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**D E C I S I O N**  
**of 9 December 1999**

**Case Number:** T 0098/98 - 3.2.4

**Application Number:** 91202833.9

**Publication Number:** 0483930

**IPC:** A47J 25/00

**Language of the proceedings:** EN

**Title of invention:**

Tool for separating a core, a rind and flesh of a fruit, in particular a pineapple

**Patentee:**

Vacu Products B.V.

**Opponent:**

HP Haushaltprodukte GmbH

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

"Inventive step - yes"

**Decisions cited:**

-

**Catchword:**

-



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Boards of Appeal

Chambres de recours

Case Number: T 0098/98 - 3.2.4

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.4**  
**of 9 December 1999**

**Appellant:** HP Haushaltprodukte GmbH  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 26 November 1997  
rejecting the opposition filed against European  
patent No. 0 483 930 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** C. A. J. Andries  
**Members:** M. G. Hatherly  
R. E. Teschemacher

## Summary of Facts and Submissions

I. The decision of the opposition division to reject the opposition against European patent No. 0 483 930 was posted on 26 November 1997. The appellant (opponent) filed an appeal against this decision and paid the appeal fee on 22 January 1998. The appellant filed the Statement of Grounds of Appeal on 1 April 1998.

II. Claim 1 as granted reads as follows:

"A tool for separating a core, a rind and flesh of a fruit, in particular a pineapple, comprising, at least, a cylindrical corer which is provided at one end with a cutting edge and at the other end with a handle or other driving member, such as a motor, whereby there is provided, close to the cutting edge (2) of the corer (1) at least one flesh cutter (3) extending radially thereon and provided each with a cutting edge (4), and whereby at the end of the flesh cutter (3), opposite to the end fixed to the corer (1), there is provided a rind cutter (5) extending parallel to the corer (1) and provided with at least one cutting edge (6), characterized in that the flesh cutter (3) is helically shaped defining a certain pitch, such that upon rotating of the tool it executes a helical movement with said pitch, whereby the rind cutter is connected to the circular periphery of the flesh cutter and extends only over a vertical height which corresponds substantially with the pitch of the flesh cutter."

III. The following prior art documents were listed in the statement of grounds of appeal:

D1: EP-A-0 004 817

D2: DE-A-1 729 914

D3: US-A-2 652 871

D4: US-A-4 704 959

D5: US-A-4 690 047

D6: US-A-3 540 503

D7: DE-U-9 004 107

D8: US-A-3 536 114

D9: DE-C-604 657

D10: US-A-4 644 838

D11: US-A-3 734 002

D12: US-A-4 926 726

D13: DE-C-441 201

IV. Each party auxiliarily requested oral proceedings and attended the oral proceedings which took place on 9 December 1999.

In these oral proceedings the appellant did not

maintain his novelty objection based on D13 made in the statement of grounds. He argued against inventive step but only referred to D1 and D3.

The respondent (proprietor) essentially countered the appellant's arguments.

- V. The appellant requests that the decision under appeal be set aside and the patent revoked.

The respondent requests that the appeal be dismissed (which would mean maintaining the patent as granted).

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Novelty of claim 1*

The objection in the statement of grounds of lack of novelty over D13 was not maintained in the oral proceedings. Figures 2 and 4 of D13 show that none of the auxiliary knives c is positioned at the end of the radially extending cutter a. At least since claim 1 specifies that at the end of the radially extending cutter there is a cutter extending parallel to the corer, the subject-matter of claim 1 is novel over the disclosure of D13.

The board finds in fact that no prior art document on file discloses all the features of claim 1. This is not disputed by the appellant.

Accordingly the subject-matter of claim 1 is considered as new within the meaning of Article 54 EPC.

3. *Closest prior art, problem and solution*

3.1 The parties and the board agree that the tool closest to that of the invention is that disclosed by D1.

3.2 D1 discloses the features of the pre-characterising portion of claim 1. Referring to Figure 1, a corer 5, a radial blade 7 and a vertical blade 3 are pushed axially into a topped pineapple, whereby the radial blade 7 makes a vertical cut (see apex 7a in Figure 4). Rotation of handle 2 then causes the vertical and radial blades 3 and 7 to produce a cored pineapple cylinder. Figure 5 shows a plurality of radial blades 7 to produce a plurality of cored pineapple discs.

3.3 The disadvantages set out in column 1, lines 21 to 35 of the patent concerning the tool known from D5 have already been overcome by the tool of D1. The patent continues in column 1, line 46 to column 2, line 10 by setting out various advantages of the present invention but some of these advantages are also present with the tool of D1. Nevertheless the tool of D1 can be said to have some disadvantages, namely that it is difficult to extract the pineapple cylinder or pineapple discs after cutting and that a high force is required to drive the vertical blade 3 through the pineapple flesh.

3.4 The present invention removes the first of these disadvantages by using a helically shaped flesh cutter 3. It can be seen from Figures 1 to 6 that such a flesh cutter can be used to lift the fruit (e.g. pineapple)

cylinder or discs from the hole in the fruit whereas this would not appear to be the case with the narrower radial blade 7 of D1 (this blade 7 must be narrow enough to be able to be pushed vertically downwards into the fruit before the handle 2 is rotated).

The second disadvantage is overcome by connecting the rind cutter 5 to the circular periphery of the flesh cutter 3 and making the vertical height of the rind cutter 5 correspond substantially with the pitch of the flesh cutter 3. On each rotation of the tool then the rind cutter only cuts a portion of the height of the fruit cylinder (whereas with the tool of D1 the whole of the height of the fruit cylinder is cut with a single rotation of the handle 2 meaning that much more force must be applied thereto).

3.5 Thus the board is satisfied that the features of claim 1 and in particular those of its characterising portion overcome the disadvantages of the tool of D1.

4. *Inventive step*

4.1 Horizontal and helical cutters are so well known in the food processing art that the board considers that it would be obvious to the skilled person to use one or the other in a tool like that of D1.

4.2 However D1 itself gives no hint towards connecting the rind cutter 3 to the circular periphery of the flesh cutter 7 and making the vertical height of the rind cutter 3 correspond substantially with the pitch of the flesh cutter 7.

4.3 According to the appellant, the last paragraph on page 9 of D1 would lead the skilled person to incorporate parts of other food processors (and the appellant concludes that such a food processor is that of D3) in the tool of D1. However the cited paragraph says the opposite, namely that parts of the tool of D1 can be used in other food processors. There is thus no hint of modifying the sleeve 5 or the blade 3 of D1, merely a hint to use them elsewhere.

4.4 While both documents concern pineapple processing, the tool of D1 is used on a topped pineapple to separate the core and rind and to produce a hollow cylinder of a helical strip of flesh, whereas the tool of D3 is used on a hollow cylinder of flesh (that has already had its core and rind removed) in order to produce flesh chunks. Thus the state of the pineapple when started upon by the different tools is different and the end products produced by the tools are different as well.

The appellant rightly points out that, because a pineapple is barrel shaped, the tool of the present invention does not accurately separate flesh from rind but merely separates flesh from flesh. He sees the same situation in Figure 4 of D3 where a vertical annular cut C3 separates an inner cylinder of pineapple flesh from an outer one. The board observes however that the purposes of the respective tools are totally different. The tool of D3 sets out to separate flesh from flesh for a fruit whose rind has already been removed. The inventive tool processes a fruit still bearing the rind, in order to yield the maximum flesh it cuts a cylinder of flesh which is as large as possible, leaving essentially the rind behind with only the



unavoidable amount of flesh still attached thereto.

Column 2, lines 23 and 24 of D3 speak of the "annular vertical cuts C3 interconnecting the horizontal cuts C1 + C2", i.e. the annular vertical cut is there to interconnect the horizontal inner and outer cuts. However neither in D1 nor according to the invention is there a horizontal outer cut, indeed there could not be any horizontal outer cut because then the flesh cutter (numbered 7 in D1 and 3 in the present invention) would extend beyond the cut cylinder and so could not be withdrawn upwardly.

Moreover, despite what Figure 4 of D3 might imply, there never are inner and outer cylinders and helical strips of pineapple because in fact chunks of pineapple are being continuously produced.

Thus Figure 4 of D3 is not as similar to D1 and to the present invention as the appellant maintains. Accordingly the board cannot accept that the skilled person would consider D3 when looking for ways of improving the tool of D1.

- 4.5 Nevertheless the board will continue by looking at what the skilled person would need to do if he were to modify the tool of D1 using the teachings of D3.

The appellant argues that the skilled person would replace the radial blade 7 and the vertical blade 3 shown on Figure 1 of D1 by the tapered screw blade 19 and the vertical cutter 50 shown on Figure 1 of D3 (the two latter items producing the horizontal inner cuts C1 and the vertical cuts C3 respectively shown on Figure 4

of D3).

However the vertical cutter 50 in D3 is integral not with the tapered screw blade 19 but with the tapered screw blade 44. Further, because the vertical cutter 50 is intended to divide a pre-cored and de-rinded pineapple cylinder, it is not positioned at anywhere near the correct radial distance from the axis for economically separating flesh from rind. Similarly the tapered screw blade 19 is perhaps half as long as would be necessary for use in the tool of the present invention. There is no indication that the length of this vertical cutter 50 corresponds substantially with the pitch of the tapered screw blade 19.

Thus the skilled person, if he did get as far as transferring parts from the tool of D3 to the tool of D1, would still need to redesign them first.

The board is firmly of the opinion that, even if the skilled person did consider D3, then the changes he would need to make to the tool of D1 to arrive at the tool specified in claim 1 would not be obvious changes for him but would be changes resulting from an inventive activity.

4.6 Thus the subject-matter of claim 1 is not rendered obvious by the combined teachings of D1 and D3.

4.7 Also the citations D2, D4, D10 and D12 disclose tools having a horizontal knife with vertical knives but none of these vertical knives is at the periphery of the horizontal knife. Because it extends radially outside the vertical knife, the horizontal knife cannot be

withdrawn from the fruit with a vertical pull.

Moreover as pointed out by the opposition division (see section 3.4 on page 5 of the decision under appeal) these prior art vertical knives have a different purpose to the rind cutter of the present invention. While helical strips are produced both in the prior art and in the invention, it is important to note that the inventive tool separates simultaneously the rind, the flesh and the core. Apart from the tool of D1, the prior art devices do not do this, e.g. it can be seen from Figure 1 of D2 that everything cut by the knives L falls into the same container K. As another example, the tool of D12 apparently starts with a potato that has already been peeled (i.e. "de-rinded") and does not separate the strips from the core since both land up in the same collection bin 16 on Figure 2 (see column 4, lines 10 to 12 and column 8, lines 1 and 2).

- 4.8 Some of the prior art tools, e.g. those of D4 to D7, can carry out one or two of the three tasks carried out simultaneously by the inventive tool (coring, de-rinding and helical cutting) but the appellant has given no good reasons why the skilled person would combine the tools of the prior art, selecting just those parts from each tool that would be necessary to make a tool satisfying claim 1. Since there is no clear information in any of the cited documents to lead him to do so, the board does not consider that the skilled person would make all these particular choices. The documents present too many alternatives which would lead him in other directions.

The opponent points out that D1 teaches coring, de-

rinding and cutting with one device in one step and that each of D4 to D7 teaches two cutting operations at once. He argues that it would be obvious from D1 to add a third cutting operation. However the board observes that the combination of the teachings of D4 and D1 would not yield the short peripheral cutter of the present invention while the combination of D5 (or D6 or D7) and D1 would have neither a short rind cutter nor a helical flesh cutter.

- 4.9 Some of the cited tools are plainly irrelevant to the claimed subject-matter, e.g. the tool of D8 merely removes the end of a pre-cored pear (compare the two pears furthest to the right on Figure 1). Citation D9 discloses a rolling cake cutter while the machine of D11 cores the pineapple but then works on it from the outside by machining off the rind.
- 4.10 Thus the board cannot see that the prior art documents on file, on their own or in combination, could lead the skilled person in an obvious manner to arrive at the tool specified in claim 1.
5. The subject-matter of claim 1 is thus patentable as required by Article 52 EPC. The patent may therefore be maintained unamended with this independent claim and claims 2 to 13 which are dependent thereon.

## **Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries