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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAVEL KISILEV and SUK HWAN LIM

Appeal 2012-007517
Application 11/888,395
Technology Center 2600

Before MICHAEL J. STRAUSS, JOHN A. EVANS, and DANIEL J. GALLIGAN, *Administrative Patent Judges*.

GALLIGAN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] seek our review under 35 U.S.C. § 134(a) of the Examiner's rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.[2]

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[1] The Appeal Brief identifies Hewlett-Packard Development Company, LP, Hewlett-Packard Company, and HPQ Holdings, LLC as the real parties in interest. App. Br. 1.

[2] Our decision refers to Appellants' Appeal Brief filed on October 12, 2011 ("App. Br."); Appellants' Reply Brief filed April 10, 2012; Examiner's Answer mailed February 17, 2012 ("Ans."); and original Specification filed July 31, 2007 ("Spec.").

STATEMENT OF THE CASE

Claims on Appeal

Appellants' application relates to signal processing. Spec. 1. Claim 1 is reproduced below:

> 1. A signal-processing system comprising:
>
> a processing component; and
>
> a signal-processing routine executed by the processing component that, at each of one or more currently considered scales of resolution greater than a lowest resolution scale, processes an input signal to produce an output signal by
>
> downscaling either the input signal or a signal derived from the input signal to produce a signal that is input to a next-lower resolution scale,
>
> upscaling a signal received from a lower-resolution scale to produce a first intermediate signal from which the output signal to a next-higher-resolution scale is produced, and
>
> robustly filtering at least one of the input signal or the intermediate signal, wherein the values of all pixels neighboring and including each pixel are used to generate a robustly-filtered pixel value corresponding to each pixel in the signal being robustly filtered.

Examiner's Rejections

(1) Claims 1–10 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Ans. 4–6.

(2) Claims 1–20 stand rejected provisionally for obviousness-type double patenting over U.S. Patent Application No. 12/079,227, which is now U.S. Patent 8,417,050. Ans. 6–8.

(3) Claims 1–20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gendel[3] and Vuylsteke.[4] Ans. 8–18.

ANALYSIS

Rejection under 35 U.S.C. § 101

Claim 1 is directed to a "signal-processing system comprising," *inter alia*, "a processing component; and a signal-processing routine executed by the processing component . . . ." The Examiner found that claim 1 may be embodied as pure software and lacks definite structure and, therefore, is not patent eligible subject matter. Ans. 5–6. We do not agree that claim 1 is directed to pure software as found by the Examiner.[5] Therefore, we do not sustain the rejection of claims 1–10 under 35 U.S.C. § 101.[6]

Rejection under 35 U.S.C. § 103(a)

Appellants argue that the Examiner erred in interpreting "robustly filtering" and "robustly-filtered." App. Br. 6–12. Appellants argue that the Specification defines robust filtering as a two-part process, "one directed to

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[3] U.S. Patent 6,141,459, issued Oct. 31, 2000.
[4] Vuylsteke et al., U.S. Patent 5,467,404, issued Nov. 14, 1995.
[5] Should there be further prosecution of this application (including any review for allowance), the Examiner may wish to determine if claim 1 is a single means claim and, therefore, not compliant with 35 U.S.C. § 112 ¶ 1. *See In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983).
[6] Should there be further prosecution of this application (including any review for allowance), the Examiner may wish to review claims 1–20 for compliance under 35 U.S.C. § 101 in light of the recently issued preliminary examination instructions on patent eligible subject matter. *See* "Preliminary Examination Instructions in view of the Supreme Court Decision in *Alice Corporation Pty. Ltd. v. CLS Bank International, et al.*," Memorandum to the Examining Corps, June 25, 2014.

a filtering-type operation and one directed to ameliorating or removing artifacts and noise amplification produced by the filtering-type operation." App. Br. 11. Appellants quote several pages of a section in the Specification entitled "Robust Filtering" to support their argument that this is a specially-defined term requiring a two-part process. App. Br. 7–10 (quoting Spec. 11, l. 24 – 15, l. 15). Appellants further argue the second step is identified in the Specification as the function ψ, which "is used to remove any new local maxima and minima introduced by robust filtering." App. Br. 10.

Claims 1 and 11 recite: "robustly filtering at least one of the input signal or the intermediate signal, wherein the values of all pixels neighboring and including each pixel are used to generate a robustly-filtered pixel value corresponding to each pixel in the signal being robustly filtered." The claim language itself does not require robust filtering to be a two-part process. Although we apply the broadest reasonable interpretation in light of the Specification, we do not import limitations from the Specification into the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 1323 (Fed. Cir. 2005) (*en banc*). Appellants argue that "robust filtering can be expressed as" the following formula:

$$\hat{Y}_s(i,j) = \psi_s\big(f_s(i,j)\big) = \psi_s\left(\sum_{n=1}^{8} \phi_s\big(d_n(i,j)\big)\right)$$

App. Br. 10. However, this formula is not recited in the claims. Furthermore, the Specification states that this formula refers to the operation of Figure 10, which is just one embodiment. Spec. 15, ll. 1–4; Spec. 2, ll. 24–25 ("Figure 10 illustrates one embodiment of a robust-filtering operation that represents an embodiment of the present invention."). Following this, the Specification provides an alternate formulation for the

filter operation. Spec. 15, ll. 4–7. The Specification then states: "Many different, alternative robust-filter operations are possible." Spec. 15, l. 7. The Specification further states: "Many different non-linear and linear functions may be employed in addition to, or instead of one or both of ψ and φ in alternative embodiments." Spec. 15, ll. 13–15. Thus, rather than defining the term "robustly filtering," as Appellants allege, the "Robust Filtering" section of the Specification broadly describes various embodiments.

Furthermore, the "Robust Filtering" section of the Specification undermines Appellants' argument. As the Examiner pointed out, the fact that function ψ, which Appellants argue is the second step of the robust filtering process, "is used to remove any new local maxima and minima introduced by robust filtering" (Spec. 14, ll. 10–12) indicates that this step is not part of the robust filtering process, but rather follows robust filtering. Ans. 22–23.

Based on the foregoing, we are not persuaded by Appellants' arguments that "robustly filtering" is necessarily a two-part process or should be limited to a particular formula not recited in the claims.

Appellants argue that the combination of Gendel and Vuylsteke does not teach or suggest the two-step robust filtering process and, thus, does not render obvious the subject matter of the claims. App. Br. 11–12; Reply Br. 4–7. Because we are not persuaded by Appellants' arguments concerning the interpretation of "robustly filtering," we are likewise not persuaded that the Examiner erred in concluding that the combination of Gendel and Vuylsteke renders obvious the subject matter of the claims. As such, we sustain the rejection of claims 1–20 under 35 U.S.C. § 103(a).

Obviousness-Type Double Patenting Rejection

Appellants do not address the provisional obviousness-type double patenting rejection over U.S. Patent Application No. 12/079,227. *See* App. Br. 3–4 ("Appellants defer addressing the provisional double-patenting rejection until claims in one of the two relevant patent applications are issued."). U.S. Patent Application No. 12/079,227 issued as U.S. Patent 8,417,050 on April 9, 2013. Because the application on which this rejection is based has issued as a patent, the rejection is no longer provisional. Thus, we have jurisdiction. Because Appellants do not address the obviousness-type double patenting rejection, we summarily sustain this rejection.

DECISION

We affirm the Examiner's rejection of claims 1–20.

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

msc