

Title (en)  
HIGH EFFICIENCY CYCLONE GASIFYING COMBUSTION BURNER

Title (de)  
HOCHLEISTUNGS-ZYKLONENBRENNER MIT VERGASUNGSVERBRENNUNG

Title (fr)  
FOYER-CYCLONE A COMBUSTION PAR GAZEIFICATION PRESENTANT UN RENDEMENT ELEVE

Publication  
**EP 1969287 A1 20080917 (EN)**

Application  
**EP 06840465 A 20061213**

Priority  
• CA 2006002037 W 20061213  
• CA 2530236 A 20051215

Abstract (en)  
[origin: CA2530236A1] -41- A cyclone gasifying combustion burner and its operation is described. The burner has an inner cylindrical wall with a contour chamber feeding combustion air into the inner cylindrical wall. The burner has an open end and a solid fuel support end where a combustible material forms a fuel bed. The inner cylindrical wall has at least two series of inclined air jet holes of substantially predetermined diameter and disposed at substantially predetermined locations therein to create a unidirectional cyclone within a combustion zone defined within the inner cylindrical wall. The air jet holes are disposed at a tangential and vertical angle whereby the combustion air is drawn into the inner cylindrical wall and creates a cyclone flow to mix with the combustion gases released from the flaming pyrolysis fuel bed and causes the combustion gases to flow in a cyclone path within a reaction zone to increase at least one of the residency time, mixing and turbulence time of the combustion gases and simultaneously precipitate suspended particles against an inner surface of the inner cylindrical wall whereby the particles are caused to gravitate to the fuel bed where they are removed in a controlled manner during the operation of the burner. The cyclone combustion burner therefore substantially reduces the emission of pollutants to the atmosphere.

IPC 8 full level  
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Citation (search report)  
See references of WO 2007068114A1

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