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**Datasheet for the decision
of 30 April 2014**

Case Number: T 0274/13 - 3.2.05

Application Number: 02079377.4

Publication Number: 1327715

IPC: D21F9/00

Language of the proceedings: EN

Title of invention:

Apparatus for forming a paper or cardboard web

Patent Proprietor:

Bellmer Vaahto Paper Machinery Oy

Opponent:

Voith Patent GmbH

Headword:

-

Relevant legal provisions:

EPC 1973 Art. 54, 111(1)

Keyword:

Novelty - (yes)
Remittal to the department of first instance

Decisions cited:

Catchword:

-



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Boards of Appeal
Chambres de recours**

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Case Number: T 0274/13 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 30 April 2014

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Decision under appeal: **Decision of the opposition division of the
European Patent Office posted on 4 December 2012
revoking European patent No. 1327715 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman: M. Poock
Members: H. Schram
W. Ungler

Summary of Facts and Submissions

- I. The appellant (patent proprietor) lodged on 26 January 2013 an appeal against the decision of the opposition division, posted on 4 December 2012, by which European patent No. 1 327 715 was revoked. The statement of grounds was filed on 2 April 2013.

The opposition division held that the subject-matter of claim 1 as granted was not new with respect to document E3, Article 54 EPC 1973, and that claim 1 of auxiliary requests 1 to 3 contained subject-matter extending beyond the contents of the application as filed, Article 123(2) EPC.

- II. Oral proceedings were held before the board of appeal on 30 April 2014.
- III. The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or in amended form on the basis of any of the sets of claims filed on 28 February 2014 as first to third auxiliary requests.

The respondent (opponent) requested that the appeal be dismissed.

- IV. The following documents were inter alia referred to in the appeal proceedings:

E1 DE-A 43 26 867;

E2 DE-A 38 23 966;

E3 DE-A 40 05 420;

E4 *Blattbildung mit Duoformer[®] D und Pressen vom Typ "Flexonip[®]" bei der Herstellung von Wellpappen-Rohpapieren und Karton, Großmann, U., Wochenblatt für Papierfabrikation 19 - 1993, frontpage, table of contents, pages 775, 776 and 778 to 781;*

E7 US 5,718,805;

E10 EP-A 0 397 430;

E11 DE-A 1 937 740.

V. Claim 1 of the main request reads as follows:

"1. Apparatus for forming a paper or cardboard web from a fibrous suspension, said apparatus having a double wire section consisting of a first wire loop formed by a first wire (v1), a second wire loop formed by a second wire (v2) and at least one headbox, from which headbox the fibrous suspension can be fed into the space between the wire loops, said first wire loop being provided with a dewatering box (1) placed above the wire and arranged to drain water from the fibrous suspension between the wire loops via the bottom (11) of the dewatering box and through the first wire, said apparatus having two successive dewatering zones (L0, L1 - Li) provided in the area of the dewatering box, where the direction of web movement in the area of the first dewatering zone is away from the dewatering box and the runs of each wire loop are substantially straight while in the area of the second dewatering zone the direction of web movement is towards the dewatering box and water drainage from the fibrous suspension is arranged to take place substantially in the direction towards the dewatering box, characterized in that to achieve more effective water drainage in the

second zone, the bottom (11) of the dewatering box forms a fraction line consisting of straight portions (L1 - Li) and edges (P1 - Pi) between them, over which the web between the two wires moves."

VI. The arguments of the appellant, in writing and during the oral proceedings, can be summarized as follows:

Document E3 disclosed that the web movement in the area of the first dewatering zone was horizontal (column 2, line 33). This document did not disclose the feature of the preamble of claim 1 as granted that the direction of web movement in the area of the first dewatering zone was away from the dewatering box. From the fact that the upper dewatering box 18 was suspended from vertically movable support elements, it could not be concluded that the dewatering box 18 could be aligned such that the direction of web movement was away from the dewatering box.

Document E3 did also not disclose the feature of the characterizing part of claim 1 as granted, namely that the bottom of the second dewatering box formed a fraction line. Document E3 taught that the suction box 29 was curved. There was no disclosure that the foils of suction box 29 had a parallelogram cross-section. A curved bottom of the suction box 29 was presumably achieved by foils having a curved surface as well.

The apparatuses for forming a paper web known from documents E10, E1, E2 or E4 all had a second dewatering box having a curved bottom. None of these documents disclosed that the bottom of the second dewatering box formed a fraction line.

Consequently, the subject-matter of claim 1 of the main request was new.

VII. The arguments of the respondent, in writing and during the oral proceedings, can be summarized as follows:

Claim 1 of the main request lacked novelty with respect to document E3. This document disclosed (see figure) that the upper dewatering box 18 was suspended from vertically movable support elements (indicated by double arrows) both on the front and rear end, ie said dewatering box 18 could be adjusted in such a way that "the direction of web movement in the area of the first dewatering zone is away from the dewatering box". This feature of the preamble was thus disclosed in said document.

The characterizing feature of claim 1 of the main request was also disclosed in document E3. The dewatering box 18 was followed by a curved suction box 29 in the form of an extension of the box 18 (see column 2, lines 60 to 64). That the suction box 29 was described as "curved" (gekrümmt) had to be understood as meaning that the overall cross-sectional shape of the bottom of the suction box 29 was convex, and not in the sense that said shape was a continuously curved line. The latter interpretation was not possible, since the wire between two neighbouring laths necessarily formed straight portions with edges between them. In documents E7 and E11 this state of affairs was described as follows: "the one wire belt travels polygonally from strip to strip" (document E7, column 5, lines 36 and 37) and "das Siebband polygonartig über die Belagleisten gespannt ist" (document E11, page 2, lines 7 and 8). The laths 28 of the dewatering box 18 preferably had a parallelogram-shaped cross-section

(document E3, column 2, lines 22 and 23). This applied also to cross-section of the laths of the suction box 29, see column 2, line 62, where the term "similar" (ähnlich) was used. It followed that the bottom of suction box 29 formed a fraction line consisting of straight portions and edges between them. Even if the cross-section of the laths of suction box 29 were curved, such suction box would form a fraction line having straight portions and edges ("elbows", see column 3, line 11, of the patent in suit) between them.

Document E10 disclosed an apparatus for forming a paper or cardboard web from a fibrous suspension with all the features of the preamble of claim 1 of the main request. This document disclosed a second dewatering zone (curved zone 12b) having a bottom consisting of dewatering foils 18 arranged in a curved path determined by the radius of curvature R (column 5, lines 49 to 51). The cross-section of the bottom of curved zone 12b was a polygon, ie a fraction line. Document E10 therefor also disclosed the characterizing feature of claim 1 of the main request.

Each of the documents E1, E2 and E4 disclosed an apparatus similar as the apparatus known from document E10 with respect to the second dewatering zone, namely having a bottom consisting of laths arranged in a curved path. It followed that documents E1, E2 and E4 also destroyed the novelty of claim 1 of the main request.

Reasons for the Decision

1. The appeal is admissible.
2. *Interpretation of claim 1 of the main request*
 - 2.1 Claim 1 of the main request concerns an apparatus for forming a paper or cardboard web from a fibrous suspension.

Claim 1 of the main request specifies that "said apparatus having a double wire section ... and at least one headbox, from which headbox the fibrous suspension can be fed into the space between the wire loops".

The last sentence of paragraph [0008] of the patent in suit reads: *[The] fibrous suspension may be supplied either first onto the fourdrinier wire section formed by the second wire loop or directly into the gap between the wire loops.*

It is clear that this passage cannot be construed as implying that the headbox may be omitted. It merely means that the double screen zone may begin directly at the headbox.

- 2.2 The first part of the penultimate feature of the preamble of claim 1 of the main request reads as follows:
 - (i) "where the direction of web movement in the area of the first dewatering zone is away from the dewatering box and the runs of each wire loop are substantially straight".

The expression "the direction of web movement ... is away from the dewatering box" is understood by the board as meaning that the direction of web movement is "deviated away from the dewatering box (at angle μ relative to the horizontal plane)", cf column 2, lines 43 to 46, of the patent in suit. Angle μ is a downward angle relative to the horizontal plane seen in the direction of the movement. Likewise, if the direction of web movement in the area of the second dewatering zone is towards the dewatering box, the direction of web movement is at an upward angle relative to the horizontal plane.

The direction of the incoming web in the area of the first dewatering zone must therefore be downward with respect to the horizontal plane, ie irrespective of a possible inclination of the dewatering box with respect to the horizontal.

2.3 The last feature of the characterizing part of claim 1 of the main request reads:

(ii) "the bottom (11) of the dewatering box forms a fraction line consisting of straight portions ($L_1 - L_i$) and edges ($P_1 - P_i$) between them, over which the web between the two wires moves".

The notation $L_1 - L_i$ and $P_1 - P_i$ are shorthand for the expressions L_1, L_2, \dots, L_i and $P_1, P_2, P_3, \dots, P_i$, respectively. The reference numerals L_0 and L_1, L_2, \dots, L_i stand for the first and second dewatering zone, respectively, more particularly for the bottom portions thereof. The "edges" P_j between two straight portions L_{j-1} and L_j (cf column 3, lines 5 to 10, and figure 2) are points where two neighbouring straight portions intersect. It follows that the fraction line

specified in feature (ii) consists of straight portions only, the edges or elbows are the corner points of the fraction line.

The expression "the bottom (11) of the dewatering box forms a fraction line" is understood by the board in the light of the patent specification as a whole (cf figure 2 of the patent in suit) as meaning that a longitudinal cross-section of the bottom of the dewatering box forms a fraction line, ie a line having the shape of a regular or irregular polygon.

An example of a dewatering box having a bottom forming a fraction line (not mentioned in the patent in suit) would be a bottom consisting of laths having a rectangular cross-section. If the bottom consists of strip-like parts with spaces between them (cf claim 4), the cross-section of the bottom is considered as including the shortest lines connecting neighbouring parts.

3. *Ground for opposition under Article 100 a) EPC 1973 in combination with Article 54 EPC 1973*

3.1 An invention is considered to be new if it does not form part of the state of the art, Article 54(1) EPC 1973. According to established case law, a claimed invention forms part of the state of the art, if its subject-matter is unambiguously and directly derivable from said art for the person skilled in the art.

3.2 Document E3

3.2.1 Document E3 discloses a twin-wire former for the manufacture of a fibre material web, specifically a paper web, from a fibre material suspension,

comprising: two generally continuous wire loops forming together a twin-wire zone, wherein the upper wire ("Siebband 12", or upper screen 12) runs in said twin-wire zone across a plurality of rigid laths, said rigid laths being mutually spaced and arranged on a dewatering box, see claim 1 and figure 2.

3.2.2 Feature (i)

There is no explicit disclosure in document E3 that the direction of web movement is deviated away from the dewatering box at downward angle relative to the horizontal. On the contrary, this document discloses that the direction of web movement is essentially horizontal, cf. the passage in column 2, lines 29 to 34, which reads: "*In der Zeichnung ist also angenommen, dass das Untersieb 11 zwischen einem nicht dargestellten Stoffauflauf und dem Zusammentreffen mit dem Obersieb (an der Siebleitwalze 14) eine im wesentlichen horizontale Vorentwässerungsstrecke bildet*" (Thus, the drawing presumes that the bottom screen 11 forms an essentially horizontal pre-dewatering section between a not illustrated headbox and the concurrence with the upper screen (on the screen guide roll 14)).

The respondent submitted that document E3 disclosed feature (i) and referred to the passage in column 2, lines 16 to 20, of document E3, wherein it is stated: "*Der obere Entwässerungskasten 18 kann sowohl am vorderen als auch am hinteren Ende, wie schematisch mit Doppelpfeilen dargestellt, an vertikal verschiebbaren Tragelementen aufgehängt sein. Er ist somit justierbar, aber nach dem Justieren starr befestigt*" (The upper dewatering box 18 can be suspended from vertically movable support elements both on the front end and the rear end, as illustrated schematically by double

arrows. The dewatering box is thus adjustable but rigidly mounted after adjustment).

However, document E3 does not disclose that the lower sieve 11 ("Untersieb 11") or the guide roll 14 ("Siebleitwalze 14") for the upper sieve 12 can be adjusted. If the dewatering box were to be tilted such that the left part of the dewatering box is moved upward, and the right part of it downward, the direction of web movement would make a "downward" angle with respect to the bottom of the dewatering box, but not a downward angle in an absolute sense, cf. last paragraph of point 2.3 above.

Document E3 does therefore not disclose feature (i).

3.2.3 Feature (ii)

The respondent submitted that document E3 disclosed feature (ii) and referred to the passage in column 2, lines 60 to 64 of document E3, which reads: "*Auf die Entwässerungskästen 17 und 18 folgt beispielsweise ein im Untersieb 11 angeordneter gekrümmter Saugkasten 19 oder ein ähnlicher im Untersieb 12 angeordneter Saugkasten 29 in Form einer Verlängerung des Kastens 18*" (The dewatering boxes 17 and 18 are followed, by way of example, by a curved suction box 19 arranged in the bottom screen 11 or by a similar suction box 29 arranged in the upper screen 12, in the form of an extension of the box 18).

However, there is no disclosure that the dewatering box (suction box 29), which is described as "an extension of the box 18", has the same properties as the dewatering box 18, or that the suction box 29 and the dewatering box 18 are similar. The expression "or by a similar suction box 29" merely means that the suction

box 29 is similar as curved suction box 19, ie it is also curved. In particular, there is no direct disclosure that the bottom of the dewatering box 29 is formed by laths having a parallelogram-shaped cross-section as the laths ("Leisten 28") of dewatering box 18 (see column 2, lines 20 to 24). It follows that document E3 is silent about the cross-section of the laths of suction box 29.

The respondent has argued that the shape of the laths was not relevant, since the straight portions between the laths formed a fraction line having edges or elbows (eg the laths) between them.

This cannot be accepted. It is true that the upper screen 12 travels polygonally from lath to lath and that the bottom of "curved" suction box 29 thus has straight portions between the laths. But this is not sufficient to conclude that said bottom forms a fraction line consisting of straight portions only. Namely, if the laths of "curved" suction box 29 shown in the sole figure of document E3 do not have a flat bottom, the bottom of the suction box does not form a fraction line consisting of straight portions only.

Document E3 does therefore not disclose directly and unambiguously feature (ii).

- 3.2.4 It follows from the above that the subject-matter of claim 1 of the main request is new with respect to document E3. With this state of affairs there is no need to examine whether document E3 implicitly discloses a headbox (as submitted by the respondent), or not.

- 3.3 The respondent has submitted that claim 1 of the main request was also not new with respect to documents E10, E1, E2 and E4.

With respect to document E10, which is a family member of the Finnish patent specification FI98540 cited in paragraphs [0002] and [0003] of the patent in suit, it is noted that feature (ii) is not disclosed for the same reasons as given for document E3. There is no disclosure that the cross-section of the bottom side of the dewatering foils 18 is a straight line.

The same argument applies to documents E1, E2 and E4. Each of these documents discloses a second dewatering box having a bottom formed of laths with straight portions between these laths. There is no disclosure that the cross-section of the bottom side of the laths is a straight line.

- 3.4 The subject-matter of claim 1 of the main request is therefore new with respect to the prior art cited by the respondent.

4. *Remittal to the department of first instance*

The opposition division has not yet decided on the ground for opposition under Article 100(a) EPC 1973 (lack of inventive step, Article 56 EPC 1973). It is thus considered appropriate to remit the case to the department of first instance for further prosecution, Article 111(1) EPC 1973.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:



D. Meyfarth

M. Poock

Decision electronically authenticated