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D E C I S I O N
of 24 October 2000

Case Number: T 0481/97 - 3.2.5

Application Number: 93304524.7

Publication Number: 0576176

IPC: B41M 5/132

Language of the proceedings: EN

Title of invention:
Pressure-sensitive copying paper

Patentee:
ARJO WIGGINS LIMITED

Opponent:
STORA ENSO PUBLICATION PAPER AG

Headword:
-

Relevant legal provisions:
EPC Art. 54(1), (2), 56

Keyword:
"Public prior use (not approved)"
"Novelty (yes)"
"Inventive step, main request (no), auxiliary request (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0481/97 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 24 October 2000

Appellant: (Opponent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 13 March 1997 rejecting the opposition filed against European patent No. 0 576 176 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: W. Moser
Members: W. R. Zellhuber
A. Burkhart

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition against the European patent No. 0 576 176.

II. The opposition was filed against the patent as a whole and based on Article 100(a) EPC (novelty, inventive step). The Opposition Division held that the grounds for opposition cited in the Article 100(a) EPC did not prejudice the maintenance of the patent having regard to the cited documents, in particular documents

D1: CA-A 2 057 589 and

D2: EP-A 0 376 928.

The Opposition Division further held that the appellant had not substantiated that the alleged public prior use concerned CFB papers, that it took place before the priority date of the patent in suit, and that the subject-matter of the alleged public prior use had been made available to the public.

III. Oral proceedings were held before the Board of Appeal on 24 October 2000.

(i) The appellant requested that the decision under appeal be set aside and the patent be revoked.

(ii) The respondent (patentee) requested that the appeal be dismissed, or, as an auxiliary request, that the decision under appeal be set aside and the patent be maintained on the basis of claims 1

to 8 filed as an auxiliary request during the oral proceedings; and the description pages 2 to 6, and 7, lines 1 to 9, filed during the oral proceedings.

IV. Claim 1 as granted (main request) reads as follows:

"Pressure-sensitive copying paper comprising base paper neutral- or alkaline-sized with an alkyl ketene dimer size and carrying on one surface a coating of pressure-rupturable microcapsules containing an oil solution of chromogenic material and on the other surface a coating of an inorganic colour developer composition, characterized in that styrene-acrylic ester copolymer latex is carried by the base paper, and/or is present in the microcapsule coating."

Claim 1 according to the auxiliary request reads as follows:

"Pressure-sensitive copying paper comprising base paper neutral- or alkaline-sized with an alkyl ketene dimer size and carrying on one surface a coating of pressure-rupturable microcapsules containing an oil solution of chromogenic material and on the other surface a coating of an inorganic colour developer composition, characterized in that styrene-acrylic ester copolymer latex is carried by the base paper."

V. In support of the alleged public prior use the appellant referred to the following documents:

E1: Declaration by Mr Friedhelm Müller of 21 August 1995 with annexes 1 to 6;

E2: Declaration by Mr Kurt Fischer of 29 August 1995 and

E3: Declaration by Mr Dieter Baumgarten of 6 September 1995 with annexes B1 to B4.

Hearing of a witness was also offered by the appellant, in particular with regard to the question of the public availability of the alleged public prior use.

VI. The appellant argued essentially as follows:

(i) The subject-matter of claim 1 of the patent in suit as granted was not novel with regard to the subject-matter of the alleged public prior use:

Documents E1 and E3, in particular their annexes, showed that the problem of premature colouration of pressure sensitive CFB ("coated front and back") paper as a result of migration of chromogenic material through the paper had been known and that tests were made by the appellant and Bayer AG with AKD ("alkyl ketene dimer") sized papers and various "Baysynthol®" surface sizing agents.

Document E2 showed that, following a decision of Bayer AG to stop the production of "Baysynthol®" products, it was decided to offer to the appellant, instead of these products, a product of BASF, namely "Basoplast® 400 DS", also called "Baysynthol® ANF", which was a styrene-acrylic ester copolymer latex.

Documents E2 and E3 showed that Mr Baumgarten, an

employee of the appellant at that time, was informed by Mr Fischer, an employee of Bayer AG at that time, before the priority date of the patent in suit that "Basoplast® 400 DS" could be used instead of the formerly used "Baysynthol®" surface sizing agents. It had thus been known to use such a latex in combination with an AKD-sized CFB pressure-sensitive paper.

As it was common practice to use microcapsules containing an oil solution of chromogenic material and an inorganic colour developer, a pressure-sensitive copying paper as defined in claim 1 of the patent in suit as granted was subject-matter of the alleged public prior use.

The subject-matter of the alleged public prior use was also made available to the public, because there was no obligation to secrecy between Stora-Feldmühle AG and Bayer AG, being respectively client and supplier.

(ii) Furthermore, the subject-matter of claim 1 of the patent in suit as granted did not involve an inventive step with regard to the prior art as disclosed in documents D1 and D2:

The closest prior art was described in document D1, from which the subject-matter of claim 1 of the patent in suit as granted differed only in that, in order to reduce the premature colouration, the base paper or microcapsule coating comprised a styrene-acrylic ester copolymer latex instead of an extracted and isolated soy protein polymer.

The problem underlying the patent in suit might be seen in providing an alternative to the soy protein polymer.

Document D2 made mention of pressure-sensitive CFB sheets and the problem of premature colouration, in particular under hot and wet conditions, from which it could be concluded that the premature colouration is caused by the migration of any chromogenic material. Document D2 suggested to solve that problem by the use of a latex which prevents the migration of chromogenic material. As a suitable latex a styrene-acrylic ester copolymer latex was mentioned.

Therefore, it was obvious to use such a latex in a pressure-sensitive paper as described in document D1, thus giving rise to a pressure-sensitive paper as claimed in claim 1 of the patent in suit as granted.

(iii) The same arguments also applied with respect to the subject-matter of claim 1 according to the auxiliary request.

It was obvious to apply a styrene-acrylic ester copolymer latex to the base paper in order to prevent migration of chromogenic material through the paper, in particular in view of the fact that document D1 already taught that soy protein polymer, which could obviously be replaced by such a latex, may also be carried by the base paper.

The subject-matter of claim 1 according to the

auxiliary request did thus not involve an inventive step.

VII. The respondent argued essentially as follows:

(i) The appellant failed to substantiate the alleged public prior use:

A pressure-sensitive CFB paper comprising a styrene-acrylic ester copolymer latex was not produced before the priority date of the patent in suit. The tests to which the documents E1 and E3 referred were made with other surface sizing agents, and an offer by Bayer AG to replace these surface sizing agents by "Basoplast® 400 DS" did not mean that a product as defined in claim 1 according the main request was made available.

Moreover, the appellant was not able to establish the exact date at which the offer was made, and the power of recollection of the people involved might be deficient.

Furthermore, it was not plausible that the employees of Stora-Feldmühle AG and Bayer AG were not bound to secrecy in that specific case, and non-confidentiality was stated neither in the declaration by Mr Fischer (document E2) nor in the declaration by Mr Baumgarten (Document E3).

The alleged public prior use should, therefore, not be taken into consideration.

(ii) Furthermore, the subject-matter of claim 1 of the patent in suit as granted was novel and involved

an inventive step in respect of the prior art as disclosed in documents D1 and D2.

Document D1, which represented the closest prior art, was concerned with the same technical problem as the patent in suit, namely to avoid premature colouration of CFB paper sheet as a result of migration of free chromogenic material. That problem was generally significant only when the base paper was neutral- or alkaline-sized with an alkyl ketene dimer size and when the colour developer was inorganic.

Document D1 suggested the use of a soy protein polymer to solve that problem. According to the patent in suit, however, that problem was solved in that a styrene-acrylic ester copolymer latex was carried by the base paper and/or was present in the microcapsule coating.

Document D2 mainly related to SC papers and was primarily concerned with the prevention of premature microcapsule rupture. A clear object of document D2 was to provide a microcapsule coating layer having significantly improved pressure resistance and frictional stability without the need for the use of a stilt as a protective buffer material.

A person skilled in the art, therefore, could not find any indication in document D2 of how to solve the very specific problem underlying the patent in suit. In particular, document D2 neither taught that that problem might be solved by the use of a styrene-acrylic ester copolymer

latex, which was only one of a large number of latices listed in document D2, nor that such a latex might be an alternative to the soy protein polymer suggested in document D1.

(iii) The subject-matter of claim 1 according to the auxiliary request also involved an inventive step, because document D2 taught that it was the microcapsule coating which should comprise a latex. Given the fact that the latex had a cushioning effect and thus prevented rupture of the microcapsules, it was therefore not obvious to apply the latex to the base paper.

Reasons for the Decision

1. *Alleged public prior use*

1.1 According to the documents E1 and E3, tests had been made by the appellant and Bayer AG with pressure-sensitive copying papers, including AKD sized papers and various "Baysynthol®" products. In April/May 1992 Bayer AG decided to stop the production of "Baysynthol®" products, and in May 1992 it was decided to offer to Stora-Feldmühle the product "Baysynthol® ANF" (cf. document E2). Mr Fischer, an employee of Bayer AG, informed Mr Baumgarten, an employee of Stora-Feldmühle AG, that this product should replace the formerly used "Baysynthol®" products.

The appellant argued that, by giving that information, it became known to use "Baysynthol® ANF", a styrene-acrylic ester copolymer latex, in pressure sensitive

paper as claimed in claim 1 as granted.

1.2 A question to be answered is whether Mr Baumgarten had been informed about that decision before the priority date (23 June 1992) of the patent in suit.

Among the documents cited by the appellant, only the declarations by Messrs. Fischer (document E2) and Baumgarten (document E3) indicate a date when that decision had been taken and when Mr Baumgarten was subsequently informed about it.

However, there are apparent contradictions within these declarations:

(i) From document E2 (declaration by Mr Fischer) it follows that, in May 1992, Bayer AG decided to offer Baysynthol® ANF to the appellant. However, from document E2 and document E3 (declaration by Mr Baumgarten) it follows that Mr Baumgarten had apparently already been aware of this offer before the decision in question was actually taken by Bayer AG.

(ii) In document E3 it is stated that Mr Baumgarten was informed by Mr Fischer in March/April 1992. By contrast, in document E2 it is stated that Mr Baumgarten was informed by Mr Fischer in April/May 1992.

Thus, it is not clear when Mr Baumgarten was actually informed by Mr Fischer, and whether, in view of the statement made by Mr Fischer that the decision to offer "Baysynthol® ANF" had been taken by Bayer AG only in May 1992, Mr Baumgarten was indeed informed by Mr Fischer

before 23 June 1992, i.e. the priority date of the patent in suit.

1.3 In view of these contradictions and uncertainties, the close proximity of the date of the decision in question (May 1992) and the priority date (23 June 1992) of the patent in suit, and in the absence of any written evidence concerning the exact dates pertaining to these facts, the Board comes to the conclusion that the appellant did not prove up to the hilt that it had been known from the alleged public prior use to apply "Baysynthol® ANF" to pressure sensitive copying paper before the priority date of the patent in suit.

1.4 The Board abstained from taking evidence by hearing the witnesses of Mr Fischer and Mr Baumgarten, because, five years after the declarations according to documents E2 and E3 had been made, a more precise description of the events of the year 1992 could not be expected, and any amendment of the statements given in documents E2 and E3 would only have increased the uncertainty about what actually happened at that time.

1.5 Therefore, and already for that reason, the alleged public prior use does not belong to the prior art to be considered. Accordingly, there was no need to determine what the subject-matter of the alleged public prior use actually consisted of and whether it had been made available to the public.

2. *Main request*

2.1 Novelty

The subject-matter of claim 1 of the patent in suit as

granted is novel because the cited prior art does not disclose an AKD-sized pressure-sensitive CFB copying paper comprising a styrene-acrylic ester copolymer latex.

2.2 Inventive step

2.2.1 Closest prior art

The closest prior art is represented by document D1. This document discloses a pressure sensitive copying paper comprising a base paper, which is neutral- or alkaline-sized with an alkyl ketene dimer (AKD) size. It is of the CFB type ("coated front and back") and carries on one surface a coating of pressure-rupturable microcapsules containing an oil solution of chromogenic material and on the other surface a coating of an inorganic colour developer composition.

The problem arising with such papers is seen in that any free chromogenic material in the microcapsule coating has a tendency to migrate through the paper into contact with the colour developer coating, with the result that premature colouration occurs. The presence of free chromogenic material is almost inevitable, because, among others, a small proportion of the microcapsules rupture prematurely during processing of the paper or on handling or storage of the paper, cf. document D1, page 1, line 34 to page 2, line 2.

Document D1 suggests the use of an extracted and isolated soy protein polymer comprised in the base paper or in the microcapsule coating for preventing or reducing premature colouration of such a pressure-

sensitive paper.

2.2.2 The problem of preventing or reducing the premature colouration of a pressure-sensitive paper of the above mentioned type is also the problem underlying the patent in suit.

The patent in suit teaches that the above-described problem of premature colouration can also be significantly reduced by the use of a styrene-acrylic ester copolymer latex (cf. page 2, lines 35 to 38) which, according to claim 1 of the patent in suit as granted, is carried by the base paper and/or is present in the microcapsule coating.

2.2.3 Document D2 also relates to pressure-sensitive copying paper and the problem of premature colouration, cf. page 4, lines 39 to 42.

In order to solve that problem, a microcapsule formulation is suggested comprising microcapsules having a wall-forming material made of a synthetic resin, a high polymer latex and talc. A microcapsule coating having a significantly improved pressure resistance and frictional stability could thus be achieved. On page 6 of document D2, suitable latices are listed and, among them, also acrylic acid ester-styrene copolymer emulsions.

2.2.4 A person skilled in the art seeking to reduce premature colouration of a pressure-sensitive AKD-sized copying paper as described in document D1 would take into consideration any possibility which may be useful and suitable to solve that problem. He also would consider the teaching of document D2 which suggests to solve the

problem by providing a microcapsule coating having a significantly improved pressure resistance and frictional stability.

Therefore, it is obvious to apply a microcapsule coating as described in document D2 comprising a styrene-acrylic ester copolymer latex to a pressure-sensitive AKD-sized copying paper as described in document D1 in order to reduce premature colouration by reducing premature rupture of the microcapsules and, thus, the proportion of free chromogenic material.

As claim 1 of the patent in suit as granted includes the alternative that a styrene-acrylic ester copolymer latex is present in the microcapsule coating, the subject-matter of that claim does not involve an inventive step.

3. *Auxiliary request*

3.1 Novelty

Claim 1 according to the auxiliary request relates to a pressure-sensitive AKD-sized CFB copying paper wherein a styrene-acrylic ester copolymer latex is carried by the base paper.

The subject-matter of claim 1 according to the auxiliary request is novel, because the cited prior art does not disclose such a pressure-sensitive copying paper.

3.2 Inventive step

3.2.1 The closest prior art is represented by document D1 as

considered in paragraph 2.2.1.

According to claim 1 of the auxiliary request, the problem of preventing or reducing the premature colouration of a pressure-sensitive AKD-sized CFB copying paper is solved in that a styrene-acrylic ester copolymer latex is carried by the base paper.

3.2.2 This solution is not suggested by the cited prior art:

Document D2 is primarily concerned with the prevention of premature microcapsule rupture and suggests a specific microcapsule coating for preventing or reducing premature colouration of pressure sensitive copying paper. Accordingly, document D2 teaches that the microcapsule coating should comprise a latex.

There is no indication in the cited prior art that one of the latices mentioned in document D2, in particular a styrene-acrylic ester copolymer latex, might be an alternative to the soy protein polymer suggested in document D1, nor is there any indication that such a latex, when carried by the base paper, may function as a barrier layer between the two surfaces of a CFB paper.

Document D2 mentions the problem of premature colouration, in particular under hot and wet conditions, from which the appellant derived that the premature colouration is the result of migration of chromogenic material and that it can be avoided by the use of a latex. However, a basis for that assumption can be found neither in document D2 nor in document D1.

There are probably various reasons for the occurrence

of premature colouration, also under hot and wet conditions. Document D2 neither mentions that migration of any free chromogenic material may be the cause of premature colouration under hot and wet conditions nor that this problem may be solved by treating the base paper with a latex, in particular, a styrene-acrylic ester copolymer latex.

3.2.3 To sum up, the available prior art does not suggest that the problem of premature colouration due to migration of any free chromogenic material through CFB copying paper, comprising AKD sized base paper and an anorganic colour developer, can be solved in that styrene-acrylic ester copolymer latex is carried by the base paper.

The subject-matter of claim 1 according to the auxiliary request, therefore, involves an inventive step. The subject matter of claims 2 to 8 which are appendant to this claim 1 similarly involves an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents filed during oral proceedings:

(a) Claims 1 to 8; and

(b) description, pages 2 to 6, and 7, lines 1 to 9.

The Registrar: The Chairman:

M. Dainese W. Moser