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Aktenzeichen / Case Number / N^o du recours : T 69/89 - 3.3.1

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Bezeichnung der Erfindung: Disinfecting and sterilizing compositions
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : A01N 59/00

ENTSCHEIDUNG / DECISION
vom / of / du 23 April 1990

Anmelder / Applicant / Demandeur : Surgikos, Inc.

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence : Disinfection/SURGIKOS

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé : "Inventive step (yes, after amendment)" -
"common general knowledge"

Leitsatz / Headnote / Sommaire



Case Number : T 69/89 - 3.3.1

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

Appellant : Surgikos, Inc.
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Decision under appeal : Decision of Examining Division 001
of the European Patent Office
dated 29 November 1988 refusing
European patent application
No. 86 309 914.9 pursuant to
Article 97(1) EPC

Composition of the Board :

Chairman : K. Jahn
Members : R. Spangenberg
G. Paterson

Summary of Facts and Submissions

- I. On 18 December 1986 the Appellant filed European patent application No. 86 309 914.9 claiming priority of 19 December 1985 of an earlier application in Great Britain.
- II. By a decision dated 29 November 1988 the Examining Division refused the application because the claimed subject-matter did not involve an inventive step for the reasons given in the communication of 25 August 1988. This decision was based on Claims 1 to 12 received on 21 May 1988. The independent Claim 1 reads as follows:

1. A method of disinfecting a spillage of a proteinaceous liquid, comprising scattering on such a spillage a powdered or granular effervescent composition containing a source of available chlorine.

Further independent claims were directed to a corresponding pack and kit.

In the communication of 25 August 1988 reference was made to

- (1) GB-A-1 165 098 and
- (2) Chem. Abstr. Vol. 102 (1985), page 363, abstract No. 12381n

which disclose the effervescent compositions used in the claimed method, but not their direct use for disinfecting liquid spillages of a proteinaceous liquid and their use in the form of packs and kits. However, such direct use was regarded as obvious, especially since it was well known to

those skilled in the art that proteins are denatured and thereby solidified when contacted with, e.g. air or a rather aggressive chemical substance such as that contained in the effervescent compositions mentioned in Claim 1. It was further stated that also the effect of solidification with simultaneous effervescence, resulting in a material which is rather powdery or granular instead of compact and sticky, was not unexpected in view of the common general knowledge.

III. On 9 December 1988 the Appellant lodged an appeal against this decision and paid the appropriate fee. The Notice of Appeal also contained a statement of grounds therefor. It was contested that (1) made available to the end user effervescent compositions containing a source of available chlorine in dry powdered or granular form. Moreover, it was submitted that the advantages of the envisaged use of these compositions were identified by ex-post-facto analysis. The coagulation of blood spillages by the claimed method was not comparable with the natural coagulation of blood, which only leads to an increase in viscosity but not to the production of a solid material. Furthermore, there was no "common knowledge" that the use of an effervescent substance would cause a thus solidified blood spillage to be more manageable. Reference was made to the decision T 21/83 (of 6 April 1984, Technical Board of Appeal 3.3.1) wherein it was held that an objection of lack of novelty could not be based on an Examiner's personal knowledge not supported by a document. It was submitted that no lesser standard should apply to objections under Article 56 EPC. The Appellant contended that the remarkable commercial success of the claimed method should be regarded as a clear consequence of its technical advantages since it is mainly applied by hospitals who cannot easily be influenced by publicity or advertising. Even if, therefore, the claimed subject-matter involved only a small step from the prior

art, this step should nevertheless be regarded as inventive.

- IV. By a communication of the Board, the Appellant's attention was drawn to

(2a) JP-A-59 155 311

referred to in (2) and an English translation of its introductory part.

- V. In a response to this communication, dated 1 March 1990, the Appellant contested the objections raised in the communication, and filed new Claims 1 to 6 as an auxiliary request. The only independent Claim 1 of this request reads as follows:

"A method of disinfecting a spillage of blood, comprising scattering on such a spillage a powdered or granular effervescent composition containing a source of available chlorine."

He requested that the decision under appeal be set aside and a patent be granted either on the basis of the documents identified in the Appellant's letter of 20 May 1988, page 3, lines 23 to 31, or those submitted on 2 March 1990.

Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 EPC as well as Rule 64; it is, therefore, allowable.

2. The claims according to both requests are not open to objections under Article 123(2) EPC. Claim 1 of the main request differs from the text as filed in that the expression "liquid spillage" is replaced by "spillage of a proteinaceous fluid". According to the auxiliary request, this expression is replaced by "spillage of blood". Both amendments are justified by the description as filed, page 2, lines 27 to 31. The other claims remained unchanged.
3. The novelty of the claimed subject-matter has not been disputed by the Examining Division. The Board is satisfied that this finding is correct also with respect to the content of (2a) which contains more detailed information than the corresponding abstract (2).
4. The basic issue in this appeal is the question of inventive step. As set out in the description, the usual way of disinfecting and removing spillages of blood or other body fluid, especially in hospital casualty departments, wards, operating rooms, and laboratories, involved blotting up the free liquid with paper towels, washing the contaminated surface with a disinfectant composition and then blotting up the residue. More recently, it had also been proposed to decontaminate spillages of body fluids simply by scattering a bacteriostatic powder thereover. A bacteriostatic powder, said to contain calcium hypochlorite as the disinfectant agent, was available commercially for this purpose. This known bacteriostatic powder contained an inert filler, so that it was capable of absorbing, at least to a limited extent, the fluid to which it was applied. This was said to facilitate subsequent disposal of the decontaminated spillage.

The Appellant found this latter method insufficient essentially for three reasons. First, it was necessary to

use the generally inert, bulk-forming materials which are present in the commercially available disinfectant powder referred to above. Such bulk-forming materials had some absorbent properties, but the individual filler particles remained essentially discrete, even when saturated with blood. This meant that the saturated mass, while being relatively solid, was friable and non-coherent. Second, the filler particles were insoluble in water, with the result that it was very difficult to pick them up from a damp surface, even using a wet cloth. Third, the thorough mixing of the chlorine-generating composition with the blood, for complete inactivation of infectious agents was difficult to achieve.

5. However, the technical problem underlying the application according to the main request cannot be seen in improving the said known method, since Claim 1 of this request is in no way limited to the disinfection of spillages which typically are only occurring in hospitals but relates to a method of disinfecting proteinaceous liquids in general. Such fluids, however, require disinfection also in normal household circumstances, especially kitchen and bathroom maintenance. Consequently, with respect to the main request, the known method referred to in the description cannot be the closest prior art.

6. While document (2a) does not specifically mention the disinfection of proteinaceous liquids, in the Board's judgement such method is clearly implied by the sterilisation of kitchen or bathroom articles because proteinaceous liquids are common contaminants of such articles. It may be inferred from the disclosure of (2a) (paragraph 1), that the normal use of the effervescent granules is to dissolve them in water and use this solution for sterilisation. Indeed, such a procedure is, among

others, expressly recommended for the sterilisation of walls or floors (paragraph 2).

With respect to this prior art, the technical problem underlying the application according to the main request may therefore be seen in proposing an alternative method of applying the granules disclosed in (2a) for the same purpose.

7. The solution of this problem according to the application in suit essentially consists in avoiding the predissolution of the granules and directly scattering them into the fluid to be disinfected.

In the communication of 25 August 1988, the Examining Division has stated that it was obvious to use such effervescent compositions directly as granules or powder if they are applied to a liquid spillage. Since no document is cited in support of this statement, it must be inferred that the Examining Division reached this conclusion on the basis of common general knowledge.

In the Statement of Grounds of Appeal, the Appellant has not in fact produced any counter-arguments against this finding. He only argued that the specific advantages relating to the direct application of the effervescing composition to blood spillages had been identified by the Examining Division with the benefit of hindsight and that (1) does not disclose the direct use of granules or powders, even for producing a solution, but only for the manufacture of tablets. Both arguments, however, are not relevant for the present considerations, because on the one hand, the Appellant has never alleged that the specific advantages relating to the disinfection of spillages of blood, i.e. a relatively concentrated proteinaceous liquid with unique properties, would also be obtained in the

sterilisation of spillages of other liquids which may only contain minor amounts of proteins, nor has he produced any evidence or argument in this respect. Therefore, these specific advantages need not be considered in the present context. On the other hand, from document (2a), the use of these effervescing granules for household purposes like sterilisation or deodorisation including "general household bathwater purifiers" (paragraphs 1 and 2) is known. For this application, a housewife would not, in the Board's judgement, first dissolve the granules in water and then pour this solution into the bathwater, but would directly scatter the granules therein. If, however, the effervescing granules are at hand in a bathroom in a form suitable for that use, it is, in the Board's view, indeed obvious to use these granules in the same way for sterilising a liquid spillage of a proteinaceous fluid which may require removal in a bathroom without the need of cleaning a greater surface. Such activity is therefore clearly comprised by the general disclosure in (2a) of products "easy for the housewife to handle for sterilisation" (paragraph 2), especially since in paragraph 1 it is said that the granules have the same rate of dissolution and diffusibility as liquid chloridating agents in use. This statement, together with the advantages of having a solid product instead of a liquid in the paragraph bridging pages 1 and 2, hints towards a direct use of the solid granules instead of sodium hypochlorite solution for all relevant purposes. It is true, however, that also document (2a) does not expressly describe the scattering of a sterilising composition on a liquid spillage. However, such activity is, in the Board's judgement, comprised by the common general knowledge, even though it is not mentioned in a document. In many technical fields, the common general knowledge is not available in written form, e.g. textbooks. Therefore, at least in a case like the present one, where the existence of such common general

knowledge has not been seriously disputed by the Appellant and is similar to what is already acknowledged as common practice in the application in suit, where it is stated on page 1, last paragraph, that it has been proposed to decontaminate spillages of body fluids simply by scattering a bacteriostatic powder thereover, such common general knowledge must be taken into account when assessing inventive step, because it is in fact part of the prior art and not a result of ex-post-facto considerations.

Under these circumstances, the Board holds that the method of Claim 1 according to the main request does not involve an inventive step and, since the Board can only decide upon a request in its entirety, the main request cannot be allowed.

8. The subject-matter of the auxiliary request, however, has to be considered on a different basis since Claims 1 to 6 of this auxiliary request are limited to the disinfection of blood spillages. With respect to this limited subject-matter, document (2a) cannot be regarded as the closest prior art, since the prior art acknowledged in the description (see item 4, paragraph 1) is more closely related to such a method. It may, therefore, be accepted as starting point for the assessment of the inventive step. The technical problem in relation to the auxiliary request may, therefore, indeed be that identified in the description (see item 4, paragraph 2).

In the application it is proposed to solve this problem by replacing the known composition comprising a source of available chlorine and an inert filler by an effervescent powdery or granular composition.

9. In view of the stated advantages of the claimed method, especially the production of a solid mass which can be

easily removed while the decontaminated surface, due to the water solubility of all ingredients, can be finally cleaned simply with a wet cloth (see description, page 2, lines 21 to 27 and especially Example 5), the Board is satisfied that the stated problem is indeed solved.

10. The above technical problem is dual, first specifically related to blood spillages and the specific problems related to the combined disinfection and easy removal of blood spillages and second, relating to the rapidity of disinfection (see page 3, lines 25 to 30). A person skilled in the art may consider document (2a) when looking for a solution of the latter part of the problem because it is said in paragraph 1 that the granular effervescent composition has the advantage of having the same rate of dissolution (which expression in the context of two liquids can only mean "distribution") and diffusibility as liquid chloridating agents in use. The skilled person might, therefore, expect that these effervescent granules would be suitable for achieving a very rapid sterilisation. However, this would not provide an incentive to consider these granules when the improvement of the mixture of an inert filler with a chloridating agent for the specific purpose of disinfecting blood spillages is required, because the omission of the inert filler would have restored the need to remove a liquid which was known to be difficult to handle and dispose of. Also document (1) does not relate to a specific method of disinfection but rather to the preparation of aqueous solutions to be used in conventional manner and cannot, therefore help a skilled person to solve the existing technical problem. Thus, it only remains to be considered whether the solution of this problem would have been found on the basis of the common general knowledge.

According to the decision under appeal, this common general knowledge comprises four relevant elements. First it is known that blood clots when coming into contact with air. Second it is known that in the presence of an effervescing composition the surface of the blood spillage is increased and clotting accelerated. Third, the presence of an aggressive substance such as a source of available chlorine enhances the denaturation of proteins. Fourth, the use of an effervescent clotting agent during solidification of a liquid such as blood brings about a less compact and hence more manageable mass.

The Appellant has not disputed that the first three elements indeed are comprised by the common general knowledge. However, he submitted that the solidification caused by the claimed method is quite different from the natural coagulation of blood which only means an increase of its viscosity by the denaturation of specific blood proteins. Furthermore, he disputed that the fourth element cited above forms part of the common general knowledge. In the Board's judgement this assertion, which is not supported by any evidence, cannot be regarded as a suitable basis for the assessment of the inventive step. This assertion may well, as the Appellant has submitted, be the result of an attempt to explain the advantageous effect of the claimed method and therefore a matter of hindsight. In this connection, also the commercial success of the claimed method as relied upon by the Appellant is relevant, because such commercial success in the context of hospitals supports the Appellant's contention that the advantages of the claimed invention in such context were not readily foreseeable on the basis of common general knowledge. Thus, the solidification (in contrast to normal clotting) of blood caused by the claimed method cannot be regarded as part of the common general knowledge and, consequently,

also the common general knowledge could not suggest the solution of the stated problem.

11. Therefore, the reasons for refusal given in the decision under appeal cannot, in the Board's judgement, support this decision as far as the subject-matter of the auxiliary request is concerned, since in this respect the presence of an inventive step cannot be denied on the basis of the existing evidence.
12. It follows from the preceding considerations that document (2a) is not more relevant to the invention now claimed than the prior art already acknowledged. No amendment of the description is therefore required in this respect.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division with the order to grant a patent on the basis of the following documents:

Claims 1 to 6 received 2 March 1990
description, pages 1, 2 and 5 received 2 March 1990
description, pages 3, 4, 7-11 as filed
description, page 6, received 21 May 1988.

The Registrar:



The Chairman:

