

Title (en)  
FILLING DEVICE FOR THE AUTOMATIC FILLING OF THE DIE OF POWDER PRESSES

Publication  
**EP 0399281 A3 19911002 (DE)**

Application  
**EP 90108622 A 19900508**

Priority  
DE 3916951 A 19890524

Abstract (en)  
[origin: EP0399281A2] A filling device 1 for the automatic filling of the die 2 of powder presses with metal and/or ceramic powder is described in which a filling shoe 3 connected via flexible tubes 6 to a powder supply container can be moved in a reciprocating manner in timed sequence by a regulating mechanism, coupled to the press drive, between a waiting position and a filling position relative to the die 2 by means of an oscillating lever system 11, 12, 13 and an extension arm 9 actuated by this oscillating lever system 11, 12, 13. For the remote control of the filling device, the regulating mechanism has a cam pendulum drive 13 which moves the oscillating lever system 11, 12 and sits on a bracket 18 which can be displaced relative to the press frame 21 in three directions at right angles to one another by actuators 30, 33. By means of a universal-joint shaft 15 adjustable in length, the cam pendulum drive 13 is constantly connected to an intermediate drive 16 attached to the press drive, and the extension arm 9 runs in a longitudinally movable manner in a guide joint 40 pivotable about an axis 39 parallel to the bearing axis 12 of the oscillating lever system 11, 12, the guide joint 40 in turn being arranged in a support 41 displaceable along a vertical guide 42 carried by the cam pendulum drive 13. <IMAGE>

IPC 1-7  
**B30B 15/30**

IPC 8 full level  
**B30B 11/00** (2006.01); **B22F 3/00** (2006.01); **B22F 3/02** (2006.01); **B22F 3/035** (2006.01); **B28B 3/02** (2006.01); **B30B 11/04** (2006.01); **B30B 15/30** (2006.01)

CPC (source: EP)  
**B22F 3/004** (2013.01); **B28B 13/0245** (2013.01); **B30B 11/04** (2013.01); **B30B 15/304** (2013.01)

Citation (search report)  
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• [A] PATENT ABSTRACTS OF JAPAN, Vol. 9, No. 84 (M-371)[1807] 13. April 1985; & JP-A-59 212 197 (YOSHITSUKA SEIKI K.K.) (01-12-1984)  
• [A] PATENT ABSTRACTS OF JAPAN, Vol. 10, No. 222 (M-504)[2278] 2. August 1986; & JP-A-61 060 296 (YOSHITSUKA SEIKI K.K.) (27-03-1986)

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