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JERRY.SHORMA@HP.COM
ipa.mail@hp.com
brandon.serwan@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SAMUEL A. FINEBERG, PANKAJ MEHRA,
DAVID J. GARCIA, and WILLIAM F. BRUCKERT

Appeal 2010-000991
Application 11/446,621
Technology Center 2100

Before JOSEPH L. DIXON, ST. JOHN COURTENAY III, and
CARLA M. KRIVAK, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-22. We have jurisdiction under 35 U.S.C. § 6(b).

We Affirm.

STATEMENT OF THE CASE

Appellants' claimed invention is directed to "[a] method and system of implementing a persistent memory." (Spec. 22, Abstract). Independent claim 1, reproduced below, is representative of the subject matter on appeal:

1. A system comprising:

a first computer slice comprising a memory of one or more random access memory (RAM) modules;

a second computer slice comprising a memory of one or more RAM modules, the second computer slice coupled to the first computer slice by way of a communication network at least partially external to each computer slice; and

a persistent memory comprising at least a portion of the memory of each computer slice, the portion of the memory of the first computer slice storing a duplicate copy of data stored in the portion of the memory of the second computer slice;

wherein the persistent memory is accessible to an application program through the communication network.

(Disputed limitations emphasized).

REJECTIONS

1. The Examiner rejected claims 1, 6, and 19 as being anticipated under 35 U.S.C. § 102(b) by Yu (U.S. Pat. No. 5,764,903). (Ans. 3-4).
2. The Examiner rejected claims 2, 3, 7, 8, 14, 16-18, 20, and 21 under 35 U.S.C. 103(a) as being unpatentable over the combined teachings and suggestions of Yu and Suzuki (U.S. Pat. No. 4,181,938). (Ans. 4-

- 6).
3. The Examiner rejected claims 4, 5, 9, 10, 15, and 22 under 35 U.S.C. 103(a) as being unpatentable over the combined teachings and suggestions of Yu, Suzuki, and Kiselev (U.S. Pat. No. 6,910,178 B1). (Ans. 6-8).
 4. The Examiner rejected claims 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over the combined teachings and suggestions of Yu and Rodeheffer (U.S. Pat. No. 6,848,063 B2). (Ans. 8-9).
 5. The Examiner rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings and suggestions of Yu and Kiselev. (Ans. 9).

GROUPING OF CLAIMS

Based on Appellants' arguments, we decide the appeal of the anticipation rejection of claims 1 and 6 on the basis of representative claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv). We address the remaining claims *infra*.

ISSUE

Under § 102, did the Examiner err in finding that Yu discloses the disputed RAM limitations of:

a first computer slice comprising a memory of one or more random access memory (RAM) modules;

a second computer slice comprising a memory of one or more RAM modules, the second computer slice coupled to the first computer slice by way of a communication network at least partially external to each computer slice; and

a persistent memory comprising at least a portion of the memory of each computer slice;

within the meaning of representative claim 1 (emphasis added)?

CONTENTIONS

Appellants respectfully submit that a skilled artisan is fully aware of RAM modules and hard disk drives, and their differences, and would absolutely not consider "one or more RAM modules" on a computer slice to be a hard disk drive.

....

Appellants respectfully submit that the interpretation of the Office action (*i.e.*, that a RAM module is a hard disk drive) is wholly inconsistent with the specification. Appellants' specification does not even show a hard disk drive. Moreover, in describing alternatives to volatile RAM memory modules, the Appellants' specification call out alternatives that are clearly not hard disk drives (*i.e.*, calls out MRAM, MRRAM, PFRAM, OUM, and flash memory devices. [Appellants cite to para. [0027] of the Specification for support].

(App. Br. 14).

The Examiner disagrees:

Yu teaches explicitly that the hard disk (Fig[s]. 1, 16) is a memory which is able to be read from and written to (col. 3, lines 41 - 46). While Yu does not explicitly teach the hard disk having the features of RAM, the Examiner, in the response to the arguments in the Final Rejection dated 8/26/2008 provided evidence supportive of the fact. Specifically, both Gray (U.S. 5,802, 396) in col. 11, lines 45 - 46, "*A master database 103 is contained in a random access memory (RAM) which can be for example a hard disk drive.*", as well as Miller et al. (U.S. 5,627,995) in col. 2, lines 5 - 8, "*Data compression is not readily adaptable for use with random access storage devices such as hard disk or solid state disks ...* " provide evidence that a hard disk has the features of a RAM (random accessed memory) device. Additionally, the Examiner cites Beatty (U.S. 6,336,053) in col. 6, lines 19 - 22, "*However, the RAM 240 can be implemented using any alterable randomly accessed memory, such as a floppy disk and disk drive, a writable optical disk and disk drive, a **hard (disk) drive**, flash memory or the like.*"

(Ans. 11).

ANALYSIS

Claims 1 and 6

This appeal turns upon claim construction. “Anticipation of a patent claim requires a finding that the claim at issue ‘reads on’ a prior art reference.” *Atlas Powder Co. v. Ireco, Inc.*, 190 F.3d 1342, 1346 (Fed Cir. 1999) (citation omitted). “In the patentability context, claims are to be given their broadest reasonable interpretations. . . . [L]imitations are not to be read into the claims from the specification.” *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citations omitted).

At the outset, we agree with the Examiner that the claimed RAM modules broadly read on Yu’s hard drives (Claim 1; *see also* Yu, Fig. 1, hard drives 16 and 34). Although Appellants urge (App. Br. 14) that the Examiner’s broader reading is inconsistent with the Specification (§ [0027]), our reviewing court guides that “[i]nterpretation of descriptive statements in a patent’s written description is a difficult task, as an inherent tension exists as to whether a statement is a clear lexicographic definition or a description of a preferred embodiment. The problem is to interpret claims ‘in view of the specification’ without unnecessarily importing limitations from the specification into the claims.” *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (citation omitted).

Here, we find the description of various memory modules in paragraph [0027] (Spec. 11) is *exemplary*, and does not give an artisan notice of a limiting *definition* that would preclude a broader reading of the claimed RAM modules on the structures of a plurality of hard drives, such as those disclosed by Yu (Fig. 1, hard drives 16 and 34). *See Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir.

1994) (“particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than such embodiments” (citation omitted)). “[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments. . . . [C]laims may embrace ‘different subject matter than is illustrated in the specific embodiments in the specification.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc) (citations omitted). Moreover, because “applicants may amend claims to narrow their scope, a broad construction during prosecution creates no unfairness to the applicant or patentee.” *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (citation omitted).

For these reasons, on this record we are not persuaded of Examiner error. Accordingly, we sustain the Examiner’s anticipation rejection of claim 1 and of associated dependent claim 6, which falls with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Claims 19-22

Regarding the anticipation rejection of independent claim 19 over Yu, we agree with Appellants that the U.S. Patent and Trademark Office may not disregard the structure disclosed in the specification when 35 U.S.C. § 112, sixth paragraph, is invoked. (App. Br. 16). However, Appellants have not met their burden of identifying and *distinguishing* the corresponding structures in the Specification that support the disputed first and second “means for storing data,” and the “means for persistently storing data,” as recited in claim 19.

In particular, we observe that the *arguments advanced for claim 19* (App. Br. 15-16) are *silent* regarding any reference to *specific* corresponding structures in the Specification. Nor have Appellants rebutted the Examiner’s finding of anticipation by explaining why the support for claim 19 pointed to on page 9 of the principal Brief is not *equivalent*¹ to Yu’s disclosure of hard drives 16 and 34 (Yu, Fig. 1). In considering whether § 112(f),² is invoked for independent claim 19, we decline to *sua sponte* import arguments advanced for other claims on appeal, particularly other claims that are not means-plus-function claims.

For these reasons, on this record, we are not persuaded that the Examiner erred by more broadly interpreting claim 19. Accordingly, we sustain the Examiner’s anticipation rejection of independent claim 19. Because Appellants advance no separate arguments for the associated dependent claims, we also sustain the Examiner’s §103 rejections of claims 20-22.

¹ Means plus function limitations are met by structures which are equivalent to the corresponding structures recited in the specification. *In re Ruskin*, 347 F.2d 843 (CCPA 1965), as implicitly modified by *In re Donaldson*, 16 F.3d 1189 (Fed. Cir. 1994).

² See 35 U.S.C. §112(f): “ELEMENT IN CLAIM FOR A COMBINATION—An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” (Amended Sept. 16, 2011, Leahy-Smith America Invents Act, Public Law 112-29, sec. 4(c), 125 Stat. 284, effective Sept. 16, 2012.)

Claims 14-18

Appellants contend “[t]he hard disk drive write requests of Yu are not DMA requests. As pointed out by the Office action itself, ‘DMA enables data to be transferred directly between main memory and I/O [Input-Output], offering the advantage of decreasing load on the processor’³ The applications 50, by contrast, appear to operate on the processor, so the hard disk drive write request of Yu cannot be the claimed ‘single direct memory access (DMA) request.’” (App. Br. 18).

The Examiner finds Yu would have taught or suggested “[w]herein the logic device receives a single write request over the communications network, duplicates the write request, and provides the write request [once] to [each] memory (col. 4, lines 50 - 53; col. 5, lines 53 - 55, lines 61 - 62).” (Ans. 5). We observe these portions of Yu teach both a virtual disk driver receiving a hard disk write request (col. 4, ll. 50-51), and a secondary server sending a disk write request to a remote hard drive (Yu, Fig. 1, 34; col. 5, ll. 53-54). The Examiner looks to Suzuki for teaching the well-known use of DMA read/write requests. (Ans. 5, Suzuki, col. 1, ll. 23-31).

We do not see why DMA read/write requests (as taught by Suzuki) could not be performed between the server and the hard drives of Yu (Fig. 1, 16, 34), via the server(s) internal memory and the hard drive controllers 14 and 32, respectively, where hard drives 16 and 34 act as a single network-accessible persistent memory, within the meaning of claim 14.

We note that the Examiner’s rejection is based on the *combined* teachings and suggestions of Yu and Suzuki. Similarly, we find the additional limitation of “duplicating the DMA requests to have duplicate

³ See Office action mailed on August 26, 2008, page 4, lines 64-65.

requests” (claim 14) is merely the use of prior art elements according to their established functions in a manner that would have realized a predictable result. Thus, we conclude that claiming a mere *plurality* of well-known prior art elements (DMA read/write requests) is not a patentable distinction over the prior art of record. The Supreme Court guides that “when 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 Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007) (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)). This reasoning is applicable here regarding claim 14. Therefore, we sustain the Examiner’s obviousness rejection of independent claim 14 over Yu and Suzuki. Because Appellants advance no separate arguments for the associated dependent claims, we also sustain the Examiner’s obviousness rejections for claims 15-18.

Claims 2 and 4

We observe that dependent claims 2 and 4 are each of similar scope, with claim 2 directed to a duplicated DMA *write* request, and claim 4 directed to a duplicated DMA *read* request. Similar to our discussion above regarding claim 14, we find the further limitation of duplicated DMA (read/write) requests (claims 2 and 4) is merely the use of prior art elements according to their established functions in a manner that would have realized a predictable result. Thus, we conclude that the claimed *plurality* of prior art elements (DMA read/write requests) is not a patentable distinction over the prior art of record. *See KSR* 550 U.S. at 417. Therefore, on this record, we are not persuaded of Examiner error. Accordingly, we sustain the Examiner’s § 103 rejections of claims 2 and 4.

Remaining dependent claims 3, 5, and 7-13

Appellants have not advanced separate arguments for these dependent claims. Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). Therefore, we sustain the Examiner's obviousness rejections of these claims as falling with their respective parent claims.

DECISION

We affirm the Examiner's rejection under § 102 of claims 1, 6, and 19.

We affirm the Examiner's rejections under § 103 of claims 2-5, 7-18, and 20-22.

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).

ORDER

AFFIRMED

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