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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOPHER M. SPROCK and BENJAMIN J. HODEL

Appeal 2015-002595
Application 12/641,849
Technology Center 2600

Before THU A. DANG, ERIC S. FRAHM, and
LINZY T. McCARTNEY, *Administrative Patent Judges*.

FRAHM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Introduction

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Non-Final Rejection of claims 1, 4–15, and 18–20 mailed May 15, 2014. Claims 2, 3, 16, and 17 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Exemplary Claim

Exemplary independent claim 1 under appeal, with emphasis and bracketed lettering added to disputed portions of the claim, reads as follows:

1. A parameter visualization system comprising a controller configured with a plurality of instructions, the plurality of instructions comprising instructions to:

receive three-dimensional position data indicating a location of an earthmoving machine on a worksite;

receive parameter information comprising values of a plurality of parameters, the plurality of parameters including parameters of at least one of the earthmoving machine and the worksite;

generate a first display signal configured to provide a value of a first machine or worksite parameter in the plurality of parameters, wherein the first display signal is a two-dimensional plot of the value of the first machine or worksite parameter;

[A] *receive a modification, from a user, of the value of the first machine or worksite parameter, wherein the modification of the value of the first machine or worksite parameter comprises a modification of the two-dimensional plot on a display;*

[B] *calculate a simulated value of a second machine or worksite parameter based on the modification of the value of the first machine or worksite parameter;*

[C] *generate a second display signal configured to provide a visual depiction of the values of the modified first*

machine or worksite parameter and the simulated second machine or worksite parameter along a three-dimensional visual depiction of the worksite.

The Examiner's Rejection

The Examiner rejected claims 1, 4–15, and 18–20 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Gudat et al. (US 5,646,844; issued July 8, 1997) and Salomon et al. (US 2008/0154557 A1; published June 26, 2008). Non-Final Act. 6–16.

*Principal Issues on Appeal*¹

Based on Appellants' arguments in the Appeal Brief (App. Br. 10–34) and the Reply Brief (Reply Br. 2–10), the following two principal issues are presented on appeal:

Did the Examiner err in rejecting claims 1, 4–15, and 18–20 under 35 U.S.C. § 103(a) over the combination of Gudat and Salomon because the combination (i) is improper, and/or (ii) fails to teach or suggest the limitations at issue in representative independent claim 1, namely limitations [A], [B], and [C]?

ANALYSIS

We have reviewed the Examiner's rejections (Non-Final Act. 3–20; Ans. 2–18) in light of Appellants' arguments in the Appeal Brief (App. Br. 5–8) and the Reply Brief (Reply Br. 2–7) that the Examiner has erred in

¹ Independent claims 1, 15, and 20 (and claims 4–14, 18, and 19 which depend respectively therefrom) contain the same disputed limitations pertaining to a parameter visualization system. Appellants argue claims 4–13, 15, and 18–20 for the same reasons as provided with respect to claim 1 (*see* App. Br. 22–33). We select claim 1 as representative of claims 1, 4–15, and 18–20.

view of the Examiner's response to Appellants' arguments in the Answer (Ans. 2–9). We disagree with Appellants' arguments. With respect to representative independent claim 1, we adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken (Non-Final Office Act. 6–9), and (2) the reasons set forth by the Examiner in the Examiner's Answer (Ans. 2–8) in response to Appellants' Appeal Brief. We concur with the conclusions reached by the Examiner.

The Examiner has relied upon the *combination* of Gudat and Salomon as teaching or suggesting the parameter visualization system having a controller configured to perform method steps [A], [B], and [C] as recited in claim 1. Notably, claim 1 is a hybrid claim insofar as it purports to be a system claim, but only recites one element (a controller) of the system which is configured with instructions to perform a series of method steps. Although we do not make a new ground of rejection for indefiniteness herein, this understanding of claim 1 supports our interpretation that claim 1 does not positively or explicitly recite or require a user interface or other element for receiving the modification set forth in limitation [A]. And, we find that Appellants' originally filed claims (*see generally* claims 1–20 listed at Spec. 20–24), Abstract (*see* Spec. 25), and Drawings (*see generally* Figs. 1–5), all fail to (i) show or describe any user interface for allowing user input, and (ii) explain how the modification of the first parameter value is received.

Paragraphs 33 through 35 of the Specification provide support for the user input recited in limitation [A] of claim 1. The Specification describes two ways in which modifications of the first parameter value may be received – input by a user, or calculated by controller 90:

The desired parameter values *input by the user* and/or calculated by the controller 90 of the computer system 12 may then be implemented by physically altering the worksite in accordance with desired worksite parameters and/or changing machine operation in accordance with desired machine parameters.

Spec. ¶ 35 (emphasis added). Although Appellants describe an input device for modifying line contours that reflect parameters (Spec. ¶¶ 33 and 34), Appellants did not deem this significant enough of a feature to be shown in the Drawings (*see e.g.*, Fig. 2; ¶ 33). In any event, Salomon also discloses a simulation tool that “allows a user to input parameters governing a simulation” (¶ 53, second sentence). In this light, we agree with the Examiner (Ans. 3–4) that direct and/or physical user input is not a requirement of claim 1, and even assuming *arguendo* a user input device were to be read into the claim from the Specification, such a device is taught by Salomon.

We note that each reference cited by the Examiner must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references).²

² Notably, Appellants admit in the Specification that the *prior art* includes using GPS receivers on a compactor machine to generate 2D or 3D maps of a worksite being compacted (Spec. ¶ 3), torque sensors and torque estimating applications (Spec. ¶ 16), validation simulation applications (Spec. ¶ 17), using the “kD tree method” to “generate[] a splitting plane that divides the overall space [3D space defined by discrete points] into two subspaces” (Spec. ¶ 27); and simulation analysis applications that use artificial intelligence (Spec. ¶ 32).

In this light, Appellants' arguments as to representative independent claim 1 (App. Br. 12–22) concerning the individual shortcomings in the teachings of Gudat and Salomon are not persuasive, and are not convincing of the non-obviousness of the claimed invention set forth in representative independent claim 1. We agree with the Examiner (Ans. 2) that to the extent Appellants' arguments serve to argue the shortcomings of Gudat and Salomon separately, these arguments are not persuasive of Examiner error or of any deficiency in the prima facie case of obviousness as to claim 1. We also agree with the Examiner the combination is properly made (*see* Ans. 6–8) and the combination teaches and/or suggests the recited limitations (limitations [A], [B], and [C]) of claim 1 (*see* Ans. 2–3).

Specifically, we agree with the Examiner that “Salomon shows the performing of simulations for machines, in which parameters are inputted to determine if they would output the desired results,” and “[t]herefore, in combination with Gudat, one of ordinary skill in the art may have been led to the suggestion of performing simulations for the earth-moving machines to determine whether or not using certain parameters would result in a desired output” (Ans. 7). We also agree with the Examiner's determination that Gudat relates to dynamic updates for other systems such as cylinders or pumps (Ans. 7 citing Gudat col. 6, ll. 34–46). In addition, (i) Salomon (*see* ¶¶ 35 and 53) relates to a computerized tool to simulate fluid/vapor pressure and/or cavitation in modeled component devices like pumps or injectors (and could include for example, gas tanks and/or radiators such as found on geography-altering machines or earthmoving equipment such as machines

1–3 shown in Figure 1 of Gudat);³ and (ii) Appellants, like Salomon, describe (a) *pressure* as a possible machine parameter for use in a simulation (see ¶ 14 at Spec. 6 about middle of page), as well as (b) using simulations to identify “suboptimal machine performance” (Spec. ¶ 33) (compare this with Salomon’s identification of predicting/reducing damage to components described in ¶ 53).

In view of the foregoing, we sustain the rejection of claim 1, as well as the respective claims 4–15 and 18–20 grouped therewith, under § 103(a) over the combination of Gudat and Salomon for the reasons provided by the Examiner (see *e.g.*, Non-Final Office Act. 6–9; Ans. 2–8)(discussing claim 1).

CONCLUSION OF LAW

The Examiner did not err in rejecting claims 1, 4–15, and 18–20 under 35 U.S.C. § 103(a) over the combination of Gudat and Salomon because Appellants’ arguments are not persuasive of Examiner error in reaching the conclusion of obviousness as to representative claim 1. More specifically, the combination (i) is proper and rationally articulated, and (ii) teaches or suggests limitations [A], [B], and [C] at issue in representative independent claim 1.

DECISION

We affirm the Examiner’s rejection of claims 1, 4–15, and 18–20.

³ Notably, Caterpillar appears to be the same assignee of Salomon as in the instant application on appeal, so would appear to be a related industry.

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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). *See* 37 C.F.R. §§ 41.50(f), 41.52(b).

AFFIRMED