

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WANGS ALLIANCE CORPORATION d/b/a WAC LIGHTING CO.,
Petitioner,

v.

PHILIPS LIGHTING NORTH AMERICA CORPORATION,
Patent Owner.

Case IPR2015-01294
Patent 7,038,399 B2

Before GLENN J. PERRY, TREVOR M. JEFFERSON, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

JEFFERSON, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Wangs Alliance Corporation d/b/a WAC Lighting Co. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 7, 8, 17, 18, 28, and 34 of U.S. Patent No. 7,038,399 B2 (Ex. 1001, “the ’399 patent”) pursuant to 35 U.S.C. § 311 et seq. Patent Owner, Philips Lighting North America Corporation, filed a Preliminary Response to the Petition. (Paper 6, “Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314(a). Section 314(a) provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” After considering the Petition, the Preliminary Response, and associated evidence, we conclude that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing unpatentability of the claims 7, 8, 17, 18, 28, and 34.

A. *Related Proceedings*

Petitioner reports the following pending litigation matter related to the ’399 Patent: *Koninklijke Philips N.V. et al. v. Wangs Alliance Corporation*, Case No. 14-cv-12298-DJC (D. Mass.). Pet. 1.

Petitioner notes that Patent Owner is suing the Petitioner and/or other parties under one or more of U.S. Patent Nos. 6,013,988; 6,147,458; 6,586,890 B2; 6,250,774 B1; 6,561,690 B2; 6,788,011 B2; 7,352, 138 B2; 6,094,014; and 7,262,559 B2, all of which generally relate to light emitting diodes (“LEDs”). *Id.*

Petitioner reports filing additional petitions for inter partes review petitions challenging U.S. Patent Nos. 6,013,988; 6,147,458; 6,586,890 B2; 6,250,774 B1; 7,352,138 B2; and 6,561,690 B2. *Id.*

B. The '399 Patent

The '399 patent discloses a method and apparatus for providing power to devices via an A.C. power source for LED-based light sources when the power circuits provide other than standard line voltages. Ex. 1001, at [57]. The claimed invention allows LED-based sources to be substituted for other light sources, such as incandescent lights, in environments using A.C. dimming devices or controls. *Id.*

Figure 1, below, shows an example operation of conventional A.C. dimming devices. *Id.* at 8:30–31.

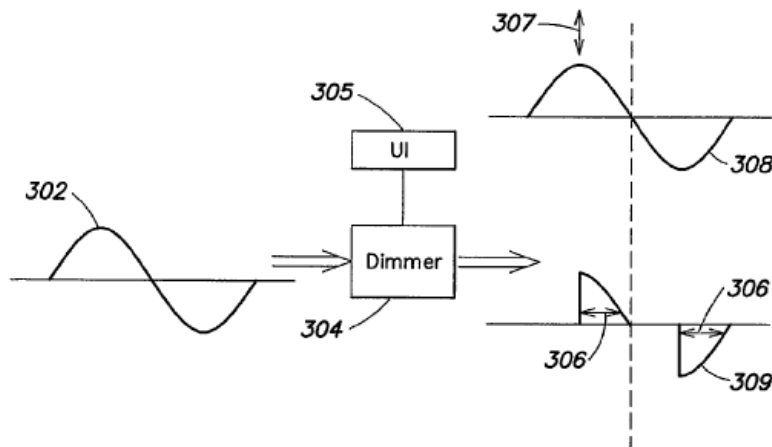


FIG. 1
(PRIOR ART)

Figure 1 shows an example of A.C. dimmer known in the prior art. *Id.* at 8:30–31. Figure 1 “shows . . . voltage waveform 302 (e.g., representing a standard line voltage) that may provide power to one or more conventional

light sources.” *Id.* at 2:18–21. A.C. dimmer 304 responsive to user interface 305 alters the A.C. signals, such that dimmer 304 is configured to output waveform 308, in which the amplitude 307 of the dimmer output signal may be adjusted via the user interface 305.” *Id.* at 2:23– 35. The Specification also states that “dimmer 304 is configured to output the waveform 309, in which the duty cycle 306 of the waveform 309 may be adjusted via the user interface 305.” *Id.*

Figure 3, below, shows one embodiment of the invention using an LED-based light source. *Id.* at 8:35–36.

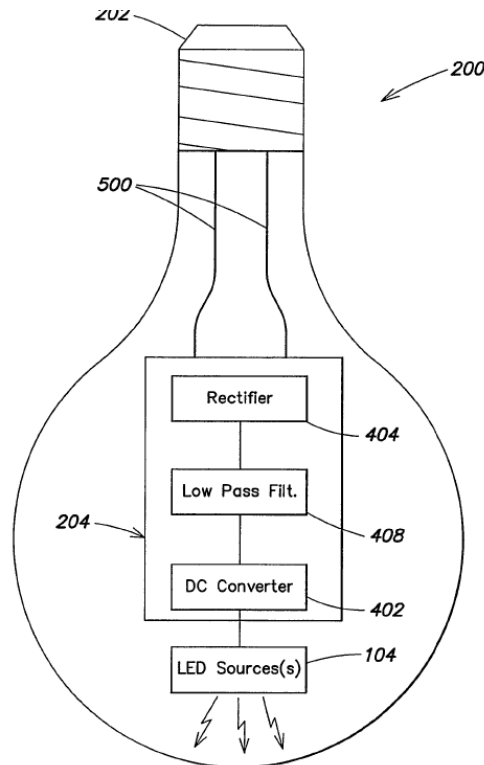


FIG. 3

Figure 3 illustrates an LED-based lighting unit 200 “depicted generally to resemble a conventional incandescent light bulb having a screw-type base connector 202 to engage mechanically and electrically with a conventional

light socket.” *Id.* at 12:32–37. Lighting unit 200 includes LED-based light source 104 and controller 204 configured to receive A.C. signal 500 via connector 202 and provide operating power to LED-based light source 104. Controller 204 includes components to ensure proper operation of the lighting unit for A.C. signals 500 that are provided by a dimmer circuit, such as those that output duty cycle-controlled (i.e., angle modulated) A.C. signals. *Id.* at 12:50–60. Controller 204 includes rectifier 404, low pass filter 408, and DC converter 402. *Id.* at 12:61–64.

C. Illustrative Claims

Claims 7, 8, 17, and 28 are illustrative and reproduced below (Ex. 1001, 25:41–67, 26:28–59, 27:52–56).

7. An illumination apparatus, comprising:
 - at least one LED; and
 - at least one controller coupled to the at least one LED and configured to receive a power-related signal from an alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage, the at least one controller further configured to provide power to the at least one LED based on the power-related signal,
 - wherein the A.C. power source is an A.C. dimmer circuit,
 - wherein the A.C. dimmer circuit is controlled by a user interface to vary the power-related signal, and
 - wherein the at least one controller is configured to variably control at least one parameter of light generated by the at least one LED in response to operation of the user interface, and
 - wherein the operation of the user interface varies a duty cycle of the power-related signal, and wherein the at least one controller is configured to variably control the

at least one parameter of the light based at least on the variable duty cycle of the power-related signal.

8. The apparatus of claim 7, wherein the at least one parameter of the light that is variably controlled by the at least one controller in response to operation of the user interface includes at least one of an intensity of the light, a color of the light, a color temperature of the light, and a temporal characteristic of the light.

17. An illumination apparatus, comprising:
at least one LED; and
at least one controller coupled to the at least one LED and configured to receive a power-related signal from an alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage, the at least one controller further configured to provide power to the at least one LED based on the power-related signal,

wherein the A.C. power source is an A.C. dimmer circuit,

wherein the A.C. dimmer circuit is controlled by a user interface to vary the power-related signal, and wherein the at least one controller is configured to variably control at least one parameter of light generated by the at least one LED in response to operation of the user interface, and

wherein the at least one controller includes:
an adjustment circuit to variably control the at least one parameter of light based on the varying power-related signal; and

power circuitry to provide at least the power to the at least one LED based on the varying power-related signal.

28. The apparatus of claim 17, wherein the adjustment circuit includes drive circuitry including at least one voltage-to-current converter to provide at least one drive

current to the at least one LED so as to control the at least one parameter of the generated light.

D. Asserted Grounds of Unpatentability

The information presented in the Petition sets forth proposed grounds of unpatentability for the challenged claims of the '399 patent as follows (Pet. 3):

| Reference[s] | Basis | Claims Challenged |
|-----------------------------------|-----------------|--------------------------|
| Hochstein ¹ | 35 U.S.C. § 102 | 7, 8, 17, 28, and 34 |
| Bogdan ² and Hochstein | 35 U.S.C. § 103 | 7, 8, 17, 28, and 34 |
| Hochstein and Faulk ³ | 35 U.S.C. § 103 | 7, 8, 17, 18, 28, and 34 |

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015) (stating that “Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by

¹ U.S. Patent No. 5,661,645 to Hochstein issued Aug. 26, 19097 (Ex. 1003, “Hochstein”).

² U.S. Patent No. 6,225,759 B1 to Bogdan, et al., issued May 1, 2001 (Ex. 1004, “Chang”).

³ U.S. Patent No. 5,818,705 to Faulk, issued Oct. 6, 1998 (Ex. 1005, “Faulk”).

PTO regulation”). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner and Patent Owner have proposed constructions for various terms. *See* Pet. 3–5; Prelim. Resp. 4–15. We need not construe every term proposed by the parties if such constructions are not helpful in our determination of whether to institute trial.

1. “*duty cycle*”

Claims 7 and 34 recite the term “duty cycle.” Petitioner and Patent Owner largely agree, construing the term “duty cycle” to mean “the ratio of pulse duration to pulse period.” Pet. 4–5; Prelim Resp. 15. Petitioner’s proposed construction adds, however, that the ratio is “expressed as a percentage.” Pet. 4. We agree with Patent Owner that the addition of the ratio requirement is not necessary. Prelim. Resp. 15. Thus, we determine that “duty cycle” is construed as “the ratio of pulse duration to pulse period.”

2. “*illumination apparatus*” and “*illumination method*”

Patent Owner contends that the preambles to independent claims 7, 17, and 34 recite “illumination apparatus” and “illumination method” and are such terms that are limiting on the claims. Prelim. Resp. 5–9. Petitioner did not construe these terms. Patent Owner argues that the use of the term “illumination” in the preambles is limiting because the Specification

distinguishes between “direct-view ‘indicator’ lights” and light sources used for general illumination. *Id.* at 7. Because the Specification defines “illumination source” as “a light source that is particularly configured to generate radiation having a sufficient intensity to effectively illuminate an interior or exterior space” (Ex. 1001, 5:26–29), Patent Owner states that “[t]he term ‘illumination apparatus [method]’ is limiting and . . . means ‘a light source [method] that is configured to generate radiation having a sufficient intensity to effectively illuminate an interior or exterior space.’” Prelim. Resp. 5–6.

We disagree with Patent Owner that the preambles limit the independent claims at issue. Generally, a preamble is not construed as a limitation. *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). In particular, when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention,” the preamble is not considered a limitation. *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002). A preamble is limiting where it is “‘necessary to give life, meaning and vitality’ to the claim.” *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358 (Fed. Cir. 2010) (quoting *Catalina Mktg. Int’l*, 289 F.3d at 808). On the present record, we are not persuaded by Patent Owner’s arguments that the terms “illumination apparatus” and “illumination method” are functional limitations on the use of the light source and necessary to give meaning to the claims.

Based on the record before us, we conclude that preamble terms “illumination apparatus” and “illumination method” are not limiting on the

apparatus and method of claims 7, 17, and 34. Accordingly, the terms require no further construction.

3. *“alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage”*

The claim phrase “alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage” appears in independent claims 7, 17, and 34. Petitioner did not argue for an express construction of this phrase. Patent Owner contends that the proper construction of this phrase is “a power source that provides alternating current (A.C.) signals other than a single sinusoidal wave at a fixed frequency and a fixed amplitude.” Prelim. Resp. 9–10. Patent Owner argues that this construction is consistent with the Specification and the common usage of “‘alternating current (A.C.)’ to distinguish from power sources that provide direct current (D.C.) signals.” *Id.* at 10–11.

Patent Owner’s argues that “other than a standard A.C. line voltage” recited in the claims must be alternating current and cannot encompass a D.C. signal. *Id.* at 11–12. On the present record, we are not persuaded that the claim phrase “other than a standard A.C. line voltage” is limited to providing only an “A.C.” signal. The plain language of the phrase states that an A.C. power source provides signals “other” than standard. This negative limitation does not narrow the signal output of the A.C. power source, but excludes only “standard A.C. line voltages.”

Based on the record before us, we determine that the claim phrase “alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage” does not require further construction and that

“other than a standard A.C. line voltage” under the broadest reasonable interpretation is not limited to A.C. signals.

4. “A.C. dimmer circuit”

The term “A.C. dimmer circuit” appears in claims 7, 17, and 34. Patent Owner contends that this term should be interpreted as “a circuit that provides an alternating current (A.C.) dimming signal.” Pet. 13–15. Based on the record before us, we determine that this term does not require additional construction.

B. Anticipation by Hochstein (Ex. 1003)

1. Overview of Hochstein (Ex. 1003)

Hochstein relates to a power supply for operating light emitting diode (“LED”) array traffic signals. Ex. 1003, 1:5–8. Hochstein describes using an LED traffic light with a traffic signal controller that provides a “half wave rectified a.c. line power” to dim the traffic light at night to reduce glare. *Id.* at 10:38–61. Hochstein also discloses “an apparatus for supplying regulated voltage d.c. electrical power to an LED array. The apparatus includes a rectifier having an input and an output, the rectifier being responsive to a.c. power at the input for generating rectified d.c. power at the output.” *Id.* at 3:18–23.

The Hochstein apparatus provides a boost, buck/boost or buck, switch-mode converter to a power-line operated LED array. *Id.* at 3:34–36. It includes an adaptive clamp circuit upstream of a rectifier input for preventing leakage current problems. *Id.* at 3:41–43. One embodiment of the Hochstein apparatus is depicted in Figure 5, reproduced below.

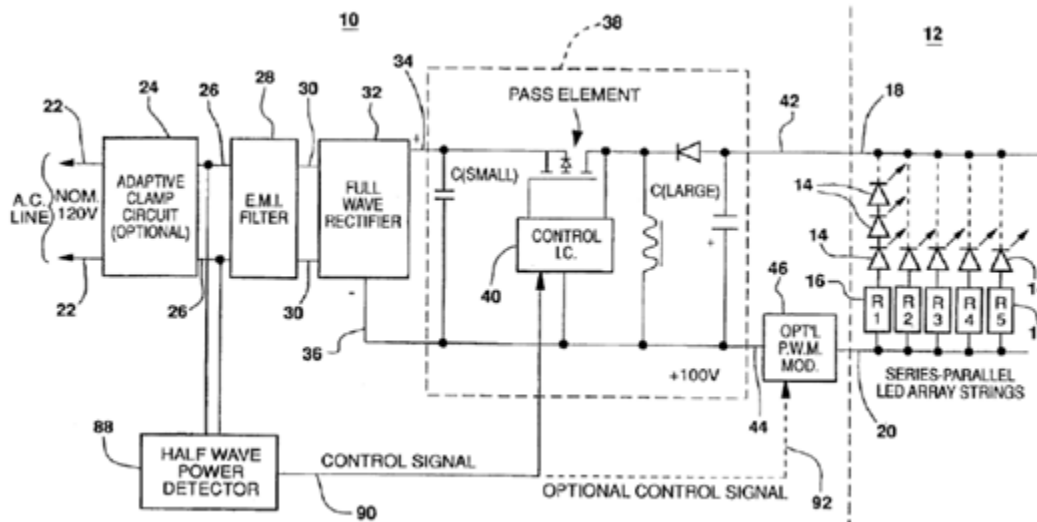


Figure 5 depicts regulated voltage, switch-mode power supply 10 with a pair of input lines 22 and an optional adaptive clamp circuit 24. *Id.* at 5:11–15. The output of adaptive clamp circuit 24 is connected to an input of an electromagnetic interference (“E.M.I.”) filter 28, which prevents conducted interference from feeding back into the power lines. *Id.* at 5:31–35. Lines 34 and 36 connect to an input of a power factor correction, buck/boost converter 38, which includes a power factor correction (“P.F.C.”) integrated circuit controller 40. *Id.* at 41–45. The output voltage of PFC switch-mode converter 38 is fed directly to LED array 12, or alternatively through pulse width modulated (“P.W.M.”) modulator 46. *Id.* at 5:66–6.

2. Analysis

Petitioner contends that Hochstein discloses the limitations of claims 7, 8, 17, 28, and 34. Pet. 16–31. Petitioner provides analysis and citations to the Declaration of Mr. Robert Tingler (Ex. 1006) to support its contentions that the rectifier circuit of Hochstein discloses the challenged claim limitations. *Id.* (citing Ex. 1006 ¶¶ 42–85). Based on the present

record, we are persuaded that Petitioner has demonstrated that Hochstein discloses the limitations of the challenged claims.

Patent Owner contends that Hochstein, which addresses LED-based traffic lights, does not teach the preamble limitations for “illumination apparatus” and “illumination method” as recited in independent claims 7, 17, and 34. Prelim. Resp. 18–19. We determined in section II.A.2 that the preambles of the independent claims are not limiting. Accordingly, we disagree with Patent Owner’s arguments regarding the use of the term “illumination” in the preambles of claims 7, 17, and 34.

In addition, we determined in Section II.A.3 that “alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage” as recited in independent claims 7, 17, and 34 does not require that the “other than standard” signal is limited to an A.C. signal. Thus, we are not persuaded by Patent Owner’s argument that the power source in Hochstein outputs a D.C. signal (as a half-wave rectified signal) or a standard A.C. signal and does not disclose the claim limitations for power signals in the challenged claims. Prelim. Resp. 20–26.

We are also not persuaded by Patent Owner’s contention that the controller disclosed in Hochstein is not enabled, because Petitioner failed to explain how the controller is configured. Prelim. Resp. 26–27. We are persuaded that Petitioner has provided sufficient support and testimony to show that the controller disclosed in Hochstein discloses the controller in the claimed apparatus and method. Pet. 20–21. Specifically, we note that the controller can be adjusted to change the output of the LED array. Pet. 20 (citing Ex. 1003, 11:1–5; Ex. 1006 ¶¶ 52–54).

Patent Owner also argues that Hochstein does not disclose independent claims 7 and 17 limitations that “the A.C. power source is an A.C. dimmer circuit” or the claim 34 limitation that “a power-related signal from an alternating current (A.C.) dimmer circuit.” Prelim. Resp. 27–29. Petitioner has provided evidence demonstrating that Hochstein discloses an A.C. power source that provides a signal to dim the LED device in response to a change in the signal. Pet. 21–22.

Patent Owner disputes that Hochstein discloses a user interface that controls the A.C. dimmer circuit as required in claims 7 and 34. Prelim. Resp. 29–30. We disagree with Patent Owner. We are persuaded that Petitioner has provided sufficient evidence that Hochstein discloses dimming in response to a dimming command and describes the Hochstein dimming functions in relation to a user. Pet. 22–23 (citing Ex. 1003, 11:10–15, 11:24–27; Ex. 1006 ¶ 57).

With respect to dependent claims 7 and 34, Patent Owner contends that Hochstein does not disclose the “variable duty cycle of the power-related signal” as recited in claim 7 or the similar limitation in claim 34. Prelim. Resp. 30–34. Petitioner asserts that the half-wave rectified signal in Hochstein corresponds to a 50 percent duty cycle. Pet. 24–25 (citing Ex. 1006 ¶ 61). Based on the present record, we are persuaded that Petitioner has provided sufficient testimony that the half-wave rectified signal in Hochstein varies the duty cycle of the power-related signal as required in claims 7 and 34.

With respect to claim 17, we are not persuaded by Patent Owner’s contention that both the “adjustment circuit” and “power circuitry” are not disclosed in a single embodiment in Hochstein. Prelim. Resp. 34–37. On

the present record, we do not agree with Patent Owner's contention that "Petitioner's argument requires the control signal 90 from the half-wave detector 88 to be fed into both converter 38 and pulse width modulated ("PWM") modulator 46" as shown in Figure 5 of Hochstein. Prelim. Resp. 35. Based on the present record, we understand Petitioner's contention to state that control signal 90 is fed to modulator 46. Pet. 26–28. Petitioner has demonstrated that the power circuitry identified in Hochstein provides a varying power-related signal as required in claim 17. *Id.* at 27–28.

Finally, with respect to claim 28 limitation that an "adjustment circuit includes drive circuitry including at least one voltage-to-current converter," we are not persuaded by Patent Owner's argument that the testimony and evidence cited by Petitioner (Pet. 29–30) is conclusory. Prelim. Resp. 37. Based on the record before us, we are persuaded that Petitioner has provided testimony sufficient to demonstrate that the adjustment circuitry identified in Hochstein includes a "voltage-to-current converter" as recited in claim 31. Pet. 29 (citing Ex. 1006 ¶¶ 68–69).

Based on the record before us, we are persuaded that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in showing that claims 7, 8, 17, 28, and 34 are unpatentable as anticipated under 35 U.S.C § 102 by Hochstein.

C. Hochstein (Ex. 1003) and Bogdan (Ex. 1004)

1. Bogdan (Ex. 1004)

Bogdan discloses a custom dimmer that replaces a standard switch for use with gas discharge lamps (e.g., fluorescent lamps) and incandescent

lamps (e.g., halogen lamps). Ex. 1004, 1:9–22. Figure 1 shows an embodiment of the invention with a universal dimmer. Ex. 1004, 3:33–35.

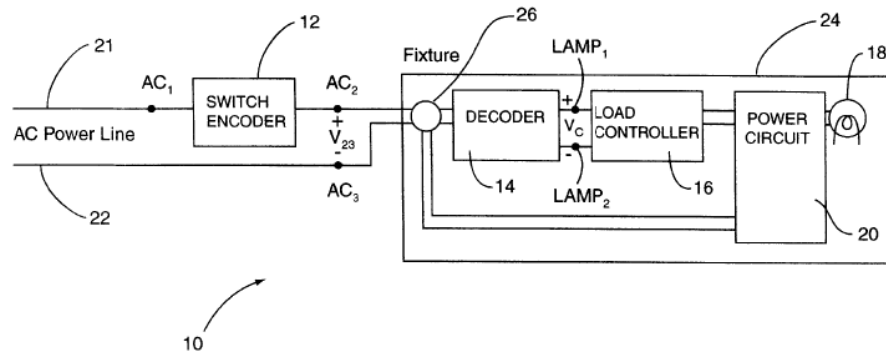


FIG. 1

Figure 1 shows universal dimmer 10, switch encoder 12, decoder 14 and load controller 16 to dim a lamp 18 (either incandescent or gas discharge) by appropriately controlling the operation of power circuit 20 associated with lamp 18. *Id.* at 4:29–34.

Bogdan discloses “a dimmer circuit for controlling an electrical lighting device having a load input” which further includes “a power input terminal” with “an input AC waveform” and “an encoding circuit . . . for selectively wave chopping the half cycles of said input AC waveform” *Id.* at 2:42–51. Bogdan further states that

The transmitted AC power waveform is used to power the electrical lighting device by connection to a decoder. The decoder decodes the transmitted AC power waveform by generating a voltage pulse waveform having pulse widths corresponding to the duration of the zero crossing step delays A load controller receives the decoder output and appropriately controls the operation of the electrical lighting device.

Id. at Abstract.

2. *Analysis*

Petitioner contends that Bogdan discloses the limitations of claims 7, 8, 17, 28, and 34, except for the use of LED-based source, which is disclosed in Hochstein. Pet. 31–33. Petitioner provides analysis, citations to Bogdan and Hochstein, and citations to the Tingler declaration in support of its contention. Pet. 31–52. Petitioner provides a rationale to combine the references, stating that they are related references (Pet. 31–32) and that a person of ordinary skill in the art would have been able to make modifications to Bogdan to use with the light source of Hochstein (Pet. 34–35).

Patent Owner contends that Bogdan is not available as prior art because it is not analogous art that is from the same field of endeavor or pertinent to the problem of the '399 patent. Prelim. Resp. 40–43. We disagree as Petitioner proffers persuasive evidence, at this juncture, that Bogdan and Hochstein solve similar problems for dimming non-traditional light sources. Pet. 32 (citing Ex. 1006 ¶ 88).

We are also not persuaded that Bogdan and Hochstein teach away from each other. Prelim. Resp. 44–46. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the [inventor].” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not “criticize, discredit, or otherwise discourage” investigation into the invention claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Based on the record before us, the technical differences in

dimming gas light sources in Bogdan and LED-based light sources in Hochstein that are identified by Patent Owner (Prelim. Resp. 44–46) do not constitute teaching away.

We do not agree with Patent Owner that Petitioner has not shown that the combination of Bogdan and Hochstein as modified discloses the limitations of the challenged claims. Prelim. Resp. 48–49. Petitioner provides persuasive analysis and discussion showing that a person of ordinary skill in the art could modify Bogdan and how Bogdan discloses the limitations of the challenged claims. Pet. 32–52. On the record before us, we are not persuaded by Patent Owner’s argument that the modifications to Bogdan discussed by Petitioner do not teach controller limitations of the challenged claims.

On the record before us, we do not agree with Patent Owner’s argument that the modifications to Bogdan suggested by Petitioner do not have a reasonable expectation of success and would render both references inoperable for their primary purpose. Prelim. Resp. 49–58. Patent Owner’s arguments concerning Petitioner’s modifications to Bogdan challenge the alterations as rendering Bogdan unsuitable for intended use or failing to fully explain how each element of Bogdan used with gas light sources operates after modification. *Id.* We do not look to “whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citations omitted).

Based on the present record, we are persuaded that Petitioner’s rationale for combining the references and modifying Bogdan are not merely

conclusory statements. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Petitioner has provided testimony and argument with rational underpinnings to support the modification of the load controllers in Bogdan. Pet. 32–36.

Based on the foregoing and the present record, we are persuaded that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in showing that claims 7, 8, 17, 28, and 34, are unpatentable as obvious under 35 U.S.C § 103 over Bogdan and Hochstein.

D. Hochstein (Ex. 1003) and Faulk (Ex. 1005)

Faulk discloses an A.C. adapter for use in portable computers that reduces the size of the adapter. Ex. 1005, 3:48–53. The AC adapter in Faulk converts “high voltage AC power provided from the AC main, for example, an electrical outlet, to low voltage DC power. . . .” *Id.* at 2:55–57. The power supply discloses in Faulk uses a full-wave diode bridge rectifier and a space-efficient EMI filter. *Id.* at Abstract, Figure 5; 9:56–61.

Petitioner argues that Hochstein and Faulk disclose the limitations of 7, 8, 17, 18, 28, and 34. Pet. 50–57. Petitioner does not assert that Faulk teaches any limitation of claims 1, 2, 9, 10, 11, 20, 31, 33, and 34, relying only on Hochstein as discussed in section 11.B. above to teach the limitations of those claims. Pet. 55. Petitioner provides analysis and citations to testimony showing that Hochstein and Faulk teach claim 18. *Id.* With respect to a motivation to combine, Petitioner has provided a rationale for the combination of the references based on the teachings related to the efficiency of the EMI filters disclosed in Faulk. *Id.*

With respect to claim 18, Petitioner cites Faulk for teaching “a low pass filter to filter the rectified power-related signal.” Pet. 56–58. Patent Owner contends that Petitioner fails to show how Faulk pertains to the limitations of claims 7, 8, 17, 28, and 34. Prelim. Resp. 59. We are persuaded, as stated above, that Hochstein discloses the limitations of claims 7, 8, 17, 28, and 34. Accordingly, we are not persuaded by Patent Owner’s argument that the combination of Hochstein and Faulk does not disclose the limitations of claim 18, which depends from claim 17.

Based on the record before us, Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in showing that claims 7, 8, 17, 18, 28, and 34 would have been unpatentable under 35 U.S.C. § 103(a) as obvious in view of Hochstein and Faulk.

III. CONCLUSION

For the foregoing reasons and based on the record before us, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail in establishing that:

- (1) claims 7, 8, 17, 28, and 34 would have been unpatentable as anticipated by Hochstein under 35 U.S.C. § 102,
- (2) claims 7, 8, 17, 28, and 34 would have been unpatentable as obvious under 35 U.S.C. § 103(a) over Bogdan and Hochstein; and
- (5) claims 7, 8, 17, 18, 28, and 34 would have been unpatentable as obvious under 35 U.S.C. § 103(a) over Hochstein and Faulk.

The Board has not made a final determination on the patentability of the challenged claims, nor has the Board made a final determination of any underlying factual or legal issue.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for the following grounds of unpatentability:

A. Claims 7, 8, 17, 28, and 34 of the '138 patent under 35 U.S.C. § 102(a) as anticipated by Hochstein;

B. Claims 7, 8, 17, 28, and 34 of the '138 patent under 35 U.S.C. § 103(a) as rendered obvious by Bogdan and Hochstein;

C. Claims 7, 8, 17, 18, 28, and 34 of the '138 patent under 35 U.S.C. § 103(a) as rendered obvious by Hochstein and Faulk.

FURTHER ORDERED that no other grounds set forth in the Petition are authorized for *inter partes* review as to the claims of the '138 patent; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial that commences on the entry date of this Decision.

IPR2015-01294
Patent 7,038,399 B2

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