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DECISION
of 23 April 2004

Case Number: T 0363/03 - 3.2.7

Application Number: 98660099.7

Publication Number: 0984100

IPC: D21F 7/08

Language of the proceedings: EN

Title of invention:
Multilayer laminate seam fabric

Applicant:
ALBANY INTERNATIONAL CORP.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-



Case Number: T 0363/03 - 3.2.7

D E C I S I O N
of the Technical Board of Appeal 3.2.7
of 23 April 2004

Appellant: ALBANY INTERNATIONAL CORP.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 23 October 2002
refusing European application No. 98660099.7
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: A. Burkhart
Members: P. A. O'Reilly
E. Lachacinski

Summary of Facts and Submissions

I. The appellant (applicant) filed an appeal against the decision of the Examining Division to refuse the European application No. 98660099.7.

II. The application was refused by the Examining Division for lack of inventive step.

The most relevant prior art documents for the present decision are:

D1: WO-A-98/22651

D2: WO-A-97/20105

D3: US-A-5 360 656

III. The appellant requested that the decision under appeal be set aside and a patent be granted.

IV. The valid independent claim of the application as filed with letter of 7 June 2002 reads as follows:

"1. An on-machine-seamable multi-axial press fabric (70) for the press section of a paper machine, said press fabric comprising:

a first base fabric (22), said first base fabric having a first fabric ply (40) and a second fabric ply (42) fashioned from an endless base fabric layer, said endless base fabric layer comprising a fabric strip (16) having a first lateral edge (30), a second lateral edge (32), a plurality of lengthwise yarns (26) and a plurality of crosswise yarns (28), said fabric strip

(16) being spirally wound in a plurality of contiguous turns wherein said first lateral edge (30) in a given turn of said first fabric strip abuts said second lateral edge of an adjacent turn thereof, thereby forming a helically continuous seam (20) separating adjacent turns of said fabric strip (16), said helically continuous seam (20) being closed by attaching abutting first and second lateral edges (30, 32) of said fabric strip (16) to one another, thereby providing said base fabric layer in the form of an endless loop having a machine direction (MD), a cross-machine direction (CD), an inner surface and an outer surface, said endless base fabric layer being flattened to produce said first fabric ply (40) and said second fabric ply (42) having two widthwise edges (36), said first fabric ply and said second fabric ply being connected to one another at folds (38) along said two widthwise edges (36), characterised in that at least one crosswise yarn (28) in each of said turns of said fabric strip is removed at each of said folds (38) at said two widthwise edges (36) to provide unbound sections (44) of lengthwise yarns (26) of said fabric strip (16) at said folds (38); and that the press fabric further comprises

a second base fabric (52), said second base fabric being an on-machine-seamable base fabric comprising lengthwise and crosswise yarns (56, 58), said lengthwise yarns (56) forming seaming loops (60) along two widthwise edges of said second base fabric (52), said second base fabric having a length, exclusive of said seaming loops (60), equal to that of said first fabric ply (40) and said second fabric ply (42) of said first base fabric (22), said second base fabric (52) being disposed between said first fabric ply (40) and

said second fabric ply (42), said seaming loops (60) of said second base fabric (52) extending outwardly between said unbound sections (44) of lengthwise yarns (26) from between said first fabric ply (40) and said second fabric ply (42); and

at least one layer of staple fiber batt material (66) needled into one of said first and second fabric plies (40, 42) and through said second base fabric (52) to the other of said first and second fabric plies to laminate said first fabric ply (40), said second base fabric (52) and said second fabric ply (44) to one another."

V. The appellant argued essentially as follows:

Document D3 teaches a multi-axial fabric which is not on-machine-seamable. Document D2 teaches an attempt to make the fabric known from document D3 on-machine-seamable. Document D2 solves this problem by adding an additional yarn at each end to form seam loops for forming an on-machine-seamable fabric. Document D1 teaches forming the seam loops by the use of a second fabric. However, document D1 does not relate to a multi-axial fabric. The invention provides a combinative effect that is more than a simple sum of the effects of documents D1 and D2. The skilled person considering document D1 would not appreciate that the solution taught therein could be applied to a fabric having inclined yarns as in the case of document D2.

VI. In a communication accompanying an invitation to oral proceedings the Board set out their provisional opinion. The appellant subsequently withdrew his request for oral proceedings. The content of the communication

corresponded essentially to the reasons given below in the present decision.

Reasons for the Decision

1. *Inventive step*

1.1 Closest prior art

The closest prior art is represented by document D2 which discloses a paper making press fabric comprising the features of the preamble of claim 1.

Document D2 further discloses the last feature of claim 1 that there is at least one layer of staple fiber batt material needled into one of said first and second fabric plies and through said second base fabric to the other of said first and second fabric plies to laminate said first fabric ply, said second base fabric and said second fabric ply to one another (see page 4, lines 33 to 37, and this disclosure is acknowledged by the appellant in the grounds of appeal on page 2, lines 1 to 2).

Document D2 also discloses the provision of extra seaming loops provided in a fold at each end of the first base fabric to allow the fabric to be on-machine-seamable.

Document D3 has a similar disclosure to that of document D2 except that seaming loops are not provided.

1.2 Problem to be solved

The objective problem to be solved by the distinguishing features of claim 1 is to render the endless fabric known from document D2 to be more easily on-machine-seamable, or the endless fabric known from document D3 to be on-machine-seamable.

1.3 Solution to the problem

The solution to the problem is that at least one crosswise yarn in each of said turns of said fabric strip is removed at each of said folds at said two widthwise edges to provide unbound sections of lengthwise yarns of said fabric strip at said folds; and that the press fabric further comprises a second base fabric, said second base fabric being an on-machine-seamable base fabric comprising lengthwise and crosswise yarns, said lengthwise yarns forming seaming loops along two widthwise edges of said second base fabric, said second base fabric having a length, exclusive of said seaming loops, equal to that of said first fabric ply and said second fabric ply of said first base fabric, said second base fabric being disposed between said first fabric ply and said second fabric ply, said seaming loops of said second base fabric extending outwardly between said unbound sections of lengthwise yarns from between said first fabric ply and said second fabric ply.

1.4 The solution to the problem is obvious for the following reasons:

Document D1 is concerned with the problem of making an endless fabric on-machine-seamable (see page 3, lines 12 to 14, and page 4, lines 22 to 25). The solution presented in document D1 is essentially the same as that set out in the distinguishing features of claim 1, i.e. a yarn is removed from the fold in the endless fabric and seaming loops from a second base fabric extend through the unbound section of the first base fabric. One feature of the distinguishing features of claim 1 which is not disclosed in document D1 is that a crosswise yarn is removed from each turn of the fabric strip. In the fabric disclosed in document D1 there is a single non-helically wound first base fabric which does not have a number of turns. Therefore only one yarn from the fabric needs to be removed to provide an unbound section across the entire width of the fabric. However, the skilled person wishing to apply the solution disclosed in document D1 to a first base fabric of the type disclosed in document D2 or document D3 would immediately realise that he needs to remove one yarn from each turn in order to create the desired unbound section across the whole width of the first base fabric. If only one yarn were removed the skilled person would see that only the width covered by one turn was unbound and would hence remove one yarn from each of the remaining turns.

The appellant has argued that the skilled person would be prejudiced against using the teaching of document D1 because the document does not deal with a helically formed multi-axial fabric to which claim 1 is directed.

In particular that the document does not teach how to deal with a situation wherein the removal of a single cross-machine direction yarn does not result in creating an unbound section across the whole width of the first base fabric. However, as already indicated the Board considers that the skilled person would realise that it is necessary to remove one yarn from each strip since only in this way is an unbound section created across the whole width of the first base fabric as is the purpose of this action in the teaching of document D1. Whilst this entails more work than with a simply wound fabric the appellant has not shown that the skilled person would have technical reasons not to do this. The mere fact that more work is involved does not mean that a technical prejudice has been created. The arguments of the appellant in this respect are not convincing.

The appellant has also argued that the invention provides a combinative effect and is not just a simple sum of the effects of documents D1 and D2. The Board cannot agree with this argument since the appellant has not shown what this combinative effect should be. Rather the effect does indeed appear to be a simple sum of the effects of the teaching of documents D1 and D2.

- 1.5 The Board would also note that also starting from document D1, as the Examining Division did in their decision, the subject-matter of claim 1 does not involve an inventive step in the light of either of documents D2 or D3.

1.6 Therefore, the subject-matter of claim 1 of the main request does not involve an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Wolinski

A. Burkhart