COOPERATIVE PATENT CLASSIFICATION

PERFORMING OPERATIONS; TRANSPORTING

SHAPING

MECHANICAL METAL-WORKING WITHOUT ESSENTIALLY REMOVING MATERIAL; PUNCHING METAL

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)
1/02 . discs; disc wheels
1/04 . . with rim, e.g. railways wheels [or pulleys]
1/06 . rings of restricted axial length (extending closed shapes of metal bands by simultaneous rolling at two or more zones B21B 5/00)
1/08 . railway wheel rims
1/10 . rims for pneumatic tyres
1/12 . rings for ball or roller bearings
1/14 . balls, rollers, cone rollers, or like bodies
1/16 . for bearings
1/18 . cylinders, e.g. rolled transversely [cross-rolling]
1/20 . rolled longitudinally
1/22 . characterised by use of rolls having circumferentially varying profile [: Die-rolling]

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)
3/02 . external screw-threads [: Making dies for thread rolling]
3/022 . {combined with rolling splines, ribs, grooves or the like, e.g. using compound dies}
3/025 . {Rolling locking screws}
3/027 . {Rolling of self-tapping screws}
3/04 . Making by means of profiled-rolls [or die rolls]
3/042 . . {Thread-rolling heads}
3/044 . . . {working axially}
3/046 . . . {working radially}
3/048 . . . {working tangentially}
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
3/065 . . . [Planetary thread rolling]

3/08 . internal screw-threads
3/10 . twist-drills; screw-taps
3/12 . articles with helicoidal surface (bending strip or the like helically B21D 11/06)

5/00 Making gear wheels [, racks, spline shafts or worms]
5/005 . {Worms}
5/02 . with cylindrical outline [, e.g. by means of die rolls (worms B21H 5/005)}
5/022 . . {Finishing gear teeth with cylindrical outline, e.g. burnishing}
5/025 . . {Internally geared wheels}
5/027 . . {by rolling using reciprocating flat dies, e.g. racks (B21H 5/022 takes precedence)}
5/04 . bevel gears
5/045 . . {Finishing bevel gear teeth, e.g. burnishing}

7/00 Making articles not provided for in the preceding groups, e.g. agricultural tools, dinner forks, knives, spoons (nails, pins B21G 3/30)
7/002 . {Fasteners, rivets}
7/005 . {railway sleepers or chains}
7/007 . {Taper rolling, e.g. leaf springs}
7/02 . spades; shovels
7/04 . hoes
7/06 . ploughshares; axes
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