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EXAMINER

VERBRUGGE, KEVIN

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* IN-SIK RYU, JAE-SUNG LEE, SE-WOOK NA,  
and BYUNG-WOOK KIM<sup>1</sup>

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Appeal 2015-005547  
Application 12/538,286  
Technology Center 2100

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Before ALLEN R. MacDONALD, NABEEL U. KHAN, and  
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CUTITTA, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 2–8, 10–14, 17–19, 24, 27, 28, 30, 31, and 35–39.<sup>2</sup> Claims 27, 31, and 36 are independent. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.<sup>3</sup>

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<sup>1</sup> According to Appellants, the real party in interest is Seagate Technology LLC. *See* Appeal Br. 1.

<sup>2</sup> Claims 1, 9, 15, 16, 20–23, 25, 26, 29, and 32–34 have been cancelled and claims 40–49 have been withdrawn.

<sup>3</sup> Throughout this Opinion, we refer to: (1) Appellants' Specification filed Aug. 10, 2009 (Spec.); (2) the Final Office Action (Final Act.) mailed May 1, 2014; (3) the Appeal Brief (Appeal Br.) filed Jan 2, 2015; (4) the Examiner's Answer (Ans.) mailed March 4, 2015; and (5) the Reply Brief (Reply Br.) filed May 1, 2015.

## BACKGROUND

According to Appellants, the application relates to assigning logical block addresses in a hybrid data storage apparatus having a plurality of storage apparatuses. Spec. 1. Claim 27 is illustrative and is reproduced below with disputed limitation(s) emphasized:

27. A memory device storing instructions that, when executed by a computer, performs a method comprising:

searching and detecting at least one of a first data storage apparatus and one or more second data storage apparatuses included in a data storage device when a set condition occurs;

assigning a first set of logic block addresses to the first data storage apparatus;

assigning a second set of logic block addresses to the one or more second data storage apparatuses, wherein the first data storage apparatus and the one or more second data storage apparatuses are accessed as a sequentially-addressed single storage apparatus;

copying a system file stored in a first system file area of the first data storage apparatus into a specific area of the one or more second data storage apparatuses as back-up data; and

*copying the system file from the specific area to a second system file area of the one or more second data storage apparatuses when the system file is not detected in the first data storage apparatus.*

## REFERENCES

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

Nagafune <sup>4</sup>	Japanese Publication	Nov. 8, 1994
	No. 06-314177	

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<sup>4</sup> Nagafune is in Japanese. We shall follow the Examiner and Appellants by referring to a translation by FLS, Incorporated that was made of record in this appeal on Aug. 21, 2013.

### REJECTION

Claims 2–8, 10–14, 17–19, 24, 27, 28, 30, 31, and 35–39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagafune and Kon. Final Act. 3.

Our review in this appeal is limited only to the above rejection and issues raised by Appellants. We have not considered other possible issues that have not been raised by Appellants and which are, therefore, not before us. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2014).

### ISSUE

Did the Examiner err in finding that Nagafune and Kon teaches or suggests “copying the system file from the specific area to a second system file area of the one or more second data storage apparatuses when the system file is not detected in the first data storage apparatus,” as recited in claim 27?

### DISCUSSION

The Examiner relies upon Kon’s description of a hard drive backing up file access table (“FAT”) data to a flash memory to suggest *both* “copying a system file stored in a first system file area of the first data storage apparatus into a specific area of the one or more second data storage apparatuses as back-up data” and “copying the system file from the specific area to a second system file area of the one or more second data storage apparatuses when the system file is not detected in the first data storage

apparatus,” as recited in claim 27. Final Act. 5–6 (citing Kon col. 9, ll. 4–12). The Examiner’s rejection rationale states

it would have been obvious to one of ordinary skill in the art at the time the invention was made to copy a critical system file in one location in the flash memory to a second location in the flash memory once it was determined that the system file was not accessible in the hard disk. This would increase system reliability by making sure that there would always be two copies of the critical system file.

Final Act. 5.

Appellants contend the Examiner errs in the rejection because the cited combination fails to mention a second system file area as recited in claim 27 and “the assertion to store another copy in a memory [of Kon] does not by itself make it obvious to store the copy in either the first or second system file area.” Appeal Br. 9. Appellants further contend the “copying the system file from the specific area to a second system file area” features “are missing from the references and there is no objective evidence or articulated reason to make up for that.” *Id.* Still further, Appellants contend “[t]he combination of Nagafune and Kon fails to disclose or otherwise render obvious to one of skill in the art, using non-detection of a system file in the first data storage apparatus as the trigger for a second copying of the system file in the second data storage apparatus(es).” Reply Br. 3.

We agree with Appellants’ contention that the Examiner fails to demonstrate that the combination of Nagafune and Kon teaches or suggests “copying the system file from the specific area to a second system file area of the one or more second data storage apparatuses when the system file is not detected in the first data storage apparatus.” Appeal Br. 9; Reply Br. 3.

A patent is obvious “if 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.” 35 U.S.C. § 103(a) (2012). In reaching this conclusion, the Examiner must avoid “hindsight bias and must be cautious of arguments reliant upon ex post reasoning.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). In appropriate circumstances, a patent can be obvious in light of a single prior art reference or a combination of references, even if a limitation is missing from the reference(s), if it would have been obvious to modify the reference(s) to arrive at the patented invention. *See, e.g., Takeda Chem. Indus., Ltd. v. Alphapharm Pty, Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007); *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir. 2000); and *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009).

Here, we agree with Appellants’ characterization of the “copying the system file . . . to a second system file area” limitation as a missing limitation because the Examiner does not provide evidence in the record to indicate where the cited combination teaches the limitation. Instead, the Examiner indicates the missing limitation would have been obvious to one of ordinary skill in the art at the time the invention was made based on the disclosure of Kon. Final Act. 5–6. In essence, the Examiner finds that the missing limitation would have been either common knowledge or common sense to one of ordinary skill in the art.

The question here is whether the Examiner misused common knowledge or common sense to conclude that it would have been obvious to supply a missing limitation to arrive at the claimed invention. It is true that common sense and common knowledge have their proper place in the obviousness inquiry. For example, our reviewing court stated in *Perfect Web* that “[c]ommon sense has long been recognized to inform the analysis of obviousness if explained with sufficient reasoning.” *Perfect Web*, 587 F.3d at 1328. And “[i]n *KSR*, the Supreme Court criticized a rigid approach to determining obviousness based on the disclosures of individual prior-art references, with little recourse to the knowledge, creativity, and common sense that an ordinarily skilled artisan would have brought to bear when considering combinations or modifications.” *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (citing *KSR*, 550 U.S. at 415–22); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006). Thus, the Examiner may consider common sense, common wisdom, and common knowledge in analyzing obviousness.

Common sense, however, is typically invoked to provide a known motivation to combine, not to supply a missing claim limitation. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016) (citing *Dystar*, 464 F.3d at 1360). Invoking common sense to supply a limitation missing from the prior art is generally reserved to situations when the limitation in question is unusually simple and the technology particularly straightforward. *Perfect Web*, 587 F.3d at 1326.

Moreover, our reviewing court’s cases repeatedly warn that references to “common sense”—whether to supply a motivation to combine or a missing limitation—cannot be used as a wholesale substitute for reasoned analysis and evidentiary support, especially when dealing with a limitation missing from the prior art references specified. *See Arendi*, 832 F.3d at 1361. For example, in *Hear-Wear*, a case that also involved a missing limitation, our reviewing court stated that

the Board was correct to require record evidence to support an assertion that the structural features of claims 3 and 9 of the ’512 patent were known prior art elements. The patentability of claims 3 and 9 with the limitation ‘a plurality of prongs that provide a detachable mechanical and electrical connection’ presents *more than a peripheral issue*.

*K/S HIMPP v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1365 (Fed. Cir. 2014) (citing *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001) emphasis added).

Here, unlike in *Perfect Web*, we do not find that the secondary copying of the system file limitation in claim 27 is unusually simple and the technology particularly straightforward. *Perfect Web*, 587 F.3d at 1326. Also, the Examiner has failed to establish that the limitation in question merely presents a peripheral issue. *K/S HIMPP*, 751 F.3d at 1365. See also *Zurko*, 258 F.3d at 1386 (“[Board] expertise may provide sufficient support for conclusions as to peripheral issues”). Indeed, the missing limitation appears central to the objective of Appellants’ invention. Spec. ¶¶ 96–102. Additionally, we conclude the Examiner’s reliance on common knowledge is used as a substitute for reasoned analysis and evidentiary support because the Examiner fails to indicate any connection between the Kon reference and the secondary backup/copying of the limitation in question. For

example, the Examiner's rationale states "it would have been obvious . . . to copy a critical system file in one location in the flash memory to a second location in the flash memory once it was determined that the system file was not accessible in the hard disk" thereby increasing system reliability. Ans. 5 (emphasis added). The Examiner, however, fails to indicate where Kon discusses "determin[ing] that the system file was not accessible in the hard disk," which the Examiner could have relied upon to connect Kon to the missing limitation.

Because we agree with at least one of the dispositive arguments advanced by Appellants, we need not reach the merits of Appellants' other contentions.

Accordingly, we are constrained to reverse the Examiner's 35 U.S.C. § 103(a) rejection of claim 27.

We also are constrained to reverse the rejection of independent claims 31 and 36, which each recite commensurate limitations, and of dependent claims 2–8, 10–14, 17–19, 24, 28, 30, 35, and 37–39, which stand with their respective independent claims.

#### DECISION

We reverse the Examiner's decision rejecting claims 2–8, 10–14, 17–19, 24, 27, 28, 30, 31, and 35–39 under 35 U.S.C. § 103(a).

REVERSED