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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENNETH E. SALSMAN

Appeal 2015-006362
Application 12/621,581¹
Technology Center 2600

Before ELENI MANTIS MERCADER, JOHN P. PINKERTON, and
SCOTT E. BAIN, *Administrative Patent Judges*.

BAIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–6 and 8–12, which constitute all of the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellant identifies Intel Corporation as the real party in interest. App. Br. 3.

STATEMENT OF THE CASE

The claimed invention relates to driving liquid crystal materials (such as liquid crystal displays (LCDs)), and more particularly “to driving such materials using low voltage techniques.” Spec. 1. Claims 1 and 8 are independent. Claim 1 is illustrative of the invention and the subject matter of the appeal, and reads as follows:

1. A system comprising:
 - a polarization beam splitter;
 - a liquid crystal cell having a liquid crystal material and said all positioned to receive incident light from the polarization beam splitter; and
 - drive circuitry coupled to the liquid crystal cell, the drive circuitry to provide a pulse width modulated signal having a voltage less than 3.3 volts to drive the liquid crystal cell such that said cell has a relative intensity of less than one microwatt.

App. Br. 11 (Claims App’x).

THE REJECTIONS ON APPEAL

Claims 1–6 and 8–12 stand rejected under pre-AIA 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. Final Act. 3.

Claims 1–6 and 8–12 stand rejected under pre-AIA 35 U.S.C. § 112, first paragraph as failing to enable any person skilled in the art to make and use the claimed invention. Final Act. 4–5.

Claims 1–6 and 8–12 stand rejected under pre-AIA 35 U.S.C. § 112, second paragraph as being indefinite. Final Act. 6–9.

Claims 1–6 and 8–12 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Kang et al. (US 2003/0137624 A1; July 24, 2003) (“Kang”), Sandberg et al. (US 2002/0001056 A1; Jan. 3, 2002)

(“Sandberg”), Dir (US 4,527,864 A; July 9, 1985), Delboulbe et al. (US 6,246,521 B1; June 12, 2001) (“Delboulbe”), and Patel (US 5,068,749; Nov. 26, 1991). Final Act. 9–21.

Claims 1–6 and 8–12 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Patel, Rumbaugh et al. (US 5,710,655; Jan. 20, 1998) (“Rumbaugh”), Kimura (US 6,650,309 B1; Nov. 18, 2003), Kang, and Sandberg. Final Act. 21–33.

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellant’s arguments presented in this appeal. Arguments which Appellant could have made but did not make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). Appellant does not persuade us the Examiner erred. We adopt as our own the findings and reasons set forth in those rejections and in the Examiner’s Answer, and provide the following for highlighting and emphasis.

35 U.S.C. § 112, First Paragraph Rejections

Appellant argues all claims as a group, with claim 1 representative of the group. App. Br. 6; *see* 37 C.F.R. § 41.37(c)(iv). Appellant contends the Examiner erred in finding claim 1 fails to comply with the written description requirement because Appellant’s Figure 3 and accompanying disclosure describe circuitry driving a liquid crystal cell “between 3.0 volts and 3.3 volts” with a “relative intensity of less than one microwatt.” App. Br. 6. Appellant argues the foregoing disclosure demonstrates to one of

ordinary skill in the art that Appellant possessed the invention as claimed.
Id. We disagree.

As the Examiner finds, Appellant’s claim 1 recites driving a liquid crystal cell with a signal not between 3.0 volts to 3.3 volts, as Appellant’s disclosure describes, but in a broader range of *zero* to 3.3 volts (i.e., “a voltage less than 3.3 volts”). Ans. 39–40; App. Br. 11 (Claims App’x). The claim recites that at this driving signal voltage (zero to 3.3 volts), the relative intensity of the cell is “less than one microwatt.” App. Br. 11 (Claims App’x). We agree with the Examiner’s finding that Appellant’s disclosure does not support the claimed range. Ans. 39–40. Appellant’s disclosure demonstrates possession of circuitry to provide a signal having a voltage of approximately 3 to 3.3 volts to maintain a cell intensity of less than one microwatt; once the voltage drops materially below 3 volts, however, the cell intensity indicated in Appellant’s disclosure rises above one microwatt.
Id. This can be seen in Appellant’s Figure 3, reproduced below.

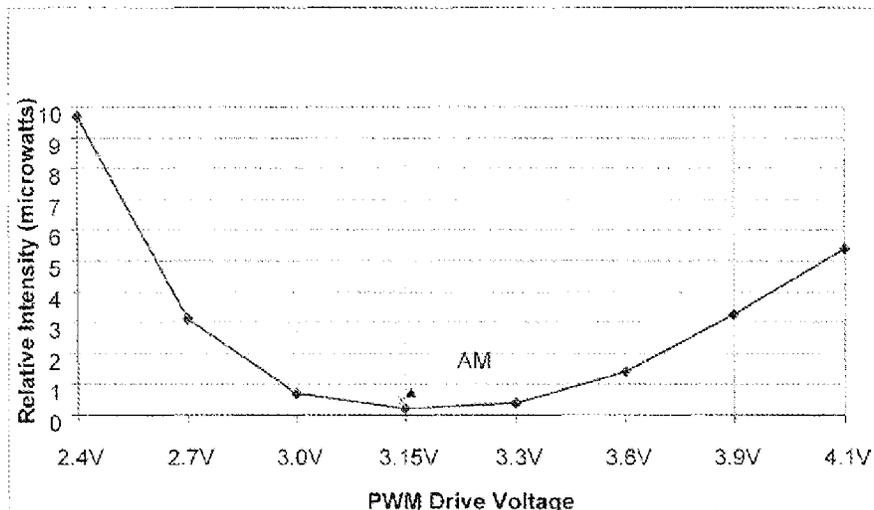


FIG. 3

Figure 3 is a graph plotting relative intensity (in microwatts) versus pulse width modulated drive voltage (in volts). As seen in Figure 3, when voltage drops below 3.0 v, the intensity rises above 1 microwatt. Ans. 39–40; *see also* Spec. 10.

Appellant argues Figure 3 is a mere embodiment and not an exclusive illustration of the claim. App. Br. 6. This argument, however, misconstrues the Examiner’s rejection. As the Examiner finds, Ans. 41, claim 1 recites a voltage and intensity relationship and range not described *anywhere* in the Specification, including, but not limited to, Figure 3. The scope of the claim exceeds what Appellant’s disclosure demonstrates he possessed. *See Atlantic Res. Marketing Sys., Inc. v. Troy*, 659 F.3d 1345, 1355 (Fed. Cir. 2011) (written description requirement not satisfied when scope of claims exceeds subject matter inventor disclosed in the written description). Accordingly, we are not persuaded the Examiner erred in finding claim 1 does not satisfy the written description requirement.

Appellant also argues the Examiner erred in finding the claims fail to satisfy the enablement requirement of 35 U.S.C. § 112. App. Br. 6.² Appellant cursorily invokes the same argument made against the written description rejection, contending “the application teaches using between 3 and 3.3 [volts], which is less than 3.3 volts [as claimed]. Therefore, again, the rejection should be reversed.” *Id.* We, again, are not persuaded.

As the Examiner finds, the Specification (including Figure 3), “while being enabling for . . . ‘a drive voltage *between approximately 3.0 volts and 3.3 volts*’ . . . does not reasonably provide enablement for . . . ‘a voltage *less*

² Appellant again groups the claims together, and we choose claim 1 as representative of the group. *See* 37 C.F.R. § 41.37(c)(iv).

than 3.3 volts to drive the liquid crystal cell such that said cell has a relative intensity of less than one microwatt.” Ans. 43 (emphasis added). In other words, the Specification does not enable a person skilled in the art “to make and use the invention commensurate in scope with these claims.” Ans. 44. Appellant’s Opening Brief omits any discussion of the factors enumerated in *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) and is devoid of any other substantive explanation as to why the Examiner erred. *See* 37 C.F.R. § 41.37(c)(1)(iv) (“A statement which merely points out what a claim recites will not be considered an argument for . . . patentability of the claim.”); *cf.* *See In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (interpreting Rule 41.37 as requiring more than “a naked assertion” in the appeal brief). Although Appellant belatedly discusses some of the *Wands* factors in the Reply Brief, we find the arguments conclusory and not persuasive. *See, e.g.*, Reply Br. 2 (“graphs are shown and there are the diagrams which show specific working examples and, in fact, numerous working examples. See Figures 2 and 3.”).

For the foregoing reasons, we sustain the Examiner’s rejection of claims 1–6 and 8–12 under pre-AIA 35 U.S.C. § 112, first paragraph, as failing to satisfy the written description requirement. We also sustain the Examiner’s rejection of the same claims under pre-AIA 35 U.S.C. § 112, first paragraph, as failing to enable any person skilled in the art to make and use the claimed invention.

35 U.S.C. § 112, Second Paragraph Rejections

Appellant argues the Examiner erred in finding claim 1 indefinite under pre-AIA 35 U.S.C. § 112, second paragraph. Appellant asserts the Examiner’s rejection is based on the phrase “*positioned* to receive incident

light,” and Appellant contends the word “positioned” is well understood by “one with ordinary command of English skills.” App. Br. 6 (emphasis added). Even if we agree with Appellant’s contention that “positioned” is not indefinite, however, Appellant has not demonstrated error.

The Examiner finds the phrase “*said all* positioned to receive incident light” is indefinite. Ans. 48–49 (emphasis added). As the Examiner explains, there is insufficient antecedent basis for the phrase “said all.” *Id.* Namely, it is unclear whether the phrase “said all” refers to “liquid crystal material,” or a “liquid crystal cell having a liquid crystal material,” or the foregoing elements plus the previously recited “a polarization beam splitter.” *Id.* (citing App. Br. 11). Appellant’s Brief does not address this issue, or explain why the Examiner erred. Ans. 48. Accordingly, we sustain the rejection.

Appellant also does not address the Examiner’s indefiniteness rejection of claim 8 (the only other independent claim). Claim 8 recites circuitry to drive a cell at “relative intensity *such that said of* less than one microwatt.” App. Br. 12 (emphasis added). The Examiner finds this limitation indefinite. Ans. 53. With no argument from Appellant, we summarily sustain this rejection. *See Hyatt v. Dudas*, 551 F.3d 1307, 1314 (Fed. Cir. 2008) (“When the appellant fails to contest a ground of rejection to the Board, . . . the Board may treat any argument with respect to that ground of rejection as waived.”).

Having sustained the Examiner’s rejection of independent claims 1 and 8 as indefinite, we also sustain the rejection of dependent claims 2–6 and 9–12 as indefinite, because those claims include the limitations of claims 1 and 8.

35 U.S.C. § 103(a) Rejections

We adopt the Examiner’s findings in the Answer and the Final Rejection, and we add the following primarily for emphasis. Appellant argues the Examiner erred, with respect to each of the (alternative) obviousness rejections, in finding the prior art teaches a “pulse width modulation scheme.” App. Br. 7. As the Examiner finds, however, Kang teaches a “pulse width modulated signal,” Kang ¶ 14, and Appellant also concedes Sandberg teaches a pulse width modulation scheme, App. Br. 7. Ans. 57–58. Although Appellant argues other references do not teach pulse width modulation, such argument is not persuasive because “one cannot show non-obviousness by attacking references individually where . . . the rejections are based on combinations of references.” *In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

Appellant further argues the Examiner erred (again, with respect to each of the obviousness rejections) in finding the prior art teaches driving a liquid crystal display “under 3.3 volts.” App. Br. 8. As the Examiner finds, however, several of the cited references teach exactly that. Ans. 61 (citing Kang ¶ 46, Figs. 4–8; Sandberg ¶ 100, Fig. 7B; Patel col. 4, ll. 50–68). Appellant contends the “point of the claimed invention is that by an advantageous arrangement of features, relatively low power and low voltage may be used, which is advantageous since many semiconductor circuits operate at very low voltages.” App. Br. 8. Regardless of this alleged “point” or purpose, Appellant does not identify any error in the Examiner’s finding that this “advantageous” combination of elements is taught in the cited references.

For the foregoing reasons, we sustain the Examiner's rejection of claims 1–6 and 8–12 under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Kang, Sandberg, Dir, Delboulbe, and Patel, and we sustain the rejection of the same claims under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Patel, Rumbaugh, Kimura, Kang, and Sandberg.³

DECISION

The Examiner's rejections of claims 1–6 and 8–12 under pre-AIA 35 U.S.C. § 112 are AFFIRMED.

The Examiner's rejections of claims 1–6 and 8–12 under pre-AIA 35 U.S.C. § 103(a) are AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 41.50(f).

AFFIRMED

³ Although the Examiner found the foregoing claims indefinite, in this case Appellant's arguments raise no issues requiring us to speculate as to the scope or meaning of the relevant claim limitations, so as to preclude us from sustaining the Examiner's obviousness rejections.