UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHRISTOPH LOEF,
THOMAS DUERBAUM, EBERHARD WAFFENSCHMIDT,
MATTHIAS WENDT, HEINZ VAN DER BROECK
and MANFRED ALBACH

Appeal 2007-1995
Application 10/213,577[1]
Technology Center 2800

Decided: May 1, 2008

Before JAMESON LEE, RICHARD TORCZON and SALLY C. MEDLEY, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1]Application for patent filed 07 Aug. 2002. The real party in interest is Koninklijke Philips Electronics N.V.

A. Statement of the Case

This is an appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 1-6, 8-11, 13-15 and 19[2]. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

The prior art relied upon by the Examiner rejecting the claims on appeal is:

Hirahara	5,920,466	Jul. 06, 1999
Ohashi	6,362,980	Mar. 26, 2002

Claims 1-6, 8-11, 13-15 and 19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hirahara and Ohashi.

BACKGROUND

The invention is related to a power supply unit for supplying power to a plasma display panel. The power supply unit includes an active network filter **1** not including isolation which supplies a regulated DC (Direct Current) output from an AC (Alternating Current) input. Connected to the output of active network filter **1** is a DC–DC voltage converter **4** which includes a transformer for isolation. The DC-DC voltage converter **4** includes a first output **6** and a second output. First output **6** is connected with regulator **5** and provides a constant value voltage **U6**. The second output is series connected with a voltage actuator **11** and a regulator **12** and provides unregulated input voltage **U7** to voltage actuator **11**. The voltage actuator **11** and regulator **12** provide regulated DC voltage **U13** at output **13**. (Abs., Spec. 1-3 and **fig. 1**). Figure 1 from the Application is reproduced below.

[2] Claims 7, 12, 16-18 and 20 were allowed in the Non-Final Office Action mailed 30 Dec. 2005.

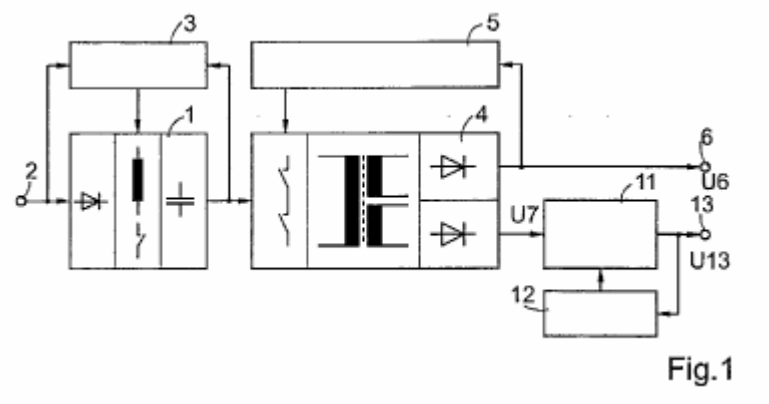

Fig.1

Figure 1 depicts a power supply unit including an active network filter, a DC-DC voltage converter a regulator and a voltage actuator and regulator.

B. Issue

The issue before us is whether Applicants have shown that the Examiner erred in determining that claims 1-6, 8-11, 13-15 and 19 are unpatentable under 35 U.S.C. § 103(a) over Hirahara and Ohashi.

For the reasons that follow, Applicants have sufficiently shown that the Examiner erred in determining that claims 1-6, 8-11, 13-15 and 19 are unpatentable under 35 U.S.C. § 103(a) over Hirahara and Ohashi.

C. Findings of Facts ("FF")

The record supports the following findings of facts as well as any other findings of fact set forth in this opinion by at least a preponderance of the evidence.

1. Applicants' claims 1-6, 8-11, 13-15 and 19 are the subject of this appeal.
2. Claim 1 is independent.
3. Claims 2-6, 8-11, 13-15 and 19 directly or indirectly depend on claim 1.
4. Claims 1-6, 8-11, 13-15 and 19 stand or fall together (App. Br. 3-5).
5. Claim 1 is representative and is as follows:

> A power supply unit for supplying power to a plasma display panel, comprising:

an active network filter without electrical isolation that is configured to provide an essentially constant DC voltage from an AC supply voltage,

a DC-DC voltage converter connected to the output of the active network filter with at least one first and one second output and with electrical isolation between the constant DC voltage and the outputs,

a regulator that is operably coupled to the DC-DC voltage converter to regulate the voltage at the first output, and

a voltage actuator connected in series at least to the second output.

6. The Examiner found that Hirahara describes a power supply for a display unit represented by element **6**, a DC-DC (Direct Current-Direct Current) voltage converter, a regulator represented by element **40** and a voltage actuator represented by element **41** (Ans. 3 and Hirahara **fig. 1**).
7. The Examiner found that Hirahara does not describe an active filter (Ans. 3).
8. The Examiner found that Ohashi teaches the utilization of an active filter represented by power factor correction (PFC) circuit **110** (Ans. 3 and Ohashi **fig. 1**).
9. The Examiner concluded that it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hirahara's power supply unit by utilizing an active filter as taught by Ohashi for the purpose of increasing the efficiency of the power supply (Ans. 3).
10. Ohashi describes that inter-terminal voltage of the capacitor **108** is applied to the primary winding of transformer **142** intermittently by way of the PFC controller **126** of PFC circuit **110** turning on/off the transistor switch **120** and reactor **114** output (col. 9, ll. 41-50).

11. Ohashi describes that the voltage generated at the secondary winding of transformer **142** is converted to DC voltage by rectifying diode **146** and capacitor **148** and supplied to regulators **150** and **156** (col. 9, ll. 50-55).

D. Principles of Law

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

"[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. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

E. Analysis

Claims 1-6, 8-11, 13-15 and 19 stand or fall together (FF[3] 4). Claims 2-6, 8-11, 13-15 and 19 directly or indirectly depend on claim 1 (FFs 2-3). We focus our analysis on claim 1 which recites that the active network filter "is configured to provide an essentially constant DC voltage from an AC supply voltage. . ."

The Examiner found that Hirahara describes a power supply for a display unit represented by element **6**, a DC-DC (Direct Current-Direct Current) voltage converter, a regulator represented by element **40** and a voltage actuator represented by element **41**, but does not describe an active filter (FFs 6-7). The Examiner found that Ohashi teaches the utilization of an

[3] FF denotes Finding of Fact.

active filter represented by power factor correction (PFC) circuit **110** (FF 8). The Examiner concluded that it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hirahara's power supply unit by utilizing an active filter as taught by Ohashi for the purpose of increasing the efficiency of the power supply (FF 9). Figure 1 from Ohashi is reproduced below.

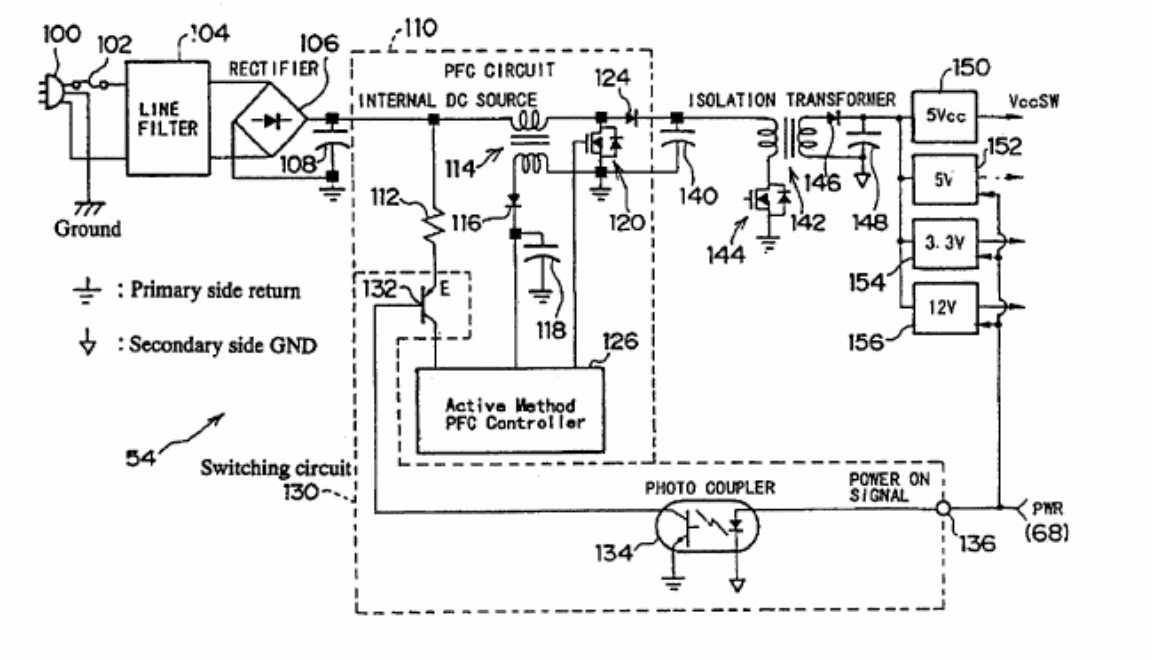

Figure 1 depicts a PFC circuit connected between a full wave rectifier and a transformer. The Examiner contends that Ohashi's PFC circuit **110** provides relatively constant DC voltage on the capacitor **140** or regulator **150** since the voltage at **140** is then switched to AC at transistor switch **144** and then switched to DC at regulator **150** (Ans. 6). The Examiner also clarifies that only the PFC circuit **110** is considered to be the claimed active filter (Ans. 5).

Applicants argue that Ohashi's PFC circuit **110** does not provide an essentially constant DC voltage from an AC supply voltage (Reply Br. 2). Ohashi describes that inter-terminal voltage of the capacitor **108** is applied to

the primary winding of transformer **142** intermittently by way of the PFC controller **126** of PFC circuit **110** turning on/off the transistor switch **120** and reactor **114** output (FF 10). Applicants argue that because Ohashi's inter-terminal voltage of the capacitor **108** is applied to the transformer **142** intermittently by the PFC circuit **110**, it does not provide an essentially constant DC voltage as claimed by Applicants (Reply Br. 3). We agree with Applicants that Ohashi's PFC circuit **110** is not configured to provide an essentially constant DC voltage since the PFC circuit **110** is configured to provide an *intermittent* voltage to the primary winding of transformer **142**. In addition, the Examiner has not provided any explanation or evidence to support the contention that PFC circuit **110** provides relatively constant DC voltage on capacitor **140**. Moreover, the Examiner's contention that PFC circuit **110** provides constant DC voltage at regulator **150** is inconsistent with the Examiner's clarification that only PFC circuit **110** is considered the active filter. The voltage at regulator **150** is necessarily the result of the rectifying diode **146** and capacitor **148** as explained in Ohashi and not as a result of the PFC circuit **110** (FF 11). For all these reasons we find that Applicants have sufficiently shown that the Examiner erred in determining that claims 1-6, 8-11, 13-15 and 19 are unpatentable under 35 U.S.C. § 103(a) over Hirahara and Ohashi.

F. Decision

Upon consideration of the record, and for the reasons given, the Examiner's rejection of claims 1-6, 8-11, 13-15 and 19 as unpatentable under 35 U.S.C. § 103(a) over Hirahara and Ohashi is reversed.

REVERSED

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