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Bezeichnung der Erfindung: Method of manufacturing cast-coated paper
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : D21H 1/22

ENTSCHEIDUNG / DECISION
vom / of / du 23 May 1990

Anmelder / Applicant / Demandeur : Kanzaki Paper MFG. Co., Ltd

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence : Re-wet casting/KANZAKY

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé : "Closest state of the art"
"Objectively existing technical problem"
"Remittal"

Leitsatz / Headnote / Sommaire

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Case Number : T 427/87 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 23 May 1990

Appellant : Kanzaki Paper Manufacturing Company Limited
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Decision under appeal : Decision of Examining Division 024 of the European Patent Office dated 21 July 1987 refusing European patent application No. 83 903 009.5 pursuant to Article 97(1) EPC

Composition of the Board :

Chairman : K. Jahn
Members : J. Jonk
W. Moser

Summary of Facts and Submissions

I. European patent application No. 83 903 009.5 filed on 26 September 1983 (publication No. 0 120 095) and claiming priority of 28 September 1982 from a prior application filed in Japan, was refused by a decision of the Examining Division 024 of the European Patent Office dated 21.07.87. The decision was based on Claims 1-6 filed on 27 September 1986, the only independent one reading as follows:

"A method of producing cast coated paper in which a coated layer comprising a pigment component and an adhesive component is gelled or rewetted after being dried and is pressed against a highly polished finishing surface of a heated drum so as to obtain high gloss, characterized in that said method further comprises wetting the back surface of the paper with water in an amount of from 1 to 30 g/m^2 at or before a pressing nip for pressing said coated layer against the surface of said drum and then pressing the wetted paper against said drum".

II. The stated ground for the refusal was that the subject-matter of this claim lacked the required inventive step in the light of the disclosure in US-A-2 214 641 (1). Essentially the following reasoning was given:

(a) The teaching of the citation (1) differs from the subject-matter of Claim 1 only in that it is silent about the amount of water applied to the paper (whereby apparently the back surface of the paper is meant).

(b) The technical problem to be solved is, therefore, seen in that a suitable amount of water is found, the

purpose of the addition of the water being the same both in the citation (1) and the subject application, viz. to achieve a paper with as perfect a plane surface as possible.

(c) The solution of this problem, i.e. the finding of an appropriate amount of water falling within the claimed range, is routine work and, therefore, obvious to a skilled person.

III. An appeal was lodged against this decision on 12 September 1987 and the fee for the appeal was paid on 9 September 1987. In the Statement of the Grounds of Appeal, filed on 20 November 1987 by a duly confirmed telecopy, the Appellant argues as follows:

(a) A problem which is typically related to the re-wet casting or gel-casting method for coating a sheet of paper is the CD curl, i.e. a curl having an axis transverse to the length of the paper sheet, the outer, convex, surface of the curled paper being the coated side.

(b) The citation does not teach anything about the problem to prevent such a CD curl.

(c) In fact, the citation discloses a method wherein both the back surface (wire side) and the top side are wetted and pressed against a heated calender roll to provide a sheet having a smooth plane surface as indicated on page 1, left column, lines 20-25, whereby "plane" does not relate to "curling" but to the smoothness of the surface of the paper.

(d) It is, therefore, disputed that the subject process does not involve an inventive step in the light of the disclosure in the citation.

IV. The Appellant requests to reconsider the decision of the Examining Division on the basis of the claims filed on 27 September 1986; if appropriate on the basis of Claims 1-6 filed together with the Statement of Grounds of Appeal.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.

2. The subject process according to Claim 1 (main request) relates to a so-called re-wet casting or gel-casting method, wherein a paper sheet is coated on one side, the applied coating is dried, the dried coating is re-wetted to plasticise the layer in order to make it soft enough for the finishing operation and the plasticised coating layer is then pressed against a heated highly polished surface of a finishing drum to dry the coating and, at the same time, to obtain high gloss on that side (see also e.g. page 1, line 13 - page 2, line 2 and page 3, lines 13-20 of the description of the subject patent application). In particular, the subject process is characterised by wetting the back surface of the paper with water in an amount of 1-30 g/m^2 at or before the re-wetted coated layer is pressed against the heated finishing drum.

2.1 In contrast to this, citation 1 discloses a process of producing rotogravure printing paper having on both sides of the paper sheet hard skinned, glazed, smooth and substantially planar surfaces (see page 1, right column, lines 1-11 and page 3, left column, lines 63-75). Essential features of this process are: incorporating a composition including a loading material and a starchy material (see Claim 1 and page 3, right column, lines 1-10) in a sheet of paper prior to its travel over a last drier drum (46),

surface moistening the wire side (back surface) of the sheet at the last drier drum (46, 52), surface moistening the top side of the sheet at a spring roll (55), calendering both sides of the sheet between the unheated top rolls of a calender stack (56), steam spraying (66, 67) and hot calendering both sides of the sheet in the next heated rolls (57, 58) of the calender stack, and then calendering both sides of the sheet through the remaining unheated rolls of the calender stack (see Claim 1; page 1, right column, line 30 - page 2, left column, line 18; page 3, left column, lines 11-51; and Figures 4, 5 and 7).

It is true that in this citation some ways are indicated to incorporate said composition in the paper sheet which might at first sight suggest a coating of one side of the sheet, e.g. the application of the composition to the paper web as it is being formed on the wire by means of a dandy roll (35) (see page 1, right column, lines 21-29; and Figure 2). However, it is clear from the whole disclosure that the composition must be incorporated in the paper sheet in such a way that both sides of the sheet can be provided with hard skinned, glazed and smooth surfaces (see e.g. page 1, right column, lines 1-18 and page 3, left column, lines 63-66).

2.2 From this analysis it is clear that the subject process according to Claim 1 is novel and, in contradiction to the opinion of the Examining Division, does not only differ from the disclosure in citation (1) in that according to the subject process the back surface of the sheet is wetted with a specific amount of water, but also in that only one side is provided with a smooth and glossy coating by means of the so-called re-wet casting or gel-casting method, whereas according to the citation by means of a quite different method, as indicated under point 2.1 above, involving essentially an equal treatment of both sides of the paper sheet wherein said composition is incorporated, a

paper sheet having a hard skinned, smooth surface on both sides and having substantially a symmetrical structure is obtained.

3. In the Board's judgement, the solution of the objectively existing technical problem of CD curl as defined under above point III(a), which is typically related to the re-wet casting or gel-casting method (see in the subject application the discussion of the prior art on page 1, line 12 - page 2, line 2 and page 3, line 19 - page 4, line 6; as well as the comparative examples 1 and 4), by the specific wetting of the back surface as indicated in Claim 1, cannot be derived from citation (1), because the problem of CD curl is nowhere foreshadowed in this citation and is also unlikely to occur due to the symmetry of the paper sheet and because the disclosed wetting of the back surface is only carried out in such a way that both sides of the sheet are provided with the desired hard skinned, smooth surface.

Therefore, the decision of the Examining Division that the subject process is obvious in the light of the disclosure in citation (1) cannot be followed.

4. In the present case, the Examining Division apparently did not consider the issue of the inventive step in the light of the objectively existing technical problem in respect to the closest state of the art, because the only document cited in the course of the proceedings before the first instance which relates to a re-wet casting method is US-A-3 575 707 and it was only mentioned in relation to the subject-matter of present Claim 2. Therefore, the existence of an inventive step cannot have been properly assessed.

In view of this, the Board holds that an examination on the basis of the problem and solution approach should take place before the Examining Division. Under Article 111(1)

EPC this case is, therefore, remitted to the first instance for further prosecution.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Examining Division for further prosecution.

The Registrar:

P. Martorana

The Chairman:

A. Jahn