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Datasheet for the decision of 19 January 2010

Case Number: T 1407/05 - 3.3.05

Application Number: 96925673.4

Publication Number: 0848646

IPC: B01J 8/44

Language of the proceedings: EN

Title of invention:
Method and apparatus for treating a bed of particulate material

Patentee:
F.L. Smidth & Co. A/S

Opponents:
Polysius AG
KHD Humboldt Wedag GmbH

Headword:
Flow regulator/F.L. SMIDTH & CO. A/S

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 123(3)

Keyword:
"Deletion of an essential claim feature results in a scope of protection conferred by amended claims going beyond the scope conferred by claims as granted (all requests)"

Decisions cited:
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Catchword:

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Case Number: T 1407/05 **-** 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 19 January 2010

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 7 October 2005 revoking European patent No. 0848646 pursuant to Article 102(1) EPC (1973).**

Composition of the Board:

Chairman: G. Raths
Members: H. Engl
S. Hoffmann

Summary of Facts and Submissions

I. This appeal lies from the decision of the opposition division posted on 7 October 2005 to revoke European patent EP-B-0 848 646.

II. The opposition division held that the wording of granted claims 1 and 7 of the opposed patent contravened Article 123(2) EPC. The claimed feature according to which *"the regulator is movable, in response to a change in force acting in the opposite direction to the direction of movement as a result of the prevailing pressure conditions in the duct, to reduce the cross-sectional area of the duct when the gas flow begins to rise, and vice versa"* was not disclosed directly and unambiguously in the application documents as originally filed (published as WO-A-97/01 881). The patent was therefore revoked pursuant to Article 102(1) EPC [1973].

III. The appeal of the patentee (appellant) was filed with a letter dated 8 November 2005 comprising the statement of grounds of appeal and two sets of amended claims as a new main and first auxiliary request, respectively.

The observations of opponent 01 (respondent 01) were received with letter dated 29 November 2005, those of opponent 02 (respondent 02) with letter dated 20 February 2006. Both respondents raised objections under Article 123(2) and (3) EPC against the amended claims.

IV. The board issued two communications in which it drew attention to certain claim passages in claim 1 of the

main and auxiliary requests which contravened Article 123(2) and (3) EPC. The board observed in particular that the following passage in granted claims 1 and 7

"[the regulator is movable], in response to a change in force acting in the opposite direction to the direction of movement"

(henceforth also called: passage A) has been replaced in claim 1 in accordance with the main request by another passage which did not, however, seem to describe the same or similar, but narrower, apparatus features.

V. In response thereto, the appellant filed new arguments and an auxiliary request 2 (letter dated 4 June 2007), and in a later submission (letter dated 8 May 2008), additional auxiliary requests 3, 4 and 5.

VI. The independent apparatus claims of the said main and auxiliary requests are worded as follows:

Main request:

"1. An apparatus (1; 71) for treating a bed (6; 78) of particulate material, the apparatus (1; 71) comprising a gas distribution bottom (9; 75) for supporting the bed to be treated and provided with a number of ducts (19; 35; 77) for sectionalized supplying of treatment gas from one or several underlying compartments (15; 76); each duct (19; 35; 77) having a respective flow regulator (21) which is automatically movable in direct response to the gas

flow rate in the respective duct;
characterised in that the flow regulator (21) provides a continuously variable regulation of the gas flow within an operational range about a datum flow rate; and the regulator is capable of a reciprocating action controlled by an outer torque characteristic movable as a result of the prevailing pressure conditions in the duct, to reduce the cross-sectional area of the duct when the gas flow rate begins to rise, and vice versa."

First auxiliary request:

Claim 1 thereof differs from claim 1 of the main request in that the characterizing portion of the claim reads:

"characterised in that the flow regulator (21) provides a continuously variable regulation of the gas flow within an operational range about a datum flow rate; and wherein the nozzle part (45) is capable of a reciprocating action and is directly or indirectly connected to an outer torque characteristic (52); and the regulator (21) is movable in response to the prevailing pressure conditions in the duct, to reduce the cross-sectional area of the duct when the gas flow begins to rise, and vice versa".

Second auxiliary request:

Claim 1 thereof differs from claim 1 of the main request in that the characterizing portion of the claim reads:

"characterised in that the flow regulator (21) provides

a continuously variable regulation of the gas flow within an operational range; and the regulator is movable, as a result of the prevailing pressure conditions the duct, to reduce the cross-sectional area of the duct when the gas flow rate begins to rise, and vice versa."

Auxiliary requests 3, 4 and 5 correspond to the main request and auxiliary requests 1 and 2, but the term *"datum flow rate"* having been replaced by the term *"datum flow"*.

All requests furthermore comprise one or more independent claims relating to a method for treating a bed of particulate material.

VII. Respondent 01 argued in its letter dated 14 May 2008 that the claims of all of said requests contravened Article 123(3) EPC and partly also lacked clarity.

VIII. Oral proceedings were held on 19 January 2010.

IX. The arguments of the appellant, insofar as they are relevant for the decision, may be summarized as follows:

The difference between the terms *"datum flow rate"* and *"datum flow"* was trivial. Clearly these expressions were used interchangeably in the specification.

The term *"reciprocating"* was applied not solely to linear motion, but more generally to movements alternately backwards and forwards (see Longman's Dictionary). The claim term *"capable of reciprocating action"* was inevitably a subset of the term *"movable"*.

The claimed *"outer torque characteristic"* inevitably provided a *"force acting in the opposite direction to the direction of movement"*, as claimed in the claims as granted. Therefore, the proposed amendments did not violate Article 123(2) and (3) EPC.

Passage A together with the immediately following wording, which had not been removed from the claims, were duplicative. Said passage A should not be read in isolation, but in conjunction with the rest of the claim. Even without said passage A the remaining claim features made clear that the prevailing pressure condition in the duct give rise to changing forces acting in the opposite direction of movement of the regulator. The static pressure in a fluid acted in all directions and on all surfaces in contact with the fluid. Forces arose from these pressure conditions which influenced the movement of the regulator. Therefore, feature A added nothing and its deletion does not result in a broadening of the claim's scope.

The appellant also submitted that, as no example fell outside the granted claims and none fell outside the claims as now amended, it followed that the scope of the claims had not been extended.

X. The arguments of respondent 01, insofar as they are relevant for the decision, may be summarized as follows:

Since neither of the new claim features described the same elements as omitted claim feature A, the scope of the amended claims had been broadened, contrary to Article 123(3) EPC.

A *"reciprocating action"* of the regulator was originally disclosed in the embodiments of Figures 4 and 5 only. An *"outer torque characteristic"* was originally disclosed only in the embodiment of Figure 3. However, in this embodiment there was no reciprocating action of the movable part of the regulating means. Therefore, amended claims aiming at a combination of said features contravened Article 123(2) EPC.

The expression *"movable in direct response to the gas flow rate in the respective duct"* in claim 7 as granted and in claim 1 of auxiliary requests 2 and 3 was not originally disclosed. Originally disclosed was the expression *"movable in direct response to the gas flow condition"*.

As regards the main request and auxiliary requests 1 and 2, the substitution of *"datum flow"* by *"datum flow rate"* also contravened Article 123(2) EPC.

XI. Respondent 02 shared respondent 01's arguments concerning violation of Article 123(2) and (3) EPC.

XII. Requests

The appellant requested that the decision under appeal be set aside and the European patent be maintained on the basis of the claims in accordance with the main request, or in the alternative, according to the claims of the first auxiliary request, both sets of claims filed with letter of 8 November 2005; or, on the basis of the set of claims filed with letter of 4 June 2007 as auxiliary request 2; or, on the basis of the

sets of claims filed with letter of 8 May 2008 as auxiliary requests 3, 4 and 5.

The respondents requested that the appeal be dismissed.

Reasons for the Decision

1. Amendments (*Article 123(3) EPC)*

1.1 *The claims as granted*

Independent apparatus claim 7 and independent method claim 1 as granted contained the following term:

"[the regulator is movable], ***in response to a change in force acting in the opposite direction to the direction of movement*** *[as a result of the prevailing pressure conditions in the duct, to reduce the cross-sectional area of the duct when the gas flow begins to rise, and vice versa]"*.

The opposition division held that the opposed patent did not meet the requirements of Article 123(2) EPC as this feature, and in particular the part thereof appearing in **bold** print (henceforth also termed "feature A"), was not disclosed directly and unambiguously in the application documents as originally filed and published as WO-A-97/01 881. The patent was therefore revoked.

1.1.1 In the board's opinion, feature A essentially defines that **changing pressure conditions** in the duct, caused by the rise and fall of the gas flow, give rise to a

changing force which in turn **causes the movable regulator to move in the opposite direction of the said force**, thereby reducing or increasing the cross-sectional area of the duct.

1.1.2 Embodiments of the invention which exhibit said characteristics are shown in Figures 2 and 3 of the opposed patent. In Figure 2, the regulator, having a restriction part 44, continuously and variably closes and opens the duct in response to a force acting in the opposite direction of Venturi-type nozzle part 45. The regulator is furthermore controlled by an outer torque characteristic 52 consisting of torque arm 53 and spring 52.

Figure 3 depicts a similar flow regulator also comprising a variable, Venturi-type nozzle part 45 which is connected via rotatable connecting arm 46 to restriction means 44. The forces acting on the Venturi-type nozzle part 45 and on the regulator (in particular on the restriction means 44) clearly act in opposite directions. The regulator is controlled by an outer torque characteristic 52 consisting of a torque arm 56 and an adjustable weight 57.

1.1.3 In contrast, the embodiments shown in Figures 1, 4 and 5 apparently do not function according to feature A, as the force acting on the regulator is **not in the opposite direction** to the direction of movement of the regulator.

1.1.4 From the above analysis it results that claim feature A defines, in technical terms, certain important aspects of the claimed invention, as embodied in Figures 2 and

3. The opposite directions of the movement of the movable regulator and of the force which gives rise to said movement it describes are therefore regarded by the board as **essential technical characteristics** of the claims as granted.

1.1.5 In view of the above, the scope of the claims as granted is limited to methods and apparatuses for treating a bed of particulate material wherein an essential characteristic of the gas ducts is a flow regulator which is movable in response to a change in force acting in the opposite direction to the direction of movement.

1.2 *The amendments*

1.2.1 The above defined feature A has now been removed from the wording of the claims in all pending requests. In auxiliary requests 2 and 5, feature A has been deleted without adding other features. All other claim features remaining essentially the same, the removal of a positive technical feature from an independent claim *prima facie* results in a broadening of the scope of protection afforded by it and therefore contravenes Article 123(3) EPC.

According to the appellant's arguments, the scope of protection afforded by the amended claims had nevertheless not been extended beyond the scope of the claims as granted by the omission of claim feature A. The appellant submitted that said passage A, together with the immediately following wording (i.e., "*as a result of the prevailing pressure conditions in the duct, to reduce the cross-sectional area of the duct*

when the gas flow begins to rise, and vice versa"), which has not been removed, were duplicative. In the appellant's submission, in particular the claim passage immediately following passage A, in conjunction with the rest of the claim as amended, made it clear that the prevailing pressure condition in the duct gives rise to changing forces acting in the opposite direction of movement of the regulator.

However, the board cannot accept that feature A, dealing with the direction of forces and the movement of the regulator, defines subject matter equivalent (or duplicative) with the following claim passage, which deals with the prevailing pressure conditions in the duct. The pressure conditions prevailing in the duct do not necessarily give rise to forces acting on the regulator in the opposite direction of its movement. A *reduction* in the cross-sectional area of the duct when the gas flow begins to rise, and vice versa, need not necessarily be caused by a movement of the regulator in the opposite direction of the changing forces acting on it.

Moreover, as respondent 01 convincingly pointed out, a movement of the regulator controlling the gas flow in a duct may also be implemented using a pressure sensing device on which the said pressure conditions act and which generates a signal for the movement of the regulator. In such a case, the regulator was not movable in the opposite direction of the change in force. Such an embodiment was not covered by the claims as granted, but would fall under the claim as amended.

Therefore, in the board's judgment, removing feature A deletes positive apparatus features not found elsewhere in the claim and, consequently, broadens the scope of protection afforded by the claim, contrary to Article 123(3) EPC.

1.2.2 In the respective independent apparatus claims 1 in accordance with the main request and auxiliary requests 1, 3 and 4, other features had been added to the claimed apparatus.

According to the appellant, said further features had been added not as a matter of substitution of A (which was, in the appellant's submission, not required), but as an addition of features for other reasons.

The board nevertheless examines whether the various features substituted in the independent claims *in lieu* of feature A could possibly provide a suitable compensation such that the scope of protection afforded by the claims does not extend beyond the scope of the claims as granted.

1.2.3 Main request, auxiliary request 3

In the respective claims 1 in accordance with the said requests, the newly added feature reads: *"the regulator is capable of a reciprocating action controlled by an outer torque characteristic" ("feature B")*.

According to the appellant, feature B is disclosed in Figures 1 to 3 and the corresponding description, page 10, line 14 to page 11, line 31.

In the board's opinion, said newly inserted feature B merely defines a reciprocating action of the regulator, controlled by an outer torque characteristic, but says nothing about the directions of the movement of the regulator and of the force causing its movement. In particular, it does not imply that the regulator is movable in response to a change in force acting in the opposite direction.

Therefore, the board concludes that the scope of protection afforded by the amended claims extends beyond the scope of the claims as granted, contrary to Article 123(3) EPC.

1.2.4 Auxiliary requests 1 and 4

In the respective claims 1 in accordance with the said requests, feature A has been replaced by the following feature C:

"wherein the nozzle part (45) is capable of a reciprocating action and is directly or indirectly connected to an outer torque characteristic (52)".

In the board's opinion, feature C does not describe the same subject matter as feature A of granted claim 1, because neither the reciprocating nozzle action nor the nozzle's (regulator's) connection to an outer torque characteristic imply the granted claim's requirement that the regulator is movable in response to a change in force acting in the opposite direction.

Therefore, the board comes to the same conclusion as under point 1.2.3.

1.3 The respective claims 1 of all the requests do therefore not meet the requirements of Article 123(3) EPC.

1.4 In view of the above, none of the requests on file are allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar The Chairman

C. Vodz G. Raths