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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HYUNG JOON KIM

Appeal 2019-000624
Application 13/542,171¹
Technology Center 2400

Before ST. JOHN COURTENAY III, MARC S. HOFF, and
JOHN P. PINKERTON, *Administrative Patent Judges*.

HOFF, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1, 3, 5, 6, 11, and 12.² We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

Appellant's invention is a method and apparatus for image data transfer. The method includes performing pre-analysis on a reduced version

¹ The term "Appellant" is used herein to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant states the real party in interest is Texas Instruments Incorporated. Appeal Br. 2.

² Claims 2, 4, 7–10, and 13 have been cancelled.

of an image, and using the predictions from the pre-analysis to reduce the amount of data transfer required. *See* Spec. ¶¶ 3–5.

Claim 1 is exemplary of the claims on appeal:

1. A method comprising:

performing, with a digital processor having an internal memory, motion estimation on a decimated version of a frame to generate a first set of motion vectors based on a first set of search areas;

determining, with the digital processor, a second set of search areas for a plurality of blocks in an original resolution of the frame based on the first set of motion vectors, the second set of search areas being different than the first set of search areas;

transferring reference data from an external memory to the internal memory of the digital processor based on the second set of search areas; and performing, with the digital processor, motion estimation for the original resolution of the frame based on the second set of search areas and the transferred reference data to generate a second set of motion vectors.

Appeal Br. 13 (Claims Appendix).

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

Suzuki et al.	US 2006/0188021 A1	Aug. 24, 2006
Li et al.	US 2008/0212679 A1	Sept. 4, 2008
Bossen et al.	US 2011/0080954 A1	Apr. 7, 2011
Au et al.	US 2011/0293012 A1	Dec. 1, 2011

Claims 1, 3, 5, 6, 11, and 12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Suzuki.

Claims 1, 3, 5, 6, 11, and 12 stand rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112, first paragraph (pre-AIA), as failing to comply with the written description requirement. Final Act. 2.

Throughout this decision, we make reference to the Appeal Brief (“Appeal Br.,” filed Apr. 24, 2018), the Reply Brief (“Reply Br.,” filed Oct. 2, 2018), and the Examiner’s Answer (“Ans.,” mailed Aug. 1, 2018) for their respective details.

ISSUES

Appellant’s arguments present us with the following issues:

1. Does Suzuki teach determining a second set of search areas for a plurality of blocks, the second set of search areas being based on the first set of motion vectors?
2. Does the specification provide support for the claimed first set of search areas and second set of search areas?

PRINCIPLES OF LAW

“A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference.” *See In re Buszard*, 504 F.3d 1364, 1366 (Fed. Cir. 2007) (quoting *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994)). Anticipation of a claim requires a finding that the claim at issue reads on a prior art reference. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999) (quoting *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 781 (Fed. Cir. 1985)).

Under the written description requirement of 35 U.S.C. § 112, the disclosure of the application relied upon must reasonably convey to one of

ordinary skill in the art that, as of the filing date of the application, the inventor had possession of the later-claimed subject matter. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991). “One shows that one is ‘in possession’ of *the invention* by describing *the invention*, with all its claimed limitations, not that which makes it obvious.” *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (emphasis in original).

ANALYSIS

Rejection under 35 U.S.C. § 102(e)

Independent claims 1 and 3 recite, inter alia, generating a first set of motion vectors based on a first set of search areas; determining a second set of search areas being different than the first set of search areas; and transferring reference data from an external memory to the internal memory of the digital processor based on the second set of search areas.

The Examiner finds that determining a second set of search areas based on a first set of motion vectors is taught by Suzuki. Ans. 10. The Examiner finds that Suzuki teaches, first, detecting an “approximate motion vector” using reduced images. Ans. 10; Suzuki ¶ 40. The Examiner then finds that Suzuki teaches acquiring the original image search region “with reference to the approximate motion vector.” *Id.* Thus, the Examiner reasons, acquisition of the original image search region, with reference to the approximate motion vector, occurs before “detecting the motion vector.” *Id.*

Appellant argues, and we agree, that Suzuki does not teach acquiring search region 64a *based on* the approximate motion vector of Suzuki. Reply Br. 2. We agree with Appellant that the phrase “with reference to the

approximate motion vector” relates to the detection of the motion vector, not to the acquisition of the predetermined search region, which occurs prior to the determination of the approximate motion vector. *Id.* Other examples of Suzuki’s use of this phrase support Appellant’s understanding. “A rough motion vector (which will be referred to as an ‘approximate motion vector’ hereafter) at a low resolution is detected based upon the reduced image. Subsequently, the motion vector is detected based upon the original image at a high resolution with reference to the approximate motion vector.” Suzuki ¶ 32. “[F]irst, the approximate motion vector is detected based upon a reduced image at a low resolution. Then, the motion vector is detected based upon the image at a high resolution with reference to the approximate motion vector.” Suzuki ¶ 38.

Suzuki also makes clear that region 64a “is set to the search region” before the reduced images are created. Suzuki ¶¶ 39, 40. In the description of the “detection procedure for the motion vector according to the present embodiment,” the first step is that “a reduced image of the search region 64a is created.” Suzuki ¶ 42. Necessarily, then, search region 64a is established before the reduced image is created.

We find that the Examiner erred in finding that search region 64a corresponds to the claimed “second set of search areas” because search region 64a is not “based on the first set of motion vectors.” Therefore, the Examiner erred in finding that Suzuki teaches all the limitations of

independent claims 1 and 3. We do not sustain the § 102(e) rejection of claims 1, 3, 5, 6, 11, and 12 as being anticipated by Suzuki.

Rejection under 35 U.S.C. § 112

Appellant argues that the Examiner erred in rejecting the claims as failing to provide written description support for the claimed “first set of search areas” and “second set of search areas.” Appeal Br. 11; Final Act. 2. Appellant points to paragraph 17 as support for “first set of search areas” and to paragraph 18 as support for “second set of search areas.” *Id.*

We agree with Appellant. The Specification describes that a “search area on 4:1 domain can be determined based on available data transfer bandwidth and internal memory use.” Spec. ¶ 17. Appellant’s Specification further describes a “[s]earch area on 1:1 domain [that] is determined for each 16x16 block using crude motion vector.” Spec. ¶ 18.

We find that the Specification conveys to one of ordinary skill in the art that, as of the filing date of the application, Appellant had possession of the claimed subject matter. *Vas-Cath*, 935 F.2d at 1563. We do not sustain the Examiner’s § 112 rejection of the claims.

CONCLUSIONS

1. Suzuki does not teach determining a second set of search areas for a plurality of blocks, the second set of search areas being based on the first set of motion vectors.

2. The specification provides support for the claimed first set of search areas and second set of search areas.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1, 3, 5, 6, 11, and 12	112	Written description		1, 3, 5, 6, 11, and 12
1, 3, 5, 6, 11, and 12	102(e)	Suzuki		1, 3, 5, 6, 11, and 12
Overall Outcome				1, 3, 5, 6, 11, 12

ORDER

The Examiner's decision to reject claims 1, 3, 5, 6, 11, and 12 is reversed.

REVERSED