The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ESTHER S. TAKEUCHI

Appeal No. 2004-1908
Application No. 09/176,374

ON BRIEF

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

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-19, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a method of making an electrode assembly for an electrochemical cell, an electrode assembly for an electrochemical cell and a solid cathode liquid electrolyte alkali metal high rate cell. An understanding of the

invention can be derived from a reading of exemplary claim 1, which is reproduced below.

> 1. A method of making an electrode assembly for an electrochemcial cell comprising:
>
> a) providing a combination of an elongated anode electrode, an elongated cathode electrode and separator therebetween in a face-to-face relationship wherein one of the anode and cathode electrodes is shorter in length than the other of the anode and cathode electrodes;
>
> b) folding the combination using a mandrel to form an anode-cathode electrode assembly having a jellyroll configuration, said mandrel being of substantially rectangular cross-section having a pair of substantially parallel and planar oppositely-facing surfaces;
>
> c) said folding the combination including a first step of folding the longer one of the electrodes on itself about the mandrel so that the separator on said longer one of the said electrode contacts both of said oppositely-facing surfaces of said mandrel and subsequent steps of folding both of the electrodes about the mandrel to form the anode-cathode electrode assembly; and
>
> d) so that upon removal of the mandrel in the event any portion of the separator contacted by the mandrel is impaired only portions of the longer one of the electrode can contact each other thereby preventing any electrical short circuit due to the separator being impaired in a cell containing said anode-cathode electrode assembly.

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

Machida et al. (Machida)	4,709,472	Dec. 01, 1987
Takeuchi et al. (Takeuchi)	5,549,717	Aug. 27, 1996

Claims 5, 6, 8, 9 and 16-18 stand rejected under 35 U.S.C.

§ 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as invention. Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Machida in view of Takeuchi.

We refer to the brief and reply brief and to the answer for a complete exposition of the opposing viewpoints expressed by appellant and the examiner concerning the issues before us on this appeal.

OPINION

We find ourselves in agreement with appellant’s position for each of the maintained rejections because the examiner has failed to carry the burden of establishing a prima facie case in each instance. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Accordingly, we will not sustain the examiner's rejections. Our reasoning follows.

Rejection under 35 U.S.C. § 112, second paragraph

The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the claim language, as it would have been interpreted by one of ordinary skill in the art in light of appellant’s specification and the prior art, sets out and circumscribes a particular area with a reasonable degree

of precision and particularity. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

The examiner maintains that “a curved surface cannot lie within a plane” in asserting that claims 5, 6, 8, 9 and 16-18 are indefinite.

However, a curved surface is not required to be planar by the claim language in question as the examiner appears to suggest. Rather, the so rejected claims require a surface that has a curved edge (“a curved edge surface”) to lie within a plane. See, e.g., the planar surface having a curved edge in appellant’s drawing figure 11. Thus, we do not agree that the examiner’s expressed concern amounts to a violation of the provisions of the second paragraph of 35 U.S.C. § 112. Consequently, we reverse the 35 U.S.C. § 112, second paragraph rejection put forward by the examiner.

Rejection under 35 U.S.C. § 103(a)

Machida discloses a method of manufacturing a spiral electrode assembly wherein, in a first winding step, a separator portion of one electrode that is longer than the diameter of a spool is wound about the spool and then a leading edge portion of a second electrode (element 4, Figure 5) is begun to be wound around the spool together with the electrode that includes the

wound separator portion. The electrode that includes the wound separator portion is located rearwardly of the leading edge portion of the second electrode during the winding as depicted in drawing Figure 5 of Machida. The spool is removed after the winding is complete resulting in a tightly wound spiral electrode assembly, which assembly can be thereafter incorporated in a cylindrical cell. See column 4, line 58 through column 5, line 51 of Machida.

The examiner recognizes that Machida does not employ a rectangular mandrel having a pair of opposite and planar faces in forming an electrode assembly as required by claim 1. Nor does Machida teach or suggest that the electrode assembly should be formed into a prismatic shaped electrode assembly having a rectangular pocket or two substantially flat sections of longer electrode facing each other. Nor does Machida teach a cell including such a prismatic electrode assembly, as claimed by appellant.

In an attempt to remedy the acknowledged deficiency of Machida (final rejection, page 4), the examiner additionally relies on the teachings of Takeuchi.

Takeuchi discloses a prismatic cell with the shaping thereof being done simultaneously with the winding thereof by using a

rectangular mandrel. See column 6, lines 32-54 of Takeuchi. Alternatively, Takeuchi discloses that shaping of the cell can occur after a winding operation by pressing the cell after forming a spirally wound cell. See column 6, lines 60-67 of Takeuchi.

According to the examiner (final rejection, pages 4 and 5),

> the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because one of skill [in the art] would have known that the anode-cathode subassembly could be shaped to have a rectangular cross-section after being formed on a mandrel of non-rectangular cross-section. Takeuchi teaches an alternate method for shaping the subassembly. The method includes after the subassembly has been wound (on a circular mandrel for example) or coiled the subassembly is placed in a suitable pressing fixture including jaws or pressing members which act on opposite surface portions of the subassembly to force or shape the combination to have a substantially rectangular cross-section. See col. 6, lin[es] 59-67 and Fig.13 of the Takeuchi reference. Therefore[,] one of [ordinary] skill [in the art] would be motivated to combine Machida and Takeuchi because the Takeuchi reference discloses shaping an anode-cathode subassembly to have a rectangular cross section by using a mandrel of rectangular cross-section or by first forming the subassembly on a non-rectangular mandrel and then pressing the subassembly to have a rectangular cross-section.
>
> Furthermore one of [ordinary] skill [in the art] would be motivated to use the mandrel of rectangular cross-section of Takeuchi for the mandrel of Machida because Takeuchi teaches that if a rectangular shape is desired a mandrel of rectangular cross-section may be used or a circular subassembly may be pressed to obtain the desired rectangular shape. Depending on the

> desired shape of the container in which the subassembly is to be placed, one of [ordinary] skill [in the art] would be motivated to alter the shape of Machida et al.

However, on this record, we disagree with the examiner's views on this matter. At the outset, we note that "Before the PTO may combine the disclosures of two or more prior art references in order to establish prima facie obviousness, there must be some suggestion for doing so, found either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art." In re Jones, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943-44 (Fed. Cir. 1992); In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598-99 (Fed. Cir. 1988).

Here, the examiner makes reference to Takeuchi to support the asserted motivation for the proposed modification of Machida. However, as pointed out by appellant, Machida (column 2, lines 62-65) expressly teaches that "the electrode members are not forcibly bent anywhere. Therefore, the electrode members are not damaged, and an objectionable short-circuit in the cell can be prevented."

Given that the examiner's proposed modification would run counter to the express disclosure of Machida that teaches against bending the electrodes and that the examiner has not addressed that conflict in the teachings of Machida and Takeuchi regarding

bending the electrodes, it is our view that the examiner has not fairly explained why the teachings of Takeuchi in combination with Machida would have led one of ordinary skill in the art to the examiner's proposed modification, on this record.

From our perspective, the particularly identified teachings of Takeuchi regarding the use of a flat sided mandrel and the formation of a prismatic shaped cell, while obviously applicable to the cell of Takeuchi, have not been shown by the examiner as suggesting a modification of Machida's specific cell or method of making same in a manner so as to arrive at the here claimed subject matter.

Moreover, the examiner has not fairly addressed the specifics of each of appellant's claims and each of the applied references in explaining how the teachings of Takeuchi would have suggested particular modification(s) of Machida in a manner so as result in appellant's claimed subject matter with a reasonable expectation of success in so doing.

For example, appellant's claim 1 requires a method wherein the longer electrode is first folded on itself about a substantially rectangular cross-section mandrel having opposing surfaces so that a separator on the longer electrode contacts both of the oppositely facing surfaces of the mandrel. Even if

we could agree with the examiner that the combination of Takeuchi with Machida would have suggested using a rectangular mandrel in Machida, which we do not, the examiner has not fairly explained how that combination of references would have taught or suggested the particular folding steps of appellant's claim 1 together with the claim 1 requirement that "only portions of the longer one of the electrode[s] can contact each other" (claim 1, step d) after removal of the mandrel and in the event of impairment of a portion of the separator that was contacted by the mandrel.

In this regard, appellant's specification cannot be used as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. See In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

For the foregoing reasons, it is our determination that the examiner has not established a prima facie case of obviousness. Accordingly, we will not sustain the § 103(a) rejection before us.

CONCLUSION

The decision of the examiner to reject claims 5, 6, 8, 9 and 16-18 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as invention; and to reject claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over Machida in view of Takeuchi is reversed.

REVERSED

CHUNG K. PAK Administrative Patent Judge	)	
PETER F. KRATZ Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
BEVERLY A. PAWLIKOWSKI Administrative Patent Judge	)	

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