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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 12/676,980, inventor Hans-Peter Hauser, and examiner LUONG, HENRY T.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HANS-PETER HAUSER, MARCEL GRIESSMANN,
MARTIN BUSER, and URS ZELTNER

Appeal 2019-001803
Application 12/676,980
Technology Center 2800

Before JEFFREY B. ROBERTSON, JAMES C. HOUSEL, and JANE E.
INGLESE, *Administrative Patent Judges*.

HOUSEL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1, 2, 4–19, 21, and 22.² We have jurisdiction under 35 U.S.C. § 6(b).

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Bron Elektronik AG. Appeal Br. 3.

² Pending claims 3 and 20 are not rejected, but were objected to as being dependent on a rejected base claim. Final Action dated February 8, 2018 (“Final Act.”) 14. These claims are not before us on appeal.

We REVERSE.³

CLAIMED SUBJECT MATTER

The claims are directed to color temperature control of flash units. Claim 1, reproduced below from the Claims Appendix to the Appeal Brief, is illustrative of the claimed subject matter:

1. A flash unit comprising:
 - a flash generator having at least one energy storage element and at least two light source channels as well as having at least two flash tubes, the flash tubes being supplied with energy by the at least one energy storage element via the light source channels;
 - an energy quantity control device configured to supply each light source channel any desired energy quantity from a minimum charge to a maximum charge of the at least one energy storage element; and
 - a color temperature control device configured to vary an average emitted color temperature for each light source channel independently of the energy quantity supplied for each light source channel by independently controlling times of the flash discharges of the at least two flash tubes, wherein the functions of all light source channels being fully equivalent.

REFERENCES

The Examiner relies upon the following prior art:

| Name | Reference | Date |
|----------------------|------------------|---------------|
| Orban | US 4,287,453 | Sept. 1, 1981 |
| Aoki et al. (“Aoki”) | US 5,485,201 | Jan. 16, 1996 |

³ Our Decision additionally refers to the Specification (“Spec.”) filed Mar. 8, 2010, the Examiner’s Answer (“Ans.”) dated Oct. 30, 2018, and Appellant’s Reply Brief (“Reply Br.”) filed Dec. 28, 2018.

REJECTIONS

The Examiner maintains, and Appellant requests our review of, the following grounds of rejection under 35 U.S.C. § 103(a):

1. Claims 1, 2, 4–17, 21, and 22 as unpatentable over Aoki; and
2. Claims 18 and 19 as unpatentable over Aoki in view of Orban.

OPINION

After review of the Examiner's and Appellant's opposing positions and the appeal record before us, we determine that Appellant's arguments are sufficient to identify reversible error in the Examiner's obviousness rejections. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011). Accordingly, we reverse the stated rejections for substantially the reasons set forth in the Appeal and Reply Briefs.

The Examiner has the initial burden of establishing a prima facie case of obviousness based on an inherent or explicit disclosure of the claimed subject matter under 35 U.S.C. § 103. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“[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”). To establish a prima facie case of obviousness, the Examiner must show that each and every limitation of the claim is described or suggested by the prior art or would have been obvious based on the knowledge of those of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

The Examiner finds that Aoki teaches each element of claim 1, albeit in different embodiments, such that the flash unit of claim 1 would have been obvious over Aoki. Specifically, the Examiner finds that Aoki, Figure 74, teaches a flash unit comprising flash generator 770 having at least one

energy storage element 719, 779 supplying energy via at least two light source channels S3, S4 to at least two flash tubes 710, 712. Final Act. 8. The Examiner also finds that Aoki, Figure 74, teaches energy quantity control device 730 configured to supply each light source channel any desired energy quantity from a minimum to a maximum charge from energy storage elements 719, 779. *Id.*, citing Aoki 63:25–30. The Examiner acknowledges that Aoki, Figure 74, does not explicitly teach a color temperature control device configured to vary an average emitted color temperature for each light source channel independently of the energy quantity supplied for each light source channel by independently controlling times of the flash discharges of the flash tubes, wherein the functions of all light source channels are fully equivalent. *Id.* at 9. However, the Examiner finds that Aoki teaches, in a different embodiment, controlling means 530 for determining ratios of quantities of light emitted from flash tubes 510, 512 such that light emitted from low color temperature flash tube 512 is increased and light emitted from high color temperature flash tube 510 is reduced when the color temperature of peripheral light is low. *Id.*, citing Aoki 39:45–60. The Examiner concludes that it would have been obvious

to understand that varying the emission duration of emitted light independently is essentially varying an average emitted color temperature of a light since an average emitted color temperature can be determined based on [a] duration of emission waveform . . . and the color temperature balance over the total emission time can be made optimal and color imbalance does not take place under insufficient exposure conditions.

Id., additionally citing Aoki 36:40–50; Figs. 53, 54.

Appellant argues, *inter alia*, that the Examiner misinterprets Aoki. Appeal Br. 9–11. In particular, Appellant contends that Aoki does not teach

independently controlling flash discharge times of the at least two tubes. *Id.* at 9. Instead, Appellant asserts that Aoki teaches the only way to achieve the desired color temperature averaged between two flash tubes is to modify the emission duration of the respective tubes dependent on one another. *Id.* In addition, Appellant contends that Aoki contradicts the Examiner's obviousness conclusion by expressly stating that the charge left in energy storage element 419 might be too low for a second flash tube to emit light if the first flash tube consumes a great quantity of charge before the second tube is charged. *Id.*, citing Aoki 39:50–59. Appellant further urges that Aoki subdivides the emission duration of each tube into extremely short periods of time and then alternately or simultaneously carries out emission. *Id.* at 10, citing Aoki 36:43–47. Appellant contends, therefore, that “the emission duration of one tube is still dependent on the other tube, whether the emission for each tube is carried out in series, in parallel, or in an alternating manner.” *Id.*

Appellant further argues that Aoki teaches that the average emitted color temperature for each flash tube cannot be independent of the energy quantity supplied. Appeal Br. 10. In particular, Appellant asserts that Aoki, Figures 46, 53, 54, and 74, teach that the flash tubes are directly connected to respective condensers via transistors, such that current flows to the flash tubes “in direct accordance with the amount of charge stored in the condenser[s].” *Id.* at 10–11. Appellant contends that this configuration prevents varying color temperature independently of the energy quantity supplied. *Id.*

Appellant's arguments are persuasive of reversible error. Aoki teaches a flash unit whose overall emitted color temperature can be varied, but does

so by controlling the energy supplied to each flash tube dependent upon each other, based on preset control temperatures of the flash tubes. As Appellant asserts, Aoki teaches a flash unit using a plurality of flash tubes of differing light emission color temperatures, and varying the color temperature of the flash unit by adjusting the light emission quantities of the tubes in a dependent manner in order to match the color temperature of peripheral light. *See, e.g.*, Aoki 2:20–30; 2:35–48; 2:50–58; 3:30–36; 4:32–51; particularly 36:40–42 (“since provision is made for a plurality of xenon tubes which emit strobe lights having differing color temperatures”) and 39:46–49 (“the calculating/controlling means **530** determines the ratio of the quantities of light emitted from the xenon tube **512**, which has a low color temperature, and the xenon tube **510**, which has a high color temperature”). In our view, these passages teach that color temperatures of the flash tubes are not varied, but the light quantity emitted from each flash tube is varied dependent on the color temperatures of the flash tubes to achieve a desired overall color temperature of the emitted light from the flash unit. In addition, these passages teach that the flash tube discharge times of each flash tube are dependent on those of the other flash tubes in order to maintain the desired overall color temperature of the emitted light from the flash unit. Thus, Aoki does not vary an average emitted color temperature for each light source channel, does not do so independently of the energy quantity supplied for each light source channel, nor independently control the times of flash discharges of the flash tubes as recited in claims 1 and 17.

Therefore, we are persuaded that the Examiner erred in finding that Aoki teaches the flash unit of claim 1 and the method of claim 17. We note that the Examiner does not rely on Orban to remedy the deficiencies in Aoki

discussed above. As such, the Examiner has not carried the burden of establishing, by a preponderance of the evidence, the factual basis for the conclusion that the claimed invention would have been obvious to one of ordinary skill in the art. Accordingly, we do not sustain the Examiner's obviousness rejections of claims 1 and 17, and of dependent claims 2, 4–16, 18, 19, 21, and 22.

CONCLUSION

Upon consideration of the record, and for the reasons given above and in the Appeal and Reply Briefs, the decision of the Examiner rejecting claims 1, 2, 4–19, 21, and 22 under 35 U.S.C. § 103(a) as unpatentable over Aoki, alone or further in view of Orban, is *reversed*.

DECISION SUMMARY

In summary:

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------|--------------------|---------------------------|-----------------|--------------------|
| 1, 2, 4–17, 21, 22 | 103(a) | Aoki | | 1, 2, 4–17, 21, 22 |
| 18, 19 | 103(a) | Aoki, Orban | | 18, 19 |
| Overall Outcome | | | | 1, 2, 4–19, 21, 22 |

REVERSED