BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

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File Number: T 228/90 - 3.3.1

Application No.: 82 201 377.7

Publication No.: 0 079 102

Title of invention: Coloured aqueous alkalimetal hypochloritic compositions

Classification: C11D 3/395

D E C I S I O N
of 8 April 1992

Proprietor of the patent: UNILEVER NV, et al

Opponent: Henkel Kommanditgesellschaft auf Aktien

Headword: Coloured compositions/UNILEVER

EPC Articles 52(2)(b), 56

Keyword: "Inventive step (confirmed)" - "aesthetic creation (no)" - "relationship between an abstract and the abstracted original document"

Headnote

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 228/90 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 8 April 1992

Appellant : (Opponent)
Henkel
Kommanditgesellschaft auf Aktien
TFP/Patente
Postfach 1100
Henkelstrasse 67
W - 4000 Düsseldorf 1 (DE)

Respondent : (Proprietor of the patent)
UNILEVER NV
Burgermeester s'Jacobplein 1
PO BOX 760
NL - 3000 DK Rotterdam (NL)

Representative :
Ford, Michael Frederick
MEWBURN ELLIS & CO
2/3 Cursitor Street
London EC4A 1BQ (GB)

Decision under appeal :
Interlocutory decision of the Opposition Division of the European Patent Office dated 25 January 1990 concerning maintenance of European patent No. 0 079 102 in amended form.

Composition of the Board :

Chairman : K.J.A. Jahn
Members : P.K.H. Krasa
J.-C. Saisset

Summary of Facts and Submissions

I. The mention of the grant of patent No. 0 079 102 in respect of European patent application No. 82 201 377.7, filed on 3 November 1982, was published on 4 September 1985 (cf. Bulletin 85/36) on the basis of eight claims.

II. A notice of opposition was filed in due time requesting the revocation of the European patent on the grounds of lack of novelty and inventive step (Article 100(a) EPC). The opposition was based on the following documents:

(1) US-A-3 210 285
(2) US-A-3 850 833
(3) DE-B-1 949 258
(4) Colour Index, Vol. 5 (1976), pp. 5239 and 5241
(5) Colour Index, Vol. 4, 3rd Ed. (1971), p. 4620
(6) Colour Index, Vol. 6, 3rd Ed. (1975).

In the course of the opposition proceedings the following documents, inter alia, were additionally cited:

(7) US-A-3 544 473
(9) JP-A-8604/78 (English translation).

III. By an interlocutory decision, dated 25 January 1990, the Opposition Division maintained the patent in amended form on the basis of eight claims. Claim 1, as amended, reads:

"1. A coloured, aqueous, liquid alkalimetalhypochlorite composition comprising as colouring agent from 0.0001 - 0.01% by weight of the composition of a halogenated metalphthalocyanine pigment, characterized in that the halogenated metalphthalocyanine pigment contains more than 6 and up to 16 halogen atoms per molecule of phthalocyanine, the amount of alkalimetalhypochlorite in

the composition being from 5 to 15% by weight of the composition."

The Opposition Division held that the claimed subject-matter was novel and that in view of document (9), representing the closest prior art, the technical problem underlying the patent in suit was to provide a relatively highly concentrated aqueous liquid hypochlorite composition, having a stable colour.

According to the Opposition Division, Document (9), which disclosed storage stable, coloured, liquid cleansing composition comprising, inter alia, a hypochlorite and a copper phthalocyanine pigment having 0 to 6 chlorine atoms per molecule, constituted a technical prejudice against using phthalocyanines with 8 or more chlorine atoms in liquid compositions comprising hypochlorite.

The Opposition Division held that the compositions as claimed, comprising metal phthalocyanine pigments with more than 6 and up to 16 halogen atoms, were not obvious in view of the citations.

IV. An appeal was filed against this interlocutory decision on 23 March 1990 together with a Statement of Grounds of Appeal and with payment of the prescribed fee. The following new documents were cited, inter alia, by the Appellant (Opponent):

(10) Derwent Reference 18579 A/10,
(11) Moser/Thomas, "Phthalocyanine Compounds" (1963), pp. 57, 171, 179.

V. In his written submissions and during oral proceedings held on 8 April 1992, the Appellant argued basically as follows: aqueous liquid cleansing compositions comprising

0.002 to 0.01% by weight of copper phthalocyanine green pigment and sodium hypochlorite or calcium hypochlorite were already known from citation (1). Document (3), although relating to particulate cleansing agents comprising phthalocyanine pigments, disclosed that the wet pigments have to be largely stable against hypohalogenite forming bleaching agents. Document (2) disclosed cleansing compositions containing chromophthal green, a halogenated phthalocyanine pigment, as a hypohalogenite resistant pigment. Furthermore, document (7), relating to alkaline dishwasher compositions, disclosed in example VI a composition comprising 0.005% of insoluble phthalocyanine green dye, 10% calcium hypochlorite and about 43% of "water of hydration and moisture". Finally, it was known from citation (11) that perchlorinated copper phthalocyanine is resistant to oxidation.

The Appellant concluded that, in the light of this state of the art, the skilled man would have assumed that highly chlorinated and, especially, perchlorinated phthalocyanine pigments would be stable in aqueous, liquid hypohalogenite comprising cleansing compositions, and that it would have been obvious to him to use these pigments in such compositions as practically no other oxidation resistant pigments, apart from ultramarine, were known to him. In particular, a skilled man being aware of the disclosure of citation (7) would have had no doubt about the feasibility of the teaching of document (1). In addition, he would have found from document (3) that phthalocyanines are largely stable against hypochlorite forming bleaching agents both in the dry and wet states.

According to the Appellant, the skilled person, thus, would have simply disregarded the statement in (9) of the reduced stability against hypohalogenite of the higher chlorinated phthalocyanine pigments. In the Appellant's

opinion, the experimental data in document (9), especially those from table 2 on page 8, were questionable as the source of the pigments used in the respective stability tests was not specified.

Finally, the Appellant suggested that the Board consider, whether or not the claimed subject-matter, which in fact related to a colour effect and, thus, was an aesthetic creation, should be excluded from patentability under Article 52(2)(b) EPC.

VI. The Respondent (Patentee) submitted that the claimed subject matter was inventive: Only documents (1) and (9), which disclose aqueous, liquid, hypohalogenite-containing compositions, were in fact relevant. In his opinion, document (1) did not describe actually compositions simultaneously containing a phthalocyanine pigment and an oxidising agent, since both materials are only optional components of the compositions referred to therein. In any case this citation was silent on the storage stability of the pigment in the composition. The Respondent contested that the skilled person would have disregarded document (9), which disclosed the decreased stability of the highly halogenated phthalocyanine pigments in aqueous hypohalogenite solutions. In his opinion, the data in document (9) supporting this statement were reliable, since the referring to the respective pigments by their chemical formulae was appropriate and sufficient. He emphasised that the Appellant had not demonstrated that it was state of the art to use highly halogenated phthalocyanine pigments in liquid compositions containing hypohalogenite.

Furthermore, he maintained that no conclusions could be drawn from the particulate compositions disclosed, e.g., in citations (2), (3), and (7), with respect to the

stability of the present liquid compositions because of the reduced mobility of reactive agents in the solid state.

VII. The Appellant requested that the decision under appeal be set aside and that the patent in suit be revoked. The Respondent requested that the appeal be dismissed (main request), alternatively that the patent be maintained in amended form on the basis of documents submitted in the oral proceedings according to auxiliary requests 1 and 2.

At the end of the oral proceedings the Chairman announced the decision of the Board to dismiss the appeal.

Reasons for the Decision

1. The appeal is admissible.

Main Request

2. Amendments

In the Boards judgment, Claims 1 to 8 comply with the requirements of Article 123 EPC. Since this was not contested, it is not necessary to give further comments.

3. Novelty

After examination of the cited prior art, the Board has reached the conclusion that the claimed subject-matter is novel. Since novelty of the present claims was conceded by the Respondent, it is also not necessary to give detailed reasons for this finding.

4. Technical Problem and Solution

4.1 The patent in suit relates to coloured, aqueous, liquid compositions comprising 5 to 15% by weight of alkali metal hypochlorite and 0.0001 to 0.01% by weight of a halogenated metal phthalocyanine pigment with more than 6 and up to 16 halogen atoms. The inclusion of a coloured pigment imparts an aesthetically appealing appearance to the cleansing compositions.

Similar compositions, which differ from the present ones essentially only in the halogen contents of the pigment, are known from citation (9), which the Board considers to represent the closest state of the art.

4.2 In the light of this prior art, the Board sees the technical problem underlying the disputed patent in providing further coloured aqueous alkali metal hypochlorite compositions with a storage stable colour, i.e. with a pigmentation which will not fade on extended storage (cf. the printed patent specification, page 2, lines 12 to 26).

4.3 According to the disputed patent this problem is solved by the use of 0.0001 to 0.01% by weight of halogenated metal phthalocyanine pigments containing more than 6 and up to 16 halogen atoms per molecule in aqueous compositions which comprise 5 to 15% by weight of an alkali metal hypochlorite.

Example 1 of the disputed patent shows that, when stored in aqueous sodium hypochlorite, halogen free copper phthalocyanine turned from blue to green to pale yellow and copper phthalocyanine with four chlorine atoms in the molecule turned from blue to green after a few hours. The Board considers both these compounds to be representative of the closest prior art. On the other hand, the green

colour of a fully chlorinated copper phthalocyanine remained unchanged under these conditions after a few weeks' storage at 20°C (the aqueous composition comprising 0.001 wt.% pigment and 8.7 wt.% hypochlorite; table on top of page 4).

4.4 In view of this experimental evidence, the Board is satisfied that the above technical problem has been credibly solved.

5. Inventive Step

It remains to be decided whether the claimed compositions meet the requirement of inventive step.

5.1 Only citations (1), (9), and (10) relate to aqueous liquid compositions which comprise, or may comprise, simultaneously hypohalogenite and chlorinated copper phthalocyanine pigments.

5.1.1 Document (1), published 1965, relates to liquid abrasive cleansing compositions which, apart from an inorganic abrasive as the main constituent, may also comprise "at least about 0.002% of water dispersible copper phthalocyanine green pigment" and "may also contain ... a wide variety of optional water soluble and water insoluble adjuvants including oxidative or reductive bleaching and/or stain removing agents, e.g. ... sodium hypochlorites and calcium hypochlorites ..." (column 1, lines 15 to 31, in combination with column 4, lines 42 to 48). No amounts are specified for these adjuvants. This citation is concerned with avoiding of the settling of the solid particles (the abrasive) to the bottom of the container, i.e. the prevention of "caking" of the composition during storage (column 1, lines 49 to 60). Hence, this document relates to a technical problem

unrelated to that of the disputed patent and, being completely silent on the issue of the fading of pigments in the presence of hypohalogenite, gives no guidance to the skilled man as to how to solve the present problem.

5.1.2 Document (10) is an abstract of document (9). It simply states that coloured liquid detergent compositions contain, inter alia, 0.5 to 10 wt% of hypochlorite and 0.0002 to 0.005 wt% of copper phthalocyanines with 0 to 6 chlorine atoms and that the colouring agents are not decolourised or faded by hypochlorite or sunlight during storage. The Appellant asserted that the skilled man would have understood this citation as a confirmation of his expectation, that (chlorinated) copper phthalocyanine pigments are stable against hypohalogenite. Only after turning to document (9), for which there was no reason, would he have taken any notice of the experiments which indicate an inexplicable instability of the higher chlorinated phthalocyanine pigments. Although it was not stated expressis verbis by the Appellant, this line of argumentation seems to imply, that the same, or even more importance, should be imparted to the information content of the abstract as compared to that of the Japanese original.

The Board cannot accept this argumentation. An abstract of a scientific paper or of a patent publication will, by definition, only contain the information of the original document in an abridged and, by necessity, often incomplete form. The very purpose of an abstract is to alert the skilled person to the existence of the abstracted document and to serve as a guide to the (complete) technical information available from the original. Thus, a skilled person, who is seriously interested in the topic of an abstract, will always have recourse to the original, provided that this is available

to him, to ascertain the completeness of the respective technical teaching. Therefore, when establishing the state of the art, an abstract may be regarded as being superseded as soon as the underlying abstracted document is also available. As document (9) is the undisputed translation of the underlying Japanese patent application, it is not necessary to consider citation (10) any further.

5.1.3 Document (9), published 1978, discloses on page 2, lines 6 to 13, a coloured liquid cleansing composition comprising

(a) 0.5 - 10% by weight of a hypochlorite,
(b) 0.1 - 5% by weight of a caustic alkali, and
(c) 0.0002 - 0.005% by weight of a copper phthalocyanine pigment having 0 to 6 chlorine atoms per molecule.

It clearly warns against using copper phthalocyanine pigments with more than 6 chlorine atoms per molecule as these pigments will quickly fade (page 3, lines 6 to 10 and page 4, lines 1 to 8). This statement is supported by the comparative examples in table 2 on page 8 which show the following:

Aqueous solutions comprising, inter alia	Copper phthalocyanine pigment with n chlorine atoms			
	n = 0	n = 6	n = 8	n = 16
pigment (ppm)	5	5	5	5
NaOCl (%)	3	3	3	3
Fading (%) in sunlight stored for one month at 45°C	15	20	50	100
	20	30	80	100

Therefore, in order to solve the present problem, document (9), although not amounting to a generally accepted technical prejudice, would have discouraged the skilled person from using such higher halogenated pigments in aqueous compositions comprising even higher amounts of hypohalogenite.

5.1.4 The Appellant questioned the reliability of these tests as the source of the pigments used was not indicated in document (9). He submitted that there exists an abundance of products on the market, all being adapted to particular fields of use, differing in the degree of dispersion and in the additives. In his opinion, such differences could perhaps explain the instability of the highly chlorinated copper phthalocyanine pigments. The Respondent denied that the different formulations of the pigments could have an influence on their storage stability in the presence of hypohalogenite. In the absence of experimental evidence supporting the one or the other of these contradictory statements, the Board is not in a position to espouse the assertions of either of the parties. Under these circumstances it is the party whose argument rests on these alleged facts who loses thereby (cf. T 219/83, paragraph 12 of the reasons; OJ EPO 1986, 211 ff., esp. 221). Hence, the Appellant's submission is disregarded as being a mere allegation.

5.1.5 Document (11), published 1963, states "Metal-free phthalocyanine and phthalocyanines of magnesium, zinc, iron, cobalt, and nickel are also reversibly oxidised but perchlorinated copper phthalocyanine is resistant to oxidation." (the sentence bridging pages 56 and 57). This rather general statement may very well reflect a general trend in the relative stabilities of the respective pigments against oxidants. However, there is no further information available indicating on which experimental

evidence this statement was actually based. In particular, document (11) does not teach that perchlorinated copper phthalocyanine will be oxidation resistant when stored for a prolonged period of time in an aqueous hypohalogenite solution.

In the Board's judgment, a skilled person, looking for the solution of a specific technical problem, would not pay much attention to such a general statement, unsupported by experimental data, which is subsequently disproved for a particular situation by experimental evidence.

5.2 Documents (4), (5), and (6) simply list structures and trade names of various phthalocyanine pigments. It is self-evident that they do not contribute to the issue at stake and, hence, it is unnecessary to discuss them in detail.

5.3 Documents (2), (3), and (7) disclose solid, particulate compositions comprising a hypohalogenite and a phthalocyanine pigment. It must be born in mind that in such particulate compositions the particles are separated from each other by their respective surfaces. Therefore, any possible interaction (in the present case: induction of fading) of agents which may interfere with each other (in the present case: interaction of pigment and hypohalogenite) is limited to the surface of the solid particles, especially to their contact areas and depend on notoriously slow solid-solid diffusion processes which, of course, is not the case in liquid compositions. Thus, only very little information, if any, may be gained from these citations in respect to the storage stability of the present liquid compositions.

5.3.1 Document (2) is concerned with coloured particles and scouring cleansing compositions comprising them (column 1,

lines 39 to 45). The solid coloured particles comprise, inter alia, a blue or green pigment which is stable in the presence of hypohalogenite; phthalocyanine pigments, such as chromophthal green are particularly useful (column 2, lines 24 to 34 and 43 to 46). The scouring cleanser composition comprises these coloured particles and in addition, inter alia, a bleaching agent, such as e.g. lithium hypochlorite and hypobromite (column 3, lines 10 to 23 in combination with column 3, line 44 to column 4, line 23, especially with column 3, last complete sentence). To ensure the solid character of the scouring compositions concerned, liquid detergents are incorporated after absorption upon e.g. diatomaceous earth (column 4, lines 35 to 40).

Thus, document (2) is solely related to solid compositions and contains no pointer with respect to the storage stability of metal phthalocyanine pigments in aqueous liquid compositions comprising hypohalogenite.

5.3.2 Document (3) discloses powdery scouring cleansers comprising 45 to 95 parts by weight of an abrasive, 0.1 to 50 parts by weight of an hypohalogenite liberating bleaching agent, 0.5 to 30 parts by weight of a water soluble organic detergent and 0.001 to 0.1 parts by weight of a colouring agent comprising a pigment, preferably a phthalocyanine pigment, in particular phthalocyanine green or phthalocyanine blue, and a carrier (Claim 1 in combination with column 3, lines 28 to 30 and column 4, lines 4 and 5). The colour of the pigments, which have to be stable in the presence of hypohalogenite liberating agents in the dry state as well as in the wet state, shall not be visible in the solid mixture but only on contact with water (column 3, line 61 to column 4, line 14).

The Appellant argued that the skilled man would have deduced from the requirement of the "stability in the wet state" that the respective pigments are also stable during storage in liquid aqueous compositions comprising hypohalogenite. However, in the Board's judgement, such "stability in the wet state" refers only to the stability during use and not during storage of that powder. This is confirmed by the passage in column 1, lines 61 to 67 which reads (in English translation):

"This means, that the preference for green, blue, and similar colours refers more to the application of the compositions than to their original state, which means that the colour should preferably directly result from the application of the product in water and not be a property of the product itself."

As the use of the powder, together with water, will last normally a few minutes only, before the treated surface is rinsed, prolonged stability of the pigment against hypohalogenite in the wet state was not necessary for the purpose of document (3). Therefore, it does not point to the solution claimed in the disputed patent.

5.3.3 Document (7) discloses alkaline granular dishwasher detergents containing 0.5% to 25% of an active chlorine-containing bleaching compound, such as, inter alia, sodium hypochlorite, calcium hypochlorite, or lithium hypochlorite, and 0.001% to 0.015% phthalocyanine green (column 1, lines 63 to 72, column 2, lines 28 to 52, especially lines 39 and 40, in combination with column 3, lines 1 to 22 and column 1, lines 30 to 33). The pigment was added to avoid confusing the dishwasher composition with other white granular products used in the kitchen (column 1, lines 30 to 35) and contains, according to the formula in column 3, 15 chlorine atoms per molecule.

Example VI in column 5 discloses in particular such a composition comprising, inter alia, 10% of calcium hypochlorite, 0.005% insoluble phthalocyanine green dye and about 43% "water of hydration and moisture." This example is one out of six which were intended to illustrate the compositions according to the invention disclosed in this citation (column 4, lines 1 to 5). Thus, in the Boards judgement, this example also refers to a granular product which, although perhaps being cloggy, can not at all be said to be a liquid aqueous composition. No experimental evidence to the contrary was provided by the Appellant.

It should be mentioned that "water of hydration" is normally bound to a central metal atom and is not available as a reaction medium mediating the contact of possibly incompatible agents such as the pigment and the hypohalogenite. Therefore, the Board is unconvinced by the Appellant's argument that, in view of the presence of water of hydration and of moisture, the skilled man would have deduced from document (7) that the highly halogenated phthalocyanine pigments would be storage stable in liquid aqueous compositions.

5.4 It follows from the above that the subject-matter of the present Claim 1 was not rendered obvious to the notional skilled person by the cited documents.

Dependent Claims 2 to 8 relate to particular embodiments of the subject-matter of Claim 1; they too involve an inventive step.

6. In respect to the Appellant's suggestion to consider whether or not the non-patentability of aesthetic creations according to Article 52(2)(b) EPC could have a

bearing on the present case, the Board comments as follows:

Article 52(2)(b) EPC excludes aesthetic creations from patentability. This category of non-technical inventions limits itself to an appeal to Man's feeling for colour and form and does not therefore involve any technical teaching. This is in complete contrast to compositions of substances - such as we have in this case - which are a technical means for solving a technical problem (cf. above paragraphs 4.2 and 4.3).

Hence, the present invention is not excluded from patentability under Article 52(2)(b) EPC.

Auxiliary Requests

7. The Respondent's main request being allowable, it is not necessary to deal with the Respondent's auxiliary requests 1 and 2.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

E. Görgmaier K. Jahn