

Title (en)

Device for forging a helical gear.

Title (de)

Vorrichtung zum Schmieden eines schrägverzahnten Zahnrades.

Title (fr)

Dispositif pour le forgeage d'une roue à denture hélicoïdale.

Publication

EP 0584907 A2 19940302 (EN)

Application

EP 93304657 A 19930615

Priority

JP 4916592 U 19920618

Abstract (en)

A device for forging a helical gear by plastic working includes a die (1) having a cavity (2) formed on the center thereof for receiving a workpiece (4), a punch assembly (3) disposed above the cavity and movable in a vertical direction, a plurality of helical-tooth punches (7) mounted on a circumference of the cavity (2) and movable in a radial direction towards a center of the cavity, and an extrusion cam (8) disposed above the plurality of helical-tooth punches (7) to be movable in the vertical direction and having a bottom inner surface formed as a cam face constituting a side face of a first truncated cone having predetermined first dimensions and slope. The plurality of helical-tooth punches respectively have sliding faces which together lie in a side face of a second truncated cone for engaging with the cam face of the extrusion cam (8). The second truncated cone has dimensions and slope identical with or corresponding to those of the first truncated cone, and thereby perfectly fits in the first truncated cone. When the extrusion cam (8) is moved down, the plurality of helical-tooth punches (7) are pressed in the radial direction towards the center of the cavity (2) to form rough profiles of helical teeth around a side wall of workpiece (4) set in the cavity (2). The punch assembly (3) is then pressed down to finish the helical teeth roughly formed on the side wall of the workpiece. <IMAGE>

IPC 1-7

B21K 1/30

IPC 8 full level

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CPC (source: EP KR)

B21H 5/00 (2013.01 - KR); **B21K 1/30** (2013.01 - EP); **B21K 1/305** (2013.01 - EP)

Cited by

US5996229A; DE102013002043A1; EP2060346A3; CN103260789A; CN102319759A; US6327887B1; WO2012063130A3; WO9929450A1; WO2012063125A3; US9427790B2

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