

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte
DOUGLAS J. WOODNORTH
and BARBARA BRYN

Appeal No. 2001-0789
Application No. 09/106,625

ON BRIEF

Before WARREN, OWENS and LIEBERMAN, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1, 5 through 15 and 18 through 25.

THE INVENTION

The invention is directed to an alkaline electrochemical cell having a steel casing preplated on the inside with a layer of nickel. A layer of cobalt is applied over the nickel layer. A layer of carbon is applied over the cobalt layer. Additional limitations are described in the following illustrative claim.

THE CLAIMS

Claim 1 is illustrative of appellants' invention and is reproduced below.

1. An alkaline electrochemical cell comprising a cylindrical steel casing housing the contents of said cell, a positive and a negative terminal, an anode comprising zinc, a cathode comprising manganese dioxide, and aqueous alkaline electrolyte solution, wherein the inside surface of said steel casing is preplated with a layer of nickel, said steel casing being coated on the inside surface with a coating comprising a layer comprising cobalt and a layer comprising carbon, wherein said layer comprising cobalt is applied over said nickel layer and the layer comprising carbon is applied over said cobalt layer.

THE REFERENCES OF RECORD

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

Schneider et al. (Schneider)	4,760,002	Jul. 26, 1988
Junkers et al. (Junkers)	4,910,096	Mar. 20, 1990
Bennett	5,302,473	Apr. 12, 1994
Mototani et al. (Mototani)	5,721,072	Feb. 24, 1998
Canadian Patent (Canada '697)	1263697	Dec. 05, 1989

THE REJECTIONS

Claims 1, 5 through 7, 9 through 15, 18 through 23 and 25 stand rejected under

35 U.S.C. §103(a) as being unpatentable over Schneider in view of Canada '697, further in view of Bennett and further in view of Mototani.

Claims 8 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schneider in view of Canada '697, further in view of Bennett and further in view of Mototani and further in view of Junkers.

OPINION

We have carefully considered all of the arguments advanced by the appellant and the examiner and agree with the appellant that the rejection of the claims under §103(a) is not well founded. Accordingly, we reverse the rejections.

The Rejection under § 103

"[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).

It is the examiner's position that, "it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply two layers of material over the plated surface of Schneider et al. because Bennett teaches that a plurality of layers of electrically conductive material reduces interfacial resistance between the surfaces and improves distribution of current and thus efficiency of the battery." See Answer, pages 5

and 6.¹ We disagree.

Schneider is directed to an improved current collector for an electrode to reduce contact resistance. See column 1, lines 7-11. We find that Schneider discloses nickel plated steel coated with cobalt or a cobalt compound. See column 2, lines 4-50. There is however, no suggestion or teaching directed to the presence of carbon as a coating.

Canada '697 discloses in the background of the invention that the material of the cell container or can, usually nickel plated steel is subject to corrosion. See page 1, lines 22-25. We find that Canada '697 significantly reduces the corrosion of the steel can by providing a coating composition of carbon. See page 4, line 27 to page 5, line 7 and page 7, line 14 to page 8, line 4. Stated otherwise, Canada '697 discloses a corrosion reducing coating of nickel plated steel having a coating of carbon over the nickel. There is no disclosure of a cobalt coating in Canada '697.

Bennett is thereafter relied upon to teach that significantly improved current distribution is obtained by utilizing a current collector that includes a plurality of layers of electrically conductive material with the adjacent layers of the materials being of different conductivities to form an anisotropic resistivity structure having a greater resistance in the direction of the axis. See column 1, lines 39-53. We further find that the collector comprises a plurality of layers of electrically conductive material with adjacent layers of the

¹All references to the Answer are to the Supplemental Examiner's Answer, Paper No. 11, mailed February 26,2002.

material forming a pair, with the two layers of the pair having different conductivity. See column 2, line 65 to column 3, line 8. The only material specifically taught by Bennett is nickel foil. See column 3, line 13.

Although the examiner proposes to combine the teachings of the references to obtain the specific layers required by the claimed subject matter, presumably by inserting the carbon layer over the cobalt layer, on the record before us there is no rationale or logic to explain why one having ordinary skill in the art would combine the references in the manner suggested by the examiner except based on the hindsight suggestion of the specification. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("[T]he best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references").

The references to Mototani and Junkers are not directed to coatings on a steel casing or collector and accordingly fail to overcome the shortcomings of the other references discussed herein.

DECISION

The rejection of claims 1, 5 through 7, 9 through 15, 18 through 23 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Schneider in view of Canada '697, further in view of Bennett and further in view of Mototani is reversed.

The rejection of claims 8 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Schneider in view of Canada '697, further in view of Bennett and further in view of Mototani and further in view of Junkers is reversed.

The decision of the examiner is reversed.

REVERSED

CHARLES F. WARREN
Administrative Patent Judge

TERRY J. OWENS
Administrative Patent Judge

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PAUL LIEBERMAN)
Administrative Patent Judge)

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