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**Datasheet for the decision
of 10 March 2021**

Case Number: T 0170/21 - 3.2.01

Application Number: 15781272.8

Publication Number: 3215296

IPC: B23K9/067, B23K9/09, B23K9/167

Language of the proceedings: EN

Title of invention:
WELDING TYPE POWER SUPPLY FOR TIG STARTS

Applicant:
Illinois Tool Works Inc.

Headword:

Relevant legal provisions:
EPC Art. 113(1), 83, 84, 111(1)
EPC R. 103(1) (a)
RPBA 2020 Art. 11

Keyword:

Right to be heard - substantial procedural violation (yes)
Remittal - fundamental deficiency in first-instance
proceedings (yes)
Reimbursement of appeal fee - (yes)
Sufficiency of disclosure - (yes)
Claims - clarity (yes)

Decisions cited:

T 1423/13

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 0170/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 10 March 2021

Appellant: Illinois Tool Works Inc.
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Representative: Trinks, Ole
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 13 July 2020
refusing European patent application No.
15781272.8 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman G. Pricolo
Members: V. Vinci
P. Guntz

Summary of Facts and Submissions

- I. The appeal was filed by the appellant (applicant) against the decision of the examining division to refuse the European patent application in suit.
- II. In the decision under appeal the examining division concluded that the subject-matter of claim 1 filed on 26 November 2019 was not clear in the meaning of Article 84 EPC and that the invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art as required by Article 83 EPC.
- III. The appellant requested, as main request, to set aside the decision under appeal, to remit the case to the examining division and to reimburse the appeal fee. As a first auxiliary measure, the appellant requested to grant an European patent on the basis of the set of claims 1 to 13 filed on 26 November 2019 and underlying the decision under appeal. As a further auxiliary measure oral proceedings pursuant to Article 116 EPC were requested.
- IV. Claim 1 underlying the decision under appeal reads as follows:

"A method of starting a TIG welding process and monitoring for the creation of a welding arc (106),

characterized by

limiting the pulse width of a power circuit (102) when a TIG start is being performed; and

ending limiting the pulse width after the welding arc has been detected, wherein a pulse width limiting module (203) is activated at start-up of the TIG welding process limiting the pulse width set by a PWM module (201) until a voltage threshold of 10V has been overcome indicating thereby that the welding arc is started, the pulse width limiting module (203) limiting the pulse width to slow the output current slew rate to be less than that which would be provided but for the pulse width limiting module (203)."

- V. In the statement of the grounds of appeal the appellant drew the attention to the content of the communication of the examining division dated 2 August 2018 informing the applicant that the set of claims filed on 13 March 2019 did not meet the requirements of Articles 83 and 84 EPC, and in particular to the last sentence of point 2. of this communication stating that *"if not a positive outcome can be found at the next step of a procedure, an invitation to attend oral proceedings will be issued"*. The appellant observed that, notwithstanding the submission on 26 November 2019 of an amended set of claims in an genuine attempt to overcome the objections raised by the examining division, the application was unexpectedly refused with the following office action without summoning the appellant to oral proceedings. The appellant put forward that the wording used by the examining division in the last communication unambiguously implied that, in case of failure to overcome the objections by suitable amendments and/or convincing arguments, the examining division was considering oral proceedings at the instance of the EPO to be expedient. This wording thus created a legitimate expectation of the applicant to be given a last opportunity to defend the case at oral proceedings before the department of first

instance would take a final decision. In the appellant's view, the decision of the opposition division to refuse the application taken without summoning to oral proceedings violated the principle of legitimate expectations which was well acknowledged by the EPO, thereby depriving the appellant of a further opportunity to present arguments and its final fallback positions. The appellant concluded that, under the above circumstances and according to established case law of the Boards of Appeal (reference was made to the conclusions of the decisions T1423/13, T611/01 and T849/03), the decision of the examining division to refuse the application without summoning the applicant to oral proceedings as implied by the communication dated 02 August 2018 amounted to a fundamental procedural violation of the applicant's right to be heard pursuant to Article 113(1) EPC justifying the request to set aside the decision, the remittal of the case to the department of first instance and the reimbursement of the appeal fee under Rule 103(1) (a) EPC.

Regarding the substantial issues under Articles 83 EPC and 84 EPC which led to the decision to refuse the patent application in suit, the appellant essentially argued that the expressions in claim 1 "*pulse width of a power circuit*" and "*limiting the pulse width*" which have been deemed to lack clarity under Article 84 EPC by the examining division were perfectly clear to a person skilled in the art reading the claim in the light of its technical context and by a mind willing to understand. Consequently, unlike the assessment of the examining division, an expert in TIG welding would face no difficulties in interpreting the teaching of the claim and in carrying out the invention, and this in particular regarding the steps of "*limiting*" and "*end*

limiting" the pulse width of the power circuit according to the teaching of claim 1 which were objected under Article 83 EPC by the examining division. The limitation of the pulse width had to be understood in respect of the normal pulse width of the power circuit as imposed by the PWM. Finally, the appellant contested the conclusion of the examining division that had found an inconsistency between the teaching of paragraphs [0029] and [0030] of the description on one side, and paragraph [0031] and claim 1 on the other side, this inconsistency resulting in a further lack of clarity under Article 84 EPC.

Reasons for the Decision

Article 84 EPC

1. The Board is of the opinion that the subject-matter of claim 1 underlying the contested decision is clear and, as such, unlike the assessment of the examining division, meets the requirements of Article 84 EPC for the following reasons:

The examining division argued that the expression "*pulse width of a power circuit*" in claim 1 is unclear because not self-explanatory in view of the fact that in a welding system, the current may be pulsed, the voltage may be pulsed, or both the current and the voltage may be pulsed.

- 1.1 The Board does not agree. The technical effect triggered by the claimed limitation of the pulse width of the power circuit mentioned in last paragraph of the claim, namely "*to slow the output current slew rate*" thereby avoiding overshooting and sticking during arc

initiation clearly indicates to a person skilled in the art reading the claim as a whole and with a mind willing to understand that what is in fact limited is the pulse width of the output voltage in order to control, namely to slow the output current slew rate. This interpretation is confirmed for example by paragraphs [0029]-[0031] of the description. Furthermore, as convincingly argued by the appellant in the statement of the grounds of appeal, the use of pulse width modulation (PWM) in connection with a TIG welding process is well known to the person skilled in this technical field who will have no doubt that the term "*pulse width of a power circuit*", in view of the technical context of the claim, is referred to the voltage pulse width rather than to the current pulse width or to both the current and the voltage pulse widths.

- 1.2 The examining division further objected that the terms "*limiting*" and "*ending limiting*" of claim 1 are not clear because an initial, non limited state which should be limited is not defined in the claim.
- 1.3 The Board does not agree and shares the view of the appellant that what is meant is clearly that the pulse width of the power circuit is limited, i.e. reduced compared to the pulse width normally provided by the PWM module in absence of limitation, whereby the limitation takes place up to when the arc is started. This interpretation is fully supported by paragraphs [0029], [0030] and [0031] of the description so that no clarity issue occurs. The fact that the pulse width in a non limited status is not defined does not cause any difficulties in constructing the claim.

1.4 The examining division also pointed to an alleged inconsistency between the description and the claims, namely the teaching disclosed in paragraphs [0029] and [0030] and the teaching of paragraph [31] which corresponds to the second block of features of the characterizing portion of claim 1. However, the Board follows the interpretation of the teaching of paragraphs [0029] and [0030] given by the appellant according to which the pulse width limiting module, when activated at the start of the welding operation, operates in order to limit the pulse width to about 10 V or less under load until an arc voltage is detected, wherein attaining 10 V at the output is the indication that the welding arc has been established and that the limitation can be ended. This is perfectly in line with the teaching of claim 1 and of paragraph [0031] requiring that the limiting action of the pulse width limiting module (203) is stopped when a threshold voltage of 10 V has been overcome upon starting of the welding arc. The Board thus finds the teaching of the second feature of the characterizing portion of claim 1 to be clear in itself and in conformity with the description of the operation presented in the description.

1.5 For the reasons above, the Board is of the opinion that, contrary to the examining division's assessment in the contested decision, the subject-matter of claim 1 is clear in the meaning of Article 84 EPC.

Article 83 EPC

2. The opposition division argued that the fact that the term "*limiting*" does not define the amount of the limitation to be applied would leave the person skilled in the art in a situation where he does not know how to

configure the PWM module and the PWM limiting module in such a way as to achieve the intended technical effect of avoiding current overshooting during arc ignition. The Board does not agree:

- 2.1 For the reasons given under point 1.3 above, the Board shares the view of the appellant that the term "*limiting*" clearly means, in the technical context of the invention, that the pulse width is limited to be less than the pulse width that would be imposed in absence of the pulse width limiting module, i.e. less than the pulse width called for by the normal PWM control. The Board is convinced that the person skilled in the art is able to determine, by carrying out a reasonable number of welding trials and taking the inherent characteristics of the materials to be welded into account, the correct amount of the limitation to be imposed until the arc is started which avoids current overshooting and to configure the PWM modules accordingly. The suitable amount of the limitation required can thus be determined by the person skilled in the art in accordance with the actual operational conditions and on the basis of common general knowledge in the technical filed at stake without any undue burden.
- 2.2 In view of the above, the Board is of the opinion that, contrary to the examining division's assessment, the application complies with the requirements of Article 83 EPC.
- 2.3 The same conclusions apply with the same reasons to independent claim 7 and to the dependent claims containing the same issues raised by the examining division under Articles 83 and 84 EPC.

3. From the above it follows that the reasons for the refusal no longer hold and therefore the contested decision is to be set aside.

3.1 The Board further judges that the conditions set out in Rule 103(1) EPC for the reimbursement of the appeal fee are met in the present case, because, as explained above, the appeal is allowable, and, as explained herein below, the reimbursement is equitable by reason of a substantial procedural violation.

3.2 The communication of the examining division dated 2 August 2018 states under point 2. that:

"At least some of the objections raised above are such that there appears to be no possibility of overcoming them by amendment. Refusal of the application under Article 97(2) EPC is therefore to be expected. If not a positive outcome can be found at the next step of a procedure, an invitation to attend oral proceedings will be issued."

The Board concurs with the appellant that the wording in the last sentence unambiguously implies that, should the appellant fail to overcome the objections raised by submitting suitable amendments and/or convincing arguments *"at the next step"* of the procedure, the examining division considered oral proceedings at the instance of the EPO to be expedient to bring the examination proceedings to a conclusion. It might well be that the examining division simply had overlooked the fact that the appellant had not requested oral proceedings. However, the statement of the wording used by the examining division clearly indicated that if no allowable claims and/or convincing arguments were submitted *"at the next step"*, no decision negatively

affecting the applicant would be taken without beforehand summoning the applicant to oral proceedings. The Board thus concurs with the appellant that the above statement engendered in the appellant a legitimate expectation that a final opportunity to defend the case at oral proceedings would be given before refusing the application. However, the application was refused without any further action, namely without any further communication rectifying the intention expressed under point 2., second sentence of the communication dated 02 August 2018. It is therefore understandable that the decision to refuse the application without summoning the applicant to oral proceedings took the appellant by surprise, thereby depriving it of a further opportunity to present its final comments and/or its final fall back positions and denying it the right to be heard as guaranteed by Article 113(1) EPC. This conclusion is in line with established case law of the Boards of Appeal, see for example decision T1423/13 cited by the appellant, which deals in fact with almost identical circumstances.

4. Considering this fundamental deficiency in the examination proceedings and the fact that the Examining Division has not yet dealt with either novelty or inventive step, the Board considers that there are special reasons in the sense of Article 11 RPBA 2020 justifying the remittal of the case to the Examining Division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution on the basis of the set of claims 1 to 13 filed on 26 November 2019.
3. Reimbursement of the appeal fee is ordered.

The Registrar:

The Chairman:



A. Vottner

G. Pricolo

Decision electronically authenticated