulging embossed protuberances defined by portions of said second outer ply, at least partly surrounded by substantially linear grooves, extending towards the inside of said sheet material;", that the expression "is arranged" is replaced by the expression "and a second intermediate embossed ply (V7) are arranged,; wherein said first and second intermediate embossed plies (V5, V7) are provided each with embossing projections facing towards the first outer ply (V1) and the second outer ply (V3) respectively", that the reference sign V3 at the end of the claim has been corrected to read V1 and in that the expression "and said second outer ply (V3)" has been added at the end of the claim.

V. The documents referred to in the appeal proceedings include the following:

D13 US 4,284,465;

D14 US 5,736,223;

D15 WO 2006/136186;

D16 DE 20 2005 019 141 U1.

VI. The arguments of appellant I, in writing and during the oral proceedings, can be summarized as follows:

Admittance of the first to third auxiliary requests

The first auxiliary request filed with letter of 30 March 2018 corresponded to the second auxiliary request pending before the opposition division. The second

auxiliary request filed with said corresponded to the (former) first auxiliary request filed with the statement of grounds. The third auxiliary request was based on the patent as amended by the opposition division, with just a correction of an inconsistency in the claim wording. The first to third auxiliary requests should therefore be admitted into the appeal proceedings.

Novelty – claim 1 of the main request

The opposition division held that all the features of claim 1 were disclosed in document D15, including feature (g), viz "wherein glue (C) is applied on the second, inwardly facing surface of said first outer ply in correspondence of said linear grooves". The reason provided by the opposition division (see Reasons, point 3.2, last paragraph) was:

> "However, according to the description of D15, page 13, 2nd par. the adhesive is applied, in the two-ply product, on the top of the regions 22 of the compressed material surrounding the cushions 24. Then in 3rd par. an other embodiment (three-ply product) is disclosed by saying that "in addition to the embodiment according to fig 4 (erroneously 5), a further ply 36 is provided". That means that applying the glue 'on the second, inwardly facing surface of said first outer ply in correspondence of said linear grooves', feature **g')** of the patent in suit, is understood **implicitly**."

In Figure 5 of document D15 adhesive 34 was applied on the web 2b, ie the web having male projections 32. Thus, contrary to what is required by feature (g) of claim 1, the glue was NOT applied on linear grooves

surrounding the outwardly projecting protuberances. The opposition division simply disregarded the actual teaching contained in Figure 5 (glue on lower web 2b) and "created" a new embodiment based on Figure 4 showing a two-ply product and a further ply 36 which was not actually disclosed.

Inventive step – first and second auxiliary requests

Document D13 could be considered as the closest prior art. Starting from this document, the first question to be answered is whether the skilled person would have formulated the problem of improving the resistance against squeezing of the pocket portions 21d, 22d formed in the web of document D13. The answer was certainly negative, since the very purpose of this document was to generate a web of increased softness and absorbency (see eg column 1, lines 37 to 39). The web was "rendered highly absorbent by presence of inwardly projecting, mutually confronting fibers 21c and 22c disposed about and created in the formulation of perforations 21a and 22a by members 26" (see column 3, lines 44 to 48). Providing any kind of strengthening or stiffening structure inside the pocket portions would thus be against the teaching of document D13.

The role of the mutually confronting fibers 21c, 22c and of the perforations 21a, 22a was of paramount importance. These elements had to provide free access to liquid in the interior volume of the paper sheet, and the fibers surrounding the perforations promoted the transfer of liquid from the exterior to the interior of the sheet. Filling the empty space between mutually facing perforations 21a, 22a and mutually confronting fibers 21c, 22c would be detrimental to the effect which the invention of D13 aimed at achieving.

Already for this reason, the skilled person would not even consider the option of using a third intermediate ply, let alone one which, being provided with protrusions facing the outer plies, would negatively affect the functionality of the perforations 21a, 22a and fibers 21c, 22c.

The purpose of document D13 was not to generate outwardly projecting cushions or bulging portions, but rather to cause perforation of the pocket portions by pushing the ply against the spikes or protuberances 26 of the embossing roller. The very purpose of the recessed sections 27 of the embossing roller was to house the perforating projections 26. The paper ply was pushed inside the recess in order to perforate the ply, not to generate outwardly projecting cushions.

The skilled person would thus not have looked for a way of modifying document D13 such as to improve the resistance against collapsing of pocket portions, ie making the pocket portions stiffer.

Apart from the above, assuming that the skilled person would have considered the problem of providing some kind of structure to support to the pocket portions, he would have looked for a document showing a similar web structure, where the same problem would arise.

Document D14 was not such a document, since the web disclosed therein did not provide for outwardly projecting, bulging protrusions or pockets. Indeed, this document did not address the problem of providing a support against squeezing of outwardly extending projections of the embossed ply.

Document D14 suggested adding a third ply in the web, namely ply 2. The reason for this was to have a combined tip-to-tip and nested multi-ply web. The plies 1, 3 formed a tip-to-tip web, while the plies 1, 3 formed a nested web. The addition of ply 2 was to increase the strength of the web. What is understood by strength was clarified in line 2, lines 42 to 45, where it is stated that "In a variation of the invention, and in order to **further improve** if called for, **the strength** of the multi-layer paper assembly, at least one of the two external plies can be replaced by a double-layered paper which is embossed in the same manner" (emphasis added). Thus, the strength was the tensile strength or else the strength against perforation.

It followed that claim 1 of the first auxiliary request involved an inventive step.

Claims 1 and 3 of the second auxiliary request corresponded to the claims which were held allowable by the opposition division in the decision under appeal. The provision of two intermediate plies was not known from the prior art. Claims 1 and 3 of the second auxiliary request therefore also involved an inventive step.

Admissibility of the amendments of the second auxiliary request

The amendments in claims 1 and 3 of the second auxiliary request included the first part of claim 2 as granted. The remaining feature of claim 2 as granted was maintained, since the application as originally filed clearly disclosed the option of manufacturing the product without applying glue on the inwardly facing surface of the second outer ply. In particular, column

10, lines 22 to 23 stated that a glue applicator can be arranged around the embossing roller 305, ie the application of glue on the second outer ply was optional. The amendments to the claims and the description met the requirements of Article 123(2) EPC and Article 84 EPC 1973.

VII. The arguments of appellant II, in writing and during the oral proceedings, can be summarized as follows:

Admittance of the first to third auxiliary requests

The first to third auxiliary requests filed with letter of 30 March 2018 were late-filed and should not be admitted into the appeal proceedings.

Novelty – claim 1 of the main request

Appellant I mainly argued that document D15 did not disclose glue being applied on the second, inwardly facing surface of said first outer ply in correspondence of said linear grooves, to join said first outer ply to said second outer ply. Appellant's II reasoning in this regard was that Figure 5 of document D15 showed the adhesive 34 on the web 2b between male projections 32 and concluded from this Figure only that said feature was not disclosed. However, one had to take into account the whole content of document D15. In this regard, Figure 5 was only schematic and the adhesive would finally not only be on the web 2b as shown but penetrate the middle ply 36 and adhere to the linear projections 22 of the web 2a. The skilled person would recognize that it would be impossible in a paper manufacturing process to apply adhesive 34 between the male projections 32. This was also not taught by document D15 when considering the

manufacturing process described on page 12, first paragraph, with respect to Figure 3. According to this paragraph, the glue was either applied to the regions 22, the top of the male protrusions 32 or both. Yet, no disclosure in document D15 was found to dispose adhesive between two male protrusions 32 or between two regions 22. Hence, the skilled person would, also with respect to Figure 5, adhere to the teaching of the entire document D15, namely as described with respect to Figures 3 and 4 to apply the adhesive on the linear projections 22 as described in the second paragraph of page 13 of document D15. Because Figure 5 showed adhesive 34 only in the regions 22, only the first of the aforesaid alternatives applied. Accordingly, the subject matter of claim 1 of the opposed patent lacked novelty over document D15.

Inventive step – first and second auxiliary requests

Appellant I argued with respect to document D13 that the skilled person would not have considered any kind of strengthening or stiffening structure inside the pocket portions to improve the resistance against collapsing of the pocket portions, because this document aimed to generate a web of increased softness and absorbency and not to generate outwardly projecting cushions or bulging portions the collapsing of which could be detrimental.

This assertion was incorrect, because document D13 described in column 3, lines 40 to 48 that a puffy (bulgy or bulky) construction was afforded by the formation of the outwardly presented pocket portions taken with slight stretching thereof as the webs were disengaged from member 26. Alone this passage clearly indicated to the skilled person that the pocket

portions had an advantageous effect and should be maintained. Further, if the skilled person produced a product according to document D13, he/she would certainly recognize that the pocket portions tend to collapse and, thereby, lose the advantageous effect of the bulky construction described in document D13.

As a consequence, the skilled person would clearly be confronted with the object also named in the opposed patent itself (see column 11, lines 11 to 16) to prevent collapsing or crushing of the pocket portions and, thereby a reduced bulk of the product.

Furthermore, appellant I argued with respect to document D14, that the skilled person would not have had considered this document, because this document did not disclose outwardly projecting bulging protrusions or pockets. Yet, Figure 1 clearly showed cushions of a height h1 and h3. The claim of the opposed patent did not limit the outwardly bulging protrusions to any specific type and those outwardly bulging protrusions were anyway already known from document D13. The skilled person only needed to learn from document D14 that protrusions of a middle ply can be used to support protrusions of an outer ply to prevent crushing or collapsing of the protrusions of the outer ply. This teaching can be clearly derived from D 14 as particularised below.

Moreover, appellant I argued that document D14 suggested to increase the strength of the web rather than to prevent crushing of the cushions. This was again incorrect, because document D14 clearly mentioned "good crush resistance" in column 2, lines 9 to 13. As a consequence, this document clearly suggested an intermediate ply with projections 20 engaging with the

protrusions of the outer ply to support these protrusions. Thus, the teaching needed by the skilled person to solve the object posed when starting from document D13 could clearly be derived from document D14. A further argument was that the paragraph in column 2, lines 42 to 45 of D14 would suggest the addition of a double layer outer ply to increase the strength rather than protrusions of an inner ply supporting protrusion of an outer ply and that document D14 thus taught away. This paragraph, however, related to a dependent claim 6, whereas claim 1 and particularly the middle ply defined therein was clearly disclosed to offer good structural stability and good crush resistance as disclosed in the paragraph relating to the invention (see column 2, lines 9 to 13).

Hence, and contrary to appellant's I argumentation, the skilled person would have been confronted, starting from document D13 as closest prior art, with the aforesaid object and be presented the solution as claimed by document D14. As far as document D16 was concerned, appellant I mainly argued that in document D13 a nested structure was shown and that the skilled person because of this nested structure would not have considered document D16 when searching for an improvement of document D13. Yet, appellant I disregarded that document D16 taught that the middle ply nesting with its protrusions in between the protrusions of the first outer ply prevented the cushions of the outer ply from collapsing (see paragraphs [0006] and [0010] of document D16). It was not important how the second outer ply was configured as this was already known from document D13. The skilled person merely derived the teaching from document D16 that a middle ply nesting with the protrusions or cushions of an outer ply may support

these cushions and prevented them from collapsing. This was exactly the teaching the skilled person required for solving the aforesaid object when starting from document D13.

In summary, the skilled person therefore clearly obtained the claimed subject matter when starting from D13 and considering either document D14 or document D16 for a solution of his/her problem. The subject matter of the first auxiliary request therefore lacked an inventive step in view of these combinations.

Claims 1 and 3 of the second auxiliary request differed from the corresponding claims of the first auxiliary request in that a second intermediate embossed ply was arranged between the two outer plies wherein one of the intermediate plies supports with its projections, the embossed protuberances of one of the outer plies and the other of the intermediate plies supports with its projections the embossed protuberances of the other ply in order to prevent collapsing of the embossed protuberances of both outer plies.

However taking the aforesaid arguments with respect to the first auxiliary request into account, the combination of document D13 with document D14 or D16 already led to subject-matter with one intermediate ply supporting with its protrusions the embossed protuberances of one of the outer plies. Thus, the remaining question was whether the skilled person, who was confronted with the fact that the embossed protuberances of the other ply which had not been supported still collapsed, would have considered the same solution as for the first outer ply also for the second outer ply.

Taking this object and problem into account, both documents D14 and D16 provided the skilled person with a solution. Both documents suggested an intermediate ply having projections corresponding to the embossment protuberances of the outer ply to support the embossed protuberances of the outer ply and prevented crushing. Thus, the skilled person considering this teaching would certainly had incorporated a second intermediate ply in the same manner as he incorporated a first intermediate ply, thereby arriving at the claimed subject matter without the need of inventive activity.

In this context, it was to be highlighted that document D14 addressed a product which had at least three embossed plies (see for example column 1, line 64 or claim 1). Thus, the skilled person reading this document would also have considered four-ply products which necessarily had two outer plies and two inner plies or intermediate plies. Similar applied with respect to document D16, which suggested on page 2, right hand column, first line, to provide at least one intermediate ply.

Document D14 disclosed in column 2, lines 3 to 13 a product that combined the advantages of a "tip-to-tip" structure, which provided for improved softness, with those of a "nested" structure, which provided for an increased mechanical strength. The "nested" structure provided by the intermediate ply nesting with its projections between the protuberances of the outer plies provided for a good structural stability, good crush resistance, whereby they were kindred to "nested" products.

Summarising, the skilled person was hinted by both documents D14 and D16 that more than two intermediate

plies can be used in that document D14 suggested also more than three- ply products and document D16 explicitly mentioned at least one intermediate ply. Thus, the skilled person was prompted by the teachings of documents D14 and D16 to incorporate two intermediate embossed plies arranged as defined in each of claims 1 and 3, respectively, into a method and a tissue paper as disclosed in documents D13, thus arriving at the claimed subject matter without the need of inventive activity.

Admissibility of the amendments of the second auxiliary request

Claims 1 and 3 of the second auxiliary request included the feature that in addition to a first intermediate embossed ply, a second intermediate embossed ply was arranged between said first outer ply and said second outer ply. A first intermediate embossed ply was disclosed in claim 19 as filed. While a second intermediate embossed ply was disclosed in claim 24 as filed, the combination of a first and a second intermediate ply was not disclosed in the claims as filed, since claim 24 as filed referred back to claims 20 to 22, none of which referred back to claim 19.

Claims 3, 9 and 10 of the second auxiliary request corresponded to claims 4, 14 and 15 as granted. Dependent claims 9 and 10 of the second auxiliary request referred back to independent claim 3 of the second auxiliary request. However, claims 14 and 15 as granted referred back to claim 13 and claims 12 to 14, respectively, which had no longer a counterpart in the claims of the second auxiliary request.

The claims of the second auxiliary request hence contravened the requirements of Article 123(2) EPC.

Reasons for the Decision

1. The appeals are admissible.

2. *Admittance of the first, second and third auxiliary requests filed by appellant I with letter dated 30 March 2018*

2.1 These requests and the accompanying submissions of appellant I constitute an amendment to appellant's I case in the sense of Article 13(1) RPBA, which provides that any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the board's discretion.

It may be noticed that appellant I filed a single "first auxiliary request" with its statement of grounds.

The discretion 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.

2.2 The set of claims of the (new) first auxiliary request corresponds to set of claims of the second auxiliary request filed before the opposition division, ie a request upon which the appealed decision is based. It follows that appellant does not bring an entirely fresh case, which would not be in line with the purpose of the appeal proceedings. Moreover, claim 1 of the first

auxiliary request is substantially a combination of claim 1 as granted and a part of claim 2 as granted.

In exercising the discretion given to the board under Article 13(1) RPBA, the first auxiliary request is admitted into the appeal proceedings.

2.3 The independent claims 1 and 3 of the second auxiliary request correspond, apart from replacing the wording "embossing projections" by the wording "embossing protrusions", to claims 1 and 3 of the former auxiliary request filed with the statement of grounds.

The set of claims of the third auxiliary request correspond in substance to the set of claims on the basis of which the opposition division intended to maintain the patent.

In claims 1 and 3 of the second and third auxiliary requests the word "projections" was replaced by the word "protrusions" with a view to bring the wording into conformity with the wording of claims 1 and 4 as granted.

Since the second and third auxiliary requests can be seen as a reaction of appellant I to the submissions of appellant II raised in point III of its statement of grounds and since said requests correspond to a large extent to the former auxiliary request filed with the statement of grounds, the second and third auxiliary requests filed by appellant I with letter dated 30 March 2018 are admitted into the appeal proceedings, Article 13(1) RPBA.

2.4 It may be noticed that claims 1 and 3 of the second auxiliary request filed at the oral proceedings before

the board differ from claims 1 and 3 of the second auxiliary request filed with letter dated 30 March 2018 in that the expression "and said second outer ply (V3)" has been added at the end of the respective claims.

MAIN REQUEST

3. *Ground for opposition under Article 100(a) EPC 1973 in combination with Article 54 EPC 1973*

3.1 Document D15, which is a state of the art according to Article 54(2) EPC 1973, discloses all the features of claim 1 of the main request with the possible exception of the feature "wherein glue (C) is applied on the second, inwardly facing surface of said first outer ply in correspondence of said linear grooves" (hereinafter referred to as the glue feature). Since this has not been contested by appellant I, there is no need for further substantiation of this matter. However, appellant I has submitted that document D15 did not disclose the glue feature.

3.2 Figure 5 shows that glue 34 is applied to the lower web 2b, in-between the male protrusions 32 and opposite the compressed area 22 of the upper web 2a. That glue is applied on the recessed area between the male protrusions 32 of web 2b as shown in Figure 5 of document D15 is puzzling, since according to the first paragraph on page 12, adhesive can applied to the first web, to the second web, or to both. In particular, with the paper converting device for producing a multi-ply web of tissue paper shown in Figure 3 adhesive can be applied to the regions 22 of compressed material of the first web and/or to the male protrusions 32 of the second web. With said device it is not possible to apply adhesive in-between the male protrusions 32 of

the second web 3 shown in Figure 3, which corresponds to the lower web 2b in Figure 5.

In the judgment of the board, the person skilled in the art reading document D15 would have concluded that the locations of the adhesive shown in Figure 5 was flawed and that the correct locations were either the tops of the regions 22 of compressed material of the first web and/or the male protrusions 32 of the second web. The first possibility, ie applying adhesive to the tops of the regions 22 of compressed material of the first web corresponds to the glue feature of claim 1 of the main request.

3.3 Appellant I has submitted that the two webs 2a, 2b were pressed together by passing them through the nip between the embossing roller 132 and the marrying roller 142, see Figure 3 and page 12, third paragraph. The glue between the webs had to be applied at a location corresponding to the protuberances of the embossing roller 132, otherwise the webs would not be bonded together. The person skilled in the art would therefore not apply glue to compressed area 22 in Figure 5. For the same reason, the location of the glue 34 on the compressed area 22 in Figure 4 was also wrong.

While the board concurs with appellant I that the pressing force is mainly present between the protuberances of the female embossing roller 132 and the marrying roller 142, and that the pressing force is higher in the nip between said rollers, this is not to say that outside the nip there is not sufficient pressure to bond the webs. In this respect it is noted that document D15 explicitly states (see page 13, second paragraph):

"*In the example according to Fig. 4, the ply bonding is achieved by means of the application of adhesive 34 to the tops of the regions 22 of compressed material surrounding the cushions 24.*"

3.4 The subject-matter of claim 1 of the main request is therefore not new with respect to document D15.

FIRST AUXILIARY REQUEST

4. *Ground for opposition under Article 100(a) EPC 1973 in combination with Article 56 EPC 1973*

4.1 Document D13 represents the closest state of the art. This document discloses (see column 1, lines 9 to 12, and column 1, line 42, to column 2, line 5) a multi-ply fibrous sheet structure and an apparatus for the fabrication thereof. The general objective of the invention is to provide an apparatus for fabricating a multi-ply sheet structure of improved absorbency and softness, see column 1, lines 37 to 39. The multi-ply fibrous sheet structure 23 shown in elevational view in Figure 4 comprises web 21, 22 having flat regions 21b, 22b (supplied with adhesive) and embossed pattern 21d, 22d (pocket portions or bosses).

The passage in column 3, line 40, to column 4, line 3 reads:

"*As is best seen in FIG. 4, the finished sheet 23 is of puffy construction, as is afforded by the formation of the outwardly presented pocket portions or bosses 21d, 22d taken with slight stretching thereof as the webs are disengaged from member 26, and is rendered highly absorbent by*

presence of inwardly projecting, mutually confronting fibers 21c and 22c disposed about and created in the formulation of perforations 21a and 22a by members 26. The sheet 23 further is rendered soft to the touch, by virtue of the inward projection of the fibers, wherein fibers of one ply are presented generally toward the fibers of another ply."

It may be noticed that the additional feature of claim 1 of the first auxiliary request with respect to claim 1 of the main request, namely "wherein said second outer ply (V3) is embossed to form a three-dimensional surface pattern comprising outwardly projecting, bulging embossed protuberances defined by portions of said second outer ply (V3), at least partly surrounded by substantially linear grooves, extending towards the inside of said sheet material (N)" is disclosed in this document, see Figures 3 and 4.

4.2 The subject-matter of claim 1 of the auxiliary request differs from the tissue paper ("multi-ply sheet structure") known from document D13 in that:

(i) "[wherein] between said first outer ply (V1) and said second outer ply (V3) at least a first intermediate embossed ply (V5) is arranged", and

(ii) "embossing protrusions of said first intermediate embossed ply being arranged in correspondence of the bulging embossed protuberances of said first outer ply (V1)".

These distinguishing features in combination solve the objective problem of preventing the bulging protrusions from collapsing.

Appellant I has submitted that in the soft multi-layer paper known from document D13 resistance against collapsing of the pockets formed in the web were not a concern to the skilled person.

The board disagrees. Starting from document D13 the person skilled in the art will try to solve the objective problem of preventing the bulging protrusions from collapsing while at the same time trying to maintain sufficient absorbency and softness of the multi-layer paper known from document D13, whereby she or he has to strike a balance between crush resistance, absorbency and softness.

4.3 Document D14 discloses (see column 1, lines 54 to 56, and Figure 1) a multi-layer paper composed of at least three plies of embossed paper. The multi-layer paper has improved softness because more air is trapped between the paper layers while at the same time mechanical strength is increased (see column 1, lines 56 to 58) and offers good structural stability, good crush resistance and increased thickness, whereby touch and softness are improved (column 2, lines 9 13). The projections 20 of the middle ply 2 nest between adjacent projections of one of the first external ply 1 or the second external ply 3, see column 3, lines 60 to 62, and claim 1. This document teaches that the projections of the middle ply are nested between the projections of one of the external plies and advantageously have a height at most equal to the heights of the projections of the external ply between which they nest, which offers the advantage of

precluding all asperities inside the compound paper which would degrade the touch and softness of the paper (see column 2, lines 19 to 25). The height of the projections of the middle ply should be at least 50% of the height of the projections of the external ply between which they are nesting, since such a proportion allows for good mechanical properties (see column 2, lines 26 to 30).

Document D16 discloses (see paragraph [0001] and Figure 2) a multi-layer tissue paper having at least three plies, similar to the multi-layer paper known from document D14, which is cited in paragraph [0004] of document D16. The multi-layer tissue paper comprises a first outer ply 10 having a first micro structure (with micro embossments) and a first pillow structure (with pillow embossments), a second outer layer 30, and at least a middle layer 20 having a second micro structure and a second pillow structure. The object of the invention according to this document is (see paragraph [0006]) to provide an improved multi-layer tissue paper in which the collapse of the multi-layer tissue paper, and/or of the pillow is made more difficult and in which the thickness is improved.

Document D16 is not more relevant than document D14

In the judgment of the board, the person skilled in the art, starting from the method for producing an embossed multi-ply tissue paper sheet known from document D13 and seeking to prevent the bulging protrusions from collapsing, would apply the teaching of document D14, ie providing an intermediate embossed ply having embossing protrusions in correspondence of the bulging embossed protuberances of one of the outer plies, and would therefore arrive at the subject-matter of claim 1

of the of the first auxiliary request without exercising inventive skills.

4.4 The subject-matter of claim 1 of the first auxiliary request does therefore not involve an inventive step, Article 56 EPC 1973.

SECOND AUXILIARY REQUEST

5. *Allowability of the amendments, Article 123(2) EPC*

5.1 With respect to claim 1 of the main request, claim 1 of the second auxiliary request comprises the following additional (product) features (added features with respect to claim 1 as granted are underlined, deletions are stricken-through):

- wherein said second outer ply (V3) is embossed to form a three-dimensional surface pattern comprising outwardly projecting, bulging embossed protuberances defined by portions of said second outer ply (V3), at least partly surrounded by substantially linear grooves, extending towards the inside of said sheet material (N); and

- wherein between said first outer ply (V1) and said second outer ply (V3) ~~at~~ least a first intermediate embossed ply (V5) ~~is~~ and a second intermediate embossed ply (V7) are arranged~~;~~, said first and second intermediate embossed plies (V5, V7) being provided each with embossing protrusions facing towards the first outer ply (V1) and the second outer ply (V3) respectively, embossing projections of said first intermediate embossed ply being arranged in correspondence of the bulging embossed

protuberances of ~~at least~~ said first outer ply (V1) and said second outer ply (V3).

A basis for the first amendment is the first part of claim 17 (ie up to the semicolon) of the published version of the application as filed (hereinafter: application as filed). The second part of said claim reads: "and wherein said second outer ply is provided with glue applied on an inwardly facing surface of said second outer ply in correspondence of said linear grooves". Leaving out the second part of claim 17 in claim 1 of the second auxiliary request does not result in an intermediate generalisation, since it is clear from paragraphs [0051] and [0053] of the application as filed that applying glue on the second outer ply V3 is optional, see in particular the respective last sentences of the paragraphs referred to above.

A basis for the second amendment, ie the provision of two intermediate ("inner") plies V5, V7 between the first and second outer plies V1, V3 can be found in Figures 16 and 20 and the corresponding description of the application as filed). These Figures show that the first intermediate ply V5 being arranged in correspondence of the bulging embossed protuberances of the first and second outer plies V1, V3, as required by claim 1 of the second auxiliary request. The combination of claims 17, 20 (which refers back to claims 17 or 18 as filed and introduces a first intermediate ply V5) and claim 24 (which refers back to claims 20, 21 or 22 as filed and introduces a second intermediate ply V7) also form a basis for the amendments in claim 1 of the second auxiliary request.

5.2 The same considerations apply to claim 3 of the second auxiliary request.

The amendments therefore do not introduce subject-matter extending beyond the content of the application as filed, Article 123(2) EPC.

5.3 Claims 1 to 14 of the second auxiliary request roughly correspond to claims 1 to 19 as granted (granted dependent claims 3, 8 and 11 to 13 were deleted).

Dependent claims 14 and 15 of the main request reads as follows:

> "14. Multi-ply sheet material according to claim 13, wherein said first and second intermediate embossed plies (V5, V7) each have embossing projections formed by bulging embossed protuberances facing towards said first and second outer ply (V1, V3) respectively, said bulging embossed protuberances being surrounded by linear grooves facing away from said first and second outer plies."

> "15. Multi-ply sheet material according to claim 12, 13 or 14, wherein said first and second intermediate embossed plies (V5; V7) are arranged in a tip-to-tip arrangement."

Dependent claims 9 and 10 of the second auxiliary request differ from the corresponding claims 14 and 15 of the main request in that the wording "according to claim 13" and "according to claim 12, 13 or 14" have been replaced by the expression "according to claim 3".

Appellant II has submitted that changing the reference to the preceding claim(s) introduced subject-matter extending beyond the content of the application as

filed, since the dependent claims 12 to 14 had been deleted.

This cannot be accepted. A basis for the additional features of claims 9 and 10 of the second auxiliary request are claims 26 and 27 of the application as filed, respectively. These additional features are special embodiments of the tissue paper multi-ply sheet material claimed in independent claim 3 of the second auxiliary request.

It follows that claims 9 and 10 of the second auxiliary request meet the requirements of Article 123(2) EPC.

6. *Ground for opposition under Article 100(a) EPC 1973 in combination with Article 56 EPC 1973*

6.1 Claims 1 and 3 of the second auxiliary request relate to a method for producing an embossed multi-ply tissue paper sheet and a tissue paper multi-ply sheet material, respectively, having **two** intermediate embossed plies arranged as defined in said respective claims. As noted in point 2.3 above, they correspond in substance to the set of claims on the basis of which the opposition division intended to maintain the patent.

While it follows from point 4.3 above that it was obvious to the person skilled in the art, starting from the method for producing an embossed multi-ply tissue paper sheet known from document D13 and seeking to prevent the bulging protrusions from collapsing, to apply the teaching of document D14, ie providing an (one) intermediate embossed ply having embossing protrusions in correspondence of the bulging embossed protuberances of one of the outer plies, it cannot be

said without any doubt that it was obvious to the person skilled in the art starting from document D13 to provide **two** intermediate embossed plies, since none of the documents disclose a multi-ply tissue paper sheet having two intermediate embossed plies.

The board essentially follows the reasoning of the opposition division in the decision under appeal, see Reasons, point 5.1.5.

6.2 The subject-matters of claims 1 and 3 of the second auxiliary request therefore involve an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain a patent in amended form in the following version:

Description:
Pages 1 to 12 filed on 13 March 2014, whereby in paragraph [0055], second sentence, the wording "or foot-to-foot" is deleted;

Claims:
No. 1 to 14 of the second auxiliary request filed at the oral proceedings;

Drawings:
Pages 13 to 21 of the patent specification.

3. The request of appellant II that the patent be revoked is refused.

The Registrar: The Chairman:

S. Fabiani M. Poock

Decision electronically authenticated