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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* AKOS VETEK, JARI KANGAS, LEO KARKKAINEN,  
TATIANA G. EVREINOVA, and GRIGORI E. EVREINOV

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Appeal 2015-000135<sup>1,2</sup>  
Application 13/370,720  
Technology Center 3700

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Before PHILIP J. HOFFMANN, CYNTHIA L. MURPHY, and  
BRUCE T. WIEDER, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

According to Appellants, the invention “relate to mechanisms for transcutaneous stimulation of the optic nerve to produce visual responses.”

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<sup>1</sup> Our decision references Appellants’ Specification (“Spec.,” filed Feb. 10, 2012) and Appeal Brief (“Br.,” filed May 9, 2014), as well as the Final Office Action (“Final Action,” mailed Oct. 23, 2013) and the Examiner’s Answer (“Answer,” mailed July 15, 2014).

<sup>2</sup> According to Appellants, Nokia Corporation is the real party in interest. Br. 2.

Spec. ¶ 1. Claims 1, 8, and 15 are the only independent claims. *See* Br., Claims App. We reproduce claim 1, below, as representative of the appealed claims.

1. An apparatus comprising:
  - at least one processor;
  - memory storing a program of instructions;
  - wherein the program of instructions is configured to, with the at least one processor, cause the apparatus to perform actions comprising at least:
    - generating user output data;
    - converting the user output data to representations corresponding to light signals; and
    - performing control functions to at least two current sources to cause generation of electrical outputs in the form of at least a balanced differential signal which, when applied to the skin of a user, stimulate an optic nerve of the user so as to cause the user to perceive the light signals.

*Id.*

#### REJECTIONS AND PRIOR ART

The Examiner rejects claims 15–20 under 35 U.S.C. § 101 as directed to non-statutory subject matter. The Examiner also rejects claims 1–20 under 35 U.S.C. § 103(a) as unpatentable over Beck (US 4,664,117, iss. May 12, 1987) and Binder (US 6,684,107 B1, iss. Jan. 27, 2004). *See* Final Action 2–4; *see also* Answer 2.

## ANALYSIS

### Non-statutory subject matter rejection

In the Final Action, the Examiner indicates that the claims are rejected because claim 15 “should recite a ‘non-transitory’ computer readable medium.” Subsequently, the Examiner entered such an amendment to claim 15. *See* Advisory Action mailed Jan. 29, 2014 (Advisory Action), 1. But, because the Examiner does not indicate withdrawal of the rejection, we must review as though the Examiner maintains the rejection. *See* Answer 2. As Appellants do not argue against the rejection, we summarily sustain the rejection.

### Obviousness rejection

Independent claim 1 recites, among other features,  
performing control functions to at least two current sources to cause generation of electrical outputs in the form of at least a balanced differential signal which, when applied to the skin of a user, stimulate an optic nerve of the user so as to cause the user to perceive the light signals.

Br., Claims App. Appellants argue the rejection is in error because it would not have been obvious to modify Beck based on Binder. *See* Br. 4–11.

Based on our review of the prosecution history, we agree with Appellants, and, thus, we do not sustain the obviousness rejection of claim 1.

More specifically, the Examiner determines the following:

Beck discloses substantially the same invention as claimed, including generating user output data and converting the user output data to representations corresponding to light signals ([A]bstract), and performing control functions to cause generation of electrical outputs which, when applied to the skin of a user ([A]bstract; [c]ol. 4, lines 25[–]29; Figures 1, 9[–]16), stimulate an optic nerve so as to cause the user to perceive the light signals.

Further . . . , Beck does not explicitly disclose using two current sources to generate a balanced differential stimulation signal. However, Binder teaches using two current sources to generate a balanced differential stimulation signal ([c]ol. 4, lines 43[–]58), in order to increase patient safety. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Beck as taught by Binder to include using two current sources to generate a balanced differential stimulation signal, in order to increase patient safety.

Final Action 3–4. As further explained by the Examiner,

[the] Examiner is not suggesting the bodily incorporation of the circuitry of Binder into the device of Beck. Rather, Binder suggests the configuration of two current sources and a balanced differential signal offers well-known advantages for electrical signal generating circuitry within the field of stimulation of the body. Thus, the combination of Beck and Binder simply modifies the signal generating circuitry while retaining the primary function Beck, which is transcutaneously stimulating the optic nerve.

Advisory Action 2.

However, we agree with Appellants’ characterization of Binder, viz. that Binder “control[s] maximum voltage and current levels to avoid penetrating beneath the dermal layer of the skin.” Br. 7; *see also id.* at 7–12. Thus, we determine that the Examiner does not provide the required reasoning with rational underpinnings sufficient to convince us that it would have been obvious to modify Becks circuitry to stimulate an optic nerve below the skin based on Binder’s circuitry that is designed to stimulate only the skin without providing stimulation to anything under the skin (*see id.* at 7, referencing Binder col. 2, ll. 8–22) (*see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)).

Based on the foregoing, we do not sustain the obviousness rejection of claim 1. Further, we do not sustain the obviousness rejection of independent claims 8 and 15, each of which recites similar limitations. *See* Br., Claims App. Still further, inasmuch as we do not sustain the obviousness rejection of the independent claims, we also do not sustain the obviousness rejection of claims 2–7, 9–14, and 16–20 that depend from the independent claims.

#### DECISION

We summarily AFFIRM the Examiner’s rejection of claims 15–20 under 35 U.S.C. § 101.

We REVERSE the Examiner’s rejection of claim 1–20 under 35 U.S.C. § 103(a).

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

AFFIRMED-IN-PART