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The time period for reply, if any, is set in the attached communication.

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RALPH G. DACEY, JR., RODERICK A. HYDE,
MURIEL Y. ISHIKAWA, ERIC C. LEUTHARDT,
NATHAN P. MYHRVOLD, DENNIS J. RIVET II,
MICHAEL A. SMITH, CLARENCE T. TEGREENE,
LOWELL L. WOOD, JR., and VICTORIA Y.H. WOOD

Appeal 2011-005151
Application 11/894,031
Technology Center 3700

Before: JAMES P. CALVE, BRETT C. MARTIN, and
JEREMY M. PLENZLER, *Administrative Patent Judges*.

MARTIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Ralph G. Dacey, Jr. et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-4, 6, 8, 19-22, 52, 53, 56-60, and 63. Claims 5, 7, 9-18, 23-51, 54, 55, 61, 62, and 64-129 were either withdrawn from consideration or cancelled.¹ Appellants' representative presented oral argument by telephone on February 14, 2013. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

THE INVENTION

Appellants' claims are directed generally to methods "of establishing a sterile region in an insertable medical element." Spec. 1, ll. 7-9. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of establishing a sterile region proximate to an insertable medical element, comprising:
generating at at least one interior surface region of the insertable medical element an evanescent field having properties selected to substantially disable biomaterial in the at least one interior surface region.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Shturman	US 4,788,975	Dec. 6, 1988
Matter	US 6,443,147	Sep. 3, 2002
Eckhardt	US 6,730,113	May 4, 2004
Malak	US 2005/0203495 A1	Sep. 15, 2005

¹ See, e.g., App. Br. 4, 24-32.

THE REJECTIONS ON APPEAL

The Examiner made the following rejections:

Claims 1, 4, 6, 52, 53, 56, 57, 59, and 60 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Malak. Ans. 3.

Claim 63 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Malak. Ans. 5.

Claims 2, 3, and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Malak and Matter. Ans. 6.

Claims 19-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Malak and Eckhardt. Ans. 7.

Claim 58 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Malak and Shturman. Ans. 7-8.

ANALYSIS

Anticipation by Malak

Appellants present no argument with respect to the dependent claims subject to the Examiner's rejection as anticipated by Malak separate from the argument with respect to independent claim 1.² Accordingly, claims 4, 6, 52, 53, 56, 57, 59, and 60 stand or fall with claim 1. With respect to claim 1, Appellants essentially present two main arguments that Malak does not teach what the Examiner claims. First, "Appellants assert that the Examiner's assumption that the nanoparticles are 'at a nearby distance to the interior of the device' is unsupported by Malak." App. Br. 13. Second, Appellants assert that Malak does not support the Examiner's rejection because the Examiner bases the rejection at least partially upon the teaching

² See App. Br. 16.

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shown in Malak's Figure 6, which is not to scale and, according to Appellants, cannot be relied upon mainly because "the size of the nanoparticles in Figure 6 appear to have been greatly exaggerated." App. Br. 14; *see also* Reply Br. 3-5.

Appellants' arguments do not persuade us of error in the Examiner's finding that at least at the open end of Malak's catheter, the coating of nanoparticles would generate an evanescent field "at at least one interior surface region of the insertable medical element" as claimed in claim 1. *See, e.g.,* Ans. 8-9. Appellants present lengthy arguments as to why a field generated by Malak's nanoparticles cannot provide a field of sufficient size to pass through a wall of the catheter. *See* App. Br. 13-15; *see also* Reply Br. 3-5. These arguments, however, do not persuade of us of error in the Examiner's finding that "[t]he metal nanoparticles located at the tip of the device ... are considered to generate an evanescent or plasmon field near the interior surface of the device, as there is no barrier at the tip of the device." Ans. 8-9.

Appellants argue that Figure 6 is insufficient to support the Examiner's finding because Figure 6 is not to scale, and thus assert that the Examiner is allegedly making improper assumptions as to Malak's teaching. *See* Reply Br. 4. Regardless of scale, Malak's Figure 6 shows nanoparticles not only coating the length of the catheter shaft, but also going completely around the opening at the tip of the catheter. As both Appellants and the Examiner point out, Malak states that "**FIG. 6** shows a catheter covered with a thin film of nanoparticles." Malak, para. 0058. Contrary to Appellants' assertion, the Examiner's finding that Malak discloses nanoparticles at or on an open tip of the catheter is supported by a preponderance of evidence

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based on Malak's disclosure from the Specification along with the depiction of the open catheter tip coated with nanoparticles in Figure 6.

Claim 1 requires only that an evanescent field be generated "at at least one interior surface region." Claim 1 does not require that the field be generated along the entire length of the catheter nor that it be generated somewhere away from the tip. Further, regardless of the rapid decay of such fields, any nanoparticle that is at an open end of the tip is going to produce a field "at at least one interior surface region" of the catheter. As the Examiner has correctly found, "Malak clearly teaches the antibacterial properties of the metal nanoparticles (Par 0083) as well as destroying biological substances with the plasmon field (Par 0075)." Ans. 9. Even if a plasmon field is only generated at a portion of the interior surface of the catheter, Appellants' arguments do not show how Malak's teaching is deficient with respect to the claim language at issue requiring only that the field occur "at at least one interior surface region."

Regardless of the scale of Figure 6, the Examiner has correctly found that Malak teaches nanoparticles at an open catheter tip that would generate an evanescent field "at at least one interior surface region of the insertable medical element" as recited in claim 1 and that such a field is capable of destroying biological substances within the field. Appellants' arguments do not apprise us of error with respect to these findings and as such we sustain the Examiner's rejection of claim 1 as anticipated by Malak. Claims 4, 6, 52, 53, 56, 57, 59, and 60 fall with claim 1.

Obviousness over Malak and Matter

Appellants argue claims 2, 3, and 8 as a group. We select claim 2 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2011). Claim 2 recites "shielding a region external to the insertable medical element from

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electromagnetic energy.” Claims 3 and 8 recite similar limitations regarding “blocking” or “inhibiting” as claim 2’s “shielding.” The Examiner finds that Matter teaches such shielding and concludes that it would have been obvious to combine the shielding of Matter with the teachings of Malak to supply this additional functionality. Ans. 6.

Appellants challenge this combination by asserting “that there can be no objective evidence of teaching to modify or combine the cited references in that the proposed modification changes the technologies of Malak such that they are unsatisfactory for their intended purposes.” App. Br. 17. In support of this, Appellants point to Matter’s teaching that “the UV absorber . . . is configured to *prevent* radiation from exiting the distal end.” App. Br. 18. Appellants cite Matter at column 4, lines 43-46, which does state “[t]he ultraviolet absorbent portion **57** of the inner surface of the tube wall **51** will absorb substantial portions of the reflected ultraviolet radiation, thus preventing ultraviolet radiation from exiting through the distal end.”

Appellants selectively cite to Matter, however, and fail to address that directly thereafter, Matter clearly states “[p]referably, the absorbent portion **57** will have a beveled interface **57A** with the reflective portion **56** so as to control the amount of ultraviolet radiation exiting the absorbent port **57** while minimizing the amount of ultraviolet radiation exiting the distal end **53**.” Matter, col. 4, ll. 50-54. Matter goes on to state “[t]he amount of ultraviolet radiation leaving the distal end **53** can be further controlled...” Matter, col. 4, ll. 54-55. Accordingly, and contrary to Appellants’ argument, while Matter does suggest preventing ultraviolet radiation exiting the distal end of the catheter, Matter also clearly states that the coating can be used to minimize and control UV radiation and that preferably at least some radiation does exit the tip. As such, we are not apprised of error with respect

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to the combination because Matter does allow for some UV radiation to exit and thus does not render Malak unsatisfactory for its intended purpose as suggested by Appellants. We, therefore, sustain the Examiner's rejection of claims 2, 3, and 8 as obvious over the combination of Malak and Matter.

Obviousness over Malak

Claim 63

Appellants rely on the same arguments with respect to the evanescent field of claim 1 as to Malak not teaching "generating plasmon energy within the fluid passageway" as recited in claim 63. *See* App. Br. 21-22. For the same reasons as stated above with respect to claim 1, we do not find this argument persuasive because Malak does teach generation of a plasmon field at least at the open tip of the catheter. Appellants further argue that the Examiner has not addressed the limitation that requires "delivering a biomaterial through the passageway after or during the generating plasmon energy" as claimed in claim 63. Appellants state "[t]he Examiner's Answer fails to even address the latter limitation." Reply Br. 6 (referring to the delivery of a biomaterial as the "latter limitation"). Contrary to Appellants' arguments, however, the Examiner clearly finds that "Malak also discloses a method of photodynamic therapy which inherently includes delivering a photosensitizer" and that "[a] photosensitizer is a modified version of a biological material, and therefore interpreted as a biomaterial by applicant's definition." Ans. 5. Accordingly, the Examiner does address the "latter" recitation at issue and Appellants' arguments do not apprise us of error in the Examiner's findings or conclusion of obviousness over Malak with respect to claim 63. As such, we sustain the rejection of claim 63 as obvious over Malak.

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Obviousness over Malak and Either Eckhardt or Shturman

Claims 19-22

Appellants provide no separate argument with respect to claims 19-22 other than that presented with respect to claim 1, from which claims 19-22 depend. *See* App. Br. 16. Accordingly, for the same reasons as stated above with respect to claim 1, we sustain the rejection of claims 19-22 as obvious over Malak and Eckhardt.

Claim 58

Appellants provide no separate argument with respect to claim 58 other than that presented with respect to claim 1, from which claim 58 depends. *See* App. Br. 16. Accordingly, for the same reasons as stated above with respect to claim 1, we sustain the rejection of claim 58 as obvious over Malak and Shturman.

DECISION

For the above reasons, we AFFIRM the Examiner's decision to reject claims 1-4, 6, 8, 19-22, 52, 53, 56-60, and 63.

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

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