

[54] **AUTOCLAVE SYSTEM FOR LEACHING SULFIDE CONCENTRATES**

[75] Inventor: **Freddie J. Touro**, New Orleans, La.

[73] Assignee: **Freeport Minerals Company**, New York, N.Y.

[22] Filed: **Feb. 27, 1974**

[21] Appl. No.: **446,412**

[52] U.S. Cl. 23/290; 423/35

[51] Int. Cl.² B01J 3/04; C01G 3/02; C22B 15/00

[58] **Field of Search**..... 23/290, 263, 286, 267 R, 23/267 A, 267 B, 267 C, 267 D, 267 E, 267 F, 267 MS, 267 S, 269, 270 R, 270 B, 270.5 R, 270.5 T, 270.5 W, 271 P, 271 G, 271 MS, 260; 75/101, 117, 119; 423/150, 27; 210/15, 63, 201, 218; 266/12; 202/158; 203/DIG. 6

[56] **References Cited**

UNITED STATES PATENTS

2,081,322	5/1937	Carney.....	203/DIG. 6
2,718,455	8/1955	McCormick, Jr.....	423/141
2,864,692	12/1958	Mancke et al.....	423/37 X
2,871,116	1/1959	Clark.....	423/145 X

3,088,974	5/1963	Cier.....	23/290 X
3,615,364	10/1971	Rubak.....	75/117 X
3,733,264	5/1973	Spector et al.....	210/15 X
3,785,430	1/1974	Pfeiffer et al.....	23/260 UX

FOREIGN PATENTS OR APPLICATIONS

1,091,568 10/1960 Germany

Primary Examiner—Joseph Scovronek
Attorney, Agent, or Firm—Ronald A. Schapira

[57] **ABSTRACT**

A method and apparatus for high temperature-high pressure acid leaching of sulfide ores is described. The apparatus includes an autoclave having a plurality of pressurized compartments and a water removing-heat removing condenser. Means are described for the introduction of a neutralizing agent directly into the autoclave in order to maintain the acidity of the slurry at a level where substantially all of the iron present in the slurry will form an insoluble iron oxide precipitate. Means are described for removing the gaseous products resulting from the introduction of the neutralizing agent while avoiding contamination thereby of a substantial portion of the oxygen.

9 Claims, 1 Drawing Figure

