

BESCHWERDEKAMMERN
DES EUROPÄISCHEN
PATENTAMTS

BOARDS OF APPEAL OF
THE EUROPEAN PATENT
OFFICE

CHAMBRES DE RECOURS
DE L'OFFICE EUROPEEN
DES BREVETS

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 24 June 1998

Case Number: T 0870/94 - 3.3.1

Application Number: 90309122.1

Publication Number: 0414476

IPC: C07D 491/107

Language of the proceedings: EN

Title of invention:
Process for the preparation of photochromic spiropyran
compounds

Applicant:
Matsushita Electric Industrial Co., LTD.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 109(1), 111(1)

Keyword:
"Claims substantially amended on appeal - remittal"
"Interlocutory revision - duty of examining division to
rectify"

Decisions cited:
T 0139/87, T 0063/86, T 0047/90

Catchword:
-



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 0870/94 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 24 June 1998

1

Appellant: Matsushita Electric Industrial Co., Ltd.
1006, Oaza Kadoma
Kadoma-shi
Osaka-fu, 571 (JP)

Representative: Cresswell, Thomas Anthony
J.A. Kemp & Co.
14 South Square
Gray's Inn
London WC1R 5LX (GB)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 20 June 1994
refusing European patent application
No. 90 309 122.1 pursuant to Article 97(1) EPC.

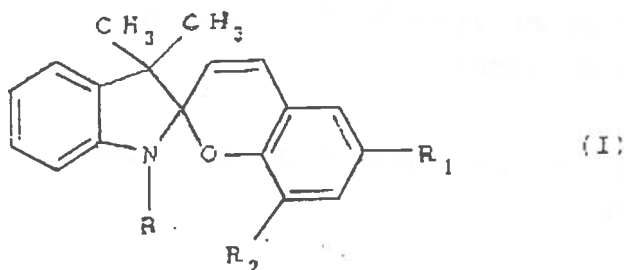
Composition of the Board:

Chairman: A. J. Nuss
Members: R. Freimuth
R. Teschemacher

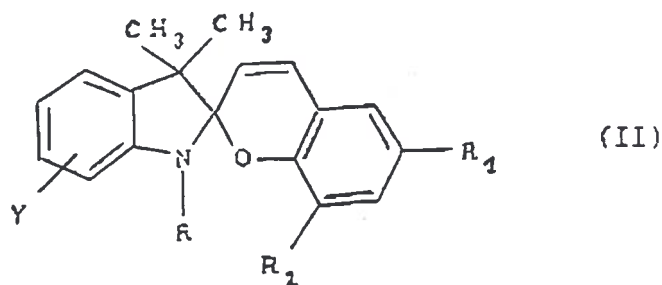
Summary of Facts and Submissions

- I. The appeal filed on 22 August 1994 lies from the decision of the Examining Division posted on 20 June 1994 refusing European patent application No. 90 309 122.1 (European publication number 414 476).
- II. The decision of the Examining Division was based on claims 1 to 11 as annexed thereto. Claim 1 read as follows:

"1. A process for preparing a photochromic halogenated spiropyran compound having a hydrophobic alkyl chain, which process comprises reacting a photochromic spiropyran compound of the following formula (I)



wherein R is an alkyl group of 6 to 22 carbon atoms, and R₁ and R₂ independently represent halogen, a ketoalkyl group of 2 to 18 carbon atoms, an alkoxy group of 1 to 18 carbon atoms, a nitro group, a halogen atom or an alkanoyloxymethyl group wherein the alkanoyl moiety has 1 to 22 carbon atoms directly with a halogenating agent to obtain a halogenated spiropyran photochromic compound of the following formula (II)



wherein R, R₁ and R₂ have, respectively, the same meanings as defined above and Y represents fluorine, chloride, bromine or iodine provided that one to four halogen atoms are substituted at the 4' , 5' , 6' and/or 7' position of the indoline ring."

III. The Examining Division held that claim 1 of the then pending request did not involve an inventive step in the sense of Article 56 EPC, having regard to the following documents:

- (1) Chemical Abstracts Vol. 88, ref. no. 105190 g (1978)
- (2) Chemical Abstracts Vol. 83, ref. no. 147466 d (1975)

More particularly, the Examining Division considered that the problem to be solved was to provide a further process to halogenate the phenyl moiety (left-hand side) of the spiropyran derivative of formula (I) using a halogenating agent. Considering documents (1) and (2), these already taught this halogenation reaction on the phenyl ring of spiropyran derivatives. Therefore the Applicant's argument oriented towards the drawbacks of the N-alkylation with a long alkyl group of a halogenated indoline, which is the precursor of the spiropyran derivatives, had nothing to do with the problem to be solved. The Applicant's further argument

that halogenated spiropyran were generally prepared by introducing in a first step a halogen atom into an indoline ring followed by the further processing steps to achieve spiropyran derivatives, appeared to be erroneous in view of documents (1) and (2).

IV. The Appellant (Applicant) submitted amended claims 1 to 6 with the Statement of Grounds of Appeal filed on 31 October 1994. Independent claim 1 as amended differed from that underlying the decision under appeal essentially in that the substituent Y was restricted to two bromine or chlorine atoms in the 5'- and 7'-positions and that the reaction featured the use of N-bromo/chlorosuccinimide as halogenating agent at a reaction temperature of about 25°C for 0.5 to 3 hours.

The Appellant objected that the decision under appeal was issued after only one previous communication. Although not being regarded as a substantial procedural violation sufficient to merit refund of the appeal fee, he submitted that such a refusal would not be fully in accordance with the requirements of Articles 113(1) and 96(2) EPC.

Having regard to the substantial issues, the Appellant submitted that the Examining Division considered only claim 1 of the then pending request in the decision to refuse the application. Amended Claim 1 filed with the Statement of Grounds of Appeal, however, combined claim 1 of the previously pending request with claims 2, 3, 5 and 6. As a consequence of this amendment the invention now concerned the selective insertion of two bromine or chlorine atoms at the 5'- and 7'-positions of the spiropyran derivative (I), trihalo- and tetrahalo-compounds not being produced. This selectivity was achieved due to the reaction of N-bromo/chlorosuccinimide at the specific temperature of 25°C for 0.5 to 3 hours with the spiropyran derivative

(I) having a large hydrophobic N-alkyl group. The Appellant argued that a person skilled in the art would not have predicted in advance that the process of the invention would exhibit such selectivity.

The Appellant submitted that document (1) disclosed a bromination process of spiropyrans having a N-methyl group and not a large N-alkyl group of 6 to 22 carbon atoms. The reaction was carried out in boiling CHCl_3 , i.e. 61.2°C , for 0.5 to 1 hour. These conditions gave monohalogenation at the 5'-position only and no substitution at the 7'-position. In contrast, according to the process of the present invention, substitution at both 5'- and 7'-positions was obtained at about 25°C . If the present process was conducted at 60°C a tetrahalogenated product would be formed. Furthermore document (1) contained no teaching regarding the reaction conditions to produce dihalo-spiropyrans. Thus, there would be nothing in this document which would have made it obvious to a person skilled in the art that the 5'- and 7'-substituted product with a hydrophobic N-alkyl group could be obtained at 25°C using the claimed process.

The Appellant stated that document (2) disclosed monohalo-spiropyran compounds and would teach nothing regarding the preparation of dihalo-compounds having large N-alkyl groups. Thus, the claimed subject-matter should be regarded as not obvious over document (2).

- V. The Appellant requested that the decision under appeal should be rectified under Article 109(1) EPC and the appeal be allowed. In the absence of an interlocutory revision, he requested that the Board of Appeal remits the case to the Examining Division for further prosecution. If neither of these requests were granted the Appellant requested subsidiarily that the Board of Appeal allows the application on the basis of the new

claims provided with the Statement of Grounds of Appeal. If the latter subsidiary request was not granted he made an auxiliary request that oral proceedings be held.

Reasons for the Decision

1. The appeal is admissible.

2. The decision under appeal dealt exclusively with the lack of inventive step of independent claim 1 of the then pending request and did not consider any of the dependent claims. The amendments made to independent claim 1 filed with the Statement of Grounds of Appeal, i.e. the incorporation of the features of dependent claims 2, 3, 5 and 6 and of page 8 lines 16 to 25 of the description into claim 1, has the effect that the reasons given for refusing the present application no longer apply. The Board considers that in the present case the amendments made by the Appellant are substantial in the sense that the assessment of inventive step has to be done on a new basis. In the Statement of Grounds of Appeal the Appellant has given supporting arguments in this respect, emphasising that the selectivity of the bromination/chlorination reaction, i.e. the insertion of exclusively two bromine/chlorine atoms at two very specific positions, is now the essential issue. According to established jurisprudence of the Boards of Appeal, an appeal is to be considered well founded if the Appellant no longer seeks grant of the patent with a text as refused by the Examining Division and if substantial amendments are proposed which clearly meet the objections on which the decision relies (see decisions T 63/86, OJ EPO 1988, 224; T 139/87, OJ EPO 1990, 68 and T 47/90, OJ EPO 1991, 486). Therefore the Examining Division should

have rectified the contested decision pursuant to Article 109(1) EPC. This would have avoided a substantial loss of time for the Appellant.

3. In these circumstances and in view of the Appellant having requested remittal, the Board exercises its power under Article 111(1) EPC to remit the case to the Examining Division for further prosecution.
4. The Board has taken note of the Appellant's remark that although he does not regard the contested decision to be fully in accordance with Articles 113 and 96 EPC, no substantial procedural violation meriting refund of the appeal fee occurred. The Board sees no reason to deal with this matter any further. Nevertheless, the Board takes the opportunity to emphasise that the refusal of an application after one communication does not constitute a breach of Articles 113(1) and 96(2) EPC in cases where the objections raised in that communication remain (see Case Law of the Boards of Appeal of the EPO, 1996 edition, VI.C.3.2).
5. The Board has noticed the issues outlined below as needing consideration when resuming examination proceedings.

Features from the description have been taken up in newly introduced claim 2. The claim now refers to a two-step process, the first step being conducted at 0°C introducing the first bromine/chlorine atom followed by the second at 25°C introducing the second bromine/chlorine atom. It would seem advisable to examine whether or not this claim meets the requirements of Article 123(2) EPC since the basis in the application as filed for this specific sequence of

steps has not yet been indicated; particularly the second step, i.e. the introduction of the second bromine/chlorine atom into a compound already containing one, would seem to require closer examination.

The document EP-A-411 885 has come to the attention of the Board. It appears sensible to examine whether or not this document, which belongs to the state of the art according to Article 54(3) EPC, is relevant to the assessment of novelty.

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 for further prosecution.

The Registrar:


E. Görgmeier

The Chairman:


A. Nuss

