

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SHAPING

B21 MECHANICAL METAL-WORKING WITHOUT ESSENTIALLY REMOVING MATERIAL; PUNCHING METAL (casting, powder metallurgy [B22](#); shearing [B23D](#); working of metal by the action of a high concentration of electric current [B23H](#); soldering, welding, flame-cutting [B23K](#); other working of metal [B23P](#); punching sheet material in general [B26F](#); processes for changing of physical properties of metals [C21D](#), [C22F](#); electroforming [C25D 1/00](#))

(NOTES omitted)

B21H MAKING PARTICULAR METAL OBJECTS BY ROLLING, e.g. SCREWS, WHEELS, RINGS, BARRELS, BALLS (essentially from sheet metal [B21D](#))

NOTE

This subclass covers rolling operations which are specially adapted for use in the manufacture of particular objects and which are not essentially combined with any different metal-working operation unless the latter is a subsidiary operation performed in the same machine.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- | | | | |
|-------------|--|-------------|--|
| 1/00 | Making articles shaped as bodies of revolution
(rolling tubes B21B 17/00 - B21B 25/00) | 3/06 | . . Making by means of profiled members other than rolls, e.g. {reciprocating flat dies or} jaws, moved longitudinally or curvilinearly with respect to each other |
| 1/02 | . discs; disc wheels | 3/065 | . . . {Planetary thread rolling} |
| 1/04 | . . with rim, e.g. railways wheels {or pulleys} | 3/08 | . internal screw-threads |
| 1/06 | . rings of restricted axial length (extending closed shapes of metal bands by simultaneous rolling at two or more zones B21B 5/00) | 3/10 | . twist-drills; screw-taps |
| 1/08 | . . railway wheel rims | 3/12 | . articles with helicoidal surface (bending strip or the like helically B21D 11/06) |
| 1/10 | . . rims for pneumatic tyres | 5/00 | Making gear wheels {, racks, spline shafts or worms} |
| 1/12 | . . rings for ball or roller bearings | 5/005 | . {Worms} |
| 1/14 | . balls, rollers, cone rollers, or like bodies | 5/02 | . with cylindrical outline {, e.g. by means of die rolls (worms B21H 5/005)} |
| 1/16 | . . for bearings | 5/022 | . . {Finishing gear teeth with cylindrical outline, e.g. burnishing} |
| 1/18 | . cylinders, e.g. rolled transversely {cross-rolling} | 5/025 | . . {Internally geared wheels} |
| 1/20 | . . rolled longitudinally | 5/027 | . . {by rolling using reciprocating flat dies, e.g. racks (B21H 5/022 takes precedence)} |
| 1/22 | . characterised by use of rolls having circumferentially varying profile {; Die-rolling} | 5/04 | . bevel gears |
| 3/00 | Making helical bodies or bodies having parts of helical shape (helical gears B21H 5/00 ; forming tubes or tube walls into helical shape B21D 11/06 , B21D 15/04) | 5/045 | . . {Finishing bevel gear teeth, e.g. burnishing} |
| 3/02 | . external screw-threads {; Making dies for thread rolling} | 7/00 | Making articles not provided for in the preceding groups, e.g. agricultural tools, dinner forks, knives, spoons (nails, pins B21G 3/30) |
| 3/022 | . . {combined with rolling splines, ribs, grooves or the like, e.g. using compound dies} | 7/002 | . {Fasteners, rivets} |
| 3/025 | . . {Rolling locking screws} | 7/005 | . {railway sleepers or chains} |
| 3/027 | . . {Rolling of self-tapping screws} | 7/007 | . {Taper rolling, e.g. leaf springs} |
| 3/04 | . . Making by means of profiled-rolls {or die rolls} | 7/02 | . spades; shovels |
| 3/042 | . . . {Thread-rolling heads} | 7/04 | . hoes |
| 3/044 | {working axially} | 7/06 | . ploughshares; axes |
| 3/046 | {working radially} | | |
| 3/048 | {working tangentially} | | |

B21H

- 7/08 . forks; rakes {spoons}
- 7/10 . knives; sickles; scythes
- 7/12 . horse-shoes; articles of like shape, e.g. wear-resisting attachments for shoes
- 7/14 . knurled articles
- 7/16 . turbine blades; compressor blades; propeller blades
- 7/18 . grooved pins; Rolling grooves, e.g. oil grooves, in articles {(B21H 5/00 takes precedence)}
- 7/182 . . {Rolling annular grooves}
- 7/185 . . . {Filet rolling, e.g. of crankshafts}
- 7/187 . . {Rolling helical or rectilinear grooves}
- 8/00 Rolling metal of indefinite length in repetitive shapes specially designed for the manufacture of particular objects {, e.g. checkered sheets}**
- 8/005 . {Embossing sheets or rolls}
- 8/02 . Rolls of special shape
- 9/00 Feeding arrangements for rolling machines or apparatus manufacturing articles dealt with in this subclass**
- 9/02 . for screw-rolling machines