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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HEINRICH BRAUN, MARKUS RIEPP, and THOMAS DEHOUST

Appeal 2014-007782[1]
Application 13/650,043[2]
Technology Center 3600

Before HUBERT C. LORIN, NINA L. MEDLOCK, and MATTHEW S. MEYERS, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–23. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

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[1] Our decision references Appellants' Appeal Brief ("App. Br.," filed January 27, 2014) and Reply Brief ("Reply Br.," filed June 27, 2014), and the Examiner's Answer ("Ans.," mailed May 2, 2014) and Final Office Action ("Final Act.," mailed May 23, 2013).

[2] Appellants identify SAP AG as the real party in interest. App. Br. 3.

CLAIMED INVENTION

Appellants' claimed invention "relates to determining a possible lot size with respect to a fixed date for a chain of at least a first and a second process step being sequentially dependent and requiring a first and a second resource, respectively" (Spec. ¶ 2).

Claims 1, 12, and 23 are the independent claims on appeal. Claims 1 and 12 reproduced below, are illustrative:

> 1. A method of determining a possible lot size of units with respect to a fixed date for a chain of at least two process steps, each process step requiring a respective assigned resource, and consuming a respective time per unit for being performed by the respective assigned resource, where the process steps are sequentially dependent on each other, the method including:
>
> (a) determining, by a computer, for each resource, a respective time interval of availability during which the respective resource is continuously available, each time interval being limited by the fixed date,
>
> (b) calculating, by the computer, for each determined time interval of availability, a respective largest possible number of times the respective process step can be performed by the respective resource, and
>
> (c) selecting, by the computer, the lot size of units to the minimum of the largest possible numbers.
>
> 12. An apparatus capable of determining a possible lot size of units with respect to a fixed date for a chain of at least two process steps, each process step requiring a respective assigned resource, and consuming a respective time per unit for being performed by the respective assigned resource, where the process steps are sequentially dependent on each other, the apparatus including
>
> (a) determining means that, for each resource, determine a respective time interval of availability during which the respective resource is continuously available, each time interval being limited by the fixed date,

> (b) calculating means that, for each determined time interval of availability, calculate a respective largest possible number of times the respective process step can be performed by the respective resource, and
>
> (c) selecting means that select the lot size of units to the minimum of the largest possible numbers, wherein the selecting means is a computer.

REJECTIONS

Claims 1–23 are rejected on the ground of non-statutory obviousness-type double patenting as unpatentable over claims 1–31 of Braun (US 8,301,476 B2, iss. Oct. 30, 2012).

Claims 12–22 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1–23 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hartmut Stadtler, *Multilevel Lot Sizing With Setup Times And Multiple Constrained Resources: Internally Rolling Schedules With Lot-Sizing Windows*, 51 OPERATIONS RESEARCH 487 (2003) (hereinafter "Stadtler").

ANALYSIS

Non-Statutory Obviousness-Type Double Patenting

Appellants do not provide any response to the Examiner's rejection of claims 1–23 on the ground of non-statutory obviousness-type double patenting. Therefore, the Examiner's rejection is summarily sustained.

Non-Statutory Subject Matter

Independent claim 12 is directed to an apparatus capable of determining a possible lot size of units, and recites that the apparatus comprises a number of elements drafted in means-plus-function format, i.e., as a "means" for performing a specified function. The Examiner found that these elements constitute software *per se* and rejected the claim under 35 U.S.C. § 101 as directed to non-statutory subject matter (Final Act. 8). We agree with Appellants that the Examiner erred.

The use of means-plus-function language presumptively invokes 35 U.S.C. § 112, sixth paragraph. *See, e.g.*, *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259 (Fed. Cir. 2008). The means-plus-function elements are, thus, properly construed to cover the corresponding structure disclosed in Appellants' Specification — i.e., implementation by digital electronic circuitry, computer hardware, firmware, software, or a combination of any of these (*see* Spec. ¶ 72) — and equivalents thereof. 35 U.S.C. § 112 ¶ 6.

By choosing to use means-plus-function language and invoke 35 U.S.C. § 112, sixth paragraph, Appellants limit the claim elements to the disclosed structure, i.e., implementation by hardware or the combination of hardware and software, and equivalents thereof. "Therefore, the [E]xaminer should not construe the limitation[s] as covering [a] pure software implementation." *See* Manual of Patent Examining Procedure ("MPEP") § 2181(II)(B).

It also is significant here that claim 12 explicitly recites a structural limitation, namely, "wherein the selecting means is a computer." "[A] claim that includes a means-plus-function limitation that corresponds to software

per se . . . is not necessarily directed as a whole to software per se *unless* the claim lacks other structural limitations." *Id.* (emphasis added).

In view of the foregoing, we do not sustain the Examiner's rejection of claims 12–22 under 35 U.S.C. § 101 as directed to software *per se*.

Obviousness

Independent Claim 1 and Dependent Claims 2–11

We are persuaded by Appellants' argument that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) at least because Stadtler does not disclose or suggest "determining . . . for each resource, a respective time interval of availability during which the respective resource is continuously available," as recited in claim 1 (App. Br. 10–11).

Stadtler is directed to a method for determining lot sizes in a production environment, and discloses a proposed solution to a multilevel capacity lot sizing problem ("MLCLSP") designed to minimize variable production costs, including inventory holding setup and overtime costs, over a finite planning interval (Stadtler 488). Stadtler discloses an inventory and lot-size ("I & L") model formation at page 489, and describes that the model includes "m" resources and "j" items or operations (e.g., end products, intermediate products, raw materials). The model also defines a variable C_{mt}, which represents the available capacity of resource "m" in time period "t" (*id.* at 489).

Responding to Appellants' argument, the Examiner notes that Stadtler discloses that "[*r*]*esources have limited capacities per period and may be extended by overtime*" (Ans. 5 (citing Stadtler, section 2 at p. 488)). And the Examiner asserts that

> [w]hat this means to one of ordinary skill in the art in the context of the problem that Stadtler is trying to solve is that the resources have been determined to have been available for the period (i.e.[,] continuously available since they are required to be available for the entire series of periods in order to schedule the tasks into the rolling windows).

Id. The Examiner also maintains that in disclosing variable C_{mt}, "the [Stadtler] system is determining that the resource has the capacity of Cmt during the period t, i.e.[,] it is continuously available during that period" (*id.*). Yet the Examiner does not adequately explain how or why, and we fail to see how or why, determining that a resource has a particular capacity per unit of time discloses or suggests determining a time interval during which the resource is continuously available, let alone "determining . . . for [a] resource, a respective time interval of availability during which the . . . resource is continuously available, [the] time interval being limited by [a] fixed date," as recited in claim 1.

Therefore, we do not sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a). For the same reasons, we also do not sustain the Examiner's rejection of dependent claims 2–11. *Cf. In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) ("dependent claims are nonobvious if the independent claims from which they depend are nonobvious").

Independent Claims 12 and 23 and Dependent Claims 13–22

Independent claims 12 and 23 include language substantially similar to the language of claim 1 and stand rejected based on the same rationale applied with respect to claim 1 (Final Act. 17). Therefore, we do not sustain the Examiner's rejection under 35 U.S.C. § 103(a) of independent claims 12

and 23, and claims 13–22, which depend from claim 12, for the same reasons set forth above with respect to claim 1.

DECISION

The Examiner's rejection of claims 1–23 on the ground of non-statutory obviousness-type double patenting is affirmed.

The Examiner's rejection of claims 12–22 under 35 U.S.C. § 101 is reversed.

The Examiner's rejection of claims 1–23 under 35 U.S.C. § 103(a) is reversed.

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).

AFFIRMED-IN-PART