

## Title (en)

MEDICAL HEATING DEVICE AND METHOD WITH SELF-LIMITING ELECTRICAL HEATING ELEMENT

## Title (de)

MEDIZINISCHE ERWÄRMUNGSVORRICHTUNG UND VERFAHREN DAFÜR MIT EINEM SELBSTBEGRENZENDEN ELEKTRISCHEN ERWÄRMUNGSELEMENT

## Title (fr)

DISPOSITIF MÉDICAL CHAUFFANT ET MÉTHODE COMPORTANT UN ÉLÉMENT CHAUFFANT ÉLECTRIQUE AUTOLIMITANT

## Publication

**EP 2521503 A4 20170208 (EN)**

## Application

**EP 11732051 A 20110104**

## Priority

- US 78371410 A 20100520
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## Abstract (en)

[origin: WO2011084957A1] Miniaturized, handheld medical heating devices utilize an electrical heater formed from a self-limiting conductive material, such as a conductive polymer or ceramic. The material has an electrical resistance that gradually changes with temperature such that heat production from electrical current through the material varies the resistance. A thermally insulating jacket contains the self-limiting heater element, which can be coupled to an electrical power supply. In one embodiment, a probe thermally coupled to the heater extends outward from the jacket. In another embodiment, the self-limiting conductive material is in series with one electrode of an electrode pair (or three electrodes) adapted to deliver radio frequency energy to tissue.

## IPC 8 full level

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## Citation (search report)

- [XY] US 7070597 B2 20060704 - TRUCKAI CSABA [US], et al
- [Y] US 6168593 B1 20010102 - SHARKEY HUGH R [US], et al
- [Y] US 4616660 A 19861014 - JOHNS DAVID L [US]
- See references of WO 2011084957A1

## Designated contracting state (EPC)

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## DOCDB simple family (application)

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