

Title (en)  
PERCUSSIVE DRILLING APPARATUS WITH MOVABLE HAMMER HEAD

Publication  
**EP 0283734 B1 19920429 (DE)**

Application  
**EP 88102534 A 19880222**

Priority  
DE 3710162 A 19870327

Abstract (en)  
[origin: US4886128A] A ram boring implement having a pneumatically or hydraulically driven percussion piston, movable axially in a reciprocating manner in a housing, and an axially movable bit which is connected to an end of the housing and acted upon directly or indirectly by the percussion piston, is of a structure which permits a restoring piston, connected to the bit, to be acted upon by the pneumatic or hydraulic pressure during the return stroke of the percussion piston.

IPC 1-7  
**E02D 7/10; E21B 4/14**

IPC 8 full level  
**E02D 7/10** (2006.01); **E21B 4/14** (2006.01)

CPC (source: EP US)  
**E21B 4/145** (2013.01 - EP US)

Cited by  
DE102005051585B4; CN102392598A; EP0372225A3; AU662525B2; EP0353400A3; WO9220896A1

Designated contracting state (EPC)  
AT BE CH FR GB IT LI NL

DOCDB simple family (publication)  
**EP 0283734 A2 19880928; EP 0283734 A3 19891108; EP 0283734 B1 19920429**; AT E75523 T1 19920515; DE 3710162 C1 19880929; US 4886128 A 19891212

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