

Title (en)

Combustion process and apparatus particularly suited for the combustion of heavy fuel.

Title (de)

Verbrennungsprozess und Apparat besonders geeignet zur Verbrennung von schweren Brennstoffen.

Title (fr)

Procédé et dispositif de combustion propre s'appliquant notamment au brûlage des combustibles lourds.

Publication

EP 0128792 A1 19841219 (FR)

Application

EP 84400994 A 19840516

Priority

FR 8308393 A 19830520

Abstract (en)

[origin: US4526529A] The clean combustion of a combustible material is facilely carried out by (i) in situ generating a dispersing first stream of hot combustion gases by establishing a first downstream axially extending, axially symmetrical helical flowstream of combustion-supporting gases in a first combustion reaction zone and by introduction and combustion of a combustible fluid feedstream therein, (ii) serially directly contacting and intimately admixing the material cleanly combustible hereby with said first stream of hot combustion gases at a zone of reduced pressure thereof defining the inlet end of a second combustion reaction zone and whereat and downstream thereof said first stream of hot combustion gases is also in the configuration of an axially symmetrical helical flowstream, (iii) the amounts of said combustion-supporting gases and said combustible fluid being such as to effect essentially instantaneous dispersion and entrainment of fine particles of said cleanly combustible material at and downstream of said point of direct contact with said first stream of hot combustion gases, (iv) establishing a second downstream axially extending, axially symmetrical helical flowstream of combustion-supporting gases in said second combustion reaction zone, and (v) whereby said cleanly combustible material dispersed and entrained within said first stream of hot combustion gases is introduced into and combusted within said second stream of combustion-supporting gases in said second combustion reaction zone.

Abstract (fr)

La présente invention a trait à un procédé de combustion propre. Il se caractérise par le fait que: a) on introduit, dans une première zone (1), un courant gazeux comburant selon les trajectoires hélicoïdales symétriques par rapport à leur axe commun et on introduit un courant de fluide combustible, de sorte à réaliser une première phase de combustion dispersante b) on force l'écoulement résultant à travers un passage restreint (10), dans une seconde zone, de manière à lui donner la forme d'un écoulement puits-tourbillon symétrique c) on introduit la substance combustible à traiter dans la zone en dépression relative dudit écoulement puits-tourbillon et l'on provoque une seconde combustion grâce à un second courant gazeux comburant (15), dans la seconde zone (2), les quantités de gaz comburant et combustible introduits dans la première zone étant suffisantes pour provoquer la vaporisation de la substance à traiter à l'entrée de la seconde zone.

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IPC 8 full level

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CPC (source: EP US)

F23C 3/006 (2013.01 - EP US); **F23C 6/04** (2013.01 - EP US); **F23G 5/32** (2013.01 - EP US); **F23M 5/08** (2013.01 - EP US)

Citation (search report)

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