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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SIMON NICHOLAS RICHMOND
Appellant

Appeal 2019-000421
Reexamination Control 90/013,860
Patent No. US 7,429,827 B2
Technology Center 3900

Before MARC S. HOFF, ERIC B. CHEN, and WILLIAM V. SAINDON,
Administrative Patent Judges.

HOFF, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the rejection of claims 13–23 and 31–34.¹ We have jurisdiction under 35 U.S.C. §§ 134(b) and 306.

We reverse.

The ‘827 patent issued to Richmond on September 30, 2008. The ‘827 patent is a solar powered light assembly. The light assembly displays a constantly changing lighting effect that cycles through the light spectrum by ramping up and ramping down the intensity of light displayed by three light emitting diodes (LEDs). ‘827 Patent, col. 7:15-18.

Claim 13 is exemplary of the claims on appeal:

13. A lighting device to produce light of varying colour, said device comprising:
a lens generally enclosing a chamber;
a circuit including:
at least two lamps of different colours to produce a desired colour including a varying colour, the lamps being mounted to direct light into said chamber;
connections for at least one rechargeable battery to power the circuit;
a solar cell mounted on a surface so as to be exposed to light and operatively associated with the connections to charge the battery;
a circuit having at least one lamp to produce a light, the lamp being mounted to direct light into said chamber;
an activation sub-circuit to provide power to said lamps of different colours only at low light levels, and
a light sub-circuit having an integrated circuit for controlling said lamps to independently control delivery of power to each of said lamps so as to vary intensity of light emitted over time to produce a continuous colour

¹ Claims 1-12 are not subject to reexamination. Claims 24-30 have been cancelled.

changing cycle, and a selection switch, said selection switch being connected to said integrated circuit and operable to select a desired fixed colour; and

a volatile memory retained for a period of time and associated with said integrated circuit, said memory causing operation of said circuit to produce said desired fixed colour.

The Examiner relies upon the following prior art in rejecting the claims on appeal:

Chliwnyi	US 5,924,784	Jul. 20, 1999
Lau	US 6,431,719 B1	Aug. 13, 2002
Piepgras	US 6,965,205 B2	Nov. 15, 2005
Dowling	US 7,064,498 B2	Jun. 20, 2006
Laceky	US 7,275,501 B1	Oct. 2, 2007
Hung	WO 91/02192	Feb. 21, 1991
Pu	01258148.8	Nov. 22, 2002
Wu	US 2003/0201874 A1	Oct. 30, 2003

Throughout this decision, we make reference to Appellant’s Brief (“Appeal Br.,” filed June 8, 2018), the Reply Brief (“Reply Br.,” filed September 6, 2018) and the Examiner’s Answer (“Ans.,” filed July 6, 2018) for their respective details.

REJECTIONS

Claims 13–20 and 31–34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Piepgras and Hung.

Claims 21–23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Piepgras, Hung, and Laceky.

Claims 13–20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chliwnyj, Pu, Dowling, and Hung.

Claims 21–23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chliwnyj, Pu, Dowling, Hung, and Laceky.

Claim 31 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chliwnyj and Wu.

Claims 32–34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chliwnyj, Wu, Lau, and Hung.

ISSUES

Appellant’s arguments present us with the following issues:

1. Has the Examiner established a reasonable expectation of success in modifying Piepgras to include a solar cell for power, as taught by Hung?
2. Does Chliwnyj disclose the production of a “continuous color changing cycle,” as the claims require?

ANALYSIS

REJECTION OF CLAIMS 13-20 AND 31-34 OVER PIEPGRAS AND HUNG

Independent claims 13, 31, and 32 each recite a lighting device to produce light of varying color, including, inter alia, a solar cell to charge a rechargeable battery that powers a circuit having at least two lamps.

Appellant argues that modifying Piepgras, which teaches the use of AC power, to use the solar cell power source of Hung would not have a reasonable expectation of success, because the circuit of Piepgras draws far more power than the solar cell taught by Hung could provide. Appeal Br. 30; Reply Br. 23. For example, Appellant contends that the processor of

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Piepgras, alone, is disclosed to consume 0.7 watts, whereas the solar cell of Hung is estimated to supply only 0.1 watts. *Id.* Appellant’s expert, Dr. Ducharme, declared that “Microchip PIC processor 12C672” in Piepgras has a power dissipation of 700 mw; by contrast, Requester’s expert, Dr. Shackle, declared that 0.1 watts power generation is “generous” for solar lights. Ducharme Decl. ¶ 57. Even the 1 watt described as “typical” by Dr. Shackle would be insufficient to power the entire device. *Id.* The exemplary prior art (Frost ‘816) discussed by Dr. Ducharme disclosed that solar lights using a solar cell to recharge batteries “typically do not generate sufficient light to clearly illuminate pathways or garden areas.” *Id.*

For her part, the Examiner has failed to rebut Appellant’s argument. The Examiner states *only* that “while interchanging power source in a device from the wired AC to solar battery is not a simple task, it well lies in the capabilities of a specialized engineer.” Ans. 19. The Examiner has made no response to Appellant’s specific allegation that solar cells would generate insufficient power. *Id.* We are constrained on this record, then, to conclude that the Examiner erred in combining Piepgras with Hung, because the Examiner has not shown sufficiently that the asserted combination, replacing “unlimited” AC power with a solar cell much more constrained in power output, would have had a reasonable expectation of success in view of the arguments and evidence Appellant placed before us.

We conclude that the Examiner erred in rejecting claims 13–20 and 31–34 under 35 U.S.C. § 103(a) as being unpatentable over Piepgras and Hung. We do not sustain the Examiner’s rejection.

REJECTION OF CLAIMS 21–23 OVER PIEPGRAS, HUNG, AND LACEKY

Claims 21–23 depend on claim 13, whose rejection over Piepgras and Hung we do not sustain, *supra*. The Examiner does not find that Laceky remedies the deficiencies of Piepgras and Hung. Accordingly, we do not sustain the Examiner’s § 103(a) rejection of claims 21–23 over Piepgras, Hung, and Laceky, for the same reasons expressed with respect to independent claim 13, *supra*.

REJECTION OF CLAIMS 13-20 OVER CHLIWNYJ, PU, DOWLING, AND HUNG

Independent claim 13 recites “a light sub-circuit having an integrated circuit for controlling said lamps to independently control delivery of power to each of said lamps so as to vary intensity of light emitted over time to produce a continuous colour changing cycle.” The Examiner relies on Chliwnyj for disclosure of such a “*continuous color changing cycle.*” Ans. 18.

Appellant argues, and we agree, that the “continuous color changing cycle” directly corresponds to, and is produced by, the claimed light sub-circuit, a physical structure. Appeal Br. 18. Such a limitation is properly construed as a limitation, and not merely a statement of purpose or intended use for an invention, when it is “the essence or a fundamental characteristic of the claimed invention.” *Vizio, Inc. v. Int’l. Trade Comm’n*, 605 F.3d 1330, 1340 (Fed. Cir. 2010).

Appellant further argues, and we agree, that the Examiner erred in construing the term “cycle.” As the Examiner stated in the Final Rejection, the term “cycle” is defined as a “*repeated sequence of events, a sequence of events that is repeated again and again.*” Final Act. 3; Reply Br. 8. It is

relevant to the disclosure of Chliwnyj to discuss the meaning of the term “random” as well: “proceeding, made, or occurring *without definite aim, reason, or pattern,*” or “of or characterizing a process of selection in which each item of a set has an equal probability of being chosen.”

Dictionary.com, defs. 1 and 2; Reply Br. 8–9. We agree with Appellant that a “cycle” has a predetermined and repeatable pattern or scheme and is thus the antithesis of random. Reply Br. 9; *see* Ducharme Decl. ¶¶ 41, 74, 92.

We agree with Appellant that Chliwnyj’s purpose and mode of operation is to create a visual effect that mimics a natural random process, i.e., a simulated flame. Reply Br. 10. “A microprocessor-based simulated electronic flame uses multiple LEDs that are controlled to give the appearance of flame motion It is the plurality of lights that allows simulated flame motion.” Chliwnyj col. 2:26–30. “By using a microprocessor the flame simulation may appear to be a natural random process.” *Id.* at col. 2:47–49. “The microprocessor control may provide, among other effects, low-frequency intervals of flame-pattern randomness to keep the simulation constantly changing.” *Id.* at col. 3:26–29.

The Examiner finds that Chliwnyj discloses a “continuous color changing cycle” as claimed. Ans. 9-10. The Examiner’s finding relies on the rationale that the term “cycle” may be interpreted to mean “some pattern or scheme; same [sic] that happens and can happen again,” and the idea that such a “pattern or scheme” that only occurs once can nevertheless be construed as a “cycle.” Ans. 9. “While Chilwnyj’s invention is programmed to display non-subsequently repetitive patterns (i.e., not subsequently repeating cycles) to produce realistic looking flame . . . he does

produce a plurality of continuously color changing cycles.” Ans. 23. “The Examiner would like to note, that as currently claimed there could be only one a single cycle which includes continuously changing colors and there is no requirement for it to repeat subsequently.” Ans. 23.

We do not agree with this finding. Applying the definition of “cycle” stated *supra*, as a “repeated sequence of events, a sequence of events that is repeated again and again,” Chliwnyj’s random or pseudorandom flame simulation does not constitute a sequence of events that is repeated. The random color changes disclosed by Chliwnyj necessarily indicate that a sequence of colors is *not* repeated.

Because we find that Chliwnyj does not disclose the claimed “continuous color changing cycle,” we find that the Examiner erred in asserting the prima facie obviousness of claims 13–20 over Chliwnyj, Pu, Dowling, and Hung, and we do not sustain this rejection.

REJECTION OF CLAIMS 21–23 OVER CHLIWNYJ, PU, DOWLING, HUNG, AND
LACEKY

Claims 21–23 depend, ultimately, from independent claim 13. As explained *supra*, we find that the Examiner erred in finding that Chliwnyj discloses a “continuous color changing cycle” as recited in independent 13. The Examiner does not find that the further reference, Laceky, remedies this deficiency. Therefore, we do not sustain the Examiner’s § 103(a) rejection of claims 21–23 over Chliwnyj, Pu, Dowling, Hung, and Laceky, for the same reasons given *supra* with respect to independent claim 13.

REJECTION OF CLAIM 31 OVER CHLIWNYJ AND WU

Independent claim 31 recites a light sub-circuit that “varies said power to each of said lamps so as to vary both intensity of light emitted and frequency of changes to said intensity to produce a continuous color changing cycle.”

The Examiner relies on Chliwnyj for disclosure of such a “continuous color changing cycle.” Ans. 18. As explained *supra*, we find that the Examiner erred in finding that Chliwnyj discloses a “continuous color changing cycle” as recited in independent 13. The Examiner does not find that Wu remedies this deficiency. Therefore, we do not sustain the Examiner’s § 103(a) rejection of claim 31 over Chliwnyj and Wu, for the same reasons expressed with respect to claim 13.

REJECTION OF CLAIMS 32–34 OVER CHLIWNYJ, WU, LAU, AND HUNG

Independent claim 32 recites a light sub-circuit that varies “intensity of light emitted over time to produce a continuous color changing cycle.”

The Examiner relies on Chliwnyj for disclosure of such a “continuous color changing cycle.” Ans. 18. As explained *supra*, we find that the Examiner erred in finding that Chliwnyj discloses a “continuous color changing cycle” as recited in independent 13. The Examiner does not find that Wu, Lau, or Hung remedy this deficiency. Therefore, we do not sustain the Examiner’s § 103(a) rejection of claims 32-34 over Chliwnyj, Wu, Lau, and Hung, for the same reasons expressed *supra* with respect to claim 13.

SECONDARY CONSIDERATIONS

As explained *supra*, we are persuaded by Appellant’s arguments that the Examiner erred in rejecting the claims over Piegras and Hung. We are

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also persuaded that the Examiner erred in rejecting the claims over Chliwnyj, Pu, Dowling, and Hung, and over Chliwnyj and Wu. As a result, we need not reach the question of whether secondary considerations of nonobviousness outweigh any prima facie showing by the Examiner of the obviousness of the claimed invention.

CONCLUSIONS

1. The Examiner has not established a reasonable expectation of success in modifying Piepgras to include a solar cell for power, as taught by Hung.
2. Chliwnyj does not disclose the production of a “continuous color changing cycle,” as the claims require.

ORDER

The Examiner’s decision to reject claims 13-23 and 31-34 is reversed.

REVERSED

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