Title (en)

COLUMN FROTH FLOTATION

Publication

EP 0144421 B1 19920408 (EN)

Application

EP 84902567 A 19840613

Priority

US 50479383 A 19830616

Abstract (en)

[origin: WO8500021A1] The froth floatation device (10) includes a floatation column (12) partially filled with packing (24) which defines a large number of small flow passages extending in a circuitous pattern between the upper (14) and lower portions (16) of the column. A conditioned aqueous pulp of mineral ore, such as iron ore is introduced into the midzone of the column (12) through a pulp inlet (18). A pressurized inert gas such as air is introduced into the bottom of the column (12) through a gas inlet (22) and is forced upwardly through the flow passages in the packing (24). As the air flows upwardly through these flow passages, it is broken into fine bubbles which intimately contact the floatable particles (e.g. iron oxide) in the aqueous pulp and forms a froth concentrate (25) or float fraction which overflows from the top of the column (12) through an outlet (28). Wash water is introduced into the top of the column (12) through a water inlet (20) and flows through flow passages in the packing countercurrently to the float fraction to scrub entrainable non-floatable particles (e.g. gangue) from the froth concentrate (25). A tailing fraction (33) containing non-floatable particles is withdrawn from the bottom of the column (12) through an outlet (34).

IPC 1-7

B03D 1/02; B03D 1/14

IPC 8 full level

B03D 1/02 (2006.01); **B03D 1/24** (2006.01)

CPC (source: EP)

B03D 1/02 (2013.01); **B03D 1/082** (2013.01); **B03D 1/1481** (2013.01); **B03D 1/24** (2013.01)

Citation (examination)

- EP 0057445 A2 19820811 - GULF & WESTERN MFG CO [US]
- US 2416066 A 19470218 - PHELPS DONALD S

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US11958062B2

Designated contracting state (EPC)

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DOCDB simple family (publication)

WO 8500021 A1 19850103; AU 2832984 A 19841220; AU 3100484 A 19850111; AU 561931 B2 19870521; CA 1210167 A 19860819; DE 3485641 D1 19920514; EP 0144421 A1 19850619; EP 0144421 A4 19880426; EP 0144421 B1 19920408; FI 75280 B 19880229; FI 75280 C 19880609; FI 842340 A0 19840608; FI 842340 A 19841217

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US 8400926 W 19840613; AU 2832984 A 19840517; AU 3100484 A 19840613; CA 455766 A 19840604; DE 3485641 T 19840613; EP 84902567 A 19840613; FI 842340 A 19840608