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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KRISHNA C. RATAKONDA
and ASHISH JAGMOHAN[1]

Appeal 2010-006564
Application 10/840,403
Technology Center 2400

Before KALYAN K. DESHPANDE, JASON V. MORGAN, and LARRY J. HUME, *Administrative Patent Judges*.

HUME, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the rejection of claims 1-24. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse and, pursuant to our authority under 37 C.F.R. § 41.50(b), we enter a new ground of rejection for independent claims 1, 10, and 17.

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[1] The Real Party in Interest is International Business Machines, Inc.

STATEMENT OF THE CASE [2]

The Invention

Appellants' invention is directed to a real time encoding algorithm and apparatus to encode or compress blocks of video information for network transmission with minimum loss in video quality. The invention is particularly directed to an improvement that encodes blocks of video pixels by deriving block-to-block prediction values (e.g., a prediction error or difference signal) between succeeding blocks of video data using statistical information about the video (e.g., extent of variation in frame-to-frame or block-to-block pixel intensity) to predict a better suited mode for compression. (App. Br. 2, section V).

Exemplary Claims [3]

Claim 1 is an exemplary claim representing an aspect of the invention which is reproduced below (***emphasis*** added):

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[2] Our decision makes reference to Appellants' Appeal Brief ("App. Br.," filed Mar. 16, 2009); Reply Brief ("Reply Br.," filed Sept. 28, 2009); second Examiner's Answer ("Ans.," mailed Jan. 11, 2010, entering a new ground of rejection for claim 16 in response to remand from the Board); Final Office Action ("FOA," mailed Oct. 15, 2008); Declaration of inventor Ashish Jagmohan under 37 C.F.R. § 1.131(b) ("Jagmohan Decl."); Declaration of inventor Krishna Ratakonda under 37 C.F.R. § 1.131(b) ("Ratakonda Decl."); and the originally filed Specification ("Spec.," filed May 7, 2004).

[3] Contrary to the Examiner's statement that "[t]he copy of the appealed claims contained in the Appendix to the brief is correct" (Ans. 3), the claims on appeal are those filed with Appellants' Amendment after Final Rejection on Mar. 13, 2009, indicated as being entered by the Examiner in the Answer (Ans. 3). Accordingly, our decision is based upon the rejection of the claims found in the Amendment after Final Rejection.

> 1. ***In a predictive video encoding method that includes choosing a mode of video encoding for individual blocks of video information wherein the mode resides in one or more classes***, ***the improvement comprising*** a method of selecting a mode class within which to choose a particular mode of encoding comprising the steps of:
>
> obtaining statistical information related to said video information,
>
> determining a mode class within which to chose [sic] a particular encoding mode based on said statistical information,
>
> selecting a mode class of encoding modes based on said determining step, and
>
> encoding said video information according to at least one mode of the selected mode class whereby to reduce complexity of encoding said video information.

Claim 10 is an exemplary claim representing an aspect of the invention which is reproduced below (***emphasis*** added):

> 10. ***In a predictive video encoding method***, the improvement comprising a method of encoding video information comprising:
>
> obtaining a block of video information encoded under a predictive video encoding standard,
>
> segmenting said block of video information to sub-blocks,
>
> providing a first class of encoding modes that defines encoding algorithms to encode said sub-blocks,
>
> providing a second class of encoding modes that defines encoding algorithms to encode said sub-blocks,

> according to statistical information derived from said video information, selecting one of said first class and said second class from which to choose an encoding algorithm to encode said video information, and
>
> encoding said video information according to an algorithm or a class selected in said selecting step.

Claim 17 is an exemplary claim representing an aspect of the invention which is reproduced below (***emphasis added***):

> 17. ***In a prediction mode encoding system,*** the improvement comprising an apparatus that selects an encoding mode class within which to choose an encoding mode to encode video information, said apparatus comprising:
>
> an extractor that extract blocks of video information from a source of digital video information under a predictive video compression standard,
>
> a statistics gatherer that obtains statistical information pertaining to at least one extracted block of video information,
>
> a mode class selector responsive to said statistics gatherer to select one of first and second mode classes from which to choose an encoding mode, and
>
> a coder responsive to said mode class selector to encode said video information according to an encoding mode in a selected one of said first and second mode classes.

Prior Art

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

Chen	US 5,608,458	Mar. 4, 1997
Natarajan	US 6,690,836 B2	Feb. 10, 2004
Martemyanov	US 2005/0276323 A1	Dec. 15, 2005

Rejections on Appeal [4, 5]

1. Claims 1, 3, 4, 6, 7, 10, 12, 14, 17, 18, 20, 21, and 23 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. (Ans. 4).

2. Claims 2, 5, 8, 9, 11, 13, 15, 19, 22, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Martemyanov. (Ans. 8).

3. Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chen and Martemyanov in view of Natarajan. (Ans. 13).

ISSUES

A. Appellants argue (App. Br. 6-12; Reply Br. 1-3) that the Examiner's anticipation rejection of claim 1 under 35 U.S.C. § 102(b) over Chen is in error. These contentions present us with the following issue:

> *Issue 1*: Did the Examiner err in finding that Appellants' claimed method is anticipated by Chen, particularly that Chen discloses a "[i]n a predictive video encoding method that

[4] Contrary to the Examiner's statement that "appellant's statement of the grounds of rejection to be reviewed on appeal is correct" (Ans. 3), we note that Appellants have not set forth nor completely addressed the correct bases for rejection in either the Appeal Brief or Reply Brief (*e.g.*, *see* App. Br. 5, which has an incorrect statement of the rejection, i.e., a purported anticipation rejection of claims 1-9, rather than claims 1, 3, 4, 6, 7, 10, 12, 14, 17, 18, 20, 21, and 23). Further, Appellants have not rebutted the rejection of claim 16.

[5] We further note that the anticipation rejection of claims 12, 14, 20, and 21 over Chen appears to be in error since claim 11 from which claims 12 and 14 depend, and claim 19 from which claims 20 and 21 depend stand rejected as being ***unpatentable*** over the combination of Chen and Martemyanov.

> includes choosing a mode of video encoding for individual blocks of video information wherein the mode resides in one or more classes, the improvement comprising a method of selecting a mode class within which to choose a particular mode of encoding comprising the steps of: obtaining statistical information related to said video information, determining a mode class within which to chose [sic] a particular encoding mode based on said statistical information, selecting a mode class of encoding modes based on said determining step, and encoding said video information according to at least one mode of the selected mode class whereby to reduce complexity of encoding said video information," as recited in claim 1?

B. Appellants argue (App. Br. 6-12; Reply Br. 1-3) that the Examiner's use of the Martemyanov reference in the rejection of claims 2, 5, 8, 9, 11, 13, 15, 19, 22, and 24 under 35 U.S.C. § 103(a) over Chen and Martemyanov is in error since the inventors have sworn behind this reference in their respective declarations under 37 C.F.R. § 1.131(b). These contentions present us with the following issue:

> *Issue 2*: Did the Examiner err in finding that the Martemyanov reference constitutes prior art as applied in the rejection of claims 2, 5, 8, 9, 11, 13, 15, 19, 22, and 24, particularly in view of the inventors' declarations under 37 C.F.R. § 1.131(b) (Jagmohan Decl. and Ratakonda Decl.) "swearing behind" the Martemyanov reference?

ANALYSIS

A. We have reviewed the Examiner's rejections in light of Appellants' arguments that the Examiner has erred. We agree with Appellants' conclusions with respect to the anticipation rejection of claims 1, 10, and 17, and we disagree with at least a portion of (1) the findings and reasons set forth by the Examiner in the action from which this appeal is

taken, and (2) the reasons and rebuttals set forth by the Examiner in the Examiner's Answer in response to Appellants' Arguments presented in the Appeal and Reply Briefs. We highlight and address specific findings and arguments regarding claims 1, 10, and 17 for emphasis as follows.

In particular, we agree with Appellants (Ans. 2, 6-7; Reply Br. 1-2) that the Examiner has improperly characterized the rejection of claim 1, which Appellants have set forth specifically as a "Jepson-style" claim. Although we find that the Examiner has properly considered the preamble of claim 1 to be "admitted prior art" (Ans. 14), we find that any "admission" of prior art in the preamble of this Jepson type claim is found in the claim preamble itself, and not in the Chen reference, thus rendering the anticipation rejection solely over Chen improper under 35 U.S.C. § 102(b). [6]

Appellants make similar arguments regarding independent claims 10 and 17 (Ans. 4, 6-7; Reply Br. 1-2) with respect to the suggested interpretation of these claims also as "Jepson-style" claims. We therefore find that Chen fails to describe "predictive video encoding method[s]" and "prediction mode encoding system[s]" for claims 10 and 17.

Thus, we cannot sustain the anticipation rejection of independent claims 1, 10, and 17, or dependent claims 3, 4, 6, 7, 12, 14, 18, 20, 21, and 23.

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[6] Although we find an anticipation rejection of claim 1 over Chen to be improper, we impose, *infra*, new grounds of rejection under 35 U.S.C. § 103(a) over Chen in view of the admitted prior art of the preamble of claim 1. We similarly impose this new ground of rejection with respect to claims 10 and 17.

In addition, due to the error in the anticipation rejection of independent claims 1, 10, and 17, we also cannot sustain the unpatentability rejection of dependent claims 2, 5, 8, 9, 11, 13, 15, 19, 22, and 24, which variously and ultimately depend from claims 1, 10, and 17.

NEW GROUND OF REJECTION

We enter a new ground of rejection of independent claims 1, 10, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Admitted Prior Art as characterized by the preambles of each of claims 1, 10, and 17. The following additional findings of fact are pertinent to the new grounds of rejection.

Chen teaches all the limitations of claims 1, 10, and 17, but does not explicitly teach or suggest the phrase "predictive video encoding," as recited in the preamble of claim 1.

Specifically, we substantially agree with the Examiner that Chen teaches "obtaining statistical information related to said video information" (Ans. 4, citing Chen col. 3:38-40); "determining a mode class within which to chose [sic] a particular encoding mode based on said statistical information" (Ans. 4, citing Chan Col. 3:49-51); "selecting a mode class of encoding modes based on said determining step" (*Id*.), and "encoding said video information according to at least one mode of the selected mode class whereby to reduce complexity of encoding said video information" (Ans. 4-5, citing Chen Col. 4:5-6 and Fig. 2).[7]

[7] We find that Chen teaches or suggests both the steps of "determining a mode class," as well as "selecting a mode class . . . based on said

As discussed *supra*, we find that the preamble of Appellants' claim 1, i.e., "a predictive video encoding method that includes choosing a mode of video encoding for individual blocks of video information wherein the mode resides in one or more classes," is admitted prior art. Appellants have admitted (Ans. 2, 6-7; Reply Br. 1-2) that the claims are intended to be cast as Jepson-style claims, thus admitting that the respective preambles are prior art. *See Sjolund v. Musland*, 847 F.2d 1573, 1577 (Fed. Cir. 1988) ("[T]he preamble of a Jepson claim is impliedly admitted to be prior art.").

Similarly, we agree with the Examiner that Chen teaches or suggests all the limitations of claims 10 and 17 (Ans. 5-7), but find that the preamble of Appellants' claim 10, i.e., "a predictive video encoding method," and the preamble of claim 17, i.e., "a prediction mode encoding system," are also admitted prior art.

We note that Appellants' argue, in distinguishing claim 1 over Chen, that "Applicants distinguish claim 1 over Chen by reciting a 'prediction mode' of encoding." App. Br. 6. We note that the phrase "prediction mode" is not present in any of the claims, so that we find this argument to not be persuasive.

We find that a person of ordinary skill in the art would be motivated to combine the encoding scheme of Chen with Appellants' admitted prior art ("AAPA") predictive encoding method in order to reduce the complexity of predictively encoding video image regions and to optimize the encoding mode based upon selecting different modes for encoding different image

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determining step," without regard as to whether these limitations constitute two steps, or a "step within a step."

regions. See Chen col. 2:13-40, and Spec. 1, ¶¶ [02]-[03] ("Background"). Furthermore, both Chen and AAPA are concerned with encoding methods and the combination of the encoding methods (i.e., familiar elements) would yield nothing more than predictable results. *See KSR Int'l, Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007)

Accordingly, we find that claims 1, 10, and 17 are unpatentable under 35 U.S.C. § 103(a) over the combination of Chen with Appellants' Admitted Prior Art, as characterized by the preamble of each of these claims.

B. With respect to the effectiveness of Appellants' attempt to "swear behind" the Martemyanov reference, we note that these declarations, if otherwise found persuasive, would only be useful to overcome a prior art reference with an effective filing date of Sep. 26, 2003 (*see* Jagmohan Decl. 1, 4 and Ratakonda Decl. 1, 4). The Examiner may rely on the effective filing date of a patent (or published application) claiming benefit of a provisional application filing date, unless an applicant demonstrates that the provisional fails to support the patent (published application) in accordance with 35 U.S.C. § 112, first paragraph. *In re Giacomini*, 612 F.3d 1380, 1383-85 (Fed. Cir. 2010); *see also Ex parte Yamaguchi*, 88 USPQ2d 1606, 1609 (BPAI 2008) (precedential); MPEP §§ 2136.03(III), 706.02(VI)(D). For purposes of the Examiner's rejection of claims 2, 5, 8, 9, 11, 13, 15, 19, 22, and 24, the Martemyanov reference has an earlier effective filing date under 35 U.S.C. § 119(e) of either Sep. 27, 2002 (based upon the filing date of provisional application 60/414,275) or June 12, 2003 (based upon the filing date of provisional application 60/477,814). Both of these dates

precede the dates of conception and reduction to practice stated in the Inventors' Declarations, cited above. In addition, the specific portions of Martemyanov and its related provisional applications relied upon in the rejection have been set forth in detail by the Examiner. Ans. 16. Appellants have not rebutted the Examiner's characterization of Martemyanov and its related provisional applications. Reply Br. 2.

Accordingly, we find that the Examiner did not err, and the Martemyanov reference constitutes prior art available for use in formulating a rejection of the pending claims in a future action by the Examiner.

CONCLUSIONS

(1) Appellants have established that the Examiner erred with respect to the anticipation rejection of claims 1, 3, 4, 6, 7, 10, 12, 14, 17, 18, 20, 21, and 23 under 35 U.S.C. § 102(b) over Chen.

(2) By virtue of the Examiner's error in the anticipation rejection of claims 1, 10, and 17, the unpatentability rejection of claims 2, 5, 8, 9, 11, 13, 15, 19, 22, and 24, as presently formulated by the Examiner, turns on the same issue as claims 1, 10, and 17, and is also in error.

(3) We enter new grounds of rejection of claims 1, 10, and 17 as being unpatentable under 35 U.S.C. § 103(a) over Chen in view Appellants' Admitted Prior Art, as characterized by the respective preambles of each of these claims.

(4) We leave it to the Examiner to review each of the remaining dependent claims 2-9, 11-16, and 18-24 to assess their patentability in light of our findings herein.

DECISION

The decision of the Examiner to reject claims 1-24 is reversed.

Pursuant to 37 C.F.R. § 41.50(b), we enter a new ground of rejection under 35 U.S.C. § 103(a) of independent claims 1, 10, and 17 as being unpatentable under 35 U.S.C. § 103(a) over Chen in view of Appellants' Admitted Prior Art, i.e., the respective preambles of these claims.

37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .
>
> (2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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).

REVERSED

37 C.F.R. § 41.50(b)

msc