

Veröffentlichung im Amtsblatt	<input checked="" type="checkbox"/> Ja/Nein
Publication in the Official Journal	<input checked="" type="checkbox"/> Yes/No
Publication au Journal Officiel	<input checked="" type="checkbox"/> Oui/Non



Aktenzeichen / Case Number / N^o du recours : T 215/84

Anmeldenummer / Filing No / N^o de la demande : 81 304 078.9

Veröffentlichungs-Nr. / Publication No / N^o de la publication : 47 656

Bezeichnung der Erfindung: Process and apparatus for the oxygen delignification
Title of invention:
Titre de l'invention : of pulp

Klassifikation / Classification / Classement :

ENTSCHEIDUNG / DECISION

vom / of / du 10 September 1985

Anmelder / Applicant / Demandeur : The Black Clawson Company

~~Patentinhaber / Proprietor of the patent /
Titulaire du brevet :~~

~~Einsprechender / Opponent / Opposant :-~~

Stichwort / Headword / Référence :

EPÜ / EPC / CBE

Art. 52(1) and 54 EPC

"Lack of novelty" "Implied contents of the cited art"

Leitsatz / Headnote / Sommaire

Europäisches
Patentamt

Beschwerdekammern

European Patent
Office

Boards of Appeal

Office européen
des brevets

Chambres de recours



Case Number: T 215 / 84

DECISION
of the Technical Board of Appeal 3.3.1
of 10 September 1985

Appellant: The Black Clawson Company
605 Clark Street
Middletown, Ohio
USA

Air Products and Chemicals Inc.
P.O. Box 538
Allenstown, Pennsylvania
USA

Representative: Warren, Antony Robert
BARON & WARREN
18 South End
Kensington
London W8 5RU
England

Decision under appeal: Decision of Examining Division 024 of the European Patent
Office dated 19 April 1984 refusing European patent
application No 81 304 078.9 pursuant to Article 97(1)
EPC

Composition of the Board:

Chairman: K. Jahn
Member: G. Szabo
Member: C. Payraudeau

Summary of Facts and Submissions

I. European patent application No. 81 304 078.9 filed on 7 September 1981 and published on 17 March 1982 with publication number 47 656, claiming priority of the prior application on 5 September 1980 (US 184 514) was refused by the decision of the Examining Division 024 of the European Patent Office dated 19 April 1984. The decision was based on Claims 1 to 9 filed on 20 October 1983. Claims 1 and 7 were worded as follows :

- "1. A process for the continuous oxygen delignification of medium consistency pulp comprising the steps of introducing pulp at a consistency of from 8 to 20% and alkaline materials (20) into a substantially horizontal reaction zone (10) and maintaining said pulp at medium consistency throughout said reaction zone, adding oxygen (18) to said reaction zone to delignify said pulp, and transporting the pulp through said reaction zone while agitating the mixture of pulp, oxygen, and alkaline materials for a time sufficient for delignification to occur, characterised in that the delignification process is carried out in a single substantially horizontal reaction zone (10).

7. Apparatus for continuous oxygen delignification of medium consistency pulp comprising in combination, a tubular reaction zone (10) including means (18) for introducing oxygen gas into said reaction zone, means (20) for introducing alkaline chemicals into said reaction zone, said means (18) for introducing oxygen gas being separate from said means (20) for introducing alkaline chemicals, pump means (12) for introducing pulp at 8-20% consistency into said reaction zone (10), and means (24) for agitating said pulp to mix it with oxygen and alkaline chemicals

while transporting the mixture of pulp, oxygen and alkaline chemicals through said reaction zone (10) characterised by a single substantially horizontal reaction zone (10) in which the delignification process is carried out."

II. The stated ground for the refusal was that the subject-matters of Claims 1 and 7 are not novel. The earlier application EP-A-A-30 158 (1) by the same applicants disclosed a process for the oxygen delignification of pulp, and apparatus therefor, which had the features of the preamble of these claims. The characterising parts in the claims of the present application specified a single substantially horizontal reaction zone for the purpose of delignification. This feature was also included in the combination disclosed in the cited art, which used "one or more" such reaction zones. As far as the process itself was concerned delignification in a single horizontal reactor was demonstrated in Example 1B. Thus, according to the decision, the Claims 1 and 7 were objectionable under Art. 54(3) and also under Art. 54(2) EPC, if the loss of priority was taken into consideration.

IV. The applicant filed an appeal against this decision on 16 June 1984 with the payment of the fee and submitted a Statement of Grounds on 17 August 1984 together with an amended set "A" of claims as well as an auxiliary set "B" with further limitations. Claim 7 directed to an apparatus in set "A" was as follows :

"7. Apparatus for continuous oxygen delignification of medium consistency pulp comprising in combination, a tubular reaction vessel (10) including means (18) for introducing oxygen gas into said reaction vessel, means (20) for introducing alkaline chemicals into said reaction zone, said means (18) for introducing

oxygen gas being separate from said means (20) for introducing alkaline chemicals, pump means (12) for introducing pulp at 8-20% consistency into said reaction vessel (10), and means (24) for agitating said pulp to mix it with oxygen and alkaline chemicals while transporting the mixture of pulp, oxygen and alkaline chemicals through said reaction zone (10) characterised by a single substantially horizontal reaction zone in the vessel (10) in which the delignification process is carried out. "

Corresponding Claim 7 in set "B" differed from the above by the following further limitations added to the end of the claim :

"... the pump means (12) being arranged to feed pulp to one end of the reaction vessel (10), the other end of the reaction vessel being provided with a discharge outlet (26) leading directly to a blow tank (28)."

- V. Although duly invited, the appellant elected not to appear at the oral proceeding which took place on 10 September 1985. Nevertheless in his Statement of Ground and reply to a communication from the rapporteur of the Board, the appellant submitted substantially the following arguments :
- a) The reference in the cited earlier application (1) to a single vessel having a series of reaction zones (p. 8, lines 4 to 7) was clearly referring to a two-stage or multi-stage process. The single zone vessel according to the application under appeal was clearly distinguished from such a multi-stage vessel.
 - b) The direct connection between the vessel and the blow tank was a crucial feature since it rendered the apparatus different from that in the cited specification

(1). The apparatus, as defined, could only be used for carrying out a one-stage process. The suggestion in the prior art that "one or more" additional tubes "may be" required after the first stage (p. 11, lines 12 22) was contradicted by the rest of the disclosure and the claims which referred essentially to a multi-stage process. The present Claim 7, on the other hand, characteristically involved a three piece arrangement, namely a single reaction vessel, a pump and a blow tank directly connected to one another in that order.

- VI. The appellant requests that the decision under appeal be set aside and the patent be granted either with claims of the set "A" or "B", the latter set having been amended further with respect of process Claim 1 (cf. letter and new page 17 received on 9 February 1985).

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. No objection is raised against the amendments in the claims on file. There is sufficient support for the change of terminology from a "reaction zone (10)" (cf. original Claim 1) to a "reaction vessel (10)" in the claims (cf. for instance p. 8, line 32). The fact that this has not been done consistently need not be further disclosed in view of the final conclusions of this decision. The further features in the independent claims of set "B" in the auxiliary request for relief also derive support from the specification as filed (p. 7, lines 13 to 15; p. 8, lines 29 to 33, and p. 11, lines 20 to 22).

3. The subject-matter of Claim 7 of set "A" relates to an apparatus for a specified delignification process, which comprises a tubular reaction vessel, and various means for introducing pulp, oxygen gas and alkaline chemicals as well as means for agitation. Vessels equipped in this manner were disclosed in application (1), being either the first vessel of a serial arrangement of several vessels (cf. Fig. 1/2, and p. 7, line 28 et seq.) or a single vessel having a series of reaction zones (cf. p. 9, lines 6 and 7). The claim in question is, however, characterised by a single substantially horizontal reaction zone in the vessel in which the delignification process is carried out.

4. The claim is somewhat ambiguous in as much as there is no express restriction to a single vessel which would then represent a single reaction zone in use. The statement in the claim that the vessel in question is the one "in which the delignification process is carried out" may be insufficient to exclude other vessels in view of the passage in the original specification - now partly deleted (cf. p. 7, as filed lines 21 to 27). According to the applicant, an additional amount of delignification may well be needed which then requires additional vessels.

5. However, even if the claimed combination is construed as limited to a single vessel such entity is disclosed in the cited art. The specification of (1) not only refers to an arrangement with several vessels but also to the possibility of using for delignification a single vessel only (cf. p. 8, line 6). This would, of course, be supplied with oxygen and alkaline liquor, like the first vessel in (1) Fig. 1, (cf. components 12, 18 and 20). Although the rotating means for agitation (i.e., 22 and 24) would have to be such in this case that at least two reaction zones are formed during processing in consequence of different revolution rates by driving screws (cf. Claim 1 of the cited document on p. 17),

there are no zones in such apparatus as corporeal features. The use of vessels with larger diameters in the multi-vessel arrangement (p. 11, lines 25-28) is only one way to achieve appropriate retention times in the zones. The alternative is, of course, to lengthen the tube. Nothing alters the fact that zones are distinguished by different rotational speeds alone. As long as the single vessel is capable of operating at different agitation speeds and thereby with different zones and that does not exclude the use of identical speeds and thereby the provision of a single zone by two sequentially arranged coaxial means of agitation turning synchronously, the reference to such process feature cannot impart novelty to the machine which is a static entity. The discovery that the known equipment may be used in a new manner cannot render the entity itself novel.

6. The same considerations apply to Claim 7 of set "B", wherein the characterising part emphasizes the necessity of having a pump - already mentioned in the preamble - and a blow tank directly linked to the single vessel. These features are directly implied by the above reference to the use of a single vessel in the cited art and the description of such means in the same document to serve the requirements of input and output. Since all the claims in the application must satisfy the conditions of the Convention, it is irrelevant that other claims may be valid or might perhaps be validated by amendment. There was no occasion for the Board to consider such issues since the appellant deprived himself of the opportunity to submit further amendment at the oral proceedings. The refusal of the application must therefore be confirmed.