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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SCOTT L. TEWINKLE and PAUL A. HOSIER

Appeal 2011-011789
Application 11/584,036
Technology Center 2600

Before THU A. DANG, JAMES R. HUGHES, and GREGORY J.
GONSALVES, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-7. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

A. INVENTION

According to Appellants, the invention relates to image sensor arrays used in raster input scanners, such as used in digital copiers, or in any image-recording device such as a digital camera (Spec. 1, ¶ [0002])

B. ILLUSTRATIVE CLAIM

Claim 1 is exemplary:

1. An apparatus for outputting image data, comprising:

a first subset of photosensors, and a second subset of photosensors;

each of the first subset of photo sensors and second subset of photo sensors including a first interleaved group of photosensors outputting signals to a first video channel and a second interleaved group of photo sensors outputting signals to a second video channel; and

circuitry for outputting multiplexed image signals from the first video channel and second video channel of the first subset of photosensors and multiplexed image signals from the first video channel and second video channel of the second subset of photosensors to a common out line.

C. REFERENCE

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Ozono	US 6,717,617 B1	Apr. 06, 2004
Hori	US 2005/0007475 A1	Jan. 13, 2005
Ackland	US 2006/0055800 A1	Mar. 16, 2006
Spears	US 7,102,679 B1	Sep. 05, 2006

D. REJECTION

Claims 1, 2, and 4 stand rejected under 35 U.S.C. 102(e) as being anticipated by Ackland.

Claim 3 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Ackland and Ozono.

Claims 5 and 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ackland and Hori.

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Ackland and Spears.

II. ISSUES

The issues before us are whether the Examiner has erred in finding that Ackland discloses:

1) first and second subsets of photosensors, each including “a first *interleaved* group of *photosensors* outputting signals to a first video channel and a second *interleaved* group of *photosensors* outputting signals to a second video channel;” and

2) “circuitry for outputting multiplexed image signals” to “a common out line” (Claim 1, emphasis added).

III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

Ackland

1. Ackland discloses an imager comprising plural sub-arrays of respectively different kinds of pixels, wherein Ackland’s Figure 3A is reproduced below:

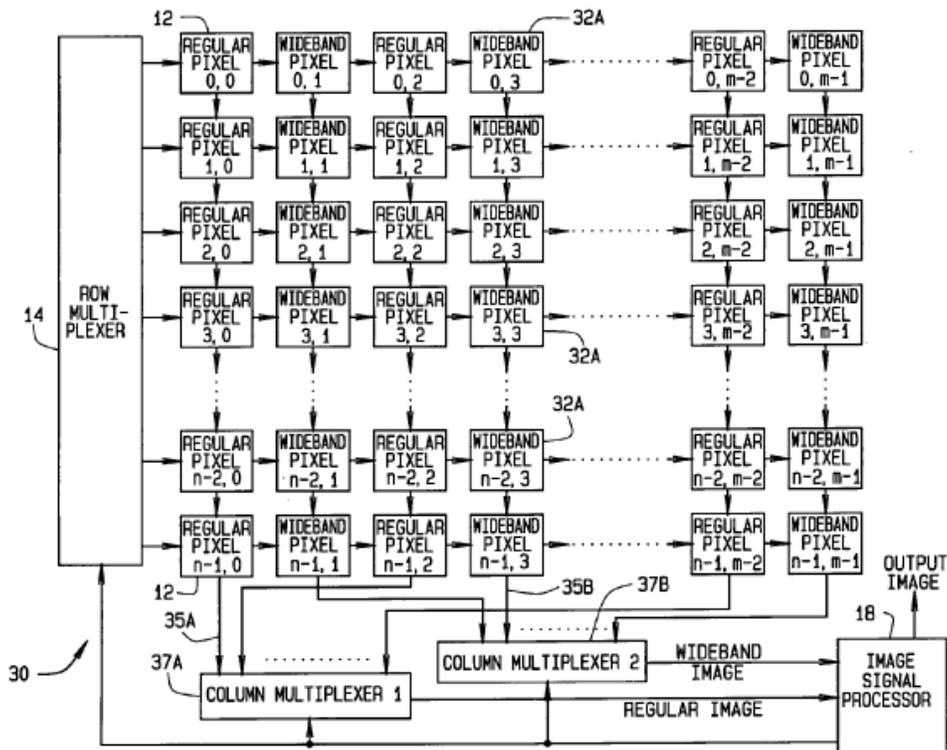


FIG. 3A

In Figure 3A, an imager 30 employing sub-arrays of regular pixels 12 and wideband pixels 32A, respectively, wherein the $n \times m$ array may be viewed as two interleaved $n \times m/2$ sub-arrays (p. 2, ¶ [0028]), wherein the signals from the pixels are output to a plurality of column bus wires 35A and 35B.

2. Ackland discloses that it is well-known that each pixel 12 contains a photodetector plus multiplexing circuitry (p.1, ¶ [0006]).

3. The image processor 18 combines the signals from the two sub-arrays (p. 3, ¶ [0038]).

IV. ANALYSIS

35 U.S.C. 102(e)

Appellants contend that “*Ackland* fails to teach that each of the first and second subsets of photosensors includes first and second interleaved groups of photosensors” because “the first column of pixels is not interleaved with the third column of pixels, and the second column of pixels is not interleaved with the fourth column of pixels” and “there is no regular alternating arrangement of pixels from first and second groups contained” in each column (App. Br. 15). Appellants also contend that “Appellants recite first and second video channels for each of the first and second subsets of photosensors, ... [i]n other words, Appellants recite four video channels,” which *Ackland* fails to disclose (App. Br. 16). Appellants then contend that “multiplexing ... means that a single selected signal is output via the video output at a time, which is entirely different than the restoration of resolution, combination of signals for color enhancement and creation of pseudo-color of *Ackland*” (App. Br. 17).

However, the Examiner finds that “Ackland discloses in fig. 3A an arrangement of group of photosensors containing two sub groups ... in which each sub group contains interleaved photosensors of the same type in at least the column direction and are interleaved with a different spacing in the row direction” and points out that “[t]he claim is broad in that it does not specify what kinds of pixels are interleaved” and “does not require an alternating arrangement of the first and second groups of photosensors as argued” (Ans. 9). The Examiner also finds that “Ackland in fig. 3A clearly shows more than four video output lines” (*id.*). The Examiner then finds that Ackland discloses that “multiplexed signals are then output by part 18 to common line denoted ‘Output Image’” since the claim “is broad in that ‘circuitry’ could comprise any amount of different components” (Ans. 10). We find no error with the Examiner’s findings.

We give the claims their broadest reasonable interpretation. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). Claim 1 merely recites that the subsets of photosensors include “a first interleaved group” and “a second interleaved group” of photosensors. Although Appellants argue that in Ackland, “the first column of pixels is not interleaved with the third column of pixels, and the second column of pixels is not interleaved with the fourth column of pixels” and that “there is no regular alternating arrangement of pixels from first and second groups contained” in each column (App. Br. 15), such argument is not commensurate in scope with the recited language of claim 1. We agree with the Examiner that that “[t]he claim is broad in that it does not specify what kinds of pixels are interleaved” and “does not require an alternating arrangement of the first and second groups of photosensors as argued” (Ans. 9). Thus, we give “interleaved group” its

broadest reasonable interpretation as a group of photosensors that is placed at any alternating intervals, whether with each other or with other groups of photosensors.

Claim 1 also merely recites that signals are output to “first video channel” and “second video channel” from the first and second interleaved group respectively. Thus, we give “first video channel” its broadest reasonable interpretation as any channel to which signals from the first group is output and give “second video channel” its broadest reasonable interpretation as any channel to which signals from the second group are output.

Further, claim 1 merely requires that the multiplexed signals from “from the first video channel and the second video channel” of the first and second subsets are output “to a common out line.” Although Appellants contend that “multiplexing ... means that a single selected signal is output via the video output at a time” (App. Br. 17), such argument is not commensurate in scope with the language of claim 1 since claim 1 does not recite any such “at a time” language. In fact, although Appellants argue that Ackland is different because it discloses “restoration of resolution, combination of signals for color enhancement and creation of pseudo-color” (App. Br. 17), the language of claim 1 does not preclude the output of the signals to a signal processor that performs such restoration, combination and creation. That is, claim 1 merely requires that all the output signals are received by a “common out line,” directly or eventually.

Ackland discloses an imager employing two interleaved sub-arrays of pixels outputting signals to a plurality of column bus wires (FF 1), wherein a pixel contains a photodetector/photosensor plus multiplexing circuitry (FF

2). We find the interleaved sub-arrays comprise subsets of photosensors, each including interleaved groups of photosensors, wherein the groups of photosensors output image signals to channels/bus wires. Thus, in view of our broad but reasonable claim interpretation, we find no error in the Examiner's finding that Ackland discloses first and second subsets of photosensors, each including "a first interleaved group of photosensors" outputting signals to "a first video channel" and "a second interleaved group of photosensors outputting signals to a second video channel," as required by claim 1.

Furthermore, Ackland discloses an image processor that combines the signals from the two sub-arrays (FF 3). That is, the signals from the two sub-arrays comprising photosensors and multiplexing circuitry (FF 2) are output to the image processor. We find no error in the Examiner's finding that Ackland's "multiplexed signals are then output by part 18 to common line denoted 'Output Image'" (Ans. 10).

Accordingly, we find no error in the Examiner's rejection of claim 1 over Ackland. Appellants do not provide arguments for claim 4 separate from those of claim 1 (App. Br. 18); thus claim 4 falls with claim 1.

As for claim 2, Appellants contend that the pixels of Ackland "do not individually form a contiguous subset of photosensors" (App. Br. 19). However, the Examiner finds that Ackland discloses "photosensors that are next to each other in the column direction" which "demonstrates contiguous" pixels "in the column and row direction" (Ans. 10). We find no error in the Examiner's findings. In particular, we give "contiguous" its broadest reasonable interpretation as pixels next to other pixels and find that the pixels in Ackland comprise contiguous pixels (FF 1).

Accordingly, we find no error in the Examiner's rejection of claim 2 over Ackland.

35 U.S.C. 103(a)

As for claim 3, Appellants merely argue that “*Ozono* fails to correct the defects of *Ackland*” and then add that “*Ozono* only teaches a single subset of photosensors comprising odd and even pixels forming a linear array” (App. Br. 22). However, as discussed above, we find no defect in *Ackland*. Further, Appellants appear to be arguing *Ozono* alone fails to teach the limitations of claim 3. However, since the Examiner has rejected claim 3 over *Ackland in view of Ozono*, the test for obviousness is not what the references show individually but what the *combined* teachings *would have suggested* to one of ordinary skill in the art. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). As Appellants concede, *Ozono* discloses pixels forming a linear array (App. Br. 22). We find no error in the Examiner's conclusion that *Ackland in view of Ozono* would at least have suggested that the photosensors “together forming at least one linear array” as recited in claim 3, and thus, we find no error in the rejection of claim 3 over *Ackland in view of Ozono*.

As for claims 5 and 6, Appellants merely contend that “*Hori* fails to correct the defects of *Ackland*” (App. Br. 25). Similarly, as for claim 7, Appellants merely contend that “*Spears* fail to correct the defects of *Ackland*” (App. Br. 28). As discussed above, we find no defects with respect to *Ackland*. Accordingly, we find no error in the Examiner's

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rejection of claims 5 and 6 over Ackland in further view of Hori and the rejection of claim 7 over Ackland in further view of Spears.

V. CONCLUSION AND DECISION

The Examiner's rejection of claims 1, 2 and 4 under 35 U.S.C. § 102(e) and of claims 3 and 5-7 under 35 U.S.C. § 103(a) is 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)(iv).

AFFIRMED

peb