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D E C I S I O N
of 27 January 2003

Case Number: T 0720/00 - 3.2.4

Application Number: 93300155.4

Publication Number: 0553958

IPC: A21C 11/10

Language of the proceedings: EN

Title of invention:

Cutting apparatus for bar shaped plastic food

Patentee:

KOBIRD CO., Ltd

Opponent:

RHEON Automatic Machinery Co. Ltd

Headword:

-

Relevant legal provisions:

EPC Art. 56, 100(a),(c), 104, 123(2)

Keyword:

"Amendments auxiliary request 1 - agreed by the Board"

"Inventive step auxiliary request 1 - (yes)"

"Apportionment of costs - (no)"

Decisions cited:

T 0432/92, T 0113/96

Catchword:

-



Case Number: T 0720/00 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 27 January 2003

Appellant: RHEON Automatic Machinery Co. Ltd.
(Opponent) 2-3 Nozawa-Machi
Utsunomiya-Shi
Tochigi-Ken (JP)

Representative: Jackson, Robert Patrick
Frank B. Dehn & Co.
European Patent Attorneys
179 Queen Victoria Street
London EC4V 4EL (GB)

Respondent: KOBIRD CO., Ltd.
(Proprietor of the patent) 38-9 3-chome
Ninomiya
Fukui-shi
Fukui-ken (JP)

Representative: Pearce, Anthony Richard
Marks & Clerk
Alpha Tower
Suffolk Street Queensway
Birmingham B1 1TT (GB)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 26 April 2000
rejecting the opposition filed against European
patent No. 0 553 958 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: T. Kriner
H. Preglau

Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal, received at the EPO on 6 July 2000, against the decision of the Opposition Division, dispatched on 26 April 2000, on the rejection of the opposition against European Patent No. 0 553 958. The appeal fee was paid simultaneously and the statement setting out the grounds of appeal was filed on 6 September 2000.

II. The opposition was filed against the patent as a whole and based on Article 100(a) together with Articles 52(1) and 56 EPC, and on Article 100(c) together with Article 123(2) EPC.

In its decision the Opposition Division held that the grounds for opposition did not prejudice the maintenance of the patent unamended and that therefore the opposition was to be rejected.

III. Oral proceedings took place on 27 January 2003.

The Appellant requested that the decision under appeal be set aside and the European patent No. 0 553 958 be revoked.

The Respondent (Patent Proprietor) requested

- that the appeal be dismissed and that the patent be maintained unamended (main request); or
- that the decision under appeal be set aside and the patent be maintained on the basis of one of the auxiliary requests 1, 2 or 3 filed during the oral proceedings;

- that the alleged public prior use be not admitted into the proceedings;
- an apportionment of costs; and
- remittal of the case to the first instance, if the alleged public prior use is introduced into the proceedings.

IV. For the support of his argumentation, the Appellant cited the following documents:

D1: US-A-4 734 024

D2: EP-A-0 230 368

D3: EP-A-0 455 394

D4: EP-A-0 450 746

D5: EP-A-0 430 396

D6: US-A-3 351 026

D7: US-A-3 572 259.

D8: JP-A-2/276527, together with an English translation of this document

D9: JP-A-2/227062

D10: US-A-4 966 542 corresponding to D9

D11: JP-A-2/207748, together with an English translation of this document

D12: JP-A-6/7069 (priority document of the patent in suit), together with an English translation of this document.

Furthermore, the Appellant filed the following evidence in respect of an alleged public prior use of a machine called CN200:

- (a) a declaration signed by Mr Kazuyoshi Onoguchi on behalf of Rheon Automatic Machinery Co., Ltd., dated "12/2/25", together with an English translation of this declaration;
- (b) in-house instructions to deliver a CN200 machine to a factory of Kabushiki Kaisha Kiyoken of 6 March 1991, together with an English translation of (relevant) parts of these instructions;
- (c) a statement of delivery of a CN200 machine to Kabushiki Kaisha Kiyoken on 28 March 1991 signed by Mr Yoshiro Kimizuka, together with an English translation of this statement;
- (d) drawings (Figures 1 to 7) of a CN200 engine and an explanation of these drawings in English;
- (e) in-house information sheet on the manufacture of special parts for a CN200 machine of 14 March 1991, together with an English translation of (relevant) parts of this information;
- (f) details of a contract dated 20 October 1990, together with an English translation of (relevant) parts of these details;

- (g) a video cassette of the CN200 machine sold to Kiyoken, referred to in document a;
- (h) a notarised declaration dated "12/3/23", signed by Mr Kazuyoshi Onoguchi including a notarial certificate, together with an English translation of the notarial certificate;
- (i) a notarised declaration signed by Mr Naobumi Nonami including a notarial certificate, together with an English translation of this declaration and of the notarial certificate;
- (j) a notarised declaration signed by Mr Takeshi Ishibashi including a notarial certificate, together with an English translation of this declaration and of the notarial certificate;
- (k) an in-house outline of the sales agreement between Rheon and Kiyoken concerning the CN200 machine delivered to Kiyoken on 20 March 1991.

In addition, the Appellant offered the testimony of Mr Onoguchi (see letter of 6 September 2000, page 8, paragraph 2).

V. Claim 1 as granted reads as follows:

"An apparatus for cutting food comprising
(C1) a cutter having four shutter pieces (1),
(C2) each of the shutter pieces (1) having a contact tip (11) and a cutter side (12),
(C3) wherein the contact tip (11) of each shutter piece (1) is arranged to contact and to conform with the shape of the cutter side (12) of an adjacent

- shutter piece (1),
- (C4) the shutter pieces (1) defining therebetween a throttle cutting area (C), the shutter pieces (1) being arranged to open and close said throttle cutting area (C) with the contact tip (11) of each shutter piece (1) contacting the cutter side (12) of an adjacent shutter piece (1) to cut the plastic food material, in use,
 - (C5) a drive mechanism for driving each of the shutter pieces (1) to open and close the throttle cutting area (C),
 - (R1) a cutter raising/lowering mechanism for raising and lowering the cutter,
 - (N1) an extrusion nozzle arranged to extrude plastic food material through said throttle cutting area (C),
 - (R2) a table for receiving food from the cutter, in use,
 - (R3) the table being arranged to be raised and lowered by a table raising/lowering mechanism and characterised by the table raising/lowering mechanism comprising a cam and a rod,
 - (R4) a drive mechanism for driving the table raising/lowering mechanism and the cutter raising/lowering mechanism, the drive mechanism comprising a motor and endless transmission means for transmitting power from the motor to the table raising/lowering mechanism and the cutter raising/lowering mechanism,
 - (R5) the table and the cutter being arranged to be lowered at substantially the same speed as the speed of extrusion of the food material, in use,
 - (C6) and wherein the shutter pieces (1) are pivotable to open and close the throttle cutting area (C),
 - (C7) the cutter side of each shutter piece (1)

extending from the contact tip (11) thereof towards the pivot axis of the shutter piece(1), the pivot axis being spaced from the contact tip (11)."

The numbering of the features (C1, C2 ...) has been added by the Board in accordance with the numbering of the Appellant.

Claim 1 of the auxiliary request 1 differs from claim 1 of the main request in that the feature (C3) "wherein the contact tip (11) of each shutter piece (1) is arranged to contact and to conform with the shape of the cutter side (12) of an adjacent shutter piece (1)" has been reformulated as follows:

"wherein the contact tip (11) of each shutter piece (1) is arranged to contact and to conform with the shape of the cutter side (12) of an adjacent one of the four shutter pieces (1)".

Furthermore, in the feature (R5) according to which "the table and the cutter being arranged to be lowered at substantially the same speed as the speed of extrusion of the food material in use", the expression "substantially" has been deleted.

Claims 1 of the auxiliary requests 2 and 3 differ from claim 1 of the main request by the addition of further features.

VI. In support of his request the Appellant relied essentially on the following submissions:

The present claims did not meet the requirements of Article 123(2) EPC, since the feature according to

which the table and the cutter were arranged to be lowered at substantially the same speed or at the same speed as the speed of extrusion of the food material, was not disclosed in the originally filed application. This document merely disclosed that the table descended at the same speed as the food material. The cutter was only described to move in a similar manner as the table. This could, however, only be understood in such a way that the cutter moved in the same direction as the table, but not at the same speed. The indication that the vertical motion of the cutter could prevent the position squeezed by the cutter side from sliding over the food material did not necessarily mean that the cutter had to descend at the same speed as the food material, since such a sliding could already be prevented when the cutter bites into the surface of the food material.

Furthermore, the subject-matter of claim 1 according to all present requests was not based on an inventive step.

The apparatus defined in these claims differed from the public prior use of the CN200 machine only in that the cutter did not comprise four pivotable shutter pieces, but a plurality of shutter pieces of the type shown in document D1, in that the drive mechanism for driving the table raising/lowering mechanism and the cutter raising/lowering mechanism did not comprise an endless transmission means, and in that the table and the cutter were not arranged to be lowered at exactly the same speed of extrusion of the food material, in use. The main problem to be solved by the patent in suit could therefore be regarded as to provide an apparatus for cutting food which has an improved cutter. For the

solution of this problem each of documents D3 to D5 suggested the provision of a cutter having a plurality of pivotable shutter pieces as defined in claim 1 of the present requests. The selection of four such shutter pieces was an arbitrary selection which could be made by the skilled person, if the quality requirements were low, without the exercise of inventive skill, in particular as D5 showed in its Figure 4 that only a small number of shutter pieces could be used. The provision of an endless transmission means for the drive mechanism was a matter of a simple design procedure which also did not require an inventive step. The adjustment of the speed of the downward movement of the table and the cutter was a simple design choice which was necessary for adapting an apparatus for cutting food to a particular product. Furthermore, such an adjustment was suggested for example by D10.

Starting from D1 as representing the most relevant state of the art, which disclosed an apparatus as defined in the preamble of claim 1 according to all present requests, the object to be achieved by the subject-matter of claim 1 according to the present requests could be regarded as to provide an apparatus for cutting food which produced a product having an even and smooth outer cover and had no teardrop shape. The provision of pivotable shutter pieces as defined in claim 1 for improving the outer cover of the product to be cut was suggested by each of D3, D4 and D5, and the provision of a table raising/lowering mechanism and of a drive mechanism as defined in claim 1 for avoiding a teardrop shape of this product was suggested by D10 or any of D6 and D7, in particular since the movement of the table and of the cutter was not clearly described

in D1. The remaining differences referred to arbitrary selections which did not require an inventive exercise. Hence, the provision of the characterizing features of claim 1 was obvious in the light of the object to be achieved when starting from D1.

Furthermore, the apparatus for cutting food disclosed in D6 or D7 could be regarded as the most relevant state of the art. This apparatus comprised a cutter-system comprising two discs, each having a helical cutting edge which formed the cutter so that the cutter descended together with a table when the discs were rotated for the cutting process. Therefore, the subject-matter of claim 1 differed from the apparatus according to D6 or D7 only by the features concerning the provision of a cutter having pivotable shutter pieces. Since the cutter-system of the apparatus disclosed in D6 or D7 was heavy and required for each kind of food separate cutter-discs, the object to be achieved by the patent in suit when starting from D6 or D7 could be regarded as to provide an apparatus for cutting food which had an improved cutter. The skilled person confronted with this object would immediately recognise that the cutter according to D6 or D7 could be replaced by the pivotal shutter type cutter as disclosed in D3, D4 or D5, and consequently arrive at the claimed invention without the use of inventive skill.

Finally also D10 could be regarded as representing the most relevant state of the art. Since this document showed all features of claim 1 of the present requests, except those concerning the provision of pivotable shutter pieces, the object to be achieved by the patent in suit could be regarded again as to provide an

apparatus for cutting food which had an improved cutter. With respect to this situation, it was obvious to replace the cutter of D10 by a cutter as disclosed in any of documents D3, D4 or D5 which led the skilled person directly to the subject-matter of claim 1.

VII. The Respondent disputed the views of the Appellant. His arguments can be summarized as follows:

All present claims met the requirements of Article 123(2) EPC. Although it was not explicitly disclosed in the originally filed application that the table and the cutter were arranged to be lowered at the same speed as the speed of extrusion of the food material, this feature was comprised by the implicit disclosure of the application, and was supported by Figures 16 to 18 and the description on page 5, paragraph 3. The skilled person knew that the expression "the same speed" did not mean "exactly the same speed", since tolerances could not be avoided when driving any device. Consequently, it was clear from the originally filed application that the table and the cutter had to be lowered at substantially the same speed as the speed of extrusion of the food material.

Moreover, the subject-matter of all present claims also involved an inventive step.

The CN200 machine appeared to comprise shutter pieces as shown in D1 or D2, and a table and a cutter which were both lowered, but at different speeds. According to D3 the use of the shutter pieces as shown in D1 or D2 was problematic, because only up to six of these shutter pieces could be arranged in a cutter. In order to overcome this deficiency, D3, D4 and D5 suggested

pivotable shutter pieces which allowed the use of more than twelve shutter pieces in a cutter. Hence D3, D4 and D5 could not suggest the use of a cutter having only four pivotable shutter pieces. Moreover, D10 did not unequivocally disclose an apparatus for cutting food, where the table and the cutter were arranged to be lowered at the same speed. D10 only described that these elements moved synchronously. Therefore D10 gave no clear teaching for providing a table and a cutter which were lowered at the same speed.

The movement of the table and of the cutter described in D1 was not ambiguous. Figures 11 and 12 clearly showed that only the food material and the cutter were lowered at the same speed, and that the table was raised during the downward movement of the food material and of the cutter for shaping the food. Since the teardrop problem was already solved by the upward movement of the table, there was no reason to look for another solution of this problem. With respect to the object to produce a product having an even and smooth outer cover, the provision of a cutter according to any of D3, D4 or D5 would not lead to the cutter defined in claim 1, since these documents did not suggest a cutter having only four pivotable shutter pieces.

D6 or D7 could not be regarded as representing the most relevant state of the art, since these documents referred to an apparatus for cutting food which was completely different to the apparatus of the patent in suit. The cutter comprised two rotating discs which did not move in the axial direction, and the table was rotated. Since starting from D6 or D7 would require to completely abandon the teaching of these documents, D6 and D7 could only be considered on a hindsight basis.

D10 disclosed a relatively complicated apparatus for cutting food, wherein the cutter was combined with a gear box and a special drive mechanism. Hence, it was not possible to simply replace the cutter of D10 and to ignore the rest of the teaching of D10.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 The Appellant's objection according to Article 100(c) EPC that claim 1 of all present claims did not meet the requirements of Article 123(2) EPC, is based exclusively on the assumption that the following feature (R5) was not disclosed in the application as filed:

"the table and the cutter being arranged to be lowered at substantially the same speed or at the same speed as the speed of extrusion of the food material, in use".

An examination of the Board showed that in fact all further features of the present claims have been disclosed in the originally filed application. Additionally, it has been found that the description and the drawings have only been adapted to the amendments of claim 1.

2.2 The movement of the table and of the cutter is described exclusively on page 5, paragraph 3 of the originally filed documents.

This section discloses

- that the table is arranged to be lowered at the same speed as the speed of extrusion of the food material;
- that the cutter is arranged to move in a similar manner as the table; and
- that the vertical motion can prevent the position squeezed by the cutter side from sliding over the bar shape food material.

With respect to this disclosure, it is obvious for the skilled person that both the table and the cutter must have a downward speed which is the same as that of the extruded food material, i.e. that the cutter has to be lowered at the same speed as the table.

The Appellant's argumentation that the above mentioned disclosure of the originally filed application could only be understood in such a way that the cutter and the table moved in the same direction, but not at the same or substantially the same speed, is not convincing. The statement that the vertical motion can prevent the position squeezed by the cutter side from sliding over the bar shape food material is a clear indication that any relative movement between the cutter and the food material has to be avoided during the cutting action. Or in other words that the cutter has to be lowered at the same speed as the food material during this phase of its movement. This interpretation is supported by the originally filed Figures 16 to 18, which also show that the cutter and the food material are lowered at the same speed during

the cutting process. If it was intended to prevent the said sliding by the inevitable biting of the cutter into the surface of the food material, there would have been no pointer that the sliding can be prevented by the vertical motion of the cutter.

- 2.3 Therefore, the feature according to which the table and the cutter are arranged to be lowered at the same speed as the speed of extrusion of the food material, is disclosed in the originally filed documents.

These documents do, however, not disclose that the table and the cutter are arranged to be lowered at **substantially** the same speed as the speed of extrusion of the food material.

The Respondent's argument that the substantially same speed was also disclosed in the originally filed documents, since the skilled person knew that speed tolerances could not be avoided, cannot be agreed. Since the skilled person is indeed aware of the fact that speed tolerances cannot be avoided, he knows that the expression "the same speed" includes a speed range which is defined by the usual tolerances around the given speed. By contrast the expression "substantially the same speed" includes intentional divergences from this speed and defines a speed range which is wider than the one defined by "the same speed", and which extends beyond the tolerances. Such intentional divergences are, however, not disclosed in the application as filed.

- 2.4 Since the introduction of the word "substantially" has resulted in a violation of the requirements according to Article 123(2) EPC, the main request and the

auxiliary requests 2 and 3 have to be rejected.

Therefore, only the auxiliary request 1 has been considered with respect to the question of inventive step.

3. *State of the art*

3.1 The evidence filed with respect to the alleged public prior use of the CN200 machine shows (see in particular Figures 1 to 7 of document d and the video cassette g) that this machine is an apparatus for cutting food comprising a cutter (5) having shutter pieces, the shutter pieces defining therebetween a throttle cutting area, the shutter pieces being arranged to open and close said throttle cutting area to cut the plastic food material, in use, a drive mechanism for driving each of the shutter pieces to open and close the throttle cutting area, a cutter raising/lowering mechanism (6 - 9) for raising and lowering the cutter, an extrusion nozzle arranged to extrude plastic food material (see Figure 5) through said throttle cutting area, a table (1) for receiving food from the cutter, in use, the table being arranged to be raised and to be lowered by a table raising/lowering mechanism (2 - 4), the table raising/lowering mechanism comprising a cam (2), a drive mechanism for driving the table raising/lowering mechanism and the cutter raising/lowering mechanism (via shafts 10), the drive mechanism comprising a motor and transmission means for transmitting power from the motor to the table raising/lowering mechanism and the cutter raising/lowering mechanism (implicit).

However, as admitted by the Appellant, the cutter of

the CN200 machine does not comprise four pivotable shutter pieces as defined in claim 1 of the auxiliary request 1, and the drive mechanism does not comprise an endless transmission means. Furthermore, the table raising/lowering mechanism does not comprise a rod, and the table and the cutter are not arranged to be lowered at the same speed as the speed of extrusion of the food material, in use. The expression "rod" describes a stretched element having a relatively long axial extension and a relatively short radial extension. Hence, the element 4 shown in Figures 1 to 4 of document d cannot be regarded as a rod. Moreover, Figure 7 of document d clearly shows (see different inclinations of the curves corresponding to the movement of the conveyor and of the cutter) that the speeds of the downward movement of the table and of the cutter are different.

3.2 Each of the documents D1 and D2 discloses an apparatus for cutting food as defined in the pre-characterising portion of claim 1 of the auxiliary request 1 (see for example Figures 13 to 15 of each document), in particular an apparatus for cutting food comprising a cutter having four shutter pieces (77, see Figures 16 A, B), each of the shutter pieces having a contact tip (80) and a cutter side (78), wherein the contact tip of each shutter piece is arranged to contact and to conform with the shape of the cutter side of an adjacent one of the four shutter pieces, the shutter pieces defining therebetween a throttle cutting area (83), the shutter pieces being arranged to open and close said throttle cutting area with the contact tip of each shutter piece contacting the cutter side of an adjacent shutter piece to cut the plastic food material, in use, a drive mechanism (25, 27, 29, 31 -

35, 37, 39) for driving each of the shutter pieces to open and close the throttle cutting area, a cutter raising/lowering mechanism (43 - 45, 47, 49) for raising and lowering the cutter, an extrusion nozzle (lower part of supply device 51) arranged to extrude plastic food material (15) through said throttle cutting area, a table (53) for receiving food from the cutter, in use, the table being arranged to be raised and to be lowered by a table raising/lowering mechanism (46).

However, D1 and D2 do not disclose any feature of the characterizing portion of claim 1 of the auxiliary request 1.

With respect to the movement of the table and the cutter, D1 and D2 disclose that the cutter is arranged to be lowered at the same speed as the food material, and that the table is raised when the cutter is lowered (see Figures 11 and 12, and the corresponding description, D1: column 5, lines 45 to 50; D2: column 5, lines 50 to 56). Hence, the Appellant's statement that the movement of the cutter and the table was not clearly disclosed in D1 is not convincing.

- 3.3 Each of D3, D4 and D5 appears to disclose an apparatus for cutting food comprising a cutter having a plurality of shutter pieces (10), each of the shutter pieces having a contact tip (D3 and D4: 18; D5: 20) and a cutter side (D3 and D4: 17; D5: 19), wherein the contact tip of each shutter piece is arranged to contact and to conform with the shape of the cutter side of an adjacent shutter piece (D3 and D4: see Figures 2, 3 and 11; D5: see Figures 3, 4 and 10), the shutter pieces defining therebetween a throttle cutting

area, the shutter pieces being arranged to open and close said throttle cutting area with the contact tip of each shutter piece contacting the cutter side of an adjacent shutter piece to cut the plastic food material, in use, a drive mechanism (D3 and D4: see Figures 4 to 6, items 20 to 28, 34; D5: see column 3, lines 34 to 37) for driving each of the shutter pieces to open and close the throttle cutting area, a cutter raising/lowering mechanism (D3 and D4: see Figure 5, items 31 to 33, 31' to 33'; D5: implicit, see Figures 7, 8) for raising and lowering the cutter, wherein the shutter pieces are pivotable to open and to close the throttle cutting area, the cutter side of each shutter piece extending from the contact tip thereof towards the pivot axis of the shutter piece, the pivot axis being spaced from the contact tip.

D5 additionally discloses that the apparatus comprises a table (a tray) for receiving food from the cutter (see column 4, lines 24 to 26).

However, none of the devices according to D3 - D5 comprises a table raising/lowering mechanism. Furthermore, none of the cutters of these devices comprises four shutter pieces. The cutter disclosed in D3 and D4 comprises at least twelve shutter pieces (10; see D3: column 5, lines 20 to 25; see D4: column 5, lines 9 to 12) and the cutter disclosed in D5 comprises at least six shutter pieces (see Figure 4).

- 3.4 Each of the documents D6 and D7 discloses an apparatus for cutting food (see Figure 1) comprising a cutter (D6: 1; D7: 12), an extrusion nozzle arranged to extrude plastic food material, and a table (D6: 7; D7: 18) for receiving food from the cutter, in use, the

table being arranged to be raised and to be lowered by a table raising/lowering mechanism which comprises a cam (D6: 11; D7: 20) and a rod (D6: 8; D7: 19).

The cutter consists of two discs, each having a spiral line (b) formed by a spiral cutting edge (D6: 2; D7: 13). The discs are arranged to be rotated, but not to be raised and lowered. The Appellant's opinion according to which the cutting edges form the cutter cannot be shared by the Board. When compared to the cutter of the patent in suit, the cutting edges correspond to the cutter sides of the shutter pieces. However, the cutting edges cannot be regarded as the complete cutter which in case of D6 and D7 is formed by both of the rotating discs. Consequently the cutter of D6 and D7 has none of the features (C1 to C7) described in claim 1 of the auxiliary request 1, and the apparatus according to D6 or D7 does not comprise a cutter raising/lowering mechanism (feature R1).

It should furthermore be indicated that the speed of feeding is made preferably slightly lower than the descending speed, during rotation, of the spiral line (b) (see column 2, lines 63 to 66).

- 3.5 D8 discloses an apparatus for cutting food comprising a cutter having four shutter pieces (disks 2, 2'), the shutter pieces defining therebetween a throttle cutting area (see Figures 3, 4), the shutter pieces being arranged to open and close said throttle cutting area to cut the plastic food material, in use, a drive mechanism (16, 17, 19, 21, 22) for driving each of the shutter pieces to open and close the throttle cutting area, a cutter raising/lowering mechanism (23 - 30) for raising and lowering the cutter, an extrusion nozzle

(5) arranged to extrude plastic food material through said throttle cutting area, a table (4) for receiving food from the cutter, in use, the table being arranged to be raised and to be lowered by a table raising/lowering mechanism (see Figures 5 to 8), and a drive mechanism for driving the table raising/lowering mechanism and the cutter raising/lowering mechanism.

However, the cutter does not comprise shutter pieces as defined in claim 1, but four rotating discs.

- 3.6 Each of D9, D10 and D11 discloses an apparatus for cutting food comprising a cutter having four shutter pieces (2a, 2b, 3a, 3b), the shutter pieces defining therebetween a throttle cutting area, the shutter pieces being arranged to open and close said throttle cutting area to cut the plastic food material, in use, a drive mechanism (M1, 55, 54, 53, 53a, 51, G) for driving each of the shutter pieces to open and close the throttle cutting area, a cutter raising/lowering mechanism (M1, 55, 56, 57, 52a,b,c) for raising and lowering the cutter, an extrusion nozzle (lower portion of extruder 1) arranged to extrude plastic food material through the cutting area, a table (6) for receiving food from the cutter, in use, the table being arranged to be raised and to be lowered by a table raising/lowering mechanism (M1, 55, 56, 57, 52d, 61, 63, and 52b,c,a, 62) comprising a cam (52b and 52d) and a rod (61), and a drive mechanism for driving the table raising/lowering mechanism and the cutter raising/lowering mechanism (M1, 55, 56, 57), the drive mechanism comprising a motor (M1) and transmission means for transmitting power from the motor to the table raising/lowering mechanism and the cutter raising/lowering mechanism.

Moreover, since the linkage (62) which is fixedly connected to the rod (52a) of the cutter raising/lowering mechanism abuts to the upper surface of a portion (61a) of the rod (61) of the table raising/lowering mechanism, the table and the cutter are arranged to be lowered at the same speed (see also D10, column 4, lines 24 to 34) which is obviously the speed of extrusion of the food material, in use.

However, the shutter pieces according to D9, D10 and D11 are no pivotable shutter pieces as defined in claim 1 of the auxiliary request 1, but discs having an outer cutting edge. Furthermore, the drive mechanism does not comprise an endless transmission means.

4. *Inventive step*

4.1 General remarks

4.1.1 To assess inventive step, the Boards normally apply the problem-solution approach. This comprises amongst others the step of identifying the closest prior art and the step of defining the problem to be solved by the claimed invention with respect to that identified closest prior art.

The closest prior art is normally a prior art conceived for the same purpose or aiming at the same objective as the claimed invention and having the most relevant technical features in common, i.e. requiring the minimum of structural modifications (see Case Law of the Boards of Appeal of the European Patent Office, 4th edition 2001, English version, I.D.3.1, page 102).

An objective definition of the problem to be solved

should normally start from the problem described in the patent in suit. Only if an examination showed that the problem disclosed had not been solved or if inappropriate prior art were used to define the problem, was it necessary to investigate which other problem objectively existed (see Case Law of the Boards of Appeal of the European Patent Office, 4th edition 2001, English version, I.D.4.3, page 107).

- 4.1.2 In the present case, the Board agrees to the Appellant that the closest prior art could be represented by the alleged public prior use of the CN200 machine or by any of the documents D1 (or D2) or D10.

However, the Appellant's statement that the closest state of the art could also be represented by D6 or D7 is not convincing. As shown in section 3.4 above, the apparatus for cutting food according to D6 or D7 comprises only few of the features of the subject-matter defined in claim 1 of the auxiliary request 1. In particular the most relevant features concerning the type of cutter and the movement of the cutter are missing in the apparatus according to D6 or D7.

Furthermore, D6 and D7 have been published a long time before the other documents cited by the Appellant and refer to an apparatus comprising a cutter-system which is completely different compared to the cutter-systems of these documents and of the patent in suit. Therefore it is not likely that the skilled person would start from the state of the art disclosed in D6 or D7 when it is intended to develop an apparatus of the type having a cutter which comprises a plurality of shutter pieces and a mechanism for raising and lowering the cutter as a whole, let alone a system with the same lowering

speed for the table, the cutter and the extruded food material.

Consequently D6 and D7 are not considered as a suitable starting point for the problem-solution approach in the present case, and therefore cannot be considered as representing the closest prior art.

- 4.1.3 The problem described in the patent in suit is the provision of a cutting apparatus which allows to cut plastic food material beautifully, and which has a simple construction (see patent specification, column 1, lines 26 to 30).

Since there is no doubt that this problem is a realistic and technically relevant one and has been solved by the apparatus of claim 1 of the auxiliary request 1, and since no inappropriate prior art has been used to define this problem, there is no reason to consider another problem, such as for example the one set out by the Appellant (see section VI above).

Therefore only the problem defined in the patent in suit has been considered for the assessment of inventive step.

- 4.2 Starting from the alleged public prior use

- 4.2.1 The subject-matter of claim 1 of the auxiliary request 1 differs from the alleged public prior use of the CN200 machine at least by the following features:

C1: the cutter has four shutter pieces;

C2: each of the shutter pieces has a contact tip and a

cutter side;

C3: the contact tip of each shutter piece is arranged to contact and conform with the shape of the cutter side of an adjacent one of the four shutter pieces;

C4: the shutter pieces are arranged to open and close the throttle cutting area with the contact tip of each shutter piece contacting the cutter side of an adjacent cutter piece;

C6: the shutter pieces are pivotable to open and to close the throttle cutting area;

C7: the cutter side of each shutter piece extends from the contact tip thereof towards the pivot axis of the shutter piece, the pivot axis being spaced from the contact tip;

R5: the table and the cutter are arranged to be lowered at the same speed as the speed of extrusion of the food material, in use,

and by the following parts of features R3 and R4 according to which

R3': the table raising/lowering mechanism comprises a rod;

R4': the transmission means is an endless transmission means.

4.2.2 The Board agrees to the Appellant's argumentation that each of documents D3, D4 and D5 suggests the provision

of a cutter comprising a plurality of shutter pieces having all of the features C2, C3, C4, C6 and C7 mentioned above, in order to cut plastic food beautifully, and that the use of a rod in the table raising/lowering mechanism and of an endless transmission means in the drive mechanism according to features R3' and R4' is an obvious matter of a design procedure, in particular when the construction of the cutting apparatus has to be simplified.

However, the Appellant's statement that the selection of four shutter pieces according to feature C1 and the adjustment of the tables and cutters downward movement according to feature R5 was an obvious selection, is not convincing.

Each of D3, D4 and D5 points out that the use of slidable shutter pieces as used in the cutter according to D1 or D2, and therefore as used in the CN200 machine, is disadvantageous, since the number of such shutter pieces is limited up to about six (D3: see column 1, lines 10 to 40; D4: see column 1, lines 9 to 36; D5: see column 1, lines 8 to 30). Moreover, D3 and D4 suggest the use of at least twelve pivotable shutter pieces (D3: see column 5, lines 13 to 25; D4: see column 5, lines 2 to 12), and D5 suggests the use of at least six shutter pieces (see Figure 4 and column 3, lines 27 to 43) for cutting plastic food beautifully. Consequently, the skilled person who seeks to replace the cutter of the CN200 machine, in order to cut plastic food beautifully, is taught to use at least six shutter pieces of the type disclosed in D5, or at least twelve shutter pieces of the type disclosed in D3 and D4. There is, however, no teaching to replace the shutter pieces of the type disclosed in D1 and D2 by

less than six shutter pieces according to D5, or less than twelve shutter pieces according to D3 and D4, if it is intended to cut plastic food more beautifully. Hence, the use of four shutter pieces according to D3, D4 or D5 would be against the teaching of these documents.

The argument according to which the number of shutter pieces was only related to quality considerations of the final product, and that therefore the selection of four shutter pieces was obvious, is also not convincing. Indeed, as indicated above, the sole reason to modify the shutter pieces of the type disclosed in D1 or D2 was quality of the final product. Therefore, it is not likely that the skilled person, after having modified the shutter pieces for quality reasons according to the teaching of D3, D4 or D5, would abandon this guiding principle and modify the shutter pieces once more so that the quality of the final product is reduced. Otherwise, there would have been no reason at all to modify the shutter pieces of the type disclosed in D1 or D2.

As shown by the available state of the art, the movement of a cutter and a table in an apparatus for cutting food can be designed in different ways. According to the alleged public prior use of the CN200 machine the table and the cutter are both lowered at different speeds, according to D1 the table raises when the cutter is lowered, and according to D10 the table and the cutter are lowered at the same speed. Hence the selection of exactly the movement according to D10 is not obvious, in particular since D10 does not describe any advantage of the particular movement of the table and the cutter disclosed in this document, so that the

skilled person is not guided by any teaching of D10 in this respect.

Therefore, the subject-matter of claim 1 of the auxiliary request 1 is not obvious when starting from the alleged public prior use of the CN200 machine as representing the most relevant state of the art.

4.3 Starting from D1 (or D2)

4.3.1 The subject-matter of claim 1 of the auxiliary request 1 differs from the apparatus disclosed in D1 (or D2) by the following features:

R4: the apparatus comprises a drive mechanism for driving the table raising/lowering mechanism and the cutter raising/lowering mechanism, the drive mechanism comprising a motor and endless transmission means for transmitting power from the motor to the table raising/lowering mechanism and the cutter raising/lowering mechanism;

R5: the table and the cutter being arranged to be lowered at the same speed as the speed of extrusion of the food material, in use;

C6: the shutter pieces are pivotable to open and to close the throttle cutting area;

C7: the cutter side of each shutter piece extends from the contact tip thereof towards the pivot axis of the shutter piece, the pivot axis being spaced from the contact tip;

and by that part of feature R3 according to which

R3''': the table raising/lowering mechanism comprises a cam and a rod;

4.3.2 In analogy to the findings in section 4.2.2 above the Board agrees that each of documents D3, D4 and D5 suggests a replacement of the slidable shutter pieces of the apparatus according to D1 by a plurality of shutter pieces having all features C2 to C7 for cutting plastic food beautifully. It is also agreed that D10 suggests the provision of a table raising/lowering mechanism and of a drive mechanism comprising features R3'' and R4, except the feature concerning an endless transmission, for simplifying the construction of the apparatus of D1, and that the use of an endless transmission means in such a drive mechanism is an obvious design possibility for this purpose.

However, as already brought forward in section 4.2.2 above, the replacement of four shutter pieces of the type disclosed in D1 (or D2) (see Figures 16 A and B) by only four shutter pieces according to any of D3, D4 or D5 is not obvious, since this would be against the teaching of D3, D4 or D5.

Furthermore, an operation of the table and the cutter of the apparatus according to D1 so that they were lowered at the same speed as the speed of extrusion of the food material, in use (feature R5), would be against the teaching of D1, according to which the table has to be raised when the cutter is lowered (see section 3.2 above).

Moreover, it cannot be said to be obvious, after having chosen a prior art apparatus as the so-called "closest prior art", to modify quasi everything, i.e. the whole

cutter and the whole drive-mechanism for the raising/lowering of the cutter and the table, so that in fact quasi nothing is left from the "closest prior art" after that modification. This shows clearly that this choice was only the result of an ex-post facto analysis.

Therefore a combination of the teachings of documents D1 (or D2) and D3, D4 or D5 and D10 does not lead in an obvious way to the subject-matter of claim 1 of the auxiliary request 1.

4.4 Starting from D10

4.4.1 The subject-matter of claim 1 of the auxiliary request 1 differs from the apparatus disclosed in D10 (or D9, or D11) by the following features:

C2: each of the shutter pieces has a contact tip and a cutter side;

C3: the contact tip of each shutter piece is arranged to contact and to conform with the shape of the cutter side of an adjacent shutter piece,

C6: the shutter pieces are pivotable to open and to close the throttle cutting area;

C7: the cutter side of each shutter piece extending from the contact tip thereof towards the pivot axis of the shutter piece, the pivot axis being spaced from the contact tip;

and by those parts of features C4 and R4, according to which

C4': the shutter pieces are arranged to open and close the throttle cutting area with the contact tip of each shutter piece contacting the cutter side of an adjacent shutter piece;

R4': the transmission means is an endless transmission means.

4.4.2 Although it is true that the skilled person would consider the provision of a cutter of the type disclosed in any of D3, D4 or D5 in the apparatus according to D10 when he intends to cut the food material more beautifully, the provision of such a cutter would not lead to the subject-matter of claim 1 of the auxiliary request, since a selection of such a cutter having only four shutter pieces would be against the teaching of D3, D4 or D5 (see section 4.2.2 above).

With respect to this finding it may be left open whether or not the skilled person would replace the drive mechanism of D10 by a drive mechanism comprising an endless transmission means in order to simplify the known apparatus.

4.5 Therefore the Board comes to the conclusion that the subject-matter of claim 1 of the auxiliary request 1 cannot be derived in an obvious manner from the cited prior art and accordingly involves an inventive step (Article 56 EPC).

5. The present evidence a - k, and the statements of the Appellant clearly showed that the subject-matter of claim 1 of the auxiliary request 1 differs from the alleged public prior use of the CN200 machine amongst others by the features concerning the provision of a

cutter of the type disclosed in D3, D4 or D5, and the lowering of the table and the cutter at the same speed. As shown in section 4.2 above, the provision of these features in the allegedly prior used CN200 machine is not obvious.

As a result of these findings it was not necessary to further consider the alleged public prior use. In particular there is no reason to hear the witness offered by the Appellant, or to remit the case to the first instance. Furthermore, the question whether or not the alleged public prior use should be admitted into the proceedings is irrelevant.

6. The Respondent's request for an apportionment of costs has been filed with respect to the unnecessary work required to consider documents D8 - D11 and g - k which had been submitted for the first time in the appeal proceedings.

In principle, each party to opposition proceedings meet its own costs. However, under Article 104(1) EPC the Opposition Division or Board of Appeal can, for reasons of equity, order a different apportionment of costs incurred during taking of evidence or in oral proceedings. According to the case law of the Boards of Appeal an apportionment of costs is justified, if the conduct of one party is not keeping with the care required, that is if costs arise from culpable actions of an irresponsible or even malicious nature (see for example T 432/92, not published in OJ EPO).

In the present case, however, the Appellant filed together with the statement setting out the grounds of appeal documents D8 - D11 and evidence g - k. Documents

D8 - D11 have been clearly filed as a reaction to the argumentation of the Opposition Division in the decision rejecting the opposition, and the evidence g - k has been filed as a supplement to (rather a duplication of) the already present evidence a - f to prove the alleged public prior use of the CN200 machine.

Since the filing of new documents together with the statement setting out the grounds of appeal, for reinforcing the line of attack already made before the first instance has to be considered as the normal behaviour of a losing party and does not constitute an abuse of procedure (see T 113/96, not published in OJ EPO), an apportionment of costs is therefore not justified in the present case. This conclusion is additionally supported by the fact that D9, D10 and D11 are documents of the same inventor as of the patent in suit, that D8 is a short, technically not complicated document, and that the evidence according to g - k does not introduce new facts.

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:

Claim: Claim 1 of the first auxiliary request as filed during the oral proceedings on 27 January 2003;

Description: Columns 1 to 4 as filed during the oral proceedings on 27 January 2003;

Drawings: Figures 1 to 15 as granted.

3. The request for apportionment of costs is refused.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries