

Title (en)  
IMPROVEMENTS IN OR RELATING TO PUNCHES AND PRESSES

Publication  
**EP 0251796 A3 19881130 (EN)**

Application  
**EP 87305861 A 19870702**

Priority  
GB 8615709 A 19860627

Abstract (en)  
[origin: EP0251796A2] A punch assembly for a press tool comprises a cylinder block (13) fixable to the fixed member of the press and defining first and second interconnected cylinders (15, 28) each provided with a piston arrangement (10, 20), the axes of the cylinders being arranged at an angle with the second piston arrangement (20) in the path of travel of the movable member of the press tool whereby when the tool closes the second piston arrangement is moved into its cylinder causing corresponding outwards movement of the first piston arrangement to operate, for example, a punch piercing the workpiece in the tool in a direction which is angularly disposed with respect to the direction of movement of the movable member.

IPC 1-7  
**B21D 28/32**

IPC 8 full level  
**B21D 28/32** (2006.01); **B30B 1/00** (2006.01)

CPC (source: EP)  
**B21D 28/32** (2013.01); **B30B 1/007** (2013.01)

Citation (search report)  
• [X] FR 2348051 A1 19771110 - POLYMATIC SA [FR]  
• [A] US 2112153 A 19380322 - GORHAM RALPH B  
• [A] DE 1919095 A1 19701105 - GABRIEL GUENTHER  
• [X] PATENT ABSTRACTS OF JAPAN, vol. 9, no. 168 (M-396)[1891], 13th July 1985; & JP-A-60 40 621 (NISSAN JIDOSHA K.K.) 04-03-1985

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Designated contracting state (EPC)  
BE DE ES FR GB IT NL SE

DOCDB simple family (publication)  
**EP 0251796 A2 19880107; EP 0251796 A3 19881130; EP 0251796 B1 19920429**; DE 3778592 D1 19920604; GB 8615709 D0 19860806

DOCDB simple family (application)  
**EP 87305861 A 19870702**; DE 3778592 T 19870702; GB 8615709 A 19860627