

12 **EUROPEAN PATENT APPLICATION**

21 Application number: 83104681.8

51 Int. Cl.³: **F 28 F 19/00**
F 28 F 9/02

22 Date of filing: 11.05.83

30 Priority: 11.05.82 US 377230

43 Date of publication of application:
16.11.83 Bulletin 83/46

88 Date of deferred publication of search report: 09.05.84

84 Designated Contracting States:
BE DE FR GB IT

71 Applicant: **WESTINGHOUSE ELECTRIC CORPORATION**
Westinghouse Building Gateway Center
Pittsburgh Pennsylvania 15222(US)

72 Inventor: **Rylatt, John Anthony**
2363 Haymaker Road
Monroeville Pennsylvania(US)

74 Representative: **Fleuchaus, Leo, Dipl.-Ing. et al,**
Fleuchaus & Wehser Melchiorstrasse 42
D-8000 München 71(DE)

54 **Non-plugging, pressure equalized tube sheet for gasification system heat exchanger.**

57 A heat exchanger with a cooling subsystem and a pressure equalizing system (82) is used in cooling raw gas from a carbonaceous material gasification system. This raw gas contains entrained particles which act as a severe abrasive. A tube sheet (56), onto which this raw gas directly impinges is cooled by a coolant maintained at the same pressure as the raw gas, using a pressure equalizing system (82) comprising a surge tank (84) with a gas/liquid interface to allow pressure transmittal without movement of one fluid into the system of the other fluid.

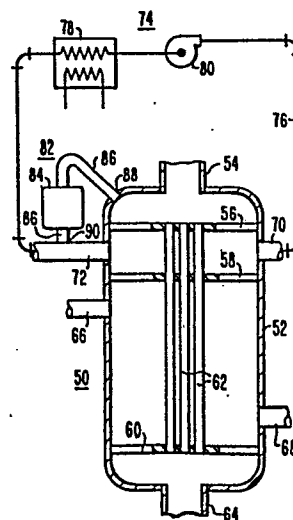


FIG. 2



European Patent
Office

EUROPEAN SEARCH REPORT

0094097

Application number

EP 83 10 4681

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Y	FR-A- 485 126 (OERLIKON) * Page 2, lines 53-72; figure 5 *	1	F 28 F 19/00 F 28 F 9/02
Y	--- GB-A-1 118 885 (ANDERSON) * Page 4, lines 27-60; figure 1 *	1	
A	--- FR-A-1 405 960 (S.I.D.A.M.) * Page 2, left-hand column, lines 10-25; figure 2 *	1,3,4	
A	--- US-A-2 862 694 (LORTZ) * Column 1, line 15 - column 3, line 48; figures 2,3 *	1,5	
A	--- GB-A-1 098 550 (C.E.A.) * Figure 1 *	1,6	
A	--- FR-A-2 247 691 (BABCOCK-ATLANTIQUE) * Page 7, lines 4-14; figure 2 *	2	F 28 F F 28 D
A	--- US-A-3 504 739 (PEARCE) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
Place of search THE HAGUE		Date of completion of the search 27-01-1984	Examiner SCHOUFOUR F.L.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			