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D E C I S I O N
of 18 June 2001

Case Number: T 0711/98 - 3.2.3

Application Number: 93102399.8

Publication Number: 0556774

IPC: B09B 3/00

Language of the proceedings: EN

Title of invention:
Biodegradable molded articles

Applicant:
Nissei Kabushiki Kaisha

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - obvious combination of known features"

Decisions cited:
-

Catchword:
-

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Case Number: T 0711/98 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 18 June 2001

Appellant: (Applicant)
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Decision under appeal: **Decision of the Examining Division 2.3.09.113 of the European Patent Office dated 2 March 1998 refusing European patent application No. 93 102 399.8 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: C. T. Wilson
Members: F. Brösamle
J.-P. Seitz

Summary of Facts and Submissions

I. With decision of 2 March 1998 the examining division refused European patent application No. 93 102 399.8 basically in the light of

(D1) DE-A-3 937 168 and
(D2) GB-A-581 729

for lack of inventive step.

II. Against the above decision of the examining division the applicant - appellant in the following - lodged an appeal on 27 April 1998 paying the fee on the same day and filing the statement of grounds of appeal together with a new set of claims 1 to 10 on 24 June 1998.

III. Claim 1 thereof reads as follows:

"1. A biodegradable molded article selected from the class consisting of containers for food, flowerpots, wrapping materials, garbage boxes, chopsticks, folding fans and produced by molding a recyclable residue remaining after taking out essential portions of nutritional elements from foods and/or from materials used in the foods, such molding having to occur without using a binder under a pressure in the range of 0.5-500 kg/cm^2 and at a temperature in the range of 50-200°C for 5-300 seconds."

IV. The appellant requested to set aside the impugned decision and to grant the patent on the basis of claims 1 to 10 filed with the statement of grounds of appeal.

V. His arguments in support of his above requests essentially can be summarized as follows:

- (D1) as the nearest prior art document does not disclose the manufacture of biodegradable molded articles without a binder; the numerical ranges of claim 1 for the pressure, temperature and pressing-time are also not derivable from (D1);

- contrary to (D1) claim 1 does not prescribe any binder; claim 1 achieves the binding effect by the treatment, namely pressure, heat and pressing-time, to which the substances are subjected and not by starch or water contained in these substances;

- it is felt that (D2) does not belong to a neighbouring field with respect to the claimed invention and (D2) does not relate to a general field of technology, see also the International Patent Classification classes of (D1) and (D2);

- it is contested that the residues of claim 1 are undefined and that trial and error is the crucial argument against the existence of an inventive step of the subject-matter of claim 1;

- for the above reasons the claimed subject-matter is believed to involve an inventive step over (D1) and (D2) taken singly or in combination.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 Claim 1 is restricted expressis verbis to a molded article which is molded **without using a binder**. Support for a teaching in which no binder is added to the residue to be molded can be found in "Example 1" according to EP-A2-0 556 774, see page 3, line 54 to page 4, line 13, and possibly from originally filed claim 1 in which no binder is mentioned.

2.2 While originally filed claim 1 is based on materials and residues used for producing foods from vegetables/fruits/grains and also from the production of liquors/sugar/table luxuries/oil/refined grains/starches/confectioneries new claim 1 has been broadened to residues remaining from foods and/or from material used in the foods as originally disclosed in the application, see EP-A2-0 556 774, page 2, lines 28/29, so that this amendment cannot be objected to under Article 123(2) EPC.

2.3 The remaining features of present claim 1 can be derived from originally filed claim 1 (biodegradable molded articles and definition of a recyclable residue as well as pressure range of 0,5 to 500 kg/cm^2) and from EP-A2-0 556 774, see page 3, lines 40 to 42 (articles and their use), line 17 (temperature range of 50 to 200°C), and line 15 (pressing time of 5 to 300 seconds).

2.4 Summarizing, claim 1 meets the requirements of Article 123(2) EPC.

3. *Novelty*

3.1 The nearest prior art document is (D1) in which a biodegradable molded article selected from the class consisting of containers for food - see column 1, lines 3 to 5, and lines 14/15, as well as lines 51 to 60, column 2, lines 11/12 - is disclosed whereby the article is produced by molding recyclable residues remaining after taking out essential portions of nutritional elements from foods and/or material used in the foods, such molding being carried out under pressure for a certain time even if the duration of pressure is not mentioned in (D1). In (D1) the **application of heat** is disclosed, however, **following** the molding process.

3.2 What is not known from (D1) is the possible absence of a binder and the process parameters, namely a pressure range of 0,5 to 500 kg/cm^2, the application of heat in the range of 50 to 200°C and a time range of 5 to 300 seconds, so that the subject-matter of claim 1 is novel, Article 54 EPC.

4. *Inventive step*

4.1 The starting point of the claimed invention and of (D1) is identical since in both cases residues remaining after taking out essential portions of nutritional elements from food and/or materials used in the foods are molded into biodegradable articles.

4.2 The question arises how these residues can be

transformed into a stable molded article. It has to be observed that in this context **even water** acts as a binder, see EP-A2-0 556 774, "Examples 2 and 6" on page 4, line 17 and Table 1, and page 5, line 57 and page 6, Table 5. It follows that the question whether or not a binder is involved when molding a biodegradable article from any residues inter alia is a question of the **humidity of the residues**. Even if in claim 1 the addition of a binder is excluded by the word "without using a binder" it has to be considered that, in view of the disclosure of the whole application, claim 1 **is silent** about the water-content of the residues to be molded.

4.3 Since in both cases there must be a basis for the achievement of a stable molded article it appears justified to come to the findings that this basis must be seen in the unspecified water-content of the residues and not in the parameters "pressure, temperature, pressing-time" as brought forward by the appellant.

4.4 The link between (D1) and (D2) is the **compaction of organic material** such as vegetables and fruits, see (D2), which document gives a skilled person useful hints with respect to the pressure to be applied, (250 to 1000 Kg/cm^2), and the duration of pressure application, (30 to 120 secs), see page 1, lines 56 to 59 and page 3, lines 50/51, which values overlap with those of claim 1. For a skilled person (D2) can also be considered to deal with "residues" since spinach according to page 2, lines 119/120 is freed from **the coarser ribs** before being compacted.

4.5 Since the recyclable residues of claim 1 are undefined in the claim a skilled person is forced to make investigations for each individual specific residue to determine **how** it has to be treated when molding it into a biodegradable article. This investigation is nothing more than the approach of **"trial and error"**.

4.6 From (D1) the **application of heat** is basically known, see column 1, lines 40/41 and claims 1 and 2, however, **following** the molding process. It is therefore clear that the heat treatment of claim 1 is nothing more than an **earlier application of heat** and is not a parameter completely unknown in the prior art to be considered. Not knowing **the nature of the residue** to be molded it is normal practice for a skilled person to verify favourable parameters such as the molding temperature in any specific case without the exercise of an inventive endeavour.

4.7 Contrary to appellant's findings the International Patent Classification (IPC) is seen as a means for classifying and retrieving technical subject-matter and is not a means to decide whether or not a skilled person confronted with the problem of compacting organic material into biodegradable articles would consider a combination of prior art documents. The assessment of the issue of obviousness or nonobviousness of a claimed subject-matter is therefore a question of circumstances and not a question of how prior art documents are classified. As set out above the link between (D1) and (D2) is seen in the common problem of compacting organic material.

4.8 Summarizing the above considerations, claim 1 does not

define nonobvious subject-matter in the light of (D1) and (D2) so that this claim does not meet the requirements of Article 56 EPC and is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

A. Counillon C. T. Wilson