

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

D E C I S I O N
of 9 December 2004

Case Number: T 1085/02 - 3.2.5

Application Number: 93304114.7

Publication Number: 0573210

IPC: B41M 5/165

Language of the proceedings: EN

Title of invention:
Pressure-sensitive record material

Patentee:
Arjo Wiggins Limited

Opponent:
Mitsubishi HiTec Paper Bielefeld GmbH

Headword:

-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (main request, yes)"
"Inventive step (main request, yes)"

Decisions cited:
G 0002/88, T 0059/87, T 0706/95

Catchword:

-



Case Number: T 1085/02 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 9 December 2004

Appellant: Mitsubishi HiTec Paper Bielefeld GmbH
(Opponent) Postfach 180103
D-33691 Bielefeld (DE)

Representative: -

Respondent: Arjo Wiggins Limited
(Proprietor of the patent) PO Box 88
Lime Tree Way
Chineham
Basingstoke
Hants RG24 8BA (GB)

Representative: Scott, Susan Margaret
Abel & Imray
Patent & Trademark Attorneys
20 Red Lion Street
London WC1R 4PQ (GB)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
3 September 2002 concerning maintenance of
European patent No. 0573210 in amended form.

Composition of the Board:

Chairman: W. Moser
Members: W. Widmeier
W. R. Zellhuber

Summary of Facts and Submissions

- I. The appellant (opponent) lodged an appeal against the interlocutory decision of the Opposition Division maintaining the European patent No. 0 573 210 in amended form.

The Opposition Division held that the grounds of opposition under Article 100(a) EPC (lack of novelty and lack of inventive step, respectively Articles 54 and 56 EPC) did not prejudice the maintenance of the patent in amended form.

- II. Oral proceedings before the Board of Appeal were held on 9 December 2004.
- III. The appellant requested that the decision under appeal be set aside and that the patent No. 0 573 210 be revoked in its entirety.
- IV. The respondent (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents presented during oral proceedings:
- (a) claims 1 to 9 as main request; or
 - (b) claims 1 to 9 as first auxiliary request; or
 - (c) claims 1 to 9 as second auxiliary request.
 - (d) The respondent requested as a third auxiliary request that the appeal be dismissed.

(e) As fourth and fifth auxiliary requests, the respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of claims 1 to 9 filed as first auxiliary request and claims 1 to 9 filed as second auxiliary request, respectively, both requests being filed on 5 November 2004.

V. Independent claim 1 of the main request reads as follows:

"1. The use, for the purpose of reducing discolouration on storage and/or image fading in pressure-sensitive record material utilizing a chromogenic composition comprising chromogenic material in a vegetable oil vehicle which is substantially free of an ester of a non-aromatic mono-carboxylic acid having a saturated or unsaturated straight or branched hydrocarbon chain with at least three carbon atoms in the chain, of a vehicle which has a melting point such as to be solid or semi-solid at ambient temperatures of 20-25°C, and which is made up of at least a major proportion of relatively high melting vegetable oil which is solid or semi-solid at said ambient temperatures; said chromogenic composition having been encapsulated by a process conducted at a temperature above the melting point of the oil until the microcapsule wall has formed."

VI. The following documents were in particular referred to in the appeal procedure:

D2: US-A-2 800 457

D3: EP-A-0 537 467

D5: EP-A-0 234 394

D8: "CRC Handbook of Chemistry and Physics", 70th
edition, page D-220

D9: EP-A-0 262 569

D10: DE-A-2 423 830

D13: JP-A-59 138 487 (English Abstract)

VII. The appellant argued essentially as follows:

Claim 1 relates to an inevitable effect rather than to a novel use of the vegetable oil vehicle. The materials specified in claim 1 and their use are known from prior art. Document D10 defines in claim 9 a microcapsule dispersion, in claim 10 its use, and on page 5, line 18, coconut oil as vehicle. Document D10 also refers on page 4, lines 14 to 22, to the improved storage characteristics of the record material. Document D8 indicates a melting point of 25.1°C for coconut oil. Consequently, if coconut oil is used as vehicle, the effect of reducing discolouration must necessarily occur. Also documents D2, D3 and D5 disclose the use of vegetable oils as vehicle, such as palm oil, palm kernel oil and coconut oil which have a melting point such that they are solid or semi-solid at room temperature. The feature that the chromogenic composition is encapsulated at a temperature above the melting point of the oil is also known from documents D2, D3, D5 and D10. Consequently, in applying decision

T 706/95, the subject-matter of claim 1 is not to be considered novel.

Document D10 represents the closest prior art. This document discloses the use of coconut oil as vehicle for the chromogenic composition, and, although not specifically in combination with coconut oil, this document refers to the effect of reducing discolouration. Synthetic oils and petroleum based oils, which are also proposed in this document, are expensive and pollutive, thus the use of vegetable oils is obvious. Documents D2, D5, and D9 also disclose the use of vegetable oils being solid or semi-solid at temperatures of 20 to 25°C. Document D13 teaches to encapsulate wax material which is solid at ambient temperature. Thus, there was no obstacle for a person skilled in the art to encapsulate oils which are solid or semi-solid at temperatures of 20 to 25°C. Furthermore, pressure-sensitive record materials must be suitable for various climates and are tested therefore under various environmental conditions. Such tests will reveal the effect of reducing discolouration if oils such as coconut oil or palm oil are used. Anyway, this effect is an inherent effect of a coconut oil vehicle for the chromogenic composition, and, thus, a person skilled in the art, starting from document D10, would have arrived at the subject-matter of claim 1 even without the problem definition of the patent in suit. For this reason, the subject-matter of claim 1 lacks an inventive step.

VIII. The respondent argued essentially as follows:

None of the prior art documents shows the feature combination of claim 1. Especially, the combination of the use of a vegetable oil which is solid or semi-solid at temperatures of 20 to 25°C with an encapsulation process conducted above the melting point of the oil is not known from the prior art. Document D2, which is the fundamental document for the microcapsule technique in pressure-sensitive record materials, mentions an encapsulation process at a temperature of 50°C, however, only in combination with oils which are liquid at ambient temperature. Document D10 mentions an encapsulation process at a temperature of 60°C only for a specific example using a synthetic oil which is liquid at ambient temperature. Consequently, the subject-matter of claim 1 has to be considered novel. Moreover, in applying decision G 2/88 which is binding for the Boards of Appeal, the subject-matter of claim 1 also is novel because of the novel use of a vegetable oil which is solid or semi-solid at ambient temperature for reducing discolouration in a pressure sensitive recording material. The present case is comparable to the situation underlying decision G 2/88 so that this decision of the Enlarged Board of Appeal has to be applied accordingly.

This novel use for this novel purpose also constitutes an inventive step. The documents which mention coconut or palm oil only refer to oils in their liquid state. They are silent about oils in their solid state. For example, document D5 lists 11 vegetable oils, 10 of which are liquid at ambient temperature. A person skilled in the art will conclude that he or she has to

ensure, if using palm oil, that the oil is treated to be liquid at ambient temperature. Also document D10 only mentions coconut oil in a list of other vegetable oils which are all liquid at ambient temperature. By way of contrast, the examples in the patent in suit show the use of hardened coconut oil which has a melting point of 35°C or higher. Moreover, document D10 solves the problem of reducing discolouration by other means, namely by strengthening the microcapsule wall. The solid wax material disclosed in document D13 is provided in separate microcapsules for protecting the dye containing microcapsules. Thus, the use of a vegetable oil which is solid or semi-solid at ambient temperature for the purpose of reducing discolouration and/or fading is based on an inventive step.

Reasons for the Decision

Main request

1. *Amendments*

Claim 1 differs from claim 11 as granted by the added feature "said chromogenic composition having been encapsulated by a process conducted at a temperature above the melting point of the oil until the microcapsule wall has formed". This feature is disclosed on page 4, lines 39 to 41, of the application as filed (published version) and limits the scope of protection of the claim. The added feature does not introduce a lack of clarity into claim 1, and it is further supported by the description and was occasioned by the ground of opposition under Article 100(a) EPC

(lack of novelty, Article 54 EPC). The requirements of Articles 84 and 123(2) and (3) EPC and of Rule 57a EPC are therefore fulfilled. The appellant did not object to claim 1 under these formal aspects.

2. *Novelty*

- 2.1 In decision G2/88 (OJ EPO 1990, 093) the Enlarged Board of Appeal summarised the answer to question (iii) submitted by the decision of referral T 59/87 (OJ EPO 1988, 347; final decision OJ EPO 1991, 561) as follows: "with respect to a claim to a new use of a known compound, such new use may reflect a newly discovered technical effect described in the patent. The attaining of such a technical effect should then be considered as a functional technical feature of the claim (e.g. the achievement in a particular context of that technical effect). If that technical feature has not been previously made available to the public by any of the means as set out in Article 54(2) EPC, then the claimed invention is novel, even though such technical effect may have inherently taken place in the course of carrying out what has previously been made available to the public" (cf. point 10.3 of the Reasons); and consequently the Enlarged Board decided "a claim to the use of a known compound for a particular purpose, which is based on a technical effect which is described in the patent, should be interpreted as including that technical effect as a functional technical feature, and is accordingly not open to objection under Article 54(1) EPC provided that such technical feature has not previously been made available to the public" (cf. point (iii) of the Order).

2.2 Claim 1 concerns the use of a vehicle which has a melting point such as to be solid or semi-solid at ambient temperatures of 20 to 25°C, and which is made up of at least a major proportion of relatively high melting vegetable oil which is solid or semi-solid at said ambient temperatures, for the purpose of reducing discolouration on storage and/or fading in pressure-sensitive record material utilizing a chromogenic composition comprising chromogenic material in a vegetable oil vehicle.

The technical effect on which that purpose is based, namely to reduce discolouration on storage and/or fading, is attained by the use of a vegetable oil vehicle which is solid or semi-solid at temperatures of 20 to 25°C (cf. page 3, lines 36 to 43; and page 6, line 31 to page 7, line 38 of the patent in suit).

In accordance with the findings of the Enlarged Board of Appeal in decision G 2/88, this technical effect is to be considered a functional technical feature of claim 1.

2.3 Document D10 discloses a method for making a dispersion which comprises microcapsules of a hydrophilic colloid material, for forming microcapsules in a pressure-sensitive record material. These microcapsules are formed of an electron-donating colourless chromogenic material being dissolved in a hydrophobic substance and hardened by an aldehyde, thus enabling a record material with reduced discolouration and smearing during storage or handling (cf. page 3, first full paragraph, and page 4, lines 14 to 22 and 29 to 32). The examples for this hydrophobic substance listed in

document D10 (cf. page 5, second paragraph) cover a wide range of various oils such as mineral oils, vegetable oils and synthetic oils. One of the vegetable oils is coconut oil which has a melting point of 25.1°C, the other vegetable oils mentioned in this list of document D10 have a melting point significantly below 20°C (cf. document D8). Thus, according to document D10, the effect of reducing discolouration is achieved by a special process of forming hardened microcapsules rather than by using any of these oils. There is no disclosure in document D10 that this effect is achieved by selecting a particular vegetable oil which is solid or semi-solid at ambient temperatures of 20 to 25°C, such as coconut oil.

Consequently, document D10 does not disclose the technical feature of attaining a reduced discolouration on storage and/or fading by the use of a vegetable oil which is solid or semi-solid at said ambient temperatures.

- 2.4 The same applies to documents D2, D3, D5 and D9, which, although proposing oils having a melting point above 25°C (coconut oil, palm oil), neither hint at the technical feature of reducing discolouration and/or fading by the use of a specific vegetable oil for the vehicle of the chromogenic substance.
- 2.5 Thus, the technical feature of reducing discolouration and/or fading by the use of a vehicle which has a melting point such as to be solid or semi-solid at ambient temperatures of 20 to 25°C has not previously been made available to the public. In accordance with

decision G 2/88 the subject-matter of claim 1 has therefore to be considered novel.

2.6 In decision T 706/95 of 22 May 2000 (not published) it was found that a newly discovered effect of the same known means for the same known purpose (reduction of the concentration of nitrogen oxides in an oxygen-rich effluent by injection of an aqueous solution of urea and an oxygenated hydrocarbon into the effluent) is different from the situation considered in decision G 2/88 and is not to be considered novel (cf. point 2.5 of the Reasons). Since in the present case the newly discovered effect of reducing discolouration and/or fading by the use of a specific vegetable oil is based on a different purpose, decision T 706/95 is not applicable.

2.7 Document D13 discloses a pressure-sensitive record material comprising microcapsules containing wax which is solid at normal temperature in addition to microcapsules comprising a dye. Thus, the subject-matter of claim 1 is also novel with respect to this document.

3. *Inventive step*

Document D3 constitutes prior art according to Article 54(3) EPC and has therefore to be disregarded when assessing inventive step. Anyway, none of the prior art documents discloses, or hints at, the effect that a vegetable oil vehicle encapsulated in the microcapsules of a pressure sensitive record material, and having a melting point such as to be solid or semi-solid at temperatures of 20 to 25°C, reduces

discolouration on storage and/or fading. Thus, the use of such an oil vehicle for the purpose of achieving this effect is to be considered inventive. Consequently, the subject-matter of claim 1 involves an inventive step (Article 56 EPC).

4. Claims 2 to 9 depend on claim 1 and are thus likewise to be considered novel and to be based on 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
 - (a) claims 1 to 9 presented as main request during oral proceedings; and
 - (b) description, pages 2 and 3, submitted on 13 June 2002, page 4, presented during oral proceedings, and pages 5 to 14 as granted.

The Registrar:

The Chairman:

M. Dainese

W. Moser