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**Datasheet for the decision
of 13 October 2009**

Case Number: T 0098/08 - 3.2.03

Application Number: 00203711.7

Publication Number: 1067349

IPC: F27D 23/02, F27D 1/16,
B08B 7/00, F27D 1/12

Language of the proceedings: EN

Title of invention:
Device, system and method for on-line explosive deslagging

Patentee:
Zilka, Francis, et al

Opponent:
Kesselreinigung Rüegg GmbH
Technisches Büro Steur GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 76, 100c, 123(3)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Main and first auxiliary requests: extension beyond the
content of the earlier application"
"Second, third, fourth auxiliary requests: extension of scope
of protection"
"Request for continuation in writing: dismissed"

Decisions cited:
-

Catchword:
-



Case Number: T 0098/08 - 3.2.03

DECISION
of the Technical Board of Appeal 3.2.03
of 13 October 2009

Appellant:
(Patent Proprietor)

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 6 November 2007
revoking European patent No. 1067349 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: K. Garnett
Members: Y. Jest
G. Ashley
C. Donnelly
I. Beckedorf

Summary of Facts and Submissions

- I. By its decision dated 6 November 2007 the Opposition Division revoked European Patent No. 1067349, which had been granted on the basis of European divisional patent application No. 02203711.7 filed in accordance with Article 76 EPC on the basis of the earlier European patent application No. 98903494.7 (publication number: 0974035) filed on 14 January 1998 and published as WO-A-98/31975 (D0) on 23 July 1998.

Claim 1 of European patent No. 1067349 as granted reads:

"A method for deslagging a hot, heat-exchange device (31), comprising the steps of:
delivering a coolant to an explosive device (101), said coolant thereby cooling said explosive device (101) via a coolant-delivery apparatus (12, 106, 109);
moving said coolant-delivery apparatus (12, 106, 109) and the explosive device (101) cooled thereby into said hot, heat exchange device (31), while so cooling said explosive device (101) and thereby preventing the heat of said heat exchange device (31) from detonating said explosive device (101); and
detonating said explosive device (101) at will, once said cooled explosive device (101) has been moved into a proper position,
characterized in that
said coolant cools said explosive device (101) wherever said explosive device (101) is moved within said heat exchange device (31), and **in that** said coolant-delivery apparatus (12, 106, 109) and the explosive device (101) cooled thereby are freely moved within said hot heat exchange device to a freely chosen position for

detonation of the explosive device (101) within said heat-exchange device (31), and **in that** said detonation is effected while freely maintaining the explosive device in the desired position within the hot heat-exchange device."

The Opposition Division found, besides a lack of patentability of the device defined in independent claim 13 as granted:

- that the lack of novelty according to Article 54 EPC of the method according to claim 1 when compared to prior art document US-A- 5494004 (D9) and the corresponding ground of opposition (Article 100(a) EPC), prejudiced the maintenance of the patent as granted, and, further

- that the amendments made to the patent in accordance with two auxiliary requests filed during opposition proceedings also failed to meet the requirements of the EPC since the method defined in the amended claim 1 of both requests lacked an inventive step when compared to the combination of documents D7 and D3, respectively D7, D3 and D4; where:

- D7: "Use of explosives for boiler deslagging gains acceptance", R. Swanekamp, "Power" March 1 996, pages 49 to 51;
- D3: Handbuch Sprengtechnik, Hellmut Heinze, VEB Deutscher Verlag für Grundstoffindustrie, Leipzig, 1980, Seiten 344 bis 351;
- D4: JP-A-04-155 200 with English translation.

II. The proprietor (hereinafter appellant) lodged an appeal against this decision on 3 January 2008 and paid the appeal fee on the same day. The statement of the

grounds of appeal was filed with a letter dated 17 March 2008.

III. The Office had previously received a letter dated 26 January 2007 from the competent authority in the Netherlands requesting acceleration of the opposition proceedings because of pending infringement proceedings before the district Court in the Hague concerning the present patent.

IV. In a communication dated 11 May 2009 accompanying the summons to oral proceedings, the Board presented its provisional opinion on the issues at stake, including formal matters such as the requirements under Article 76 EPC (according to the ground of opposition under Article 100(c) EPC) and Article 123 EPC for the amended versions of the patent.

V. Requests

(a) Appellant

(i) Patent in amended form

During the oral proceedings on 13 October 2009, the appellant requested that the decision be set aside and maintenance of the patent in amended form on the basis of one of the amended method-claims set out below (the device-claims of the patent as granted being all deleted):

Claim 1 of the main request, corresponding to claim 1 filed with letter of 17 March 2008 as 2nd auxiliary

request, differs from claim 1 as granted by the amendments shown in bold characters:

"A method for deslagging a hot, **online** heat-exchange device (31), comprising the steps of:
delivering a coolant to an explosive device (101), said coolant thereby cooling said explosive device (101) via a coolant-delivery apparatus (12, 106, 109);
moving said coolant-delivery apparatus (12, 106, 109) and the explosive device (101) cooled thereby into said hot, heat exchange device (31), while so cooling said explosive device (101) and thereby preventing the heat of said heat exchange device (31) from detonating said explosive device (101); and
detonating said explosive device (101) at will, once said cooled explosive device (101) has been moved into a proper position,
~~characterized in that~~ **wherein**
said coolant cools said explosive device (101) wherever said explosive device (101) is moved within said heat exchange device (31), ~~and in that~~
said coolant-delivery apparatus (12, 106, 109) and the explosive device (101) cooled thereby are freely moved within said hot heat exchange device to a freely chosen position for detonation of the explosive device (101) within said heat-exchange device (31) **while a person holding and moving the explosive device through explosive positioning means (12) remains outside said hot, online heat-exchange device (31),** and ~~in that~~ said detonation is effected while freely maintaining the explosive device in the desired position within the hot heat-exchange device (31), **whereby the resulting explosion creates a shock wave in a region (35) to blast slag off of the heat-exchange device (31).**"

Claim 1 of the first auxiliary request, corresponding to claim 1 filed with letter of 17 March 2008 as 3rd auxiliary request, is based on the combination of claim 1 of the main request and of the feature shown in bold characters added at the end of the text:

"A method for deslagging a hot, heat-exchange device (31) *[according to claim 1 of the main request]*, **and wherein the step of delivering said coolant to said explosive device (101) comprises delivering said coolant to said coolant-delivery apparatus (12, 106, 109) through said explosive positioning system (12, 106, 112).**"

Claim 1 of the second auxiliary, corresponding to claim 1 filed as "amended 5th auxiliary request" during the oral proceedings, differs from claim 1 as granted by the amendments shown in bold characters:

"A method for deslagging a hot, **online** heat-exchange device (31), comprising the steps of:
delivering a coolant to an explosive device (101), said coolant thereby cooling said explosive device (101) via a coolant-delivery apparatus (~~12~~, 106, 109) **and an explosive positioning system (12)**;
moving said coolant-delivery apparatus (~~12~~, 106, 109) and the explosive device (101) cooled thereby into said hot, heat exchange device (31) **through an entry port (32), while the coolant supply and the explosive positioning system (12) remain outside the boiler and** while so cooling said explosive device (101) and thereby preventing the heat of said heat exchange

device (31) from detonating said explosive device (101);
and
detonating said explosive device (101) at will, once
said cooled explosive device (101) has been moved into
a **desired proper** position,
~~characterized in that wherein~~
said coolant cools said explosive device (101) wherever
said explosive device (101) is moved within said heat
exchange device (31), and ~~in that wherein~~ said coolant-
delivery apparatus (~~12~~, 106, 109) and the explosive
device (101) cooled thereby are ~~freely~~ moved within
said hot heat exchange device to ~~a freely chosen the~~
desired position for detonation of the explosive device
(101) within said heat-exchange device (31) **by an**
operator applying appropriate force to the explosive
positioning system, and in that said detonation is
effected while ~~freely~~ maintaining the explosive device
in the desired position within the hot heat-exchange
device."

Claim 1 of the third auxiliary, corresponding to
claim 1 filed as "amended 5B auxiliary request" during
the oral proceedings, differs from claim 1 of the
second request by the amendments shown in bold
characters:

"A method for deslagging **tubing of** a hot, online heat-
exchange device (31), comprising the steps of ... in
the desired position within the hot heat-exchange
device."

Claim 1 of the fourth auxiliary, corresponding to
claim 1 filed as "amended 6th auxiliary request" during

the oral proceedings, differs from claim 1 of the third request by the amendments shown in bold characters:

"A method for deslagging a hot, online ~~heat-exchange device boiler~~ **device boiler** (31), comprising the steps of:
delivering ...;
moving ...; and
detonating ...,
~~characterized in that~~ wherein
said coolant cools ..., and ~~in that~~ wherein
said coolant-delivery apparatus (~~12~~, 106, 109) and the explosive device (101) cooled thereby are ~~freely~~ moved within said hot heat exchange device to ~~a freely chosen~~ the desired position for detonation of the explosive device (101) within said heat-exchange device (31) by an operator applying appropriate force to the explosive positioning system **and using the bottom of the entry port of a fitting device placed at bottom of the entry port as a fulcrum**, and in that said detonation is effected while ~~freely~~ **maintaining the operator maintains** the explosive device in the desired position within the hot heat-exchange device."

(ii) Adjournment - Continuation in writing

After closure of the debate and presentation of the Board's negative views with respect to the provisions of Article 123(3) EPC as regards the second, third and fourth auxiliary requests, the appellant requested and the board granted an interruption of the proceedings for half an hour in order to consider the reformulating and casting of a revised set of amended claims which might overcome the objections under either Article 76(1) EPC or Articles 123(2), (3) EPC. On resumption of the

proceedings after this adjournment, the appellant announced that it was not possible within the short time frame imposed by the present oral proceedings to formulate such an amendment, i.e., even if a longer adjournment of say one or two hours were to be granted. The appellant therefore requested the adjournment of the oral proceedings and the continuation of the appeal procedure in writing.

(b) Respondents I and II

The respondents requested that the appeal and the appellant's request for adjournment of the oral proceedings or, respectively, the continuation of the appeal procedure in writing be dismissed.

VI. The arguments presented by the appellant can be summarised as follows:

(a) Main request - First auxiliary request

The expressions "freely chosen" and "freely moveable" were implicitly disclosed in the parent application, where the method described therein (see parent application D0: page 3, lines 1 and 17; page 8, lines 18 to 23 and 26 to 27; Figure 3) unambiguously refers to the following steps: the operator applies the required force to move the positioning pipe so as to bring the explosive device into the desired/selected position within the boiler, said desired position being of course chosen within a limited range of positions depending on the dimensions of the opening in the boiler.

The third term "freely maintaining" did not refer to a specific additional method-step but was merely a consequence of the aforementioned free choice and movement.

Therefore the claims according to both the main and first auxiliary requests did not infringe Article 76(1) EPC.

(b) Second, third and fourth auxiliary requests

The expression "freely" had been deleted from claim 1 of these requests in order to meet the objection under Article 76(1) EPC. The scope of protection conferred by these amended claims 1 was not extended within the meaning of Article 123(3) EPC by this deletion because claim 1 of auxiliary requests 2 to 4 now required the operator to position and bring the explosive device into a desired position, which was actually a limited embodiment, namely the embodiment illustrated in figure 3, of the general concept contained in granted claim 1 and which defined a free movement and a freely chosen position.

(c) continuation in writing

The objection under Article 123(3) was raised for the first time during oral proceedings. Furthermore, owing to the great complexity of the case the appellant was not in a position to draft a revised set of claims which could prima facie meet all the objections raised at this stage of the oral proceedings. An interruption of the oral proceedings even for a time period of one

or two hours would not be sufficient for the redrafting of a new set of claims.

The request to close the oral proceedings and to continue the appeal procedure in writing should therefore be granted.

VII. The respondents argued essentially that the adverb "freely", which had been added at the filing of the divisional application from which the contested patent originated for characterising the movement of the positioning means and the choice of position for the explosive device, can only mean that the movement and the selection of the position are performed in a fully unrestricted manner. However this is not supported by the parent application (D0) from which it appears that the positioning lance 12 is introduced through an entry port 32 of limited size, where it rests on a fulcrum 33 at the opening. The operator then manipulates the lance so as to bring the explosive charge 101 into its desired position, which can only be selected within a limited range of positions depending on the size of the opening and the type/dimensions of the lance. The subject-matter of claim 1 according to the main request and first auxiliary request therefore contravened Articles 76(1) and 100(c) EPC.

The scope of protection as conferred by claim 1, as amended in auxiliary requests 5, 5B and 6, had been extended as compared to the patent as granted because of the deletion of the adverb "freely" from claim 1. Thus, methods in which the movement of the positioning means is no longer unrestricted, but may be guided in the manner as shown for instance in D3 and D9 were now also covered, in infringement of Article 123(3) EPC.

The appellant's request for continuance in writing should be refused since it must always be anticipated that an objection under Article 123(3) EPC might be raised when deleting terms from a granted independent claim.

VIII. At the end of the oral proceedings which took place on 13 October 2009 the Board announced its decision.

Reasons for the Decision

1. The appeal is admissible.
2. Main and first auxiliary requests

The adverb "freely", not explicitly disclosed in the parent application (WO), was added at the filing of the divisional application on the basis of which the patent was granted. It characterises the movement of the positioning means, the choice of position for the explosive device and the manner in which the explosive device is maintained, as can be seen in the characterising portion of claim 1 of the main request (and similarly of the first auxiliary request):

"in that said coolant-delivery apparatus (12, 106, 109) and the explosive device (101) cooled thereby are **freely moved** within said hot heat exchange device to a **freely chosen position** for detonation of the explosive device (101) within said heat-exchange device (31), and in that said detonation is effected while **freely maintaining** the explosive

device in the desired position within the hot heat-exchange device."

The board partly agrees with the appellant's views in the sense that within the context of the embodiment of the positioning means shown in figure 3 and described at page 8, lines 18 to 23 and 26 to 27 the expressions "freely chosen position" and "freely moveable" referring to the method could be understood as meaning that:

the positioning lance 12 is introduced through an entry port 32 of limited size, whereas it rests on a fulcrum 33 at the opening, and is manipulated by the operator so as to bring the explosive charge 101 into its desired position, which can be selected within a limited range of positions depending on the size of the opening and the type/dimensions of the lance. This is in agreement with the passages of lines 1 to 2 and lines 17 to 19 of page 3 of WO referring to a so-called "desired" or "proper" position of the explosive in a hot boiler.

However, claim 1 is not limited to a method using the positioning means shown in Figure 3, which is entered into an online boiler through an opening. On the contrary, the wording of claim 1 remains general in so far as both the heat exchanger apparatus to be treated and the positioning means to be used are concerned. The adverb "freely" of claim 1 according to the main and first auxiliary requests cannot be construed in such a narrow sense. Considering the wording of claim 1 as a whole, the adverb "freely" requires the position to be chosen and the positioning means to be moveable

in a wholly free manner, i.e. to be performed in a fully unrestricted manner.

However, this information is not unambiguously disclosed by the parent application as originally filed.

It may be additionally noted that the third expression using adverb "freely", namely the step of "freely" maintaining the explosive device is considered by the Board to be a mere consequence of the aforementioned freely chosen position and free movement. Hence, no specific or additional objection is raised against this feature.

Because of these deficiencies the board can only conclude that the requirements of Article 100(c) EPC within the meaning of Article 76(1) EPC are contravened by the documents of the patent according to the main and first auxiliary requests.

3. Second, third and fourth auxiliary requests

In claim 1 according to the second auxiliary request, and similarly in the third and fourth auxiliary requests, the adverb "freely" has been deleted from the text.

The corresponding features of claim 1 read:

*said coolant-delivery apparatus (~~12~~, 106, 109) and the explosive device (101) cooled thereby are **freely** moved within said hot heat exchange device to ~~a freely chosen~~ **the desired** position for detonation of the explosive device (101) within said heat-exchange device (31) **by an operator applying appropriate force to the explosive positioning system, and***

said detonation is effected while ~~freely~~ maintaining the explosive device in the desired position within the hot heat-exchange device.

The method-step of claim 1 of the patent as granted, consisting in freely moving the explosive device, has been replaced by a feature defining an operator applying appropriate force to said device for moving it into the desired position.

As mentioned previously, freely moving the positioning means is to be understood as meaning moving it in a fully unrestricted way, i.e. without any constructional limitation in each of the three spatial directions. Methods in which the positioning means is the subject of guidance were thus excluded from the scope of protection conferred by claim 1 as granted.

However, by deleting the adverb "freely", the method as claimed in the second, third and fourth auxiliary requests encompasses other embodiments, namely methods in which the positioning means, while moveable by an operator applying appropriate force, are now guided by some appropriate mechanical means, with at least one degree of freedom.

Illustrations of methods now covered by the claim can be found in D9, where the positioning means 51 (Figure 1) is longitudinally moved along, and therefore guided by a rack 157, or even in D3, where the explosive device is positioned at a desired location within a receiving chamber. The positioning means disclosed in D3 and D9 cannot be considered as freely moveable because of the required guidance.

For these reasons the scope of protection conferred by claim 1 of each of the second, third and fourth auxiliary requests has been extended as compared to the scope defined in claim 1 as granted. Said auxiliary requests thus contravene Article 123(3) EPC.

4. Continuation in writing

During the oral proceedings, the board offered a substantial interruption to allow the appellant time to draft a revised set of claims.

The appellant argued that the new objection under Article 123(3) EPC rendered the case highly complex and that a break of even a few hours would not suffice for casting new claims which could take all the observations/objections duly into account. Instead, the appellant requested that the oral proceedings be adjourned and the procedure continued in writing.

The board rejected this request because of the following considerations.

A first issue concerns the general principle of the efficient treatment of cases within a reasonable time period. In this context, the board refers to Article 15(6) of the Rules of Procedure of the Boards of Appeal, which requires the Board to ensure that each case is ready for the decision at the conclusion of oral proceedings, unless there are special reasons to the contrary. In the present case, the respondent had in its reply raised objections under Article 76 EPC to the claims which were the subject of the grounds of

appeal, and the Board had also referred to these possible objections in its communication dated 11 May 2009. A negative outcome from the appellant's point of view on this point could not therefore have come as a complete surprise to the appellant and indeed the appellant did suggest otherwise. The Board then permitted the appellant to file amended claims in an attempt to overcome the objections. The Board would observe that when a set of amended claims is filed, examination of these claims for compliance with Article 123(3) EPC, as well as for other formal issues such as compliance with Articles 123(2) and 84 EPC, is generally required and to be expected. This general consideration applies to amended claim 1 of the second, third and fourth auxiliary requests. The appellant should therefore have anticipated a possible objection under Article 123(3) EPC and cannot reasonably claim to have been taken by surprise by such a development. Furthermore the board considers that the case was not so complex that such that an attempt could not have been made within the time frame of the oral proceedings on that day.

Another important factor considered by the board relates to the fact that the District Court in the Hague had decided to suspend infringement proceedings involving the contested patent pending the outcome of the opposition proceedings before the EPO and had requested acceleration of these opposition proceedings. The continuation in writing and the need possibly to arrange further oral proceedings at a later stage would have unduly lengthened the appeal procedure and significantly postponed the final decision of the board for which the court in the Hague was waiting.

It was consequently not only in the interests of the respondent, but also of a national court, and thus generally speaking of the public, that the case be decided without further delay.

The appellant's request for adjournment of the oral proceedings and the continuation of the proceedings in writing was therefore dismissed by the board.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Counillon

K. Garnett