

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAMES McLAUGHLIN,  
PAUL DAMIAN MAGUIRE,  
and ERIC THOMAS McADAMS

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Appeal 2009-003785  
Application 10/415,194  
Technology Center 1700

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Decided:<sup>1</sup> June 30, 2009

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Before ADRIENE LEPIANE HANLON, CHUNG K. PAK, and  
KAREN M. HASTINGS, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

A. STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from an Examiner's decision rejecting claims 1-8, 10-15, 22-26, and 29-35.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

Claims 1 and 7, reproduced below, are the only independent claims on appeal.

1. A method for the reduction of impedance of a surface of a silver electrode comprising

treating the surface with a chlorine plasma, and

maintaining the treated surface for use as the surface of the silver electrode.

7. A method for the reduction of impedance of a surface of a metal comprising

treating the surface with a chlorine plasma, and

maintaining the treated surface of the metal for use as a surface of an electrode.

App. Br. 10, Claims Appendix (formatting added).<sup>3</sup>

The following Examiner's rejections are before us on appeal:

(1) Claims 1, 2, 7, 8, 10-15, 22-26, and 29-35 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Takahashi<sup>4</sup> and Buck.<sup>5</sup>

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<sup>2</sup> Claims 17 and 18 are also pending but have been withdrawn from consideration.

<sup>3</sup> Appeal Brief dated July 18, 2008.

<sup>4</sup> Japanese document 11-135507A published May 21, 1999. Reference herein is to the English translation of record in the instant Application.

<sup>5</sup> US 6,294,062 B1 issued to Buck on September 25, 2001.

(2) Claims 3-6 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Takahashi, Buck, and Okuda.<sup>6</sup>

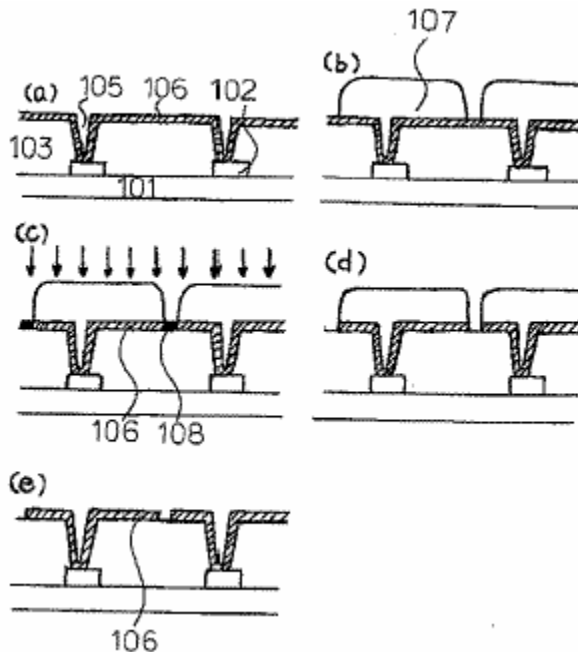
B ISSUE

Have the Appellants shown reversible error in the Examiner's conclusion that "maintaining the treated surface" as recited in method claims 1 and 7 would have been obvious to one of ordinary skill in the art in view of the combined teachings of Takahashi and Buck?

C. FINDINGS OF FACT

1. Takahashi

Takahashi Figures 2(a) through 2(e), reproduced below, illustrate a manufacturing process for a liquid crystal display device. Takahashi, para. [0034].



Takahashi Figs. 2(a) through 2(e) depict a manufacturing process.

<sup>6</sup>US 5,874,174 issued to Okuda on February 23, 1999.

As shown in Figure 2(a), a silver layer **106** is deposited on the surface of an insulating film **103**. Takahashi, para. [0037].

As shown in Figure 2(b), a mask is formed on the silver layer **106** using a photoresist **107**. Takahashi, para. [0038].

The unmasked portion of the silver layer **106** is subsequently removed. Specifically, as shown in Figure 2(c), the portion of the silver layer **106** to be removed is converted to silver halide or silver oxide using halogen gas plasma or oxygen plasma. In this embodiment, the portion of the silver layer **106** to be removed is converted to AgCl **108** by anisotropic chlorine plasma processing. Takahashi, para. [0039].

As shown in Figure 2(d), the AgCl **108** that is produced in the previous step is dissolved and removed using an aqueous ammonia solution. Takahashi, para. [0042].

## 2. Buck

Buck discloses a method and device for detecting and quantifying biologically significant analytes in a liquid sample. Buck 1:9-11.

According to the disclosed method, the sample is contacted with a reference electrode and at least first and second working electrodes. Buck 6:33-7:15.

In one embodiment, Buck employs a silver/silver chloride electrode that is produced by a lithographic process and then electroplated with silver and silver chloride according to standard techniques. Buck 26:63-27:1.

## D. ANALYSIS

The Appellants argue that Takahashi teaches away from the claimed subject matter because the surface of silver layer **106** is treated for the sole purpose of removing it. App. Br. 5-6.

In response, the Examiner contends that “maintaining the treated surface for use as a surface of an electrode is an intended use limitation” and “the treated surface of Takahashi can be used as an electrode prior to additional processing.” Ans. 7.<sup>7</sup>

The Examiner’s position appears to misconstrue the language of claims 1 and 7. The claims on appeal are not directed to an apparatus. Rather, claim 1 recites a *method* comprising the steps of (1) *treating* a surface of a silver electrode with a chlorine plasma and (2) *maintaining* the treated surface. Similarly, claim 7 recites a *method* comprising the steps of (1) *treating* a metal surface with a chlorine plasma and (2) *maintaining* the treated surface. App. Br. 10, Claims Appendix.

Takahashi discloses a manufacturing process comprising the steps of (1) treating a portion of the silver layer **106** using anisotropic chlorine plasma processing and (2) removing, not maintaining, the treated portion of the silver layer **106**, i.e., AgCl layer **108**. See Takahashi, paras. [0039], [0042]. Significantly, the Examiner has failed to explain why the step of “maintaining” the treated surface, as recited in claims 1 and 7, would have been obvious to one of ordinary skill in the art in view of this disclosure in Takahashi.

The Examiner also found that Buck teaches that silver/silver chloride electrodes were known to be useful. Based on this teaching, the Examiner concluded that it would have been obvious to one of ordinary skill in the art to maintain the treated silver surface in Takahashi. Ans. 3-4, 7.

The Appellants argue that one skilled in the art would not have found it obvious to modify the Takahashi method according to the teachings in

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<sup>7</sup> Examiner’s Answer dated September 3, 2008.

Buck because the teachings of Takahashi and Buck are unrelated. App. Br. 6.

With or without the teachings of Buck, we recognize that silver/silver chloride electrodes were known at the time of the Appellants' invention. *See, e.g.*, Spec. 1:8-12. That being said, the Examiner has failed to explain why one of ordinary skill in the art would have found a silver chloride layer useful in the device of Takahashi, especially in view of the fact that Takahashi removes such a layer in the disclosed process. For this reason, the Examiner has failed to establish that maintaining the AgCl layer **108** in the process of Takahashi would have been obvious to one of ordinary skill in the art.<sup>8</sup> *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (legal conclusion of obviousness must be supported by “some articulated reasoning with some rational underpinning”).

In sum, the Appellants have shown reversible error in the Examiner's conclusion that “maintaining the treated surface” as recited in method claims 1 and 7 would have been obvious to one of ordinary skill in the art in view of the combined teachings of Takahashi and Buck.

E. DECISION

The decision of the Examiner is reversed.

REVERSED

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<sup>8</sup> The Examiner does not direct us to any teaching or suggestion in Okuda regarding the “maintaining” step recited in claims 1 and 7. *See* Ans. 5-6.

Appeal 2009-003785  
Application 10/415,194

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