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**Whyatt et al.**

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(54) **METHOD AND SYSTEM FOR INTRODUCING FUEL OIL INTO A STEAM REFORMER WITH REDUCED CARBON DEPOSITION**

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Marschner, F, et al.: "Gas Production" Ullmann's Encyclopedia of Industrial Chemistry, Jun. 15, 2000 pp. 1-21 XP002253967.

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(52) **U.S. Cl.** ..... **48/127.9**; 48/197 R; 48/127.1; 48/198.1; 48/211; 48/198.7; 48/198.3; 48/212; 48/214; 48/75; 48/94; 48/61; 422/188; 422/189; 422/190; 422/211

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(58) **Field of Classification Search** ..... 422/188–190; 48/75, 127.9, 198.7, 198.3, 211  
See application file for complete search history.

(57) **ABSTRACT**

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A system and method for creating reformat with decreased carbon deposition. The system is made up of a steam source, a superheater, a fuel injection device, a prereformer, and a reformer with catalyst linings. The system functions to superheat steam while maintaining the fuel at a lower temperature prior to injection and mixing with the steam. After injection and mixing, the steam and fuel mixture is then passed through a prereformer where catalysts treat a portion of the fuel and steam mixture. After these portions are treated with a catalyst, the mixture is passed through to a reformer where further treatment of the material by catalyst takes place.

**14 Claims, 3 Drawing Sheets**

