UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARGARET A. BERNAL, KARELLE L. CORNWELL, HSUIYING Y. CHENG, YAO-CHING S. CHEN, CHRISTOPHER J. CRONE, FEN-LING LIN, JAMES W. PICKEL, YUMI K. TSUJI, and JULIE A. WATTS

Appeal 2008-0945
Application 10/744,633
Technology Center 2100

Decided: September 29, 2008

Before JAMES D. THOMAS, ALLEN R. MACDONALD, and THU A. DANG, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF CASE

Appellants appeal the Examiner's final rejection of claims 1, 2, 5-11, and 14-21 under 35 U.S.C. § 134 (2002). We have jurisdiction under 35 U.S.C. § 6(b)(2002).

A. INVENTION

According to Appellants, the invention relates to relational database management systems, and it particularly relates to the update and retrieval of data from relational databases by the management systems (Spec. 1, ll. 2-4).

B. ILLUSTRATIVE CLAIM

Claim 1 is exemplary and is reproduced below:

1. A method for generating an execution plan for updating and retrieving data from a database in a single process, the method comprising:

receiving a statement by a server to both update a database with a first set of data and retrieve a second set of data from the database;

parsing the statement into a first portion corresponding to the update of the database with the first set of data and a second portion corresponding to the retrieval of the second set of data from the database;

building a first execution plan for the first portion of the statement to update the database with the first set of data;

building a second execution plan for the second portion of the statement to retrieve the second set of data from the database; and

building a single execution plan comprising a combination of both the first execution plan and the second execution plan.

C. REJECTIONS

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

Klein	US 2002/0038313 A1	Mar. 28, 2002
Ziauddin	US 6,581,055 B1	Jun. 17, 2003

Claims 1, 2, 5-11, and 14-21 stand rejected under 35 U.S.C. § 103(a) over the teachings of Klein and Ziauddin.

We affirm.

II. ISSUES

The issues are whether Appellants have shown that the Examiner erred in finding that claims 1, 2, 5-11, and 14-21 are unpatentable under 35 U.S.C. § 103(a) over the teachings of Klein and Ziauddin, and in particular, that one of ordinary skill in the art would have combined the teachings of Klein and Ziauddin.

III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

Klein

1. In Klein, in a relational database environment, an application program 50 submits a query to an SQL (structured query language) compiler

52. The SQL compiler converts the query into an SQL plan, and the compiled SQL plan stores and/or retrieves data from a database 56 (p. 3, paras. [0042]-[0043]).

2. The delete and update features of Klein provide a destructive read capability and a "read modify write" capability in conjunction with streaming access to a database table. These features allow an application to combine delete, update and read operations into a single SQL statement (p. 9, para. [0149]).

Ziauddin

3. Ziauddin discloses optimizing a plan for executing a data query such as a query expressed in SQL for retrieving or accessing data in a database. From expanded query and subqueries, one or more query executing plans and/or subplans may then be generated and subplans may be combined into one master plan that is executed when the query is invoked (col. 2, ll. 6-51). Query execution subplans may be generated for each form and an overall execution plan assembled to combine the subplans (col. 3, ll. 43-45). An optimizer combines the subplans into one overall or master execution plan to be implemented when the query is actually invoked by the user (col. 9, ll. 13-15).

IV. PRINCIPLES OF LAW

Appellants have 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)).

> Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007).

The Supreme Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR,* 127 S. Ct. at 1739. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 1740. The Court noted that "[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 1742.

The Federal Circuit recently recognized that "[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (citing *KSR*, 127 S. Ct. 1727, 1739 (2007)). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* at 1162 (citing *KSR*, 127 S. Ct. at 1740-41).

V. ANALYSIS

35 U.S.C. § 103(a)

Appellants do not provide separate arguments with respect to the rejection of claims 1, 2, 5-11, and 14-21. Therefore, we select independent claim 1 as being representative of the cited claims. 37 C.F.R. § 41.37(c)(1)(vii).

Appellants argue that "one of skill in the art would not have been motivated to disassemble the queries of Klein into multiple sub-queries from which multiple sub-plans can be generated, as taught in Ziauddin" (App. Br. 7). Appellants add "Ziauddin does not address SQL statements for updating a database, as required by claim 1, and addressed by Klein" (App.

Br. 7; Reply Br. 3), and thus, one of skill in the art would not have been motivated to combine the teachings. Accordingly, the issue is whether one of ordinary skill in the art would have combined the teachings of Klein and Ziauddin.

The Examiner's findings regarding Klein and Ziauddin beginning at page 3 of the Answer meet all of the limitations required by the claims on appeal. Furthermore, the Examiner's reasoning of combinability beginning at page 5 of the Answer and the Examiner's corresponding responsive arguments beginning at page 9 of the Answer comply with the requirements of the above-noted case law. We agree with the Examiner's observations that it would have been obvious to an artisan to combine the teachings of Klein and Ziauddin, to "enable a method of optimizing database queries" (Ans. 5).

Klein discloses converting a query into an SQL plan, which stores and/or retrieves data from a database, and combining delete, update and read operations into a single SQL statement (FF 1-2). Ziauddin discloses optimizing a plan for executing a data query such as a query expressed in SQL for retrieving or accessing data in a database, wherein one or more query executing plans and/or subplans may then be generated and subplans may be combined into one master plan that is executed when the query is invoked (FF 3). Both Klein and Ziauddin disclose methods for optimizing database queries, including queries expressed in SQL (FF 1-3). Incorporating Ziauddin's parsing of query executing plans and/or subplans

into Klein's update and retrieval operations does not change the function of either Klein's update and retrieval operations or Ziauddin's parsing operations. Rather, Klein's update and retrieval operations are merely extended to include a parsed SQL statement with a first and second portions corresponding to the operations. The combination yields an expected result of parsing a query statement into a first portion corresponding to the update of the database with the first set of data and a second portion corresponding to the retrieval of the second set of data from the database, thereby obtaining the desired optimized database queries.

Appellants have provided no evidence that incorporating Ziauddin's parsing of query executing plans and/or subplans into Klein's update and retrieval operations was "uniquely challenging or difficult for one of ordinary skill in the art," *Leapfrog*, 485 F.3d at 1162, nor have Appellants presented evidence that this incorporation yielded more than expected results. Rather, Appellants' invention is simply an arrangement of the known teaching of parsing a query statement into multiple portions with the known teaching of update and retrieval operations, yielding the expected result of parsing a query statement into a first portion corresponding to the update of the database with the first set of data and a second portion corresponding to the retrieval of the second set of data from the database. "[W]hen a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR,*

127 S. Ct. at 1740 (citing *Sakraida v. AG Pro, Inc.*, 425 U. S. 273, 282 (1976)).

Though the Appellants argue that "the Examiner can satisfy the burden of making a *prima facie* case of obviousness 'only by showing some objective teaching'" and that "evidence of teaching or suggestion is 'essential' to avoid the error of hindsight" (App. Br. 8), Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR,* 127 S. Ct. at 1734. Obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case, and the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. *Leapfrog*, 485 F.3d at 1161.

Accordingly, we conclude that the Appellants have not shown that the Examiner erred in finding that one of ordinary skill in the art would have combined the teachings of Klein and Ziauddin. We thus conclude that Appellants have not shown that the Examiner erred in rejecting claim 1, and claims 2, 5-11, and 14-21 falling with claim 1, under 35 U.S.C. § 103(a).

CONCLUSIONS OF LAW

(1) Appellants have not shown that the Examiner erred in finding claims 1, 2, 5-11, and 14-21 are unpatentable over the teachings of Klein and Ziauddin.

(2) Claims 1, 2, 5-11, and 14-21 are not patentable.

DECISION

The Examiner's rejection of claims 1, 2, 5-11, and 14-21 under 35 U.S.C. § 103(a) is affirmed.

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

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