

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen

D E C I S I O N
of 28 May 1998

Case Number: T 0707/96 - 3.2.3

Application Number: 88902314.9

Publication Number: 0345291

IPC: D21F 5/04

Language of the proceedings: EN

Title of invention:
Apparatus for drying a web

Patentee:
Beloit Technologies, Inc.

Opponents:
J. M. Voith GmbH
Valmet Paper Machinery, Inc.
Sulzer-Escher Wyss GmbH

Headword:
-

Relevant legal provisions:
EPC Art. -

Keyword:
"Priority right (no)" - essential feature"
"Inventive step (no)"

Decisions cited:
T 0073/88, T 0016/87

Catchword:
-



Case Number: T 0707/96 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 28 May 1998

Appellant:
(Proprietor of the patent) Beloit Technologies, Inc.
3513 Concord Pike
Suite 3001
Wilmington
Delaware 19803 (US)

Representative: Haug, Dietmar, Dipl.-Ing.
Patentanwälte
Andrae Flach Haug Kneissl
Bauer Schneider
Balanstrasse 55
81541 München (DE)

Respondent:
(Opponent II) Valmet Paper Machinery Inc.
Panuntie 6
P.O. Box 38
00621 Helsinki (FI)

Representative: Grams, Klaus Dieter, Dipl.-Ing.
Patentanwaltbüro
Tiedtke-Bühling-Kinne & Partner
Postfach 20 19 18
80019 München (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 26 June 1996
revoking European patent No. 0 345 291 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: C. T. Wilson
Members: J. du Pouget de Nadaillac
 M. K. S. Aúz Castro

Summary of Facts and Submissions

I. EP-B1-0 345 291 originally opposed by three opponents, two of whom, namely opponents I and III, withdrew their oppositions by common letter of 11 September 1995, was revoked by decision of the Opposition Division dated 26 June 1996 on the grounds that:

(a) the **priority date** 13 February 1987 of said patent was **not validly** claimed, so that **document D6** (Tappi Journal, vol. 70, No. 9, **September 1987**, pages 65-69) published in September 1987, thus before the filing date 11 February 1988 of the contested European patent, belongs to the state of the art according to Article 54(2) EPC,

(b) and that the subject-matter of the claims, as amended, does not involve an **inventive step**, considering document D6 above and document D8 (DE-A-2 355 397).

II. The proprietor of the European patent - hereinafter the appellant - filed his appeal on 30 July 1996, paying the appeal fee on the same day. The statement of grounds of appeal was received on 18 September 1996, accompanied by a new set of claims as auxiliary request. The appellant contested above all the impugned decision as to the question of loss of priority right.

Opponent II replied by arguing that the drying apparatus according to the claims of all requests is not entitled to the claimed priority date and that it does not involve an inventive step, having regard to documents D6 and D8 referred to above and to the following documents:

D9: US-A-1 338 094

D10: US-A-1 369 124

D11: US-A-3 999 696

D12: US-A-3 705 676

D13: US-A-4 501 643

D14: US-A-4 416 070

D18: EP-B-0 254 665

D19: WO-81/03351

On the 13 May 1998, opponent II also withdrew his opposition.

III. Oral proceedings took place on 28 May 1998 with the appellant as only party. During these proceedings, a new set of claims together with a new description and a new Figure 9 were filed as sole request.

IV. Claim 1 reads as follows:

"An apparatus for drying a web (12) of paper, said apparatus consisting of a single-tier drying section which extends from a press section (14) to a calender section (230) or to a size press and comprises in combination:

first dryer section means (16) for drying the web from one side (18) only,

said first dryer section means (16) including a plurality of dryers (58 - 63) arranged in a substantially horizontally extending single tier, a plurality of vacuum rolls (64 - 70) each of which is disposed in spaced close proximity to a respective one of said dryers (58 - 63),

a felt (72) extending alternately past each dryer (58 - 63) and vacuum roll (64 - 70) in serpentine configuration such that the web is disposed between the felt (72) and each dryer (58 - 63), second dryer section means (22) disposed downstream relative to said first dryer section means (16) for continuing the drying of the web (12) by drying it from the opposite side (24) only;

said second dryer section means (22) including a plurality of dryers (94 - 99) arranged in a substantially horizontally extending single tier; a plurality of vacuum rolls (100 - 106) each of which is disposed in spaced close proximity to a respective one of said dryers (94 - 99) of said second dryer section means (22);

a further felt (110) extending alternately past each dryer (94 - 99) and vacuum roll (100 - 106) of said second dryer section means (22) in serpentine configuration such that the web is disposed between said further felt (110) and each dryer of said second dryer section means (22);

a dryer transfer means (25) for transferring the web (12) from the last dryer (63) of said first dryer section means (16) to the first dryer (94) of said second dryer section means (22), said dryer transfer means (25) including

a joint run of said felt (72) and said further felt (110) such that the web (12) is disposed between said felt (72) and said further felt (110) during passage through said joint run, an upstream vacuum roll (100) of said second dryer section means (22), said upstream vacuum roll (100) being disposed downstream relative to said joint run for positively maintaining the web (12) in close conformity with said further felt (110) when said felt (72) and said further felt (110) diverge relative to each other downstream relative to said joint run,

a downstream vacuum roll (70) of said first dryer section means (16), said downstream vacuum roll (70) being disposed upstream relative to said joint run,

characterised in that

said dryer transfer means (25) include air nozzle means (132) for assisting guidance of a tail of the web (12) from the last dryer (63) of said first dryer section means (16) to the first dryer (94) of said second dryer section means (22)."

- V. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of Claims 1 to 14, an adapted description and drawing Figure 9, all documents filed during oral proceedings, as well as Figures 1 to 8 as granted.

To support his request, he argued as follows:

(a) Priority right:

The priority document, as well as other documents such as document D6, discloses that the drying section as described in this document eliminates the need for threading ropes, threading equipment and maintenance, although air nozzle means were not present in said drying section. The consequence is that air nozzle means were not required for fulfilling this function, which is taken over completely by the suction or vacuum rolls. In fact, when drafting the original specification of the patent in suit, the inventor

envisaged that air nozzles may be employed for this function **when there** is no adjacent vacuum rolls. Therefore, Claim 1 of the patent in suit **as granted** mentioned air nozzle means in a drying section, which does not comprise vacuum rolls. Hence, air nozzle means are only an alternative of the vacuum rolls.

In the present claims, vacuum rolls are part of the drying section. The air nozzle means are therefore redundant. They are only mentioned to limit the scope of the patent in suit, but their addition does not change the essence of the invention. They only make the apparatus more reliable, however are not essential for the ability of threading without ropes.

In the present case, two patent applications were filed within the interval period of a few months, both claiming the same priority date. One application is directed to an apparatus consisting of A + B and the following one to an apparatus having A + B + C, C being the air nozzle means which are not disclosed in the priority document. The invention A + B + C is the same as the invention A + B, if it is assumed that the addition of C is not essential. The case can be compared to a divisional application.

(b) Inventive step:

Starting from the drying apparatus known from the citation D6, the object underlying the invention is to improve this apparatus, since it is possible that the vacuum rolls being not correctly adjusted, do not permit the tail of the web to be threaded in a good way. Said tail is narrow, and thus only a partial surface of the vacuum roll is

covered by the tail, so that the major part of the vacuum is lost, leading to difficulties. This drawback could be avoided by narrowing the exhaust surface of the vacuum roll or by broadening the tail. However, the present invention by providing air nozzle means adjacent the dryer and the vacuum roll discloses an original solution, since the air nozzle means directs the tail towards the appropriate vacuum area of the vacuum roll. It is not obvious to add air nozzle means in a drying section which, already by means of vacuum rolls, permits threading without threading ropes.

Document D8 is not relevant, since it deals with a drying section, which needs ropes for threading the tail of the web. Moreover, the drying section of this prior art is a double-felted, two-tier drying section. Blowing boxes, and not air nozzle means, are disclosed. The use of blowing boxes would not be possible in a drying section according to the present invention because of the limited space between the dryers and vacuum roll. Document D8, moreover, does not disclose the combination of air nozzle means with vacuum rolls.

Document D19 concerns a two-tier drying section, and the air nozzle means are associated with a drying cylinder. The purpose of these air nozzle means is different, since they are provided for creating a differential pressure between the web and the interior of the drying cylinder, in which vacuum is created.

Reasons for the Decision

1. The appeal is admissible.
2. The present Claim 1 is allowable under Article 123 EPC. Figure 9 as originally filed shows transfer means between two single-tier dryer groups of the BEL-RUN configuration, that is to say comprising vacuum rolls, said transfer means further having air nozzle means disposed in proximity to a vacuum roll of the transfer means.
3. *Priority right (Article 87 EPC)*
 - 3.1 The appellant has filed two Euro-PCT patent applications, both claiming the same priority date from a US patent application. The first PCT patent application is directed to a single-tier drying section of a paper making machine comprising vacuum rolls, thereby permitting threading of the web without the assistance of threading ropes. The second PCT patent application, on which the patent in suit is based, concerns a single-tier drying section comprising vacuum rolls and air nozzles, permitting here also the threading of the web through the drying section. The appellant has agreed that the air nozzle means were not disclosed in the priority document. The question at issue is whether the subject-matter of the present Claim 1, which requires the provision of air nozzle means, is entitled to the priority date. If not, document D6 would constitute state of the art within the meaning of Article 54(2) EPC.

Article 87(1) EPC stipulates that a European patent shall enjoy during a period of twelve months the priority right of an earlier filed application in respect of the **same invention**.

- 3.2 In order to examine the question of whether the same invention was contained in the priority document and the patent in suit, the Opposition Division applied the novelty test recommended by the Guidelines for Examination, Part C, Chapter V, points 2.2 to 2.4, which is one way of evaluating the right to priority, and also applied in many decisions of the boards of appeal. According to this test, as the nozzle means are not disclosed in the priority document, which is admitted by the appellant, the priority document and the patent in suit do not contain the same invention, as correctly stated by the Opposition Division.
- 3.3 Some more recent decisions of boards of appeal (T 73/88, OJ EPO 1992, 557; T 16/87, OJ EPO 1992, 212) have established that the claim to priority is not lost in the case when the subsequent patent application contains a feature, which although not disclosed in the priority document, merely limits the scope of protection of the patent vis-à-vis the disclosure of the priority document, provided that the character and the nature of the invention as claimed is not changed due to the additional feature.
- 3.4 The subject-matter of Claim 1 of the patent in suit, **as granted**, is a single-tier drying section without vacuum rolls characterised by the provision of air nozzle means for assisting guidance of a tail of the web in the transfer means between dryer groups. During the examination proceedings, the appellant has emphasized the importance of these air nozzle means. Then, during the opposition proceedings, the vacuum rolls were introduced as an additional feature in an amended Claim 1 in response to an objection of lack of inventive step.

3.5 In the original description of the patent in suit, which aims at providing a transfer of the web between dryer section means or "groups" without open draw, thereby permitting threading of the web without the assistance of threading ropes, it is indicated:

(a) On page 8, "that the vacuum **transfer** rolls hold the tail of the web tightly to the felt and prevent the tail from wandering and stabilize the entire threading operation. Additionally, when the apparatus according to the present invention is extended through the entire dryer section, the tail can be threaded without the use of ropes. Special air nozzles are located near the edges of each dryer to **insure** that the tail follows the felt and is transferred by the vacuum rolls. These air nozzles **eliminate** the need of threading ropes, threading equipment and maintenance."

(b) On pages 15 and 32, "the dryer **transfer** means also includes air nozzle means for assisting guidance of a tail of the web from the dryer to the further dryer."

Thus, a clear teaching is given that, for solving the problem of an automatic threading of the tail of the web, air nozzle means as well as vacuum rolls are needed. There is no suggestion that one of these means is not useful, or that it is more important than the other. The whole disclosure even gives the impression that vacuum rolls are not sufficient for threading the tail of a web through the entire drying section, merely acting on their periphery "to hold the web tightly to the felt", so that air nozzles are needed to guide the tail from the last dryer of a first dryer group to the first dryer of the subsequent dryer group.

Therefore, the assertion of the appellant that the air nozzle means are not an essential element of the present invention is contradicted by the original disclosure of the patent in suit.

- 3.6 Moreover, even if it is assumed that the vacuum rolls alone permit a threading of the web without the usual ropes, the patent in suit discloses other means, namely the air nozzles, for facilitating said threading, insuring that the tail of the web follows the felt. Thus, it cannot be said that the provision of the air nozzles does not provide a technical contribution to the subject-matter of the claimed invention, so that, as a consequence, the nature and the character of the invention as claimed is changed.

It follows that, even following decision T 73/88 as alleged by the appellant, the invention as claimed is not the same as that disclosed in the priority document. The claimed priority is therefore not valid.

4. Document D6, which as a consequence is state of the art, discloses all the features of Claim 1, apart from the provision of air nozzle means in the transfer section. The subject-matter of Claim 1 is therefore novel, none of the other cited prior art publications being as close to the present invention as D6.

5. *Inventive step*

- 5.1 The subject-matter of Claim 1 differs from the drying apparatus according to D6 in that the dryer transfer means include air nozzle means for assisting guidance of a tail of the web from the last dryer of the first dryer section means to the first dryer of the second dryer section means.

According to the appellant, the object underlying the present invention is to be seen in an improvement of the drying apparatus according to D6 having regard to the threading operation.

The description of the patent in suit does not provide further information on the function of these air nozzle means. Figure 9 only shows that these means are disposed adjacent the downstream vacuum roll. However, Claim 1 is silent about this particular location.

5.2 Several documents of the prior art teach to use air nozzle means or blowing boxes in a drying apparatus or other sections of a papermaking machine either to guide the web or its tail on a given path, or to maintain them on a felt, eventually to separate them therefrom, (see in this respect D8 to D14 and D18, D19). Thus, the use of such means for threading purposes was known. In the present case, document D19 is the most relevant, since it teaches, in addition, to use air nozzle means in combination with vacuum rolls, so that, contrary to the appellant's arguments, such a combination is not surprising.

According to the description and claims of this publication, a drying apparatus comprising several drying cylinders or equivalent rolls and preferably a felt supporting the paper web or the web tail is characterized by air nozzle means guiding and urging the tail against the surface of the felt or of the cylinder. In the embodiment according to Figure 8 of this document, the drying cylinder or equivalent roll may be a vacuum roll, so that the effect of the air nozzle means and that of the vacuum roll are boosted.

The board can therefore see no difference between this prior art and the present invention with respect to the function of the air nozzle means, which guides the tail as required by Claim 1 of the patent in suit and, moreover, reinforces the action of the vacuum roll.

The person skilled in the art, who looks for a solution to the problem underlying the patent in suit, is therefore directed by the disclosure of D19 towards the solution as claimed. Thus, the subject-matter of Claim 1 does not involve an inventive step (Article 56 EPC) and, as a result, the patent cannot be maintained.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:



N. Maslin

The Chairman:



C. T. Wilson

4W
AC