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D E C I S I O N
of 16 October 2003

Case Number: T 1186/00 - 3.2.6

Application Number: 93906646.0

Publication Number: 0633821

IPC: B23K 9/04

Language of the proceedings: EN

Title of invention:

Welding assembly for feeding powdered filler material into a torch

Patentee:

PLASMA MODULES OY

Opponent:

L'AIR LIQUIDE, S.A. pour l'étude et l'exploitation des procédés Georges Claude

Headword:

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Relevant legal provisions:

EPC Art. 54, 56, 111, 123

RPBA Art. 11(3)

Keyword:

"Amendments - allowability (yes)"

"Novelty (yes)"

"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 1186/00 - 3.2.6

DECISION
of the Technical Board of Appeal 3.2.6
of 16 October 2003

Appellant: PLASMA MODULES OY
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
16 October 2000 concerning maintenance of
European patent No. 0633821 in amended form.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: H. Meinders
M. J. Vogel

Summary of Facts and Submissions

I. The appeal is from the interlocutory decision of the Opposition Division of 16 October 2000 maintaining European Patent 0 633 821 in amended form, according to the second auxiliary request of the patentee.

In its decision the Opposition Division considered that the subject-matter of claim 1 as granted (main request) or as amended (first auxiliary request) was not novel when having regard to:

D1: US-A-4 866 240.

In respect of the second auxiliary request, the subject-matter of claim 1 was considered novel and inventive over D1 as well as the other prior art brought forward in the opposition:

D2: US-A-3 071 678

D3: US-A-4 672 171

II. Against this decision the patentee filed an appeal on 14 December 2000, paying the appeal fee on that same date.

The Appellant filed its statement of grounds of appeal on 8 February 2001.

III. Oral proceedings were held on 16 October 2003, in the absence of the Respondent (opponent), who had notified the Board with letter of 10 July 2003 that it would not attend.

The Appellant requested setting aside of the decision under appeal and maintenance of the patent on the basis of the following documents:

Columns 1 to 7 and claims 1 to 7 as filed in the oral proceedings of 16 October 2003,

Drawings, Figures 1 to 10 as granted.

The Respondent filed no requests in the appeal proceedings.

IV. The wording of independent claim 1 according to the Appellant's request is as follows:

"A plasma welding torch assembly for feeding, in addition to other materials, a powderized filler material in a welding torch, said torch comprising

- a body part (1)

- elements adapted to the interior of the body part, suited to establish a welding flame,

- a nozzle piece (3) enclosing the welding flame at the tip section of the body part (1) of the torch,

- a feed channel system for conveying the filler material to the tip section of the torch comprising
 - = at least one inlet channel (6),
 - = an annular space or chamber (10, 22)

= and nozzle elements (5, 11, 12, 13, 25),

capable of diverting the filler material flow from the at least one inlet channel (6) into the annular space or chamber (10, 22), after that into the nozzle elements (5, 11, 12, 13, 25) and then into the welding flame at the tip section of the nozzle piece (3),

characterized in that

- the inlet channel (6) is divided into at least two first branches (7), forked from the end of the inlet channel (6), in order to divide the filler material flow and divert its flow direction and thereafter guide the flow to said annular space or chamber (10, 22) and after that to said nozzle elements (5, 11, 12, 13, 25)".

V. The arguments of the Appellant can be summarised as follows:

The subject-matter of claim 1 was novel over D1, D2 and D3 as none of these documents disclosed an inlet channel which was divided at its end in at least two branches, to divide and divert the filler material flow and to **thereafter** (emphasis added by the Board) guide the flow to said annular space or chamber. It also involved inventive step as it solved the problem of the irregular flow of the filler material on its way to the nozzle elements, which existed with the feed channel forking only at the annular space or chamber as disclosed in the closest prior art constituted by D1 or D3.

VI. The Respondent did not furnish any arguments in the appeal proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments (Article 123(2) and (3) EPC)*

2.1 Claim 1 has been amended in respect of the version as granted in that the at least one inlet channel and the nozzle elements have now been specified as forming part of a feed channel system, with an annular space or chamber being provided between the two, when considering the direction of flow of the filler material. The inlet channel is also further specified in that the at least two first branches forked from the end of the inlet channel lead to the annular space or chamber.

These features result in a further limitation of the subject-matter of claim 1 as granted.

They further have been disclosed in the application documents as originally filed, page 6, first paragraph, page 7, second paragraph and Figures 1 and 6.

2.2 The dependent claims have been amended so as to be consistent with present claim 1, as well as to be consistent in the terminology used. The description has been amended to include a reference to D1, necessary for the purposes of Rule 27(1)(b) EPC, as well as to be consistent with the wording of present claim 1

(Article 84 EPC). Dependent claims 9 and 10 as granted, the parts of the description relating to the subject-matter of these claims (column 6, line 33 to column 7, line 50) and Figures 11 to 13 have been deleted.

The amendments thus do not give rise to objections under Articles 84 or 123 EPC.

3. *Novelty (Article 54 EPC)*

- 3.1 In its decision under appeal the Opposition Division rejected claim 1 as granted as well as claim 1 as amended according to the first auxiliary request as not presenting subject-matter which was novel over D1.

The subject-matter of present claim 1 distinguishes itself from claim 1 as rejected by the Opposition Division as well as from the plasma welding torch disclosed in D1 and D3 by the inlet channel which is divided into at least two branches, forked from the end of the inlet channel, dividing the filler material flow and diverting its flow direction and thereafter guiding the flow to the annular space (thus the annular space or chamber is downstream of the at least two branches of the inlet channel). The torch disclosed in D1 or D3 has the inlet channel (12 and 36 respectively) dividing itself in two branches by its orthogonal entry into the annular chamber (26 and 52 respectively).

- 3.2 The torch disclosed in D2 has the inlet channel entering the annular chamber 46 tangentially, thus there is no division into at least two branches of the inlet channel, by the annular chamber.

Thus the subject-matter of claim 1 is novel (Article 54 EPC) and the decision under appeal is to be set aside.

4. *Procedural considerations*

- 4.1 According to Article 111(1), second sentence EPC, the Board may either exercise any power within the competence of the department of first instance which was responsible for the decision appealed or remit the case to that department for further prosecution.

According to Article 11(3) Rules of Procedure of the Boards of Appeal, as valid since 1 May 2003, the Board shall not be obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned, who may then be treated as relying only its written case.

- 4.2 The Opposition Division considered inventive step in its decision under appeal, albeit only in respect of a claim 1 with a wording different from present claim 1.

Present claim 1 is directed to the division of the inlet channel upstream of the annular space or chamber and is in essence the combination of the subject-matter of claims 1 and 4 as granted. With its appeal the Appellant filed a main claim mentioning the annular space or chamber, which was further clarified by the Appellant, with its letter of 26 September 2003, after objections made by the Board in its communication of 22 August 2003. These submissions have been forwarded to the Respondent without delay. The linguistic corrections carried out in claim 1 during the oral

proceedings do not change the subject-matter of this claim.

The Board therefore considers that the Respondent, who has chosen not to react to the appeal, not to furnish any requests (let alone one for remittal of the case to the first instance for continuation of the proceedings) and to remain absent from the oral proceedings cannot have been taken by surprise by the present wording of the claims. The right to be heard has thus been observed (Article 113(1) EPC).

4.3 In application of the discretion allowed by Article 111(1), second sentence EPC, as well as by Article 11(3) Rules of Procedure of the Boards of Appeal, also considering the fact that the present patent has an application date going back to 1993, the Board decides to perform the examination for inventive step itself.

5. *Inventive step (Article 56 EPC)*

5.1 The known plasma welding torches (as disclosed in D1 or D3, which are to be considered as the closest prior art and disclosing the features of the preamble of claim 1) have the disadvantage that the filler material flow is introduced directly by the inlet channel into the annular space or chamber from which it is further distributed to the nozzle elements. This involves a sudden change in velocity, as the filler material is first conveyed at high speed and then reduced in speed so as to have an accurate feed of the material into the plasma at the nozzle section. This may result in clogging, a non-constant feedrate and therefore an

irregular supply of filler material (see e.g. patent in suit, column 1, lines 29 to 34, column 2, lines 22 to 29).

5.2 The plasma welding torch according to claim 1 solves this problem by having the inlet channel divide itself into at least two branches, upstream of the annular space or chamber, so as to "smoothen" the flow of filler material (see patent in suit, column 3, lines 19 to 21) on its way to the annular space or chamber.

5.3 None of the available prior art documents discloses, or contains an indication to, this particular solution.

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

5.4 The subject-matter of claims 2 to 7 relates to preferred embodiments of the plasma welding torch of claim 1, thus their subject-matter also is novel and involves inventive step.

The patent can therefore be maintained according to the request of the Appellant.

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 to maintain the patent on the basis of the following documents:
 - claims 1 to 7, filed during the oral proceedings,
 - description, columns 1 to 7, filed during the oral proceedings,
 - drawings, Figures 1 to 10, as granted.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau