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Paper 8
Entered: November 25, 2015

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 IPR2015-01293
Patent 7,352,138 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 2, "Pet.") to institute an *inter partes* review of claims 1, 2, 9, 10, 11, 20, 21, 31, 33, and 34 of U.S. Patent No. 7,352,138 B2 (Ex. 1001, "the '138 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 1, 2, 9, 10, 11, 20, 21, 31, 33, and 34.

A. Related Proceedings

Petitioner reports the following pending litigation matter related to the '138 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; 7,038,399 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; 7,038,399 B2; and 6,561,690 B2. *Id*.

B. The '138 Patent

The '138 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 8:38–39.

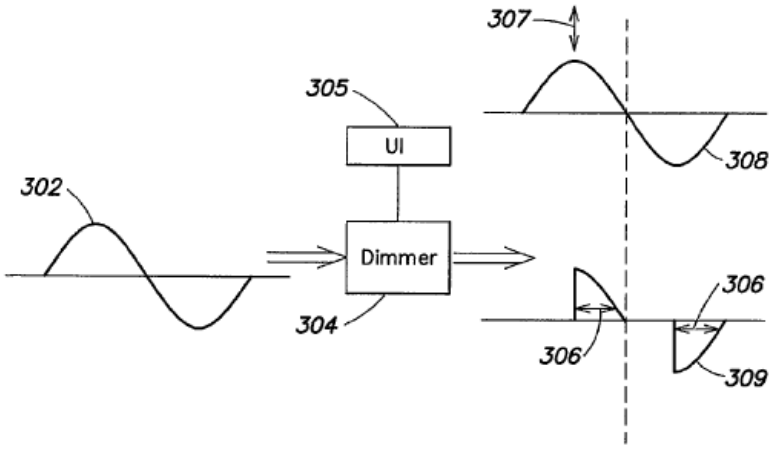

FIG. 1
(PRIOR ART)

Figure 1 shows an example of A.C. dimmer known in the prior art. *Id*. at 8:38–39. Figure 1 "shows . . . voltage waveform 302 (e.g., representing a standard line voltage) that may provide power to one or more conventional

light sources." 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 2:26– 37. 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 8:48–50

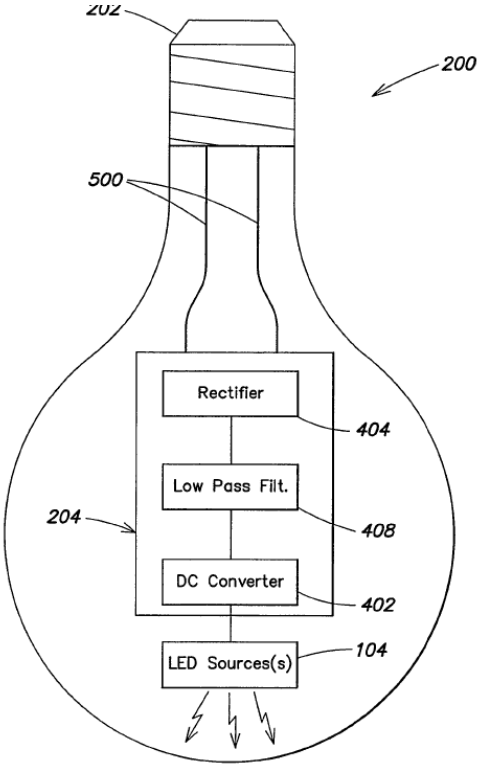

FIG. 3

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 12:35–40. 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 12:53–64. Controller 204 includes rectifier 404, low pass filter 408, and DC converter 402. *Id*. at 12:64–67.

C. Illustrative Claims

Claims 1, 2, 9, 10, and 33 are illustrative and reproduced below (Ex. 1001, 24:62–28:26):

> 1. 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.
>
> 2. The apparatus of claim 1, wherein the A.C. power source is an (A.C.) dimmer circuit.
>
> 9. The apparatus of claim 2, 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.

> 10. The apparatus of claim 9, 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.
>
> 33. An illumination method, comprising an act of:
> A) providing power to at least one LED based on a power-related signal from an alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage.

D. Asserted Grounds of Unpatentability

The information presented in the Petition sets forth proposed grounds of unpatentability for the challenged claims of the '138 patent as follows (Pet. 2–3):

Reference[s]	Basis	Claims Challenged
Hochstein[1]	35 U.S.C. § 102	1, 2, 9, 10, 11, 20, 31, 33, and 34
Bogdan[2] and Hochstein	35 U.S.C. § 103	1, 2, 9, 10, 11, 20, 31, 33, and 34
Hochstein and Faulk[3]	35 U.S.C. § 103	1, 2, 9, 10, 11, 20, 21, 31, 33, and 34

[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 B1to 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").

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 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"

Claim 10 recites the term "duty cycle" in the limitation stating that "the operation of the user interface varies a duty cycle of the power-related signal." Petitioner and Patent Owner largely agree, construing the term "duty cycle" to mean "the ratio of pulse duration to pulse period." Pet. 4; 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 Petitioner's proposed 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 1 and 33 recite "illumination apparatus" and "illumination method" and that these 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. 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 1 and 33. 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 1 and 33. 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." Prelim. Resp. 11.

Patent Owner argues essentially that "other than a standard A.C. line voltage" 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 2, 9, 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.

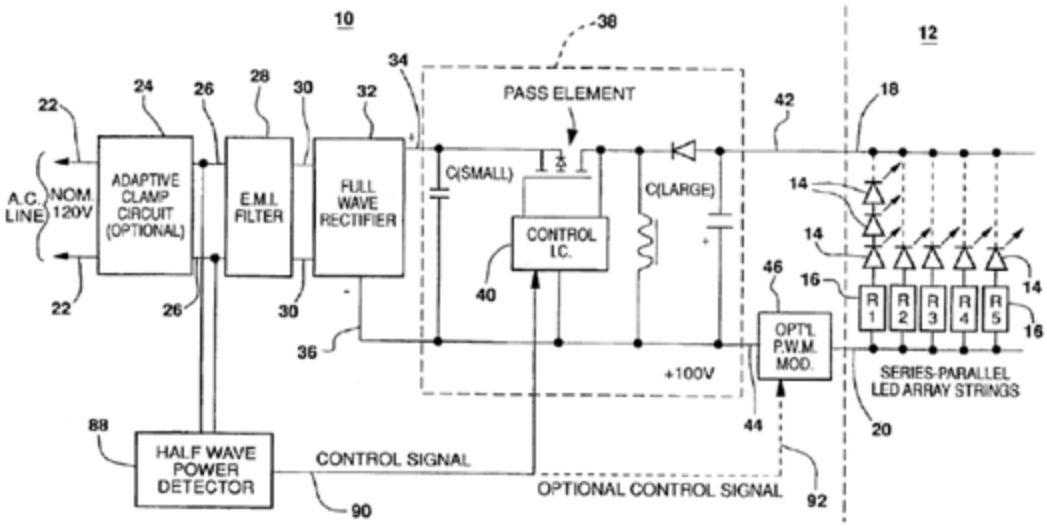

Figure 5 depicts regulated voltage, switch-mode power supply 10 with a pair of input lines 22 and an optional adaptive clamp circuit 24. *Id*. at 5:11–15. The output of adaptive clamp circuit 24 is connected to an input of an electromagnetic interference ("E.M.I.") filter 28, which prevents conducted 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 1, 2, 9, 10, 11, 20, 31, 33, 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 ¶¶ 46–81). Based on the present record, we are persuaded by Petitioner's argument and evidence that Petitioner has demonstrated it will prevail in showing 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 1 and 33. 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 preambles use of the term "illumination."

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 1 and 33 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. 19–25, 30.

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 in Hochstein. Prelim. Resp. 26–27. Petitioner provides sufficient support and testimony at this juncture to show that the controller discloses in Hochstein discloses the controller in the claimed apparatus and method. Pet. 20–21. Specifically, we note the showing 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 the A.C. dimmer circuit limitations of dependent claims 2, 9–11, 20, 21, 31, and independent claim 34. Prelim. Resp. 27–29. We are persuaded that, on the record before us, Petitioner provides sufficient 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 9–11, 20, 21, and 31. 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 claim 10, Patent Owner contends that Hochstein does not disclose the "variable duty cycle of the power-related signal" as recited in claim 10. Prelim. Resp. 30–34. Patent Owner argues that Petitioner incorrectly calculates the duty cycle in Hochstein after dimming, and that the duty cycle does not change from the A.C. signal to the rectified dimming signal. *Id*. Petitioner asserts that the half-wave rectified signal in Hochstein corresponds to a 50 percent duty cycle. Pet. 24 (citing

Ex. 1006 ¶ 60). Based on the present record, we are persuaded that Petitioner has provided sufficient testimony demonstrating that the half-wave rectified signal in Hochstein varies the duty cycle of the power-related signal as required in claim 10.

With respect to claim 20, we disagree with Patent Owner's contention that both the "adjustment circuit" and "power circuitry" are not disclosed in a single embodiment in Hochstein and that the control of these circuits is mutually exclusive. Prelim. Resp. 34–36. 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 record before us, we understand Petitioner's contention to state that control signal 90 is fed only to modulator 46. Pet. 26–28. We are persuaded, therefore, that Petitioner has demonstrated that the power circuity identified in Hochstein provides a varying power-related signal as required in claim 20. *Id*. at 27–28.

Finally, we are not persuaded by Patent Owner's argument that the testimony and evidence cited by Petitioner (Pet. 29–30) is conclusory with respect to the voltage to current converter of claim 31. 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 1, 2, 9, 10, 11, 20, 31, 33, 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.

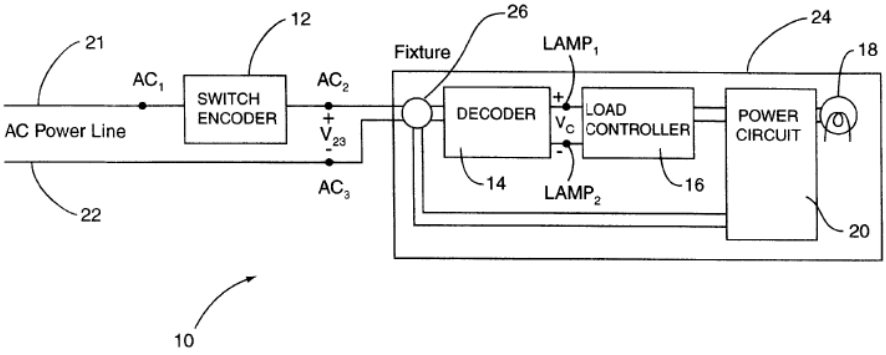

FIG. 1

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 1, 2, 9, 10, 11, 20, 31, 33, and 34, except for the use of LED-based source, which is disclosed in Hochstein. Pet. 31–32. Petitioner provides analysis, citations to Bogdan and Hochstein, and citations to the Tingler Declaration in support of its contention. Pet. 31–50. Petitioner also provides a rationale to combine the references, stating that a person of ordinary skill in the art would have been motivated and able to make modifications to Bogdan to use with the light source of Hochstein (Pet. 34–35).

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 shows how Bogdan discloses the limitations of the challenged claims. Pet. 34–39. On the record before us, we are persuaded that the power circuit, controller, and LED limitations of the challenged are disclosed in the modifications to Bogdan proffered by Petitioner.

We also do not agree with Patent Owner's argument that the modifications to Bogdan do not have a reasonable expectation of success and would render both Bogdan and Hochstein inoperable for their primary purpose. Prelim. Resp. 49–51. Patent Owner's arguments concerning Petitioner's modifications to Bogdan also argue that Petitioner fails to fully explain how each element of Bogdan previously used with gas light sources operates after modification to use with LED-based sources. Prelim. Resp. 49–58. 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). We are persuaded that Petitioner has provided sufficient analysis and evidence that modifications to Bogdan are within the knowledge of an ordinarily skilled artisan.

Based on the present record, we also are persuaded that the 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 and power circuitry in Bogdan. Pet. 32–36.

Based on the foregoing and 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 1, 2, 9, 10, 11, 20, 31, 33, 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 disclosed 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 dependent claim 21 and claims 1, 2, 9, 10, 11, 20, 31, 33, and 34. 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 II.B. to teach the limitations of those claims. Pet. 54. Upon review of Petitioner's argument and evidence, we are persuaded that 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*. at 50–53.

With respect to claim 21, Petitioner cites Faulk for teaching "a low pass filter to filter the rectified power-related signal." Pet. 54–56. Patent Owner contends that because Petitioner fails to show how Faulk pertains to the limitations of claims 1, 2, 9, 10, 11, 20, 31, 33, and 34 we should dismiss the combination with Faulk. Prelim. Resp. 59–60. We are persuaded, as stated above, however, that Hochstein discloses the limitations of claims 1, 2, 9, 10, 11, 20, 31, 33, and 34. Petitioner has provided citations to Hochstein and Faulk showing that they disclose the limitations of claim 21, which depends from claims 1, 2, 9, and 20. Pet. 54–57.

Based on the record before us, Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in showing that claims 1, 2, 9,

10, 11, 20, 21, 31, 33, 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 1, 2, 9, 10, 11, 20, 31, 33, and 34 would have been unpatentable as anticipated by Hochstein under 35 U.S.C. § 102;

(2) claims 1, 2, 9, 10, 11, 20, 31, 33, and 34 would have been unpatentable as obvious under 35 U.S.C. § 103(a) over Bogdan and Hochstein; and

(5) claims 1, 2, 9, 10, 11, 20, 21, 31, 33, 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 1, 2, 9, 10, 11, 20, 31, 33, and 34 of the '138 patent under 35 U.S.C. § 102(a) as anticipated by Hochstein;

B. Claims 1, 2, 9, 10, 11, 20, 31, 33, and 34 of the '138 patent under 35 U.S.C. § 103(a) as rendered obvious by Bogdan and Hochstein;

C. Claims 1, 2, 9, 10, 11, 20, 21, 31, 33, 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.

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