

Title (en)  
Cooler adapted for two layers of charge

Title (de)  
Zweischichtkühler

Title (fr)  
Refroidisseur à deux couches de charge

Publication  
**EP 0686821 B1 19980916 (DE)**

Application  
**EP 95105650 A 19950413**

Priority  
DE 4419729 A 19940606

Abstract (en)  
[origin: US5715687A] A double layer cooler for particulate material has a conveyor to which separate streams of such material are delivered at spaced intervals to form lower and upper layers of material on the conveyor. As the layers move toward the discharge end of the conveyor a coolant passes upwardly through the layers. At the discharge end of the conveyor the material of the lower layer is discharged, whereas the material of the upper layer passes over a stationary quantity of material to a crusher in which the upper layer material is crushed. From the crusher material is returned to that stream which forms the lower layer on the conveyor. The lower layer of material thus is precooled and comminuted.

IPC 1-7  
**F27D 15/02**

IPC 8 full level  
**F25D 1/00** (2006.01); **F27D 15/02** (2006.01)

CPC (source: EP KR US)  
**F25D 13/06** (2013.01 - KR); **F27D 15/0213** (2013.01 - EP US)

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IT LI NL PT SE

DOCDB simple family (publication)  
**US 5715687 A 19980210**; AT E171264 T1 19981015; BR 9502635 A 19960109; DE 4419729 A1 19951207; DE 59503580 D1 19981022; DK 0686821 T3 19990614; EP 0686821 A1 19951213; EP 0686821 B1 19980916; ES 2120654 T3 19981101; JP H07332825 A 19951222; KR 960001692 A 19960125; TR 28614 A 19961114; TW 330982 B 19980501; ZA 953373 B 19960111

DOCDB simple family (application)  
**US 44470895 A 19950519**; AT 95105650 T 19950413; BR 9502635 A 19950602; DE 4419729 A 19940606; DE 59503580 T 19950413; DK 95105650 T 19950413; EP 95105650 A 19950413; ES 95105650 T 19950413; JP 11832495 A 19950517; KR 19950012504 A 19950519; TR 66895 A 19950605; TW 84104124 A 19950426; ZA 953373 A 19950426