Title (en)

Closed-die forging process and rotationally incremental forging press

Title (de)

Verfahren zum Schmieden mit geschlossenen Gesenk und Rotations-Schmiedepresse

Title (fr)

Procédé de forgeage en matrices fermées et presse à forger rotative

Publication

EP 0846505 A2 19980610 (EN)

Application

EP 97121484 A 19971206

Priority

- US 91980297 A 19970829
- US 3325096 P 19961206
- US 3849397 P 19970224

Abstract (en)

A forging press (20) includes a die set having a stationary die (22), a movable die (24) in facing-but-spaced-apart relation to the stationary die (22) along a press axis (30) and defining a workpiece volume (36) therebetween, and an exterior constraint (34) extending circumferentially around the workpiece volume (36). The movable die (24) has a base level region (46) lying generally in a workpiece plane (48) perpendicular to the press axis (30), and three rotationally symmetric segments (50) raised above the base level region (46). Each of the segments (50) forms an angular segment of a disk having an included segment angle and that is angularly separated from the other segments (50). A press mechanism (44) includes a axial drive operable to move the movable die (24) in a direction parallel to the press axis (30), and an indexing drive operable to rotate the movable die (24) about the press axis (30) by an indexing rotational angle. In operation, the axial drive performs a press stroke and retracts, the indexing drive rotates the movable die (24) by the indexing rotational angle of less than the included segment angle, and the axial drive performs another press stroke. By repeating these steps, the entire workpiece (32) is forged incrementally. <IMAGE>

IPC 1-7

B21J 5/02; B21J 9/02

IPC 8 full level

B21J 5/02 (2006.01); **B21J 9/02** (2006.01)

CPC (source: EP)

B21J 5/008 (2013.01); **B21J 5/02** (2013.01); **B21K 1/32** (2013.01)

Cited by

EP1655089A4; CN102172755A

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

FR 2756759 A1 19980612; **FR 2756759 B1 20010112**; CN 1074692 C 20011114; CN 1190608 A 19980819; EP 0846505 A2 19980610; EP 0846505 A3 19991208

DOCDB simple family (application)

FR 9715428 A 19971205; CN 97109369 A 19971205; EP 97121484 A 19971206