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File Number: T 752/90 - 3.2.3

Application No.: 86 900 812.8

Publication No.: WO 86/04268

Title of invention: Apparatus for collecting and discharging waste material

Classification: B02C 18/18, B02C 18/14, B02C 4/30

D E C I S I O N
of 8 December 1992

Applicant: BYERS

Headword:

EPC Article 84

Keyword: "Clarity of claim - result to be achieved"



Europäisches Patentamt	European Patent Office	Office européen des brevets
Beschwerdekammern	Boards of Appeal	Chambres de recours

Case Number : T 752/90 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 8 December 1992

Appellant : BYERS, Michael Richard
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Decision under appeal : Decision of Examining Division 2.3.11.113 of the
European Patent Office dated 16 March 1990
refusing European patent application
No. 86 900 812.8 pursuant to Article 97(1) EPC.

Composition of the Board :

Chairman : C.T. Wilson
Members : F. Brösamle
L. Mancini

Summary of Facts and Submissions

I. International application No. PCT/GB 86/00043 was filed on 23 January 1986 and published under International publication No. WO 86/04268 on 31 July 1986. Based on this International application, European application No. 86 900 812.8 was refused by the Examining Division by its decision dated 16 March 1990. That decision was basically based on an objection under Article 84 EPC, since "the amount of the angle is not precisely described in Claim 1 and the invention is not clearly defined by the wording of present Claim 1".

II. Present Claim 1 underlying the impugned decision was filed with letter of 28 April 1989 and reads as follows:

"1. Apparatus for collecting and discharging waste material comprising at least one rotatable shaft (3,4), a series of peripheral rows of teeth (1,2) arranged on the or each shaft, the teeth (T) in each row having side flanks delimiting a leading tooth face or edge which is presented to the material to be collected by the teeth as the shaft rotates, material-clearing elements (12) between said rows (1,2) the elements (12) having material-clearing blade edges (12') defining a series of slits (S) respectively between which a said one of the peripheral rows of teeth passes with the flanks in closely spaced adjacent relationship to the blade edges such that the material collected on and between the teeth in each row (1,2) is removed for passage to a discharge zone characterised in that the edges (15) of the leading tooth face (R) of each advancing tooth (T) and an adjacent blade edge (12') of a respective slit (S) through which the teeth pass form at any time an angle (A) therebetween which is of a magnitude necessary to ensure that the cooperating teeth (T) and material clearing elements (12)

do not act to bite or cut into the waste material of whatever character or quality to such an extent as to trap the said material therebetween and prevent smooth passage to said discharge zone."

III. The Appellant (Applicant) lodged an appeal on 13 May 1990, paying the appeal fee on the same day. With telecopy of 26 July 1990 the Statement of Grounds of Appeal was communicated.

The Appellant requested - by implication - to set aside the impugned decision and to grant a patent on the basis of the documents underlying the impugned decision. The Appellant was disinclined to more clearly define the angle of attack, since this would be an unjustifiable imposition and could lead to an unnecessary limitation of the scope of the main claim. If, however, a more positive decision could not be reached by the Board then the Appellant declared that he would be prepared to reconsider introducing a further limitation in Claim 1 as regards the required angle of attack.

Should a satisfactory resolution of this matter not be achievable then oral proceedings were formally requested.

Reasons for the Decision

The appeal complies with Articles 106 to 108 and Rule 64 EPC and is admissible.

1. Amendments (Article 123(2) EPC):

1.1 Claim 1 is based on the features of original Claim 1 and is only reworded in a two-part form without carrying out substantial amendments. Claim 1 is therefore not open to an objection under Article 123(2) EPC.

2. Clarity of Claim 1 (Article 84 EPC):

- 2.1 Article 84 EPC requires that the claims "shall be clear". This has to be seen as a general rule. The "Guidelines", see C-III 4.7, come to the conclusion that the area defined by the claims must be as precise as the invention allows. As a general rule, claims which attempt to define the invention, or a feature thereof, by a result to be achieved should not be allowed. However, they may be allowed if the invention can only be defined in such terms and if the result is one which can be directly and positively verified by tests or procedures adequately specified in the description and involving nothing more than trial and error.
- 2.2 It has now to be decided whether present Claim 1 is as precise as the invention allows or whether only a result to be achieved is expressed in this claim.
- 2.3 The background prior art can be seen in FR-A-2 254 371 (D2 in the following), in which apparatus problems can arise in that the teeth on two rotating members are jammed by an article which requires too much power to be shredded by the teeth. In (D2) it is taught to reverse the rotating members so that the article unsuitable for shredding is ejected from the apparatus without destroying the apparatus or parts thereof.
- 2.4 The present application is based on the general concept that jamming of teeth, e.g. arranged on two members, can be avoided by a relatively simple dimensioning of the teeth themselves in that the angle of attack is kept sufficiently large, e.g. greater than 70°.

- 2.5 It is quite clear for a skilled person that the "angle of attack" is dependent on many factors such as the material to be treated, the material and shape of the teeth including their surfaces, whether smooth or rough, so that a plurality of attack angles can meet the requirements of how jamming of teeth can be avoided.
- 2.6 Since the material to be treated can vary to a large extent from soft to hard, from elastic to viscous liquids, it is also obvious that the attack angle of the teeth cannot be a single value in all cases of material to be treated, so that, for example, in the original application it is disclosed that the angle of attack can also be 90°, see page 7, line 25.
- 2.7 Summarising the above considerations, it would be unfair to the Appellant to restrict him to fixed angles, since he has clearly demonstrated that a desired effect, e.g. to separate the two rows of teeth in case of a too hard material, is not a matter of a specific angle but is a matter of a minimum angle of attack.
- 2.8 Claim 1 - see characterising clause - is based on the instruction that the attack angle "is of a magnitude necessary to ensure that the cooperating teeth ... do not act to bite or cut into the ... material ... to such an extent as to trap the said material therebetween and prevent smooth passage to said discharge zone".

If this information to the reader of Claim 1 is seen in the light of the Guidelines C-III 4.7 as cited in remark 2.1, it has to be assessed whether the result "is one which can be directly and positively verified by tests or procedures adequately specified in the description ...".

2.9 The description tells the reader, however, unambiguously that the angle of attack has to be greater than 70° (page 7, line 9) up to 90° (page 7, line 25). Further information is given to the reader of how this angle can be achieved, namely by forming the leading face as the involute of a circle, see also Figure 2, or using the formula given on page 8 of the description. Though a plurality of angles of attack is embraced by the wording of Claim 1 ("is of a magnitude necessary to ensure ...") the description, page 8, lines 19 to 24, limits this range of possible angles by the statement that smaller angles are sometimes of advantage in that, for a given tooth height, the teeth are narrower and more may be used around the circumference.

2.10 It appears that the skilled person only needs to vary the angle of attack by applying the given formula to his teeth, to establish the minimum value necessary to ensure that no jamming takes place. By simple trial and error he can indeed establish the suitable angle whatever waste is to be treated and whatever he makes his teeth of.

2.11 Summarising the above considerations, Claim 1 appears to be clear in the meaning of Article 84 EPC. Moreover, all preconditions set out in the Guidelines in this respect, namely:

- (a) the invention can only be defined in such terms (result to be achieved ...);
- (b) the result is one which can be directly and positively verified by tests adequately specified in the description;
- (c) the tests involve nothing more than trial and error;

are fulfilled in the present case, so that it cannot be required from the Appellant to restrict Claim 1 in the present case to specific values for the angle of attack, since this would constitute an unfair restriction of his independent claim, so that no adequate and reasonable protection would be achieved.

- 2.12 In the decision T 68/85, published in OJ EPO 1987, 228 it is set out that the Applicant/Appellant must choose an objectively precise form of his independent claim, (see remark 8.4.2), so that the skilled person can not only understand the teaching of this claim but can also implement it, (see remark 8.4.3).

Claim 1 in combination with the description fulfills the principles laid down in the decision T 68/85, since it cannot be denied that in the present case a functional term in the form of "is of a magnitude necessary to ensure ..." is justified, since the teaching of the claim can be understood and can be implemented by a skilled person.

- 2.13 Claim 1 therefore complies with the provisions of Article 84 EPC, being "clear and concise and supported by the description".

3. The reason given in the impugned decision for rejecting Claim 1 was basically that of Article 84 EPC. In the Board's findings this objection is, however, not justified in the present case, see considerations above in remark 2, if all circumstances of the present case are taken into consideration.

The second reason for rejection given in the impugned decision was that of Article 56 EPC, however linked to the statement that "the subject-matter understandable from the present text of Claim 1". Since the Guidelines, see C-III,

4.7, already emphasise that not only the text of Claim 1 has to be seen, but also the description, it has been set out above that Claim 1 seen in the light of the description allows to verify "the result to be achieved" according to the wording of Claim 1 by tests or procedures adequately specified in the description and including nothing more than trial and error, so that any reservation against Claim 1 in this request ("subject-matter understandable from ... Claim 1") is not justified.

The assessment of inventive step should therefore be reconsidered in the first instance, since Claim 1 is suitably drafted to enable such an assessment.

4. Under these circumstances the Board remits the case back to the first instance for further prosecution, Article 111(1) EPC. Since a "satisfactory resolution of this matter" was achieved, oral proceedings were superfluous.
5. When carrying out this further prosecution, the Examining Division should also consider whether there is support in the application as originally filed for the term "substantially" in Claim 3.

Order

For these reasons, it is decided that:

1. The impugned decision is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of Claims 1 to 7 underlying the impugned decision.

The Registrar:



N. Maslin

The Chairman:



C.T. Wilson