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D E C I S I O N
of 25 March 1996

Case Number: T 0073/92 - 3.3.4

Application Number: 85302520.3

Publication Number: 0163395

IPC: A23K 1/16

Language of the proceedings: EN

Title of invention:
Process for the production of feedstuffs

Patentee:
BALFOUR MANUFACTURING COMPANY LIMITED

Opponents:
Henkel Kommanditgesellschaft auf Aktien
N.L.M. Industriprodukter Aps
Heinrich Nagel KG

Headword:
Feedstuffs/BALFOUR

Relevant legal provisions:
EPC Art. 84, 54, 56

Keyword:
"Main request - clarity (no)"
"Auxiliary request - clarity (yes)"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
T 0150/82, T 0205/83, T 0248/85

Catchword:

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D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 25 March 1996

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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office dated 21 November 1991 concerning maintenance of European patent No. 0 163 395 in amended form.**

Composition of the Board:

Chairwoman: U. M. Kinkeldey
Members: L. Galligani
S. C. Perryman

Summary of Facts and Submissions

I. European patent No. 0 163 395 was granted on 21 December 1988 for five Contracting States with ten Claims in response to European patent application No. 85 302 520.3.

II. Notices of opposition were filed against the European patent by three parties. Revocation of the patent was requested on the grounds of Article 100(a) and (b) EPC. During the procedure before the Opposition Division ten documents were relied upon by the parties. Among them the following are of relevance for the purpose of this decision (the numbering used in the decision by the Opposition Division is adhered to):

(2) GB-A-2 113 521;
(3) DE-A-1 217 381;
(4) US-A-3 803 188.

III. The Opposition Division issued on 21 November 1991 an interlocutory decision within the meaning of Article 106(3) EPC whereby the patent was maintained on the basis of Claims 4 to 10 as granted and Claims 1 to 3 and amended description pages 2 and 3 as filed on 23 July 1990. Independent Claims 1, 9 and 10 read as follows:

"1. A continuous process for the production of a feedstuff for ruminants which comprises continuously forming a mixture of calcium oxide or other basic oxide forming a water-insoluble salt with an edible fatty acid, one or more edible higher fatty acids containing at least 12 carbon atoms per molecule, and optionally a

further nutritional material under conditions such that the said nutritional material (when present) is impregnated with fatty acid, continuously adding water to said mixture, and allowing the calcium or other oxide to react exothermically with the said acid to form the calcium or other water-insoluble salt thereof, and continuously spreading out the still hot reacting mixture on a moving belt on which the reaction proceeds to completion so that most of the water is boiled off while the mixture is on the belt and the latter is long enough to allow the mixture to cool substantially to room temperature and become converted into a dry friable product.

9. A feedstuff for ruminants comprising a water insoluble salt of an edible higher fatty acid when produced by the process of any of claims 1 to 8.

10. A nutritional material protected with an edible water insoluble fatty acid salt against alteration in the rumen when produced by the process of claims 3 to 6."

Dependent Claim 2 to 8 related to specific embodiments of the process according to the Claim 1. In particular, Claim 3 concerned the embodiment in which a proteinaceous feedstuff was present as "a further nutritional material".

IV. The Opposition Division considered that the amended claims did not contravene Article 123(2)(3) EPC and that the patent in suit disclosed the invention in a manner sufficiently clear and complete for it to be carried out by the skilled person. Moreover, in the

opinion of the Opposition Division, the process according to Claim 1 was novel having regard to document (4) and the products of Claims 9 and 10 were novel having regard to both documents (2) and (4) which did not relate to a product in **a dry friable form at room temperature**. Furthermore, the combination of the two closest prior art documents (2) and (4) would not have led the skilled person to the subject-matter of Claim 1. The same applied mutatis mutandis to the subject-matter of Claims 9 and 10.

V. The Appellants (Opponent 03) lodged an appeal against the decision of the Opposition Division with the payment of the fee, and submitted the statement of grounds.

The Respondents replied to the Appellants' statement of grounds with letter dated 24 July 1992.

In a communication accompanying a summons to oral proceedings the Board outlined its provisional opinion on novelty and inventive step.

By letter dated 12 January 1996, the Respondents withdrew their request for oral proceedings and informed the Board that they would not attend the oral proceedings.

VI. Oral proceedings took place on 25 March 1996. The Respondents submitted a new main request, which differed from the claims as maintained by the Opposition Division merely in that in Claim 6 "any of the claims 3 to 6" was changed into "any of the claims 3 to 5", and an auxiliary request, which

differed from this main request in that at the end of Claim 1 after "dry friable product" the sentence ",the residence time of the mixture on the belt being at least 2 1/2 hours" was added.

VII. The Appellants had argued in writing essentially that the feature "friable" in process Claim 1 did not allow a distinction between the product of Claims 9 and 10, which was defined in terms of the process of preparation, and the prior art product of document (2) which had the same composition and was formed by precipitating, filtering by means of a vacuum filter and drying. The latter product was described as a pulverulent free-flowing powder, as pellets, or as a solid block (see page 1, lines 79 to 80) and thus had to be regarded as friable, lumpy or crumbly. Thus, in their submissions, Claims 9 and 10 lacked novelty. As for inventive step, they submitted that there were only minimal differences between the processes and products of documents (2) and (4) and the process and products according to the patent in suit. The process according to document (2) differed from the process according to Claim 1 only in that the latter was continuous and the hot reaction products were spread on a belt. The difference between the process described in Example 12 of document (4) and the process according to the patent in suit was merely that a "mixer conveyor" was used instead of a belt. In their submissions, these minimal differences could not justify the acknowledgement of inventive step because the average skilled person was readily in a position to substitute a mixer conveyor by a belt of an appropriate length such as to allow the reaching of the desired final temperature. Moreover, in their view, the friable, hot millable product disclosed

in Example 12 of document (4) could be expected to be friable also when cold.

VIII. The Respondents argued that the word "friable" was an ordinary word in English the meaning of which ("easy to crumble") was clear to the reader. The friability of the product was the characterising feature of the product of Claims 9 and 10. This feature, which was conferred on the product by the particular process of preparation, distinguished the claimed product from those of the prior art which were not friable at room temperature. In fact, no such product could be obtained by operating in accordance with the batchwise reaction method of document (2) which provided a solid block. As for document (4), which was not concerned with the preparation of metallic soaps for nutritional uses, the product therein (see, in particular, Example 12) was described as soft, friable at high temperature and millable hot. However, because of the process of preparation, such a product at room temperature would not be friable, but rather sticky due to the release of free fat. The presently claimed process, although perhaps deceptively simple, provided a reliable continuous process whereby a friable and easy to handle product could be prepared which none of the batchwise methods of the prior art allowed to prepare. This was in consequence of the specific measure adopted to spread out the still hot reacting mixture on a moving belt and to let it cool down to room temperature thereupon for a sufficient time.

IX. The Appellants requested that the decision under appeal be set aside and the patent be revoked.

The Respondents requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or of the auxiliary request submitted during oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

Main request

Formal admissibility of the amended claims (Article 123 EPC)

2. When compared with the claims as granted, the present claims contain amendments which find formal support in the application as originally filed (cf. page 7, line 27 to page 8 line 9) and which do not result in an extension of the protection conferred. Thus, no objections under Article 123(2) and (3) EPC arise.

Clarity (Article 84 EPC) and Novelty (Article 54 EPC)

3. The Board observes that Article 84 EPC is a proper basis for rejecting a claim request if this objection arises out of amendments during opposition proceedings or on appeal therefrom. Further, the clarity of a claim may affect the decision on the issue of novelty under Article 100(a) EPC because, if a given subject-matter is claimed in a form which does not allow a clear-cut distinction over matter known from the prior art, a meaningful examination as to novelty is not possible. In such a case, the issues of clarity and novelty are interconnected.

4. In the present case, during the opposition proceedings the claims as granted, in particular Claim 1, were amended in order to overcome the novelty objections raised by the Appellants. Thus, the amended claims have to be examined as to whether they now meet the clarity requirement of Article 84 EPC so as to allow a meaningful assessment of their novelty over the prior art.

5. The Appellants no longer dispute the novelty of the process claims 1 to 8. In their appeal, they question only the novelty of the product claims 9 and 10 because in their view the attribute "friable" does not provide an adequate distinction over the product of document (2) which could have the same physical structure. In a communication, the Board additionally questioned the novelty of the subject-matter of Claim 9 because this claim in its broadest outline related to a product with a composition identical to that of the product of document (4) which was described as being in a friable solid form.

6. The subject-matter of Claims 9 and 10 is characterised in terms of the process of production (cf. "when produced by the process of any of the claims 1 to 8" in claim 9 and "when produced by the process of claims 3 to 6" in claim 10). Said process is essentially characterised by reference to two main operational steps, these being: (i) mixing of the ingredients so as to cause the exothermic reaction, (ii) spreading out of the still hot reacting mixture on a moving belt long enough to allow its cooling down to room temperature and its conversion into a dry friable product. According to the Respondents by operating in this way a

product is obtained, which, although made of the same ingredients, differs in its physical structure (friable at room temperature) from the product obtainable by operating in accordance with the processes of documents (2) and (4).

7. According to Article 64(2) EPC, "if the subject matter of the European patent is a process, the protection conferred by the patent shall extend to the products directly obtained by such process". However, in the present case, the Respondents seek absolute protection for the product as such, i.e. a product - however made - with identical features, by using the "product-by-process" form of claiming. In accordance with the case law of the Boards of Appeal of the EPO, this form of claiming is admissible only if the products themselves fulfil the requirements for patentability, in particular that of novelty, and there is no other information available in the specification for a more satisfactory definition on the basis of the composition, structure or some other testable parameter (cf. for example T 150/82, OJ EPO 1984, 309 and T 248/85 OJ EPO 1986, 261). This obviously presupposes an unblurred definition of the product in the claim. Moreover, as pointed out by the same case law, a known product does not necessarily acquire novelty by the fact that it is made by a new or modified process unless it is established that the parameters of said process necessarily result in a product inherently having novel distinctive features (cf. T 205/83, OJ EPO 1985, 363).

8. In the present case, it is undisputed that a feedstuff for ruminants with identical chemical composition and

resulting from the exothermic reaction of a basic oxide with edible fatty acids was known in the prior art [cf. documents (2) and (4)]. Said feedstuff was also subjected to cooling [cf., for example document (2), page 2, lines 94 to 95]. The Respondents submitted that a decisive factor for the novelty of the product of Claims 9 or 10 is the manner of cooling which inevitably confers on the product a distinctive physical structure (friable at room temperature) that cannot be achieved by operating according to the prior art. In the Board´s opinion, this is indeed technically plausible if the cooling on the belt takes place, as described, for two and a half hours. However, if so, the parameter(s) of this operation constitute(s) a technical feature essential for the definition of the product via the process which should be clearly stated in the process claim.

9. However, when the wording of process claim 1, in particular the portion relevant to the manner of cooling, is scrutinized, it is observed that this step is outlined in general terms essentially by reference to the result to be achieved, i.e. a dry friable product at room temperature. Claim 1 fails to indicate any relevant parameter of the cooling operation (e.g. length of the belt, size of the mixture lumps, residence time etc.). In the Board's view, this renders any reference to the process in defining the product of Claim 9 or 10 insufficient for its meaningful characterisation and, consequently, for the examination of its novelty over the products with identical composition obtainable when operating according to document (2) or (4).

10. For these reasons, it is decided that the main request is refused because the subject-matter of claims 9 and 10 is not clearly defined, which is contrary to the provisions of Article 84 EPC.

Auxiliary request

Formal admissibility (Article 123 EPC)

11. Process claim 1 here differs from the same claim in the main request in that it specifies that the residence time of the mixture on the belt is at least 2 1/2 hours (cf. Section VI, supra). The introduction of this feature does not result in an extension of the protection conferred in comparison with the claims as granted. Thus, the requirements of Article 123(3) EPC are complied with.

12. As for the requirements of Article 123(2) EPC, it is observed that the figure "2 1/2 hours" is found in the application as originally filed on page 9, lines 17 to 18 where it is stated that "the total overall time from mixing to bagging may be about 2 1/2 to 3 hours". The skilled reader realises immediately that this is essentially the time of residence on the moving belt because as stated on page 9, lines 11 to 15 the time for mixing and discharging on the belt is minimal (10 to 20 seconds) and the time for bagging is immaterial as bagging takes place immediately at the end of the belt. For the skilled reader the minimum residence time on the belt is the relevant feature of the process in view of the requirement that the moving belt be long enough to allow cooling down to room temperature and conversion into a dry friable product. The minimum

residence time that the skilled reader would unambiguously derive from the application as originally filed is indeed 2 1/2 hours. Thus, no objection arises under Article 123(2) EPC.

Clarity (Article 84 EPC)

13. Process claim 1 now states a parameter, namely "residence time of the mixture on the belt being at least 2 1/2 hours", which is relevant to the cooling step. In the context of the claim, this parameter provides some indication of the rate of cooling of the reacting mixture, which must have a bearing on the physical structure of the final product. Indeed, the specification makes plausible that the spontaneous evaporation of water from the spread hot reacting mixture on the belt, which occurs over a period of at least 2 1/2 hours on the moving belt, confers to the dry product a particular friable structure. This is now clearly reflected in process claim 1. Product claims 9 and 10 benefit from this clarification because the process parameters which confer to the product its distinct inherent features are now clearly stated in the process claim to which reference is made (cf. point 8. supra). Thus, an objection under Article 84 EPC no longer arises.

Novelty (Article 54 EPC)

14. It remains now to be established whether by operating according to documents (2) and (4) the skilled person would obtain the same product as that produced by the process of claim 1 i.e., the product as claimed in

claims 9 and 10. If so, a lack of novelty objection would apply.

15. Document (2) discloses at least two batchwise methods for making a protected feedstuff for ruminants. The first method comprises the steps of forming a dispersion of the nutritional material in an aqueous solution of a water-soluble edible fatty acid, adding thereto an edible cation (e.g. calcium) so as to precipitate the resulting fatty acid salt on the nutritional material, filtering off and drying the protected feedstuff which can then be pelleted or ground or reduced to free-flowing powder. The second method comprises the steps of obtaining a molten fatty acid salt by mixing calcium oxide, fatty acid and water (exothermic reaction), dispersing therein the nutritional material and allowing the mixture to cool to form solid blocks which can be ground up to powder. In neither case are specific parameters of the evaporation/cooling step given. When operating according to the first way, the mixed material is filtered and dried, while, when operating in the second way, the cooling of the reacting mixture is carried out in moulds to produce solid lickable blocks (cf. Example 3). Both operations are very different from cooling the reacting mixture spread on the belt for at least 2 1/2 hours as presently claimed. That this different manner of operating influences the physical structure of the final product is persuasive from a technical point of view. Thus, in the Board´s judgement, it is credible that the physical structure of the final products made according to document (2) is different from that of the product of present Claim 9

or 10. For these reasons, the Board acknowledges novelty of these claims over document (2).

16. Document (4) describes the manufacture of metallic soaps, by dispersing finely ground metal oxides, e.g. calcium oxide, into molten higher fatty acids, e.g. stearic acid (cf. Example 12). Thereby soft friable solids are obtained which are low in free fatty acids and easily milled (cf. column 2, lines 59 to 66). These can be milled hot due to their physical form (cf. column 6, lines 13 to 16). As shown in Example 12, the reacting mixture is discharged into a mixer conveyor with a stay time of 3.7 minutes, during which steam evolves, and subsequently milled hot. Whether or not the reaction product which is described as soft friable at high temperature would retain its friable structure when cooled down to room temperature is not directly derivable from document (4) which states that the product is commonly milled hot, i.e. before any cooling takes place. In this respect, the Respondents maintained that the product described in document (4), because of the method of preparation, would not be friable at room temperature, but rather oily and sticky due to the release of free fatty acids both during the residence in the mixer conveyor and milling. In the Board's judgement, this is convincing from a technical point of view. Therefore, also in view of the clear difference in the manner of operation between document (4) and the patent in suit, the Board accepts that the product of Claim 9 is novel over document (4). The novelty of Claim 10 over document (4) has never been questioned because its subject-matter relates to a product including proteinaceous material which is not disclosed in the said document.

17. The Board concludes that the subject-matter of Claims 9 and 10 is novel over the quoted prior art documents.

Inventive step (Article 56 EPC)

18. Document (2), which - as already discussed above (cf. point 15. supra) - discloses at least two ways for manufacturing feedstuffs protected by a coating of an edible water insoluble fatty acid salt, represents the closest prior art. These feedstuffs are in the form of either a free-flowing powder or pellets or solids blocks.

19. The technical problem to be solved here is twofold, being, on the one hand (process claims), (i) the provision of an alternative process for producing a feedstuff for ruminants, in particular edible fatty acid salts and feedstuff protected therewith, and, on the other hand (product claims), (ii) the provision of such a feedstuff in an alternative physical form acceptable to ruminants.

20. The underlying technical problem is solved in the patent in suit by the continuous process according to Claims 1 to 8 which, due to the particular manner of operation, results in the product of Claims 9 and 10 which is a dry product, friable at room temperature that, as credibly submitted by the Respondents, is neither sticky nor dusty when ground and thus is well accepted by the ruminants. The Board is satisfied that the technical problem is thereby solved.

21. Metallic salts of higher fatty acids (metallic soaps) were known to the skilled person inter alia as

feedstuff additives [cf., e.g., document (3), Column 1, lines 20 to 28]. The processes for their preparation were known to involve a series of problems, including problems related to the physical features of the resulting product which - depending on the operational steps - could be, for example, dusty or sticky, or too hard and, thus, difficult to grind [cf. e.g. documents (3) and (4)]. The skilled person, faced with the above mentioned problem of preparing a feedstuff for ruminants based on metallic soaps in an acceptable physical form, would have taken into consideration the contents of document (4) which, although not explicitly dealing with metallic soaps as feedstuff, nevertheless was concerned with the reaction of metal oxides, e.g. calcium oxide, with molten higher fatty acids, e.g. stearic acid (an edible fatty acid) and with the physical features of the reaction product. From this document, the skilled person would have readily derived the teaching that by dispersing finely ground calcium oxide into molten higher fatty acid (cf. Example 12) one could obtain in a continuous process a product which, due to its physical form, could be milled hot avoiding delays and further processing (cf. column 6, lines 13 to 16).

22. In the Board's judgement, consideration of document (4) would have at the most prompted the skilled person to modify the batchwise methods of document (2), for example by carrying out the reaction between calcium oxide and molten edible higher fatty acids in a continuous manner so as to obtain from a mixer conveyor a soft friable product low in fatty acid which could be directly milled hot. However, nothing in document (4) would have suggested to the skilled person the step of

spreading the hot reacting mixture on a moving belt and of letting it cool down to room temperature thereupon for at least 2 1/2 hours. Nor would the skilled person have derived a hint in this direction from document (2) which is too vague about the manner of cooling and drying, or from any other of the cited documents. For these reasons, the Board is of the opinion that the process according to present Claims 1 to 8 involves an inventive step.

23. As for the product of Claims 9 and 10, the question to be asked is whether the skilled person would have readily arrived at a product with the same features having regard to the quoted prior art documents. As already indicated above (cf. point 16. supra), the Board accepts that there is a difference between the soft friable, hot millable product described in document (4) and the product of Claim 9, this difference being the result of a different manner of operation and also manifesting itself in a low level of oiliness/stickyness of the product at room temperature. In the Board's judgement, the skilled person would not have expected the product obtainable according to document (4) to have these feature. Moreover, the teaching of document (4) would not have readily indicated to the skilled person the way to a product with the same advantageous physical features as that produced by operating according to Claims 1 to 8. In fact, nothing in document (4) would have prompted the skilled person to adopt the particular manner of operation (spreading the hot reacting mixture on a moving belt and of letting it cool down to room temperature thereupon for at least 2 1/2 hours) which is at the origin of the physical structure of the

product of Claims 9 and 10. Nor would document (2) alone (cf. point 15. above) or in combination with document (4) have given a cue in the direction of such a product. For these reasons, the Board considers that the product of Claims 9 and 10 involves an inventive step.

24. In view of the above conclusions, the auxiliary request is allowable.

Basis of the decision

25. Although duly summoned, the Appellants did not attend oral proceedings (cf. Section V. last sentence supra). According to the decision G 4/92 (OJ EPO 1994, 149), a decision against a party who has been duly summoned but who fails to appear at oral proceedings may not be based on facts put forward for the first time during those oral proceedings.

26. In the present case, the Board decided in substance on the maintenance of the patent on the basis of an auxiliary claim request filed at oral proceedings in the absence of the Appellants. In the Board's judgement, this is not in conflict with the quoted decision of the Enlarged Board of Appeal because the submission of an auxiliary request introducing a feature which has always been part of the process specifically described, does not amount to introducing a new fact. A Respondent who chooses not to be present at oral proceedings must be considered to have accepted the risk that the claims will be narrowed by reference to what has been specifically described, and that the patent may be upheld on this basis.

Other matters

27. As the patent had been maintained by the Opposition Division on the basis of a different claim request and of amended description pages 2 and 3, the first instance to which the case is remitted will have to reconsider whether the description requires further amendments in order to be adapted to the present auxiliary request.

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 with the order to maintain the patent on the basis of the auxiliary request submitted during oral proceedings on 25 March 1996.

The Registrar: The Chairwoman:

L. McGarry U. Kinkeldey