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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RÉGIS YVES VAILLANT, ADRIAN FRANCIS WARNER,
CLAUDIO PATRICIO MEJIA, and ION PETROS PAPPAS

Appeal 2014-005966
Application 13/191,313
Technology Center 3700

Before LINDA E. HORNER, THOMAS F. SMEGAL, and LISA M. GUIJT,
Administrative Patent Judges.

HORNER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Régis Yves Vaillant et al. (Appellants) seek our review under 35 U.S.C. § 134 of the Examiner’s decision, as set forth in the Final Office Action, dated August 14, 2013 (“Final Act.”), rejecting claims 1–14 and 23–25.¹ We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellants identify the real party in interest as General Electric Company. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Appellants' claimed subject matter relates to a "system and method for integrating multiple data sources into an X-ray image referential." Spec., Title. Claims 1 and 23 are independent. Claim 1 is reproduced below.

1. A method for integrating multiple data sources into an X-ray image referential, comprising:

generating an X-ray image of a subject;

collecting information from sensors of a catheter disposed within the subject;

generating the X-ray image referential on a coordinate system by merging a model of an anatomy and the collected information from the sensors of the catheter to the X-ray image, wherein the X-ray image referential includes a display of a trace of the catheter, wherein the trace comprises a path traveled by the catheter through the subject and selectable points along the path, and wherein each selectable point is associated with the collected information gathered when the catheter was at the respective selectable point along the path; and

displaying the X-ray image referential on a display.

EVIDENCE

The Examiner relied upon the following evidence:

Weese	US 2005/0288577 A1	Dec. 29, 2005
Maschke	US 2007/0027390 A1	Feb. 1, 2007
Webler	US 2007/0055142 A1	Mar. 8, 2007
Brunner	US 2007/0064001 A1	Mar. 22, 2007
Rahn	US 2007/0167700 A1	July 19, 2007

REJECTIONS

The Final Office Action included the following grounds of rejection:

1. Claims 1, 3–7, 13, 14, and 23 under 35 U.S.C. § 103(a) as unpatentable over Maschke and Weese.
2. Claims 2, 9, 23, and 24 under 35 U.S.C. § 103(a) as unpatentable over Maschke, Weese, and Rahn.
3. Claim 8 under 35 U.S.C. § 103(a) as unpatentable over Maschke, Weese, and Brunner.
4. Claims 10–12, 24, and 25 under 35 U.S.C. § 103(a) as unpatentable over Maschke, Weese, and Webler.

ANALYSIS

First Ground of Rejection

Appellants argue the claims subject to the first ground of rejection as a group. Appeal Br. 5–9. We select claim 1 as the representative claim for the group. Claims 3–7, 13, 14, and 23 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

With regard to independent claim 1, the Examiner found that Maschke teaches integrating multiple data sources into an X-ray referential, “wherein the X-ray image referential includes a display of a trace of the catheter.” Final Act. 3 (citing Maschke, paras. 8, 12, 29). The Examiner found that Maschke “fail[s] to teach wherein the trace comprises a path traveled by the catheter through the subject and selectable points along the path, and wherein each seletable [sic] point is associated with the collected information gathered when the catheter was at the respective selectable point

along the path.” *Id.* at 3–4. The Examiner found that Weese teaches these missing features, and determined that it would have been obvious to modify Maschke “to include the tracking features of Weese.” *Id.* at 4 (citing Weese, paras. 13–20); *see also* Ans. 11–13 (citing Weese, paras. 8, 13–21, 25, 35, and 39, and Fig. 2).

Appellants challenge the Examiner’s finding that Weese’s display of a “roadmap” of the vessel constitutes a trace comprising a path traveled by the catheter through the subject. Appeal Br. 7–8 (arguing that “Weese merely discloses a distance map of a blood vessel that includes a starting point and an end point of the vessel and the current position (i.e., distance) of the probe or instrument relative to the starting point and end point”). Appellants further contest the Examiner’s finding that Weese discloses a trace including selectable points along the trace, and wherein each selectable point is associated with the collected information gathered when the catheter was at the respective selectable point along the path. *Id.* at 8; *see also* Reply Br. at 3–4 (arguing that Weese is silent with regard to being able to select a point on the distance map of the vessel to access or display the image collected at that point).

Weese discloses a method and system for creating a “roadmap” of a vessel by moving a sensor probe, such as an intravascular ultrasound system (IVUS) probe attached to the end of a catheter, through a vessel and storing a sequence of local cross-section images of the vessel, which are obtained by the probe operating at a constant imaging rate as the probe is moved through the vessel at a constant speed. Weese, paras. 8, 10, 11, 13, 35, and Fig. 1.

This step produces images generated at lengthwise distances d along the vessel that are all the same distance apart. *Id.*, para. 35. These local images are stored in memory. *Id.*, para. 36. As shown in Figure 1, Weese's display 6 shows a blood vessel and a roadmap of the vessel between starting point x_1 and end point x_2 through which the catheter traveled. Weese's display further depicts points along this roadmap at which image captures were taken by the probe as the catheter traveled through the subject. As such, we agree with the Examiner's finding that this roadmap disclosed in Weese is "a trace comprising a path traveled by the catheter through the subject," as recited in claim 1.

Weese further discloses that the catheter and probe can then be moved through the vessel again and additional local cross-section images of the vessel are made with the probe at the respective points at which the probe is located at the time. *Id.*, para. 39. A data-processing unit then compares a current cross-section image of the vessel with the stored cross-section images taken during the first pass of the probe through the vessel, and selects a stored image that most closely resembles the current image to determine the position of the probe within the vessel. *Id.*, paras. 10, 22–25, 40–41. The data-processing unit shows on a display a model of the probe and a model of the stent at the corresponding position on the "roadmap" model of the vessel. *Id.*, paras. 14, 41. Thus, as described above, during a second insertion of the catheter into the patient, Weese's system uses a current image taken by the probe to select one of the stored images (collected information) gathered when the catheter was at a particular point

along the path. Any point along Weese's roadmap for which a local image is stored (i.e., represented by the lines in display 6 of Figures 1 and 2 that are taken at a distance d apart) are selectable points along the path, e.g., the points are selected by moving probe 3 along the path a second time. Thus, we agree with the Examiner that the points along the roadmap at which images were captured are selectable points "associated with the collected information gathered when the catheter was at the respective selectable point along the path" as called for in claim 1. Ans. 13.

The Examiner's findings as to the scope and content of Weese are supported by a preponderance of the evidence. Appellants have not presented any arguments that demonstrate error in the Examiner's rejection of claim 1. Claims 3–7, 13, 14, and 23 fall with claim 1. As such, we sustain the rejection of claims 1, 3–7, 13, 14, and 23 under 35 U.S.C. § 103(a) as unpatentable over Maschke and Weese.

Second through Fourth Grounds of Rejection

Appellants rely on the same arguments presented for the first ground of rejection as to the asserted deficiencies in Weese as the basis for seeking reversal of the second through fourth grounds of rejection. Appeal Br. 9–13 (arguing that neither Rahn, nor Brunner, nor Webler cures the deficiencies of Maschke and Weese). We are not persuaded of error in the remaining grounds of rejection for the same reasons provided *supra* in our analysis of claim 1. Accordingly, we sustain the rejections under 35 U.S.C. § 103(a) of claims 2, 9, 23, and 24 as unpatentable over Maschke, Weese, and Rahn,

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claim 8 as unpatentable over Maschke, Weese, and Brunner, and claims 10–12, 24, and 25 as unpatentable over Maschke, Weese, and Webler.

DECISION

The decision of the Examiner to reject claims 1–14 and 23–25 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED