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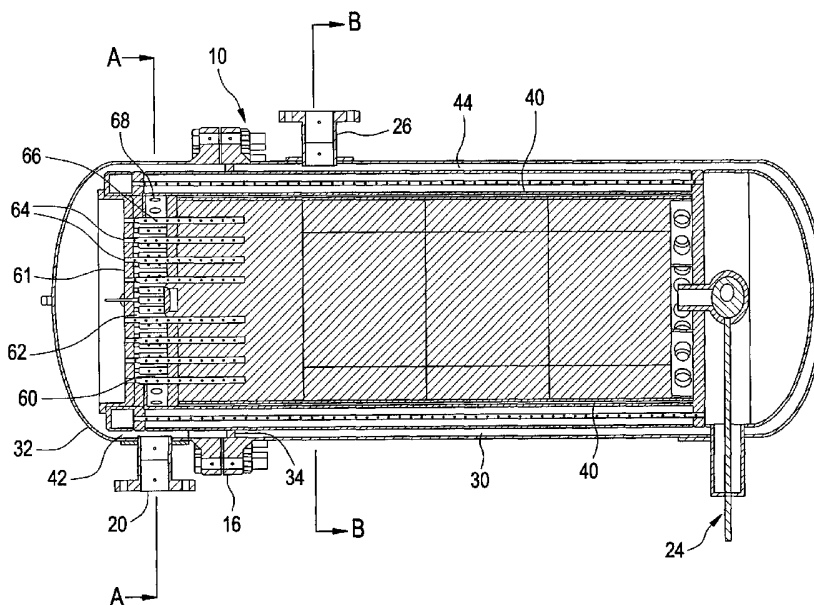
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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

[Continued on next page]

(54) Title: INTEGRATED AUTO-THERMAL REFORMER



(57) Abstract: A reactor vessel (10) for catalytic reforming of air and steam-fuel mix into a hydrogen rich output gas is designed to relevant pressure code requirements. The steam-fuel mix (26) and/or air (20) provided to the vessel (10) may be internally pre-heated prior to contacting the catalyst. Reformate (22) is selectively directed into a recuperator (40) to accomplish such heating. A bypass valve (24) to divert reformate around the recuperator (40) is also provided to allow control of the reaction conditions. Notably, this control may be performed manually or by way of an automated system. The resulting vessel enhances the safety an performance of the vessel (10), and it is move easily integrated into a complete fuel processor system.

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B01J 7/00
 US CL : 48/61, 62R, 127.9

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 48/61, 62R, 127.9

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,997,594 A (EDLUND et al.) 07 December 1999 (07.12.1999)	1-20
A	US 5,326,550 A (ADRIIS et al.) 05 July 1994 (05.07.1994)	1-20

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

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