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EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* SIEBE TJERK DE ZWART, MARTIN GERARD HENDRIK,  
EDUARD NIESSEN, and MARTIN OUWERKERK

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Appeal 2016-003197  
Application 12/865,865  
Technology Center 2400

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Before MAHSHID D. SAADAT, JOHNNY A. KUMAR, and  
JON M. JURGOVAN, *Administrative Patent Judges*.

KUMAR, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants<sup>1</sup> appeal under 35 U.S.C. § 134(a) from the rejection of claims 1, 4, 5, and 8–12.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> According to Appellants, the real party in interest is Koninklijke Philips N.V. (App. Br. 2).

<sup>2</sup> Claims 2, 3, 6, and 7 were canceled.

## STATEMENT OF THE CASE

### *Invention*

Appellants' invention relates to an autostereoscopic image output device comprising an image panel and a plurality of lenticular elements arranged over the image panel (Spec. 1:2–4).

### *Representative Claim*

1. An autostereoscopic image output device comprising:
  - a panel of pixels having a rectangular shape and display areas and arranged in an image defining array of rows and columns, the rows including more pixels than the columns, in a landscape mode a ratio of width in the row direction to height in the column direction of the pixel display areas is in range of 1:1.5 to 1:5; and
  - an array of lenticular elements positioned parallel to one another over the panel of pixels and having optical focal axes slanted at a first angle to the columns providing twice as many pixels between the optical focal axes of adjacent lenticular elements in the landscape mode as in the portrait mode,
  - wherein the panel and the array of lenticular elements together are rotatable by 90 degrees to provide autostereoscopic effects in landscape and portrait modes of operation, and
  - wherein the slant of the first angle in the landscape mode satisfies: tangent of the first angle  $\approx 2/3$ .

### *The Examiner's Rejection*

Claims 1, 4, 5, and 8–12 are rejected under 35 U.S.C. § 103(a) as unpatentable over Woodgate et al. (US 2008/0231690 A1; published Sept. 25, 2008), Dolgoff (US 2006/0227427 A1; published Oct. 12, 2006), and Hamagishi et al. (US 7,492,515 B2; issued Feb. 17, 2009) (Ans. 2–8).

*Appellants' Contentions*

Regarding independent claims 1 and 11, Appellants contend the following:

1. Woodgate fails to teach the claimed ratio range of 1:1.5 to 1:5 of width in the panel's row direction to height the column direction, and fails to teach the claimed first angle of the slant of the optical focal axes to the columns (App. Br. 9).
2. Woodgate's teaching of four columns in alignment with each optical element in the portrait mode and two rows under each lens in the landscape orientation does not provide enough information to ascertain how many pixels are located between the optical focal axes of adjacent lenticular, and thus, the reference does not teach providing twice as many pixels between the optical focal axes of adjacent lenticular elements in the landscape mode as in the portrait mode (App. Br. 10–11). Further, any discussion of pixel numbers in Woodgate is limited to the number of pixels under different optical elements, specifically the parallax array used in portrait mode and the lenses used in landscape mode; Woodgate is silent about the number of pixels between the optical focal axes of adjacent lenticular elements of the same array of lenticular elements (Reply Br. 2–7).
3. Dolgoff teaches a range of tilt angles, but the reference does not teach or suggest how many pixels can fit between the optical focal axes of the lenticular lenses in the landscape and portrait modes of operation, and, therefore, the reference does not teach the claimed panel and array of lenticular elements that together are rotatable by 90 degrees to provide autostereoscopic effects in landscape and portrait modes of operation (App. Br. 9–10).

4. Hamagishi teaches a pixel display area with a ratio of 1:3, but the reference does not teach how many pixels are included within each lenticular lens in the landscape and portrait modes of operation (App. Br. 10).<sup>3</sup>

#### ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments (App. Br. 7–12; Reply Br. 2–7) that the Examiner erred. We disagree with Appellants' above contentions 1–4. We adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken (Non-Final Act. 3–10) and (2) the reasons set forth by the Examiner in the Examiner's Answer (Ans. 9–12) in response to Appellants' Appeal Brief. We concur with the conclusions reached by the Examiner. We highlight and address specific findings and arguments for emphasis as follows.

#### *Independent Claims 1 and 11*

Regarding Appellants' contentions 1–4, we are not persuaded of Examiner error in the rejection because Appellants are essentially attacking each reference individually. The Examiner properly relies on *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) and *In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (Ans. 9–11), and states that nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures (*id.*). We agree with

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<sup>3</sup> Separate patentability is not argued for dependent claims 4, 5, 8–10, and 12 (*see* App. Br. 12). Except for our ultimate decision, these claims are not discussed further.

the Examiner's finding that Woodgate teaches an autostereoscopic image output device comprising a panel of pixels and an array of lenticular elements tilted at an angle to the pixel columns, the panel and array together are rotatable by 90 degrees to provide autostereoscopic effects in landscape and portrait modes of operation (Ans. 2–4 and 9–12 (citing Woodgate ¶¶ 40, 130, and 131)); Dolgoff teaches a lenticular array having a vertical tilt angle of 30 to 60 degrees, which includes the claimed angle of 33–34 degrees (*id.* (citing Dolgoff ¶ 10)); and Hamagishi teaches a display having a width/height ratio of 1:3 (*id.* (citing Hamagishi col. 22:5–18)).

Appellants' Specification discloses "the preferred slant of [an angle having the tangent of]  $2/3$ , when combined with a pixel ratio  $1/3$ , gives rise to twice as many pixels between lenses in the landscape mode compared to the portrait mode" (Spec. 9:10–12). Thus, we agree with the Examiner's conclusion that the display of the prior art combination, having a pixel width/height ratio of 1:3 (i.e., the same as Appellants' preferred embodiment) and a lenticular array tilt angle of approximately 33–34 degrees (i.e., having the claimed angle tangent of  $\approx 2/3$ ), results in the same claimed structure of a slanted array of lenticular elements that provide twice as many pixels between the optical focal axes of adjacent lenticular elements in the landscape mode as in the portrait mode (Ans. 2–4 and 12).

Accordingly, we sustain the Examiner's rejection of independent claims 1 and 11 under 35 U.S.C. § 103(a) as unpatentable over Woodgate, Dolgoff, and Hamagishi.

Appeal 2016-003197  
Application 12/865,865

DECISION

We affirm the Examiner's rejections of claims 1, 4, 5, and 8–12 under 35 U.S.C. § 103(a).

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)(iv).

AFFIRMED