SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B21 MECHANICAL METAL-WORKING WITHOUT ESSENTIALLY REMOVING MATERIAL; PUNCHING METAL

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 chains B21L; plating B23K)

Note(s)

This subclass covers only forging, pressing, or hammering 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.

Subclass index

MAKING MACHINE ELEMENTS OR TOOLS.....1/00, 3/00, 5/00, 19/00
MAKING RAILS.....7/00, 9/00
MAKING LOCKSMITHS' OR BLACKSMITHS' GOODS.....13/00, 15/00
MAKING OTHER ARTICLES.....7/00, 11/00, 17/00, 21/00, 23/00
UNITING OF COMPONENTS.....25/00
ACCESSORIES, AUXILIARY DEVICES.....27/00, 29/00, 31/00

Making particular articles by forging, pressing, or hammering; Equipment therefor

1/00 Making machine elements
1/02 • balls, rolls, or rollers, e.g. for bearings
1/04 • ball-races
1/05 • cages for bearings **[2]**
1/06 • axles or shafts
1/08 • • crankshafts
1/10 • • of cylindrical form
1/12 • • of specially-shaped cross-section
1/14 • fittings
1/16 • • parts of pipe or hose couplings
1/18 • pistons or plungers
1/20 • valve parts
1/22 • • poppet valves, e.g. for internal-combustion engines
1/24 • • valve bodies; valve seats
1/26 • housings or supporting parts, e.g. axle housings, engine mountings
1/28 • wheels; discs
1/30 • • with gear-teeth
1/32 • • discs, e.g. disc wheels
1/34 • • wheels with spokes
1/36 • • with blades
1/38 • • rims; tyres
1/40 • • hubs
1/42 • • pulleys, e.g. cable pulleys
1/44 • bolts, studs, or the like (making screw-thread B21K 1/56; making U-bolts B21K 1/74)
1/46 • • with heads
1/48 • • • Machines working with hammers, e.g. beating in a radial direction, for forming heads
1/50 • • • Trimming or shearing formed heads, e.g. working with dies
1/52 • • double-ended, e.g. with heads on both ends (forming heads B21K 1/46)
1/54 • • with grooves or notches
1/56 • screw-threaded elements **[2]**
1/58 • rivets
1/60 • • hollow or semi-hollow rivets
1/62 • • special rivets, e.g. with electrical contacts
1/64 • nuts (making screw-thread B21K 1/56)
1/66 • • from strip bars
1/68 • • from round or profiled bars
1/70 • • of special shape, e.g. self-locking nuts, wing nuts
1/72 • hooks, e.g. crane hooks, railway track spikes (making nails in general B21G)
1/74 • forked members or members with two or more limbs, e.g. U-bolts, anchors
1/76 • elements not mentioned in one of the preceding groups

3/00 Making engine or like machine parts not covered by B21K 1/00; Making propellers or the like
3/02 • cylinder heads
3/04 • blades, e.g. for turbines; Upsetting of blade roots

5/00 Making tools or tool parts, e.g. pliers
5/02 • drilling-tools or other tools for making or working on holes
5/04 • • twisting-tools, e.g. drills, reamers

5/06 • • Dressing, e.g. sharpening rock drills
5/08 • • drifting tools
5/10 • • Forming drill-bit shanks
5/12 • other cutting tools (cutlery wares B21K 11/00)
5/14 • hand hammers
5/16 • tools for turning nuts
5/18 • handles or parts therefor
5/20 • Making working faces of dies, either recessed or outstanding

7/00 Making railway appurtenances; Making vehicle parts
7/02 • parts for permanent way (spikes B21K 1/72)
7/04 • • switch tongues
7/06 • • sleepers
7/08 • • base plates for rails, e.g. chairs
7/10 • • rail joints
7/12 • parts for locomotives or vehicles, e.g. frames, underframes
7/14 • • brake rigging or brake parts **[2]**

9/00 Reconditioning railroad accessories, e.g. rails

11/00 Making cutlery wares; Making garden tools or the like
11/02 • knives
11/04 • spoons; table forks
11/06 • scissors
11/08 • sickles; scythes
11/10 • axes; picks
11/12 • spades; shovels
11/14 • rakes; garden forks

13/00 Making locksmiths' goods, e.g. handles for cases
13/02 • hinges

15/00 Making blacksmiths' goods
15/02 • horse-shoes; accessories therefor
15/04 • • caulks
15/06 • metal attachments for footwear, e.g. wear-resisting plates

17/00 Making sport articles, e.g. skates

19/00 Making articles for agricultural machinery
19/02 • plough blades; ploughshares

21/00 Making hollow articles not covered by any single one of groups B21K 1/00-B21K 19/00 (essentially from sheet-metal or uniform thin-walled tubes B21D, e.g. B21D 41/00, B21D 51/00)
21/02 • Producing blanks in the shape of discs or cups as semi-finished articles for making hollow articles, e.g. to be deep-drawn or extruded
21/04 • Shaping thin-walled hollow articles, e.g. cartridges
21/06 • Shaping thick-walled hollow articles, e.g. projectiles
21/08 • Shaping hollow articles with different cross-section in longitudinal direction, e.g. nozzles, spark-plugs
21/10 • • cone-shaped or bell-shaped articles, e.g. insulator caps
21/12 • Shaping end portions of hollow articles
21/14 • • closed or substantially-closed ends, e.g. cartridge bottoms
21/16 • Remodelling hollow bodies with respect to the shape of the cross-section (remodelling end portions only B21K 21/12)

23/00 Making other articles
23/02 • members of endless tracks, e.g. track guides, shoes (making from sheet-metal B21D)
23/04 • flanged articles (B21K 1/28 takes precedence; flanging tubes B21D)

25/00 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 B23P 11/02, B23P 19/02)

Accessories; Auxiliary devices

27/00 Handling devices, e.g. for feeding, aligning, discharging; Cutting-off means; Arrangement thereof
27/02 • Feeding devices for rods, wire, or strips
27/04 • • allowing successive working steps
27/06 • Cutting-off means; Arrangement thereof

29/00 Arrangements for heating or cooling during processing (for preparing metal stock to be forged or pressed B21J 1/06; heating equipment in general, see the appropriate subclasses, e.g. H05B)

31/00 Control devices specially adapted for positioning tool carriers