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Babkin et al.

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(54) **CRYOABLATION APPARATUS WITH ENHANCED HEAT EXCHANGE AREA AND RELATED METHOD**

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See application file for complete search history.

(75) Inventors: **Alexei Babkin**, Albuquerque, NM (US);
Peter Littrup, Bloomfield Hills, MI (US);
William Nydam, Rancho Santa Fe, CA (US)

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(73) Assignee: **CryoMedix, LLC**, San Diego, CA (US)

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Primary Examiner — Michael Peffley
Assistant Examiner — Khadijeh Vahdat

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(74) *Attorney, Agent, or Firm* — Convergent Law Group LLP; Rick Batt

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(57) **ABSTRACT**

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A cryoablation apparatus includes a distal energy delivery section to facilitate energy transfer to the tissue, resulting in faster achievement of tissue target temperatures. The energy delivery section includes a first heat exchange region and a second heat exchange region having a different heat exchange efficiency than the first heat exchange region. The first heat exchange region may comprise an increased surface area along a radial portion or length of the cryoprobe in contact with surrounding tissue. The heat exchange region may include ridges, texture, threads, and microtubes which serve to increase the thermal-contacting surface area and provide enhanced cryoenergy to the tissue.

Related U.S. Application Data

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A61B 18/02 (2006.01)

(52) **U.S. Cl.**
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(58) **Field of Classification Search**
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17 Claims, 14 Drawing Sheets

