

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MAKIO TAMURA and AKITOSHI SHINBO

Appeal No. 1997-0525
Application No. 08/355,931

HEARD: January 23, 2001

Before, GARRIS, KRATZ, and PAWLIKOWSKI, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 7-10, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a method and apparatus for treating selected feed waters containing silica and hardness ions by reverse osmosis. Appellants' method is particularly characterized by the step of maintaining the pH of a concentrate that does not permeate a reverse osmosis membrane at a level of at most 6 and the step of maintaining the silica concentration of that concentrate at a value above a line that connects 12 ppm at 5°C and 170 ppm at 40°C. Such a line is depicted in figure 1 of the drawings. Appellants' apparatus is characterized by a pH sensing means for measuring the pH of the concentrate and a pH control means for controlling the pH of the feedwater using the sensed pH value of the concentrate in a feedback arrangement so as to maintain the pH of the concentrate at a level of at most 6. According to appellants, silica is not precipitated along the flow path of the concentrate and on the surface of a membrane of a reverse osmosis unit by so maintaining the pH of the concentrate even if levels of silica above the standard solubility thereof are present in the concentrate (specification, page 5). A further understanding of the invention can be derived from a reading of appealed claims 7-

10, which are reproduced in an appendix attached to appellants' second reply brief.

A listing of the prior art references of record relied upon by the examiner in rejecting the appealed claims appears in the supplemental answer (Paper No. 20).

Claims 7 and 8 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 7 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bregman or Bray. Claims 8 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bregman or Bray as applied against claims 7 and 9, each further in view of Japan 62-091287 or Japan 62-180793.

We refer to the briefs and to the answers for the opposing viewpoints expressed by the appellants and by the examiner concerning the above-noted rejections.

OPINION

For the reasons which follow, we will not sustain any of the examiner's rejections.

Rejection Under 35 U.S.C. § 112, second paragraph

The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the claim language, as it would have been interpreted by one of ordinary skill in the art in light of appellants' specification and the prior art, sets out and circumscribes a particular area with a reasonable degree of precision and particularity. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

With regard to claims 7 and 8, the examiner (Paper No. 20, page 3) argues that:

the term "maintaining the silica concentration of said concentrate above the line 12 ppm at 5 C and 170 ppm at 40 C" is unclear regarding to the degree of silica concentration during the process and process operating temperature, and range of solubility at a particular temperature.

The examiner, however, does not carry the burden of explaining why the language of either claim, as it would have been interpreted by one of ordinary skill in the art in light of appellants' specification, drawings and the prior art, fails to set out and circumscribe a particular area with a reasonable degree of precision and particularity. As explained by appellants (Second Reply Brief, pages 2 and 3),

the claim language in question is derived from and illustrated in drawing figure 1 of the application and simply requires that the silica concentration of the concentrate is higher than a value corresponding to the line connecting the two points described in claims 7 and 8. Consequently, we will not sustain the rejection under 35 U.S.C. § 112, second paragraph.

Rejections Under 35 U.S.C. § 103

The examiner has not carried his burden of explaining how the teachings of either Bregman or Bray furnish sufficient evidence to have reasonably suggested the method of claim 7 or the apparatus of claim 9. As correctly argued by appellants in their brief and second reply brief, the examiner has not specifically established where either of the here-applied references contain a teaching or suggestion of the method features relating to maintaining the pH of a concentrate at a level of at most 6 and maintaining the concentrate silica concentration as specified in claim 7. Nor has the examiner convincingly explained how either Bregman or Bray teach or suggest the sensing means for measuring the pH of the concentrate together with the control means with a built-in feedback control system for maintaining the pH of the concentrate at a level of at most 6 as specified in claim 9. Moreover, the examiner has not substantiated how the combined teachings of either of the Japanese references together with either Bregman or Bray as applied against claims 8 and 10 teach or suggest the above-noted limitations as called for with respect to a second concentrate in claims 8 and 10.

On this record, the examiner has not proffered satisfactory supporting evidence or a convincing rationale that specifically addresses how the applied references would have taught or suggested the method of either of claims 7 or 8 or the apparatus of claims 9 and 10 including the limitations discussed above.

The statements pertaining to the obviousness rejections set forth in the several papers and answers as relied upon by the examiner are simply not enough to sustain an obviousness determination.

For the foregoing reasons, we find that the examiner has not established a prima facie case of obviousness. Because we reverse on this basis, we need not reach the issue of the sufficiency of the asserted showing of unexpected results (brief, page 10). See In re Geiger, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987).

CONCLUSION

The decision of the examiner to reject claims 7 and 8 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicants regard as the invention;
claims 7 and 9 under
35 U.S.C. § 103 as being unpatentable over Bregman or Bray;
and claims 8 and 10 under 35 U.S.C. § 103 as being
unpatentable over

Bregman or Bray as applied against claims 7 and 9, each further in view of Japan 62-091287 or Japan 62-180793 is reversed.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
)	
)	
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)	BOARD OF PATENT
PETER F. KRATZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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)	
BEVERLY A. PAWLIKOWSKI)	
Administrative Patent Judge)	

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APPEAL NO. - JUDGE KRATZ
APPLICATION NO.

APJ KRATZ

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APJ

DECISION: **ED**

Prepared By:

DRAFT TYPED: 04 Jan 02

FINAL TYPED: