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File Number: T 461/90 - 3.2.3

Application No.: 87 906 592.8

International
Publication No.: WO 88/02834

Title of invention: Furnace

Classification: F23G 5/12, F23G 5/24, F23G 5/14, F23G 5/44, F23J 1/00

D E C I S I O N
of 11 January 1993

Applicant: ERITHGLEN LIMITED

Headword: Furnace/ERITHGLEN

EPC

Keyword: "Inventive step (yes, after amendment)"
"Reimbursement of the appeal fee (no)"



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Boards of Appeal

Chambres de recours

Case Number : T 461/90 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 11 January 1993

Appellant : ERITHGLEN LIMITED
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Representative : SERJEANTS
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Decision under appeal : Decision of the Examining Division 2.3.01.072 of
the European Patent Office dated 2 March 1990
refusing European patent application
No. 87 906 592.8 pursuant to Article 97(1) EPC.

Composition of the Board :

Chairman : F.E. Brösamle
Members : H. Andrae
L.C. Mancini

Summary of Facts and Submissions

- I. European patent application No. 87 906 592.8, filed as International application PCT/GB 87/00712 on 8 October 1987, was refused by a decision of the Examining Division dated 2 March 1990.
- II. The decision was based on Claims 1 to 12 filed with letter of 26 September 1988. The reason given for the refusal was that the subject-matter of Claim 1 did not involve an inventive step in view of the disclosures of FR-A-2 057 275 and US-A-2 698 587.
- III. An appeal was lodged against this decision on 25 April 1990 together with the submission of the Statement of Grounds of Appeal. The appeal fee was paid on the same day.

Together with the Statement of Grounds of Appeal the Appellants filed a new set of Claims 1 to 12. They argued that the skilled man would not arrive at the invention by combining the teaching of FR-A-2 057 275 and US-A-2 698 587 because of the differences in the trap door arrangement disclosed in US-A-2 698 587 in relation to the invention and the technical effects associated with providing an air supply clearance around the trap door lacking in the prior art arrangement. The Appellants further pointed out that they should be entitled to a reimbursement of the appeal fee because the Examining Division failed to take account of all the facts in this case and have over-reacted which has resulted in a decision to refuse the application.

- IV. As a result of objections raised by the Board in a communication dated 6 August 1992 the Appellants submitted by letter dated 5 October 1992 new pages 1 and 2 of the

description. Following the exchange of information between the Rapporteur and the representative of 9 December 1992, the amendments to the description indicated in the "Consultation with Appellant/representative" of the same date were agreed upon by the Board.

The Appellants request to set aside the impugned decision and to grant a patent on the basis of Claims 1 to 12 filed on 25 April 1990 with the Statement of Grounds of Appeal.

V. Subsisting Claim 1 reads as follows:

"A furnace for incinerating waste material comprising an upright combustion chamber (4), an inlet at an upper part of the combustion chamber (4) for supplying the waste material, a burner (44) at a lower part of the combustion chamber (4) fuelled by gas or oil and adjustable in response to the temperature sensed by a temperature sensor (46) to maintain inside the combustion chamber (4) a temperature sufficient for the incineration of the waste material, a water cooled jacket (8) surrounding the combustion chamber (4) CHARACTERISED BY a trap door (24) situated at a lower part of the combustion chamber (4) arranged to permit air for combustion to pass upwards through a clearance (32) about the door (24) in the closed condition and to open for removing ash from the combustion chamber (4) periodically when required."

Reasons for the Decision

1. The appeal is admissible.
2. The subject-matter of Claim 1 is based on features according to originally filed Claims 1 and 13. The feature "a burner ... fuelled by gas or oil ..." has been

disclosed on page 16, paragraph 4 of the original description.

Having regard to the dependent claims, Claim 2 is based on original Claim 15, Claim 3 on original Claims 2 and 16, Claim 4 on original Claim 3, Claim 5 on original Claim 4, Claim 6 on original Claim 5 in combination with page 10, paragraph 2 of the original description, Claim 7 on original Claim 6, Claim 8 on original Claim 7 and Claims 9 to 12 are based on original Claims 9 to 12 of the respective corresponding numbering.

The claims do not, therefore, give rise to an objection under Article 123(2) EPC.

3. Novelty

After examination of the citations revealed by the search report, the Board is satisfied that none of these discloses a furnace for incinerating waste material comprising all the features stated in Claim 1. Since this has never been disputed, there is no reason for detailed substantiation of this matter. Therefore, the subject-matter as set forth in Claim 1 is deemed novel (Article 54 EPC).

4. Inventive step

4.1 The nearest prior art when considering the subject-matter of Claim 1 is disclosed in FR-A-2 057 275 which document describes the furnace as defined in the precharacterising portion of Claim 1. There is described a furnace for incinerating waste material comprising an upright combustion chamber, an inlet at an upper part of the combustion chamber for supplying the waste material, a burner at a lower part of the combustion chamber fuelled

by gas or oil and adjustable in response to the temperature sensed by a temperature sensor to maintain inside the combustion chamber a temperature sufficient for the incineration of the waste material and a water cooled jacket surrounding the combustion chamber. A rotatable wheel comprising four vane elements arranged equidistantly about the circumference of the wheel is provided in an outlet channel for conveying the ashes out of the combustion chamber.

4.2 The furnace according to Claim 1 differs from this prior art by the features according to the characterising portion of the claim, i.e. a trap door situated at a lower part of the combustion chamber arranged to permit air for combustion to pass upwards through a clearance about the door in the closed condition and to open for removing ash from the combustion chamber periodically when required.

4.3 As arises from the paragraph bridging pages 4 and 5 and from page 10, paragraph 2 of the originally filed description as well as from the last two paragraphs on page 1 and the first paragraph on page 2 of the Statement of Grounds of Appeal, the Appellants have set themselves the problem of creating an intensive combustion of the waste material in the region of the furnace outlet to ensure that any waste material in this region is completely incinerated before being expelled from the combustion chamber whilst achieving an extended useful lifetime and a high operation reliability of the device removing the ashes from the combustion chamber.

The arrangement of a trap door at a lower part of the combustion chamber with a clearance about the door provides the supply of air to the region of the trap door in the closed position of the door and creates intensive combustion over the trap door ensuring thereby that any

waste material on the trap door is properly incinerated. Simultaneously, cooling of the trap door is achieved by the relatively cold air passing upwards around the trap door which has a positive impact on the useful life of the trap door. It is also credible that the flow of air through the clearance about the door prevents ashes from settling around the trap door such that pivoting of the door may be effected without difficulties.

Thus, there is no reason to doubt that the above-cited problem is completely solved by Claim 1.

4.4 The question now to be considered is whether the solution as given in Claim 1 to the above-cited objective problem is obvious vis à vis the revealed prior art.

4.4.1 According to the relevant prior art disclosed in FR-A-2 057 275 (cf. above section 4.1) the furnace for incinerating waste material comprises in its lower cone-shaped part wall openings (23) through which air delivered from an air collector (36) is injected. The air provides for improved combustion of the waste material in the region of the cone-shaped walls of the furnace. Waste material passing downward in the region of the central furnace axis may, however, not be provided with an amount of air sufficient for complete incineration since the lateral wall openings are remote from the central furnace region and there is no supply of air from the region of the furnace outlet. Thus, incomplete combustion of waste material passing through the furnace outlet may occur and insufficient cooling of the rotatable wheel removing the incinerated material must be expected. The citation does not provide therefore any lead to the characterising features of Claim 1.

4.4.2 In his search for solutions to the underlying problem, the skilled person may come across US-A-2 698 587. This citation describes a furnace for incinerating waste material comprising an upright combustion chamber, an inlet at an upper part of the combustion chamber for supplying the waste material and doors (23) hingedly connected by shafts to the bottom of the furnace. The doors may be opened for the discharge of ashes. The furnace bottom has a central opening (32) for air to pass upwards through a grate (33') into the combustion chamber.

The Board agrees that this central opening may be said to allow air for combustion to pass upwards past the door in the closed position as claimed in Claim 1 of the version underlying the contested decision.

The citation does not, however, suggest a door to be arranged to permit air for combustion to pass upwards through a clearance about the door in the closed position as claimed in subsisting Claim 1, since the central opening in the furnace bottom due to its position distant from the door does not constitute a clearance about the door. From this difference in respect of the arrangement of the air channel it follows that in the furnace according to US-A-2 698 587 any supply of air to the surface of the doors (23) can only be effected by means of the central opening (32) leading to the grate (33') above the level of the doors such that an insufficient incineration of the waste material immediately above the doors is to be expected.

Furthermore, cooling of the doors and preventing of ashes to settle about the doors can also not be achieved by the central opening between the doors according to the known furnace, the opening being provided distant from the doors.

It follows from the foregoing considerations that the inherent problem of the invention cannot be solved in any of its aspects by the disclosure of US-A-2 698 587.

- 4.4.3 Among the problems tackled by US-A-2 698 587, a specific one is seen in facilitating gravity discharge of ash toward the outlet doors (23) whilst the inherent problem of the invention, i.e. creating an intensive combustion in the region of the furnace outlet and improving the reliability of operation and useful life of the outlet doors, have not been addressed. Due to the different underlying problems, the skilled person is not induced to envisage a combination of the teachings of FR-A-2 057 275 and US-A-2 698 587. If he nevertheless combined the teachings of these documents in whatsoever manner, he would, in the Board's view, not arrive at the subject-matter of Claim 1 since neither of these disclosures suggests a trap door at the lower part of the combustion chamber arranged to permit air for combustion to pass upwards through a clearance about the door in the closed condition.
- 4.4.4 The further documents cited in the search report all are more remote from the claimed furnace and the Board is satisfied that none of these citations contains a lead to adapt the furnace disclosed in FR-A-2 057 275 such as to include all the features of Claim 1.
- 4.4.5 It follows that the subject-matter of Claim 1 is regarded as involving an inventive step (Article 56 EPC). Claim 1 is therefore acceptable under Article 52(1) EPC. The same applies to dependent Claims 2 to 12 which concern particular embodiments of the invention according to Claim 1.

5. The description including the amendments agreed in the letter dated 5 October 1992 and by telephone on 9 December 1992 and the drawings comply with the requirements of Rule 27(1)(a) to (e) EPC and are therefore suitable for the grant of the patent.
6. In the Statement of Grounds of Appeal it has been set out that the Applicants (Appellants) should be entitled to a reimbursement of the appeal fee.

The reason given for the request is that the distinguishing features of the invention must always have been apparent to the Examining Division. The Applicants should not be put to both the trouble and expense of appealing from the decision to refuse when the application could have been put in order if the Examining Division had clearly identified an objection against the wording of the claim in a communication or over telephone.

The Board cannot follow this argumentation. It is generally agreed that it is not the duty of the Examining Division to require the Appellant to amend the application in a particular way to meet an objection, since the drafting of the application is the Applicant's responsibility. The Examining Division may suggest amendments when considering such amendments to be useful but is not obliged to proceed in this way (cf. "Guidelines for Examination in the European Patent Office" Part C, Chapter VI, paragraph 3.10).

In the present case, the Examining Division has clearly identified an objection against the subject-matter of the independent Claim 1 and has informed the Appellants correspondingly in the (second) communication dated 14 December 1989. In their reply dated 24 January 1990, the Appellants maintained the claims on file but could not

convince the Examining Division that the conclusion drawn in the preceding communication was faulty. The Examining Division was therefore authorised to refuse the application in the following action. The decision of the Examining Division to refuse the European patent application was based on the grounds indicated in the preceding communication. The requirement of Article 113(1) EPC is therefore complied with.

Pursuant to Rule 67 EPC, the reimbursement of appeal fees shall be ordered in cases where the Board of Appeal deems an appeal to be allowable if such reimbursement is equitable by reason of a substantial procedural violation. The Appellants have not succeeded in presenting convincing argument that a procedural violation has occurred in the proceedings before the first instance, let alone a substantial procedural violation.

The appeal fee can therefore not be refunded.

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 grant the patent on the basis of the following documents:

Claims: 1 to 12 filed on 25 April 1990;

Description: pages 1 and 2 filed on 14 October 1992;
pages 3 and 4 filed on 11 May 1988;
pages 5, 7 and 8 filed on 26 August 1988;

pages 6 and 9 to 12 filed on 18 November
1988;

Drawings: sheets 1/6 to 6/6 as originally filed;

with amendments to the description as agreed by letter
submitted on 14 October 1992 and by telephone on
9 December 1992.

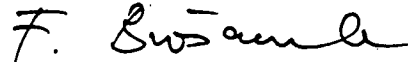
3. The request for refunding the appeal fee is rejected.

The Registrar:



N. Maslin

The Chairman:



F. Brösamle