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**Datasheet for the decision
of 21 January 2016**

Case Number: T 0231/12 - 3.4.02

Application Number: 99937224.6

Publication Number: 1105776

IPC: G02F1/17, G02B26/00

Language of the proceedings: EN

Title of invention:

LIGHT-POLARIZING PARTICLES OF IMPROVED PARTICLE SIZE
DISTRIBUTION

Applicant:

RESEARCH FRONTIERS INCORPORATED

Relevant legal provisions:

EPC 1973 Art. 54(1)

Keyword:

Novelty - (no) - implicit disclosure



Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 0231/12 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 21 January 2016

Appellant: RESEARCH FRONTIERS INCORPORATED
(Applicant) 240 Crossways Park Drive
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 30 September
2011 refusing European patent application No.
99937224.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman B. Müller
Members: A. Hornung
F. J. Narganes-Quijano

Summary of Facts and Submissions

- I. The applicant has appealed the decision of the examining division refusing European patent application No. 99937224.6 on the basis of Article 56 EPC.
- II. The appellant requested that the decision of the examining division be set aside and a patent be granted on the basis of the set of claims filed with the statement setting out the grounds of appeal.

As a precaution, the appellant requested oral proceedings.

- III. In a communication annexed to the summons to oral proceedings, the board informed the appellant about its provisional and non-binding opinion according to which the claimed subject-matter lacked novelty with respect to the disclosure of D1 (US 5,516,463). Furthermore, the board informed the applicant that if, contrary to the board's provisional opinion, novelty were subsequently established, then the claimed subject-matter would lack an inventive step in view of D1. In its communication the board also gave the reasons leading to this preliminary assessment.

The board's opinion concerning lack of novelty was worded as follows (see point 6 of the communication annexed to the summons):

"6. Novelty - Claim 1

It would appear that the method disclosed in D1 anticipates the method defined in claim 1 (Article 54 (1) and (2) EPC 1973).

Claim 1 of D1 discloses a method for making particles of a light-polarizing material, which comprises reacting a

precursor suitable for forming polyhalide particles with elemental iodine and a hydrohalide acid or an ammonium or an alkali metal or alkaline earth metal halide. The claimed method of D1 results in the formation of light-polarizing particles having an average particle length of less than 1 micron.

More particularly, example 1 of D1 (column 7, lines 18 to 29) describes a chemical reaction comprising the same chemical compounds as those of the present application (page 7, lines 1 to 11), including (i) the precursor pyrazine-2,5-dicarboxylic acid dihydrate, (ii) elemental iodine and (iii) anhydrous calcium iodide. This example 1 results in a liquid light valve suspension having a decay time of 6 ms which correlates to a light-polarizing particle size of up to 0.2 microns (cf. D1, column 2, lines 48 to 49).

Even though D1 does not explicitly recite the average or median size of the precursor particle used, it seems to be implicit that, in the present case, the precursor particles have a size which is either of the same order of magnitude or smaller than the resultant, light-polarizing particles. Indeed, there appear to be no physical phenomena which would reasonably explain, in the context of the chemical reaction of D1, how the precursor particles of pyrazine-2,5-dicarboxylic acid dihydrate may transform, after reaction, into particles having a size substantially smaller than that of the precursor particles (for instance, by fragmentation of the precursor particles into smaller particles or by a substantial shrinkage of the precursor particles during the reaction). D1 does also not give any indication in that direction. On the contrary, D1 discloses that, on the one hand, the precursor is actually insoluble in the non-aqueous solution used (see D1, column 1, lines 59 to 62) and, on the other hand, water enlarges the precursor particles (see D1, column 5, lines 25 to 27).

Since the light-polarizing particles in example 1 of D1 have a size of up to 0.2 microns, it appears that the precursor particles used had a size of less than 0.2 microns or, at least, less than 1 micron.

It follows that the claimed method appears to be implicitly anticipated by the method disclosed in D1."

- IV. In response to the summons to oral proceedings, the applicant, with its letter dated 1 October 2015, informed the board that it would not be attending the oral proceedings. The applicant filed no comments concerning the board's preliminary opinion as annexed to the summons.
- V. Oral proceedings were held on 21 January 2016 in the absence of the appellant.
- VI. Independent claim 1 of the applicant's main and sole request reads as follows:

"A method for making particles of light-polarizing material, characterized in that the method comprises reacting a particulate precursor suitable for forming polyhalide particles with elemental iodine and a hydrohalide acid or an ammonium, alkali metal or alkaline earth metal halide wherein the average size and/or median size of the precursor particles is less than 1 μm (1 micron)."

Reasons for the Decision

1. In the communication annexed to the summons (see point III. above), the board expressed its preliminary view, along with the underlying reasons, that the subject-matter of claim 1 was implicitly anticipated by the method disclosed in document D1 (Article 54(1) EPC 1973), due account having been taken of the applicant's statement of grounds of appeal containing arguments essentially in favour of inventive step.
2. The appellant neither attempted to rebut the board's provisional opinion, nor submitted any new requests aiming at overcoming the objections.

The board, therefore, sees no reason to deviate from its preliminary opinion regarding lack of novelty, which therefore becomes final.

3. It follows that the present patent application does not meet the requirements of Article 54(1) EPC 1973 for the reasons set out in the board's preliminary opinion.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. Kiehl

B. Müller

Decision electronically authenticated