

Title (en)  
ARRANGEMENT FOR DIE CASTING METALS AND ALLOYS

Publication  
**EP 0037125 B1 19831012 (DE)**

Application  
**EP 81102472 A 19810401**

Priority  
BG 4720780 A 19800402

Abstract (en)  
[origin: US4393916A] The invention relates to an apparatus for pressure die casting of metals and alloys involving the action of increased gas pressure on the solidifying melt. In this apparatus, the gas is pressurized automatically during the stroke of the press and pressurized gas at elevated pressure is applied to molten metal in the die cavity immediately after the closing of the die. For this purpose, the apparatus comprises a hydraulic press including a cylinder and a piston slidably mounted therein, which piston divides the cylinder into a first and second chamber. The first chamber is in communication with a source of pressurized liquid and the second chamber is in communication with a gas retaining cavity disposed in the piston rod of the piston. A press plate and die having at least one die cavity is rigidly mounted on the piston rod. The cavity of the die is connected by means of corresponding valves to a supply reservoir with gas under low pressure. The gas retaining cavity within the piston rod is filled up to a fixed level with working liquid from the hydraulic system of the press. The bottom part of this cavity is connected to the second chamber of the pressing cylinder below the piston. This second chamber is connected to the hydraulic system of the press by means of a valve. The upper part of the gas retaining cavity is connected simultaneously by means of a check valve to a supply reservoir for gas and by means of a shut-off valve to the die cavity. The die cavity is connected by means of another shut-off valve to the atmosphere.

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Citation (examination)  
• DE 2355594 A1 19750515 - EMMERICH VALENTIN  
• DE 2854075 B1 19800117 - WEINGARTEN AG MASCHF  
• DE 2010181 B2 19710609  
• DE 1583631 B2 19750320  
• DE 2747066 B1 19790315 - WEINGARTEN AG MASCHF  
• DE 2450805 B2 19761230

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AT CH DE FR GB IT LI SE

DOCDB simple family (publication)  
**US 4393916 A 19830719**; AT E4967 T1 19831015; BG 31832 A1 19820415; CS 231982 B2 19850116; CS 239581 A2 19840116; DD 160894 A5 19840613; DE 3161158 D1 19831117; EP 0037125 A1 19811007; EP 0037125 B1 19831012; IN 154994 B 19841222; JP S5717365 A 19820129; SU 1150054 A1 19850415

DOCDB simple family (application)  
**US 25028981 A 19810402**; AT 81102472 T 19810401; BG 4720780 A 19800402; CS 239581 A 19810331; DD 22889481 A 19810402; DE 3161158 T 19810401; EP 81102472 A 19810401; IN 379CA1981 A 19810406; JP 4850881 A 19810402; SU 7771727 A 19810330