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[Continued on next page]

(54) Title: FLUIDIZING NOZZLE WELD COLLAR

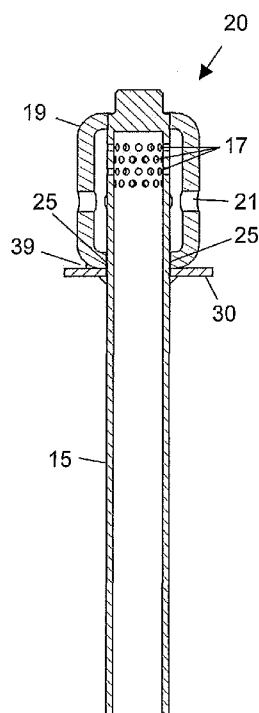


Fig. 3

(57) Abstract: A unique nozzle [20] for a fluidized bed reactor is described that may be replaced efficiently. This employs a collar [30] attached to a vertical section [15] of a feed pipe that provides fluidizing gases. The vertical section [15] has a plurality of nozzle openings [17] at its upper end. A nozzle cap [19] fits over the upper end of the vertical section [15] and the nozzle openings [17]. The collar [30] extends radially outward from the vertical section [15] at a location just below the nozzle cap [19] supporting it in its operational position. During replacement of the vertical section [15] and the nozzle cap [19], the collar acts as a guide to direct cutting equipment to the proper location and facilitate proper cuts. The collar [30] also acts as a support to hold the vertical section [15] and the nozzle cap [19] in proper position to facilitate welding.





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SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B01J F27B F23C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 841 884 A (ENGSTROM FOLKE [US] ET AL) 27 June 1989 (1989-06-27)	1,2,7
Y	column 4, line 51 - line 64; figure 6 -----	3-11
Y	US 2010/018444 A1 (BOBER THOMAS RICHARD [US] ET AL) 28 January 2010 (2010-01-28) paragraphs [0007], [0024], [0029]; figure 3 -----	3-11
X	US 2008/127868 A1 (SEMINATORE SALVATORE J [US]) 5 June 2008 (2008-06-05) paragraphs [0002], [0005], [0008], [0026] - paragraph [0032]; figures 1-6 -----	1,2
X	DE 11 79 914 B (SHAWINIGAN CHEM LTD) 22 October 1964 (1964-10-22) column 3, line 47 - line 54; figure 1 ----- -/--	1,2



Further documents are listed in the continuation of Box C.



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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	DE 38 03 323 A1 (GOETAVERKEN ENERGY SYST AB [SE]) 18 August 1988 (1988-08-18) column 3, line 13 - column 4, line 30 -----	1,7,12

INTERNATIONAL SEARCH REPORT

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