

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. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDGARD NICOLAS,
LUC BOTTE,
FRANCESCO POSAR,
and STEFANO BIGINI

Appeal No. 1997-2936
Application No. 08/360,335

HEARD: SEPTEMBER 13, 2001

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

PAWLIKOWSKI, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-9, which are all of the claims pending in this application.

We reverse.

BACKGROUND

Appellants' invention is represented by claim 1, reproduced below:

1. A process for concentrating an aqueous solution of an alkali metal hydroxide, in an electro dialysis cell containing three compartments, comprising:
circulating an aqueous alkali metal halide solution in a saline compartment of the cell, delimited between an anionic membrane and a cationic membrane,
introducing an alkali metal halide into an acidic compartment of the cell, which is delimited between the anionic membrane and a cationic face of a bipolar membrane, and
extracting a more concentrated aqueous alkali metal hydroxide solution from an alkaline compartment of the cell, delimited between the cationic membrane and an anionic face of the bipolar membrane, and extracting an aqueous solution of a hydrohalic acid and an alkali metal halide from said acidic compartment.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Mani	4,976,838	Dec. 11, 1990
Oda	2,829,095	Apr. 01, 1958

Claims 1 to 4, 7, and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Mani.

Claims 5 and 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Mani.¹

Claim 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over Mani in view of Oda.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the examiner's answer, the examiner's second answer, and the examiner's response to the remand, for the examiner's complete reasoning in support of the

¹ We recognize that a remand was issued in this case (Paper No. 23) regarding whether claim 6 is under rejection. The examiner's response to the remand (Paper No. 24) indicates that claim 6 is under rejection. Hence, claim 6 is rejected as indicated above.

rejections, and to the appellants' brief and reply brief for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we make the determinations which follow.

In our analysis below, we focus particularly on the subject matter of claim 1 regarding (1) circulating an aqueous alkali metal halide solution in a saline compartment of the cell, delimited between an anionic membrane and a cationic membrane, (2) introducing an alkali metal halide into an acidic compartment of the cell, which is delimited between the anionic membrane and a cationic face of a bipolar membrane, and (3) extracting a more concentrated aqueous alkali metal hydroxide solution from an alkaline compartment of the cell, delimited between the cationic membrane and an anionic face of the bipolar membrane.

I. The 35 U.S.C. § 102(b) Rejection

The examiner states that Mani discloses a method of using a three compartment electro dialysis cell comprising circulating an alkali metal salt solution in a salt compartment of the cell, delimited between an anionic and cationic membrane, introducing an alkali metal salt into an acidic compartment of the cell, delimited between the anionic membrane and a cationic face of a bipolar membrane, and extracting alkali metal hydroxide from the compartment, delimited between the cationic membrane and the

anionic face of the bipolar membrane. The examiner refers to figure 3 and to column 8, lines 29-66, in this regard. (answer, page 3).

The examiner further states that Mani discloses that at least a fraction of the diluted salt from the salt compartment is introduced into the acid compartment, and refers to figure 3, and that therefore, the salt introduced to the salt compartment would be identical to the salt introduced to the acid compartment. (answer, page 3).

Appellants provide arguments on pages 5-11 of their brief, and in their reply brief. In particular, appellants state that the three compartment cell disclosed in Mani comprises a bipolar membrane, an anionic membrane, and a cationic membrane. Appellants state that these three membranes form (1) a salt compartment between the anionic and the cationic membranes, (2) an acid compartment between the anionic membrane and the cationic side of the bipolar membrane, and (3) a base compartment between the cationic membrane and the anionic side of the bipolar membrane. Appellants state that in this three compartment cell, the salt solution is fed into the salt compartment of the cell 1 (between the anionic and the cationic membrane), a base stream is recovered from the base compartment 3 (between the cationic membrane and the anionic side of the bipolar membrane), and an acid strain is recovered from the acid compartment 2 (between the anionic membrane and the cationic side of the bipolar membrane). Appellants refer to column 2, line 60 to column 3, line 10, and column 6, lines 14 to 22 of Mani. (brief, pages 5-6).

Upon our review of Mani, we find that the three compartment water splitter represented in Mani's figure 2 is different from the three compartment water splitter illustrated in Mani's figure

3. For example, the water splitter shown in figure 3 indicates that the salt compartment is in a different location (middle) than the salt compartment shown in figure 2 (far right).

We also find that while Mani describes in detail the structure shown in figure 2 (e.g., the location of each type of membrane as described in column 6, lines 59-68 and column 7, lines 1-1), Mani does not provide a detailed description of the structure for the three compartment water splitter shown in figure 3. In this context, Mani discloses that any means capable of splitting water into hydrogen and hydroxyl ions may be used (column 6, lines 36-39). Hence, Mani does not indicate that the splitter in figure 3 must be the splitter in figure 2. Moreover, Mani does not indicate the positions of each kind of membrane in figure 3.

The examiner does not address (1) the apparent differences between the splitter shown in figure 2 and the splitter shown in figure 3, or (2) the lack of description of the splitter shown in figure 3. Nor does the examiner provide an explanation showing that the water splitter in figure 2 is the same as the water splitter in figure 3. Therefore, we cannot find support for the examiner's interpretation of figure 3.

Furthermore, we find that figure 2 meets some of the limitations of appellants' claim 1 (e.g., the location of each type of membrane), and that figure 3 meets some of the limitations of appellants' claim 1 (e.g., introducing an alkali metal halide into the acidic compartment). However such is insufficient for a proper anticipation rejection. That is, for a proper anticipation rejection, the reference must clearly and unequivocally disclose the claimed invention without any need for picking, choosing, and combining various disclosures not directly

related to each other by the teachings of the reference. In re Arkley, 455 F.2d 586, 590, 172 USPQ 524, 526 (CCPA 1972).

In view of the above, we find that the examiner has not met his burden required for anticipation. We note that the initial burden of presenting a prima facie case of unpatentability on any ground rests with the examiner. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Hence, we reverse the rejection of claims 1-4, 7 and 9.

II. The 35 U.S.C. § 103 Rejections

With regard to the rejection of claims 5 and 6 and the rejection of claim 8, because Mani fails as discussed above, and because Oda does not cure the deficiencies of Mani, we reverse these rejections also.

III. Other Issues

In the event of further prosecution, we **strongly recommend** that both appellants and the examiner should consider the issue of obviousness of claims 1-4, 7, and 9 in view of Mani, viz. the use of Figure 2 as the water splitter in Figure 3.

CONCLUSION

The rejection of claims 1 to 4, 7, and 9 under 35 U.S.C. § 102(b) as being anticipated by Mani is **reversed**.

The rejection of claims 5 and 6 under 35 U.S.C. § 103 as being unpatentable over Mani is **reversed**.

The rejection of claim 8 under 35 U.S.C. § 103 as being unpatentable over Mani in view of Oda is **reversed**.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ROMULO H. DELMENDO)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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