

INFORME DE BÚSQUEDA DE PATENTES PARA EL No de Radicación: 14-132613						
CRITERIOS PARA LA BÚSQUEDA (anexar pantallazo o reporte en PDF, junto con los booleanos utilizados)						
Palabras clave utilizadas		aerosol water, plasma reactor, synthesis gas, process for producing, Plasma reformer for hydrogen production, method and device, structured fischer-tropsch.				
CLASIFICACIONES INTERNACIONALES UTILIZADAS PARA LA BÚSQUEDA		C01B3/24; C10J3/00; C10J3/72				
BASES DE DATOS CONSULTADAS.						
ESPACENET		Patent scope	Patbase	USPTO		
INFORMES DE EXÁMENES REALIZADOS EN OTRAS OFICINAS (documentos patentes, literatura no patente etc...)						
Oficina	Fecha del examen o de reporte de búsqueda de documentos	Anterioridades encontradas para el examen o reportados en el examen de búsqueda(relacionarlos todos)	Reiv. afectadas	RELEVANCIA (requisito que afecta)	FUERON TENIDOS EN CUENTA PARA EL EXAMEN EN LA OFICINA COLOMBIANA	
					SI	NO
WIPO	04/04/2013	Process and apparatus for producing a hydrogen-containing gas EP 0219163	1-7, 11-20, 22, 23, 25-31	Novedad	X	
		Method and device for forming synthesis gas from biomass and residual materials WO 2000006671	1, 3-7, 11-17, 19, 20, 22, 23, 25-31	Novedad		X
		Process for the non-catalytic production of hydrogen and/or carbon monoxide GB 2265382	1-31	A		X
		Process for producing hydrogen and/or carbon monoxide GB 2265380	1-31	A		X
		GB365912	1-31	A		X
		Plasmagestützte Wassergasherstellung DE 102007005965	1-31	A		X
		Process and device for producing hydrogen EP 1270508	1-31	A		X
		Plasma whirl reactor apparatus and methods of use US 20030024806	1-31	A		X
DOCUMENTOS ADICIONALES ENCONTRADOS POR EL EXAMINADOR DE ACUERDO A LOS CRITERIOS DE BÚSQUEDA.						
Process for producing a hydrogen-containing gas EP0553924						
Hydrogen production US2783133						
Method and device for forming synthesis gas from biomass and residual materials WO0006671						
Plasma-supported production of water gas from coal, water and lime by microwaves and/or electrical induction energy for the production of raw material, hydrogen and carbon monoxide in chemical industry, comprises modifying the coal						

...these gas. The carbonization products are fed to the gasification zone, in which they are converted, for example, by means of steam, into H₂ and CO. The fact



Google search results for "WO2001009031A1".

Convertidor de plasma de combustibles fosiles en un gas rico en hidrogeno
WO 2001009031 A1

ABSTRACT

El objeto de la invención es un dispositivo para la producción de gas rico en hidrógeno a partir de combustibles fósiles. El dispositivo comprende un calentador, un mezclador y un reactor de plasma MCW combinados en serie así como una fuente de energía MCW. En el reactor tiene lugar una descarga de impulso periódica pseudo-corona a presión atmosférica, que proporciona un proceso plasma-catalítico de conversión del combustible a baja temperatura. El dispositivo permite llevar a cabo las reacciones de conversión con vapor, conversión con vapor-aire y oxidación parcial de combustibles fósiles para la obtención de un gas rico en hidrógeno con alta productividad específica (relación volumétrica) y con un consumo mínimo de energía eléctrica. El calentamiento previo de los reaccionantes proporciona una gran parte de la energía requerida por la termodinámica. Parte de la energía térmica se recupera a la salida del reactor de plasma. El dispositivo puede ser suficiente compacto para la su uso en motores de combustión interna de vehículos de transporte. El dispositivo puede usarse también en sistemas estacionarios para la producción de gas rico en hidrógeno (centrales generadoras de energía eléctrica, etc.), etc. Otros campos relacionados con la invención son la construcción de equipos de plasma por microondas (reactores de plasma) y la construcción de motores de vehículos. La presente invención se refiere al proceso de conversión de combustibles fósiles a gas rico en hidrógeno (gas sintético) mediante el uso de plasma generado por microondas con la adición de oxígeno (o aire) y con la posibilidad de adición de agua.

DESCRIPTION

CONVERTIDOR DE PLASMA DE COMBUSTIBLES FÓSILES EN UN GAS RICO EN HIDROGENO

OBJETO DE LA INVENCION El objeto de la presente invención consiste en un convertidor de plasma de combustibles fósiles en un gas rico en hidrógeno.

CLAIMS (1)

1. REIVINDICACIONES

1. Convertidor de plasma de combustibles fósiles en un gas rico en hidrógeno, que comprende un calentador, una cámara de mezcla, un reactor, unidos en serie, y una fuente de energía de MCW para el reactor.

Espacenet Patent search interface for US7070634 (B1).

Description: US7070634 (B1) — 2006-07-04

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Plasma reformer for hydrogen production from water and fuel

Description of US7070634 (B1)

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US7070634 (B1)

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BACKGROUND OF THE INVENTION

This invention pertains to a plasma reformer for dissociating H₂O and hydrocarbon fuels to produce hydrogen for direct use or for use in a fuel cell and carbon oxides. More particularly it pertains to dissociating H₂O into hydrogen and oxygen in a plasma reformer that uses a hydrocarbon fuel as an initiator and an intense electron field under non-equilibrium thermal plasma conditions to dissociate H₂O.

Hydrogen powered fuel cells have long been recognized as having great potential for stationary power generation and for transportation applications. Advantages of fuel cells include their ability to generate power more efficiently than internal combustion engines and other conventional power sources while producing essentially no pollutants. However, currently, no scalable, cost-effective, environmentally attractive hydrogen production process is available for commercialization. Hydrogen can be produced from dissociation of H₂O or from reforming of hydrogen fuels. Dissociation of H₂O is ideal from an environmental perspective because it produces no greenhouse gases; however, dissociation of H₂O through electrolysis is energy-intensive and prohibitively expensive.

Hydrogen can be produced from hydrocarbon fuels with use of conventional technologies such as steam reforming, partial oxidation, and auto-thermal reforming. For example, Takahashi in U.S. Pat. No. 5,746,985 and Edlund, et al in U.S. Pat. No. 6,221,117 teach use of steam reforming reactions. Kumpke, et al in U.S. Pat. No. 5,942,346 and Ahmed, et al in U.S. Pat. Nos. 6,939,025 teach use of partial oxidation reactions. However, these technologies tend to require large components and to be not efficient in meeting large demands, a disadvantage for space-limited facilities such as fueling stations. There are also several technical issues such as capability for fast starts, fast response to

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Description: US7070634 (B1) — 2006-07-04
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Plasma reformer for hydrogen production from water and fuel
Description of US7070634 (B1)
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The EPO does not accept any responsibility for the accuracy of data and information originating from other authorities than the EPO; in particular, the EPO does not guarantee that they are complete, up-to-date or fit for specific purposes.
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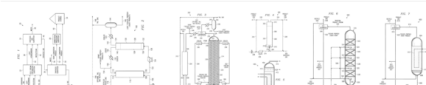
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Structured fischer-tropsch catalyst system and method
US 6262131 B1

ABSTRACT
A Fischer-Tropsch catalyst for the conversion of synthesis gas into Fischer-Tropsch products includes a stationary Fischer-Tropsch catalyst having a voidage ratio greater than approximately 0.45 or 0.6 and may further have a catalyst concentration for a given reactor volume of at least 10 percent. A Fischer-Tropsch catalyst has a structured shape promoting non-Taylor flow and/or producing a productivity in the range of 200-4000 vol COI/vol Catalyst/hour or greater over at least a 600 hour run of a Fischer-Tropsch reactor with the catalyst therein. A system for converting synthesis gas into longer-chain hydrocarbon products through the Fischer-Tropsch reaction has a reactor for receiving synthesis gas directly or as a saturated hydrocarbon liquid or a combination, and a stationary, structured Fischer-Tropsch catalyst disposed within the reactor for converting at least a portion of the synthesis gas into longer-chain hydrocarbons through Fischer-Tropsch reaction. A Fischer-Tropsch reactor system having a structured Fischer-Tropsch catalyst may have an all-liquid saturated reactant feed, an all gas reactant feed, or a plethora of combinations therebetween. The systems may or may not include heat removal devices. Methods of manufacturing catalysts and converting synthesis gas are also presented.

Publication number	US6262131 B1
Publication type	Grant
Application number	US 09/455,047
Publication date	Jul 17, 2001
Filing date	Dec 6, 1999
Priority date	Dec 7, 1998
Fee status	Paid
Also published as	EP1149140A1, US6797243, US20010021724, WO2000034414A1
Inventors	Kym B Arcuri, Kenneth L. Agee, Mark A. Agee
Original Assignee	Syntroleum Corporation
Export Citation	BiSTeX, EndNote, RefMan
Patent Citations (30), Non-Patent Citations (3), Referenced by (117), Classifications (29), Legal Events (7)	
External Links: USPTO, USPTO Assignment, Espacenet	

IMAGES (6)



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Fecha de prioridad

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CA2615576A1, 5 más »

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Citas de patentes (5), Citada por (4), Clasificaciones (25), Eventos legales (10)

Enlaces externos: Patentscope, Espacenet

CITAS DE PATENTES

Patente citada	Fecha de presentación	Fecha de publicación	Solicitante	Título
WO1999055618A1 *	29 Abr 1999	4 Nov 1999	Stichting Energie	Method and apparatus for the production of synthesis gas
DE3242206A1 *	15 Nov 1982	17 May 1984	Linde Ag	Verfahren und vorrichtung zur erzeugung von synthesegas
US6448441 *	7 May 2001	10 Sep 2002	Texaco, Inc.	Gasification process for ammonia/urea production
US20030236312 *	25 Jun 2002	25 Dic 2003	O'rear Dennis J.	Process for conversion of LPG and CH4 to syngas and higher valued products
US20040181313 *	15 Mar 2003	16 Sep 2004	Conocophillips Company	Managing hydrogen in a gas to liquid plant

* Citada por examinador

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