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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 12/426,632 | 04/20/2009 | Ben Haley | 063170.9549 | 5309 |
| 106095 | 7590 | 10/26/2016 | EXAMINER | |
| Baker Botts LLP 2001 Ross Avenue, 6th Floor Dallas, TX 75201 | | | RENNER, BRANDON M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2478 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 10/26/2016 | ELECTRONIC |

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BEN HALEY, CATHY FULTON, and DAVID JORDAN

Appeal 2013-000411
Application 12/426,632
Technology Center 2400

Before ALLEN R. MacDONALD, KEVIN C. TROCK, and
KARA L. SZPONDOWSKI, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–7, 9–15, 17–23, and 25, which constitute all the claims pending in this application. App. Br. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

*Exemplary Claims*¹

Exemplary claims 1 and 18 read as follows (emphasis added):

1. A passive method for computing network latency through the use of flow records wherein the network comprises at least two endpoint devices and at least one network infrastructure device, the method comprising the step of:

receiving flow records from at least one device, said flow records comprising at least two flows associated with a first transmission sent from a first communications device and a second transmission from a second communications device, said first transmission comprising a connection set-up indicator and said second transmission comprising a connection set-up acknowledgment indicator; wherein the flow records comprise at least a start time stamp and an end time stamp of the flow associated with said first transmission and at least a start time stamp and an end time stamp of the flow associated with said second transmission;

matching said at least two flows;

wherein said step of matching said at least two flows comprises the steps of:

matching said at least two flows based on source IP addresses and destination IP addresses associated with each of said at least two flows;

¹ Claim 18 as reproduced *infra* is the claim 18 on appeal. The amendment to claim 18 (and claims 19 and 20) shown in Appellants' Claim Appendix has not been entered by the Examiner and is not before us.

matching said at least two flows based on the IP protocol associated with each of said at least two flows;

matching said at least two flows based on source ports and destination ports associated with each of said at least two flows;

verifying that *the start time stamp of the flow associated with said first transmission occurs prior to the start time stamp of the flow associated with said second transmission*;

verifying that *the end time stamp of the flow associated with said first transmission occurs after the start time stamp of the flow associated with said second transmission*;

determining [an] *intermediate-to-endpoint latency measure* based on said time stamps; and

storing said intermediate-to-endpoint latency measure on a computer readable storage medium.

18. A system for passively computing network latency, comprising:

a first endpoint communications device configured to send a first transmission comprising a connection set-up indicator;

a second communications device configured to send a second transmission in response to said first transmission, said second transmission comprising a connection set-up acknowledgment indicator;

at least one device having flow records, said flow records comprising at least two flows associated with said first transmission and said second transmission; wherein the flow records comprise at least a start time stamp and an end time stamp of the flow associated with said first transmission and at least a start time stamp and an end time stamp of the flow associated with said second transmission;

a harvester configured to match said two flows, said harvester matching said two flows based on:

source IP addresses and destination IP addresses associated with each of said at least two flows;

matching said at least two flows based on the IP protocol associated with each of said at least two flows;

source ports and destination ports associated with each of said at least two flows;

verifying that the start time stamp of the flow associated with said first transmission occurs prior to the start time stamp of the flow associated with said second transmission;

verifying that the end time stamp of the flow associated with said first transmission occurs after the start time stamp of the flow associated with said second transmission; and

said *harvester further configured to determine an intermediate-to-endpoint latency measure* based on said time stamps associated with each of said at least two flows.

References and Rejections on Appeal

1. The Examiner rejected claims 18–23 and 25 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.²

2. The Examiner rejected claims 1, 2, 4–7, 9–15, 17–20, 22, 23, and 25 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Iakobashvili et al. (US 2006/0028999 A1; Feb. 9, 2006), Metzger et al.

² Separate patentability is not argued for claims 19–23 and 25. Except for our ultimate decision, the Examiner’s rejection of these claims is not discussed further herein.

(US 2006/0239201 A1; Oct. 26, 2006) , and Boyd et al. (US 2010/0036895 A1; Feb. 11, 2010).³

3. The Examiner rejected claims 3 and 21 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Iakobashvili, Metzger, Boyd, and Givoloy et al. (US 2003/0177212 A1; Sept. 18, 2003).⁴

*Appellants' Contentions*⁵

1. Appellants contend that the Examiner erred in construing claim 18 under 35 U.S.C. § 112, sixth paragraph, because:

The Examiner has argued that the claimed terms “harvester” and “device” are nonstructural and thus 35 U.S.C. § 112, sixth paragraph applies to the terms. Appellants respectfully disagree.

App. Br. 14.

2. Appellants further contend that the Examiner erred in rejecting claim 18 under 35 U.S.C. § 112, second paragraph, as being indefinite because:

First, as shown above, the true test for indefiniteness under 35 U.S.C. § 112 is “whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available.” M.P.E.P. § 2173.02. This test, as shown above, is aptly met by the limitations “harvester” and “device” when read in light of

³ Separate patentability is not argued for claims 2, 4–7, 9–15, 17–20, 22, 23, and 25. Except for our ultimate decision, the Examiner’s rejection of these claims is not discussed further herein.

⁴ As to this rejection, our decision as to the rejection of claim 1 is determinative. Therefore, except for our ultimate decision, the rejection of claims 3 and 21 is not discussed further herein.

⁵ These contentions are determinative as to the rejections on appeal. Therefore, Appellants’ other contentions are not discussed herein.

the specification. Consequently, the Examiner's conclusion of indefiniteness under 35 U.S.C. § 112, second paragraph is incorrect and its basis in the application of 35 U.S.C. § 112, sixth paragraph is moot.

Second, as shown above, when the claims limitations "harvester" and "device" are read in light of the specification as required under M.P.E.P. §§ 2173.02 and 2111, each describe sufficient structure for one of skill in the art to understand how to make and use a harvester to perform the functions described in the claim. Consequently, the terms are not, as argued by the inventor, "non structural," and 35 U.S.C. § 112, sixth paragraph is inapplicable.

App. Br. 14–15.

3. Appellants further contend that the Examiner erred in rejecting claim 18 under 35 U.S.C. § 112, second paragraph, because:

In addition, the specification details how embodiments such as Claim 18 may be implemented. Specifically, paragraph [0081] of the application as filed states that:

[T]he present embodiments may be implemented in an application specific integrated circuit (ASIC), a microcontroller, a digital signal processor, or other electronic circuits designed to perform the functions described herein. Moreover, the process and features here described may be stored in magnetic, optical, or other recording media for reading and execution by such various signal and instruction processing systems.

Such information would be used by one of skill in the art to understand how to make and use a harvester to perform the functions described in the claim. Consequently, one of skill in the art would understand what is claimed by a "harvester" . . . —and furthermore, the structure thereof—*when Claim 18 is read in view of these portions of the specification.*

App. Br. 14, emphasis added.

4. Appellants further contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

The Examiner argued that Boyd teaches the limitations of Claim 1 at paragraphs [0006] and [0008], alleging that Boyd “teaches a starting timestamp of a first epoch is before the starting timestamp of a second epoch and the ending timestamp of the first epoch . . . is after the start timestamp of the second epoch” and that the epochs divide the data into first and second transmissions. Office Action at 7. Further, in the Advisory Action at 2, the Examiner continues to conflate “epochs” with transmissions themselves.

Appellants respectfully disagree because the epochs of Boyd discussed by the Examiner *are not transmissions or flows as alleged* but mere pairs of timestamps, described as “a period of time between a starting and an ending timestamp selected from the timestamps.” Boyd at paragraph [0006].

App. Br. 20, emphasis added.

Issues on Appeal

Did the Examiner err in provisionally rejecting claim 18 as being indefinite?

Did the Examiner err in rejecting claim 1 as being obvious?

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments that the Examiner has erred.

As to Appellants’ above contentions 1–3, the Federal Circuit has established use of the term “means” is central to the analysis of whether a claim limitation should be interpreted in accordance with 35 U.S.C. § 112,

sixth paragraph.⁶ Use of the word “means” creates a rebuttable presumption that the inventor intended to invoke 35 U.S.C. § 112, sixth paragraph, whereas failure to use the words “means for” creates a rebuttable presumption that the inventor did not intend the respective claim limitations to be governed by 35 U.S.C. § 112, sixth paragraph. *Personalized Media Commc’ns, LLC v. Int’l Trade Comm’n*, 161 F.3d 696, 703–4 (Fed. Cir. 1998). However, this presumption against its invocation can be overcome and 35 U.S.C. § 112, sixth paragraph applied, if the “claim term fails to ‘recite [] sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc) (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

First, we determine claim 18 does not recite the terms “means for” in each element; rather, the harvester limitation recites an element “configured to” achieve a result “based on” performing a series of functions. More specifically, the limitation recites (emphases added): “a *harvester configured to match said two flows . . . based on . . . matching . . . verifying . . . verifying . . . and . . . further configured to determine an intermediate-to-endpoint latency measure*” (claim 18). Thus, we look to determine if the presumption against invocation of 35 U.S.C. § 112, sixth paragraph has been overcome. Within claim 18, this limitation fails to recite sufficiently definite structure; rather, the limitation recites functions without reciting sufficient

⁶ 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. (Emphasis added).

structure for performing the functions (*Williamson*, 792 F.3d at 1348 (citation omitted)). We must determine “whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term ‘means for.’” *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed. Cir. 2004).

We have looked to both general and subject matter specific dictionaries⁷ and we find no evidence that the term “harvester” has achieved recognition as a noun denoting structure. Similarly, our review of the record and search of the prior art finds no evidence that this term has achieved recognition as a noun denoting structure. Therefore, based upon our consultation of dictionaries, a review of the record before us, and a search of the prior art patents in this field, we conclude that the term “harvester” is not an art-recognized structure to perform the claimed functions, and claim 18 does not recite any other structure that would perform these claimed functions.

Moreover, Appellants have not persuaded us the term “harvester” identifies or connotes a definite structure. More specifically, we are not persuaded the term “harvester” is used in “common parlance or by persons of skill in the pertinent art to designate structure,” such that it connotes sufficient structure to avoid the application of 35 U.S.C. § 112, sixth paragraph (*Lighting World*, 382 F.3d at 1359, *overruled on other grounds by Williamson*, 792 F.3d at 1348–49). Accordingly, we determine the

⁷ Microsoft Computer Dictionary, Microsoft Press, 5th edition, 2002; Computer Science and Communications Dictionary, Volume 2 By Martin H. Weik, 2000; The American Heritage Dictionary of the English Language, 4th edition, 2006.

“harvester” limitation invokes the application of 35 U.S.C. § 112, sixth paragraph because the limitation fails to describe sufficient structure and instead, recites an abstract element “configured to” (i.e., “for”) causing actions (*Advanced Ground Information Systems, Inc. v. Life360, Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016)).

Second, as we have determined the recited “harvester” limitation invokes 35 U.S.C. § 112, sixth paragraph, we next “construe the disputed claim term by identifying the corresponding structure, material, or acts described in the specification to which the claim term will be limited” (*Robert Bosch, LLC v. Snap-On, Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014) (internal quotation marks and citation omitted)). If Appellants’ Specification fails to set forth adequate disclosure of the structure corresponding to the claimed function, Appellants will have failed to particularly point out and distinctly claim the invention, thereby rendering the claim indefinite. *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382 (Fed. Cir. 2009) (internal quotation marks and citation omitted).

Thus, for the “harvester” limitation, we determine if Appellants’ Specification provides sufficient disclosure. Appellants assert the recited “harvester” is supported by paragraph 81 of Appellants’ Specification (App. Br. 14). Further, Appellants’ Specification at paragraph 43 indicates that “[i]n one embodiment, harvester 70 is implemented through a DELL™ Powerededge™ 1950 Server.” Although Appellants argue paragraph 81 of their Specification discloses the structure of the recited “harvester” (App. Br. 14), we are not persuaded such structure is sufficiently disclosed by paragraph 81 alone. Instead, we determine the claim limitation is a computer-implemented claim limitation. For a computer-implemented claim

limitation interpreted under 35 U.S.C. § 112, sixth paragraph, the corresponding structure must include the algorithm needed to transform the general purpose computer or processor disclosed in the specification into the special purpose computer programmed to perform the disclosed algorithm (*Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008); *see also Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013)). An algorithm is defined, for example, as “a finite sequence of steps for solving a logical or mathematical problem or performing a task” (MICROSOFT Computer Dictionary 23 (5th ed. 2002) (*see also Merriam-Webster’s Collegiate Dictionary* 30 (11th ed. 2007) defining algorithm as “a step-by-step procedure for solving a problem or accomplishing some end esp. by a computer”)). An applicant may express the algorithm in any understandable terms including as a mathematical formula, in prose, in a flow chart, or “in any other manner that provides sufficient structure” (*Finisar Corp. v. DirectTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)).

Thus, because we conclude the “harvester” limitation recites a computer-implemented function, we look to Appellants’ Specification for an algorithm for performing the claimed functions of the harvester. “An indefiniteness rejection under § 112, second paragraph, is appropriate if the specification discloses no corresponding algorithm associated with a computer or processor.” *Aristocrat*, 521 F.3d at 1337–38. However, we determine the Specification at paragraphs 49–52 provides such an algorithm, part of a general purpose computer, capable of performing the claimed functions of the harvester. Unlike the complex equation in *Aristocrat* which was “merely a mathematical expression that describe[d] the outcome of

performing the function” (521 F.3d at 1334), the equations at paragraphs 49–52 are descriptive of simple computer functions and the equations form “an algorithm that describes how the function is performed” (*Id.*).

Accordingly, we conclude the “harvester” claim limitation is construed under 35 U.S.C. § 112, sixth paragraph, and is definite under 35 U.S.C. § 112, second paragraph.

As to Appellants’ above contention 4, we agree. We conclude, consistent with Appellants’ argument, there is insufficient articulated reasoning to support the Examiner’s conclusion. The Examiner relies on *Boyd* to teach first and second transmissions. Advisory Act. 2. We disagree with this finding.

CONCLUSIONS

(1) Appellants have established that the Examiner erred in rejecting claims 18–23 and 25 under 35 U.S.C. § 112, second paragraph, as being indefinite.

(2) Appellants have established that the Examiner erred in rejecting claims 1–7, 9–15, 17–23, and 25 as being unpatentable under 35 U.S.C. § 103(a).

(3) On this record, these claims have not been shown to be unpatentable.

DECISION

The Examiner's rejection of claims 1–7, 9–15, 17–23, and 25 as being unpatentable under 35 U.S.C. § 103(a) is reversed.

The Examiner's provisional rejection of claims 18–23 and 25 under 35 U.S.C. § 112, second paragraph, is reversed.

REVERSED