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D E C I S I O N
of 10 May 1995

Case Number: T 0844/92 - 3.3.1

Application Number: 88110929.2

Publication Number: 0307564

IPC: C11D 11/00

Language of the proceedings: EN

Title of invention:

Compositions and methods that introduce variations in colour density into dyed cellulosic fabrics

Applicant:

ECOLAB INC.

Opponent:

-

Headword:

Colour density variation/ECOLAB

Relevant legal provisions:

EPC Art. 54, 56, 84, 123(2)

Keyword:

"Novelty (yes - after amendment)"

"Inventive step (yes)"

"Non-obvious solution"

Decisions cited:

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Catchword:

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Case Number: T 0844/92 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 10 May 1995

Appellant: ECOLAB INC.
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Representative: Maiwald, Walter, Dr. Dipl.-Chem.
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Decision under appeal: Decision of the Examining Division of the European Patent Office dated 19 March 1992 refusing European patent application No. 88 110 929.2 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: A. J. Nuss
Members: P. Krasa
J. A. Stephens-Ofner

Summary of Facts and Submissions

- I. The Appellant (Applicant) lodged an appeal against the decision of the Examining Division refusing the European patent application No. 88 110 929.2.

In its decision, the Examining Division, relying on the cited documents

- (1) EP-A-0 220 016 and
- (2) EP-A-0 206 418

held that the application, in particular the subject-matter of the then pending Claim 11, did not meet the requirements of Articles 52 and 54 EPC having regard to the document (1).

In respect to a third party's observation pursuant to Article 115 EPC (from Novo Nordisk A/S), submitted in the course of the examination proceedings and maintaining that the term "CMC units" was unclear (Art. 84 EPC), the Examining Division found that it was not necessary to deal with this issue as the then pending claims did not contain this term.

- II. The Appellant filed, together with the statement of grounds of appeal, inter alia, two sets of claims as main and auxiliary request. After a number of communications from the Board indicating that the novelty of process claims could probably be acknowledged, the Appellant eventually submitted an amended set of claims and an adapted description.

III. The Appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the following documents:

Claims 1 to 10 and pages 1 to 23 of the description, all filed with the letter of 3 January 1995 (received on 4 January 1995) and the drawing as originally filed.

Furthermore, the appellant requested oral proceedings, as auxiliary request.

IV. The wording of Claim 1 according to the single request reads as follows:

"A method of forming, in unsewn dyed cellulosic fabric or a newly manufactured garment made of dyed cellulosic fabric a distressed appearance substantially the same as that produced by conventional pumice stone processing, which method comprises:

- (1) contacting the fabric or the garment with an aqueous composition consisting essentially of:
 - (a) a major proportion of water;
 - (b) at least about 2,500 CMC units of a cellulase enzyme composition per liter of aqueous composition;
 - (c) about 0 to 1000 parts of an enzyme-compatible surfactant per one million parts of the aqueous composition; and
- (2) agitating the enzyme-treated fabric or garment for a time sufficient for forming localized areas of variation in color density through the removal of dye from the fabric."

Dependent Claims 2 to 10 are also process claims.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*

Claim 1 differs, apart from merely editorial amendments from Claim 1 as originally filed by the features "... a distressed appearance substantially the same as that produced by conventional pumice stone processing, ..." and "... for a time sufficient for ... from the fabric." The first feature is supported by the disclosure on page 1, lines 9 to 15, in combination with page 4, lines 18 to 25 of the specification as originally filed; the second feature is supported by page 17, lines 24 to 25 of the specification as originally filed.

Dependent Claims 2 to 7 are the same as original Claims 2 to 7. Dependent Claim 8 results from original Claim 8 by incorporation of the disclosure of page 10, lines 29 to 30 of the specification as originally filed.

Dependent Claim 9 is supported by original Claim 21 in combination with page 17, lines 30 to 31 of the original specification; dependent Claim 10 is, apart from an editorial amendment, identical with original Claim 26, respectively.

Thus, no objections arise against Claims 1 to 10 under Article 123(2) EPC, nor do such objections arise

against the amendments of the specification as submitted on 4 January 1995.

3. *Clarity*

The Board is satisfied that the amended claims are clear (Art. 84 EPC). In particular, no objections are to be raised against the term "CMC units" - which was alleged to be unclear by the third party observation (Art. 115 EPC) in the course of the examination proceedings. He argued there, in essence, that "CMC units" could be defined on the base of two entirely different analytical methods, i.e. by the assessment either of the viscosity reduction resulting from or of the amount of reducing sugar obtained by the treatment of a CMC sample with the cellulase. The term "CMC units" was therefore unclear in the absence of any clear indication of the actual method employed. Furthermore, it was submitted that the results of an assay were strongly dependent on the experimental conditions used, which were, again, not specified.

The Appellant submitted an affidavit of Dr Lovrien together with the grounds of appeal in rebuttal of the above objections. In this affidavit it was explained that a CMC unit was defined in the literature available before 1988 (the priority of the application in suit being 15 September 1987) as the micromoles of reducing sugar obtained per minute by reacting cellulase enzyme with the CMC substrate, and that the correlation of viscosimetric assay and of the reducing sugar assay was known to the skilled person, who could also readily determine the appropriate experimental conditions for the assay (see in particular Nos. 10, 11, 12, and 16 of

the affidavit). There are no reasons for the Board to call in question these credible statements, and so the Board concludes that the term "CMC units" is and has always been clear within the meaning of Article 84 EPC.

4. *Novelty*

Document (1) discloses the reestablishment of the attractive look of coloured, cellulose based fabrics which have developed a greyish appearance by treatment with an aqueous, cellulase containing medium (page 2, lines 7 to 25). Neither this citation nor document (2), which relates to an improved dry bleach and stable granular composition comprising a homogeneous mixture of a proteolytic or amylolytic enzyme and an alkaline buffer salt to be used together with a peroxyacid bleach granulate in a detergent or laundry additive product for combined bleaching and stain removal performance (see page 2, lines 22 to 26 and page 14, lines 16 to 20 of the description), discloses a method of forming, in unsewn dyed cellulosic fabric or a newly manufactured garment, a "distressed" appearance with all the features of Claim 1 of the application in suit, which claim is therefore novel. Already the Examining Division conceded novelty for the subject-matter of process claims which, in essence, were the same as present Claims 1 to 10 (see No. 2.3 of the decision under appeal). Therefore, no further arguments are required in relation to this issue.

5. *Inventive Step*

5.1 As set out in detail in the introductory section of the application in suit, the "stone-washed" appearance is

traditionally produced in fabric or clothing by an abrasive process by tumbling the fabric or clothing with pumice while wet for a sufficient period of time such that the variations in local colour density are produced in the fabric panels and in the seams of clothing made from dyed cellulosic fabric. This process suffers from several drawbacks caused by the pumice stones and particulate pumice abrasion by-products, such as clogging of drains and sewer lines, mechanical damage of transport mechanisms and washing drums, and the necessity of manually "de-rocking" of processed clothing items. Although the replacement of pumice stones by synthetic abrasives partly reduces the unwanted processing and equipment problems, it does not significantly reduce machine damage. Thus, the need had arisen to find a stone-free process which nevertheless produced a true "stone-washed" look in a fabric or clothing (see page 2, lines 5 to page 3, line 15 of the application as originally filed).

5.2 Since the Board has no reason to assume that there exists a state of the art being more relevant to the claimed method than the traditional (mechanical) stone washing process described in the introductory part of the application in suit, the Board accepts the latter as the appropriate starting point for evaluating inventive step.

5.3 In view of the above, the technical problem underlying the claimed invention was to provide a stone-free process that produced a "stone-washed" look as set out in the application in suit (page 4, lines 14 to 16 and page 5, lines 23 to 27 of the original specification).

- 5.4 Having regard to the examples which appear in the application in suit, the Board is satisfied that the stated technical problem has been credibly solved by the method claimed at present. As already indicated, none of the citations on file is concerned with "stone-washing". Therefore, when trying to solve the existing technical problem, the skilled person could have found no pointer either in document (1) or in document (2) (see above No. 4) to the method of present Claim 1.
- 5.5 For these reasons, the method of Claim 1 is held by the Board non-obvious in the sense of Article 56 EPC. Dependent Claims 2 to 10, relating to particular embodiments of Claims 1, derive their patentability from that of Claim 1.
6. In these circumstances and in the light of the above finding, it was not necessary to summon the Appellant to oral proceedings according to his auxiliary request.

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 grant a patent with the following documents: Claims 1 to 10 and description pages 2 to 23, all as submitted on 4 January 1995; the drawing as originally filed.

The Registrar:

The Chairman:

E. Görgmaier

A. Nuss