

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HELMUT MANGOLD,
RAINER GOLCHERT
and ROLAND SCHILLING

Appeal 2007-0088
Application 10/191,297
Technology Center 1700

Decided: May 21, 2007

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and PETER F. KRATZ, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

We AFFIRM.

This is a decision on an appeal under 35 U.S.C. § 134 from the final rejection of claims 1-4. We have jurisdiction under 35 U.S.C. § 6.

The Appellants invented a pyrogenically produced oxide doped by erbium and a method for the production thereof. The oxide and method are defined in representative claims 1 and 4 as follows:

1. A pyrogenically produced oxide of at least one of a metal and metalloid doped by an aerosol with erbium oxide, comprising a base component which is a pyrogenically produced oxide, said base component being doped with erbium oxide in an amount of 0.000001 to 40 wt%, the BET surface of the doped oxide being from 1 to 1000 m²/g.

4. A method for production of a pyrogenic oxide doped by an aerosol with erbium oxide according to Claim 1, comprising feeding an aerosol into a flame for production of pyrogenic oxide, said aerosol being formed from an erbium salt solution by atomization of said erbium salt solution through an aerosol generator, mixing the aerosol homogeneously before reaction with a gas mixture fed into the flame, to form an aerosol-gas mixture, reacting the aerosol-gas mixture in a flame and separating formed pyrogenic oxides doped with erbium oxide from a gas stream.

The references set forth below are relied upon by the Examiner as evidence of obviousness:

Berkey	US 5,236,481	Aug. 17, 1993
Mangold	US 6,328,944 B1	Dec. 11, 2001

Claims 1-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mangold in view of Berkey.

On this record, it is undisputed that Mangold discloses all of the features recited in claims 1 and 4 except the use of erbium as the oxide dopant. In Mangold, the dopants may be metals and/or non-metals, preferably transition metals such as cerium (col. 2, ll. 50-58). Also undisputed on this record is the fact that Berkey teaches using erbium as a dopant (col. 2, ll. 15-33).

According to the Examiner, it would have been obvious for one with ordinary skill in this art to use erbium as Mangold's dopant in view of the teaching in Berkey that erbium is a known dopant (Answer 4). The Examiner believes her obviousness conclusion is reinforced by the undisputed fact that erbium is one of the transition metals which Mangold prefers to use as dopants and by the undisputed fact that erbium, like Mangold's cerium, is a member of the Lanthanide series (*id.*).

The Appellants argue that the applied prior art contains no teaching or suggestion that erbium may be interchanged with other Lanthanide members such as cerium (Br. 4). The Appellants further argue that the applied prior art contains no teaching or suggestion of any benefit or advantage of using erbium as Mangold's dopant (Br. 5).

OPINION

For the reasons set forth in the Answer and below, we will sustain this rejection.

Contrary to the Appellants' belief, a teaching, suggestion, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, suggestion, or motivation may be implicit from the prior art as a whole. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336; cited with approval in *KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385 (2007).

In light of the foregoing, we determine that a prima facie case of obviousness is well supported by the reference evidence before us. Erbium is a known dopant as evinced by Berkey and is a member of the broad as well as the preferred dopant classes disclosed by Mangold. Moreover, like

the cerium dopant of Mangold, the dopant erbium is a member of the Lanthanide series. Under these circumstances, the artisan would have had a reasonable expectation that erbium would be a successful dopant in Mangold's pyrogenically produced oxide and method for the production thereof.

In addition, the Appellants are incorrect in arguing that the applied prior art contains no teaching or suggestion of a benefit associated with using erbium as Mangold's dopant. The benefit would be a doped pyrogenically prepared oxide as desired by Mangold. In this regard, we emphasize that a prima facie case of obviousness does not require the prior art to teach or suggest that one member of Mangold's preferred dopant class such as the here claimed erbium is more beneficial than another member such as patentee's expressly disclosed cerium. *See Merck & Co. v. Biocraft Labs.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989).

As for dependent claims 2 and 3, we agree with the Examiner that the pyrogenically produced oxide of Mangold as modified above is indistinguishable from the oxides defined by these claims. That is, the claimed products appear to be identical or substantially identical to the modified-Mangold products, and these respective products are produced by identical or substantially identical processes. Therefore, it is appropriate to require Appellants to prove that the modified-Mangold products do not necessarily or inherently possess the characteristics of the products defined by claims 2 and 3. The fairness of such a requirement is evidenced by the inability of the Patent and Trademark Office to manufacture products or to

Appeal 2007-0088
Application 10/191,297

obtain and compare prior art products. *See In re Best*, 562 F.2d 1252, 1255-56, 195 USPQ 430, 433-34 (CCPA 1977).

In light of the foregoing and for the reasons set forth in the Answer, we hereby sustain the § 103 rejection of claims 1-4 as being unpatentable over Mangold in view of Berkey.

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(iv)(effective Sept. 13, 2004).

AFFIRMED

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