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| 27581 | 7590 | 02/25/2020 | EXAMINER | |
| Medtronic, Inc. (CVG) 8200 Coral Sea Street NE. MS: MVC22 MINNEAPOLIS, MN 55112 | | | LEVICKY, WILLIAM J | |
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARK T. MARSHALL, AMY E. THOMPSON-NAUMAN,
MELISSA G.T. CHRISTIE, GONZALO MARTINEZ, and
KEVIN R. SEIFERT

Appeal 2019-002164
Application 14/695,167
Technology Center 3700

BEFORE CHARLES N. GREENHUT, JEREMY M. PLENZLER, and
LEE L. STEPINA, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–5, 22, 25, 30, and 31. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Medtronic, Inc. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims are directed to an implantable medical electrical lead.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. An implantable medical electrical lead comprising:

an elongate lead body having a proximal end and a distal portion, the elongate lead body comprising an insulated portion;

a defibrillation electrode positioned along the distal portion of the lead body, the defibrillation electrode including a first defibrillation electrode segment and a second defibrillation electrode segment spaced a distance apart from each other, the second defibrillation electrode segment positioned distal to the first defibrillation electrode segment, the insulated portion of the elongate lead body positioned between the first and second defibrillation electrode segments and within the distance, at least one of the first and second defibrillation electrode segments including at least one coated portion and at least one uncoated portion, the at least one coated portion being coated with an electrically insulating material configured to prevent transmission of a pacing pulse to a patient's heart and configured to allow transmission of a defibrillation shock to the heart, the at least one uncoated portion being configured to transmit a defibrillation shock and at least one of transmit a pacing pulse to the heart and sense a cardiac depolarization;

an electrical conductor disposed within the elongate lead body, each of the first and second defibrillation electrode segments being electrically coupled to the electrical conductor; and

one or more pace/sense electrodes along the distal portion of the lead body and configured to, at least one of, deliver pacing pulses to and sense electrical activity from the heart, wherein at least one of the pace/sense electrodes is disposed between the first defibrillation electrode segment and the second defibrillation electrode segment.

REFERENCES

The prior art relied upon by the Examiner is:

| Name | Reference | Date |
|---------|--------------------|--------------|
| Kroll | US 6,327,498 B1 | Dec. 4, 2001 |
| Helland | US 6,760,619 B1 | July 6, 2004 |
| Laske | US 2010/0305675 A1 | Dec. 2, 2010 |

REJECTION

Claims 1–5, 22, 25, 30, and 31 are rejected under 35 U.S.C. § 103 as being unpatentable over Helland, Laske, and Kroll.

OPINION

Appellant disputes the Examiner’s rationale for combining the teachings of Kroll with those of Helland to provide each of the first and second defibrillation electrode segments being electrically coupled to the same electrical conductor as required by claims 1 and 25. Appeal Br. 9–18, 21.

The Examiner finds that Helland teaches “a defibrillation electrode . . . (e.g.[,] Figure 1, Element 138 and Figure 4, Element 232) . . . including a first defibrillation electrode segment and a second defibrillation electrode segment spaced a distance apart from each other (e.g.[,] Figure 1, Element 132 and Figure 4, Element 228).” Final Act. 5. The Examiner acknowledges, however, that those electrode segments are not electrically coupled by the same electrical conductor. *Id.* at 6. To remedy this deficiency, the Examiner finds that Kroll teaches “first and second defibrillation electrode segments being electrically coupled to the [same] electrical conductor.” *Id.* at 7. The Examiner reasons that “[i]t would have been obvious . . . to modify the system as taught by Helland . . . with each of

the plurality of first and second defibrillation electrode segments being electrically coupled to the [same] electrical conductor” because “such a modification would provide the predictable results of simplified delivery of shock energy with spaced apart electrodes, by requiring fewer conductors.” *Id.* at 8.

Appellant responds to the Examiner’s proposed modification to Helland’s teachings, explaining that “Helland explicitly teaches as being advantageous a cardiac stimulation device capable of delivering defibrillation pulses using any combination of defibrillation electrodes which are placed in all four chambers of the heart,” which means that “each defibrillation coil electrode of Helland must, as taught by Helland, be in a different chamber of the heart and coupled to a separate electrical conductor.” Appeal Br. 11. Appellant acknowledges that “Kroll does disclose[] two shocking coil electrodes serially connected to a single conductor,” but notes that “the coil electrodes of Kroll are implanted within a single heart chamber.” *Id.* Appellant contends that

a person having ordinary skill in the art would not have considered it obvious to modify the leads of Helland to connect defibrillation coil electrodes 132 and 138 with the single conductor based on the teachings of Kroll because such a modification would eliminate an ability to deliver defibrillation pulses between any combination of electrodes including, selectively, either of defibrillation coil electrodes 132 and 138.

Id. Appellant further contends that “[m]odifying the leads of Helland by connecting the coil electrodes of Helland with the single conductor of Kroll would render the leads of Helland incapable of their disclosed intended purpose of delivering defibrillation pulses ‘between any combination of the

defibrillation electrodes.” *Id.* at 15–16 (citing Helland, Abstract). Appellant has the better position.

The Examiner does not dispute that Helland’s system employs separate electrical conductors for each defibrillation coil electrode. *See* Ans. 3–8. Rather, the Examiner explains that “Helland teaches delivering between any combination of electrodes, which includes delivering defibrillation pulses to electrodes 132 and 138.” Ans. 3 (citing Helland 2:16–20). Simply stated, the Examiner finds that Helland teaches an arrangement where it would not matter if Helland’s defibrillation electrodes had a common electrical conductor or separate electrical conductors because both defibrillation electrodes are being simultaneously activated. This forms the basis for the Examiner’s rationale that use of a single electrical conductor for the simultaneous activation would be obvious as a simplification. This explanation by the Examiner does not adequately address the point Appellant attempts to make.

The goal of Helland is to provide a system that allows for individual activation of electrodes associated with each of the four heart chambers while minimizing the number of electrodes and leads. *See* Helland 1:37–2:47. We agree that the Examiner’s proposed modification defeats this purpose. The Examiner has failed to establish sufficiently that when looking to the teachings of Helland and Kroll, one skilled in the art would have simplified Helland’s system in the manner proposed because such a modification is counter to the objective of Helland.

For at least these reasons, we do not sustain the Examiner’s decision to reject claims 1 and 25, or claims 2–5, 22, 30, and 31, which depend from claim 1.

CONCLUSION

The Examiner's rejections are reversed.

DECISION SUMMARY

In summary:

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------|--------------------|---------------------------|-----------------|---------------------|
| 1-5, 22, 25, 30, 31 | 103 | Helland, Laske, Kroll | | 1-5, 22, 25, 30, 31 |

REVERSED