

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS J. CASWELL

Appeal 2008-0987
Application 10/405,674
Technology Center 2100

Decided: August 29, 2008

Before HOWARD B. BLANKENSHIP, ST. JOHN COURTENAY III, and
CAROLYN D. THOMAS, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1, 3-8, 10-15, 17-21, and 23-28. Claims 2, 9, 16, and 22 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

THE INVENTION

The disclosed invention relates generally to a computer system. More particularly, Appellant's invention relates to programmatically creating an index for a directory database, such as a Lightweight Directory Access Protocol (LDAP) directory (Spec. 1).

Independent claim 1 is illustrative:

1. A method of creating an efficient index for a directory, comprising steps of:

obtaining an index for a directory comprising a plurality of entries, the index structured as a first multi-level hierarchical tree comprising a plurality of nodes, a topmost one of the levels comprising a single root node and at least one remaining one of the levels comprising more than one of the nodes, each of the nodes specifying an attribute type and a corresponding attribute value, such that, for each of a plurality of leaf nodes of the first tree, a path from the leaf node to the root node corresponds to one of the entries in the directory, the attribute type and corresponding attribute value specified in each of nodes in the path representing attribute types and corresponding attribute values of the corresponding entry in the directory; and

programmatically creating a compressed version of the index, further comprising the steps of:

programmatically determining, for each of the levels of the first tree, each unique one of the attribute types specified in the nodes at that level; and

programmatically building, as the compressed version, a second multi-level hierarchical tree, wherein:

hierarchical relationships among the levels of the first tree are preserved in the second tree;

each of the multiple levels of the second tree comprises, for each of the programmatically-determined unique attribute types in a corresponding one of the levels of the first tree, only a single node in the second tree, the single node specifying the unique attribute type; and

the attribute values specified in the nodes of the first tree are omitted from the nodes of the second tree.

THE REFERENCES

The Examiner relies upon the following as evidence in support of the rejections:

Myllymaki	US 2002/0188598 A1	Dec. 12, 2002 (filed Apr. 12, 2001)
Kiessig	US 2005/0027757 A1	Feb. 3, 2005 (filed Aug. 1, 2003)
Caswell	US 2004/0199485 A1	Oct. 7, 2004 (filed Apr. 1, 2003)

Applicant's Admitted Prior Art (AAPA)

THE REJECTIONS

1. Claims 1, 3, 4, 7, 8, 10, 11, 14, 15, 17, 18, 21, and 23-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Myllymaki in view of AAPA.
2. Claims 5, 6, 12, 13, 19, 20, 27, and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Myllymaki in view of Kiessig.

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, “[w]hat matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1742 (2007). To be nonobvious, an improvement must be “more than the predictable use of prior art elements according to their established functions.” *Id.* at 1740.

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner’s position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). Therefore, we look to Appellant’s Briefs to show error in the proffered *prima facie* case.

FINDINGS OF FACT

The following findings of fact (FF) are supported by a preponderance of the evidence.

Myllymaki

1. Myllymaki is directed to building a comprehensive database of a configurable entity, while removing redundancies. (Abst.)
2. Myllymaki teaches a MERGE feature that determines how two matching nodes are to be integrated. In addition, the MERGE feature specifies what is to be done to the output when two tree nodes match. (para. [0016]).

3. Myllymaki teaches a MATCH feature that is used to describe how and when two nodes match or overlap. (*See* para. [0017]).
4. Myllymaki teaches a UNIQUE functionality that specifies that duplicates potentially generated by MERGE nodes are to be removed. (para. [0018]).

ANALYSIS

Claims 1, 8, and 15

We consider the Examiner’s rejection of independent claims 1, 8, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Myllymaki in view of AAPA.

Appellant contends that the cited references, most notably Myllymaki, fail to disclose or suggest the limitations of “each of the multiple levels of the second tree . . . comprises, for each of the programmatically determined unique attribute types in a corresponding one of the levels of the first . . . tree, only a single node in the second tree, the single node specifying the unique attribute type.” (App. Br. 13). More specifically, Appellant contends that instead of having only a single node for each of the unique attribute types, Myllymaki (Figs. 5 and 8) actually shows multiple nodes of the same attribute type (App. Br. 13, para. 25).

The Examiner contends that Myllymaki teaches the MATCH feature includes an attribute that specifies the matching condition, and the UNIQUE functionality results in the removal of duplicate values (see FF 3-4). Therefore, according to the Examiner, the aforementioned limitations are obvious over the teachings of Myllymaki because the MATCH and UNIQUE functions teach that the attribute type can be selected as a

matching feature. Thus, the Examiner’s proffers that the first tree can be merged and pruned based on the attribute type such that the attribute values specified in the first tree are not included. (Ans. 12-13).

We disagree for the reasons discussed *infra*.

Claim Construction

“[T]he PTO gives claims their ‘broadest reasonable interpretation.’”
In re Bigio, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)).

In the present case, we consider the language of the claim as a whole and we note that the claimed “attribute values” recited in line 22 of claim 1 derive their antecedent basis from lines 5-6 of claim 1. Lines 5-6 of claim 1 specifically recite “*each of the nodes* specifying an attribute type *and* a corresponding *attribute value . . .*” (Claim 1, emphasis added). Therefore, the language of the claim requires that *all* of the nodes (i.e., each node) in the first tree must have an attribute type *and* a corresponding *attribute value*. Thus, we broadly but reasonably interpret the limitation “the attribute values specified in the nodes of the first tree are omitted from the nodes of the second tree” (App. Br. 30, claim 1, ll. 22-23) to require that *all of the attribute values of the first tree are omitted from the nodes of the second tree.* (Claim 1, emphasis added).

After considering the evidence before us, we concur with Appellant’s observation that Myllymaki teaches that the result of the MATCH and UNIQUE functions is that the non-redundant attribute values *will not* be pruned from the tree (*see* Reply Br. 3). Thus, in Myllymaki all of the attribute values of the first tree are not omitted.

Given the claim construction discussed above, and for the reasons discussed by Appellant in the Briefs, we agree that Myllymaki does not teach and/or reasonably suggest that *all* of the attribute values of the first tree are omitted from the nodes of the second tree. Moreover, the Examiner has not demonstrated that AAPA cures the deficiencies of Myllymaki. We note that the aforementioned limitations of claim 1 are also recited in each of independent claims 8 and 15.

Because we conclude that Appellant has met his burden of showing error in the Examiner's *prima facie* case of obviousness by a preponderance of the evidence, we reverse the Examiner's rejection of independent claims 1, 8, and 15 as being unpatentable over Myllymaki in view of AAPA.

If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988). Therefore, because we have reversed the Examiner's rejection of independent claims 1, 8, and 15, we also reverse the Examiner's rejections of each dependent claim on appeal.¹

¹ As discussed above, claims 1, 8, and 15 were rejected as being unpatentable over Myllymaki and AAPA, wherein AAPA was relied upon by the Examiner to cure the deficiencies of Myllymaki. However, in the Final Rejection and the Examiner's Answer, dependent claims 5, 6, 12, 13, 19, 20, 27, and 28 were rejected by the Examiner as being unpatentable over Myllymaki and Kiessig only (see Ans. 9-10). Although the omission of AAPA was not argued by Appellant, we nevertheless conclude that the Examiner's rejection of dependent claims 5, 6, 12, 13, 19, 20, 27, and 28 is facially improper under 35 U.S.C. § 103(a) because each dependent claim incorporates by reference all the limitations of the claims from which it depends. See 35 U.S.C. § 112, 4th paragraph ("A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers."). In addition, the Examiner has not explained how

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CONCLUSIONS OF LAW

Based on the findings of facts and analysis above, we conclude that Appellant has shown the Examiner erred in rejecting claims 1, 3-8, 10-15, 17-21, and 23-28 under 35 U.S.C. § 103(a) for obviousness.

DECISION

The decision of the Examiner rejecting claims 1, 3-8, 10-15, 17-21, and 23-28 under 35 U.S.C. § 103 is reversed.

REVERSED

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Kiessig teaches the limitations that were previously relied upon as being taught by AAPA.