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**Datasheet for the decision
of 9 October 2009**

Case Number: T 1576/08 - 3.2.07

Application Number: 00830013.9

Publication Number: 1116659

IPC: B65B 9/22

Language of the proceedings: EN

Title of invention:

Packaging machine for producing sealed packages of pourable food products

Applicant:

Tetra Laval Holdings & Finance SA

Opponent:

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Headword:

-

Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

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Keyword:

"Inventive step (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 1576/08 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 9 October 2009

Appellant: Tetra Laval Holdings & Finance SA
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 6 February 2008
refusing European application No. 0830013.9
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: H. Meinders
Members: P. O'Reilly
E. Dufrasne

Summary of Facts and Submissions

- I. The examining division decided to refuse European application No. 00 830 013.
- The examining division considered that the subject-matter of claim 1 filed with letter of 1 October 2004 lacked an inventive step.
- II. The appellant (applicant) filed an appeal against that decision.
- III. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims filed with letter of 1 October 2004.
- IV. In response to a corresponding auxiliary request the appellant was summoned by the Board to oral proceedings on 21 October 2009. With fax dated 9 September 2009 the appellant indicated that it would not attend the oral proceedings. Thereafter the Board cancelled the oral proceedings.
- V. Claim 1 as per the request reads as follows:

"1) A packaging machine (1) for producing sealed packages (2), containing a pourable food product, from a strip (3) of packaging material fed along a path (P); said machine (1) comprising:

- a fixed structure (5);
- a number of forming assemblies (11, 12, 13, 14) arranged successively along a vertical portion (P1) of said path (P) and interacting with said strip (3) of packaging material to fold the strip gradually into a

cylinder and superimpose opposite lateral portions (3a, 3b) of the strip (3) to form a tube (9) of packaging material having a longitudinal first axis (A);

- sealing means (15) for sealing said lateral portions (3a, 3b) to each other to form a longitudinal seam (16) of said tube (9) of packaging material; and

- filling means (20) for continuously filling said tube (9) of packaging material with said pourable food product;

at least one (12) of said forming assemblies (11, 12, 13, 14) comprising a folding member (31) defining a compulsory passage (26) for said strip (3) of packaging material being folded, and connected to said fixed structure (5) in angularly adjustable manner about said first axis (A) to adjust the angular position of said tube (9) with respect to the first axis (A);

characterized by also comprising actuating means (41) connected operatively to said folding member (31) and activated selectively to rotate the folding member (31) about said first axis (A); sensor means (42) located along said vertical portion (P1) of said path (P), downstream from said sealing means (15), and comprising emitting means (55) for emitting electromagnetic radiation directed towards the tube (9) of packaging material so as to generate a position signal (Sp) correlated to the angular position of said seam (16) with respect to said first axis (A); and control means (43) receiving said position signal (Sp), and generating a first control signal (Sc1), which is supplied to said actuating means (41) to restore said seam (16) to a desired angular position with respect to said first axis (A), in the event said position signal (Sp) differs from a reference value (So) indicating said desired angular position of said seam (16)."

VI. The documents cited in the present decision are the following:

D1: GB-A-2 060 546

D2: US-A-5 861 078

D3: FR-A-2 177 295

VII. The arguments of the examining division in the decision under appeal may be summarised as follows:

The closest prior art is the machine with the features set out in the preamble of claim 1 which is also described on pages 1 to 4 of the application as originally filed.

The problem to be solved is to eliminate the drawbacks associated with manual adjustment of the folding member.

The subject-matter of claim 1 differs from this prior art essentially in that the "sensor means", "control means" and "actuating means" according to claim 1 form part of the machine whereas in the prior art they were part of the operator, i.e. his eyes, brain and hands respectively.

D1 and D3 show that the possibility of providing the above means in place of an operator is known in principle. Having decided to automate the known process the skilled person has to consider where to position the sensor. The position specified in claim 1 is the result of a simple cost-effectiveness analysis and logical considerations which do not involve an inventive step.

The specific form of the sensor means specified in the claim is well known as shown by D2 (see column 16, lines 38 - 67, and column 20, line 62 to column 21, line 3) so that also the choice of this form of sensor does not involve an inventive step.

Therefore the subject-matter of claim 1 does not involve an inventive step.

VIII. The arguments of the appellant may be summarised as follows:

The closest prior art is that set out on pages 1 to 4 of the application as originally filed.

The problem to be solved by the characterising features of claim 1 is to eliminate the drawbacks associated with manual angular adjustment of the folding member so as to reduce the number of rejected packages and thereby increase productivity.

None of the documents D1 to D3 leads the skilled person to the solution of the problem as defined by these features. D1 performs the adjustment of the folding member on the basis of the detection of a film edge by a vacuum sensor before folding and sealing takes place (see page 5, lines 30 to 38). D3 suggests a similar process using an air pressure sensor (see page 3, lines 15 to 24). These documents thus teach a solution to the problem, which is different to that of the characterising features of claim 1. D2 has a detecting station 112 which locates the position of a transverse seal and adjusts the speed of a perforator/cutting station 22 dependent upon this (see column 15,

lines 33 - 38 and 52 - 57). There is no detector in D2 for detecting the angular position of a longitudinal seam. The teachings of D2 are not therefore applicable to the problem to be solved.

Therefore, none of these documents leads the skilled person to provide the characterising features of claim 1 in a machine as known from the closest prior art so that the subject-matter of claim 1 involves an inventive step.

IX. The provisional opinion the Board as expressed in its communication annexed to the summons to oral proceedings was as follows:

The arguments of the appellant appear to address only the question of whether a combination of D1, D2 or D3 with the prior art as described in the preamble of claim 1 was obvious but do not address the reasons given by the examining division for its decision.

The examining division considered that the skilled person, when attempting to solve the objective problem, would arrive at the proposed solution on the basis of cost-effectiveness after a logical analysis and the appellant does not appear to have shown that this reasoning of the appealed decision was wrong.

The Board is not convinced that the appealed decision should be set aside.

Reasons for the Decision

1. *Inventive step*

- 1.1 The examining division and the appellant considered that the closest prior art is that set out on pages 1 to 4 of the application as originally filed which corresponds to the machine of the preamble of claim 1. The Board agrees that this is the closest prior art.
- 1.2 The problem to be solved according to the examining division and the appellant is to eliminate the drawbacks associated with manual adjustment of the folding member so as to reduce the number of rejected packages and increase productivity. The Board agrees that this is the objective problem to be solved.
- 1.3 The subject-matter of claim 1 differs from the closest prior art essentially in that there are "actuating means", "sensor means" and "control means" having the functionality as set out in the characterising portion of claim 1.
- 1.4 According to the closest prior art it is the operator who carries out the adjustment of the angular position of the folding member manually, which corresponds to the function of the actuating means of claim 1 of rotating the folding member about its longitudinal axis. The operator does this after a visual inspection of the packages which corresponds to his carrying out the function of the sensor means of claim 1. The operator decides upon amount of rotation after the visual inspection which corresponds to the function of the control means of claim 1 (see the application as

originally filed, page 4, lines 6 to 15). The functions of the characterising features of claim 1 thus correspond to the actions already known from the closest prior art.

- 1.5 It is, however, already known from D1 (see page 1, line 128 to page 2, line 6) and D3 (see page 3, lines 15 to 19 and page 2, line 31 to page 3, line 14) to use a sensor to detect the position of the edges of a film which will form a longitudinal seam in a package and then to correct the angular position of the folding device if it is displaced from the position which would form the seam in its correct position. Therefore, it was known in principle to use a position sensor to help automation of the positioning of film ends forming a longitudinal seam and hence the positioning of the seam. The fact that according to the teachings of these documents this automation was performed differently to the manner set out in claim 1 does not alter their teaching to use a position sensor to aid automation.

Having decided to automate the process of keeping the seam in the correct position and knowing that this will be facilitated by the use of a position sensor the skilled person has to consider where to position it.

According to the examining division and the appellant the position specified in claim 1 is the result of a cost-effectiveness analysis of advantages and disadvantages. As explained during the examination proceedings in the letter of the appellant dated 12 November 2007 there are two possible positions for the seam position sensor which each have advantages and disadvantages. If the sensor is positioned upstream from

the sealing means it can allow adjustment of the folding means to ensure that the seam is correctly positioned, reducing the number of errors. However, such a sensor positioning does not detect if an error actually occurs, which is a disadvantage. If the sensor is positioned downstream of the sealing means then it can check if the seam is correctly formed and thus ensure the required quality. This position has the problem that it does not allow for a pre-emptive adjustment of the folding member to avoid a problem occurring and thus results in more rejected packages.

These advantages and disadvantages are, however, readily apparent to the skilled person. The skilled person would thus choose either of these alternatives based on a consideration of the cost question, i.e. number of rejected packages, and the benefit question, i.e. quality of the produced packages, according to the cost-benefit considerations pertaining to the particular product.

1.6 In claim 1 a particular form of the sensor means is specified, i.e. using the emission of electromagnetic radiation. This specific form of the sensor means is well known as is shown by D2 (see column 16, lines 38 - 49, and column 20, line 62 to column 21, line 3) so that also the choice of this form of sensor does not involve an inventive step.

1.7 In its appeal grounds the appellant did not explain why the skilled person would not arrive at the subject-matter of claim 1 on the basis of cost-effectiveness analysis and logical considerations, as argued by the examining division. Rather, the appellant argued why

none of D1, D2 and D3 leads the skilled person to the claimed solution to the problem, even though the examining division had not based its decision on a combination of the teaching of any of these documents with the closest prior art. The appeal grounds thus fail to address the reason for the decision.

- 1.8 Therefore, in the absence of any counter-arguments to the reasons of the appealed decision, the Board upholds the decision under appeal. As a consequence the subject-matter of claim 1 of the only request does not involve an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders