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Bezeichnung der Erfindung: Process and apparatus for forming ice confection  
Title of invention: products, and products formed thereby  
Titre de l'invention :

Klassifikation / Classification / Classement : A23G 9/28, A23G 3/02, A23G 3/20, A23P 1/00

**ENTSCHEIDUNG / DECISION**  
vom / of / du 12 September 1989

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /  
Titulaire du brevet :

UNILEVER PLC  
UNILEVER N.V.  
Société des Produits Nestlé SA

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence : Ice confection products

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé : "inventive step - yes"

Leitsatz / Headnote / Sommaire

Europäisches  
Patentamt

Beschwerdekammern

European Patent  
Office

Boards of Appeal

Office européen  
des brevets

Chambres de recours



Case Number : T 414/87 - 3.2.2

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.2  
of 12 September 1989

**Appellant :**  
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**Respondent :**  
(Opponent) Société des Produits Nestlé SA  
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**Representative :**

**Decision under appeal :** Decision of the Opposition Division of the European  
Patent Office dated 15 July 1987 revoking  
European patent No. 0 044 689 pursuant to  
Article 102(1) EPC

**Composition of the Board :**

**Chairman :** G. Szabo  
**Members :** C. Andries  
W. Moser

## Summary of Facts and Submissions

- I. European patent No. 44689 comprising seven claims was granted to the Appellant on 30 May 1984 in response to European patent application No. 81 303 212.5, filed on 13 July 1981.
  
- II. An opposition was filed against the European patent requesting that it be revoked. The opposition was mainly based on the following documents:

FR-A-2 255 111 (D1); and  
US-A-1 714 234 (D2).

During the further proceedings, a number of documents were additionally cited relating to commonly known ice confection extrusion machines and their products, e.g. documents concerning an extrusion machine of the firm Kurt Hintze - Hamburg (so called "annexes 3 to 7" filed with letter dated 2 December 1985, and "annexes 9 and 11" filed with letter dated 10 June 1987) (documents D3), and a brochure "Glacier 600" of Alfa-Laval ("annexe 2" filed with letters dated 2 December 1985 and 10 June 1987) (documents D4).

- III. In its decision dated 15 July 1987 and dispatched on 15 September 1987, the Opposition Division revoked the patent. According to the decision, the subject-matter of the independent claims lacked an inventive step.
  
- IV. On 24 November 1987, the Appellant (Proprietor of the patent) lodged an appeal against this decision, paying the appeal fee on the same date. The Statement of Grounds was submitted on 25 January 1988.

A new set of drawing sheets (1/5 to 5/5) was filed with letter dated 28 March 1989.

- V. During the oral proceedings held on 12 September 1989, both the Appellant and the Respondent repeated in essence the arguments already previously set forth. Furthermore, the Appellant filed a new set of Claims 1 to 7 and a modified description (pages 1 to 9).

The independent Claims 1 and 5 on file read as follows:

Claim 1:

"A process for preparing an ice confection product, in which a plurality of separate inlet supplies (13, 14) of extrudable ice confection materials having different colours are fed to an extrusion nozzle (1) having a nozzle outlet cross-section formed by a plurality of separate outlets (6, 7) each connected to one of said supplies (13, 14) and in which the ice confection materials are extruded from said outlets (6, 7) immediately into an unconfined space and onto an elongate travelling conveyor (known per se), thereby to lay down on the conveyor an integral extended (elongate) multi-coloured extrudate with projecting and relatively recessed relief features derived from its extrusion through said outlets (6, 7), characterized in that extrusion occurs while rotating the extrusion nozzle (1) about an axis of rotation (3) which extrusion nozzle has a nozzle outlet cross-section not bounded by a circular outline concentric with respect to said axis of rotation (3) and that said conveyor does not share the rotational motion of said extrusion nozzle (1) thereby forming a helically shaped extrudate."

Claim 5:

"Apparatus for preparing an ice confection product according to the process of Claim 1, and comprising a plurality of separate inlet supply lines (13, 14) for extrudable ice confection materials leading to an extrusion nozzle (1) having a nozzle outlet cross-section formed by a plurality of separate outlets (6, 7) each connected with one of said supply lines (13, 14) and arranged to extrude ice confection materials immediately into an unconfined space and onto a travelling conveyor (known per se), thereby in use to lay down on the conveyor an integral extended (elongate) multi-coloured extrudate with projecting and relatively recessed relief features derived from the extrusion through said outlets (6, 7), characterized in that the extrusion nozzle (1) is rotating about an axis of rotation (3) and is provided with a nozzle outlet cross-section (6) not bounded by a circular outline concentric with respect to said axis of rotation (3) and that said conveyor does not share the rotational motion of said extrusion nozzle (1) so that in use a helically formed extrudate is produced."

- VI. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the Claims 1 to 7 and description, pages 1 to 9, submitted during the oral proceedings, and the drawings, sheets 1/5 to 5/5, filed with letter dated 28 March 1989.

The Respondent requested that the appeal be dismissed.

**Reasons for the Decision**

1. The appeal is admissible.

2. **Amendments**

There are no formal objections under Article 123 EPC to the present amended text of the patent in suit, since the proposed amendments in the claims and in the description are adequately supported by the original disclosure and do not extend the protection conferred.

Since this has not been contested, it is not necessary to substantiate this further. However, the Board wants to emphasise that the use of the word "helical" instead of the word "spiral" is properly based on the drawings, so that this particular amendment also complies with Article 123(2) EPC.

3. **Clarity**

With respect to the objection of the Respondent relating to lack of clarity of the expression "axis of rotation", present in Claims 1 and 5, the Board would like to point out that matters of clarity and support are not in themselves grounds for opposition. In any case, the axis of rotation of a nozzle is an unequivocally defined feature, so that no problem arises in this respect.

The same applies to the objections of the Respondent with respect to explanations in the description, namely that the indication of a possible intermittent extrusion is not in complete agreement with the scope of Claim 1. The argument that the extrusion can be made vertically downwards must be incorrect in the disclosure since such an extrusion cannot take place, are in the opinion of the Board not well founded either, and are irrelevant to the real issues of the opposition. Since no real proof has been brought forward by the Respondent to support insufficiency in this respect, the Board has no reason to doubt the statement of

the Appellant that he was able to extrude an ice confection product vertically downwards. This opinion was also supported by present Figure 5 of the patent in suit and its corresponding part of the description.

4. Novelty

After examination of the cited documents, the Board is satisfied that none of them discloses a process or an apparatus having all the features as defined in either Claim 1 or Claim 5. Since this has not been disputed, there is no need for further detailed substantiation of this matter.

Therefore, the subject-matter as set forth in Claim 1 and in Claim 5 is to be considered novel within the meaning of Article 54 EPC.

5. The closest state of the art

5.1 The patent in suit relates to a process and an apparatus for preparing an ice confection product according to the pre-characterising portions of Claims 1 and 5.

Such a process and apparatus as disclosed in these pre-characterising portions can be considered as a commonly known conventional process and apparatus for preparing ice confection products, as exemplified in documents D3 and D4.

The apparatus disclosed in document D1 is different insofar as it does not relate directly to the peculiar technical field of making ice confection products. Thus, contrary to the opinion expressed by the Opposition Division and by the Respondent, the Board takes the view that the commonly known conventional process and apparatus for preparing ice

confection products as exemplified in documents D3 and D4, represent the closest prior art.

5.2 The resulting product of the commonly known basic process is a cylindrical extrudate (i.e. having an elongated shape with straight generating lines) which also has a flat surface at its depositing side and which requires, for a more attractive decoration, sophisticated auxiliary decorating treatments.

6. The problem and the solution

6.1 The technical problem to be solved consists therefore in providing a process and an apparatus to prepare an ice confection product having a decorative shape and pattern on an industrial scale (EP-B-44 689: column 1, lines 28 to 31; original application: page 1, lines 17 to 19).

The so-defined problem differs from that mentioned in EP-B-44689 (aim of the present invention) in that it does not contain pointers (i.e. to provide extruded ice confections with spirally-formed projections and recessed relief features of their outer surface) to the solution (Decision T 229/85, "Etching process/SCHMID, OJ EPO, 1987, 237) and is, therefore, more proper in the circumstances.

6.2 The Board is convinced that this problem is solved by the characterising features mentioned in either Claim 1 or Claim 5. Indeed, by extruding, on an elongate travelling conveyor, several ice confection materials having different colours, through a rotating nozzle, having a peculiar (in the meaning of the invention) outlet cross-section, an integral, extended multi-coloured helically shaped extrudate is formed due to the interaction between the material leaving the rotating extrusion nozzle outlets and the take-off conveyor.



The colour differences are furthermore putting emphasis on the different helical extruded parts or streams. By controlling the nozzle speed rotation, the extrusion rate, the nozzle height and inclination, and the conveyor speed, a wide variety of decoratively shaped products can easily be made. In particular, due to the possibility of the use of different conveyor speeds with respect to the nozzle parameters (rotation speed and extrusion rate), a number of peculiar shaped products are possible as can be seen in Figures 3 and 4.

The objection of the Respondent that a more precise definition of the nozzle outlet cross-section should be present in Claim 1, cannot be followed by the Board, since the features already mentioned in either Claim 1 or Claim 5 are sufficient to solve the above indicated problem. The Board is of the opinion that such a more precisely defined cross-section would unduly restrict the scope of the invention in view of the cited state of the art. It is within the skill of the practitioner to employ cross-sections which would provide a variety of attractively shaped extrudates.

However, the Board wants to emphasise that the different features in each independent claim have to be so related to each other that the result is achieved, i.e. the extrudate has to be integral, extended, multi-coloured and helically shaped.

7. Inventive step

7.1 A person skilled in the art, starting from a process and an apparatus according to documents D3 and D4, who would try to obtain a process and an apparatus preparing an ice confection product having a decorative shape and pattern on

an industrial scale, could not find, however, an indication or encouragement in the cited documents to use a rotating extrusion nozzle, which is provided with a nozzle outlet cross-section not bounded by a circular outline concentric with respect to the axis of rotation of said nozzle, and which cooperates with a conveyor which does not share the rotational motion of the nozzle, obtaining thereby helically shaped extrudates.

7.2 Documents D3 and D4 disclose the preparing of integral, extended (straight instead of helical), multi-coloured extrudates having a flat surface at their depositing sides. There is in these documents neither an indication nor a suggestion to use a rotating nozzle, or to provide a product having a helical configuration or to abandon the presence of that flat surface when preparing integral extended extrudates.

7.3 Other documents in the relevant art give no indication of the kind of solution provided by the invention. Document GB-A-1 076 117 (D5), which has been cited in the description of the patent in suit, discloses a nozzle for extruding plastic material, an apparatus for producing frozen confectionary products comprising such a rotating nozzle and a method for producing such products. The extrudate, which can be ice cream, is a strand of two twisted streams which can be of different colours. The strand, however, which is without any relief features, since the nozzle outlet cross-section is concentric to its axis of rotation, is deposited in a mould, and is reshaped by that mould-form, which of course dictates the final shape of the product.

This document does not give any suggestion as to how to obtain a more decorative helically shaped extruded ice-product within the meaning of the patent in suit, since

there is no reference at all to an extrudate, which is put on a travelling conveyor (no conveyor but a mould) and provided with extended helically projecting and relatively recessed relief features (concentric nozzle outlet cross-section). It only indicates how to obtain a novel and attractive form for ice lollies or the like by using spiral stripes of different materials (preferably of different colours), the final shape being defined by the mould.

- 7.4 The fact that the method Claim 6 in document D5 does not mention a mould is not considered by the Board as sufficient to suggest that a person skilled in the art reading this document would directly grasp the possibility of cylindrically extruded ice production. This is particularly so in a situation where there is no indication that it is possible to abandon the flat surface of a cylindrical extrudate, when it is intended to produce extended extrudates, and where the teaching and the whole content of the document clearly suggest the filling of a mould.

Although a person skilled in the art reading this document finds the idea of using spiral stripes to make an ice-lolly more attractive, there is no suggestion to an extended extrudate having a helical indentation, rib or other helically formed feature of shape in the sense according to the patent in suit.

- 7.5 Document D1 discloses the vertical extrusion of only one type of material from a hopper through a rotating nozzle having a sole outlet. The cross-section of that outlet is decentrated (FR: décentré) or unsymmetrical with respect to the axis of rotation of the nozzle, so that it is possible to extrude different forms of that material onto a baking tray as it is commonly known in the technical field of bakers, confectioners and pastry makers. These forms, such as, for example, a ring-shaped form or a cycloidal curve,

which are the result of the cooperation between the rotating nozzle and the movement of the baking tray, can be considered as forms which are rather two-dimensionally shaped, instead of being straight extended extrudates in the sense according to the patent in suit.

No suggestion can be found in this document that a rotating nozzle with a decentrated outlet allowing the extrusion of different coloured materials, extrudes an integral, extended multi-coloured extrudate, comprising helically shaped projecting and relatively recessed relief features on its outer surface, particularly since the cross-section of the opening of each of the decentratedly located nozzles 35 and 45 (Figure 3) does not embrace the axis of rotation of its nozzle, and since the extrudate is a strand without any relief features on its outer surface. Furthermore, no suggestion is provided to abandon the flat surface of a cylindrical extrudate within the meaning of the closest prior art.

Therefore, the Board is of the opinion that the forms obtained by the rotating nozzle according to this document cannot be compared with the integral and extended extrudate having helically shaped projecting and relatively recessed relief features on its outer surface. Document D1 is, therefore, no source for the modifying features in the main claim on file in the present case.

- 7.6 Document D2 discloses a hand held apparatus which is manually operated to form braidlike decorations. A plastic substance, such as sugar paste, plaster, papier mâché, etc., is extruded out of a rotating nozzle, having outlet openings of different shapes and arrangements, so that helically shaped extrudates are produced.

The teaching of this document suggests to a person skilled in the art to put a braidlike decoration on a surface (basic form) to be decorated, so that there is no suggestion in this document to transform a cylindrical extrudate with a flat surface at its depositing side according to the closest prior art into a braidlike form, since the cylindrical extrudate has to be considered as the basic form and not as the decoration put on it. Furthermore, a person skilled in the art searching for a production process on an industrial scale, is not led by the teaching of this document either to use this apparatus in a production process on an industrial scale or to abandon the idea of a flat surface for extended extrudates.

- 7.7 Even a combination of the teachings of documents D5 and D1 should not lead a person skilled in the art to an integral, extended multi-coloured extrudate with helically shaped projecting and relatively recessed relief features on its outer surface, as it was also accepted by the Respondent during the oral proceedings (the combination only results in an extrudate without any relief features on its outer surface). Furthermore, according to the jurisprudence of the Boards of Appeal, the question to be answered when assessing inventive step is not whether a person skilled in the art could have combined some features or teachings but whether he would have considered such a combination in the expectation of some improvement or advantage in respect of the closest prior art (decision T 02/83, "Simethicone Tablet/RIDER", OJ EPO, 1984, 265). As already indicated before, the presence of spiral stripes of different colours (document D5) in a rather two-dimensional form (document D1) does not lead to the rather straight extended extrudate having helically projecting and relatively recessed relief features on its outer surface.

- 7.8 The Board also considered the further documents cited during the proceedings, which were, however, not quoted by the Respondent during the oral proceedings, and found them not prejudicial to the present Claims 1 and 5, neither alone nor in combination with the documents cited above.
- 7.9 Hence, the subject-matter as set forth in Claim 1 and in Claim 5 involves an inventive step within the meaning of Article 56 EPC.
8. In view of the foregoing, it is unnecessary to decide the question as to whether the technical fields disclosed in the different cited documents are comparable with or near to the technical field of preparing ice confection products on an industrial scale.
9. Based upon the valid Claims 1 and 5 and the dependent Claims 2 to 4, 6 and 7, which concern preferred embodiments of the process and the apparatus according to Claims 1 and 5, respectively, and the modified description as well as the newly filed drawings, a patent may be granted.
10. Since, in the present case, the effect on the extent of the protection conferred by the patent in suit brought about by the amendments in the claims and in the description, made during the oral proceedings, was easy to perceive and since, on the other hand, the parties gave no indication during the oral proceedings that they needed more time in order to examine these amendments, the Board was able to dispense with informing the parties in accordance with Rule 58(4) EPC (decision T 219/83, Zeolites/BASF, OJ EPO, 1986, 211).

**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 claims and description submitted during the oral proceedings, and the drawings filed with the letter dated 28 March 1989.

**The Registrar:**

*S. Fabiani*  
S. Fabiani

**The Chairman:**

*G. Szabo*  
G. Szabo

*Count. Clerk*  
16.11.89 / W. M. J. J. J.