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| Green, Howard, & Mughal LLP 5 Centerpointe Dr. Suite 400 Lake Oswego, OR 97035 | | | DEMOSKY, PATRICK E | |
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WENHAO ZHANG, YI-JEN CHIU,
LIDONG XU, BEIJING, YU HAN,
ZHIPIN DENG, and XIAOXIA CAI

Appeal 2019-001697
Application 13/996,577
Technology Center 2400

Before ALLEN R. MacDONALD, CAROLYN D. THOMAS, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the
Examiner's Final rejection of claims 35–57, 59–64, and 66.¹ Appeal Br. 9.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37
C.F.R. § 1.42. Appellant identifies Intel Corporation as the real party in
interest. Appeal Br. 1.

Appellant has cancelled claims 1–34, 58, and 65. Final Act. 16, 23, and 26.
We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

CLAIMED SUBJECT MATTER

Claim 35 is illustrative of the claimed subject matter (emphasis, formatting, and bracketed material added):

35. A method, comprising: at a scalable video decoder:

[A.] accessing, for a block of an enhancement layer (EL) frame of scalable video content, multiple co-located blocks in one of a lower level EL frame or a base layer (BL) frame; and

[B.] ***performing inter-layer residual prediction*** for a first region of the block of the EL frame ***responsive to*** a first block of the co-located blocks in the lower level EL frame or base layer (BL) frame corresponding to the first region ***being an intra coded block***,

[i.] wherein ***only regions*** of the block of the EL frame ***corresponding to*** intra coded blocks of the multiple co-located blocks in the lower level EL frame or base layer (BL) frame ***are inter-layer residual predicted***, and

[ii.] wherein performing inter-layer residual prediction for the first region of the block of the EL frame comprises:

[a.] determining a residual from the first block of the co-located blocks in the lower level EL frame or the BL frame;

[b.] applying an upsample filter and a refining filter to the residual to generate an upsampled and filtered residual; and

[c.] determining a predicted residual for the block of the EL frame based at least in part on adding the upsampled and filtered residual to a second

residual of the first region of the block of the EL frame.

REFERENCES²

The prior art relied upon by the Examiner is:

| Name | Reference | Date |
|-------------|--------------------|---------------|
| Gou | US 2007/0160137 A1 | July 12, 2007 |
| Sagetong | US 2008/0165850 A1 | July 10, 2008 |
| Nakagami | US 2011/0286526 A1 | Nov. 24, 2011 |
| Lui | US 2015/0103900 A1 | Apr. 16, 2015 |

REJECTIONS

The Examiner rejects claims 35–54, 57, 59–64, and 66 under 35 U.S.C. § 103 as being unpatentable over the combination of Gou, Nakagami, and Sagetong. Final Act. 3–16. We select claim 35 as the representative claim for this rejection. The contentions discussed herein as to claim 35 are determinative as to this rejection.

The Examiner rejects claims 55 and 56 under 35 U.S.C. § 103 as being unpatentable over combination of Gou, Nakagami, Sagetong, and Liu. Final Act. 17–18. The contentions discussed herein as to claim 35 are also determinative as to this rejection.

Therefore, except for our ultimate decision, we do not address claims 36–57, 59–64, and 66 further herein.

² All citations herein to the references are by reference to the first named inventor/author only.

OPINION

We have reviewed the Examiner’s rejections in light of Appellant’s arguments that the Examiner has erred. Appellant’s contentions we discuss are determinative as to the rejections on appeal. Therefore, Appellant’s other contentions are not discussed in detail herein.

A.

The Examiner determines:

Sagetong discloses:

accessing, for a block of an enhancement layer (EL) frame of scalable video content multiple co-located blocks in one of a lower level EL frame or a base layer (BL) frame; and

performing inter-layer residual prediction for a first region of the block of the EL frame responsive to a first block of the co-located blocks in the lower level EL frame or base layer (BL) frame corresponding to the first region being an intra coded block

wherein only regions of the block of the EL frame corresponding to intra coded blocks of the multiple co-located blocks in the lower level EL frame or base layer (BL) frame are inter-residual predicted[.]

Final Act. 5–6 (citing Sagetong ¶¶ 8, 64, 88, Fig. 2).

B.

Appellant contends that the Examiner erred in rejecting claim 35 under 35 U.S.C. § 103 because:

[T]he scope and content of Guo, Nakagami, and Sagetong fails to include

“performing inter-layer residual prediction for a first region of the block of the EL frame responsive to a first block of the co-located blocks in the lower

level EL frame or base layer (BL) frame corresponding to the first region being an intra coded block, wherein only regions of the block of the EL frame corresponding to intra coded blocks of the multiple co-located blocks in the lower level EL frame or base layer (BL) frame are inter-layer residual predicted”

as claimed.

Appeal Br. 12 (formatting added).

C.

The Examiner responds by determining that Sagetong’s paragraphs 8 and 64 together with newly cited paragraph 55:

[D]iscusses how inter-layer prediction is selectively enabled based on a region of the EL corresponding with a region of the BL, and since the BL can be encoded using intra-prediction techniques, the limitation is met. . . . Sagetong has been shown to disclose that inter-layer prediction is only enabled for regions of the EL that correspond with regions of the BL. Returning to paragraph 0008 of Sagetong, for regions of the enhancement layer that do not spatially overlap (or correspond) with regions of the base layer, inter-layer prediction may be avoided in favor of temporal or spatial prediction. Hence the situational enabling/disabling of inter-layer prediction based on correspondence between the EL and BL is described.

Ans. 17.

D.

Appellant further contends that the Examiner erred in rejecting claim 35 under 35 U.S.C. § 103 because:

As asserted by the Examiner, Sagetong discloses base layer blocks may be coded with spatial prediction techniques (intra-coded). Examiner’s Answer at p. 17; Sagetong at ¶ 64. However, Sagetong does not disclose performing inter-layer residual prediction responsive to a base layer block being an intra

coded block as claimed. . . . In contrast, in Sagetong, inter-layer residual prediction is performed in response to overlap between the enhancement and base layer blocks *without regard to* the coding mode used for the base layer block. . . . [T]he present claims *require performance of inter-layer residual prediction in response to and only for base layer blocks that are intra coded* while Sagetong discloses interlayer residual in response to block overlap without regard to the coding mode of the base layer block.

Reply Br. 10–11 (emphasis added).

E.

As articulated by the Federal Circuit, the Examiner’s burden of proving non-patentability is by a preponderance of the evidence. *See In re Caveney*, 761 F.2d 671, 674 (Fed. Cir. 1985) (“[P]reponderance of the evidence is the standard that must be met by the PTO in making rejections.”). “A rejection based on section 103 clearly must rest on a factual basis.” *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). “The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not . . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.” *Id.* We conclude the Examiner’s analysis fails to meet this standard because the rejection does not adequately explain the Examiner’s findings of fact.

Particularly, we agree with Appellant that the language of claim 35 requires “performance of inter-layer residual prediction in response to and only for base layer blocks that are intra coded,” and we disagree with the Examiner’s reasoning that Sagetong alone without more is sufficient to show the argued claim limitation. We conclude, consistent with Appellant’s

arguments that there is insufficient articulated reasoning to support the Examiner's finding that Sagetong discloses, the argued claim limitation.

Therefore, we conclude that there is insufficient articulated reasoning to support the Examiner's final conclusion that claim 35 would have been obvious to one of ordinary skill in the art at the time of Appellant's invention.

CONCLUSION

The Appellant has demonstrated the Examiner erred in rejecting claims 35–57, 59–64, and 66 as being unpatentable under 35 U.S.C. § 103.

The Examiner's rejections of claims 35–57, 59–64, and 66 as being unpatentable under 35 U.S.C. § 103 are **reversed**.

DECISION SUMMARY

In summary:

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------|--------------------|------------------------------|-----------------|----------------------|
| 35–54, 57, 59–64, 66 | 103 | Gou, Nakagami, Sagetong | | 35–54, 57, 59–64, 66 |
| 55, 56 | 103 | Gou, Nakagami, Sagetong, Liu | | 55, 56 |
| Overall Outcome | | | | 35–57, 59–64, 66 |

REVERSED