

Title (en)

Single crystal silicon nozzle plate.

Title (de)

Lochplatte aus monokristallinem Silizium.

Title (fr)

Plaque à orifices en silicium monocristallin.

Publication

**EP 0498931 B1 19950920 (DE)**

Application

**EP 91119200 A 19911112**

Priority

DE 4104019 A 19910209

Abstract (en)

[origin: JPH04303172A] PURPOSE: To facilitate formation of a flat injection stream, and extremely improve atomization of emitted fuel based on opening at least one recessed part of a perforated plate in each quantity regulating port. CONSTITUTION: In this perforated plate 23 of monocrystal silicon having at least one atomizing port, the perforated plate 23 has at least one thin and long recessed part 39 formed by etching in an upper end surface 35, and the recessed part is partially overlapped with an atomizing port 41 formed by etching to extend to a lower end surface 31 of the perforated plate 23.

IPC 1-7

**F02M 61/18**; **B05B 1/04**

IPC 8 full level

**B05B 1/04** (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP KR US)

**B05B 1/02** (2013.01 - KR); **B05B 1/042** (2013.01 - EP US); **B05B 1/048** (2013.01 - EP US); **F02M 61/166** (2013.01 - EP US); **F02M 61/1853** (2013.01 - EP US); **Y10S 239/19** (2013.01 - EP US)

Citation (examination)

US 4647013 A 19870303 - GIACHINO JOSEPH M [US], et al

Cited by

EP1353062A3; EP1978241A1; EP0611886A1; US5492277A; US5740967A; US5951882A; EP1369180A3; US6945478B2; WO9509053A1

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

**DE 4104019 C1 19920423**; BR 9200428 A 19921013; DE 59106545 D1 19951026; EP 0498931 A1 19920819; EP 0498931 B1 19950920; ES 2077767 T3 19951201; JP H04303172 A 19921027; KR 100235126 B1 19991215; KR 920016149 A 19920924; US 5244154 A 19930914

DOCDB simple family (application)

**DE 4104019 A 19910209**; BR 9200428 A 19920207; DE 59106545 T 19911112; EP 91119200 A 19911112; ES 91119200 T 19911112; JP 1089092 A 19920124; KR 920001744 A 19920207; US 82082792 A 19920115