

Title (en)
Burner, particularly oil burner or combined oil/gas-burner

Title (de)
Brenner, insbesondere Oelbrenner oder kombinierter Oel/Gas-Brenner

Title (fr)
Brûleur, notamment brûleur à huile ou brûleur combiné huile/gaz

Publication
EP 0558455 B1 19960904 (DE)

Application
EP 93810115 A 19930222

Priority
CH 63692 A 19920228

Abstract (en)
[origin: US5346391A] To provide gasification of liquid fuel which is admitted by an atomizing nozzle (11, 13) into a gasification space (66). A deflection element (31) is located spaced from an air inlet (55) in order to deflect the mixture of air, recirculated combustion gases and gasified fuel in the gasification space. A flame tube (21) provides for a first (I) recirculation path for hot gases towards a recirculation openings (49). A second recirculation path (II) extends through openings (57, 61, 59) into the deflection element itself which, preferably, is a hollow, essentially shallow conical deflection structure. The deflection element in combination with the flame tube (21) causes recirculation of gases through the first recirculation path (I) back into the gasification space (66). Thus, all structural elements of the gasification space are subjected to recirculated hot combustion gases, so that no droplets from the atomizing burner (13) can adhere, and coke on structural elements. The efficient recirculation together with the complex stream relationships, caused by the braking effect of the recirculation element, and eddies and turbulences arising from over-pressure air supplied by the air inlet (55), result in effectively complete gasification of fuels within the gasification space (66) the end of the flame tube burns blue, with practically no NO_x even if no real gasifier structure is present. The flame, expanding in radial direction due to the deflection element, near formation, and effectively devoid of unburned hydrocarbons.

IPC 1-7
F23D 11/40; **F23C 9/00**; **F23D 17/00**

IPC 8 full level
F23D 11/36 (2006.01); **F23C 9/00** (2006.01); **F23D 11/00** (2006.01); **F23D 11/40** (2006.01)

CPC (source: EP US)
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Cited by
EP1030106A3; DE102008042483A1; EP1489352A1; EP0867658A1; CH694972A5; DE102005020664A1; DE102005020664B4; US6540505B1; US6579086B2; WO0012935A1; WO9516882A1

Designated contracting state (EPC)
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US 2272193 A 19930224; AT 93810115 T 19930222; CA 2090163 A 19930223; CZ 28993 A 19930226; DE 59303606 T 19930222; EP 93810115 A 19930222; ES 93810115 T 19930222; HU 9300515 A 19930225