Title (en)
ANNULAR NOZZLE AND PROCESS FOR ITS USE

Publication
**EP 0198700 B1 19910724 (EN)**

Application
**EP 86302759 A 19860414**

Priority
US 72376785 A 19850416

Abstract (en)
[origin: EP0198700A2] A synthetic or fuel gas mixture containing hydrogen and carbon monoxide is made by the partial oxidation in a free-flowing hollow reactor of a slurry of solid carbonaceous fuel in a liquid carrier admixed with a gas containing free oxygen using a nozzle in which an annular slurry stream is enveloped between central and annular streams of high velocity gas. A uniform atomized admixture of solids, liquids and gases is formed by impinging the annular slurry stream on a downstream nozzle diffuser, and then transported through an exit orifice at an accelerated velocity to further atomize the admixture. The nozzle preferably has a slurry passageway (32) formed of two elongate segments (32a, 32b), the upstream segment (32a) being of greater cross-sectional area than the downstream segment (32b). The nozzle also is of general use in mixing a slurry with a gas.

IPC 1-7
C10J 3/46; C10J 3/48

IPC 8 full level
**C10J 3/46** (2006.01); **C10J 3/48** (2006.01); **F23D 21/00** (2006.01); **F23D 99/00** (2010.01)

CPC (source: EP KR)
**C10J 3/50** (2013.01 - KR); **C10J 3/506** (2013.01 - EP); C10J 2200/152 (2013.01 - EP)

Citation (examination)
US 4338099 A 19820706 - CROUCH WILLIAM B, et al

Cited by
EP0328794A1; US4887962A; EP0640679A1; CN102985516A; CN113917068A; US8974557B2; US9982206B2; WO2012170641A1; WO2015198285A1; US8784688B2; WO2011139199A1

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