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Aktenzeichen / Case Number / N° du recours : T 353/86 - 3.2.2

Anmeldenummer / Filing No / N° de la demande : 80 200 621.3

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Bezeichnung der Erfindung: Biocide dispenser and method of applying biocide to
Title of invention: a surface
Titre de l'invention :

Klassifikation / Classification / Classement : A01M 1/20, A01M 1/24

ENTSCHEIDUNG / DECISION

vom / of / du 20 October 1988

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Shell Internationale Research
Maatschappij B.V.

Einsprechender / Opponent / Opposant :

OPPO 1: Henkel Kommanditgesellschaft auf
Aktien

OPPO 2: Firma Joh. Alex. Niernsee

OPPO 3: Celamerck GmbH & Co. KG

(SHELL AGRAR GmbH Co. KG).

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé :

"Inventive step (no)" - "person skilled in the art" - "the combination of features only gives rise to the already known advantages of each of the constituent features".

Leitsatz / Headnote / Sommaire

Europäisches
Patentamt

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Beschwerdekammern

Boards of Appeal

Chambres de recours



Case Number : T 353/86 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 20 October 1988

Appellant :
(Opponent 2)

Firma Joh. Alex. Niernsee
Bräuhausgasse 68-74
A-1050 Wien (AT)

Representative :

Itze, Peter, Dipl.-Ing.
Patentanwälte Dipl.-Ing. Leopold Friebe
Dipl.-Ing. Peter Itze
Amerlingstrasse 8
A-1060 Wien (AT)

Party as of right :
(Opponent 1)

Henkel Kommanditgesellschaft auf Aktien
Henkelstrasse 67
D-4000 Düsseldorf 13 (DE)

Representative :

Veldhuijsen, Frans
Nederlandsch Octrooibureau
Johan de Wittlaan 15
P.O. Box 29720
NL-2502 LS Den Haag (NL)

Respondent :
(Proprietor of the patent)

Shell Internationale Research Maatschappij B.V.
Carel van Bylandtlaan 30
NL-2596 HR Den Haag (NL)

Representative :

Decision under appeal :

Interlocutory decision of the Opposition Division of
the European Patent dated 13 August 1986 concerning
maintenance of European patent No. 0 022 592 in
amended form.

Composition of the Board :

Chairman : K. Stamm

Members : C. Andries

W. Moser

Summary of Facts and Submissions

- I. European patent No. 22 592, comprising four claims, was granted on 28 September 1983 on the basis of European patent application No. 80 200 621.3 filed on 30 June 1980.
- II. The Appellants (OPPO 2, OPPO 3) as well as a party (OPPO 1) to the appeal proceedings as of right (cf. Article 107 EPC) filed notice of opposition to the European patent requesting its revocation. The opposition was mainly based on the following documents:
- D I-1 : GB-A-898 669;
- D II-1 : Seifensieder-Zeitung; Augsburg, 25 Juni 1931; Nr. 26; page 432; number 520 "Flygrid";
- D II-2 : K.H. BÜCHEL "Pflanzenschutz und Schädlingsbekämpfung", 1977, Georg Thieme Verlag Stuttgart; 2.1.2.2 Synthetische Analoga;
- D II-4 : "Permethrin", published by The Wellcome Foundation Ltd; 1977; Residual activity against major insect pests: 1. Houseflies-Musca domestica;
- D II-9 : AT-B-320 337;
- D II-10 : FR-A-1 537 911;
- D III-2 : Leaflet "TUGON-Fliegentod", Bayer Pflanzenschutz, Leverkusen, August 1976;
- D III-3 : Leaflet "Ruhe im Stall durch Nexa Fliegen

Streich", Cela, Ingelheim/Rh;

D III-4 : US-A-4 133 614.

III. By interlocutory decision dated 13 August 1986, the Opposition Division maintained the patent as amended by the Respondent (proprietor of the European patent).

The valid independent Claims 1 and 2 read as follows:

"1. A dispenser for use in providing insecticidal protection on a surface of a structure or object, which comprises a reservoir containing a fluid or semi-fluid formulation of a pyrethroid insecticide, said reservoir having an outlet orifice which is closed by a plug composed of a porous material, of such a size and nature that when the dispenser is drawn over said surface with said plug in frictional contact therewith, it releases said formulation onto said surface to form a single thin, relatively narrow line thereof on said surface."

"2. A method of providing insecticidal protection on a surface of a structure or object, which comprises drawing the plug of a dispenser as claimed in Claim 1 over said surface in frictional contact therewith, so as to form a single thin, relatively narrow line of a formulation of a pyrethroid insecticide on said surface."

IV. The Appellants lodged an appeal against that decision respectively on 4 October and 10 October 1986, paying the appeal fee in due time and requesting that the decision under appeal be set aside and the patent revoked. In his statement of grounds, filed on 5 December 1986, one of the Appellants (OPPO 2) raises the following objections:

- The subject-matter of Claims 1 and 2 is neither novel, nor does it involve an inventive step; and
- The European patent does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

The other Appellant (OPPO 3) filed his statement of grounds on 11 December 1986, but withdrew later on from the appeal proceedings. Thus, there remained only one Appellant (hereinafter: the Appellant).

- V. The Respondent contested the above arguments and requested that both appeals be dismissed, and the European patent be maintained in its present scope (main request). He furthermore filed five additional sets of claims forming the basis for five auxiliary requests aimed at maintaining the European patent in an amended form in case his main request should be rejected.
- VI. In an annex to the summons to the oral proceedings, the Board drew the attention of the parties to the cited documents (cf. point II above), with the exception of document D II-9.
- VII. During the oral proceedings held on 20 October 1988, at which the party to the appeal proceedings as of right, although duly summoned, did not appear (cf. Rule 71(2) EPC), both the Appellant and the Respondent maintained their respective requests and repeated in essence the arguments already previously set forth.

In particular, further to the documents cited in the annex to the summons to the oral proceedings, the Appellant drew the attention to document D II-9.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rules 1(1) and 64 EPC; it is therefore admissible.
2. Since, in the Board's view, the subject-matter of the claims pursuant to the main request as well as the various auxiliary requests does not involve an inventive step (cf. points 3.2, 4.1 and 4.2 hereinafter) and, consequently, the European patent in suit has to be revoked, it is not necessary to examine whether there exist any formal objections to the present claims and description and whether the European patent in suit should also be revoked on the basis of Article 100(b) EPC in conjunction with Rule 66(1) EPC.

3. Main request

3.1 Novelty

None of the cited documents discloses respectively a reservoir filled with a pyrethroid-formulation as defined in Claim 1 and a method of applying said pyrethroid-formulation with the help of this reservoir to a surface of a structure or object.

The subject-matter of Claims 1 and 2 is therefore to be considered novel within the meaning of Article 54 EPC.

3.2 Inventive step

- 3.2.1 According to the description of the European patent in suit, it is known to apply insecticide formulations to the surfaces of structures and objects. To this end,

different devices and techniques are used, all of which have in common the inconvenience of giving rise to the application of relatively large amounts of the formulation to the surface to be treated.

- 3.2.2 The problem to be solved has to be determined in consideration of the objectively ruling state of the art (cf. T 248/85; OJ EPO, 1986, 261).

Applying an insecticide to a surface is known from document D II-1 (Flygrid zur Fliegenbekämpfung). In this document, which in the view of the Board contains the closest prior art, it is taught that the insecticide is brushed (aufgestrichen) to the locations in a room where flies like to come. Implicitly (due to the use of "Pyrethrumblüten"), for a skilled person it is disclosed in this document that the insecticidally effective substance of the used product is pyrethrum which has, as had already been known at the date of priority of the European patent in suit, a low toxicity for warm-blooded beings.

- 3.2.3 With respect to this closest prior art, the problem to be solved may be defined as searching for a better way of controlling flies in a room. This general statement was also put forward by the Respondent during the oral proceedings, having in mind, however, all possible ways of using an insecticide, e.g. fly papers, strips, contact insecticides, etc.

It is the normal task for the person skilled in the art to search for improvements, so that the perception of the problem as indicated above does not bring about any contribution to the inventiveness of the solution.

The Board cannot follow the Respondent's view that the skilled person relevant in the present case is solely a specialist in the technical field of insecticides, without any knowledge as regards their application. Quite the reverse, the here relevant skilled person is also expected to have a good knowledge of the general technical field of "applying fluid to a surface"; in other words: the application of substances to be used also belongs to his normal knowledge.

- 3.2.4 A person skilled in the art, starting from document D II-1 and searching to improve the controlling of flies in a room, would try to find an effective insecticide and an appropriate manner to apply it to the preferred locations in a room.
- 3.2.4.1 It is common knowledge in the technical field of insecticides that pyrethrum is a naturally occurring insecticide, that the mixed active constituents of pyrethrum are natural pyrethrins and that, starting from the knowledge of the structure of the pyrethrins, pyrethroids have been synthetically produced in such a manner that the qualities or advantages of pyrethrum (e.g. low toxicity with respect to the human operator) have been preserved. Its knock-down capacities, however, as well as its stability to the action of light have been improved considerably with respect to the known pyrethrins (cf. document D II-2: paragraph 2.1.2.2, first paragraph and right-hand column; document D II-4: permethrin is two to seven times more active than DDT, lindane, diazinon and fenitrothion).

Therefore, the Board takes the view that, contrary to the opinion expressed by the Respondent during the oral proceedings, it is not correct to assume that pyrethrum

and pyrethroid are completely different types of insecticides.

A person skilled in the art finds in the prior art documents indications that permethrin fulfills the most important requirements for insecticides to be used in a room. Indeed, due to its low toxicity for warm-blooded beings, human beings are not endangered by it. On the other hand, effectiveness of this insecticide is prolonged because of its stability to the action of light; and it is most effective (good "knock-down" effect) against flies. Furthermore, it is obvious for a skilled person that permethrin can be used as a formulation, in particular since in document D II-4 it is indicated that permethrin may be applied to plywood as a solution. The fact that permethrin can also be used in the form of a wettable powder (document D II-4) cannot exclude its obvious use in the form of a solution.

The idea of using permethrin (which is a pyrethroid) as an insecticide to control flies in a room does therefore not involve an inventive step, in particular since it is the normal routine task of a skilled person to look around in his technical field, to examine the different possibilities known from the prior art and to take into consideration the last developments before the priority date, especially if such developments clearly indicate the excellent qualities of permethrin as an insecticide against flies.

- 3.2.4.2 The person skilled in the art knows that, provided a much more efficient insecticide is applied, the required amount of this substance may be reduced. It is normal practice for a skilled person to find out by trial the appropriate amount of a specific insecticide for the

purpose involved (stall, kitchen, living room, etc.) by taking into consideration, among others, the specific situation, the effectiveness of the insecticide, etc.

- 3.2.4.3 The part of the problem, which remains to be solved, consists in how to apply the small amount of permethrin to a surface without applying too much of it.
- 3.2.4.4 The person skilled in the field of applying fluids to a surface knows that insecticides can be applied on a surface where flies like to come (cf. documents D II-1, D III-2, D III-3 and D-II-9) and that such an application can be realised by a dispenser having a reservoir and a porous closing member (cf. documents D I-1 and D III-4).

It is obvious for a skilled person that it is possible to draw a line with a dispenser according to document D III-4, particularly since not only insecticides but also inks or paints may be applied with such a dispenser to the surface areas (column 1, lines 5 to 12). Furthermore, no limitations are made regarding the nature of the insecticide used in the dispenser.

It is clear for the skilled person that such dispenser-types have the advantage of rendering possible the application to a given surface of a small amount of a fluid in the form of a relatively thin line when they are drawn over that surface (cf. document D II-10: page 1, right-hand column, second paragraph) thereby avoiding the application of large amounts of liquid, so that it seems to be quite natural that his attention should rather be drawn to this kind of dispensers if only small amounts have to be applied.

Consequently, the combination of permethrin as insecticide and of the dispenser according to document D II-10 as a means of applying permethrin to a surface does not involve an inventive step because it only gives rise to the already known advantages of each of the constituent parts (dispenser, pyrethroid) which jointly contribute to the product as defined in the independent Claim 1 without showing any unexpected effects. Indeed, owing to its own constructional features, the dispenser allows the application of thin lines, whereas the qualities of permethrin cause the effective controlling of flies in a given room.

- 3.2.4.5 A person skilled in the art aiming at an improved control of flies in a room finds in the prior art a very effective insecticide (permethrin) which enables him to reduce the amount to be applied, so that for the application means his attention is quite naturally drawn to a device (dispenser according to document D II-10) which makes possible a controlled application of said insecticide in the form of a thin line.

Consequently, to suggest the use of a known dispenser type comprising a reservoir, filled with permethrin (pyrethroid) known as an excellent insecticide, and a closing porous plug, constitutes a solution which is obvious for the skilled man.

Thus, the subject-matter of Claim 1 does not involve an inventive step (Article 56 EPC), and the further arguments of the Respondent discussed hereinafter (cf. point 3.2.4.6) do by no means induce the Board to alter its view in this respect.

- 3.2.4.6 The fact that the product according to documents D III-2 and D III-3 is used in larger amounts on places where

flies like to come does not lead a skilled person away from considering to apply permethrin with the help of a dispenser as claimed, since these relatively larger amounts are due to the fact that there another kind of insecticide is used in view to cope with another concentration of flies (which occurs in a stall). On the contrary, a skilled person is able to find in these documents as well as in document D II-1 indications that, in contrast to the Respondent's opinion, localised deposits of an insecticide, applied with the help of a brush (D III-3: in the form of 3 cm large stripes), provide effective control of the flies.

The arguments that considerable commercial success has been obtained and that, after the claimed dispenser had been put on the market, imitative products began to appear, cannot by themselves overcome the reasons why, in the present case, there exist a lack of inventiveness. Even if it may be assumed that the filled dispenser according to Claim 1 constitutes an easily usable device, the fact none the less remains that it is obvious for a skilled person to use such a dispenser in order to apply permethrin to a surface.

The argument, put forward by the Respondent, that it is only possible to arrive at the claimed subject-matter by means of an ex-post facto analysis is not convincing since it is normal that a skilled man should try to use the newest developments in the field of pyrethrins and pyrethroids in order to improve the control of flies in a room. Only a relatively short time before the priority date of the European patent in suit, pyrethroids with enhanced stability to the action of light were produced. The hitherto used pyrethrins had been highly unstable in this respect which represented a disadvantage as regards their application. Given these new developments, a

skilled person would be inclined to examine by trial how effective the pyrethroids are and, in view to be effective, what quantity of these substances should be applied on a surface.

Although a lot of emphasis has been placed by the Respondent on the fact that the application on a window of a single, simple line of a pyrethroid insecticide is sufficient to control the flies in a room, it should be kept in mind that the subject-matter of Claim 1 is restricted neither to such a precisely defined line, nor to the application of a line of a pyrethroid insecticide on a window. On the contrary, the subject-matter of Claim 1 only implies that there should be provided the possibility to produce such thin, relatively narrow lines on surfaces in general, i.e. not only on windows.

The dispenser as claimed, although producing a single line when drawn over a surface, does not exclude, however, the use of a large number of lines on a surface (cf. example 3 in the description of the European patent: two adjacent lines), so that it becomes clear that the filled dispenser as such does not limit the amount of pyrethroid used by a person. It is rather the manner the dispenser is used (number and length of the lines drawn, pressure with which the dispenser is pushed against the surface to be protected, etc.) as well as the composition of the formulation which influence the amount of pyrethroid applied on a surface. It can therefore not be agreed that, as stated by the Respondent during oral proceedings, the inventive idea consists in the reduction to a critical minimum of the area where pyrethroid is applied, since such a critical area is not determined by the filled dispenser as defined in Claim 1.

Furthermore, the claimed filled dispenser has no constructional limitations with respect to the application on a window. Without taking into account the content of the claim, and only by considering the prior art, it is however clear that one of the obvious methods of using insecticides consists in the application of these substances on surfaces where insects like to come (cf. documents D III-3, D III-4, D II-1 and D II-9); the latter including of course windows as indicated in documents D III-3 and D II-1.

The fact, as put forward by the Respondent, that the use of the claimed dispenser is an extremely effective method of controlling flying insects in the home over a long period is, according to the Board, only the result of the used pyrethroid which is a highly active insecticide and which shows a high stability to the action of light, so that it remains effective during a long period. In contrast to that, the manner according to which the pyrethroid is applied on a surface is of minor importance as regards its effectiveness.

- 3.2.5 Since, for the above reasons, the filled dispenser as claimed in Claim 1 does not involve an inventive step, the method of applying a pyrethroid on a surface as defined in Claim 2, which consists in using the dispenser according to Claim 1, cannot be considered to be inventive either (Article 56 EPC).for the above reasons.

- 3.3 Since both Claims 1 and 2 fail to cover subject-matter involving an inventive step within the meaning of Article 56 EPC, and, consequently, are unallowable (cf. Article 52(1) EPC), the main request of the Respondent has to be rejected.

4. Auxiliary requests

4.1 Both Claims 1 of the first and second auxiliary set of claims repeat in substance the content of Claim 2 of the main request, so that, as already indicated above, the subject-matter of the these Claims 1 does not involve an inventive step (Article 56 EPC).

4.2 The third, fourth and fifth auxiliary sets of claims correspond respectively to those of the main request and to the first and second auxiliary requests, with the only difference that the pyrethroid insecticide is selected from permethrin, cypermethrin and fenvalerate. As indicated above, permethrin was considered to be an obvious choice in view to improve the control of flies in a room, so that the same argumentation with respect to inventiveness can be adopted here.

Therefore, the subject-matter of the claims belonging to the third, fourth and fifth sets of claims does not involve an inventive step either (cf. Article 56 EPC).

4.3 For these reasons, the auxiliary requests of the Respondent have to be rejected too.

5. For the reasons set out above, the subject-matter of all the proposed claims does not involve an inventive step within the meaning of Article 56 EPC. Consequently, the patent cannot be maintained in any of the proposed forms; consequently, the patent has to be revoked.

Order

For these reasons, it is decided that:

1. The interlocutory decision of the Opposition Division is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

S.Fabiani

K.Stamm