

Publication in the Official Journal Yes / ~~No~~

File Number: T 112/92 - 3.3.2

Application No.: 82 303 545.6

Publication No.: 0 069 591

Title of invention: Food product

Classification: A23L 1/04

D E C I S I O N
of 4 August 1992

Applicant: Mars G.B. Limited

Headword: Glucomannan/MARS II

EPC Article 56

Keyword: "Inventive step (denied) - obvious new use (T 59/87 distinguished)"

Headnote follows



Case Number : T 112/92 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 4 August 1992

Appellant : Mars G.B. Limited
143-149 Fenchurch Street
London EC3M 6BN (GB)

Representative : Day, Jeremy John
Reddie & Grose
16 Theobalds Road
London, WC1X 8PL (GB)

Decision under appeal : Decision of Examining Division of the European
Patent Office dated 29 August 1991 refusing
European patent application No. 82 303 545.6
pursuant to Article 97(1) EPC.

Composition of the Board :

Chairman : P.A.M. Lançon
Members : I.A. Holliday
S. Perryman

Summary of Facts and Submissions

- I. European patent application No. 82 303 545.6 was refused by a decision of the Examining Division dated 24 November 1988 on the grounds of lack of novelty.
- II. In accordance with decision T 267/89 dated 28 August 1990, the subject-matter of Claim 1 of the application was found to be novel. The Board remitted the case to the Examining Division to resume the examination with particular reference to the question of inventive step.
- III. In a decision dated 29 August 1991, the Examining Division refused the application on the grounds of lack of inventive step; five documents were cited. The following remain relevant for the present decision:
 - (1) JP-A-55 77870 (English translation)
 - (3) US-A-4 269 863
 - (4) "Encyclopaedia of Science and Technology" (McGraw Hill), Vol. 5 (1977), p. 413
 - (5) "The Condensed Chemical Dictionary" (Van Nostrand) 1012 Edition (1981), p. 1017.
- IV. The decision was based on Claims 1 to 7 received on 19 March 1988. Independent Claim 1 reads as follows:

"1. The use, in an ungelled processed food product in the form of an emulsion, of at least one glucomannan as emulsion stabiliser."
- V. In the opinion of the Examining Division the closest state of the art was document (1) which referred to the use of glucomannan as a thickener for an ungelled processed food product (soya bean milk) but did not mention its function

as a stabiliser. Document (3) also referred to the use of glucomannan as a thickener.

It was the Examining Division's view that, in the light of the disclosure of the application itself, together with references to documents (4) and (5), substances known as thickeners for emulsions also had a stabilising function. Accordingly, the presently claimed use of glucomannan would have been obvious.

VI. The Appellant lodged an appeal against the said decision. The Appellant's arguments both in the written statement and at the oral proceedings on 4 August 1992 may be summarised as follows.

As acknowledged in the present application, certain substances such as carob gum and cellulose ethers have been used as both thickeners and stabilising agents for emulsions. However, this did not necessarily apply to glucomannan. The Appellant argued that there were large numbers of thickeners which do not stabilise emulsions and vice versa.

At the oral proceedings the Appellant introduced, as an expert's opinion, the post published document: Walker, Gums and Stabilisers in Food Formulations, Proceedings of 2nd International Conference, Wrexham, Wales, July 1983, pp. 137 to 141. The article emphasised the complex interactions between gums, stabilisers and food products. The terms "gum" and "stabiliser" were defined; the definitions were by no means synonymous. The Appellant specifically referred to gum arabic which could be dissolved in large quantities in water without causing thickening. It did, however, function as an emulsifier.

The Appellant also criticised the Examining Division's reliance on documents (4) and (5) arguing that dictionaries and encyclopaedias were not addressed to the person skilled in the art. The skilled man would be more likely to write a dictionary than to refer to one since the definitions contained therein were short and oversimplified.

The relevance of document (3) was also questioned. Firstly, since the passage referred to in the contested decision was concerned with thickeners and not stabilisers and secondly the patent did not relate to emulsions.

Reasons for the Decision

1. The appeal is admissible.
2. The claims under consideration are the same as those considered in decision T 267/89. The formal allowability of the said claims and the novelty of the subject-matter thereof was acknowledged in the earlier decision.
3. The only question to be considered in the present decision is whether or not the subject-matter of Claim 1 involves an inventive step within the meaning of Articles 52(1) and 56 EPC.
 - 3.1 The Board agrees with the Examining Division that document (1) represents the closest state of the art. According to (1), glucomannan is added to soya bean milk, i.e. "an ungelled processed food product in the form of an emulsion" in the terms of Claim 1 of the present application. The abstract cited in the European Search Report gives no indication of the function of the glucomannan. The full English translation of (1), however,

suggests two applications. Firstly, it is mentioned on p. 3 (lines 17-31) that glucomannan is added to overcome flavour problems. According to the same passage, the main function of glucomannan is to improve the texture of the product so that it resembles that of sour cream. This is associated with swelling of the glucomannan (p. 3, line 27 and p. 6, lines 10-17). In other words, glucomannan acts as a thickening agent.

- 3.1.1 Thus starting from (1) the problem to be solved lies in finding a new use for glucomannan.
- 3.1.2 The problem is solved by use thereof as an emulsion stabiliser. From the description and examples disclosed in the present application, the Board is satisfied that the problem is plausibly solved.
- 3.2 Even if glucomannan did act as an emulsion stabiliser in preparing the product of (1), such use would have been a hidden use within the meaning of decision T 59/87, OJ EPO 1991, 561 (Reasons, point 2.3). The reason that such use would not have been recognised is that other materials, i.e. carrageenan and sucrose ester were included specifically to act as emulsion stabilisers. Accordingly, from document (1) alone, there would have been no incentive for the person skilled in the art to use glucomannan as an emulsion stabiliser.
- 3.3 However, it is to be noted that the application as originally filed apparently drew no distinction between the functions of stabilising and thickening (e.g. original Claim 1, p. 1, lines 8-10). Throughout the description references occur to "a stabilising and/or thickening agent". At the oral proceedings, the Appellant argued that this was a misconception. When the application was filed, it was believed that both uses were new; the designation

"and/or", not merely "and" was intended to recognise this distinction. Claim 1 was restricted to the use as an emulsion stabiliser having regard to the disclosure of its use as a thickening agent in document (1).

3.4 Notwithstanding the various arguments advanced on behalf of the Appellant, the Board is convinced that a link exists between the functions of thickening and stabilising of emulsions. Even the Appellant had to admit at the oral proceedings that it was quite true that in many cases thickening and stabilisation go together. The definition of "thickening agent" which occurs in the dictionary (5) refers to "substances used to increase the viscosities of liquid mixtures and solutions and to aid in maintaining stability by their emulsifying properties" (see page 1017). The encyclopaedia (4) mentions that "the appetising mouth feel of many foods as well as their flavour appeal is traceable to the smooth uniform texture derived from added stabilisers or thickeners (see page 413, left-hand column)". The Appellant has objected to the citation of a dictionary and encyclopaedia. However, according to the jurisprudence of the Boards, encyclopaedias and standard text-books can be regarded as representing the common general knowledge (cf. T 206/83, OJ EPO 1987, 5, Reasons, points 5 and 6 and T 171/84, OJ EPO 1986, 95, Reasons, point 5). Thus, at the priority date of the present application, it would have been part of the general knowledge of one skilled in the art, that a substance which acted as a thickener for emulsions would be likely also to be effective as a stabiliser.

3.5 Reference to the originally filed application indicates that without knowledge of document (1), the problem seen by the Appellant was to find a replacement for carob gum as a stabilising and thickening agent for food products (p. 1, lines 11-13). Document (3) mentions various

materials useful as thickeners in aqueous compositions used in making noodles (col. 6, lines 11-24). Glucomannan is mentioned as well as locust bean gum (i.e. carob gum) and cellulose derivatives in a list of possible thickeners. Accordingly, one skilled in the art, knowing that both carob gum (a galactomannan) and cellulose ethers function as thickening and stabilising agents for emulsions (cf. present application, p. 1, lines 8-10) would be led by the disclosure of (3) to seek if glucomannan, known as a thickener, would also act as a stabiliser (cf. decision T 2/83, OJ EPO 1984, 265, Reasons, point 7).

3.6 Although as noted in point VI above, the definitions of "gum" and "stabiliser" given in the paper by Walker are not synonymous, a link is clearly suggested. According to one of the possible definitions at the foot of p. 140, a "stabiliser" is a material to prevent or retard gravitational sedimentation of suspended particles. Thickening of an emulsion would be likely to have such an effect. It is also to be noted that according to Walker "Most of the stabilisers used in food are gums" (page 141, line 23). The Appellant mentioned that gum arabic can be dissolved in water without any apparent thickening although it may act as an emulsifier. In the opinion of the Board, this could well be an isolated example which would not affect the apparent similarity in properties between carob gum and glucomannan.

3.7 The similarity in properties between carob gum and glucomannan is also apparent from Table 2 on p. 3 of the present application. As indicated on p. 2 (lines 14-20), the glucomannan content of samples 3 and 4 is essentially the same and also equal to the content of carob gum used in sample 2. Samples 2, 3 and 4 each contain a small quantity of carragheenan, known as an emulsion stabiliser

in the formulations of document (1). In answer to a question from the Board at the oral proceedings, the Appellant stated that sample 2 represented a known commercial formulation for ice cream. It thus appears that carob gum, although known as an emulsion stabiliser was conventionally used along with a further known emulsion stabiliser, carragheenan. Thus, the mere fact that in document (1) the same stabiliser, carragheenan was used together with glucomannan would not have been a disincentive to a consideration of glucomannan as an emulsion stabiliser.

3.8 The circumstances relating to the two uses of glucomannan under consideration in the present case differ from those encountered when the two parallel uses were recognised as both novel and inventive in decisions T 59/87 (OJ EPO 1991, 561) and T 231/85 (OJ EPO 1989, 74).

3.8.1 In the case of T 59/87, it was decided that the later claimed use as a friction reducing additive was in no way foreshadowed by the earlier use of the same compounds as rust inhibitors in lubricating oils. In analogous manner according to T 231/85, the later use as a fungicide for plants was not rendered obvious by the earlier use of the same materials as plant growth regulators.

3.8.2 In the absence of the general knowledge referred to above (point 3.4), a similar conclusion might well have been reached in the present case. However, it is clear from the preceding paragraphs that the use of a substance as a stabiliser for emulsions, if not inextricably linked with its use as a thickening agent, is at least very closely related.

3.9 Accordingly, in the judgment of the Board, it would have been obvious for the skilled person, knowing that

glucomannan was effective as a thickening agent for emulsions, at least to try if it was also effective as a stabiliser. Although in accordance with decision T 59/87, a claim to an inherent but hidden later use of a known substance may be novel, the subject-matter of such a claim will yet lack inventive step if the prior art indicates a well-established link between the earlier and later uses. Claim 1 therefore lacks the required inventive step and cannot be allowed. In the absence of any auxiliary request, Claims 2-7, relating to preferred embodiments of Claim 1, must share the same fate.

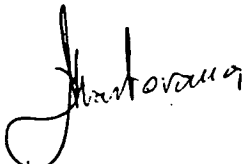
4. In the course of the proceedings, the Board noticed that the dictionary (5), cited by the Examining Division, was published in 1981. Having regard to the priority date, 7 July 1981, it may well not be published prior art within the terms of Article 54(2) EPC. However, since the ninth edition of the same dictionary, published in 1977, contained substantially the same definition of "thickening agent", the Board did not deem it necessary to verify further, at this stage the exact date of publication.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:



P. Martorana

The Chairman:



P. Lançon