

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> members of endless tracks, e.g. track guides, shoes (making from sheet-metal B21D)
B21K23/04	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> [N: by friction heat forging (B21J15/02F takes precedence; friction heat forging per se B21J5/06B)] [N0902]
Guide heading:	<u>Accessories; Auxiliary devices</u>
B21K27/00	Handling devices, e.g. for feeding, aligning, discharging, Cutting-off means; Arrangement thereof
B21K27/02	<ul style="list-style-type: none"> Feeding devices for rods, wire, or strips
B21K27/04	<ul style="list-style-type: none"> allowing successive working steps
B21K27/06	<ul style="list-style-type: none"> 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