

Title (en)
PROCEDURE FOR PRODUCTION OF PARTS THAT SHOWS COGS

Title (de)
VERFAHREN ZUR HERSTELLUNG VON ZÄHNE AUFWEISENDEN TEILEN

Title (fr)
PROCÉDURE DE FABRICATION DE PIÈCES PRÉSENTANT DES DENTS

Publication
EP 1948384 A1 20080730 (EN)

Application
EP 06747966 A 20060628

Priority

- SE 2006000786 W 20060628
- SE 0501596 A 20050708

Abstract (en)
[origin: WO2007008136A1] A procedure for manufacturing components (21) which exhibit gear teeth (5) and gear wheels (2), gear tracks (3), gear racks, bevel drives etc. for creating hard, durable gear teeth (5) from an ultra high-strength deep drawn or stretch bent steel product (14), consisting of a metal blank made of iron, which has been alloyed with chromium, nickel and carbon in pre-determined proportions, the blank having been formed in a cold drawing or cold bending operation in a plastic state at a predetermined temperature in order to produce considerably increased deformation hardening in the steel, whereafter the components (21) are manufactured from steel plate (1) which has been made from the steel (14) by means of a press tool (7), whereupon in a Stage 1 the steel plate (1) is set up with a tool (6), which is intended to shape the teeth (5) in selected portions of the steel plate (1), whereafter in a Stage 2 the press tool (7) makes a movement in a direction towards the surface (9) of the steel plate and forms the surface against the tool (6), creating a gear formation (10) with peaks (12) and interspersed valleys (11), which in a Stage 3 forms drawn/stretched areas in the peaks (12) and valleys (11) in the steel plate (1), leading to considerably increased strength or increased tensile yield limit in the gear teeth (5), compared with the tensile yield limit of the metal in the blank.

IPC 8 full level
B23F 5/14 (2006.01); **B23F 9/04** (2006.01)

CPC (source: EP SE)
B21D 53/28 (2013.01 - EP); **B21K 1/30** (2013.01 - EP); **B23F 5/14** (2013.01 - SE); **B23F 9/04** (2013.01 - SE)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2007008136 A1 20070118; EP 1948384 A1 20080730; EP 1948384 A4 20111228; SE 0501596 L 20060502; SE 527643 C2 20060502

DOCDB simple family (application)
SE 2006000786 W 20060628; EP 06747966 A 20060628; SE 0501596 A 20050708