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13/665,701	10/31/2012	Shawn R. GETTEMY	106842049700 (P16159US1)	6008
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APPLE c/o MORRISON & FOERSTER LLP LA 707 Wilshire Boulevard Los Angeles, CA 90017			BOWMAN, MARY ELLEN	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* SHAWN R. GETTEMY,  
JEAN-PIERRE S. GUILLOU, and DAVID A. DOYLE

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Appeal 2015-006425  
Application 13/665,701  
Technology Center 2800

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Before MICHAEL P. COLAIANNI, MONTÉ T. SQUIRE, and  
BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

SUMMARY

Appellants<sup>1</sup> appeal under 35 U.S.C. § 134(a) from the Examiner's  
decision rejecting claims 1–23. We have jurisdiction. 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> According to the Appellants, the real party in interest is Apple Inc. Appeal  
Br. 2.

STATEMENT OF THE CASE

Appellants describe the present invention as relating to an implementation of quantum dots in a display where the display's brightness is controlled by microelectromechanical systems (MEMS) shutters.

Spec. ¶ 1. By controlling brightness, a desired image can be rendered. *Id.* at ¶ 26. Claim 1, reproduced below with emphasis added to certain key recitations, is illustrative of the claimed subject matter:

1. A display screen comprising:
  - a backlight;
  - a top cover disposed above the backlight;
  - a microelectromechanical shutter module disposed between the backlight and the top cover;
  - one or more color filter layers** disposed between the backlight and the top cover; and
  - a quantum dot sheet disposed between the backlight and the top cover.

Appeal Br.<sup>2</sup> 7 (Claims Appendix).

REFERENCES

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

Hagood	US 2006/0209012 A1	Sep. 21, 2006
Petersen et al., (hereinafter "Petersen")	US 2007/0099478 A1	May 3, 2007
Cheon et al., (hereinafter "Cheon")	US 2008/0246388 A1	Oct. 9, 2008

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<sup>2</sup> In this decision, we refer to the Final Office Action mailed June 5, 2014 ("Final Act."), the Appeal Brief filed February 4, 2015 ("Appeal Br."), and the Examiner's Answer mailed April 14, 2015 ("Ans.").

## REJECTIONS

The Examiner maintains the following rejections on appeal:

Rejection 1. Claims 1–3, 5, 9–15, and 20–23 under 35 U.S.C. § 103 as unpatentable over Hagood in view of Cheon. Ans. 2.

Rejection 2. Claims 4, 6–8, and 16–19 under 35 U.S.C. § 103 as unpatentable over Hagood in view of Cheon and further in view of Petersen.

## ANALYSIS

After having considered the evidence presented in this Appeal and each of Appellants' contentions, we are not persuaded that Appellants identify reversible error, and we affirm the Examiner's § 103 rejections for the reasons very well expressed in the Final Office Action and the Answer. We add the following primarily for emphasis.

We review the appealed rejections for error based upon the issues identified by Appellants and in light of the arguments and evidence produced thereon. *Cf. Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“it has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections”)). Appellants argue all rejections together, and argue all claims as a group. *See* Appeal Br. 3–6. Therefore, consistent with the provisions of 37 C.F.R. § 41.37(c)(1)(iv) (2013), we limit our discussion to claim 1, and all other claims on appeal stand or fall together with claim 1.

The Examiner finds that Hagood is directed to a display screen and teaches most recitations of claim 1. Ans. 2; *see also* Hagood, Fig. 6C and ¶ 11. The Examiner finds that “Hagood fails to teach the use of a quantum dot layer and an optical filter such as a color filter for color conversion.”

Ans. 2. The Examiner finds, however, that Cheon teaches that a quantum dot layer improves efficiency and power consumption as compared to prior art use of color filters. Ans. 2–3; Cheon ¶¶ 45–46 (“In addition to increasing the efficiency of the underlying device, the quantum dot array would result in the reduction of the power consumption . . .”). The Examiner also finds that Cheon teaches that its optical filter may be a color filter. Ans. 3; Cheon ¶ 40. The Examiner concludes that “it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a quantum dot layer and a color filter layer in place of just the color filter layer of Hagood in order to improve power consumption and efficiency.” Ans. 3; *see also id.* at 6–7 (further explaining how incorporation of Cheon’s quantum dot layer and color filter would improve Hagood). The preponderance of the evidence supports these findings and the Examiner’s conclusion.

Appellants argue that Cheon teaches an infrared display that blocks visible light and therefore has no color filter. Appeal Br. 3–4. Appellants also argue that Cheon teaches away from color filters and that combining Cheon with Hagood would render Hagood inoperable because Cheon’s optical dot layer and optical filter would block visible light. Appeal Br. 4–5.

Appellants’ arguments are not supported by the evidence. Rather, the Examiner correctly finds that Cheon teaches embodiments that “emit long wavelength visible light in addition to, or in place of, the infrared emission . . .” Ans. 6. Cheon expressly states that in some embodiments, its light is color and visible to an unaided human eye:

In one or more exemplary embodiments, the information display device may be intended to be observed by unaided human eye, the first light may be a “blue” light having a wavelength between 440 nm and 480 nm, and the down converting layer may contain red or green

emitting nanocrystals where the red and green nanocrystals reside in different pixels.

Cheon ¶ 35. Cheon also states that it provides an optical filter to prevent “inherent bleed through of the emission of the excitation source” for better contrast. Ans. 6; Cheon ¶ 18. The optical filter “may be, for example, an interference filter **or color filter** comprising absorbing dyes, pigments, metal ions, or the like in or coated on a glass or polymer substrate.” Cheon ¶ 40 (emphasis added). Thus, contrary to Appellants’ arguments, Cheon teaches embodiments that emit visible light and teaches the use of color filters.

Moreover, Appellants’ teaching away argument is unpersuasive because Appellants do not identify any teaching in Cheon or Hagood which discourages one of ordinary skill in the art from combining the references’ teachings as found by the Examiner. *In re Fulton*, 391 F.3d 1195, 1201 (finding that there is no teaching away where the prior art’s disclosure “does not criticize, discredit, or otherwise discourage the solution claimed”); *DyStar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1364 (Fed. Cir. 2006) (“We will not read into a reference a teaching away from a process where no such language exists.”).

Because Appellants do not identify reversible error, we sustain the Examiner’s rejections.

#### DECISION

For the above reasons, we affirm the Examiner’s rejection of claims 1–23.

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

AFFIRMED