

Title (en)

DEVICE FOR NON-CUTTING MANUFACTURE OF METALLIC BEVEL WHEELS

Publication

**EP 0022154 B1 19830119 (DE)**

Application

**EP 80102323 A 19800430**

Priority

DE 2927192 A 19790705

Abstract (en)

[origin: US4351177A] The apparatus includes a die, a punch, and a concentric counterpunch having an annular front extension; the die cavity has a spline-shaft-like extension and the counterpunch extension has a frustroconical tip and/or lateral teeth which mesh with the spline shaft. The counterpunch is spring-mounted upon the punch carrier.

IPC 1-7

**B21K 1/30**

IPC 8 full level

**B21K 1/30** (2006.01)

CPC (source: EP US)

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**DE 2927192 B1 19800821; DE 2927192 C2 19810423;** EP 0022154 A1 19810114; EP 0022154 B1 19830119; US 4351177 A 19820928

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