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**Datasheet for the decision
of 7 October 2019**

Case Number: T 1346/16 - 3.3.06

Application Number: 06725884.8

Publication Number: 1885942

IPC: D21C7/06, D21C9/02, D21C9/10,
D21C5/02, D21F1/06

Language of the proceedings: EN

Title of invention:
AN APPARATUS FOR DISTRUIBUTING A PULP FLOW

Patent Proprietor:
Andritz Oy

Opponent:
Valmet AB

Headword:
PULP FLOW SPLITTER/ANDRITZ

Relevant legal provisions:
RPBA Art. 13(1)
EPC Art. 56

Keyword:

Late-filed auxiliary requests - amendments after arrangement
of oral proceedings - admitted (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



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Case Number: T 1346/16 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 7 October 2019

Appellant: Valmet AB
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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
25 April 2016 maintaining European Patent No.
1885942 in amended form.

Composition of the Board:

Chairman J.-M. Schwaller

Members: S. Arrojo

J. Hoppe

Summary of Facts and Submissions

- I. The opponent's appeal lies against the decision of the opposition division to maintain European patent No 1 885 942 on the basis of the main request filed on 11 March 2016.
- II. In its statement of grounds of appeal the opponent (from now on "the appellant") requested to set aside the appealed decision and to revoke the patent in its entirety. In particular it argued that the claimed subject-matter was lacking an inventive step over inter alia document D10 (US 6 325 890).
- III. In its reply the patentee (from now on "the respondent") requested that the appeal be dismissed or that the patent be maintained on the basis of the main request or of one of auxiliary requests 1-10 filed during the opposition proceedings with letter dated 11 March 2016, or of auxiliary request 11 submitted with the reply.
- IV. The Board issued a communication to inform the parties of its preliminary opinion that auxiliary requests 2, 3, 7 and 10 should not be admitted under the principles of *reformatio in peius* (G 1/99), that the main and first auxiliary requests did not comply with the requirements of Article 54 EPC, that auxiliary requests 4 and 5 did not comply with the requirements of Article 56 EPC and that auxiliary request 6 complied with the requirements of the EPC.
- V. By letter dated 5 April 2019 the respondent submitted a new main request and new auxiliary requests 1-9, which substituted all the requests on file.

VI. By letter dated 6 June 2019 the appellant requested not to admit the newly filed requests as late filed and/or for non-compliance with the requirements of Rule 80 EPC.

VII. Oral proceedings were held. In view of the Board's opinion that auxiliary request 4 was admitted into the proceedings and complied with the requirements of the EPC, the respondent withdrew all other requests. The final requests of the parties were as follows:

The **appellant** requested to set aside the decision and to revoke the patent in its entirety.

The **respondent** requested to maintain the patent on the basis of auxiliary request 4 filed with letter dated 5 April 2019.

VIII. Claim 1 of auxiliary request 4 reads:

"Use of an apparatus for distributing a pulp flow, said apparatus comprising a valve body connected to inlet and outlet conduits for the pulp flow and provided with a closing member for opening and closing the valve in order to regulate the flow, the apparatus further comprising a member arranged in the flow direction downstream of the closing member for distributing the pulp flow into at least two partial flows, and at least two channels for the partial flows, which channels are connected to the valve or to the outlet conduit from the valve, wherein the valve body comprises a flange with which the outlet conduit is connected to the valve and which has a diameter, D , and the distance of the distribution member from the outflow flange of the valve is less than $3D$, for distributing a pulp flow in the feed line for a pulp treatment apparatus."

Reasons for the Decision

1. Auxiliary request 4 - Admittance
 - 1.1 The Board has exercised its discretion under Article 13(1) RPBA to admit auxiliary request 4 into the proceedings.
 - 1.2 The appellant argued that this request should not be admitted into the proceedings because it was late filed, the change of category of the claims from an apparatus to a use had never been part of the proceedings and the amendments would effectively imply a modification of the technical filed of the invention.
 - 1.3 The Board does not follow this argumentation. Although the change of category of the claims clearly restricts the invention to the field of pulp treatment, this does not imply a modification of its technical scope, since it is apparent from the wording of the claims (as filed, as granted and as maintained) that the invention has always been intended to be linked to this particular field. In other words, amending the "apparatus" claims to "use" claims does not modify the technical field, but clarifies the restriction of the invention to the field of pulp treatment.
 - 1.4 Moreover, the late submission of this auxiliary request was justified by the changes in the state of the proceedings resulting from the Board's preliminary opinion that the subject-matter of claim 1 as maintained was to be interpreted more broadly than had hitherto been the case. In particular, the Board considered that the definition of *"An apparatus for distributing a pulp flow ... characterized in that the*

apparatus is arranged in the feed line for a pulp treatment apparatus" merely implied that the distributing apparatus had to be suitable to be used with pulp. Since, as indicated in paragraph [0005] of the patent, the pulp can have "*properties ... similar to those of liquid*", the suitability requirement encompassed almost any kind of fluid distributing apparatus, leading to the conclusion that claim 1 as maintained was not only anticipated by documents D10 or D12 (US 5 849 159 A), but also by documents D7 (US 6 047 729) and D8 (US 6 321 782).

- 1.5 Since the broader interpretation challenged the patentability of the subject-matter of claim 1 of the requests then on file, the Board considers that the respondent should be allowed to react accordingly.
2. Auxiliary request 4 - Articles 84 and 123(2) EPC
 - 2.1 The Board has concluded that this request complies with the requirements of Articles 84 and 123(2) EPC.
 - 2.2 Concerning Article 84 EPC, the appellant argued that the presence of the reference to "the" in the feature "*for distributing a pulp flow in the feed line for a pulp treatment apparatus*" rendered claim 1 unclear, because the feature "*feed line*" was not previously mentioned in said claim.
 - 2.3 The Board does not follow this argumentation. While the requirement to formally present each feature of a claim intends to prevent ambiguities as to whether a given feature preceded by "the" corresponds to a previously defined feature or to a new one, in the present case it is apparent that none of these doubts could reasonably arise, since the skilled person would readily recognise

that the pulp treatment apparatus must have a feed line, and that the claim is simply defining the use of the flow splitter to fluidly connect the valve body to a pulp treatment apparatus via said feed line.

The Board therefore considers that the subject-matter of claim 1 is clear.

2.4 Concerning Article 123(2) EPC, claim 1 is based on a combination of claims 1, 9 and 15 as originally filed, wherein the category of the claims have been changed from an "apparatus" to a "use". The Board therefore considers that the claimed subject-matter does not extend beyond the content of the application as originally filed.

3. Auxiliary request 4 - Inventive Step

The Board, using the problem-solution approach, has concluded that auxiliary request 4 complies with the requirements of Article 56 EPC.

3.1 Closest prior art

There is agreement between the parties that document D10 represents the closest prior art for the subject-matter of claim 1, as it relates to the use of a flow splitter in the field of pulping, and both the structural details and the technical context are close to the underlying invention.

In particular, document D10 discloses the use of a fluid splitter (see "static flow splitter" 1200 in figures 8-10) to divide a wood chip slurry into two different partial flows. In the circuit of figure 7, the splitter is said to be arranged in line 1134 (see

column 28, line 65 - column 29, line 2), somewhere downstream of the flow regulation "valve A", with one outlet connected to that same conduit and the other connected to another "conduit leading to the same or another digester".

Since there is no indication in D10 of the exact position of splitter 1200 in line 1134 or an indication of the distance between the splitter 1200 and "valve A", the subject-matter of claim 1 differs from D10 at least in that *"the distance of the distribution member from the outflow flange of the valve is less than 3D"* (D being the external diameter of the flange).

3.2 Problem solved by the invention

According to the patent in suit (paragraph [0009]) the problem solved by the invention is to provide for a method and apparatus for facilitating controlled flow distribution of a fiber suspension, especially a medium consistency fiber suspension, utilising a simplified apparatus compared to prior art and thus decreasing the costs.

3.3 Success of the solution

3.3.1 The solution proposed in claim 1 is to arrange the distribution member at a distance of less than $3D$ from the outflow flange of the valve.

3.3.2 As indicated in paragraphs [0006], [0007] and [0015]-[0017] of the patent in suit, creating turbulence in the vicinity of the splitting member promotes a uniform distribution of the pulp in the two partial flows, which renders the use of additional costly equipment such as regulation valves and flowmeters unnecessary.

This effect is technically plausible, because it is well known that the random micro-flows which characterise turbulent conditions tend to promote pressure equalisation, which in turn gives rise to an homogeneous distribution of the pulp in the turbulent areas. Furthermore, it is not contested that the flow regulating valve (when partially open) will tend to promote turbulence in the flow upstream of the splitting member, and it is apparent that the proximity of the splitting member to the point at which turbulence is generated will promote turbulence in the area adjacent to the splitting member (at least to a certain extent).

- 3.3.3 The appellant argued that using the outflow flange as reference to determine the distance of "*less than 3D*" was technically unsound, and that the only distance which mattered was that from the closure member of the valve, which was the point at which the turbulence was generated. Furthermore, the selection of the external diameter of the valve's flange (D) as a reference for establishing the minimum distance would also be questionable from a technical point of view, because this diameter was not necessarily linked to the inner diameter of the pipe, which was the only dimension having an influence on the hydraulic behaviour of the flow. This would be particularly relevant for small pipes, because the ratio between the external diameter of the flange and the inner diameter of the pipe would tend to be particularly large in such cases, which further questioned the technical relevance of the selected range of "*less than 3D*" for the purpose of creating turbulence in the vicinity of the splitting member.

3.3.4 The Board does not follow this argumentation for the following reasons:

Both the use of the valve's flange diameter (D) as reference and the defined distance of "*less than $3D$* " represent proxies for the proximity of the valve body to the splitting member. The use of these proxies relies on the idea that the closer these elements are, the larger the influence of the turbulence generated in the valve will be for the purpose of providing a uniform distribution of the pulp between the two partial flows. Thus, the defined distance of "*less than $3D$* " is not intended to establish a clear-cut limit beyond which no effect is to be expected, but rather a parameter-based specification or clarification of a relative feature (i.e. "X is significantly close to Y") which is directionally linked to the presence of turbulent conditions in the critical area adjacent to the splitting member.

Obviously, the extent of the above-mentioned technical effect will depend on other factors such as the velocity and the viscosity of the flow or the actual diameter of the flange. It is also clear that the effect might be rather small when operating under certain conditions at the higher end of the defined distance range and that there might be other parameters more closely linked to the formation of turbulence in the splitting member. However, since there is no specific requirement to achieve a particular degree of turbulence and since the appellant has not convincingly shown that the above-mentioned directional link between distance and turbulence is technically unreasonable, the Board concludes that the claimed subject-matter can be plausibly considered to solve the above-mentioned technical problem.

3.3.5 The Board therefore concludes that the subject-matter of claim 1 successfully solves the problem of facilitating a controlled flow distribution of the pulp in the partial flows in a simplified manner.

3.4 Obviousness

3.4.1 In document D10, figures 8-10, the baffles 1210 and 1211 are considered to correspond to the "distribution member" defined in claim 1 of the patent. The distance between said baffles and the outlet flange of valve A corresponds to the sum of the distance of these baffles from inlet 1201 plus the additional pipeline between valve A and splitter 1200 in the circuit of figure 7. While there is no clear indication of where the splitter 1200 is to be arranged in this circuit, the distance is likely much larger than 3 times the diameter of the outlet flange of the valve.

3.4.2 The Board sees no hint or indication in D10 or the other prior art documents which would point towards the solution proposed in claim 1 for the purpose of solving the underlying technical problem. In particular, there is neither a specific reference to the distance of 3D nor an indication that the distance between a valve and a downstream arranged splitting member could be of any relevance for solving the problem of controlling the flow distribution in a simple way.

3.4.3 While figure 1 of both documents D7 and D8 disclose a fluid splitter which is arranged adjacent to a valve member (22), the skilled person would not seek solutions to the underlying technical problem related to the field of pulp treatment in documents pertaining to the technical area of fire hoses. In any case, documents D7 and D8 do neither explicitly disclose the

distance between the valve body and the flow splitter, nor do they explicitly or implicitly indicate that this feature could be used to solve the underlying technical problem.

- 3.4.4 Finally, none of the other documents cited in the statement of grounds of appeal provides any hint which could be used by the skilled person to solve the underlying technical problem in a way which would render claim 1 obvious.
- 3.4.5 The Board therefore concludes that the subject-matter of claim 1 of auxiliary request 4 is not rendered obvious by document D10 in combination with common general knowledge or with any of the other cited documents.
- 3.4.6 Claims 2-15 depend on claim 1 and are therefore also considered to be inventive in view of the cited prior art.
- 4. The Board also notes that the question of admittance of document D12 (US 5 849 159) does not need to be addressed in the present decision, as this document has not been used by the appellant to assess the compliance of auxiliary request 4 with the requirements of Article 56 EPC. It should be noted, however, that the admission of this document would not have altered the outcome of the procedure.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in amended form on the basis of the claims of auxiliary request 4, filed with letter dated 5 April 2019 and a description to be adapted where appropriate.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated