THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKAYUKI SHIMAMUNE, and YASUO NAKAJIMA

Appeal No. 1996-2798
Application No. 08/109,597[1]

HEARD: January 12, 2000

Before OWENS, WALTZ, and LIEBERMAN, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed August 20, 1993. According to appellants, this application is a division of Application No. 07/972,630, filed November 6, 1992, now U.S. Patent No. 5,354,444, issued October 11, 1994.

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 6, 11 and 12 which are all the claims in the application.

THE INVENTION

The invention is directed to a process for producing an electrolytic electrode having fourlayers. The electrode comprises an electrically conductive surface. The surface is coated by flame spraying particles of at least one oxide selected from the group consisting of titanium oxide, tantalum oxide and niobium oxide on the surface to form a non-stoichiometric oxide layer composition having a thickness of 10 to 200 μm. Thereafter, an intermediate thin layer containing titanium oxide, tantalum oxide and platinum metal is formed on the oxide layer by thermal decomposition. Finally, an electrode layer is formed on the intermediate thin layer.

THE CLAIMS

Claim 6 is illustrative of appellants' invention and is reproduced below.

6. A process for producing an electrolytic electrode, comprising the steps of:

flame-spraying particles of at least one oxide selected from the group consisting of titanium oxide, tantalum oxide, and niobium oxide over a surface of an electrically conductive substrate to form an oxide layer on said electrically conductive substrate, said oxide layer comprising a mixed oxide having a non-stoichiometric composition and having a thickness of from 10 to 200Fm, to thereby provide an oxide coated electrode substrate;

forming an intermediate thin layer containing titanium oxide, tantalum oxide, and platinum on the oxide coated electrode substrate by thermal decomposition; and

forming an electrode active material layer on the intermediate thin layer.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.

Hund et al. (Hund)	4,140,813	Feb. 20, 1979
Asano et al. (Asano)	4,481,097	Nov. 6, 1984

THE REJECTION

Claims 6, 11 and 12 stand rejected under 35 U.S.C. § 103 as being unpatentable over Asano in combination with Hund.

OPINION

As an initial matter, appellants' Brief contains a statement that the present claims stand or fall together. Accordingly, we select claim 6, the sole independent composition claim, as representative of appellants' invention and limit our consideration to said claim. 37 CFR § 1.192(c)(7)(1995).

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with the appellants that the aforementioned rejection is not well founded. Accordingly, we will not sustain the rejection.

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a prima facie case of unpatentability." See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The examiner relies upon a combination of Asano and Hund to establish a prima facie case of obviousness.

Asano discloses an electrically conductive substrate optionally coated with an oxide layer which may be selected

from a valve metal such as tantalum or niobium.[2] See column 3, lines 15 - 19. See also column 5, lines 39 - 45 which specifically refers to, "an oxide of a valve metal." Thereafter an intermediate layer corresponding to the intermediate layer of the claimed subject matter is taught by Asano at column 3, line 54 through column 4, line 23. Finally electrode active material is superposed on the intermediate layer. See column 4, lines 43 - 45.

The initial oxide layer taught by Asano has the purpose of making the substrate more corrosion proof and providing increased adhesiveness with an intermediate layer. See column 3, lines 17 - 19. Asano, however, fails to teach flame spraying the oxide layer, the requisite thickness of the oxide layer or that the oxide layer is non-stoichiometric.

The secondary reference to Hund discloses each of the features absent from the teachings of Asano for an electrode having a first oxide coating. See Abstract. The first coating is produced by flame spraying. See column 3, lines 1 -3. The coating is customarily non-stoichiometric. See column 3, lines

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[2] Emphasis ours.

16 - 41. The thickness of the coating is taught at Example 1, lines 1-2 wherein the layer of 0.03 to 0.4 mm corresponds to 30 - 4000 microns, overlapping the range required by of the claimed subject matter.

However, the metal oxides taught by Asano are limited to valve metals such as tantalum or niobium. In contrast, the only metal oxide taught by Hund is titanium. We find no evidence on this record that Ti is a valve metal. Nor is there any evidence that tantalum or niobium is equivalent to titanium. Neither do we find evidence that flame spraying is either a customary or usual method for the coating of metals. Nor do we find evidence that one of ordinary skill in the art would utilize the thickness of the oxide layer taught by Hund for a three-layer electrode, in the preparation of a four-layer electrode. Accordingly, on this record, we conclude the references to Asano and Hund were improperly combined.

The examiner must show reasons that the skilled artisan confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. We determine that there is no reason,

suggestion, or motivation to combine the references in the manner proposed by the examiner. Accordingly, the examiner has not established a prima facie case of obviousness. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

DECISION

The rejection of claims 6, 11 and 12 under 35 U.S.C. § 103 as being unpatentable over Asano in combination with Hund is reversed.

The decision of the examiner is reversed.

REVERSED

TERRY J. OWENS Administrative Patent Judge	)
THOMAS A. WALTZ Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
PAUL LIEBERMAN Administrative Patent Judge	)

PL/jlb

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