

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

D E C I S I O N
of 4 April 2002

Case Number: T 1154/98 - 3.3.6

Application Number: 94850012.9

Publication Number: 0608206

IPC: D21H 23/56

Language of the proceedings: EN

Title of invention:
Size press

Patentee:
VALMET CORPORATION

Opponent:
Jagenberg Papiertechnik GmbH

Headword:
Size press/VALMET

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - no; solution of two different, not interrelated problems suggested in the different pieces of the prior art"

Decisions cited:
T 0092/92

Catchword:
-



Case Number: T 1154/98 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 4 April 2002

Appellant:
(Proprietor of the patent)

VALMET CORPORATION
Panuntie 6
FIN-00620 Helsinki (FIN)

Representative:

Rostovanyi, Peter
AWAPATENT AB
Box 5117
S-200 71 Malmö (SE)

Respondent:
(Opponent)

Jagenberg Papiertechnik GmbH
Jagenbergstrasse 1
D-41468 Neuss (DE)

Representative:

Thul, Hermann, Dipl.-Phys.
Patentassessor
Rheinmetall
Rheinmetall Allee 1
D-40476 Düsseldorf (DE)

Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 8 October 1998
revoking European patent No. 0 608 206 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Krasa
Members: G. Dischinger-Höppler
M. Tardo-Dino

Summary of Facts and Submissions

I. This appeal is from the decision of the Opposition Division to revoke European patent No. 0 608 206 for lack of inventive step. The decision was based on the granted set of seven claims, Claim 1 reading:

"1. Size press, comprising a first roll (12), which is mounted rigidly on the frame (11) of the size press, as well as a second roll (16), which forms a size-press nip (N) with the first roll and which is mounted, at a level higher than the level of said first roll (12), on a loading arm (19) that is supported pivotally on a transverse shaft (20) on the frame (11) of the size press, said rolls (12, 16) that form the size-press nip (N) being provided with coating devices (15, 21) of the Short Dwell type for spreading of films of coating agent onto the faces of said rolls (14, 18) and transfer of said coating agent from said roll faces onto the paper web (W) or equivalent that passes through the nip, said loading arm (19) being pivotal by means of loading cylinders (22) so as to produce the desired pressure level in the nip (N) and to open said nip for threading of the web (W) and for replacement of rolls, and the paper web (W) or equivalent being passed through the nip (N) as guided by a guide roll (23) and out of nip (N) over a spreader roll (25, 35) or an air-turning device (38, 38a, 38b, 38c, 38d), characterized in that the rolls (12, 16) that form the size-press nip (N) have been arranged in such a way in relation to one another that the nip plane (T-T) passing through the rolls forms an angle (α) of 35...120°, preferably 50...60°, in relation to the horizontal plane (S), and that the guide roll (23) and the spreader roll (25, 35) or

the air-turning device (38, 38a, 38b, 38c, 38d) have been arranged so that the web (W) is to be passed into the nip (N) at an angle (β_1) of substantially 90° in relation to the nip plane (T-T) and to be passed out of the nip (N) at an outlet angle (β_2) adjustable at both sides of 90° in relation to the nip plane (T-T)."

II. The notice of opposition, based on lack of inventive step (Articles 56 and 100(a) EPC), relied inter alia on the following documents:

- (1) FI-A- 87 475;
- (5) DE-A-3 836 919 and
- (6) DE-U-9 100 291.

III. In its decision, the Opposition Division held that two different problems were solved by the features relating to the angles α and β_2 , distinguishing the claimed size press from that illustrated in the Figures of document (1) as the closest prior art, namely the problem of reducing the space required by the machine and the problem of fluttering of the paper web as it passes out of the press nip. It further held that neither of these problems nor their solutions were interrelated (reason No. 3.1). Due to this fact, the Opposition Division concluded that a person skilled in the art, faced with these problems, would on the one hand adopt the position of the size press rolls under the angle (α) of not smaller than 55° suggested in document (5) in order to achieve an advantageous arrangement, and on the other hand realize that by adopting the position of paper guide rolls as depicted in Figure 4 of document (6) a trouble-free running of the web would be achieved and the fluttering problem be solved.

IV. Upon requests made by the parties, oral proceedings were scheduled for and held on 4 April 2002 in both their absences as announced in the Appellant's (Proprietor's) letter dated 7 March 2002 and in the Respondent's (Opponent's) letter dated 18 March 2002.

V. The Appellant in writing explicitly refrained from disputing the combination of documents (1) and (5) set out in the contested decision. Instead it based its appeal on arguments to the effect that document (6) was irrelevant for the assessment of inventive step. The arguments can be summarized as follows:

- The closest prior art was represented by document (1).
- The technical problem to be solved in accordance with the patent in suit was the undesired "web fluttering" or "web stealing" after leaving the press nip.
- This problem was solved by the feature *"that the spreader roll (25, 35) or the air-turning device (38, 38a, 38b, 38c, 38d) have been arranged so that the web is to be passed out of the nip (N) at an outlet angle (β_2) adjustable at both sides of 90° in relation to the nip plane (T-T)"*. This feature was not disclosed in document (6).
- The problem of web-stealing did not exist in the device of document (6). Instead, the underlying problem there consisted in reducing the stoppage time required to exchange worn out coating devices.
- The solution to this problem suggested in document (6) consisted in providing four rolls and two press nips for sizing a web on both sides. In

comparison, the claimed size press was substantially different in that it contained only two rolls and one press nip.

- Unlike in the claimed size press, the guide rolls (4, 14) provided in document (6) to improve running of the web did not function independently.
- Even on the assumption that the problem of web fluttering was solved by the arrangement of document (6), this would be unintentional and no patentability bar since the solution proposed in the patent in suit was quite different. Reference was made to T 92/92 in this respect.

VI. The Respondent did not produce any line of argument but simply adopted the reasons set out in the contested decision by reference.

VII. The Appellant requested in writing that the decision under appeal be set aside and that the patent be maintained as granted.

The Respondent requested in writing that the appeal be dismissed.

Reasons for the Decision

1. The only point at issue in the present case is whether the claimed subject-matter is based on an inventive step.

2. *Technical background*

2.1 The patent in suit relates to a size press according to the preamble of Claim 1 comprising inter alia a first

and second roll arranged at different levels in height which form a size-press nip and which are provided with coating devices of the Short Dwell type, as well as a guide roll and a spreader roll for guiding passage of the web into and out of the nip (column 1, lines 3 to 21).

2.2 According to the patent in suit, it is conventional for the formation of a suitable size pond in the gap before the roll nip that the size-press rolls are mounted so that the plane that passes through the axes of the rolls, i.e. the nip plane, is substantially horizontal or just very slightly increased from the horizontal plane (column 1, line 47 to column 2, line 7), e.g. at an angle in the order of 15 to 30° as described in the Appellant's document (1) (column 2, lines 8 to 18).

2.3 Further it is stated that the arrangement and support of the guide roll should make it possible to pass the web into the nip as precisely parallel to the tangent of each press roll as possible (column 2, lines 28 to 37).

2.4 These constructions are said to be complicated, expensive and space consuming both in the machine direction and in the vertical direction (column 2, lines 19 to 27 and lines 37 to 50), since the guide roll is then in a position above the lower size-press roll and must be arranged in a manner to enable its shifting away for replacement of the press rolls.

3. *Closest prior art*

3.1 As indicated in the impugned decision and confirmed by the Appellant, the parties agreed that the closest prior art was represented by document (1). This document is discussed in the description of the patent

in suit as the starting point for the development of the claimed size press (see 2.2 above). The Board has no reason to deviate from this approach.

3.2 Document (1) is only available as a Finnish patent document. The Board, however, considers the figures of this document to be intelligible and comprehensive enough to understand what they represent and deems the acknowledgment attributed to this document in the description of the patent in suit to be correct, thereby adopting the Opposition Division's view set out in the contested decision. No argument against this opinion were presented by the parties.

3.3 In view of the above acknowledgment and the figures in document (1), the Board - as did the Appellant - further agrees with the Opposition Division's opinion that document (1), in addition to the features contained in the preamble of Claim 1, discloses the arrangement of the guide roll in a manner that the paper web (W) passes into the nip (N) at an angle (β_1) of 90° (see 2.3 above).

4. *Technical problem*

4.1 Apart from the complicated and space requiring constructions (see 2.4 above), the patent in suit mentions that the small angle of the nip plane of the size press roll in relation to the horizontal plane of about 15 to 30° in document (1) causes, as a further drawback, the web's tendency to follow both rolls in an indefinite manner. This phenomenon, often called "web-stealing", produces an undesired fluttering of the web (column 2, line 51 to column 3, line 3).

4.2 Therefore, the technical problem to be solved by the claimed subject-matter consists in providing a size press which overcomes the drawbacks of the prior art

(column 3, line 34 to 38). In other words, compared with the size press of document (1), the claimed subject matter should be

- (a) less complicated and less space requiring on the one hand and
- (b) on the other hand produce less web fluttering.

5. *Solution of the problem*

5.1 The Opposition Division convincingly argued that these requirements represented two different, not interrelated technical problems which were solved by features also not interrelated, namely those distinguishing the size press of Claim 1 from that disclosed in document (1). Thus,

problem (a) was solved by the feature "*that the rolls (12, 16) that form the size-press nip (N) have been arranged in such a way in relation to one another that the nip plane (T-T) passing through the rolls forms an angle (α) of 35...120°, preferably 50...60°, in relation to the horizontal plane (S)*", and

problem (b) was solved by the feature "*that the spreader roll (25, 35) or the air-turning device (38, 38a, 38b, 38c, 38d) have been arranged so that the web (W) is to be passed out of the nip (N) at an outlet angle (β_2) adjustable at both sides of 90° in relation to the nip plane (T-T)*".

5.2 The Appellant did not object to this line of argument. Therefore, the Board has no reason to deviate from the Opposition Division's opinion. The Board further does not see any reason to doubt that the respective parts of the problem are indeed solved by these features.

6. *Inventive step*

6.1 It remains to be decided whether, in view of the available prior art documents, it was obvious for someone skilled in the prior art to arrange

- the press rolls at an angle (α) of between 35 and 120° to the horizontal plane in order to get a simplified and less space consuming arrangement as well as
- the spreader roll or the air-turning device so that angle (β_2) is adjustable at both sides of 90°, relative to the nip plane, in order to reduce web fluttering.

6.2 Document (5) relates to a size press wherein the nip plane passing through the rolls is inclined in relation to the horizontal plane (see Figure). The Opposition Division held the particular arrangement of the press rolls to be obvious in the light of document (5) since this already suggested an angle (α) of about 65° and at least 55° (column 1, lines 49 to 67 and Figure). The Opposition Division was of the opinion that a person skilled in the art would immediately recognize that the arrangement of document (5) would solve the construction and space problem as set out in column 2, lines 28 to 50 (see also column 4, lines 10 to 26).

Since the Appellant did not contest this part of assessment of inventive step (point V above), the Board has no basis on which to view this issue differently. Therefore, it is not necessary to give further details in this respect.

6.3 Concerning the problem of web fluttering which is not explicitly mentioned in the available prior art, the Opposition Division expressed its view that this was in

principle the same as the trouble-free running of the web ("störungsarmer Bahnlauf") aimed at in document (6). Relevant in this respect was Figure 4 in combination with the respective description on page 6, second paragraph.

6.4 As correctly stated by the Appellant, Figure 4 of document (6) shows a size press with two pairs of rolls (6.1/6.2 and 7.1/7.2), each roll being associated with a Short Dwell coater. These pairs of rolls are arranged one above the other and separated by guide rolls (14 and 15) which can be shifted in transversal direction. In addition, further shiftable guide rolls (4 and 8) are arranged above the first pair of rolls and below the second pair of rolls. In this arrangement, at any one time, only rolls 6.1 and 7.2 or 6.2 and 7.1 cooperate and only their coaters are then in coating function in order to coat the web on both sides. On page 6 (second paragraph) of document (6) it is commented that the guide rolls are shifted so that the respective non-coating roll of each pair is partly covered ("etwas von der Bahn umschlungen") by the web and that this covering brings about an improvement of the film transfer as well as of the running of the web.

6.5 The Opposition Division took the view that these effects were obtained by an independent functioning of guide rolls 4 and 14. A skilled person would know from document (6) that by shifting roll 14 in the way it is depicted in Figure 4, a trouble free running of the web would result if it was passed out of the press nip at an angle adjustable at both sides so that web fluttering would be overcome. The paper maker would further realize that shifting of guide roll 4 would be disadvantageous in the case of coating the web simultaneously on both sides on one single size press as in document (1).

6.6 The Appellant disagreed with that view and argued that web stealing only occurred when there was a nearly equal tendency of the web to adhere to both film transfer rolls. In document (6) each pair of press rolls sizes one side of the web only. Therefore, no web stealing problem existed in document (6). Instead, document (6) addressed the problem of shortening the time for exchanging the coating elements (page 2, second paragraph) and this was the meaning of the term "störungsarmer Bahnlauf". Moreover, contrary to the Opposition Division's opinion, the covering ("Umschlingung") of the non-coating roll by the web in document (6) required the shifting of rolls 4 and 14 simultaneously.

Compared with the patent in suit, both the problem of reducing the time required for exchanging coating devices, and its solution by a "four press roll-four coater-two sizing nips arrangement" were quite different in document (6). Therefore, the skilled person had no reason to look at document (6) when trying to solve the problem of web fluttering. But if, nevertheless, the skilled person did so, he would not arrive at the claimed subject-matter but find a different solution in a "two press nips-arrangement". The claimed subject-matter would then represent an alternative solution which, according to T 92/92 (not published in the OJ EPO) was not excluded from patentability.

6.7 During the opposition proceedings, the Respondent stated that, even if not explicitly mentioned in the cited prior art, the problem of web fluttering was known (see minutes of the oral proceedings, page 3, first full paragraph). The Appellant never contested that statement or provided any argument against its correctness.

6.8 Thus, following the Respondent's opinion, the question to be considered is, how a skilled person would try to solve a known problem without any direct guidance by a document specifically concerned with that problem.

In the Board's opinion, a skilled person would in this situation principally consider the various known embodiments in the relevant technical field. In the present case, he would consider the various size presses known in the art. He would, therefore also come across document (6), which is primarily concerned with the problem of reducing stoppage time for exchanging the coater elements (see page 2, second paragraph). As correctly stated by the Appellant, this problem is solved by the "four press roll-four coater-two sizing nips arrangement". This solution is illustrated in Figures 1 to 3 (see also Claim 1) with stationary guide rolls 4 and 8 before the first and after the second size press for passing the web into the first nip and out of the second nip at an angle of about 90° (see also page 4, fourth paragraph). However, there is apparently no connection between this problem and solution on the one hand and the presence of additional guide rolls 14 and 15 between the two size presses or the fact that all the guide rolls in the particular embodiment of Figure 4 are shiftable in transversal direction on the other hand. On the contrary, the purpose of this embodiment is clearly stated in the relevant passage on page 6 (second paragraph) of document (6) to consist in achieving a smooth film transfer ("gleichmäßigerer Filmtransfer") and a trouble-free running of the web ("störungsarmer Bahnlauf") by guiding the web so that it partly covers ("Umschlingung") the non-coating roll.

Therefore, the Board considers that a skilled person would realise that these purposes have nothing in common with the exchange of coating devices but

actually mean that the web be conducted continuously and smoothly through the press nips, which - in this aspect - certainly is related with the fluttering problem even if the origin of the fluttering might be different. As a consequence, the Board does not agree with the Appellant's view that any avoidance of web fluttering would be unintentional in document (6) or that the claimed subject-matter would result from an alternative solution. Decision T 92/92 cited by the Appellant is, therefore, not relevant here.

- 6.9 As can be seen in Figure 4 of document (6), the extent to which the non-coating size roll is covered by the web can be adapted by the extent of shifting roll 4 and/or roll 14. Document (6) does not suggest that it is necessary to shift rolls 4 and 14 simultaneously in order to get a sufficient covering. It is, however, apparent that guide rolls 4 and 8 in Figure 4 still serve their main purpose of passing the web properly into and out of the size presses. Therefore, in the Board's judgment, a person skilled in the art would realize that a shifting of guide roll 4 would not make sense in a double side-sizing press as in document (1), since this would create two different size ponds for the two sides of the web to be sized. In order to improve the running of the web in a size press according to document (1), the skilled person would, therefore, only shift guide roll 14 of figure 4 in document (6) and thereby arrive at the claimed subject-matter without any difficulty.

7. *Conclusion*

The Board, therefore, comes to the conclusion that a person skilled in the art would have tried to design the spreader roll (25, 35) according to the paper guide roll 14 in Figure 4 of document (6) in the expectation

to improve in a size press according to document (1) the running of the web and thereby avoid its fluttering.

For these reasons, the Board finds that the subject-matter of Claim 1 does not comply with the requirements of Articles 52(1) and 56 EPC.

8. *Right to be heard*

The present decision against the Appellant was given in its pre-announced absence from the oral proceedings. Since, however, the decision is only based on facts and evidence already put forward during the written proceedings and commented on by the Respondent in writing, its right to be heard under Article 113(1) EPC within the meaning of opinion G 4/92 (OJ EPO 1994, 149) is not violated by rendering this decision in the Appellant's absence (see also T 341/92, OJ EPO 1995, 373, reasons No. 2.3).

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar:

The Chairman:



G. Rauh



P. Krasa