

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		
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)	3/065	. . . {Planetary thread rolling}
		3/08	. internal screw-threads
		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		
1/12	. . rings for ball or roller bearings	5/00	Making gear wheels {, racks, spline shafts or worms}
1/14	. balls, rollers, cone rollers, or like bodies		
1/16	. . for bearings	5/005	. {Worms}
1/18	. cylinders, e.g. rolled transversely {cross-rolling}	5/02	. with cylindrical outline {, e.g. by means of die rolls (worms B21H 5/005)}
1/20	. . rolled longitudinally	5/022	. . {Finishing gear teeth with cylindrical outline, e.g. burnishing}
1/22	. characterised by use of rolls having circumferentially varying profile {; Die-rolling}	5/025	. . {Internally geared wheels}
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)	5/027	. . {by rolling using reciprocating flat dies, e.g. racks (B21H 5/022 takes precedence)}
3/02	. external screw-threads {; Making dies for thread rolling}	5/04	. bevel gears
3/022	. . {combined with rolling splines, ribs, grooves or the like, e.g. using compound dies}	5/045	. . {Finishing bevel gear teeth, e.g. burnishing}
3/025	. . {Rolling locking screws}	7/00	Making articles not provided for in the preceding groups, e.g. agricultural tools, dinner forks, knives, spoons (nails, pins B21G 3/30)
3/027	. . {Rolling of self-tapping screws}	7/002	. {Fasteners, rivets}
3/04	. . Making by means of profiled-rolls {or die rolls}	7/005	. {railway sleepers or chains}
3/042	. . . {Thread-rolling heads}	7/007	. {Taper rolling, e.g. leaf springs}
3/044 {working axially}	7/02	. spades; shovels
3/046 {working radially}	7/04	. hoes
3/048 {working tangentially}	7/06	. ploughshares; axes

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