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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte EMAD WILLIAM SAAD, JOHN LYLE VIAN,
RYAN JAMES MEUTH, and DONALD C. WUNSCH II

Appeal 2018-001676¹
Application 12/573,392
Technology Center 3600

Before BRADLEY W. BAUMEISTER, ADAM J. PYONIN, and
NABEEL U. KHAN, *Administrative Patent Judges*.

PYONIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a). We have
jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ The Boeing Company is identified as the real party in interest. App. Br. 2.

STATEMENT OF THE CASE

Introduction

The Application is directed to an “aircraft manufacturing and service method” (Spec. ¶ 10) using “a method and apparatus for planning and executing a mission using a hierarchical mission planning system” (Spec. ¶ 1). Claims 10, 13–17, 20, 22, 23, and 25–29 are pending, of which claims 10, 17, and 25 are independent. App. Br. 18–26. Claim 10 is reproduced below for reference (emphases added):

10. A method for autonomous hierarchical mission management, the method comprising:

generating a mission specification for maintenance of an aircraft using information from a hierarchy specification, the hierarchy specification having information including a capability and an assigned hierarchical level of each segment in a number of agent groups, *a number of levels in a hierarchy, a number of agents in each level of the hierarchy*, and an information that an agent in a level of the hierarchy can access, the hierarchy specification comprising maintenance of the aircraft;

receiving the mission specification at a first mission planner associated with a first level agent group, the first agent group being a highest level agent group in the hierarchy;

generating by a processor of an arbitrator in the first mission planner a mission plan for a first maintenance operation for a number of first agents in the first level agent group to address the mission specification, the mission plan having a number of tasks, the generating based on information in the mission specification, the tasks including inspection of fluid leaks in the aircraft;

allocating through a task allocator the number of tasks in the mission plan to the number of first agents in the first level agent group, including allocating a number of tasks to the number of first agents based on the mission plan to form a number of task assignments, generating a number of physical path plans related to the aircraft for the number of first agents based on the number of tasks allocated to each of the number of

first agents, and sending the number of physical path plans and the number of task assignments to the number of first agents, wherein each agent in the number of first agents receives a path plan related to the aircraft and associated with the number of tasks allocated to the agent;

planning in a path planner a number of physical paths associated with the number of tasks allocated to the number of agents;

monitoring by a processor the number of first agents executing the mission plan using a data processing system, the monitoring including receiving information about the aircraft from a number of sensors associated with the number of first agents, *the number of sensors including a camera configured to acquire an image of the aircraft with respect to the fluid leaks using ultraviolet light to detect the fluid;*

determining by the processor whether the first level agent group will complete the mission plan including a number of tasks in the mission plan based on the hierarchy specification and the information about the aircraft from the number of sensors including the information about the fluid leaks from the camera;

responsive to a determination that the first level agent group will not complete all tasks in the mission plan including the inspection of the fluid leaks, sending an uncompleted portion of the mission plan to a second mission planner associated with a second level agent group and communicating the uncompleted portion of the mission specification to the second mission planner associated with a second level agent group in the hierarchy; and

generating in a processor of a second mission planner a second mission plan for a second maintenance operation for the second level agent group.

Rejection

Claims 10, 13–17, 20, 22, 23, and 25–29 stand rejected under 35 U.S.C. § 101 as being patent ineligible. Final Act. 7.

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments. Arguments Appellants could have made but chose not to make are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). Appellants do not separately argue the claims. *See* App. Br. 16. We select claim 10 as representative. *See* 37 C.F.R. §41.37(c)(1)(iv).

The Examiner determines claim 10 is patent ineligible under 35 U.S.C. § 101 because it is directed to an abstract idea and does not include additional elements that are sufficient to amount to significantly more than the abstract idea. *Ans. 2–6; see also Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014) (describing the two-step framework “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.”).

After the mailing of the Answer and the filing of the Briefs in this case, the USPTO published revised guidance on the application of § 101 (“Guidance”). *See* USPTO’s 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Memorandum”). Pursuant to the Guidance “Step 2A,” the office first looks to whether the claim recites:

- (1) Prong One: any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) Prong Two: additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, does the Office then (pursuant to the Guidance “Step 2B”) look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that are not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Memorandum.

We are not persuaded the Examiner’s rejection is in error. We adopt the Examiner’s findings and conclusions as our own, to the extent consistent with our analysis herein. We add the following primarily for emphasis and clarification with respect to the Guidance.

A. Step 2A

Prong One

Appellants argue the Examiner’s analysis is in error, because “the ordered combination of features of the claims does not direct the claim abstractly to a process of organizing human activity.” App. Br. 14.

Appellants contend that, rather, claim 10 includes “features [that] provide a specific scope for a method of autonomous hierarchical mission management.” App. Br. 16.

Pursuant to the Guidance, we agree with the Examiner that claim 10 recites “the abstract idea of scheduling and organizing a series of tasks associated with maintenance mission, i.e., a method of organizing human activities/behaviors.” Final Act. 8; *see also* Memorandum, Section III (A)(1) (Prong One: Evaluate Whether the Claim Recites a Judicial

Exception), 84 Fed. Reg. at 54. Claim 10 recites a method of mission management, including generating a specification and mission plans, organizing agents to execute the mission plans, and monitoring the agents during execution of the mission plans. Both the system operators and the agents can be humans. *See* Spec. ¶¶ 2, 39. Thus, the claim limitations quintessentially recite “[c]ertain methods of organizing human activity,” including managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions. Memorandum, Section I (Groupings of Abstract Ideas), 84 Fed. Reg. at 52–53.

Prong Two

We are also not persuaded the Examiner’s rejection is in error pursuant to Step 2A, Prong Two of the Guidance. In the Appeal Brief, Appellants merely quote large portions of the claims and contend these limitations are not ineligible. *See, e.g.*, App. Br. 15; *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006) (“[M]ere statements of disagreement . . . do not amount to a developed argument.”). In the Reply Brief, Appellants refer to the claim requirements of “a large population of agents [] divided into multiple agent groups in a number of levels of a hierarchy.” Reply Br. 2. As discussed above, the agents are humans. Thus, these limitations recite the abstract idea of organizing human activity, and do not supply the inventive concept that renders the invention significantly more than that ineligible concept. *See* Ans. 5; *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018); Memorandum, 84 Fed. Reg. 54–55 (“evaluate integration into a practical application by:

(a) Identifying whether there are any additional elements recited in the claim beyond the judicial exception(s)").

We are also unpersuaded by Appellants' arguments that the "sensor related elements of the invention constitute significantly more than an abstract idea itself." Reply Br. 3. We agree with the Examiner, and Appellants do not challenge, that claim 10's requirement that "determinations are responsive to the identification of fluid leaks[] fails to convey a technical solution to the maintenance challenges addressed by the inventive method, but rather merely illustrates a type of standard sensor employed and the input elements derived therefrom." Final Act. 4. The determination step of the claim is based on information including sensor data. Thus, the claimed use of the sensor "does no more than generally link the use of a judicial exception to a particular technological environment or field of use." Memorandum, Section III (A) (2) (Prong Two: If the Claim Recites a Judicial Exception, Evaluate Whether the Judicial Exception Is Integrated Into a Practical Application), 84 Fed. Reg. at 54–55.

Accordingly, we determine the claim does not integrate the judicial exception into a practical application. *See id.* As the "claim recites a judicial exception and fails to integrate the exception into a practical application," we must proceed with "further analysis pursuant to the second step of the *Alice/Mayo* test (USPTO Step 2B)." Memorandum, 84 Fed. Reg. at 51.

B. Step 2B

We agree with the Examiner that the claimed elements and combination of elements do not amount to significantly more than the

judicial exception itself. *See* Final Act. 9–10; Ans. 6; Memorandum, Section III (B) (Step 2B), 84 Fed. Reg. at 56. Outside of the abstract idea, the remaining claim elements only recite generic components that are well-understood, routine, and conventional. *See* Ans. 6; Spec. ¶¶ 41, 47–60, 156–161; *Alice*, 573 U.S. at 226. Accordingly, we agree with the Examiner that claim 10 is patent ineligible. *See* Final Act. 7–8.

DECISION

The Examiner’s decision rejecting claims 10, 13–17, 20, 22, 23, and 25–29 is affirmed.

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