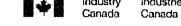


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Canadian Patents Database

(12) Patent:

12/19/2001 - 08:26:26 (11) CA 319121

- (54) PRODUCTION OF HYDROGEN AND CARBON MONOXIDE
- 454) PRODUCTION DULYDROCENE ET DE BROTOVYDE

(72) : . · · (Country):	MARTIN DE SIMO (Not Available)
(73) (Country):	THE SHELL DEVELOPMENT COMPANY
(71) (Country):	
(74)	
(45)	Jan. 19, 1932
(22) : . : .	
(43)	
(52)	48/31
(51) (51)	N/A
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*** Note: Data on abstracts and claims i	s shown in the official language in which it was submitted.
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C Disclosures Image	

C Drawings Image

I CLAIM AS MY INVENTION:

- 1) The method of forming carbon monoxide and hydrogen from a hydrocarbon gas comprising reacting said gas with a reducible metallic oxide at an elevated temperature to convert said gas into substantially only carbon monoxide and hydrogen, and collecting said gases.
- 2) The method of oxidizing a hydrocarbon gas comprising reacting said gas with a metallic oxidizing substance at an elevated temperature to form substantially only carbon monoxide and hydrogen without cracking of said hydrocarbon, and collecting the carbon monoxide and the hydrogen.
- 5) The method of oxidizing a hydrocarbon gas at a high temperature without cracking or deposition of carbon comprising reacting said gas with a predetermined quantity of hot reducible metallic oxide.
- 4) The method of oxidizing a hydrocarbon gas at a high temperature without cracking or deposition of carbon comprising reacting said gas with a hot reducible metallic oxide in substantially molecular proportions.
- 5) The method of obtaining hydrogen from a hydrocarbon without the substantial formation of carbon comprising reacting the hydrocarbon with a reducible metallic oxide at about 950 1000° C. to form substantially only carbon monoxide and hydrogen.
- 6) The method of obtaining hydrogen from a hydrocarbon without the substantial formation of carbon comprising reacting the hydrocarbon with zinc oxide to form substantially only carbon monoxide and hydrogen.
- 7) The method of obtaining hydrogen from a hydrocarbon without the substantial formation of carbon comprising reacting the hydrocarbon with zinc oxide to form substantially only carbon monoxide and hydrogen at a temperature of about 950 1000° C.

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- 8) The method of oxidizing natural gas to substantially hydrogen and carbon monoxide comprising reacting said gas with a metallic oxide at a temperature at which the oxide is easily reduced.
- 9) The method of oxidizing natural gas to substantially hydrogen and carbon monoxide comprising reacting said gas with a metallic oxide at about 950° 1000° C. at which temperature the oxide is easily reduced.
- 10) The method of oxidizing natural gas to substantially hydrogen and carbon monoxide comprising reacting said gas with zinc oxide.
- 11) The method of oxidizing natural gas to substantially hydrogen and carbon monoxide comprising reacting said gas with zinc oxide at about 950° 1000° C.
- 12) The method of oxidizing methane to substantially hydrogen and carbon monoxide comprising reacting said gas with a metallic oxide at a temperature at which the oxide is easily reduced.
- 13) The method of oxidizing methane to substantially hydrogen and carbon monoxide comprising reacting said gas with a metallic oxide at about 950° 1000° C. at which temperature the oxide is easily reduced.
- 14) The method of oxidizing methane to substantially hydrogen and carbon monoxide comprising reacting said gas with zinc oxide.
- 15) The method of oxidizing methane to substantially hydrogen and carbon monoxide comprising reacting said gas with zinc oxide at about $950^{\circ}-1000^{\circ}$ C.
- 16) The method of oxidizing a mixture of hydrocarbons to substantially hydrogen and carbon monoxide comprising reacting the mixture with a metallic oxide of the fourth row of the periodic table at a temperature at which the metallic oxide is easily reduced.
- 17) The method of oxidizing natural gas to substantially hydrogen and carbon monoxide comprising reacting natural gas with a metallic oxide of the fourth row of the Periodic Table at a temperature at which the metallic oxide is easily reduced.

- 18) The method of oxidizing methane to substantially hydrogen and carbon monoxide comprising reacting methane with a metallic oxide of the fourth row of the Periodic Table at a temperature at which the metallic oxide is easily reduced.
- 19) The continuous method of exidizing hydrocarbons to substantially hydrogen and carbon monoxide comprising reacting the hydrocarbon with a metallic exide at a temperature at which the exide is easily reduced, removing the gases formed, regenerating the metallic exide and recycling it in the process.
- 20) The continuous method of oxidizing natural gas to substantially hydrogen and carbon monoxide comprising reacting natural gas with a metallic oxide at a temperature at which the oxide is easily reduced, removing the gases formed, regenerating the metallic oxide and recycling it in the process.
- 21) The continuous method of oxidizing methane to substantially hydrogen and carbon monoxide comprising reacting methane with a metallic oxide at a temperature at which the oxide is easily reduced, removing the gases formed, regenerating the metallic oxide and recycling it in the process.
- 22) The method of oxidizing a paraffin hydrocarbon to substantially hydrogen and carbon monoxide comprising reacting the hydrocarbon with a metallic oxide at a temperature at which the oxide is easily reduced.
- 23) The method of oxidizing a paraffin hydrocarbon to substantially hydrogen and carbon monoxide comprising reacting the hydrocarbon with a metallic oxide at about 950° to 1000° C. at which temperature the oxide is easily reduced.
- 24) The method of oxidizing a paraffin hydrocarbon to substantially hydrogen and carbon monoxide comprising reacting the hydrocarbon with zinc oxide.

- 25) The method of oxidizing a paraffin hydrocarbon to substantially hydrogen and carbon monoxide comprising reacting the hydrocarbon with zinc oxide at about 950° to 1000° C.
- 26) The continuous method of oxidizing paraffin hydrocarbons to substantially hydrogen and carbon monoxide comprising reacting the hydrocarbon with zinc oxide at about 950° to 1000° C., removing the gases formed, regenerating the zinc oxide and recyling it in the process.

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