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**D E C I S I O N**  
**of 31 January 2006**

**Case Number:** T 0174/04 - 3.2.05

**Application Number:** 97200593.8

**Publication Number:** 0776760

**IPC:** B31D 5/00

**Language of the proceedings:** EN

**Title of invention:**  
Cushioning conversion machine

**Patentee:**  
RANPAK CORP.

**Opponent:**  
NATUREMBAL S.A.

**Headword:**  
-

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

**Keyword:**  
"Novelty, main request (no)"  
"Inventive step, first auxiliary request (no), second  
auxiliary request (yes)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 0174/04 - 3.2.05

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.05  
of 31 January 2006

**Appellant:**  
(Opponent)

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**Respondent:**  
(Proprietor of the patent)

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**Decision under appeal:**

Decision of the Opposition Division of the  
European Patent Office posted 27 November 2003  
rejecting the opposition filed against European  
patent No. 0776760 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** W. Moser  
**Members:** W. Widmeier  
W. Zellhuber

## Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition against European patent No. 0 776 760.

Opposition was filed against the patent as a whole, based on Article 100(a) EPC (lack of novelty, Article 54 EPC, and lack of inventive step, Article 56 EPC).

The Opposition Division held that the grounds of opposition did not prejudice the maintenance of the patent as granted.

II. Oral proceedings before the Board of Appeal were held on 31 January 2006.

III. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 776 760 be revoked.

IV. The respondent (patent proprietor) requested as a main request that the appeal be dismissed. As an auxiliary measure, the respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents:

- (a) claim 1 presented as first auxiliary request during oral proceedings; or
- (b) claim 1 filed as auxiliary request on 19 December 2005, and claims 2 to 24 presented as second auxiliary request during oral proceedings.

V. The following documents were in particular referred to by the parties:

D18: US-A-4 619 635

D21: Instruction manual of the "Greenfiller 550" machine with serial number 31177

D22: Parts list of a "Greenfiller 550" machine

D27: Invoice of Mercamer Oy to Brangs + Heinrichs AG concerning "Greenfiller 550" machines with serial numbers 31040 to 31044

D28: Invoice of Brangs + Heinrichs AG to Matisa-Matériel Ind. SA concerning the "Greenfiller 550" machine with serial number 31042

In addition, the "Greenfiller 550" machine with serial number 31042 was presented by the appellant during oral proceedings.

VI. Claim 1 of the main request reads as follows:

"1. A cushioning conversion machine for converting a sheet-like stock material into cushioning products; said machine comprising:  
a converting assembly including a forming assembly, a feeding assembly, and a cutting assembly, the forming assembly and die feeding assembly cooperating to convert the sheet-like stock material into a three-dimensional strip of dunnage and the cutting assembly cutting die strip of dunnage into lengths, the feeding assembly feeding the stock material to the forming

assembly and being operable in a plurality of pre-programmed modes of operation, wherein each of said plurality of modes of operation is controllable to produce cushioning products of different lengths; a stock supply assembly, positioned upstream of the converting assembly, which supplies the stock material to die forming assembly; and a controller including: a selecting device for selecting any one of said plurality of modes of operation; a plurality of sensing devices for detecting the occurrence of respective predetermined events other than selecting the mode of operation; a central, programmable processing device which generates control signals based on the selected mode of operation and at least one predetermined event sensed by at least one of the plurality of sensing devices, the processing device being responsive to one of said sensing devices detecting a respective predetermined event in one of the modes of operation and being responsive to a different one of said sensing devices detecting a respective predetermined event in a different one of the modes of operation; and a controlling device which controls the feeding assembly and the cutting assembly in accordance with the generated control signals."

In claim 1 of the first auxiliary request the term "central, programmable processing device" is replaced with respect to claim 1 of the main request by the term "microprocessor".

Claim 1 of the second auxiliary request reads as follows:

"1. A cushioning conversion machine for converting a sheet-like stock material into cushioning products; said machine comprising:  
a converting assembly including a forming assembly, a feeding assembly, and a cutting assembly, the forming assembly and the feeding assembly cooperating to convert the sheet-like stock material into a three-dimensional strip of dunnage and the cutting assembly cutting the strip of dunnage into lengths, the feeding assembly feeding the stock material to the forming assembly and being operable in a plurality of pre-programmed modes of operation, wherein each of said plurality of modes of operation is controllable to produce cushioning products of different lengths;  
a stock supply assembly, positioned upstream of the converting assembly, which supplies the stock material to the forming assembly; and  
a controller including:  
a selecting device for selecting anyone of said plurality of modes of operation;  
a plurality of sensing devices for detecting the occurrence of respective predetermined events other than selecting the mode of operation;  
a central, programmable processing device which generates control signals based on the selected mode of operation and at least one predetermined event sensed by at least one of the plurality of sensing devices, the processing device being responsive to one of said sensing devices detecting a respective predetermined event in one of the modes of operation and being responsive to a different one of said sensing devices

detecting a respective predetermined event in a different one of the modes of operation; and a controlling device which controls the feeding assembly and the cutting assembly in accordance with the generated control signals, characterized in that the plurality of sensing devices include a sensing device which detects removal of a cushioning product from the machine's exit and wherein the processing device is responsive to this sensing device in at least one of the plurality of modes of operation and generates the control signals based thereon."

Independent claims 22 and 24 of the second auxiliary request read as follows:

"22. A method of manufacturing cushioning products, said method comprising the steps of setting the selecting device of a cushioning conversion machine according to any of Claims 1-21 to select one the plurality of modes of operation; and converting sheet-like stock material into cushioning products in this selected mode of operation."

"24. Use of a cushioning conversion machine according to any of Claims 1-21 to make cushioning products, said use including:

setting the selecting device to select one of the plurality of modes of operation and converting sheet-like stock material into cushioning products in this selected mode of operation; and

setting the selecting device to select a different one of the plurality modes of operation and converting the sheet-like stock material into cushioning products in this different selected mode of operation."

VII. The appellant argued essentially as follows:

Contrary to its previously expressed opinion, in the decision under appeal the Opposition Division considered the documents submitted in the opposition procedure not sufficient to prove the public prior use of a "Greenfiller 550" machine. Thus, further investigations were necessary in order to provide additional evidence in this respect. The documents submitted in the appeal procedure should therefore be admitted.

The presentation of the "Greenfiller 550" machine in the oral proceedings does not introduce new subject-matter. Moreover, this machine is of high relevance so that its presentation should be admitted.

The presentation of the "Greenfiller 550" machine reveals that this machine comprises all features as specified in claim 1 of the main request. In particular, it comprises also a control device with a central, programmable processing device. The subject-matter of this claim thus lacks novelty.

By dismounting and opening the control device at the rear of the presented machine, it would be possible to confirm that it comprises a microprocessor.

Anyway, the use of a microprocessor instead of a conventional control device is an obvious measure. A person skilled in the art is aware of the advantages of a microprocessor-based control device and will, on the basis of his or her ordinary skill, therefore replace



conventional circuits by a microprocessor. The subject-matter of claim 1 of the first auxiliary request thus at least lacks an inventive step.

Novelty of the subject-matter of claim 1 of the second auxiliary request is to be acknowledged. However, the additional feature of claim 1 of the second auxiliary request which establishes novelty, i.e. the removal sensor at the exit of the machine, is also an obvious measure. The presented machine comprises already paper sensors upstream of the converting assembly. No inventive step is therefore to be seen in an additional sensor downstream of this assembly at the machine's exit. The removal sensor is also obvious in view of document D18. If the presented machine is equipped with a horizontal output board as shown in this document, then such a sensor becomes necessary.

The subject-matter of claims 22 and 24 of the second auxiliary request is to be considered novel only if these claims are to be interpreted to incorporate the features of claim 1 and thus relating to the use of a novel subject-matter. As to the question of whether the subject-matter of these claims involves an inventive step, the same arguments expressed with respect to claim 1 of the second auxiliary request apply.

VIII. The respondent argued essentially as follows:

The documents submitted by the appellant in the appeal procedure should be rejected as late filed.

The presentation of the "Greenfiller 550" machine should not be admitted as it is difficult to verify the technical features of this machine.

The "Greenfiller 550" machine with the serial number 31042 is acknowledged as prior art. No discrepancy exists between this machine and document D21.

Contrary to the presented machine, the converting assembly of the machine according to claim 1 of the main request includes a forming assembly and a feeding assembly. Furthermore, contrary to the presented machine, the machine according to claim 1 of the main request allows controlling the length and number of the cushioning products in each mode of operation. The central programmable processing device specified in claim 1 of the main request is to be understood, in combination with the description of the patent in suit, as a microprocessor. The presented machine comprises a conventional hardwired control device rather than a microprocessor. The subject-matter of claim 1 of the main request and of the first auxiliary request is therefore novel. An additional novel feature is to be found in the subject-matter of claim 1 of the second auxiliary request. It is constituted by the sensing device which detects removal of the cushioning product from the machine's exit. Such a sensing device is not comprised in the presented machine.

The use of a microprocessor offers a much higher degree of flexibility than a conventional control device. This is to be seen from document D18, which shows a very limited setting capacity, similar to that of the control device of the presented machine. Although, at

the priority date of the patent in suit, microprocessors had already been very common, no cushioning conversion machine equipped with a microprocessor existed on the market at that time. The reason is that the persons working with such machines are technicians without electrical skills who therefore are not familiar with control devices. Thus, only with hindsight can it be considered obvious to use a microprocessor in such a machine. Claim 1 of the first auxiliary request involves therefore an inventive step.

Nowhere in prior art, a removal sensor at the exit of a cushioning conversion machine is disclosed or hinted at. This sensor provides the advantage that, only after removal of a cushioning product, the machine continues to produce the next product. In the presented "Greenfiller 550" machine such a sensor is not necessary because cut products fall down from the machine's exit so that the machine can produce continuously. This machine cannot therefore render such a sensor obvious so that the subject-matter of claim 1 of the second auxiliary request involves an inventive step.

Claims 22 and 24 of the second auxiliary request refer to claim 1. Consequently, their subject-matter is to be considered novel and to involve an inventive step for the same reason as the subject-matter of claim 1.

## Reasons for the Decision

### 1. *Procedural matter*

1.1 Whilst in its communication attached to the summons for oral proceedings in the opposition procedure the Opposition Division expressed its opinion that the alleged prior use was sufficiently proven, the Opposition Division then decided that this was not the case. Thus, whilst the appellant had no reason to search for further evidence prior to the oral proceedings in the opposition procedure, he obviously had reason to do so in the subsequent appeal procedure. This further evidence cannot therefore be considered late filed.

1.2 In its communication attached to the summons for oral proceedings in the appeal procedure the Board expressed its opinion that document D21 related to a "Greenfiller 550" machine with serial number 31177, whereas the documents submitted to prove the prior use of such a machine related to machines carrying much lower serial numbers, among these serial number 31042, so that it was uncertain whether the technical features derivable from document D21 applied also to machines having one of these lower serial numbers. The presentation of the "Greenfiller 550" machine with serial number 31042 during oral proceedings was therefore a reaction of the appellant to this opinion of the Board.

1.3 The documents submitted in the course of the appeal procedure as well as the presentation of the "Greenfiller 550" machine during oral proceedings are

therefore admitted and their contents introduced into the procedure in accordance with Article 114(1) EPC.

2. *Prior use*

The "Greenfiller 550" machine presented during oral proceedings was acknowledged by the respondent as prior art according to Article 54(2) EPC. He also confirmed that no discrepancy existed between the presented machine and document D21. In addition, the Board is satisfied that documents D27 and D28 prove that the "Greenfiller 550" machine with serial number 31042 was used in public before the priority date of the patent in suit, that document D21 also reveals the technical features of this machine, and that document D22 also applies to the presented machine.

3. *Main request*

The presented "Greenfiller 550" machine is a cushioning conversion machine for converting sheet-like stock material into cushioning products. It comprises a converting assembly including a forming assembly, a feeding assembly, and a cutting assembly, the forming assembly and the feeding assembly cooperating to convert the sheet-like stock material into a three-dimensional strip of dunnage, and the cutting assembly cutting the strip of dunnage into lengths. This is shown in Fig. 2 and on page 8 of document D21, in combination with pages 5, 6 and 8 of document D22; the converting assembly consists of two pairs of rollers, one roller of each pair being driven and thus feeding the paper to the other roller of each pair which cooperates with the respective driven roller to form a

strip of dunnage, and of a cutting assembly which cuts the dunnage into lengths. The feeding assembly of the "Greenfiller 550" machine is operable in a plurality of pre-programmed modes of operation (manual mode and automatic mode), wherein each of said plurality of modes of operation is controllable to produce cushioning products of different lengths (cf. page 9 of document D21). The "Greenfiller 550" machine further comprises a stock assembly positioned upstream of the converting assembly, which supplies the stock material to the forming assembly (cf. Figure 2 of document D21 and page 4 of document D22), and it comprises a controller which includes a selecting device for selecting any one of said plurality of modes of operation (switch D, cf. upper Figure on page 5 of document D21), a plurality of sensing devices for detecting the occurrence of respective predetermined events other than selecting the mode of operation (micro switches for detecting paper/paper out, cf. page 7, second paragraph and page 8 of document D21; detecting release of foot switch in manual mode, cf. page 8 of document D21; detecting length and number in automatic mode, cf. page 9 of document D21), and a central, programmable processing device (part of the controlling device in the control box designated "inverter" at the rear of the machine, cf. page 9 of document D22) which generates control signals based on the selected mode of operation and at least one predetermined event sensed by at least one of the plurality of sensing devices, the processing device being responsive to one of said sensing devices detecting a respective predetermined event in one of the modes of operation (e.g. release of foot switch in manual mode) and being responsive to a different one of

said sensing devices detecting a respective predetermined event in a different one of the modes of operation (e.g. number counter in automatic mode). Thus, the controlling device controls the feeding assembly and the cutting assembly in accordance with the generated control signals.

It is to be noted in that respect that the expression "central, programmable processing device" is not to be understood as a microprocessor. This expression is very general, and thus claim 1 covers also the case that this processing device is designed as a conventional device without a microprocessor or even as a device which is programmable by hardware (e.g. jumpers or switches) rather than by software. It is also to be noted that the "Greenfiller 550" machine allows controlling length and number in both modes of operation, in the manual mode by means of the footswitch and in the automatic mode by setting length and number at the control panel.

The "Greenfiller 550" machine comprises therefore all features of claim 1 of the main request. Consequently, the subject-matter of this claim lacks novelty (Article 54 EPC).

4. *First auxiliary request*

The mere presentation of the "Greenfiller 550" machine and documents D21 and D22 could not give information whether or not the control device of this machine comprises a microprocessor so that the replacement of the term "central, programmable processing device" by the term "microprocessor" according to claim 1 of the

first auxiliary request may establish novelty of the subject-matter of this claim. However, the feature that the cushioning conversion machine comprises a microprocessor cannot be considered inventive. At the priority date of the patent in suit, microprocessors had already been used since many years and control devices of any kind of machines had been equipped with microprocessors. The respondent's argument that the persons designing cushioning conversion machines had no electrical skills so that it had not been obvious to replace a conventional control device by a microprocessor cannot be accepted. Also the "Greenfiller 550" machine, which is to be considered closest prior art, has many electrical components (cf. page 9 of document D22) so that electrical engineers had to be involved in the development and design of this machine. These persons knew the advantages which microprocessors offer (e.g. higher flexibility), and for them it was therefore obvious to use microprocessor-based control devices instead of conventional control devices.

The subject-matter of claim 1 of the first auxiliary request thus does not involve an inventive step (Article 56 EPC).

5. *Second auxiliary request*

The subject-matter of claim 1 of the second auxiliary request differs from the "Greenfiller 550" machine in that it comprises a sensing device which detects the removal of a cushioning product from the machine's exit, and is thus novel.



Although the "Greenfiller 550" machine has paper sensors upstream of the converting assembly for initiating a stop of the machine if one of the supply rolls runs out of paper, it is not obvious to provide for a further sensor at the machine's exit. The cushioning products produced by the "Greenfiller 550" machine fall down from the machine's exit so that there is no need to consider removal of the cushioning product from the machine's exit. It also is not obvious to modify the "Greenfiller 550" machine to a design as shown in document D18 (cf. Fig. 3), where it may possibly be advantageous to detect removal of a product from the horizontal output board. In the "Greenfiller 550" machine, however, with its free exit, a removal sensor would not provide any advantage. Thus, the subject-matter of claim 1 of the second auxiliary request is to be considered to involve an inventive step.

Claims 22 and 24 of the second auxiliary request relate to the use of the cushioning conversion machine according to claim 1. Thus, also the subject-matter of claims 22 and 24 is to be considered to be novel and to involve an inventive step.

## 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 following documents:
  - (a) claim 1 filed as auxiliary request on 19 December 2005, and claims 2 to 24 presented as second auxiliary request during oral proceedings; and
  - (b) description: page 3 presented during oral proceedings, and pages 2, 4 to 13 as granted; and
  - (c) drawings: Figures 1 to 14 as granted.

The Registrar:

The Chairman:

M. Dainese

W. Moser