

## ECLA EUROPEAN CLASSIFICATION

### B21K

**MAKING FORGED OR PRESSED PRODUCTS, e.g. HORSE-SHOES, RIVETS, BOLTS, WHEELS (making particular articles by working sheet metal without essentially removing material B21D; processing wire B21F; making pins, needles or nails B21G; making particular articles by rolling B21H; forging machines, pressing machines, hammering machines, in general B21J; making chain B21L; plating B23K)**

#### Note

This subclass includes only forging, pressing, or hammering operations which are specially adapted for use in the manufacture of particular objects and which, so far as the invention is concerned, are not combined with any different metal-working operation unless the latter is a subsidiary operation performed in the same machine.

**Guide heading:** **Making particular articles by forging, pressing, or hammering; Equipment therefor**

#### B21K1/00

**Making machine elements**

- B21K1/02 . balls, rolls, or rollers, e.g. for bearings
- B21K1/02B . . [N: of bullets]
- B21K1/04 . ball-races [N: or sliding bearing races] [M1112]
- B21K1/05 . cages for bearings
- B21K1/06 . axles or shafts
- B21K1/06B . . [N: hollow (hollow racks B21K1/76R2)] [N1204]
- B21K1/06D . . [N: splined] [N1204]
- B21K1/08 . . crankshafts
- B21K1/10 . . of cylindrical form
- B21K1/12 . . of specially-shaped cross-section
- B21K1/14 . fittings
- B21K1/16 . . parts of pipe or hose couplings
- B21K1/18 . pistons or plungers
- B21K1/18B . . [N: with cooling channels] [N1204]
- B21K1/20 . valve parts
- B21K1/20B . . [N: rocker arms] [N0902]
- B21K1/22 . . poppet valves, e.g. for internal-combustion engines
- B21K1/24 . . valve bodies; valve seats
- B21K1/26 . housings or supporting parts, e.g. axle housings, engine mountings

- B21K1/28 . wheels; discs
- B21K1/30 . . with gear-teeth
- B21K1/30B . . . [N: helical] [N1204]
- B21K1/32 . . discs, e.g. disc wheels
- B21K1/34 . . wheels with spokes
- B21K1/36 . . with blades
- B21K1/38 . . rims; tyres
- B21K1/40 . . hubs
- B21K1/42 . . pulleys, e.g. cable pulleys
  
- B21K1/44 . bolts, studs, or the like (making screw-thread [B21K1/56](#); making U-bolts [B21K1/74](#))
- B21K1/46 . . with heads
- B21K1/46B . . . [N: with recessed heads]
- B21K1/46C . . . [N: Heading machines with an oscillating die block]
- B21K1/48 . . . Machines working with hammers, e.g. beating in a radial direction, for forming heads
- B21K1/50 . . . Trimming or shearing formed heads, e.g. working with dies
- B21K1/52 . . double-ended, e.g. with heads on both ends (forming heads [B21K1/46](#))
- B21K1/54 . . with grooves or notches
  
- B21K1/56 . screw-threaded elements
  
- B21K1/58 . rivets
- B21K1/60 . . hollow or semi-hollow rivets
- B21K1/62 . . special rivets, e.g. with electrical contacts
  
- B21K1/64 . nuts (making screw-thread [B21K1/56](#))
- B21K1/66 . . form strip bars
- B21K1/68 . . from round or profiled bars
- B21K1/70 . . of special shape, e.g. self-locking nuts, wing nuts
- B21K1/70B . . . [N: Weld nuts]
- B21K1/70C . . . [N: Clinch nuts]
- B21K1/70D . . . [N: Cap nuts]
- B21K1/70K . . . [N: Castellated nuts]
- B21K1/70L . . . [N: Self-locking nuts]
- B21K1/70W . . . [N: wing nuts]
  
- B21K1/72 . hooks, e.g. crane hooks, railway track spikes (making nails in general [B21G](#))
  
- B21K1/74 . forked members or members with two or more limbs, e.g. U-bolts, anchors
  
- B21K1/76 . elements not mentioned in one of the preceding groups
- B21K1/76B . . [N: rings]
- B21K1/76C . . [N: Coupling members for conveying mechanical motion, e.g. universal joints]

- B21K1/76C2 . . . [N: Inner elements of coupling members] [N1204]
- B21K1/76C4 . . . [N: Outer elements of coupling members] [N1204]
- B21K1/76D . . [N: Connecting rods]
- B21K1/76R . . [N: Toothed racks]
- B21K1/76R2 . . . [N: hollow] [N1204]
  
- B21K3/00** **Making engine or like machine parts not covered by sub-groups of [B21K1/00](#);  
Making propellers or the like**
  
- B21K3/02 . cylinder heads
- B21K3/04 . blades, e.g. for turbines; Upsetting of blade roots
  
- B21K5/00** **Making tools or tool parts, e.g. pliers**
  
- B21K5/02 . drilling-tools or other for making or working on holes
- B21K5/04 . . twisting-tools, e.g. drills, reamers
- B21K5/06 . . Dressing, e.g. sharpening rock drills
- B21K5/08 . . drifting tools
- B21K5/10 . . Forming drill-bit shanks
  
- B21K5/12 . other cutting tools ([cutlery wares B21K11/00](#))
- B21K5/14 . hand hammers
- B21K5/16 . tools for turning nuts
- B21K5/18 . handles or parts therefor
- B21K5/20 . Making working faces of dies, either recessed or outstanding
  
- B21K7/00** **Making railway appurtenances; Making vehicle parts**
  
- B21K7/02 . parts for permanent way ([spikes B21K1/72](#))
- B21K7/04 . . switch tongues
- B21K7/06 . . sleepers
- B21K7/08 . . base plates for rails, e.g. chairs
- B21K7/10 . . rails joints
  
- B21K7/12 . parts for locomotives or vehicles, e.g. frames, underframes
- B21K7/14 . . brake rigging or brake parts
  
- B21K9/00** **Reconditioning railroad accessories, e.g. rails**
  
- B21K11/00** **Making cutlery wares; Making garden tools or the like**

- B21K11/02 . knives
- B21K11/04 . spoons; table forks
- B21K11/06 . scissors
- B21K11/08 . sickles; scythes
- B21K11/10 . axes; picks
- B21K11/12 . spades; shovels
- B21K11/14 . rakes; garden forks
  
- B21K13/00      Making locksmiths` goods, e.g. handles for cases**
- B21K13/02 . hinges
  
- B21K15/00      Making blacksmiths` goods**
- B21K15/02 . horseshoes; appurtenances therefor
- B21K15/04 . . caulks
- B21K15/06 . metal attachments for footwear, e.g. wearresisting plates
  
- B21K17/00      Making sport articles, e.g. skates**
  
- B21K19/00      Making articles for agricultural machinery**
- B21K19/02 . plough blades; ploughshares
  
- B21K21/00      Making hollow articles not covered by a single preceding sub-group (essentially from sheet-metal or uniform thin-walled tubes [B21D](#), e.g. [B21D41/00](#), [B21D51/00](#))**
- B21K21/02 . Producing blanks in the shape of discs or cups as semifinished articles for making hollow articles, e.g. to be deep-drawn or extruded
- B21K21/04 . Shaping thin-walled hollow articles, e.g. cartridges
- B21K21/06 . Shaping thick-walled hollow articles, e.g. projectiles
- B21K21/08 . Shaping hollow articles with different cross-section in longitudinal direction, e.g. nozzles, spark-plugs
- B21K21/10 . . cone-shaped or bell-shaped articles, e.g. insulator caps
- B21K21/12 . Shaping end portions of hollow articles
- B21K21/14 . . closed or substantially-closed ends, e.g. cartridge bottoms

- B21K21/16 . Remodelling hollow bodies with respect to the shape of the cross-section ([remodelling end portions only B21K21/12](#))
- B21K23/00 Making other articles**
- B21K23/02 . members of endless tracks, e.g. track guides, shoes ([making from sheet-metal B21D](#))
- B21K23/04 . flanged articles ([B21K1/28 takes precedence](#); [flanging tubes B21D](#))
- B21K25/00 Uniting components to form integral members, e.g. turbine wheels and shafts, caulks with inserts, with or without shaping of the components ([uniting by interference- or press-fitting B23P11/02, B21K19/02](#))**
- B21K25/00B . [[N: by friction heat forging \(B21J15/02F takes precedence; friction heat forging per se B21J5/06B\)](#)] [[N0902](#)]
- Guide heading: Accessories; Auxiliary devices**
- B21K27/00 Handling devices, e.g. for feeding, aligning, discharging, Cutting-off means; Arrangement thereof**
- B21K27/02 . Feeding devices for rods, wire, or strips
- B21K27/04 . . allowing successive working steps
- B21K27/06 . Cutting-off means; Arrangements thereof
- B21K29/00 Arrangements for heating or cooling during processing ([for preparing metal stock to be forged or pressed B21J1/06](#); heating equipment per se, see the appropriate classes, e.g. [H05B](#))**
- B21K31/00 Control devices specially adapted for positioning tool carriers**