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| Parker Highlander PLLC 1120 South Capital of Texas Highway Bldg. 1, Suite 200 Austin, TX 78746 | | | GAGLIARDI, ALBERT J | |
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BOARD OF REGENTS, THE UNIVERSITY OF TEXAS
SYSTEM

Appeal 2019-006952
Reexamination Control 96/000,252¹
Patent 8,735,828 B2
Technology Center 3900

Before JOHN A. JEFFERY, MARC S. HOFF, and ERIC B. CHEN,
Administrative Patent Judges.

HOFF, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a Final Rejection of claims 1–19 and 22–34.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellants' invention (U.S. Patent No. 8,735,828 B2 to Beddar) is an apparatus and method for measuring radiation levels in vivo in real time. In

¹ Appellants state that the real party in interest is The Board of Regents, The University of Texas System. Appeal Br. 2.

² The patentability of claims 20, 21, and 35–37 has been confirmed. Final Act. 2.

one embodiment, the apparatus comprises a retention member configured to retain the apparatus in a location in vivo, a scintillating material configured to emit light when irradiated, an optical guide configured to transport light emitted from the scintillating material, an optical guide configured to transport light emitted from the scintillating material, and a photodetector configured to detect light emitted from the scintillating material and transported by the optical guide. Beddar col. 3:40–47.

Claim 1 is reproduced below:

1. An apparatus configured to measure radiation levels in vivo, the apparatus comprising:
 - a retention member configured to retain the apparatus in a location in vivo;
 - a scintillating material configured to emit light when irradiated;
 - an optical guide configured to transport light emitted from the scintillating material;
 - a photodetector configured to detect light emitted from the scintillating material and transported by the optical guide;
 - and
 - a data analyzer configured to analyze an output from the photodetector and configured to determine if the photodetector has been exposed to a threshold level of radiation therapy for cancer treatment.

The prior art relied upon by the Examiner as evidence is:

| Name | Reference | Date |
|-------------|--------------------|---------------|
| Gueye | US 7,662,083 B2 | Feb. 16, 2010 |
| Black | US 2005/0010110 A1 | Jan. 13, 2005 |
| Motomura | US 2005/0012043 A1 | Jan. 20, 2005 |
| Iwanczyk | US 2006/0178577 A1 | Aug. 10, 2006 |

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Claims 1–5, 22, 23, 26, and 27 stand rejected under 35 U.S.C. § 102 as being anticipated by Gueye.

Claims 2, 14, 16, 18, 19, 23–25, and 28–30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gueye.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gueye and Iwanczyk.

Claims 7–10, 15, 17, and 31–34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gueye and Motomura.

Claims 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gueye and Black.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gueye, Black, and Motomura.

Throughout this decision, we make reference to the Appeal Brief (“Appeal Br.,” filed May 21, 2019), the Reply Brief (“Reply Br.,” filed Sept. 11, 2019), and the Examiner’s Answer (“Ans.,” mailed July 12, 2019) for their respective details.

ISSUES

1. Does Gueye teach a retention member configured to retain the apparatus in a location in vivo?
2. Does Gueye teach securing the retention member in a specific location in vivo?

ANALYSIS

§ 102 Rejection

Appellants argue that Gueye does not teach a retention member or retaining an apparatus in a location in vivo, as recited in independent

claim 1. Appeal Br. 6. Appellants further argue that Gueye does not teach securing the retention member in a specific location in vivo, as recited in independent claim 22. *Id.*

Appellants do not explain the distinction between retaining an apparatus in a location and securing a retention member in a *specific* location, as required by various claims. The '828 Patent's Specification does not contain a definition of "specific location." Appellants do disclose retention member 70, which "may comprise an inflatable portion so that it may be inserted into the patient while deflated and then inflated to increase its size when it is in the desired location. This can allow the retention member to remain in a specific location during radiation treatment." '828 Patent col. 7:39–43. We further find that a dictionary definition of "specific" means "clearly defined or identified."³

We agree with the Examiner's finding that, while Gueye does not use the same terms as the '828 Patent (i.e., "retention member"), Gueye teaches a scintillating fiber array that may be employed in vivo as a detector array, and that said detector array is configured to conform to the structure of a catheter where the scintillating fibers may be embedded or otherwise arranged in the walls of the catheter. Ans. 13–14; Gueye col. 6:26–42. Thus, we agree with the Examiner's finding that the catheter of Gueye is a "retention member" that allows for the deployment of the scintillation detector at a specific location in vivo. In Gueye, that location is the location of a tumor in a breast or prostate. Ans. 14; Gueye col. 6:27–29.

³ Dictionary.com. Accessed January 15, 2020.

We do not agree with Appellants' argument that Gueye does not indicate that its elements "are capable of retaining or securing the apparatus in a specific location." Appeal Br. 7. Independent claim 1 recites only that a retention member is present that is "configured to retain the apparatus in a *location in vivo*" (emphasis added). Independent claim 22 recites "securing the retention member in a specific location in vivo."

Gueye Figure 6B, relied upon by the Examiner, illustrates an active mammosite catheter 615, including expandable balloon 610, inserted into lumpectomy cavity 605. Figure 6B illustrates the treatment of the lumpectomy cavity with high radiation dose (HDR) using the active mammosite catheter. Gueye col. 13:28–31. "Since the radiation source 115 is insertable through the shaft of the active mammosite catheter 615 to an area within the balloon 610, radiation is delivered to the area where cancer is most likely to recur The active mammosite catheter 615 provides for measuring actual radiation dosage applied, perhaps over multiple treatments." Gueye col. 13:44–50.

We agree with the Examiner's finding that Gueye thus teaches a retention member, and retaining an apparatus in a location (lumpectomy cavity 605) in vivo. We further agree with the Examiner that cavity 605 constitutes a specific, i.e., "clearly defined or identified," location in vivo. Appellants have not presented evidence that lumpectomy cavity 605 does not constitute such a "specific location." Gueye is unequivocal that its placement of the radiation source within balloon 610 is effective to deliver radiation to "the area where cancer is most likely to recur."

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Accordingly, we sustain the Examiner's 35 U.S.C. § 102 rejection of claims 1–5, 22, 23, 26, and 27.

35 U.S.C. § 103(A) REJECTIONS

Appellants assert only that claims 2 and 6–19 are patentable for “at least the reasons provided above for claim 1,” and that claims 23–25 and 28–34 are patentable for “at least the reasons provided above for claim 22.” Appeal Br. 11. Because we sustain the Examiner's rejection of claims 1 and 22, then, we sustain the rejection of claims 2, 14, 16, 18, 19, 23–25, and 28–30 over Gueye; the rejection of claim 6 over Gueye and Iwanczyk; the rejection of claims 7–10, 15, 17, and 31–34 over Gueye and Motomura; the rejection of claims 11 and 12 over Gueye and Black; and the rejection of claim 13 over Gueye, Black, and Motomura, for the reasons given *supra* with respect to claims 1 and 22.

CONCLUSION

1. Gueye teaches a retention member configured to retain the apparatus in a location in vivo.
2. Gueye teaches securing the retention member in a specific location in vivo.

DECISION SUMMARY

In summary:

| Claims Rejected | 35 U.S.C. § | Reference(s)/ Basis | Affirmed | Reversed |
|---------------------------------|--------------------|----------------------------|---------------------------------|-----------------|
| 1-5, 22, 23, 26, 27 | 102 | Gueye | 1-5, 22, 23, 26, 27 | |
| 2, 14, 16, 18, 19, 23-25, 28-30 | 103 | Gueye | 2, 14, 16, 18, 19, 23-25, 28-30 | |
| 6 | 103 | Gueye, Iwanczyk | 6 | |
| 7-10, 15, 17, 31-34 | 103 | Gueye, Motomura | 7-10, 15, 17, 31-34 | |
| 11, 12 | 103 | Gueye, Black | 11, 12 | |
| 13 | 103 | Gueye, Black, Motomura | 13 | |
| Overall Outcome | | | 1-19, 22-34 | |

The Examiner's decision to reject claims 1-5, 22, 23, 26, and 27 under 35 U.S.C. § 102 is affirmed. The Examiner's decision to reject claims 6-19, 24, 25, and 28-34 under 35 U.S.C. § 103(a) is affirmed.

Requests for extensions of time in this ex parte reexamination proceeding are governed by 37 C.F.R. § 1.550(c). *See* 37 C.F.R. § 41.50(f).

AFFIRMED

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