NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

SOUND VIEW INNOVATIONS, LLC,
Appellant

v.

HULU, LLC,
Appellee

UNITED STATES,
Intervenor

2019-1865, 2019-1867

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2018-00017, IPR2018-00366.

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SOUND VIEW INNOVATIONS, LLC,
Appellant

v.

UNIFIED PATENTS, LLC, F/K/A UNIFIED PATENTS, INC.,
Appellee

UNITED STATES,
Intervenor

2019-1866

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2018-00096.

Decided: July 2, 2020

ALAN KELLMAN, Desmarais LLP, New York, NY, for appellant. Also represented by KEVIN KENT MCNISH.

MARK CHRISTOPHER FLEMING, Wilmer Cutler Pickering Hale and Dorr LLP, Boston, MA, for appellee Hulu, LLC. Also represented by ELIZABETH BEWLEY; DAVID LANGDON CAVANAUGH, Washington, DC.

PETER J. AYERS, Law Office of Peter J. Ayers, Austin, TX, for appellee Unified Patents, LLC. Also represented by JONATHAN RUDOLPH KOMINEK STROUD, ROSHAN MANSINGHANI, Unified Patents, LLC, Washington, DC.

DENNIS FAN, Appellate Staff, Civil Division, United States Department of Justice, Washington, DC, for intervenor. Also represented by SCOTT R. MCINTOSH, JOSEPH H. HUNT; THOMAS W. KRAUSE, FARHEENA YASMEEN RASHEED, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA.

Before LOURIE, DYK, and CHEN, *Circuit Judges.*

DYK, *Circuit Judge*.

Sound View Innovations, LLC ("Sound View") appeals the Patent Trial and Appeal Board ("Board") decisions holding claims 1–3 and 8–10 of U.S. Patent No. 6,125,371 ("the '371 patent") unpatentable as obvious. We *affirm* as to IPR2018-00096 and *dismiss as moot* as to IPR2018-00017 and IPR2018-00366.

BACKGROUND

The '371 patent, owned by Sound View, concerns database management systems that monitor and optimize the efficiency of a database. Database systems typically include a database manager that manages interactions between application tasks and the database. These interactions involve "transactions" (e.g., accesses, retrievals, modifications, indices, copies, etc.) directed to information in the database. "Read-only transactions" do not modify the database while "update transactions" do. Different transactions can conflict with each other if they attempt to access the same data record at the same time. To avoid a conflict, for example, a "read-only transaction" that requires a simple view of a data record may have to wait until the completion of an "update transaction" that takes time to modify that data record. "Contemporary control methodologies reduce conflicts between update and read-only transactions" by giving the latter "old" views of certain data records in the database. '371 patent, col. 2, ll. 23–27. "This is commonly referred to as multi-versioning, in which [database managers] retain or archive multiple versions of recently updated data records for use by read-only transactions." *Id.* at col. 2, ll. 27–30.

In this context, the '371 patent is directed to reclaiming memory space that is no longer used in multi-versioning databases. The '371 patent states that there was "a need . . . in the art for an efficient means of reclaiming main memory space no longer used by such multi-version techniques." *Id.* at col. 2, ll. 48–50. It discloses that the

memory space can be reclaimed by "aging" (deleting) the old version when "a given data record version is no longer needed by current (or future) transactions." *Id.* at col. 4, ll. 32–35.

Independent claim 1 of the '371 patent recites:

1. A processing system for use with a database of data records, said database stored in a memory, comprising:

> a time stamping controller that assigns a time stamp to transactions to be performed on said database;

> a versioning controller that creates multiple versions of ones of said data records affected by said transactions that are update transactions; and

> an aging controller that <u>monitors a measurable characteristic of said memory and deletes ones of said multiple versions of said ones of said data records in response to said time stamp and said measurable characteristic thereby to increase a capacity of said memory</u>.

Id. at col. 9, ll. 10–22 (emphasis added). Independent claim 8 is a method claim that recites similar limitations.[1] These two independent claims are directed to the idea of monitoring a measurable characteristic of the memory that stores data records and deleting certain versions of data records in the database to increase the capacity of the memory.

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[1]   The '371 patent has three independent claims: claims 1, 8, and 15. Independent claim 15 is not a subject of this appeal.

Hulu, LLC and Unified Patents, LLC (collectively, "appellees") filed three petitions for inter partes review ("IPR") of the '371 patent, challenging claims 1–3 and 8–10 as obvious. In its final written decisions, the Board held claims 1–3 and 8–10 unpatentable as obvious in light of prior art. Sound View now appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

"We review the Board's factual findings for substantial evidence and review its legal conclusions de novo." *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015). We thus review de novo the Board's interpretations of the patent claims and determinations based on evidence intrinsic to the patent. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015).

I

In IPR2018-00096, the Board held claims 1–3 and 8–10 obvious in view of Philip A. Bernstein et al., *Concurrency Control and Recovery in Database System*s (1987) ("Bernstein"). We focus our attention on this decision, which covered all claims on appeal.[2]

Bernstein is a textbook directed to database systems that create multiple versions of a "data item" and use timestamps to label each version. Bernstein discloses that "[a]n obvious cost of maintaining multiple versions is storage space" and thus "versions must periodically be purged or archived" to "control this storage requirement." J.A. 1522–23.

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[2]   In IPR2018-00096, the Board also held those claims obvious in view of Bernstein and Rubin (U.S. Patent No. 5,155,842). We need not reach this alternative ground because we affirm the Board's decision based on Bernstein alone.

The Board found that Bernstein taught each limitation in claims 1–3 and 8–10. On appeal, Sound View challenges the Board's finding with respect to only the "monitor[ing] a measurable characteristic of said memory" limitation recited in the claims. Sound View argues that Bernstein does not disclose this "monitoring" limitation. We disagree.

Bernstein discloses that when the data manager "run[s] out of space for storing versions" of a data item then "old versions . . . must be deleted." J.A. 1533. The Board thus concluded that Bernstein teaches "monitoring a measurable characteristic of the memory," because whether the storage "run[s] out of space" is "a measure of the 'current utilization' of memory," and Bernstein taught "determining that space in [the] memory has 'run out.'" J.A. 60. We agree with the Board's conclusion that "[a] determination that memory is full is a determination as to the current utilization of the memory" and thus Bernstein satisfied the "monitoring" limitation. J.A. 59–60.

Even if Bernstein determined that memory space has run out based on error codes returned from writing or memory allocation commands, contrary to Sound View's assertion, this itself constitutes techniques for "monitor[ing] a measurable characteristic of [the] memory" to determine that the memory space has run out. *See* '371 patent, col. 9, ll. 17–18, 52.

II

Sound View argues in the alternative that the claims would not have been obvious for lack of a reasonable expectation of success. The Board found that "a person of ordinary skill in the art would have had a reasonable expectation of success in arriving at the invention recited in claims 1 and 8 based on Bernstein alone." J.A. 72. We agree with the Board.

Bernstein explicitly teaches deleting "old versions." Specifically, Bernstein discloses a method where "all

versions are kept in a linked list, from newest to oldest," J.A. 1541, and that "versions [are] deleted from the oldest to newest," J.A. 1533. Unified Patents, LLC's expert, Dr. Paul Franzon, testified that Bernstein taught "a system that deletes old versions," J.A. 3789, by identifying those with the "smallest timestamp," J.A. 3803 (emphasis removed), and an algorithm to achieve this. The Board credited his testimony that "a person of ordinary skill in the art would not have required disclosure any more detailed than the disclosures in Bernstein to apply the prior art teachings." J.A. 73. There is no evidence that Bernstein's method of deleting old versions was impracticable or even inoperable for its purpose.

Nonetheless, Sound View suggests that Bernstein does not disclose using an algorithm based on a particular approach that would make it more efficient to identify and delete old versions of a data record, which Sound View refers to as a "practical garbage collection algorithm." *See* Appellant's Br. 17, 56. However, no such feature is required by the claims on appeal. This case is different from *In re Rinehart*, 531 F.2d 1048 (C.C.P.A. 1976) because there the claims explicitly recited "commercial scale production" of polyesters utilizing "commercial scale quantities" of ethylene glycol and thus evidence challenging the commercial scalability of the prior art combination was relevant. *Id.* at 1051–53.

Since the claims here did not require a certain level of practicality, the Board did not err in finding a "reasonable expectation of success . . . [in] meet[ing] the limitations of the claimed invention." *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016).[3] The Board in determining a reasonable expectation

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[3]   The impracticality of the prior art combination may be a factor in determining whether there would have been a motivation to combine. *See, e.g.*, *Intelligent Bio-Sys.*, 821

of success properly limited the inquiry to the claims as written. *Id.* ("[F]ailure to consider the appropriate scope of the . . . patent's *claimed invention* in evaluating the reasonable expectation of success . . . constitutes a legal error . . . ." (first, second, and third alterations in original) (quoting *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 966 (Fed. Cir. 2014))); *BTG Int'l Ltd. v. Amneal Pharm. LLC*, 923 F.3d 1063, 1075 (Fed. Cir. 2019) (rejecting the patent owner's argument that a reasonable expectation of success must be based on the likelihood of "survival advantage" of certain steroids, a feature not required by the claims).

III

Sound View asserts that IPR is "unconstitutional as applied to the '371 patent" for violating the Fifth Amendment's Due Process Clause, because the patent issued in 2000 before the IPR procedure was enacted under the American Invents Act ("AIA") in 2011. Appellant's Br. 57. However, we have consistently held that "the application of IPR to pre-AIA patents does not violate the Constitution." *OSI Pharm., LLC v. Apotex Inc.*, 939 F.3d 1375, 1386

F.3d at 1364–65, 1367–68 (holding that the efficiency required in the prior art was relevant to a finding of motivation to combine as opposed to a reasonable expectation of success); *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004) (holding that "desirability" is relevant to whether there would have been a motivation to combine); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368–69 (Fed. Cir. 2006) (collecting cases holding that there was a motivation to combine because the prior art combination was "more efficient"). *Micro Chemical, Inc. v. Great Plains Chemical Co.*, 103 F.3d 1538 (Fed. Cir. 1997) also involved the issue of a motivation to combine. *Id.* at 1546–47. Sound View does not raise an impracticality argument with respect to a motivation to combine.

(Fed. Cir. 2019); *Arthrex, Inc. v. Smith & Nephew, Inc.*, 935 F.3d 1319, 1331–32 (Fed. Cir. 2019) ("[T]he differences between IPRs and the district court and Patent Office proceedings that existed prior to the AIA are not so significant as to 'create a constitutional issue' when IPR is applied to pre-AIA patents." (quoting *Celgene Corp. v. Peter*, 931 F.3d 1342, 1361–62 (Fed. Cir. 2019))); *Enzo Life Scis., Inc. v. Becton, Dickinson & Co.*, 780 F. App'x 903, 911 (Fed. Cir. 2019).[4]

CONCLUSION

For the foregoing reasons, we affirm the Board's decision in IPR2018-00096. Having held that all claims on appeal are invalid, we dismiss the appeals in IPR2018-00017 and IPR2018-00366 as moot.

AFFIRMED AS TO NO. 2019-1866

DISMISSED AS MOOT AS TO NO. 2019-1865 AND NO. 2019-1867

COSTS

Costs to the appellees.

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[4]   *See also Intellectual Ventures II LLC v. FedEx Corp.*, 787 F. App'x 755 (Fed. Cir. 2019) (summary affirmance); *Collabo Innovations, Inc. v. Sony Corp.*, 778 F. App'x 954, 961 (Fed. Cir. 2019).