

Title (en)
Electromagnetic energy heating.

Title (de)
Heizung mittels elektromagnetischer Energie.

Title (fr)
Chauffage par l'énergie électromagnétique.

Publication
EP 0307003 A2 19890315 (EN)

Application
EP 88115385 A 19850419

Priority
US 60239984 A 19840420

Abstract (en)
There are disclosed methods and apparatus for increasing the fluidity of hydrocarbon fluids, by applying to those fluids electromagnetic energy in the frequency range of from about 300 megahertz to about 300 gigahertz.

IPC 1-7
B01J 19/12; C10G 1/00

IPC 8 full level
B65D 90/06 (2006.01); **C10G 1/00** (2006.01); **C10G 32/02** (2006.01); **E21B 43/24** (2006.01); **F17D 1/18** (2006.01); **H05B 6/80** (2006.01)

IPC 8 main group level
B08B (2006.01); **B65D** (2006.01)

CPC (source: EP KR)
C10G 1/00 (2013.01 - EP KR); **C10G 32/02** (2013.01 - EP); **E21B 43/2401** (2013.01 - EP); **H05B 6/804** (2013.01 - EP)

Citation (applicant)
• US RE31241 E 19830517
• VON HIPPEL: "TABLES OF DIELECTRIC MATERIALS", 1954, JOHN WILEY & SONS, INC.
• "ASHRAE HANDBOOK OF FUNDAMENTAL", 1981, THE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS, INC.

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US8431015B2; WO2016134476A1; WO2009156961A1

Designated contracting state (EPC)
AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)
WO 8504893 A1 19851107; AT E70079 T1 19911215; AU 4237485 A 19851115; AU 586820 B2 19890727; BR 8506617 A 19860415; CA 1261735 A 19890926; DE 3584819 D1 19920116; EP 0180619 A1 19860514; EP 0180619 A4 19861002; EP 0180619 B1 19911204; EP 0307003 A2 19890315; EP 0307003 A3 19890913; JP S61501931 A 19860904; KR 860700043 A 19860131; KR 890003463 B1 19890921; MX 159060 A 19890413; NO 161726 B 19890612; NO 161726 C 19890920; NO 161876 B 19890626; NO 161876 C 19891004; NO 171687 B 19930111; NO 171687 C 19930421; NO 855178 L 19860213; NO 864023 D0 19861009; NO 864023 L 19860213; NO 864024 D0 19861009; NO 864024 L 19860213; NO 864025 D0 19861009; NO 864025 L 19860213; NO 864026 D0 19861009; NO 864026 L 19860213; ZA 852948 B 19851224

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US 8500712 W 19850419; AT 85902320 T 19850419; AU 4237485 A 19850419; BR 8506617 A 19850419; CA 458949 A 19840716; DE 3584819 T 19850419; EP 85902320 A 19850419; EP 88115385 A 19850419; JP 50201185 A 19850419; KR 850700400 A 19850419; MX 20503585 A 19850419; NO 855178 A 19851219; NO 864023 A 19861009; NO 864024 A 19861009; NO 864025 A 19861009; NO 864026 A 19861009; ZA 852948 A 19850419