Title (en)

METHOD OF REGENERATING USED FOUNDRY SAND AND DEVICE FOR CARRYING OUT THE METHOD

Publication

EP 0125384 B1 19880817 (DE)

Application

EP 84101090 A 19840203

Priority

DE 3309379 A 19830316

Abstract (en)

[origin: ES8500778A1] A method of regenerating old casting sand consists of the steps of introducing essentially dry, used casting sand into a single container, then simultaneously subjecting the sand to rapid heating and extreme turbulence by directing a gas flame against the sand having a temperature of at least 1400 DEG C. (2550 DEG F.) along a first axis, rotating a crushing tool about a second axis parallel to the first axis and positioned such that the crushing tool does not pass through the gas flame and rotating the container about a third axis, parallel to the first and second axes. In a preferred embodiment, the container is cylindrical in shape and the third axis is inclined from the vertical at an angle of between 10 DEG and 60 DEG , thereby creating upper and lower zones. The burner flame preferably is directed to the sand in the lower zone and the crushing tool is positioned to operate in the upper zone. By simultaneously contacting the oil sand with a source of intense heat and subjecting the sand to violent agitation, the binder encasing the grains of sand is rapidly embrittled and the old sand particles are subjected to thermal shock in which the boundary faces between the binder and the sand grains are subjected to stress, thereby accelerating the disintegration of the binder and its removal from the individual sand grains.

IPC 1-7

B22C 5/00; B22C 5/06; B22C 5/08; B22C 5/02

IPC 8 full level

B22C 5/00 (2006.01); **B22C 5/02** (2006.01); **B22C 5/04** (2006.01); **B22C 5/06** (2006.01); **B22C 5/08** (2006.01)

CPC (source: EP US)

B22C 5/08 (2013.01 - EP US); Y10S 241/10 (2013.01 - EP US)

Cited by

CN113333434A; DE4237838A1; EP0476342A1; WO9108068A1

Designated contracting state (EPC)

BE CH DE FR GB IT LI

DOCDB simple family (publication)

DE 3309379 A1 19840920; AU 2564084 A 19840920; AU 563107 B2 19870625; BR 8401188 A 19841023; CA 1210561 A 19860902; DE 3473417 D1 19880922; EP 0125384 A1 19841121; EP 0125384 B1 19880817; ES 530003 A0 19841101; ES 8500778 A1 19841101; IN 161746 B 19880130; JP H0338014 B2 19910607; JP S59169644 A 19840925; MX 161637 A 19901127; US 4681267 A 19870721

DOCDB simple family (application)

DE 3309379 A 19830316; AU 2564084 A 19840315; BR 8401188 A 19840215; CA 426979 A 19830429; DE 3473417 T 19840203; EP 84101090 A 19840203; ES 530003 A 19840224; IN 68CA1984 A 19840131; JP 8778983 A 19830520; MX 20068784 A 19840315; US 72012985 A 19850405