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Datasheet for the decision of 30 November 2018

Case Number: T 0926/15 - 3.3.06

Application Number: 02702435.5

Publication Number: 1379731

IPC: D21H25/06

Language of the proceedings: EN

Title of invention:
METHOD AND ARRANGEMENT IN MANUFACTURING OF PRINTING PAPER

Patent Proprietor:
Valmet Technologies, Inc.

Opponents:
Voith Patent GmbH
Andritz Küsters GmbH

Headword:
MANUFACTURING OF PRINTING PAPER / Valmet Technologies

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

Keyword:
Late-filed document - admitted (no)
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0926/15 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 30 November 2018

Appellant: (Opponent 1)	Voith Patent GmbH Sankt Pöltener Straße 43 89522 Heidenheim (DE)
Representative:	Manitz Finsterwald Patentanwälte PartmbB Postfach 31 02 20 80102 München (DE)
Respondent: (Patent Proprietor)	Valmet Technologies, Inc. Keilasatama 5 02150 Espoo (FI)
Representative:	Berggren Oy, Turku P.O. Box 99 Tykistökatu 2-4 B 20521 Turku (FI)
Party as of right: (Opponent 2)	Andritz Küsters GmbH Eduard-Küsters-Strasse 1 47805 Krefeld (DE)
Representative:	Henseler, Daniela Sparing Röhl Henseler Patentanwälte Rethelstrasse 123 40237 Düsseldorf (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 19 February 2015 maintaining European Patent No. 1379731 in amended form.**

Composition of the Board:

Chairman	J.-M. Schwaller
Members:	P. Ammendola
	J. Hoppe

Summary of Facts and Submissions

I. This appeal from opponent 1 (the appellant) lies from the interlocutory decision of the opposition division to maintain European patent no. 1 379 731 in amended form on the basis of the claims according to the Main Request dated 24 October 2014.

II. With its grounds of appeal, the appellant contested *inter alia* the finding of the opposition division that the above claims involved an inventive step. It held in particular following documents to be of particular relevance:

D2 = "*Drying of paper coatings and drying equipment*", P.Heikkila *et al.*, "*Papermaking Sciences and Technology - Book 11: Pigment Coating and Surface Sizing of Paper*", 2000, p. 542-565

D3 = EP 0 609 483 A1

D7 = "*Drying pigment coated papers and boards - a review*", R.L. Grant, Paper Technology, March 1991, p. 20-25

D10 = "*Studies of the Drying and Its Effect on Binder migration and Offset Mottling*", G. Engstrom *et al.*, 1987, Coating Conference, TAPPI Proceedings, p. 35-43

D11 = "*Effect of Drying Conditions on Paper Quality on Wood-Containing Light Weight Coated Paper*", P. Norrdahl, 1991, Coating Conference, TAPPI Proceedings, p. 417-437.

III. The patent proprietor (hereinafter **respondent**) rebutted the appellant's objection and filed again the 1st to 5th Auxiliary Request already pending before the opposition division.

IV. The appellant submitted with letter of 14 August 2018 a new document D14 arguing therewith that it was novelty destroying for claims (1 and 8) of the Main Request.

V. Following the board's preliminary opinion, the respondent filed with letter of 16 November 2018 four sets of amended claims labelled as 1st to 4th Auxiliary Requests respectively identical to the 2nd to 5th Auxiliary Requests already on file, renumbered.

In particular, **claims 1 and 7** of the **1st Auxiliary Request** read as follows:

> "*1. A method in the manufacture of coated printing paper based on doctor blade coating technique, when coating the paper web at least on one side, whereby a dryer is used for drying the paper after the coating station, by means of which dryer the web is dried with hot air,* ***characterised in that*** *the said dryer is either one single dryer or several dryer units placed close to each other and it is placed immediately after the coating station so that the forward end of the dryer is placed at a distance of less than 4 meters from the coating station, and that the drying of the paper is continued in the said dryer at least until the coating in the dryer area reaches its solidification point and the dryer is dimensioned to be so efficient that the dry matter content of the coating after the dryer is over 85% and the*

travel time of the paper web in the area of said dryer is less than 500 ms."

"*7. An arrangement in the manufacture of coated printing paper based on doctor blade coating technique, the paper web being coated at least on one side, whereby the paper web is provided after the coating station with a dryer for drying the paper, by means of which dryer the web is dried with hot air,* ***characterised in that*** *the said dryer is either one single dryer or several dryer units placed close to each other and it is placed immediately after the coating station so that the forward end of the dryer is placed at a distance of less than 4 meters from the coating station and that the drying of the paper takes place in the said dryer at least until the coating in the dryer area reaches its solidification point and the dryer is so efficient that the dry matter content of the coating after the dryer is over 85% and the travel time of the paper web in the area of the dryer is less than 500 ms.*"

The remaining **claims 2 to 6** and **8 to 12** of this request define preferred embodiments of respectively the method of claim 1 and the arrangement of claim 7.

VI. At the oral proceedings, the board decided not to admit D14 into the proceedings and the discussion focused on inventive step starting from D3 as closest prior art. The respondent then withdrew the pending main request.

VII. At the end of the oral proceedings, the final parties' requests were as follows:

The appellant (opponent 1) and opponent 2 requested

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

The respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims according to one of the 1st to 4th auxiliary requests dated 16 November 2018.

VIII. The appellant and opponent 2 disputed the allowability of the claims of the 1st Auxiliary Request only in view of Article 56 EPC. They argued that its claimed subject-matter was obvious in view of the combination of the disclosure in D3 with that of D10. They also referred to D2, D7 and D11 as evidence of the common general knowledge in the relevant technical field.

Reasons for the Decision

1. Non-admittance of document D14

The board notes that:

- D14 has been filed by the appellant after that the oral proceedings before the board had already been arranged;
- the appellant has stated to have been aware of the existence of D14 already at the end of 2017, when it had provided the respondent (but not the board) with a copy of this citation;
- the disclosure allegedly provided by D14 that the appellant considered of high relevance is not *prima facie* evident (since it requires to selectively combine one of the end points of the range given for the "machine speed" in Table I with the distance values in Figure 8, and also because it is not immediately apparent whether the float dryers/

hoods mentioned in this citation were all HA dryers, as alleged by the appellant).

In view of the above, and also considering the provisions of Articles 13(1) and (3) RPBA, the board exercised its discretion not to admit D14 into the proceedings.

2. Assessment of inventive step: claim 1 of the 1st Auxiliary Request

2.1 The closest prior art

2.1.1 It is common ground among the parties that the most relevant prior art is disclosed by Figure 8 and the corresponding description (starting at column 7, line 5) of D3. This prior art is an apparatus for producing coated printing paper in which a paper web is coated using a blade and then passed directly through a float dryer (numbered "5" in Figure 8 and described as "Schwebebahntrockner 5" in col.7, line 13). It is undisputed that the float dryer in this prior art is a **h**ot **a**ir **dryer** (hereinafter **HA dryer**).

2.1.2 The board notes that also claim 1 at stake relates to a method for manufacturing coated printing paper based on the doctor blade coating technique, in which the paper web is first dried with an HA dryer. Indeed, the claim's wording implicitly excludes the presence of any IR dryers interposed between the coating station and the HA dryer. It is stressed that also the respondent has explicitly confirmed this at the oral proceedings before the board.

Hence, also the board concludes that the closest prior art is represented by the paper coating method enabled

by the apparatus of Figure 8 of D2, in which the first dryer present after the coating station is the HA dryer 5.

2.1.3 The technical problem solved

It is common ground among the parties that the subject-matter of claim 1 solves vis-à-vis the closest prior art one of the technical problems identified in [0005] of the patent in suit, namely it provides a method for producing a coated printing paper in which is prevented the occurrence of print mottling.

As a matter of fact, claim 1 at stake requires in particular that the travel time of the paper web in the HA dryer must be less than 500 ms, and that at the exit of the coated paper web from the HA dryer, the dry matter content of the coating must be over 85%. It is undisputed that the high drying speed (up to the level of solidification) implied by these features of claim 1 enables to prevent print mottling.

The board sees no reason to come to a different conclusion since D3 is not only silent onto the prevention of ink mottling but gives no details as to the actual dimensions and operating conditions of the HA dryer 5 schematically disclosed by Figure 8.

2.1.4 The non-obviousness of the solution

2.1.5 The assessment of inventive step boils down to the question whether the person skilled in the art, starting from the method for producing coated printing paper with the apparatus of Figure 8 of D3 and aiming at preventing print mottling in the coated printing paper, would have considered obvious to dimension and

operate the HA dryer 5 of the apparatus of Figure 8 so as to ensure within 500 ms of drying with hot air the achievement of a dry matter content of the coating of at least 85%, thereby arriving at the subject-matter of claim 1 at stake.

2.1.6 The appellant and opponent 2 have argued that this modification of the prior art would be rendered obvious by the dryer lay out disclosed on page 43 of D10 (which encompasses three IR dryers and four HA dryers, whereby each HA dryer is 4m long) and by the teachings in D10, above and below Figure 5, that the print mottling was reduced upon reducing the distance between the dryers and the blade and that there was no significant difference if the drying was produced by IR dryers or by HA dryers. In the opinion of these parties the relevance of these teachings was also apparent to the skilled person whose common general knowledge already encompassed the information that print mottling could be prevented when rapidly drying the applied coating at least until this latter reached its "gel point" (also referred to as "immobilisation" or "solidification" point) which corresponded to the achievement of a dry matter content of the coating of between 75% and 85%. To support the existence of such common general knowledge the appellant and opponent 2 referred to documents D2, D7 and D11.

2.1.7 The board notes that the respondent did not dispute that the rapid achievement of the "gel point" of the coating is already generally known to favour the prevention of print mottling. Hence, there is no reason to further discuss the filed evidence of common general knowledge in this respect.

2.1.8 However, the patent in suit provides the clear teaching that in the prior art a dry matter content of the coating of at least 85% is only achieved after drying the coated web for more than 500 ms. This teaching is supported by the undisputed experimental evidence resumed in Figure 3 of the patent in suit, which shows (see the line 17 in the diagram) that a dry matter content of the coating of at least 85% was achieved only during the passage through the second IR dryer (see also the description in paragraph [0020] of the patent description) and manifestly more than 500 ms after that the coated web entered the first (IR) dryer.

2.1.9 The board stresses the absence of evidence for any prior art in which the initial drying of the coated paper web was certainly carried out at such high speed so as to reach the coating's "gel point" within 500 ms or less. The board notes in particular that also in D3 or D10 there is no disclosure of such possibility.

This is apparent when considering that:

- as already mentioned above, D3 is totally silent as to the speed of drying possibly achievable by the apparatus of Figure 8, and
- the disclosure of D10 only allows to conclude that at the reported speed of 1000 m/min the web certainly needs more than 1 second to travel through the 3 IR dryers and the 4 HA dryers of the dryer layout reported on page 43 of this citation, i.e. the disclosure in this citation does not allow to identify with certainty at which moment (of any of the different drying procedures enabled by and applied with this dryer layout) the applied coating achieves its "gel point", let alone of the travel time through the dryers corresponding to the

achievement of a dry matter content of the coating of 85%.

Hence, the prior art neither discloses nor renders predictable that it might be possible to achieve a dry matter content of the coating of at least 85% (i.e. a dry matter content even superior to that possibly required for the achievement of the "gel point" of the applied coating) in less than 500 ms, and in particular the possibility to do so when only using HA dryer(s).

2.1.10 Thus, the cited prior art cannot have rendered obvious for the skilled reader to solve the posed technical problem by dimensioning and operating the HA dryer of the prior art of departure so as to carry out within 500 ms the initial drying of the coated web to reach a dry matter content of the coating of at least 85%. Hence, the subject-matter of claim 1 of the 1st Auxiliary Request results from a non-obvious modification of the prior art of departure.

2.1.11 Accordingly, the method of claim 1 at issue is found to involve an inventive step (Article 56 EPC).

3. Assessment of inventive step: claims 2 to 12 of the 1st Auxiliary Request

Claims 2 to 6 define preferred embodiments of the method for coating printing paper based on doctor blade technique of claim 1.

Claim 7 defines an arrangement for coating printing paper based on doctor blade technique wherein a HA dryer that is placed immediately after the coating station to dry the coated paper to a dry matter content of the coating of at least 85% within 500 ms travel

time through a HA dryer, i.e. the claimed arrangement is manifestly the one specifically required for carrying out the method of above claim 1.

The remaining claims 8 to 12 of the 1st Auxiliary Request define preferred embodiments of the arrangement of claim 7.

Hence, the reasons given above for the finding that the method of claim 1 involves an inventive step over the cited prior art equally apply to each of the preferred embodiments of this method defined in claims 2 to 6, as well as to the arrangement required for carrying out this method as defined in claims 7 to 12.

4. As further objections as regards Article 84 or 123 (2) EPC are neither apparent to the board nor raised by the appellant, the board concludes that the set of claims of the 1st Auxiliary Request, which is the respondent's request with the highest priority after withdrawal of the former Main Request, complies with the requirements of the EPC.

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 with the order to maintain the patent in amended form on the basis of the claims of Auxiliary Request 1 filed with letter dated 16 November 2018 and a description to be adapted thereto where appropriate.

The Registrar: The Chairman:

D. Magliano J.-M. Schwaller

Decision electronically authenticated