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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,445	08/27/2003	Heather N. Bean	82004456	4591
22879	7590	02/04/2013	EXAMINER	
HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528			KHAN, USMAN A	
			ART UNIT	PAPER NUMBER
			2662	
			NOTIFICATION DATE	DELIVERY MODE
			02/04/2013	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HEATHER N. BEAN and MARK NELSON ROBINS

Appeal 2010-007989
Application 10/648,445
Technology Center 2600

Before MAHSHID D. SAADAT, HUNG H. BUI, and
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

PETTIGREW, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1-28. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

STATEMENT OF THE CASE

Introduction

Appellants' invention relates to an image sensor used in, for example, a digital camera, and more particularly to a method for selectively reading less than all information from an image sensor for which member-pixels of a subset of the entire set of pixels are individually addressable. Spec. ¶¶ 0001, 0007.

Claim 1 is illustrative of the invention (disputed limitations *italicized* and formatting added):

1. A method of selectively reading less than all information available at an output of an image sensor for which member-pixels of a subset of an entire set of pixels are individually addressable, the method comprising:

[(a)] sampling information, at the output of the image sensor, representing a targeted member-pixel of the subset without having to read information representing the entire set of pixels; selectively reading information,

[(b)] selectively reading information, at the output of the image sensor, representing at least one or more, but fewer than all member pixels, of the entire set based upon the sampling information without having to read information representing all pixels on the image sensor, wherein each pixel can be individually read, independently of other pixels;

[(c)] accessing a first set of sampling photo-sensing pixels of the image sensor and accessing a second set of non-sampling pixels of the image sensor, wherein the first and the second set of pixels have different physical circuitry addressing and control lines going to them, respectively;

[(d)] *organizing the entire set of pixels into dynamic and static partitions, each partition having multiple pixels;*

[(e)] *mapping one or more of the partitions to one or more of the member-pixels of the subset, respectively; and*

[(f)] *reading the static partitions once and the dynamic partitions multiple times and processing extra partition-read requests for creating a series of images corresponding in time to more frequently read partitions.*

Rejections on Appeal

The Examiner rejected claims 1, 2, 12, 13, 24, 25, 27, and 28 under 35 U.S.C. § 103(a) as being unpatentable over Lee (US 2003/0193563 A1, pub. Oct. 16, 2003) and Vernier (US 2004/0036778 A1, pub. Feb. 26, 2004).

The Examiner rejected claims 3-9, 14-20, 23, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Lee, Vernier, and Yoneyama (JP 04313949 A, pub. Nov. 5, 1992).

The Examiner rejected claims 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Lee, Vernier, and Horie (US 6,480,624 B1, iss. Nov. 12, 2002).

The Examiner rejected claims 21 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Lee, Vernier, Yoneyama, and Horie.

Issue on Appeal

Does the combination of Lee and Vernier teach or suggest the following limitations recited in claim 1: (d) organizing the entire set of pixels into dynamic and static partitions, each partition having multiple pixels; (e) mapping one or more of the partitions to one or more of the member-pixels of the subset, respectively; and (f) reading the static partitions once and the dynamic partitions multiple times and processing

extra partition-read requests for creating a series of images corresponding in time to more frequently read partitions?

ANALYSIS

We have reviewed the Examiner's rejection in light of Appellants' arguments in the Appeal Brief and the Reply Brief. We agree with Appellants' conclusions. We highlight and address the following specific findings and arguments.

In rejecting claim 1 over the combination of Lee and Vernier, the Examiner finds that Lee teaches limitations (a)-(c) but not limitations (d)-(f). Ans. 3-4. The Examiner relies on Vernier for limitations (d)-(f), specifically citing items 310 and 320 in Figures 3-5 of Vernier as disclosing the claimed dynamic and static partitions of pixels and paragraphs 0019-0021 as teaching "reading the static partitions once and the dynamic partitions multiple times and processing extra partition-read requests for creating a series of images corresponding in time to more frequently read partitions." Ans. 4-5, 27-28.

Appellants contend that the Examiner erred in finding that Vernier teaches the disputed limitations. App. Br. 10-11; Reply Br. 5-7. Appellants note at the outset that Vernier is not directed to reading information from image sensors but instead to a system for generating an artistic, distorted image of a moving object. App. Br. 10; Reply Br. 5; Vernier ¶ 0022. Whereas the "entire set of pixels" organized into dynamic and static partitions in claim 1 refers to pixels of an image sensor, the cited portions of Vernier describe a dynamic portion 310 and a static portion 320 of an intended output image. Reply Br. 6. Although Vernier creates an output image based on a sequence of frames of a moving object acquired by a

camera, Appellants submit that Vernier does not teach or suggest organizing the entire set of pixels of the camera's image sensor into dynamic and static portions. *Id.* (citing Vernier ¶ 0015). Instead, Appellants argue, Vernier organizes the *output image* into dynamic and static portions relative to a scan line that moves across multiple frames to create a single, composite image. App. Br. 11; Reply Br. 6. Thus, Appellants contend that Vernier does not teach or suggest "organizing the entire set of pixels (e.g., of an image sensor to be read) into dynamic and static portions," as recited in limitation (d) of claim 1. Reply Br. 6.

Appellants further contend that Vernier does not teach reading the static partitions once, as recited in limitation (f) of claim 1. App. Br. 11; Reply Br. 7. Because Vernier's system initially acquires multiple frames, Appellants submit that all pixels, including those corresponding to the static portion of the output image in Vernier, are actually read multiple times. Reply Br. 7 (citing Vernier ¶ 0019). Appellants also point out that the static portion of the output image in Vernier "is not accomplished by only reading pixels of the static portion once, but rather by not modifying pixels initially stored in the output image buffer from one frame with pixels subsequently selected from the other multiple frames." Reply Br. 7 (citing Vernier ¶ 0020) (emphasis in original). Thus, Appellants allege that Vernier teaches *storing* the static portions once instead of *reading* the static portions once, as recited in claim 1.

Appellants have persuaded us that the Examiner erred. We agree with Appellants that the dynamic and static portions in Vernier refer to portions of an output image as it is being constructed. Thus, Vernier does not teach organizing an entire set of pixels read from the output of an image sensor

into dynamic and static partitions, as recited in claim 1. Moreover, the Examiner fails to explain why one of ordinary skill in the art would have applied Vernier's teachings regarding dynamic and static portions of an output image to organize the entire set of pixels in Lee's image sensor into dynamic and static partitions, as recited in limitation (d).

Furthermore, we agree with Appellants that *storing* the static portions once while constructing an output image as taught by Vernier is not the same as *reading* the static portions of an input sensor once. Thus, the Examiner erred in finding that Vernier discloses reading the static portions of an input sensor once, as recited in limitation (f) of claim 1. Moreover, the Examiner has not explained why Vernier's teaching of storing static portions once while generating an output image would have suggested to a person of ordinary skill in the art an image sensor with static partitions that are read only once.

For at least these reasons, we do not sustain the Examiner's rejection under 35 U.S.C. § 103(a) of claim 1 as being unpatentable over Lee and Vernier. Nor do we sustain the Examiner's § 103(a) rejection over Lee and Vernier of independent claims 13, 24, and 27, which contain limitations similar to those in claim 1, and dependent claims 2, 12, 25, and 28.

Furthermore, the Examiner has not alleged, nor has the Examiner shown, that Yoneyama or Horie cures the deficiencies of Lee and Vernier. Accordingly, we do not sustain the Examiner's rejections of dependent claims 3-11, 14-23, and 26 under 35 U.S.C. § 103(a) as being unpatentable over the various combinations of Lee, Vernier, Yoneyama, and Horie.

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CONCLUSION

On the record before us, we conclude that the Examiner erred in rejecting claims 1-28 as being unpatentable under 35 U.S.C. § 103(a).

DECISION

The Examiner's rejection of claims 1-28 is reversed.

REVERSED

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