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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN M. BORKENHAGEN

Appeal 2015-006041
Application 12/959,482
Technology Center 2100

Before JON M. JURGOVAN, KARA L. SZPONDOWSKI, and
SHARON FENICK, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's
Final Rejection of claims 1–6 and 13–26, all of the claims currently pending.
We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM and designate our affirmance as NEW GROUNDS OF
REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

¹ Appellant identifies Lenovo Enterprise Solutions (Singapore) Pte. Ltd. as
the real party in interest. App. Br. 2.

STATEMENT OF THE CASE

Appellant's invention is directed to a memory management using both full hardware compression and hardware-assisted software compression.

Spec. 1. Claim 1, reproduced below with the disputed limitations in *italics*, is representative of the claimed subject matter:

1. A method of compressing data, the method comprising:

selecting a compression mode to compress the data from among a plurality of compression modes based on a source location of the data, wherein the plurality of compression modes includes:

a hardware compression mode configured to perform a first compression operation using a compression engine; and

a hardware-assisted software compression mode configured to perform a second compression operation using the compression engine; and

performing at least one of the first compression operation and the second compression operation according to the selected compression mode.

REJECTIONS

Claims 1–4, 13–15, 17, 18, and 20–25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Franklin (US 7,051,126 B1; issued May 23, 2006) and Williams et al. (US 2009/0055422 A1; published Feb. 26, 2009) (“Williams”). Final Act. 3–7.

Claims 5 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Franklin, Williams, and Dye et al. (US 7,190,284 B1; issued Mar. 13, 2007) (“Dye”). Final Act. 7–8.

Claims 6 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Franklin, Williams, and Worrell et al. (US 6,412,066 B2; issued June 25, 2002) (“Worrell”). Final Act. 8–9.

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Franklin, Williams, and Franaszek et al. (US 2008/0307188 A1; published Dec. 11, 2008) (“Franaszek”). Final Act. 8–9.

ANALYSIS

After considering each of Appellant’s arguments, we agree with the Examiner. We refer to and adopt the Examiner’s findings and conclusions as set forth in the Examiner’s Answer and in the Final Office Action from which this appeal was taken, except as otherwise described below. Ans. 2–22; Final Act. 2–9. Our discussion here will be limited to the following points of emphasis.

Issue 1: Did the Examiner err in finding the combination of Franklin and Williams teaches or suggests “a compression engine” and “the compression engine,” as recited in independent claim 1?

Appellant argues “claim 1 uses the same compression engine to perform both the first memory compression operation (in a hardware memory compression mode) and the second compression operation (in a hardware-assisted software compression mode.” App. Br. 8–9 (emphasis omitted); *see also* Reply Br. 5–6. Appellant argues “Franklin does not teach two different compression modes being performed by the same compression engine.” Reply Br. 6. According to Appellant, “Franklin’s hardware compressor 130 and the flow control processor 112 are separate entities that

are separately responsible for hardware compression and software compression, respectively.” App. Br. 8 (emphasis omitted); *see also* Reply Br. 5.

The instant rejection is an obviousness rejection, not an anticipation rejection. The ordinary artisan would have found it obvious to integrate two compression engines taught by the prior art into a single compression engine. *See In re Larson*, 340 F.2d 965, 968 (CCPA 1965) (making elements of a device integral or separable is considered an obvious design choice and does not render an invention patentable); *see also KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007) (“[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”) (internal citation omitted). We additionally note that Appellant’s Specification indicates an embodiment including a plurality of compression modules, describing that “a bimodal compression module may alternatively **or additionally** be included within a processor or a buffer[.]” Spec. ¶ 49 (emphasis added), Fig. 3.

Accordingly, we agree with the Examiner’s determination that the combination of Franklin and Williams teaches the disputed limitation in claim 1. Similarly, independent claim 13 recites “[a]n apparatus comprising . . . **a compression engine** configured to perform the first compression operation on the first data and the second compression operation on the second data.”² App. Br. 18, Claims App. (emphasis added). Appellant presents the same arguments for claim 13 as presented for claim 1. App. Br.

² Independent claim 21 does not recite the “a compression engine” limitation. App. Br. 19, Claims App.

12. Therefore, for the same reasons provided *supra*, we agree with the Examiner’s determination that the combination of Franklin and Williams teaches or suggests the disputed limitation in claim 13. Because we rely on findings and reasoning that differs from those of the Examiner, we designate this as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

Issue 2: Did the Examiner err in finding the combination of Franklin and Williams teaches or suggests “selecting a compression mode to compress the data from among a plurality of compression modes based on a source location of the data,” as recited in independent claim 1 and commensurately recited in independent claims 13 and 21?

Appellant contends in Williams “the data file has a given compression type regardless of the source location of the data. In other words, Williams teaches that the compression mode of a data file is based on an attribute of the data file, and not based on a source location of the data.” App. Br. 10 (emphasis omitted); *see also* Reply Br. 9–10.

We are not persuaded by Appellant’s arguments and agree with the Examiner’s findings. *See* Ans. 10–13. Williams describes:

Compression type of each data file is user configurable and specified when a data file is created. The compression type becomes an attribute of the data file and is used to select a compressor or decompressor from either the pool of hardware compression engines installed in database server 101 or from the pool of software compression engines accessible by database software 102

. . . . These data files are concurrently accessible and an appropriate compressor/decompressor engine is selected for each data file as needed. . . . The compression type of a data file is read by database software 102 when the data file is opened for

access and is used to control access to the tabular slice buffers stored therein.

Williams ¶¶ 61, 62 (emphasis omitted). Here, we note the term “source location” is not recited in the Specification, and Appellant has not provided an interpretation in the briefs. Further, Appellant does not persuasively address the Examiner’s findings with respect to the interpretation of the “source location.” Under the broadest reasonable interpretation in light of the Specification, we agree with the Examiner that a source location includes and is taught by a data storage container, such as a file. *See* Ans. 11–12. Therefore, we agree with the Examiner that selecting a compression type for a file, as described in Williams, selects a compression type based on a source location. *See* Ans. 12–13.

Accordingly, we are not persuaded the Examiner erred in finding the combination of Franklin and Williams teaches or suggests the disputed limitation. For the foregoing reasons, we sustain the Examiner’s rejection of independent claims 1, 13, and 21. For the same reasons, we sustain the Examiner’s rejection of dependent claims 2, 4, 14, 16, 17, 18, 20, 22, 23, and 24, which were not separately argued.

Issue 3: Did the Examiner err in finding the combination of Franklin and Williams teaches or suggests “wherein the first compression operation is performed on a first source address range of the data and the second compression operation is performed on a second source address range of the data,” as recited in dependent claim 3 and commensurately recited in dependent claims 15 and 25?

Appellant contends “Williams teaches that the compression mode of a data file is *based on an attribute of the data file*, and not based on a source address range of the data.” App. Br. 11.

We are not persuaded by Appellant’s arguments and agree with the Examiner’s findings. *See* Ans. 13–15. Williams describes “[a]ccording to one embodiment, one data file is configured with a compression type specified for a hardware compression card while another data file is configured with a compression type specified for a software compressor embedded in the database software 102, and a third data file is uncompressed.” Williams ¶ 62 (emphasis omitted). We agree with the Examiner’s findings that Williams’ data files occupy address ranges in the database, and Appellant has not persuasively addressed these findings. *See* Ans. 14–15.

Accordingly, we are not persuaded the Examiner erred finding the combination of Franklin and Williams teaches or suggests the disputed limitation. Therefore, we sustain the Examiner’s 35 U.S.C. § 103(a) rejection of dependent claims 3, 15, and 25.

Issue 4: Did the Examiner err in finding the combination of Franklin, Williams, and Dye teaches or suggests “assigning a higher priority for using the compression engine to the hardware compression mode than to the hardware-assisted software compression mode,” as recited in dependent claim 5 and commensurately recited in dependent claim 26?

Appellant contends “Franklin fails to teach that one compression method is given a higher priority than another compression method.” App. Br. 13. Appellant further contends in Williams, “[j]ust because a first thing

has a backup or is done before another thing, doesn't mean[] that the first thing is given a 'higher priority.'" *Id.* Finally, Appellant argues "Dye's 'priority mode' is a functionally distinct mode for use by systems that require speed." *Id.* at 14.

We are not persuaded by Appellant's arguments because they do not persuasively address the Examiner's rejection. We agree with the Examiner (*see* Ans. 16–20) that Appellant's arguments attack the Franklin, Williams, and Dye references in isolation, but do not substantively address the combined teachings and suggestions of the references, as relied on by the Examiner. That is, Appellant's arguments do not take into account what the collective teachings of the prior art would have suggested to one of ordinary skill in the art and are, therefore, ineffective to rebut the Examiner's prima facie case of obviousness. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). For the reasons set forth by the Examiner (Ans. 16–20), we agree the combination of Franklin, Williams, and Dye teaches or suggests the disputed limitation.

Accordingly, we are not persuaded the Examiner erred finding the combination of Franklin, Williams, and Dye teaches or suggests the disputed limitation. Therefore, we sustain the Examiner's 35 U.S.C. § 103(a) rejection of dependent claims 5 and 26.

Issue 5: Did the Examiner err in finding the combination of Franklin, Williams, and Worrell teaches or suggests "using a mode register to direct execution of the at least one of the first compression operation and the second compression operation according to the selected compression mode,"

as recited in dependent claim 6 and commensurately recited in dependent claim 19?

Appellant argues “Worrell uses the term ‘compression mode’ to indicate **whether or not** data is being compressed/decompressed. The Bit 0 indicates **whether or not** to use compression.” App. Br. 14–15 (emphasis added).

We are not persuaded by Appellant’s arguments because they do not persuasively address the Examiner’s rejection. The Examiner relies on Worrell to teach a mode register to direct execution of compression operations and what this would have suggested to one of ordinary skill in the art. Ans. 22. For the reasons set forth by the Examiner (Ans. 20–22), we agree the combination of Franklin, Williams, and Worrell teaches or suggests the disputed limitation.

Accordingly, we are not persuaded the Examiner erred finding the combination of Franklin, Williams, and Worrell teaches or suggests the disputed limitation. Therefore, we sustain the Examiner’s 35 U.S.C. § 103(a) rejection of dependent claims 6 and 19.

DECISION

For the above reasons, the Examiner’s rejections of claims 1–6 and 13–26 are affirmed.

Because the fact finding and reasoning relied on by the Board in *Issue 1* to sustain the rejection of claims 1 and 13 differs from the fact finding and reasoning relied upon by the Examiner, we designate our affirmance of the rejection of claims 1 and 13 as NEW GROUNDS OF REJECTION so as to

provide Appellant with a full and fair opportunity to respond to the thrust of the rejections.

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the Examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED; 37 C.F.R. § 41.50(b)