

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID LEE RATH
and RAWIKUMAR RAMACHANDRAN

Appeal No. 2002-1260
Application No. 09/137,179

ON BRIEF

Before GARRIS, PAK and KRATZ, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-7, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to an etchant composition comprising: (1) sulfuric acid; (2) a fluorine containing compound; and (3) hydrogen peroxide or ozone, each in a specified amount. Claim 1, the sole independent claim on appeal, is reproduced below:

1. An etchant composition in an aqueous solution comprising:
 - a) about 0.01 to about 15 percent by weight of sulfuric acid;
 - b) about 0.1 to about 100 ppm of a fluorine containing compound;
 - and
 - c) a member selected from the group consisting of about 0.01 to about 20 percent by weight of hydrogen peroxide and about 1 to about 30 ppm of ozone.

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

Molinaro	5,082,518	Jan. 21, 1992
Liaw et al. (Liaw) (published international application No. PCT/EP97/01190)	WO 97/36209	Oct. 02, 1997
Liao et al. (Liao) ¹ (published Taiwan Patent)	296405	Jan. 21, 1997

¹ The examiner refers to this patent as Jaw (Jaw is the spelling of the first named inventor's surname in a Derwent abstract of record). All references to Liao in this decision are to the English language translation of the patent document prepared by Diplomatic Language Services, Inc. The record (Form PTO-892, Paper No. 10) indicates that a copy of that translation was forwarded to appellants with the examiner's answer.

Claims 1-3 and 7 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Liao. Claims 1-3, 5 and 7 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Liaw. Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Liao or Liaw. Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Liao or Liaw, each in view of Molinaro.

We refer to the brief and to the answer for an exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us in this appeal.²

OPINION

We have reviewed the record, including all of the arguments and evidence advanced by both the examiner and the appellants in support of their respective positions. This review leads us to conclude that the examiner's rejections are not well founded. Accordingly, we reverse all of the aforementioned rejections.

² We note that claim 2 refers to claim 9 as a claim from which it depends. That reference to claim 9 in claim 2 represents an obvious error since a claim numbered as claim 9 is not currently present in this application. Claims 5 and 6 are also involved via their dependency on claim 2. Consequently, we consider claims 2, 5 and 6 as including an inadvertent error and construe claim 2 as if depending from claim 1 for purposes of deciding this appeal. The examiner and appellants should address this matter prior to final disposition of this application.

Regarding the examiner's § 102(a) rejections, appellants have argued that Liaw and Liao each do not teach an aqueous composition having the concentration as here claimed. On the other hand, the examiner makes reference to an example one liter aqueous solution at pages 4 and 5 of the answer in asserting that each of Liao and Liaw represent anticipatory disclosures of the subject matter recited in the rejected claims. However, the examiner has not pointed out, nor can we find, where a disclosure of such a one liter solution is located in Liao or Liaw. In this regard, claim 1 requires that a maximum of 15 weight percent sulfuric acid can be present in the aqueous solution. However, the examiner has not established how the component ratios described in Liao or Liaw necessarily describe a solution with a sulfuric acid concentration as required by the appealed claims.

With regard to the examiner's § 103(a) rejections of dependent claim 6 over the same references, the examiner additionally asserts that one of ordinary skill in the art would have arrived at the claimed composition by optimization of the compositions of either Liao or Liaw. However, we note that Liao was concerned with formulating a composition for removing residues of dry etching of non-metallic compounds of silica or silicon. Liaw was similarly concerned with formulating a similar

composition for removing residues of dry etching. See, e.g., page 6, lines 3-5 of Liaw.

Appellants argue that Liao and Liaw are directed to concentrated solutions outside the scope of appellants' claimed subject matter. Indeed, we note that Liaw refers to the use of a concentrated 96 % sulfuric acid in formulating a solution and does not make reference to adding water so as to dilute the solution to a level that corresponds to the maximum 15 weight percent sulfuric acid concentration of claim 1, let alone the 10 weight percent maximum of claim 6.

Against that background, the examiner has not reasonably established why one of ordinary skill in the art in optimizing the compositions of Liao or Liaw for their intended purposes of removing sidewall residue after etching of non-metallic materials would have arrived at the here claimed composition. Nor has the examiner explained how Molinaro would compensate for that deficiency of Liao or Liaw.

Since the examiner's rejections are not sustainable for the reasons set forth above, we need not burden the record by addressing appellants' declaration under 37 CFR § 1.131.

In conclusion, we reverse all of the rejections advanced by
the examiner in the answer.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CHUNG K. PAK)	APPEALS
Administrative Patent Judge)	AND
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