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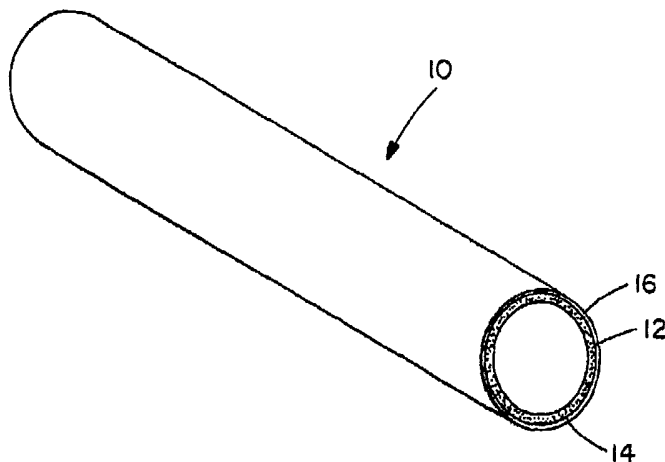
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(54) Title: COMPOSITE GAS SEPARATIONS MODULES HAVING INTERMEDIATE METAL LAYERS



(57) Abstract: The present invention relates to a composite gas separation module and to methods for fabricating a composite gas separation module. The present invention also relates to methods for selectively separating hydrogen gas from a hydrogen gas containing gaseous stream. In one embodiment, the composite gas separation module includes a porous metal substrate; an intermediate porous metal layer, wherein the intermediate porous metal layer overlies the porous metal substrate; and a dense hydrogen-selective membrane, wherein the dense hydrogen-selective membrane overlies the intermediate porous metal layer. The intermediate porous metal layer can include palladium and a Group IB metal. For example, the intermediate porous metal layer can contain alternating layers of palladium and a Group IB metal.

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**INTERNATIONAL SEARCH REPORT**

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC 7	B01D53/22	C01B3/50
		B01D71/02
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
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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 practical, search terms used)		
EPO-Internal		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
° Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *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 *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 *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 *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family		
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20 September 2004		28/09/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer  Gruber, M

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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