В	Sektion	SECTION B — PERFORMING OPERATIONS; TRANSPORTING
B21	Untersektion	SHAPING
B21	Klasse	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)
B21K	Unterklasse	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)
		Making particular articles by forging, pressing, or hammering; Equipment therefor
B21K 1/00	Hauptgruppe	Making machine elements
B21K 1/02	1-Punkt Untergruppe	. balls, rolls, or rollers, e.g. for bearings
B21K 1/04	1-Punkt Untergruppe	. ball-races
B21K 1/05	1-Punkt Untergruppe	. cages for bearings [2]
B21K 1/06	1-Punkt Untergruppe	. axles or shafts
B21K 1/08	2-Punkt Untergruppe	crankshafts
B21K 1/10	2-Punkt Untergruppe	of cylindrical form
B21K 1/12	2-Punkt Untergruppe	of specially-shaped cross-section
B21K 1/14	1-Punkt Untergruppe	. fittings
B21K 1/16	2-Punkt Untergruppe	parts of pipe or hose couplings
B21K 1/18	1-Punkt Untergruppe	. pistons or plungers
B21K 1/20	1-Punkt Untergruppe	. valve parts
B21K 1/22	2-Punkt Untergruppe	poppet valves, e.g. for internal-combustion engines
B21K 1/24	2-Punkt Untergruppe	valve bodies; valve seats
B21K 1/26	1-Punkt Untergruppe	. housings or supporting parts, e.g. axle housings, engine mountings
B21K 1/28	1-Punkt Untergruppe	. wheels; discs
B21K 1/30	2-Punkt Untergruppe	with gear-teeth
B21K 1/32	2-Punkt Untergruppe	discs, e.g. disc wheels
B21K 1/34	2-Punkt Untergruppe	wheels with spokes
B21K 1/36	2-Punkt Untergruppe	with blades
B21K 1/38	2-Punkt Untergruppe	rims; tyres
B21K 1/40	2-Punkt Untergruppe	hubs

Symbol	Тур	Titel
B21K 1/42	2-Punkt Untergruppe	pulleys, e.g. cable pulleys
B21K 1/44	1-Punkt Untergruppe	. bolts, studs, or the like (making screw-thread B21K 1/56; making U-bolts B21K 1/74)
B21K 1/46	2-Punkt Untergruppe	with heads
B21K 1/48	3-Punkt Untergruppe	Machines working with hammers, e.g. beating in a radial direction, for forming heads
B21K 1/50	3-Punkt Untergruppe	Trimming or shearing formed heads, e.g. working with dies
B21K 1/52	2-Punkt Untergruppe	double-ended, e.g. with heads on both ends (forming heads B21K 1/46)
B21K 1/54	2-Punkt Untergruppe	with grooves or notches
B21K 1/56	1-Punkt Untergruppe	. screw-threaded elements [2]
B21K 1/58	1-Punkt Untergruppe	. rivets
B21K 1/60	2-Punkt Untergruppe	hollow or semi-hollow rivets
B21K 1/62	2-Punkt Untergruppe	special rivets, e.g. with electrical contacts
B21K 1/64	1-Punkt Untergruppe	. nuts (making screw-thread B21K 1/56)
B21K 1/66	2-Punkt Untergruppe	from strip bars
B21K 1/68	2-Punkt Untergruppe	from round or profiled bars
B21K 1/70	2-Punkt Untergruppe	of special shape, e.g. self-locking nuts, wing nuts
B21K 1/72	1-Punkt Untergruppe	. hooks, e.g. crane hooks, railway track spikes (making nails in general B21G)
B21K 1/74	1-Punkt Untergruppe	. forked members or members with two or more limbs, e.g. U-bolts, anchors
B21K 1/76	1-Punkt Untergruppe	. elements not mentioned in one of the preceding groups
B21K 3/00	Hauptgruppe	Making engine or like machine parts not covered by B21K 1/00; Making propellers or the like
B21K 3/02	1-Punkt Untergruppe	. cylinder heads
B21K 3/04	1-Punkt Untergruppe	. blades, e.g. for turbines; Upsetting of blade roots
B21K 5/00	Hauptgruppe	Making tools or tool parts, e.g. pliers
B21K 5/02	1-Punkt Untergruppe	. drilling-tools or other tools for making or working on holes
B21K 5/04	2-Punkt Untergruppe	twisting-tools, e.g. drills, reamers
B21K 5/06	2-Punkt Untergruppe	Dressing, e.g. sharpening rock drills
B21K 5/08	2-Punkt Untergruppe	drifting tools
B21K 5/10	2-Punkt Untergruppe	Forming drill-bit shanks
B21K 5/12	1-Punkt Untergruppe	. other cutting tools (cutlery wares B21K 11/00)
B21K 5/14	1-Punkt Untergruppe	. hand hammers
B21K 5/16	1-Punkt Untergruppe	. tools for turning nuts
B21K 5/18	1-Punkt Untergruppe	. handles or parts therefor
B21K 5/20	1-Punkt Untergruppe	. Making working faces of dies, either recessed or outstanding
B21K 7/00	Hauptgruppe	Making railway appurtenances; Making vehicle parts

Symbol	Тур	Titel
B21K 7/02	1-Punkt Untergruppe	. parts for permanent way (spikes B21K 1/72)
B21K 7/04	2-Punkt Untergruppe	switch tongues
B21K 7/06	2-Punkt Untergruppe	sleepers
B21K 7/08	2-Punkt Untergruppe	base plates for rails, e.g. chairs
B21K 7/10	2-Punkt Untergruppe	rail joints
B21K 7/12	1-Punkt Untergruppe	. parts for locomotives or vehicles, e.g. frames, underframes
B21K 7/14	2-Punkt Untergruppe	brake rigging or brake parts [2]
B21K 9/00	Hauptgruppe	Reconditioning railroad accessories, e.g. rails
B21K 11/00	Hauptgruppe	Making cutlery wares; Making garden tools or the like
B21K 11/02	1-Punkt Untergruppe	. knives
B21K 11/04	1-Punkt Untergruppe	. spoons; table forks
B21K 11/06	1-Punkt Untergruppe	. scissors
B21K 11/08	1-Punkt Untergruppe	. sickles; scythes
B21K 11/10	1-Punkt Untergruppe	. axes; picks
B21K 11/12	1-Punkt Untergruppe	. spades; shovels
B21K 11/14	1-Punkt Untergruppe	. rakes; garden forks
B21K 13/00	Hauptgruppe	Making locksmiths' goods, e.g. handles for cases
B21K 13/00	b.3. mbb.	
B21K 13/02	1-Punkt Untergruppe	. hinges
B21K 13/02	1-Punkt Untergruppe	. hinges
B21K 13/02 B21K 15/00	1-Punkt Untergruppe Hauptgruppe	. hinges Making blacksmiths' goods
B21K 13/02 B21K 15/00 B21K 15/02	1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe	. hinges Making blacksmiths' goods . horse-shoes; accessories therefor
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04	1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 2-Punkt Untergruppe	. hinges Making blacksmiths' goods . horse-shoes; accessories therefor caulks
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06	1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe	 hinges Making blacksmiths' goods horse-shoes; accessories therefor caulks metal attachments for footwear, e.g. wear-resisting plates
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00	1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe	. hinges Making blacksmiths' goods . horse-shoes; accessories therefor caulks . metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00	1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe	 hinges Making blacksmiths' goods horse-shoes; accessories therefor caulks metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 19/02	1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe	. hinges Making blacksmiths' goods . horse-shoes; accessories therefor caulks . metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery . plough blades; ploughshares Making hollow articles not covered by any single one of groups B21K 1/00-B21K 19/00 (essentially
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 19/00 B21K 19/02	1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe	 hinges Making blacksmiths' goods horse-shoes; accessories therefor caulks metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery plough blades; ploughshares 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) Producing blanks in the shape of discs or cups as semi-finished articles for making hollow articles, e.g. to be
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 19/02 B21K 21/00	1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe Hauptgruppe	 hinges Making blacksmiths' goods horse-shoes; accessories therefor caulks metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery plough blades; ploughshares 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) 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
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 21/00 B21K 21/02 B21K 21/04	1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 1-Punkt Untergruppe	 hinges Making blacksmiths' goods horse-shoes; accessories therefor caulks metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery plough blades; ploughshares 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) 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 Shaping thin-walled hollow articles, e.g. cartridges
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 21/00 B21K 21/02 B21K 21/04 B21K 21/06	1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe Hauptgruppe 1-Punkt Untergruppe 1-Punkt Untergruppe	Making blacksmiths' goods . horse-shoes; accessories therefor caulks . metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery . plough blades; ploughshares 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) . 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 . Shaping thin-walled hollow articles, e.g. cartridges . Shaping thick-walled hollow articles, e.g. projectiles
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 21/00 B21K 21/00 B21K 21/02 B21K 21/06 B21K 21/06 B21K 21/08	1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe	Making blacksmiths' goods . horse-shoes; accessories therefor caulks . metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery . plough blades; ploughshares 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) . 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 . Shaping thin-walled hollow articles, e.g. cartridges . Shaping thick-walled hollow articles, e.g. projectiles . Shaping hollow articles with different cross-section in longitudinal direction, e.g. nozzles, spark-plugs
B21K 13/02 B21K 15/00 B21K 15/02 B21K 15/04 B21K 15/06 B21K 17/00 B21K 19/00 B21K 19/02 B21K 21/00 B21K 21/06 B21K 21/04 B21K 21/06 B21K 21/08 B21K 21/10	1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe 1-Punkt Untergruppe Hauptgruppe Hauptgruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 1-Punkt Untergruppe 2-Punkt Untergruppe	Making blacksmiths' goods . horse-shoes; accessories therefor caulks . metal attachments for footwear, e.g. wear-resisting plates Making sport articles, e.g. skates Making articles for agricultural machinery . plough blades; ploughshares 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) . 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 . Shaping thin-walled hollow articles, e.g. cartridges . Shaping thick-walled hollow articles, e.g. projectiles . Shaping hollow articles with different cross-section in longitudinal direction, e.g. nozzles, spark-plugs cone-shaped or bell-shaped articles, e.g. insulator caps

B21K 21/10

Symbol	Тур	Titel
B21K 21/16	1-Punkt Untergruppe	. Remodelling hollow bodies with respect to the shape of the cross-section (remodelling end portions only B21K $21/12$)
B21K 23/00	Hauptgruppe	Making other articles
B21K 23/02	1-Punkt Untergruppe	. members of endless tracks, e.g. track guides, shoes (making from sheet-metal B21D)
B21K 23/04	1-Punkt Untergruppe	. flanged articles (B21K 1/28 takes precedence; flanging tubes B21D)
B21K 25/00	Hauptgruppe	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
B21K 27/00	Hauptgruppe	Handling devices, e.g. for feeding, aligning, discharging; Cutting-off means; Arrangement thereof
B21K 27/02	1-Punkt Untergruppe	. Feeding devices for rods, wire, or strips
B21K 27/04	2-Punkt Untergruppe	allowing successive working steps
B21K 27/06	1-Punkt Untergruppe	. Cutting-off means; Arrangement thereof
B21K 29/00	Hauptgruppe	Arrangements for heating or cooling during processing (for preparing metal stock to be forged or
		pressed B21J 1/06; heating equipment in general, <u>see</u> the appropriate subclasses, e.g. H05B)
B21K 31/00	Hauptgruppe	Control devices specially adapted for positioning tool carriers