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**Datasheet for the decision
of 19 November 2024**

Case Number: T 0449/22 - 3.3.06

Application Number: 13830431.6

Publication Number: 2885458

IPC: D21H11/18, D21B1/38, D21C9/00,
C08L1/02, D21B1/34, D21C9/18

Language of the proceedings: EN

Title of invention:

METHOD AND INTERMEDIATE FOR THE PRODUCTION OF HIGHLY REFINED
OR MICROFIBRILLATED CELLULOSE

Patent Proprietor:

Stora Enso Oyj

Opponent:

FiberLean Technologies Limited

Headword:

MICROFIBRILLATED CELLULOSE/Stora Enso

Relevant legal provisions:

EPC Art. 83
RPBA 2020 Art. 11

Keyword:

Sufficiency of disclosure - after amendment
Remittal - (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0449/22 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 19 November 2024

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 17 December 2021 revoking European patent No. 2885458 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: R. Elsässer
C. Heath

Summary of Facts and Submissions

I. The appeal of the patent proprietor is directed against the decision of the opposition division to revoke European patent 2 885 458 for insufficiency of disclosure of the invention as defined in claim 1 as granted, which reads as follows:

"1. A method for the production of highly refined or microfibrillated cellulose, characterized in that the method comprises the steps of:

(a) treating cellulosic fibres to remove at least a major part of the primary wall of the fibres,

(b) drying the treated fibres to a water content of less than 20 wt-%,

(c) rewetting the treated and dried fibres, and

(d) disintegrating the wetted fibres by mechanical means to obtain the final product."

II. With its statement of grounds of appeal, the appellant filed 19 sets of amended claims as well as the new documents **D37** (Fundamentals of Paper Making Fibers; Transactions of the Symposium held at Cambridge, Sept. 1957, p. 389-409), **D38** (Paperin Valmistus - Suomen paperiinsinöörien Yhdistyksen oppi- ja käsikirja, 3, 1969, B2 6-7) and its partial translation in English **D38a**, **D39** (Puukemia - Suomen paperi-insinöörien Yhdistyksen oppi- ja käsikirja, 1, 1977, 26-27) and its partial translation in English **D39a**. Further, it argued that when taking into account the disclosure of the newly filed documents as evidence of common general knowledge, the invention was sufficiently disclosed.

III. With letter of 24 February 2022, opponent 1 withdrew its opposition and is thus no longer party in these

proceedings.

- IV. With its reply to the grounds of appeal, opponent 2 (and respondent) filed documents **D40** (Fundamentals of Paper Making Fibers; Transactions of the Symposium held at Cambridge, Sept 1957; p. 389-409 and 424) and **D41** (letter from the appellant - then applicant - dated 6 October 2016), and argued *inter alia* that **D37-D39** should not be admitted and that, even if admitted and taken into account, the invention was not sufficiently disclosed.
- V. At the oral proceedings, held on 19 November 2024 by video conference, the final requests of the parties were the following:

The **appellant** requested to set aside the decision under appeal and to remit the case to the opposition division in case anyone of the requests filed with the grounds of appeal was found to meet the requirements of Article 83 EPC.

The **respondent** requested that the appeal be dismissed.

Reasons for the Decision

1. Main request - Sufficiency of disclosure
 - 1.1 Admission of **D37-D41**
 - 1.1.1 According to the contested decision, one of the relevant reasons for concluding that the invention was not sufficiently disclosed was the absence in the patent of a disclosure of a method for determining whether a major part of the primary wall of the fibers

had been removed in treatment step (a).

1.1.2 In response, the appellant filed documents **D37-D39** as evidence for its statement that such a teaching was not required because a suitable determination method was commonly known in the art.

1.1.3 The board has exercised its discretion to admit these documents into the proceedings (Article 12(4) and (6) RPBA) because, in view of the opposition division's preliminary opinion that the invention was sufficiently disclosed, the patent proprietor had no reason to file any additional evidence at this stage of the procedure. Since in the decision the opposition division deviated from its preliminary opinion, the proprietor (now appellant) should be given an opportunity to react to such a change by way of filing new evidence when appealing against said decision.

1.1.4 As documents **D40** and **D41** were filed by the respondent in reaction to the filing of **D37-D39**, procedural fairness requires that also these are admitted.

1.2 Method of determining the removal of a major part of the primary wall

1.2.1 Evidence of common general knowledge

The board has come to the conclusion that **D38** and **D39**, which are excerpts from textbooks of the relevant technical field are as such representative of common general knowledge. The respondent's argument that these documents were journal articles is not in agreement with the evidence on file and was no longer maintained at the oral proceedings.

That the documents are old is not a valid argument either since, as put forward by the appellant, paper and pulp technology is a mature technical field where relevant knowledge can also be found in rather old documents.

Therefore, **D38** and **D39** can serve as evidence for the common general knowledge.

The same applies to **D27**, which is also a textbook in the relevant technical field of pulp and paper chemistry and technology. It can be added that at least this document, which dates from 2009, cannot be considered as old or outdated.

1.2.2 For the board, **D38** and **D39** serve as an evidence that the skilled person knew how to verify, at least by visual inspection, whether the primary wall of a fiber is totally or partially removed. The same applies to **D27**, which teaches that the cooking of chemical pulp results in much of the primary wall being removed. While this statement is not further elaborated or illustrated, it presupposes that the removal of the primary wall had somehow been determined or observed.

1.2.3 This ties in well with the disclosures in **D5** - that the acid sulphite cooking process removes the primary wall, while the kraft process does not remove it completely - and **D37**, which defines a method to quantitatively determine the amount of primary wall on the surface of the fibers. While these two documents are not textbooks and thus cannot be held representative of common general knowledge, they corroborate the disclosures of **D38**, **D39** and **D27**.

D40, which is another edition of **D37**, differs in some

minor details from the latter but also this document (in the summary) discloses a method to quantitatively determine the amount of primary wall on the surface of the fibers. Therefore, it does not contradict the conclusions set out above.

- 1.2.4 It follows that although there is no corresponding disclosure in the patent, the skilled person knew at the priority date of the patent how to determine at least visually whether or not the primary wall of a fiber is totally or partially removed.
- 1.2.5 In view of the fact that **D37** does not represent common general knowledge, the board agrees with the respondent that there is no evidence on file that the skilled person was in a position to distinguish between a treatment that removes 51 % of the primary wall and is therefore covered by the claim and a treatment which would only remove 49% thereof. In the board's view, this is an issue which concerns the boundaries and thereby the clarity of the claim, which cannot be objected to in these proceedings because it already affected granted claim 1. The same applies to the objection that it was not clear whether the primary wall had to be removed only from the fiber surface or from the pulp sample altogether (**D41**).
- 1.2.6 For these reasons, the missing information in the patent about a method for determining the degree of removal of the primary wall is as such not enough to conclude that the invention is not sufficiently disclosed.
- 1.3 Enablement over the whole scope claimed

According to the established jurisprudence of the

boards, the patent must not only indicate at least one way of carrying out the invention, but there should be sufficient information or guidance therein for the invention to be performed over the whole scope of protection claimed (Case law of the boards of appeal, 10th edition, II.C.5.2 and 5.4).

- 1.3.1 In the case at issue, the board has come to the conclusion that this condition is not fulfilled because, although the example discloses one way of how step (a) of claim 1 can be carried out, namely by means of a specific enzymatic treatment, claim 1 is not restricted to such an enzymatic treatment.

The respondent disputed that the example shows that the invention as claimed can be carried out since it was not explicitly disclosed that a major part of primary wall had been removed. The board in this respect observes that paragraph [0044] discloses that the product of the example is a product according to the invention, which means that it must have the features of claim 1, including fibers having a major part of the primary wall removed. Therefore, it must be admitted that the patent discloses at least one way to carry out the invention.

With regard to other possible alternatives to the enzymatic treatment of the example, par. [0022] discloses e.g. mechanical refining, mechanical treatment or oxidation, for which processes however no detailed teaching is provided as to how they should be put into practice to achieve the claimed removal of at least a major part of the primary wall of the fibres. For the board, this is not a trivial matter because, while these methods are conventionally used in pulp making and pulp treatment, the proprietor itself has

consistently argued that they do not inherently lead to the desired and claimed result of partly removing the primary wall of the fibers. The only teaching in this respect is provided in par. [0023] of the patent, where the skilled reader learns that the treatment should be "increased", but this statement is very vague. For instance, "increasing" an oxidation treatment can be implemented in many different ways, e.g by using stronger oxidants and/or more oxidants and/or longer reaction times and/or higher temperatures. The same applies to mechanical refining or treatment which can be rendered more severe in many ways. In the absence of evidence to the contrary, it is not credible that all possible alternatives with "increased" treatment would remove a major part of the primary wall and still lead to a product having the claimed properties, such as the fiber lengths defined in claim 8 or even the maximum length reduction requirements of claim 9, which in part was agreed by the proprietor. Therefore, in the absence of information or guidance in the patent in suit, the removal of "a major part of the primary wall of the fibres" using these alternative techniques represents undue burden for the skilled person faced with this issue.

- 1.3.2 The board is aware that the opponent has not filed any experimental data which would show that the invention could not be carried out with certain treatments covered by claim 1, although the burden of proof to show an insufficiency of disclosure normally lies with him. However, in the case at hand, where the proprietor itself has stated that specific conditions are necessary in order to carry out the invention over the whole scope which are however not disclosed in the patent, there are serious doubts as to the enablement over the whole scope claimed which have not been

convincingly rebutted by the proprietor and appellant.

- 1.3.3 For these reasons, the board has come to the conclusion that, since it is not credible that the invention could be performed over the whole scope of protection claimed without undue burden, the ground of opposition under Article 100(b) EPC prejudices the maintenance of the patent as granted.

2. Auxiliary requests 1-18

While claim 1 of each of these requests has been further limited in various ways but without restricting its subject-matter to the sole embodiment for which the enablement is credible (see point 1.3.1), the appellant has not defended these requests with any additional arguments at the oral proceedings. Therefore, the board has come to the conclusion that these requests do not meet the requirement Article 83 EPC, for the same reasons as laid out for claim 1 as granted.

3. Auxiliary request 19

- 3.1 Claim 1 of this request, with highlighted amendments in comparison to claim 1 as granted, reads as follows:

"1. A method for the production of highly refined or microfibrillated cellulose, characterized in that the method comprises the steps of:

(a) treating cellulosic fibres of kraft pulp to remove at least a major part of the primary wall of the fibres, wherein the primary wall material is removed enzymatically,

(b) drying the treated fibres to a water content of less than 20 wt-% to obtain a dried cellulosic pulp having an average fibre length of at least 0.4 mm and a

wet zero-span tensile strength of less than 50 Nm/g, characterized in that the average fibre length is more than 80 % of the average fibre length of the untreated fibres the pulp has been made from, and its content of fines with a fibre length less than 10 µm is at most 5 wt-%,

(c) rewetting the treated and dried fibres, and
(d) disintegrating the wetted fibres by mechanical means to obtain the final product."

- 3.2 The board is satisfied that the invention as claimed can be carried out since the objection raised against the main request manifestly does not apply to this request which is limited to enzymatic treatments of kraft pulp, as described in detail in the example of the patent.
- 3.3 The respondent argued that the invention could not be carried out as claimed since the zero-span tensile strength was measured in kN/m and not in Nm/g, as shown in **D29** (page 8), the ISO Standard referred to in the patent. This argument has however not convinced the board because, while factually correct, it overlooks that on the same page 8, **D29** indicates that Nm/g (or rather kNm/g) is the unit of the zero-span tensile index which corresponds to the zero-span tensile strength, divided by the grammage of the sample (g/m²). Therefore, the skilled person wanting to carry out the invention would readily realise that a mix-up occurred in claim 1. Alternatively, it would also be possible to repeat the example in the patent for further clarification.
- 3.4 While the board accepts that the mismatch of value and unit in the claim amounts to a lack of clarity, this objection cannot be raised in these proceedings as the

issue was present already in granted claim 12.

4. At the oral proceedings, the respondent explicitly stated that it had no further objections against this request, other than a lack novelty and inventive step. As the opposition division has not decided upon these issues, the case is to be remitted for further prosecution, in agreement with the corresponding requests of both parties.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution on the basis of Auxiliary Request 19 as filed with letter of 25 April 2022.

The Registrar:

The Chairman:



A. Wille

J.-M. Schwaller

Decision electronically authenticated