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D E C I S I O N
of 13 May 2003

Case Number: T 0692/00 - 3.3.6

Application Number: 93850110.3

Publication Number: 0571351

IPC: D21H 23/58

Language of the proceedings: EN

Title of invention:

Coating device for the coating of a size-press roll, paper, or board

Patentee:

VALMET CORPORATION

Opponent:

Voith Sulzer Papiermaschinen GmbH

Headword:

Bar Coater/VALMET

Relevant legal provisions:

EPC Art. 54, 56, 84, 123(2)(3)

Keyword:

"All requests: Admissibility of amendments - yes; ambiguity not created by amendments"
"Main request and first auxiliary request: Novelty - no"
"Second and third auxiliary request: Inventive step - no; reformulation of the technical problem to be solved in view of the closest prior art; solution - obvious to try"
"Oral proceedings: attendance - announcement of a party (having requested oral proceedings) shortly before the appointed date that it may or may not attend oral proceedings amounts to an abuse of procedure"

Decisions cited:

G 0004/92, T 0653/91, T 0930/92

Catchword:

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Case Number: T 0692/00 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 13 May 2003

Appellant: VALMET CORPORATION
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Representative: Rostovanyi, Peter et al
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Respondent: Voith Sulzer Papiermaschinen GmbH
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Representative: Herzog, Markus, Dipl.-Phys. Dr.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 10 May 2000
revoking European patent No. 0 571 351 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Krasa
Members: G. Dischinger-Höppler
C. Rennie-Smith

Summary of Facts and Submissions

- I. This appeal is from the decision of the Opposition Division to revoke European patent No. 0 571 351. The decision was based on one single amended set of claims.
- II. Based on a number of citations, an opposition was filed against the patent in its entirety on the grounds of Articles 54 and 56 EPC (Article 100(a) EPC).
- III. In its decision, the Opposition Division found that the subject-matter as claimed according to the then pending request lacked novelty in view of document

E1 DE-A-2 736 441.
- IV. With its statement of grounds of appeal, the Appellant (Proprietor) filed amended sets of claims in a new main request and in three auxiliary requests. Claim 1 of the main request reads:

"1. Coating device for the coating of a moving base consisting of, size-press roll, paper or board, which coating device (10,20,100) comprises a coating agent chamber (16,26,106), which chamber is defined by a revolving grooved coating bar (11,21,101), which is supported on the moving base (4,5,W), which acts as the coating member, and which extends across the width of the machine, by the front wall (14,24,102) of the coating agent chamber, by the lateral seals of the coating device, and by the moving base (4,5,W), the coating agent being arranged to be fed into said

coating agent chamber (16,26,106) under pressure, characterized in that the coating bar (11,21,101) is fitted against the moving base (4,5,W) and in that the diameter of the coating bar (11,21,31,101) is at least 18 mm."

Claim 1 of the first auxiliary request differs therefrom in that the term "at least 18 mm" is replaced by "25 ... 80 mm".

Claim 1 of the second auxiliary request reads:

"1. Coating device for the coating of a face of a size-press roll or of a paper or board web, which coating device (10,20,100) comprises a coating-agent chamber (16,26,106), which chamber is defined by a revolving grooved bar (11,21,101), which is fitted against and supported on the roll face (4,5) or fitted against and supported on the web (W) supported by a roll (110), which acts as the coating member, and which extends across the width of the machine, by the front wall (14,24,102) of the coating-agent chamber, by the laterals seals of the coating device, and by the roll face (4,5) or the web (W), the coating agent being arranged to be fed into said coating-agent chamber (16,26,106) under pressure, characterized in that the diameter of the coating bar (11,21,31,101) is at least 18 mm."

Claim 1 of the third auxiliary request differs therefrom in that the term "at least 18 mm" is replaced by "25 to 80 mm".

V. During the appeal proceedings, the parties relied - apart from document E1 - on the following further documents from among those previously considered:

E2 EP-A-0 454 643;

E3 EP-A-0 427 924; and

E5 G.L. Booth, "Coating Equipment and Processes", Lockwood Publishing CO., Inc., N.Y., 1970, pages 82 to 91.

VI. Oral proceedings were held before the Board of Appeal on 13 May 2003 in the absence of the Appellant as somewhat ambiguously indicated by its representative in a faxed letter dated 9 May 2003.

VII. The Appellant - in writing - submitted that the subject-matter claimed according to its requests

- was not only novel in the light of document E1 due to the fact that the latter did not disclose a coating device having any front wall, lateral seals, pressurized chamber or roll supporting the web;

- but also inventive over the closest prior art document E2 since it was not obvious in the light of the problems stated in the patent in suit to replace the large diameter smooth coating bar disclosed in document E2 by a grooved one.

VIII. The Respondent (Opponent) submitted the following arguments:

- The claims of any request were open to objection under Article 84 EPC as regards the meaning of the term "fitted against" as compared to the term "supported on".
- Document E1 anticipated the subject-matter of Claim 1 of any request since the coating device disclosed therein implicitly also comprised lateral seals, a pressurized chamber, a bar extending across the width of the machine and a web supporting roll.
- Replacing the smooth bar of document E2 by a grooved one was obvious since document E2 as well as document E5 disclosed that smooth and grooved bars were used in different instances and large diameter grooved bars were known e.g. from documents E1 and E3. Further, the problems stated in the patent in suit in relation to the wear of the bars applied to both smooth and grooved bars having a small diameter.

IX. The Appellant requested in writing that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the main request or of one of the three auxiliary requests filed with the statement of grounds of appeal.

The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. *All Requests*

1.1 Amendments and interpretation of the claims

1.1.1 By the amendments made to the claims of the present main request and three auxiliary requests, for which a basis can be found in the application as originally filed, the scope of protection has been limited. The requirements of Article 123(2) and (3) are, therefore, met. This was not contested by the Respondent.

1.1.2 As regards the Respondent's objection under Article 84 EPC concerning the term "fitted against" in relation to the term "supported on", both used in Claim 1 of any of the requests, the Board agrees that there might be an ambiguity with respect to their precise meaning. However, this is not the result of the amendments now made to the claims. The ambiguity existed already in the claims as granted which also included those terms. Since the patent in suit does not give any particular definition for these terms, none of them can be given a more specific meaning than that there is some contact, in the present case between the bar and moving base, i.e. the roll face (4,5) or the web (W) (see point IV. above, wording of Claim 1 of any request).

The Board holds, therefore, that the amendments made to the claims on file do **not create a problem** under Article 84 EPC.

1.2 Since the appeal fails for other reasons, no further comment on these matters is necessary.

2. *Main Request*

2.1 Novelty

2.1.1 Lack of novelty of the claimed subject-matter was only contested in the light of document E1 which discloses a coating device for the coating of a paper web, which coating device comprises a chamber or channel (Kanal 10) containing coating agent, this chamber being defined by a revolving grooved coating bar (Nutenstab or Stabrakel 6), by a weir (Wehr 9) and by the moving web (Endlosbahn 4), in which coating device the coating agent is arranged to be fed into said coating agent chamber (Flüssigkeitszufuhröffnung) and the coating bar acts as the coating member, is fitted against and supported on the moving web (Kontaktabschnitt between Bahn 4 and Stabrakel 6) and has a diameter of 6 to 25 mm (see Figures 2 and 3, page 6, last paragraph to page 7, line 20, and page 11, paragraphs 2 and 3) which range overlaps with that of "at least 18 mm" given for the diameter of the bar according to the patent in suit. The Board further agrees with the Respondent that it must be considered as implicitly disclosed in document E1 that the bar extends across the whole machine, since this is indispensable if, as is standard practice, the web is to be coated over its whole width.

2.1.2 Without giving further comments, the Appellant simply stated that the following three features were absent in the coating device of document E1: a front wall, a pressurized chamber and lateral seals.

2.1.3 Concerning the front wall, no particular function or property is indicated in the patent in suit which would allow a distinction with regard to the weir 9 in

document E1. Therefore, no difference can be attributed to the front wall as compared to the prior art weir.

Further, pressurization in the coating agent chamber in document E1 results from Figures 2 and 3 which show that, as convincingly argued by the Respondent and not refuted by the Appellant, at least gravity must be overcome in order to press coating agent from feed opening 8 through chamber 8 up to the web 4.

The Board agrees, as pointed out by the Appellant, that lateral seals for the coating agent chamber are not mentioned in document E1, but is convinced by the Respondent's argument that such seals are present and necessary in the prior art coating devices in order to prevent loss of coating liquid which, otherwise, would simply flow laterally from the machine.

- 2.1.4 The Board concludes, therefore, that all features of Claim 1 of the main request in their particular combination are known from document E1. The subject-matter of Claim 1 is, therefore, not novel and, consequently, does not meet the requirements of Article 54 EPC.

3. *First Auxiliary Request*

The amendment made to Claim 1 (diameter of the coating bar is from 25 to 80 mm) does not exclude a coating device already disclosed in document E1 with a coating bar having a diameter of 25 mm (see 2.1.1 above) and, consequently, does not introduce a novel feature with regard to that prior art.

Therefore, the subject-matter of Claim 1 of the first auxiliary request is also anticipated by the teaching of document E1.

4. *Second Auxiliary Request*

4.1 Claim 1 of the second auxiliary request differs from that of the main request in essence by the feature that in case of direct paper coating, the paper web is supported by roll (110).

In the Respondent's view, this feature was also known from document E1 since the coating bar itself could be seen as a roll supporting the web, or alternatively, since support rolls were always present in coating devices where there was need to change the direction of the running web. The presence of a roll supporting the web must, therefore, be considered as implicitly disclosed in document E1.

However, in contrast to the coating device disclosed in document E1, the device of present Claim 1 comprises **a coating bar and a supporting roll**. Moreover, in order to find out what is the correct meaning of a feature, it is normally necessary to consider the whole content of a patent which is related to that feature. This, of course, includes figures if present.

In the present case, the particular embodiment including a roll (110) supporting the web is represented in Figure 3 and it is apparent from that figure and the respective part of the description (column 4, lines 2 to 17), that the supporting roll is different to the coating bar in as much as it is arranged opposite the coating bar **in order to support**

the web while being coated. It is also evident from that figure that, as the Appellant argued, the supporting roll is not the same as a so-called "**guide roll**" which is necessary to direct the paper web's run through the machine and would have a lateral distance to the coating bar.

The Board concludes, therefore, that subject-matter of Claim 1 of the second auxiliary request is novel over the disclosure of document E1.

4.2 Inventive step

4.2.1 The patent in suit relates to a coating device for the coating of a moving size-press roll, paper or Board web including a coating bar. These devices are called "bar coaters" and it is stated that they have proved excellent especially in the film size press technique (column 1, lines 3 to 12).

Two kinds of coating bars are said to be known, i.e. smooth-faced bars (hereinafter referred to as "smooth bars") and those wherein the face of the bars has been provided with grooves or steel wire (hereinafter referred to as "grooved bars") (column 1, lines 15 to 22 and lines 43 to 49). Further, the prior art coating bars are said to have, as a rule, a small diameter of about 10 mm (column 1, lines 26 to 28).

4.2.2 Closest prior art

The patent in suit starts from document E2 by referring to it as disclosing small-diameter grooved bars and large-diameter smooth bars (column 1, lines 46 to 49).

In its written submissions, the Appellant also relies on this document as the closest prior art and the Respondent agrees.

Grooved bars are only mentioned in this prior art in relation to the background art, according to which no smooth bars have been used in surface sizing but only grooved ones since - depending on the depth of the grooves - they allow the sizing of films having a determined thickness (column 1, lines 31 to 39).

Drawbacks of grooved bars are said to consist in that they are poorly suited to the preparation of thin size films and in that they are rapidly worn, in particular if used for pigmenting with pastes of high dry solids content (column 1, lines 39 to 48).

Another problem mentioned in document E2 with prior art coating bars relates to their small-diameter. Such bars have not proved sufficiently good (column 1, line 57 to column 2, line 11 and), although small-diameter bars have been deemed to be able to adapt themselves to the shape of the roll faces and make the profiles of the size films suitable and correct (column 1, lines 51 to 54). On the other hand, large-diameter bars have been too rigid to provide an adequate profiling and were therefore not useful (column 1, lines 54 to 57).

In order overcome these drawbacks of the prior art, document E2, nevertheless, suggests a coating device comprising a large-diameter coating bar which is, however, smooth-faced as the only distinguishing feature in relation to the claimed coating device (Claims 1 and 2, Figures 1 and 6, column 3, lines 18 to 23 and column 6, lines 53 to 54).

4.2.3 Technical problem and solution

The same drawbacks of prior art coating devices as in document E2 are indicated in the patent in suit, namely the rapid wear of grooved bars, especially if the dry solids content of the coating paste is high (column 1, lines 22 to 26), and the inadequacy of small-diameter bars.

The technical problem to be solved by the patent in suit is, thus, given as providing means by which these drawbacks of the prior art are avoided (column 1, lines 50 to 54).

Tests carried out according to the patent in suit, on the one hand with a grooved coating bar of 35 mm in diameter and on the other hand with a grooved coating bar of only 10 mm in diameter, show that the small-diameter bar was worn after 10 hours whereas no wear was noticed with the large-diameter bar (column 4, lines 18 to 36). In this respect, however, the Respondent produced the convincing argument, which the Appellant did not contradict, that this effect applied as well to smooth bars which were also subject to enhanced wear, if their diameter was small due to the insufficiently wedge-shaped nip between the bar and the roll coating for solids to pass easily through the nip and due to distortions during application (see patent in suit, column 1, lines 29 to 43).

It is, moreover, stated in the patent in suit that the above problems or drawbacks have not occurred with large-diameter bars if they have a smooth face and if applied in pigment coating (column 1, lines 43 to 46). Such coating bars are the subject-matter of

document E2. It follows that this document already solves the above problems with small-diameter grooved coating bars.

This conclusion is corroborated in document E2 according to which the most important advantage of this coating device is seen to be that very thin size films of coating pastes of high dry solids content can be obtained at high running speeds (column 2, lines 32 to 37).

Therefore, the technical problem objectively solved by the claimed subject-matter must be reformulated with respect to the technical effect actually achieved in view of the coating device of document E2 which uses a large-diameter smooth coating bar .

No tests were presented in comparison with such a coating device designed especially for very thin film sizes (document E2, column 2, lines 32 to 37). On the other hand, it is known from document E2 that grooved bars are not suitable for producing thin films (column 1, lines 39 to 43), but instead for producing size films with determined thickness (column 1, lines 31 to 39).

The Board holds, therefore, that the technical problem to be solved in view of document E2 has to be seen in the provision of a coating device suitable for producing thicker film sizes with low wear of the coating bars especially at high running speeds and with coating pastes of high dry solids content.

Nothing on file throws into doubt that a solution of this problem is attained by using a large-diameter (of

at least 18 mm) grooved coating bar instead of the smooth one of document E2, the most remarkable advantage of the former being said to consist in that it is now possible to run pastes of high dry solids content at high running speed without excessive wear of the bars (column 2, lines 7 to 12).

4.2.4 It remains to be decided whether, in view of the available prior art documents, it was obvious for someone skilled in the art to solve the above technical problem by the means claimed, i.e. by using a large-diameter grooved coating bar.

4.2.5 The Appellant argued that, in the light of the problems mentioned in the application as filed, the claimed subject-matter was not obvious, the more so as the application of a large-diameter grooved bar was not equivalent to that of a smooth one.

The Board agrees with the argument that grooved and smooth bars are used for different purposes. This was already known, however, not only from document E2 which disclosed the application of smooth bars for thin sizes and grooved bars for thicker sizes (see 4.2.2 above), but also in the same way from document E5 (page 84 to 85, left-hand column). If, starting from document E2, the skilled person was then confronted with the problem of producing thicker sizes, he or she would thus have realized that this could be done by using a grooved coating bar.

Further, document E2 shows that some problems with small-diameter coating bars, especially those occurring at high running speed and with pastes of high dry solids content, can be solved by using a large-diameter

coating bar, at least in those instances where thin coatings are applied with smooth-faced bars (loc. cit). However, grooved coating bars with diameters of above 18 mm were also known in the art (document E1, page 11, second and third paragraph, document E3, Figure 1 and column 2, lines 40 to 44).

Therefore, a skilled person had a clear incentive to substitute grooved for smooth coating bars in the coating device of document E2 with a reasonable expectation of solving at least that part of the above stated technical problem which relates to the use of pastes having high solids content and to the application of high running speed, thereby arriving in an obvious manner at the subject-matter of Claim 1.

In these circumstances it is of no importance whether or not other, possibly surprising effects can be obtained, such as those mentioned in the test results of the patent in suit indicating a reduced wear of grooved bars with increasing diameter (column 4, lines 33 to 36; see also 4.2.3 above).

The Board, therefore comes to the conclusion that the skilled person, faced with the technical problem of producing thick size instead of thin films, but at a high running speed and with coating pastes of high dry solids content as in document E2, would have used a large-diameter grooved bar instead of a smooth one in the coating device of document E2.

Consequently, the subject-matter of Claim 1 is not based on an inventive step and does not meet the requirements of Article 56 EPC.

5. *Third Auxiliary Request*

The same applies to Claim 1 of the third auxiliary request which differs from that of the second auxiliary request only in that the term "at least 18 mm" for the diameter of the coating bar is replaced by "25 to 80 mm" since the amendment does not bring about a limitation over the respective teaching of document E2 ("6 to 25 mm"; see 2.1.1 above) and cannot, therefore, introduce an inventive feature with regard to that prior art.

6. *Conclusion*

Since there is no request on file which meets the requirements of Article 100 EPC, the appeal must fail.

7. *Right to be heard*

7.1 The present decision against the Appellant was given in its absence from oral proceedings. Since, however, the decision is only based on facts and evidence already put forward during the written proceedings, its right to be heard under Article 113(1) EPC within the meaning of opinion G 4/92 (OJ EPO 1994, 149) was not violated by rendering this decision in the Appellant's absence.

7.2 Further, in the circumstances of the present case, the application of the principle established in G 4/92 would have been difficult if not impossible by reason of the Appellant's own behaviour. Having in its Grounds of Appeal requested oral proceedings and never having withdrawn that request, the Appellant, in a letter from

its representative faxed to the Board and the Respondent only four days before the oral proceedings, said:

"This is to inform you that - most probably - the proprietor party Valmet Corporation will NOT attend the oral proceedings. If not present at 09.00, please open the proceedings."

It was thus wholly unclear whether the Appellant would attend the oral proceedings or would not attend or would attend but arrive late. In the event, the Appellant did not attend.

- 7.3 Apart from the manifest discourtesy to the Board and the Respondent, such equivocal behaviour is wholly inconsistent with the proper pursuit by a party of a right it has sought to exercise, namely the right to oral proceedings. Any party summoned to oral proceedings has an obligation to give as much notice as possible of a decision not to attend (see T 653/91, unpublished in OJ EPO, Reasons, paragraph 8). This applies to any party so summoned whether or not it requested oral proceedings (see T 930/92, OJ EPO 1996, 191, Reasons, paragraph 3.2) but must apply with particular force to a party which has made such a request. For such a party to announce shortly before the appointed date not that it will not attend but that it may or may not attend while maintaining its request can only be an abuse of procedure. Whether a party which is guilty of such an abuse should then have the benefit of the protection for absent parties as envisaged in G 4/92 must be open to doubt.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Rauh

P. Krasa