

Title (en)
AN ATOMIZING NOZZLE ASSEMBLY

Publication
EP 0268432 A3 19900131 (EN)

Application
EP 87310020 A 19871112

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CA 522934 A 19861113

Abstract (en)
[origin: EP0268432A2] An atomizing nozzle assembly is provided having an outwardly diverging frustum of a cone shaped, deflector core (1) of wear resistant ceramic, a nozzle rim (8) of wear resistant ceramic encircling the core and coextensive with a downstream portion thereof to form a mixing zone (16) therewith for receiving liquid-to-be-atomized therein from an unobstructed passage (56) and atomizing fluid directing the liquid-to-be-atomized away from the core. The mixing zone leads to a nozzle orifice outlet (18). The core is mounted in a core holder (20) and is adjustable by a screw thread, in close proximity to the mixing zone, to adjust the width (W) of the mixing zone, and the liquid-to-be-atomized (e.g. a coal slurry fuel) and the atomizing fluid (e.g. air) are fed along coaxial tubes (72,68) which are slidably mounted by glands (106) to accommodate differential expansions. With this combination it is possible to set the width of the gap between the deflector core and the nozzle rim even before the operating temperature is reached, because negligible changes in this width will occur due to differential expansions between the nozzle components. Furthermore, accommodating differential thermal expansions by the slidable glands avoids any damage occurring to the ceramic parts due to differential thermal expansion.

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B05B 7/04

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Citation (search report)
• [A] EP 0128805 A2 19841219 - FORNEY INTERNATIONAL [US]
• [A] DD 249612 A3 19870916 - STROEMUNGSMASCH VEB [DD]
• [AD] US 4592506 A 19860603 - CAPES CHARLES E [CA], et al
• [AD] PROCEEDINGS OF THE FIFTH INTERNATIONAL WORKSHOP ON COAL-LIQUIDS FUELS TECHNO- LOGY, 1985, Halifax K.A.JONASSON et al. "The NRCC Burner Assembly and Related Technologies: An Update" pages 364-378

Cited by
CN113522550A; US8070483B2; US9546784B2; US9032623B2

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