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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ERIK JOHANNES MARIA JANSSEN

Appeal 2020-000072
Application 14/407,484[1]
Technology Center 3700

Before BIBHU R. MOHANTY, BRUCE T. WIEDER, and ROBERT J. SILVERMAN, *Administrative Patent Judges*.

WIEDER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1, 2, 4, 6, 7, 9, 10, 12, 13, 15, 16, and 18–21. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Koninklijke Philips N.V. (Appeal Br. 2.)

CLAIMED SUBJECT MATTER

Appellant's "invention relates to a computed tomography system and to an interventional system comprising the computed tomography system. The invention relates further to a fusion image generation method and computer program for generating a fusion image." (Spec. 1, ll. 2–5.)

Claims 1, 13, and 15 are the independent claims on appeal. Claim 1 is illustrative. It recites (emphasis added):

> 1. A computed tomography system comprising:
>
> a computed tomography image generating unit comprising a computed tomography scanner configured to generate a computed tomography image of an object within a computed tomography imaging region, wherein the computed tomography scanner comprises a bore that encloses the computed tomography imaging region;
>
> a movable support element comprising a movable table configured for supporting the object and for moving the supported object from a first position within the computed tomography imaging region to a second position within an outside region, wherein the outside region is outside the bore;
>
> an optical image acquisition unit comprising at least one camera configured to acquire an actual time-dependent live optical image of the object within an outside region outside of the computed tomography imaging region using visible light and acquire a first distance measurement optical image of an optical marker arranged in a fixed relation to the moveable support element and positioned in the computed tomography imaging region, and a second distance measurement optical image of the optical marker in the fixed relation to the movable support element and positioned in the outside region;
>
> a computer configured for:
>
> providing a path of an interventional instrument positioned at an entry location on an outer surface of the object located at the second position and extending from the entry location to a target region within the object based on the generated computed tomography image;

> detect a first position of the optical marker in the first distance measurement optical image and a second position of the optical marker in the second distance measurement optical image;
>
> determine a moving distance as a distance between the first and second detected positions;
>
> providing a spatial relation between a field of view of the computed tomography image generating unit and a field of view of the optical image acquisition unit; and
>
> *generating a fusion image, in which the computed tomography image of the object at the first position and the actual time-dependent live optical image of the object at the second position are fused based on the moving distance and the provided spatial relation, wherein the fusion image shows the provided path of the interventional instrument based on the computed tomography image, the actual time-dependent live optical image, the provided path, the provided spatial relation and the moving distance.*

REJECTIONS

Claims 1, 2, 6, 7, 9, 10, 12, 13, 15, 16, and 19–21 are rejected under 35 U.S.C. § 103 as unpatentable over Stolka (US 2012/0253200 A1, pub. Oct. 4, 2012), Cosman (US 2002/0065461 A1, pub. May 30, 2002), and Guendel (US 6,380,958 B1, iss. Apr. 30, 2002).[2]

Claims 4 and 18 are rejected under 35 U.S.C. § 103 as unpatentable over Stolka, Cosman, Guendel, Bani-Hashemi (US 2003/0083562 A1, pub.

[2] We treat the inclusion of cancelled claim 17 in the list of rejected claims appearing on page 2 of the Final Action as inadvertent error. We treat the discussion of cancelled claim 8 on page 12 of the Final Action as not relevant to the Final Action.

May 1, 2003), Schmitz (US 6,050,724, iss. Apr. 18, 2000), and Smith (US 2006/0079757 A1, pub. Apr. 13, 2006).

ANALYSIS

Obviousness is a legal conclusion involving a determination of underlying facts.

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966)).

With regard to the scope and content of the prior art, the Examiner finds that Stolka discloses a

> computer configured for . . . generating a fusion image, in which the computed tomography image and the optical image are fused based on the provided spatial relation and which also shows the provided path of the interventional instrument (see Figs. 3 and 4 and para 36, 37, 70-73, 78, 82, 95, 99, 164, and 167).

(Final Action 2–3.) Further, the Examiner finds:

> Additionally or alternatively, Cosman discloses a similar medical tracking and registration, system, comprising . . . an image fusion unit for generating a fusion image, in which the computed tomography image and the optical image are fused based on the provided spatial relation and the moving distance between first and second positions (see Figs. 1, 2, 6, and 11 and para 27-33, 35-39, 41, 74, 77, 80, 90, 91, 102, and 104-109).

> It would have been obvious to one of skill in the art . . . to have combined the teachings of Stokla [sic] and Cosman because doing so would allow the patient space, table, imaging device, optical imaging space to be registered. Such registration would ensure accurate and repeatable positioning of the patient on the bed between the multiple locations suggested in Stokla [sic].

(*Id.* at 3.)

Appellant argues that "Stokla [sic] does not disclose or suggest generating a fusion image in which a CT image and an actual time-dependent live optical image, which is acquired by at least one camera, are fused as the image captured by the cameras is not fused with the CT/MRI image." (Appeal Br. 8.) With regard to Cosman, Appellant only argues that "[t]he Office does not state either Cosman or Guendel disclose the above limitations." (*Id.*)

The Examiner answers, and we agree, that Appellant has failed to address the Examiner's alternative rejection based on Stolka and Cosman, and specifically based on the Examiner's above-discussed findings regarding the image fusion unit of Cosman. (*See* Answer 4, Final Action 3.) In the Reply Brief, Appellant argues, for the first time in this appeal, why the Examiner's findings regarding the image fusion unit of Cosman are in error. (*See* Reply Br. 3–4.)

> Any argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner's answer, including any designated new ground of rejection, will not be considered by the Board for purposes of the present appeal, unless good cause is shown.

37 C.F.R. § 41.41(b)(2). The argument in Appellant's reply brief regarding Cosman was not raised in the Appeal Brief, is not responsive to an argument raised in the Examiner's Answer, and Appellant fails to show good cause for

not raising the argument in the Appeal Brief. Therefore, we do not consider the argument here.

In view of the arguments properly before us, Appellant does not persuasively argue why the Examiner's alternative rejection based on Cosman is in error. Therefore we will affirm the rejection of claim 1. Independent claims 13 and 15 are not separately argued and fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellant argues that dependent claims 2, 4, 6, 7, 9, 10, 12, 16, and 18–21 are patentable for the same reason as claim 1.[3] (Appeal Br. 9.) For the reasons discussed above, claims 2, 4, 6, 7, 9, 10, 12, 16, and 18–21 fall with claim 1.

CONCLUSION

The Examiner's rejections of claims 1, 2, 4, 6, 7, 9, 10, 12, 13, 15, 16, and 18–21 under 35 U.S.C. § 103 are affirmed.

[3] We treat the inclusion of cancelled claim 17 in the list of claims appearing on page 9 of the Appeal Brief as inadvertent error.

Specifically:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 6, 7, 9, 10, 12, 13, 15, 16, 19–21	103	Stolka, Cosman, Guendel	1, 2, 6, 7, 9, 10, 12, 13, 15, 16, 19–21	
4, 18	103	Stolka, Cosman, Guendel, Bani-Hashemi, Schmitz, Smith	4, 18	
Overall Outcome			1, 2, 4, 6, 7, 9, 10, 12, 13, 15, 16, 18–21	

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