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Lynn et al.

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[54] **OXIDATIVE REMOVAL OF HYDROGEN SULFIDE FROM GASEOUS STREAMS**

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Related U.S. Application Data

[63] Continuation of Ser. No. 891,545, Mar. 30, 1978, abandoned.

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[52] **U.S. Cl.** ..... **423/226**; 423/224; 423/228; 423/573 G

[58] **Field of Search** ..... 423/226, 228, 229, 573 L, 423/573 G

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[57] **ABSTRACT**

Hydrogen sulfide is removed from a gaseous stream by contacting the stream with an aqueous solution of ferric ion chelated with an aminopolycarboxylic acid at a pH of 3.5 to 5, whereby hydrogen sulfide is oxidized to elemental sulfur and chelated ferric ion is reduced to chelated ferrous ion. The solution also contains ammonia or an aliphatic, alicyclic, or heterocyclic primary or secondary amine in a sufficient proportion to maintain chelated ferrous ion in solution at a pH of 3.5 to 5. The chelated ferric ion is regenerated by contacting the solution with a gas containing elemental oxygen.

34 Claims, No Drawings