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Aktenzeichen / Case Number / N^o du recours : T 372/86

Anmeldenummer / Filing No / N^o de la demande : 82 201 427.0

Veröffentlichungs-Nr. / Publication No / N^o de la publication : 0 075 377

Bezeichnung der Erfindung: Diphenyl ether compounds, their use as herbicides,
Title of invention: and herbicidal compositions containing them
Titre de l'invention :

Klassifikation / Classification / Classement : C 07 C 149/40

ENTSCHEIDUNG / DECISION
vom / of / du 18 December 1987

Anmelder / Applicant / Demandeur : ICI PLC

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPO / EPC / CBE Art. 56

Kennwort / Keyword / Mot clé : Inventive step (yes) - intermediate to be used
in standard process for making patentable end
product; contribution to structural
differentiation

Leitsatz / Headnote / Sommaire

Europäisches
Patentamt

Beschwerdekammern

European Patent
Office

Boards of Appeal

Office européen
des brevets

Chambres de recours



Case Number : T 372/86

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 18 December 1987

Appellant : IMPERIAL CHEMICAL INDUSTRIES PLC
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GB

Representative : Downes, John Edward
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Decision under appeal : Decision of Examining Division 004
of the European Patent Office
dated 30 May 1986 refusing European
patent application No. 82 201 427.0
pursuant to Article 97(1) EPC

Composition of the Board :

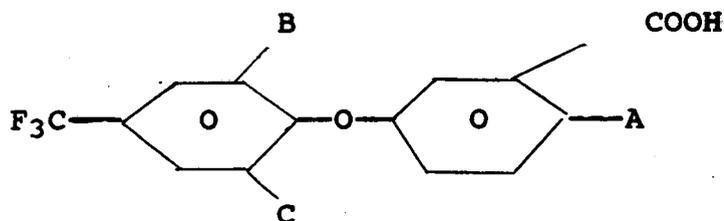
Chairman : K. Jahn
Members : F. Antony
E. Persson

Summary of Facts and Submissions

- I. European patent application No. 82 201 427.0 is a divisional application from the parent application No. 80 302 211.0 (now granted as EP-B-0 023 392), filed on 1 July 1980 and claiming British priorities of 18 July 1979 (two applications), 8 November 1979, 15 November 1979 and 12 February 1980. The former application was refused by decision of the Examining Division 004, dated 30 May 1986.

The decision was based upon a single claim, filed 15 March 1985, which the contested decision cites, in simplified form, as follows:

"Compounds of the formula (I):



wherein A is methyl or trifluoromethyl;
B is fluorine or chlorine; C is hydrogen, chlorine or fluorine; and salts, esters and amides thereof."

- II. The decision to refuse the application was on the ground of lack of inventive step, and was based on the following documents:

- (1): FR-A-2 256 142,
- (2): FR-A-2 372 791,
- (3): FR-A-2 310 092.

The reasons were essentially as follows: The intermediates of the present divisional application contained the whole structure of the final product with the exception only of the sulphonamido side chain, which substantially differentiates the end products from the prior art, not only from a structural point of view but also by bringing about a surprising effect.

The main structural differences from the compounds of the prior art lay in the meaning of the substituent A. However, from the prior art, the skilled man could deduce that the said substituent could be varied while expecting the herbicidal effect to be maintained. The substituent A therefore did not appear to be an immovable structural characteristic which has to be present to obtain a given effect.

The Examining Division expressed the view that the present compounds could not derive inventivity from the fact that they are used to prepare inventive "subsequent products", because it is was not deducible from the file that the variation of the A substituent has had an unforeseeable advantageous effect on the processes for preparing the subsequent products.

III. A notice of appeal was filed by the Appellants against the decision on 29 July 1986 and the appeal fee was duly paid. The statement of grounds for appeal submitted on 20 September 1986 runs essentially as follows:

Compounds for use as intermediates would not contain all the structural elements of the final product. To say that

they must contain elements which contribute to the activity of the final product would provide an arbitrary restriction on patent protection. Moreover, the nature of the A group was not unimportant and the fact that a large number of groups can be included at this position did not mean that any group can be used.

Until the presence of the novel and inventive final products was known there was no reason why the skilled man would consider the compounds of the present invention to be obvious.

- IV. The Appellants request that the decision under appeal be set aside and, in effect, that a patent be granted on the basis of Claim 1 submitted on 15 March 1985.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is therefore admissible.
2. There is no formal objection to the present claim, it being supported by the original documents (in the present application: original Claim 1; in the parent application as filed: page 4, lines 16 to 28, read in conjunction with page 12, lines 1 to 3, and Claim 7).
3. The application-in-suit relates to certain substituted diphenyl ether carboxylic acids. These are suitable for the preparation of some of the sulphonamido derivatives of the patent into which the parent application matured, viz. EP-B-0 023 392 (in that patent the definition of the

substituents - and particularly of A -is much broader). These sulphonamido derivatives have unexpected herbicidal properties compared to the known class of carboxylic acids from which they are derived.

4. None of the specific compounds covered by formula (I) is disclosed by the cited prior art. The claimed subject-matter is thus novel. The novelty being undisputed, no detailed discussion thereof is necessary.
5. It has thus to be examined whether the claimed subject-matter involves an inventive step.
 - 5.1. While the Appellants had originally disclosed a herbicidal activity of the claimed class of compounds, they are not relying on this activity for establishing an inventive step.
 - 5.2. The sulphonamido derivatives of EP-B-0 023 392 are obtained from the intermediates of the application-in-suit by a 2-steps standard process; more particularly, by converting the carboxyl group to the corresponding carbonyl chloride which is then reacted with an alkanesulphonamide (cf. EP-A-0 023 392, page 15, Scheme A). The claimed intermediates are thus not used in an inventive process upon which their patentability could be based (cf. the decision T 22/82, "Bis-epoxy ethers", OJ EPO 9/1982, 341).
 - 5.3. On the question of an inventive step being involved in intermediates taking part in standard processes for the preparation of patentable "subsequent products", the Board has already put forward the view in decision T 65/82, "Cyclopropane/Bayer", OJ EPO 8/1983, 327 essentially as follows: There is the first prerequisite that the intermediates should make a structural contribution to the

subsequent products; a further condition particularly relevant in the present case is that the structural contribution provided by the intermediates should display at least one of those features which differentiate the subsequent products from the known compounds in the prior art. The above-required structural contribution should therefore be a contribution to the structural differentiation.

5.4. In the present case, "subsequent products" relevant for judging the patentability of the application-in-suit can only be compounds structurally corresponding to the claimed intermediates (i.e. those compounds of formula II of EP-B-0 023 392 in which A is methyl or trifluoromethyl; B is fluorine or chlorine; F is hydrogen, chlorine or fluorine, C and E are both hydrogen and D is trifluoromethyl, as represented by compound No. 20, Table I, page 5, and by compound No. 37, Table I, page 7). These "subsequent products" are differentiated from the prior art compounds of (1) and (2) in two respects:

- (a) by the presence of a substituted sulphonamido group instead of a carboxyl group;
- (b) by the definition of the substituent A (halogen in (1), cf. page 1, lines 12-19; nitro in (2), cf. page 2).

5.5. In the parent application, the Examining Division recognised the inventive step of the subsequent products on the basis of comparative tests indicating better herbicidal properties of certain sulphonamido derivatives of the type claimed over their carboxyl analogues (cf. Communication of 27.11.81, page 2, item 4). Evidence was submitted only for such compounds in which A is nitro or halogen, but the Examining Division saw no

reason to doubt that the whole class of compounds shows the inventive property. This position cannot be faulted. Nevertheless, one cannot conclude that the definition of A is completely irrelevant and that the inventive properties derive exclusively from the presence of the sulphonamido group. The fact that a large number of groups may substitute the respective ring position without loss of the envisaged effect does not mean that just any group can be used; in other words, the properties of a compound are the result of its whole structure and not only of a part of it, in particular the result of, inter alia, the sulphonamido group and the substituent A as defined.

Both, the sulphonamido and the A-group differentiate the subsequent products from the prior art. While the intermediates of the application-in-suit do not contain the sulphonamido group, they do contain the appropriate A-group. Hence they do display "at least one" of the differentiating features and do contribute to the structural differentiation.

- 5.6. As the Board cannot see any other facts in the prior art which would indicate otherwise, nor did the decision under appeal mention any such other facts, the subject-matter of the application-in-suit must be considered to involve an inventive step.

Order

For these reasons, it is decided that:

1. The impugned decision of the Examining Division is set aside.

2. The case is remitted to the Examining Division with the order to grant a patent on the basis of Claim 1 filed on 15 March 1985, with a description yet to be adapted.

The Registrar



J. Rückerl

The Chairman



K. Jahn

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30.12.87