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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FREDERICK LALONDE, FRANCOIS BLOUIN, and
MARK DRAPER

Appeal 2015-007203
Application 12/699,927¹
Technology Center 2600

Before JOSEPH L. DIXON, LARRY J. HUME, and JOHN D. HAMANN,
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 Final Rejection of claims 13–17 and 19, which are all claims pending in the Application. Appellants have previously canceled claims 1–12 and 18. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is Ciena Corp. App. Br. 2.

STATEMENT OF THE CASE²

The Invention

Appellants' disclosed and claimed invention relates to a method for rapid determination of lowest cost wavelength routes through a photonic network based on pre-validated paths. Spec., Title.

Exemplary Claim

Claim 13, reproduced below, is representative of the subject matter on appeal (*emphases* added to contested limitations):

13. A method of configuring an optical network, the method comprising:

designing a set of two or more different candidate configurations of network resources in at least a portion of the network;

for each candidate configuration, *a first network node computing a plurality of validated paths* extending between respective pairs of wavelength termination points and having requisite physical resources to carry optical signal traffic between its pair of wavelength termination points, and

generating a respective graph of the candidate configuration, wherein an edge of the graph corresponds with a respective validated path, and a vertex of the of the graph corresponds with at least one wavelength termination point, wherein the requisite physical resources include at least bandwidth, wavelength channel availability and signal reach;

a second network node analysing each graph to identify a best one of the candidate configurations; and

² Our decision relies upon Appellants' Appeal Brief ("App. Br.," filed Jan. 12, 2015); Reply Brief ("Reply Br.," filed July 27, 2015); Examiner's Answer ("Ans.," mailed May 29, 2015); Final Office Action ("Final Act.," mailed Sept. 11, 2014); and the original Specification ("Spec.," filed Feb. 4, 2010).

the second network node provisioning resources of the optical network in accordance with the identified best candidate configuration.

Prior Art

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

| | | |
|---|-----------------|---------------|
| Peeters et al. ("Peeters") | US 7,477,843 B1 | Jan. 13, 2009 |
| Zhang et al. ("Zhang") | US 7,020,394 B2 | Mar. 28, 2006 |
| Chen et al., <i>A Multipath Routing Mechanism in Optical Networks with Extremely High Bandwidth Requests</i> ; GLOBECOM 2009 Proceedings, IEEE Communications Society; 2009 (hereinafter "Chen"). | | |

Rejection on Appeal

Claims 13–17 and 19 stand rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Peeters, Chen, and Zhang.

CLAIM GROUPING

Based on Appellants' arguments (App. Br. 8–11), we decide the appeal of the obviousness rejection of claims 13–17 and 19 on the basis of representative claim 13.

ISSUE

Appellants argue (App. Br. 8–11; Reply Br. 2–5) the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) as being obvious over the combination of Peeters, Chen, and Zhang is in error. These contentions present us with the following issue:

Did the Examiner err in finding the cited prior art combination teaches or suggests a "method of configuring an optical network" that includes, *inter alia*, the steps of (1) "for each candidate configuration, a first network node computing a plurality of validated paths;" (2) "generating a respective graph of the candidate configuration;" and (3) "a second network node analysing each graph to identify a best one of the candidate configurations," as recited in claim 13?

ANALYSIS

In reaching this decision, we consider all evidence presented and all arguments actually made by Appellants. We do not consider arguments that Appellants could have made but chose not to make in the Briefs, and we deem any such arguments waived. 37 C.F.R. § 41.37(c)(1)(iv).

We disagree with Appellants' arguments with respect to claims 13–17 and 19, and we incorporate herein and adopt as our own: (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 in the Examiner's Answer in response to Appellants' arguments. We incorporate such findings, reasons, and rebuttals herein by reference unless otherwise noted. However, we highlight and address specific findings and arguments regarding claim 13 for emphasis as follows.

Appellants contend:

Peeters et al are entirely silent with reference to the generation of network graphs, or the analysis of such graphs for any purpose whatsoever, much less to select a "best one" of a plurality of candidate network configurations as required by claim 13. In that respect, it will be noted that the term "graph" does not appear anywhere in Peeters et al.

App. Br. 8.

Appellants further contend a person of ordinary skill in the art would recognize that Peeters does not imply or otherwise make graph generation necessary, and that "the computation of '**a virtual path which is optically viable**' as proposed by the examiner, can be performed in a wide variety of ways, none of which requires the computation of a graph." *Id.* Appellants summarize, "[s]ince Peeters . . . does not mention graphs, it follows that Peeters . . . cannot possibly teach or fairly suggest either 'generating a respective graph of the candidate configuration' or 'a second network node analyzing each graph to identify a best one of the candidate configurations', as argued by the examiner." App. Br. 9.

Appellants additionally contend:

Since only the most recently computed network configuration is usable it seems that the notion of "find[ing] the best network configuration for the new connection" is reduced to a trivial step of selecting the most recently computed configuration, and does not require any analysis of graphs (or anything else for that matter) related to any other (previously computed) configurations.

App. Br. 10. From this, Appellants conclude the combination of Peeters, Chen, and Zhang fails to teach or suggest the contested limitations of claim 13.

In response, the Examiner finds:

Figures 10 and 11 of Peeters et al. discloses the pictorial representation of the network nodes in a routing area and the physical links (160, 162, 164, 166, 168, 170 and 172) and virtual links (180, 182, 184, 186, 188 and 192) between the different network nodes and therefore the graphical representation of the optical network containing plurality of

optical node connected by optically viable links. Furthermore once the optically viable paths are selected by the optical viability engine 102; See figure 6, the routing algorithm further selects the fault diverse paths out of the optically viable links based on the shared risk link information associated with each virtual link and hence reading on the limitations of analyzing the graphs to identify best one of the candidate configuration.

Ans. 4–5.

We first note, a reference does not have to satisfy an *ipsissimis verbis* test to disclose a claimed element. See *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009). We find the recited "generating a respective graph of the candidate configuration" reads on Peeters "schematic diagrams."

As cited by the Examiner, we find Peeters teaches:

FIGS.10 and 11 are schematic diagrams showing nodes of a routing area and the physical and "virtual" links between them. Both figures are simplified for the purposes of illustration. FIG. 10 shows a routing area 140 containing a plurality of XCs 142, 144, 146, 148, 150, 152, 154 and 156 as well as others. Linking various of these XCs are physical links 160, 162, 164, 166, 168, 170 and 172 (represented by solid straight lines). FIG. 11 shows the same routing area 140 with the same XCs and physical links (represented by dotted straight lines), as well as "virtual" links (represented by solid curved lines) from XC 142 to XCs 144, 146, 148, 150, 152, 154 and 156. These "virtual" links are illustrative of optically viable possible paths from XC 142. When creating a set of optically viable paths in a routing area, possible paths from s other than XC 142 will also be checked for optical viability. However, for clarity, only those optically viable paths from XC 142 are illustrated as "virtual" links.

Peeters col. 11, ll. 28–44.

In further support of the Examiner's findings regarding graphical depiction taught in Peeters, and Appellants' argument that the reference does

Figures 10 and 11 are schematic diagrams showing nodes of a routing area and the physical and "virtual" links between them.

Thus, we agree with the Examiner that Peeters teaches or at least suggests the "generating a respective graph of the candidate configuration," and "a first network node comput[es] a plurality of validated paths" limitations, as recited in claim 13.

On this record, we are not persuaded by Appellants' arguments that the Examiner's finding "reveals a clear error, in that 'graphical representations' (i.e. pictures) of the network configuration are considered to be equivalent to (or at least imply) a graph of the network configuration." Reply Br. 2. In particular, we note Appellants have attempted to enter new, unpersuasive evidence into the record (by citation to Wikipedia) regarding how a person with skill in the art would consider "graph theory."³

Appellants further argue,

It will be easily seen that while a graph can be represented pictorially in the manner shown in Peeters FIGs. 10 and 11, the mere existence of such pictures does not require or imply the generation of graphs, for at least the reason that a

³ Appellants attempt to enter new evidence, and not dictionary definitions, into the record regarding a desired interpretation of "graphical representations," (i.e., pictures) of the network configuration. *See* Reply Br. 2–3. *Cf.* 37 C.F.R. § 41.30 ("Evidence means something (including testimony, documents and tangible objects) that tends to prove or disprove the existence of an alleged fact, except that for the purpose of this subpart Evidence does not include dictionaries, which may be cited before the Board."); *and see* 37 C.F.R. § 41.41(b)(2) ("A reply brief shall not include any new or non-admitted amendment, or any new or non-admitted affidavit or other Evidence. See § 1.116 of this title for amendments, affidavits or other evidence filed after final action but before or on the same date of filing an appeal and § 41.33 for amendments, affidavits or other Evidence filed after the date of filing the appeal.").

network may be illustrated by means of pictures without generating a corresponding graph of the network.

Reply Br. 3. We are not persuaded by this argument because Peeters generation of schematic diagrams teach or at least suggest the generation of graphs.

As for the limitation, "a second network node analysing each graph to identify a best one of the candidate configurations," the Examiner finds:

[O]nce the optically viable paths are selected by the optical viability engine 102; See figure 6, the routing algorithm further selects the fault diverse paths out of the optically viable links based on the shared risk link information associated with each virtual link and hence reading on the limitations of analyzing the graphs to identify best one of the candidate configuration.

Ans. 5.

Because the Examiner rejects the claims as obvious over the combined teachings of Peeters, Chen, and Zhang, 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).

The Examiner relies upon Zhang in combination with Peeters and Chen because, "[e]ven though Peeters et al. discloses calculation of the multiple optical viable paths by the optical engine 102 of figure 6 and then selecting the best path out of the multiple viable paths based on the shared risk link information," Peeters "does not explicitly disclose two or more different network configurations of network resources in at least a portion of the network," a recitation or which Zhang was relied upon. *Id.*⁴

⁴ Appellants argue, "it seems that the notion [in Peeters] of 'find[ing] the best network configuration for the new connection' is reduced to a trivial

Accordingly, based upon the findings above, on this record, we are not persuaded of error in the Examiner's reliance on the combined teachings and suggestions of the cited prior art combination to teach or suggest the disputed limitations of claim 13, nor do we find error in the Examiner's resulting legal conclusion of obviousness. Therefore, we sustain the Examiner's obviousness rejection of independent claim 13, and grouped claims 14–17 and 19 which fall therewith. *See Claim Grouping, supra.*

REPLY BRIEF

To the extent Appellants may advance new arguments in the Reply Brief (Reply Br. 2–5) not in response to a shift in the Examiner's position in the Answer,⁵ we note arguments raised in a Reply Brief that were not raised in the Appeal Brief or are not responsive to arguments raised in the Examiner's Answer will not be considered except for good cause (*see* 37 C.F.R. § 41.41(b)(2)), which Appellants have not shown. We further note, no new or non-admitted affidavit or other evidence may be submitted in a Reply Brief. *See* 37 C.F.R. § 41.41.

step of selecting the most recently computed configuration, and does not require any analysis of graphs (or anything else for that matter) related to any other (previously computed) configurations." App. Br. 10. We find Appellants are arguing the references separately, particularly Peeters, when the rejection is for obviousness over the combination of Peeters, Chen, and Zhang. Thus, we find their arguments unpersuasive.

⁵ For example, see Reply Brief 2–3, setting forth, for the first time, a purported explanation of "graph theory" citing to Wikipedia.org (no date provided), and the assertion that "the mere existence of such pictures [in Peeters] does not require or imply the generation of graphs, for at least the reason that a network may be illustrated by means of pictures without generating a corresponding graph of the network." Reply Br. 3; *and see* n.3, *supra*.

CONCLUSION⁶

The Examiner did not err with respect to the obviousness rejection of claims 13–17 and 19 under 35 U.S.C. § 103(a) over the cited prior art combination of record, and we sustain the rejection.

DECISION

We affirm the Examiner's decision rejecting claims 13–17 and 19.

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

⁶ In the event of further prosecution, we invite the Examiner's attention to dependent hybrid claims 17 and 19, to ensure compliance with the provisions of 35 U.S.C. § 112, fourth paragraph. *See Pfizer, Inc. v. Ranbaxy Labs. Ltd.*, 457 F.3d 1284, 1291 (Fed. Cir. 2006) (dependent claim held invalid under 35 U.S.C. § 112, fourth paragraph for failing to "specify a further limitation of the subject matter" of the claim to which it referred because it was completely outside the scope of that claim). While the Board is authorized to reject claims under 37 C.F.R. § 41.50(b), no inference should be drawn when the Board elects not to do so. *See Manual of Patent Examining Procedure (MPEP) § 1213.02.*