

Title (en)  
Fluid driven percussion device

Title (de)  
Fluidbetriebenes Schlagwerk

Title (fr)  
Dispositif de percussion actionné par un fluide

Publication  
**EP 0933169 A3 20001115 (DE)**

Application  
**EP 99101293 A 19990125**

Priority  
DE 19804078 A 19980203

Abstract (en)  
[origin: EP0933169A2] The rammer has a sleeve-shaped working cylinder (2) in an outer housing (4). The impact piston (3) supports itself on the sleeve via several guide sections. The front guide section (2b) facing the tool, and further neighbouring sections up to the section (2a) for the larger piston face (A1), are integral parts of the sleeve. The outer sleeve face (2g) and the outer housing form pressure medium channels (12) for the return stroke of the impact piston. Each channel is of a length to extend from a front connection channel (14) with a return stroke chamber (2e) accommodating the smaller piston face (A2), via a rear connection channel (16). This is temporarily connected to a working stroke chamber (2d) accommodating the larger piston face.

IPC 1-7  
**B25D 9/14**

IPC 8 full level  
**B25D 9/14** (2006.01); **B25D 9/20** (2006.01)

CPC (source: EP)  
**B25D 9/20** (2013.01); **B25D 2209/005** (2013.01); **B25D 2250/375** (2013.01)

Citation (search report)

- [A] DE 2645213 A1 19770608 - GARDNER DENVER CO
- [A] US 4181183 A 19800101 - OKADA HIROSHI [JP]
- [A] EP 0658681 A2 19950621 - WALTER HANS PHILIPP [DE]
- [A] DE 3412187 A1 19851010 - RIZHSKIJ POLT INST [SU]
- [AD] EP 0183093 A1 19860604 - KRUPP GMBH [DE]

Cited by  
EP1256419A1; EP2873489A1; EP2394795A1; CN102275152A; US9592598B2; US8939229B2; US9151386B2; US9822802B2; US9555531B2; US10562166B2

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