

CPC COOPERATIVE PATENT CLASSIFICATION

B25D PERCUSSIVE TOOLS {(percussive machines for forging [B21J](#); hand-held drilling machines, in general [B23B 45/00](#), for wood [B27C 3/08](#); drilling machines, used for mining or quarrying, with reciprocating tool which is turned intermittently when out of contact with the working face [E21B 1/00](#))}

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

B25D 13/00	covered by	B25D 11/064
B25D 15/00	covered by	B25D 11/066
B25D 15/02	covered by	B25D 11/068
B25D 17/10	covered by	B25D 17/00 , F16P
B25D 17/14	covered by	B23Q 11/0042
B25D 17/16	covered by	B23Q 11/0042
B25D 17/18	covered by	B23Q 11/0042

1/00	Hand hammers {(handles therefor B25G 1/00 ; attachment of handles to the hammer head B25G 3/00); Hammer heads of special shape or materials	9/11	. . . operated by combustion pressure generated by detonation of a cartridge
1/005	. {with nail feeding devices}	9/12	. . . comprising a built-in liquid motor, {i.e. the tool being driven by hydraulic pressure}
1/02	. Inserts or attachments forming the striking part of hammer heads (B25D 1/08 - B25D 1/14 take precedence)	9/125	. . . {driven directly by liquid pressure working with pulses}
1/04	. with provision for withdrawing or holding nails or spikes	9/14	. Control devices for the reciprocating piston
1/045	. . {with fulcrum member for extracting long nails}	9/145	. . {for hydraulically actuated hammers having an accumulator}
1/06	. . Magnetic holders	9/16	. . Valve arrangements therefor {(B25D 9/145 takes precedence)}
1/08	. having deformable heads (B25D 1/12 takes precedence)	9/18	. . . involving a piston-type slide valve
1/10	. having work protector surrounding faces {(B25D 1/12 takes precedence)}	9/20	. . . involving a tubular-type slide valve
1/12	. having shock-absorbing means	9/22	. . . involving a rotary-type slide valve
1/14	. having plural striking faces	9/24	. . . involving a rocking-plate type valve
1/16	. having the impacting head in the form of a sleeve slidable on a shaft, e.g. hammers for driving a valve or draw-off tube into a barrel	9/26	. . Control devices for adjusting the stroke of the piston or the force or frequency of impact thereof {(control systems adapted for earth drilling E21B 44/00)}
3/00	Hand chisels	9/265	. . . {with arrangements for automatic stopping when the tool is lifted from the working face or suffers excessive bore resistance}
5/00	Centre punches	11/00	Portable percussive tools with electromotor {or other motor} drive
5/02	. Automatic centre punches	11/005	. {Arrangements for adjusting the stroke of the impulse member or for stopping the impact action when the tool is lifted from the working surface}
7/00	Picks {(combined with other tools B25F)}	11/02	. in which the tool is connected to an impulse member
9/00	Portable percussive tools with fluid-pressure drive, {i.e. driven directly by fluids}, e.g. having several percussive tool bits operated simultaneously {(portable non-percussive drilling tools driven by fluid pressure or pneumatic power B23B 45/04)}	11/04	. in which the tool bit or anvil is hit by an impulse member
9/005	. {Devices for testing the tool's performance}	11/06	. Means for driving the impulse member
9/02	. of the tool-carrier piston type, i.e. in which the tool is connected to an impulse member	11/062	. . {comprising a wobbling mechanism, swash plate}
9/04	. of the hammer piston type, i.e. in which the tool bit or anvil is hit by an impulse member	11/064	. . {using an electromagnetic drive}
9/06	. Means for driving the impulse member	11/066	. . {using centrifugal or rotary impact elements}
9/08	. . comprising a built-in air compressor, {i.e. the tool being driven by air pressure}	11/068	. . . {in which the tool bit or anvil is hit by a rotary impulse member}
9/10	. . comprising a built-in internal-combustion engine	11/08	. . comprising a worm mechanism, {i.e. a continuous guide surface with steadily rising and falling incline}
		11/10	. . comprising a cam mechanism

11/102	. . . {the rotating axis of the cam member being coaxial with the axis of the tool}	2209/00	Details of portable percussive tools with fluid-pressure drive, i.e. driven directly by fluids, e.g. having several percussive tool bits operated simultaneously
11/104 {with rollers or balls as cam surface}	2209/002	. Pressure accumulators
11/106 {cam member and cam follower having the same shape (B25D 11/104 takes precedence)}	2209/005	. having a tubular-slide valve, which is coaxial with the piston
11/108	. . . {the rotation axis of the cam member being parallel but offset to the tool axis}	2209/007	. having a tubular-slide valve, which is not coaxial with the piston
11/12	. . comprising a crank mechanism	2211/00	Details of portable percussive tools with electromotor or other motor drive
11/125	. . . {with a fluid cushion between the crank drive and the striking body}	2211/003	. Crossed drill and motor spindles
16/00	Portable percussive machines with superimposed rotation, {the rotational movement of the output shaft of a motor being modified to generate axial impacts on the tool bit (combined percussion and rotary drilling adapted for earth drilling E21B 6/00)}	2211/006	. Parallel drill and motor spindles
16/003	. {Clutches specially adapted therefor}	2211/06	. Means for driving the impulse member
16/006	. {Mode changers; Mechanisms connected thereto}	2211/061	. . Swash-plate actuated impulse-driving mechanisms
17/00	Details of, or accessories for, portable power-driven percussive tools {(details or components, e.g. casings, bodies, of portable power-driven tools not particularly related to the operation performed B25F 5/00)}	2211/062	. . Cam-actuated impulse-driving mechanisms
17/005	. {Attachments or adapters placed between tool and hammer}	2211/064	. . . Axial cams, e.g. two camming surfaces coaxial with drill spindle
17/02	. Percussive tool bits {(drill bits for earth drilling E21B 10/00)}	2211/065	. . . with ball-shaped or roll-shaped followers
17/04	. Handles; Handle mountings	2211/067	. . . wherein the cams are involved in a progressive mutual engagement with increasing pressure of the tool to the working surface
17/043	. . {Handles resiliently mounted relative to the hammer housing (B25D 17/046 takes precedence)}	2211/068	. . Crank-actuated impulse-driving mechanisms
17/046	. . {Sleeve-like handles surrounding the tool bit}	2216/00	Details of portable percussive machines with superimposed rotation, the rotational movement of the output shaft of a motor being modified to generate axial impacts on the tool bit
17/06	. Hammer pistons; Anvils; {Guide-sleeves for pistons}	2216/0007	. Details of percussion or rotation modes
17/08	. Means for retaining and guiding the tool bit, e.g. chucks {allowing axial oscillation of the tool bit (B25D 17/005 takes precedence)}	2216/0015	. . Tools having a percussion-only mode
17/082	. . {Retainers consisting of a swinging yoke or latching means (B25D 17/086 takes precedence)}	2216/0023	. . Tools having a percussion-and-rotation mode
17/084	. . {Rotating chucks or sockets}	2216/003	. . . comprising de-phasing of percussion and rotation
17/086	. . . {with a swinging yoke or latching means}	2216/0038	. . Tools having a rotation-only mode
17/088	. . . {with radial movable locking elements co-operating with bit shafts specially adapted therefor}	2216/0046	. . Preventing rotation
17/11	. Arrangements of noise-damping means {(noise damping in general G10K 11/16)}	2216/0053	. . . and percussion
17/12	. . of exhaust silencers {(exhaust silencers in general F01N)}	2216/0061	. . . preventing reverse rotation
17/20	. Devices for cleaning or cooling tool or work	2216/0069	. Locking means
17/22	. . using pressure fluid	2216/0076	. Angular position of the chisel modifiable by hand
17/24	. Damping the reaction force {(resiliently mounted handles B25D 17/043 ; dampers in connections of hammers to backhoes E02F 3/966)}	2216/0084	. Mode-changing mechanisms
17/245	. . {using a fluid}	2216/0092	. . Tool comprising two or more collaborating mode-changing mechanisms
17/26	. Lubricating {(in general F16N)}	2217/00	Details of, or accessories for, portable power-driven percussive tools
17/265	. . {the lubricant being entrained to the machine parts by the driving fluid}	2217/0003	. Details of shafts of percussive tool bits
17/28	. Supports; Devices for holding power-driven percussive tools in working position {(connections of hammers to backhoes E02F 3/966)}	2217/0007	. . Shaft ends
17/30	. . Pillars and struts	2217/0011	. Details of anvils, guide-sleeves or pistons
17/32	. . Trolleys	2217/0015	. . Anvils
		2217/0019	. . Guide-sleeves
		2217/0023	. . Pistons
		2217/0026	. . . Double pistons
		2217/003	. Details relating to chucks with radially movable locking elements
		2217/0034	. . Details of shank profiles
		2217/0038	. . Locking members of special shape
		2217/0042	. . . Ball-shaped locking members
		2217/0046	. . . Conically-shaped locking members
		2217/0049	. . . Roll-shaped locking members
		2217/0053	. . Devices for securing the tool retainer to the machine part

- 2217/0057 . Details related to cleaning or cooling the tool or workpiece
- 2217/0061 . . related to cooling
- 2217/0065 . . Use of dust covers
- 2217/0069 . . . Protecting chucks against entering of chip dust
- 2217/0073 . Arrangements for damping of the reaction force
- 2217/0076 . . by use of counterweights
- 2217/008 . . . being electronically-driven
- 2217/0084 . . . being fluid-driven
- 2217/0088 . . . being mechanically-driven
- 2217/0092 . . . being spring-mounted
- 2217/0096 . Details of lubrication means
- 2222/00 Materials of the tool or the workpiece**
- 2222/03 . Ceramics
- 2222/06 . Composite materials
- 2222/09 . Diamond
- 2222/12 . Glass
- 2222/15 . Ice
- 2222/18 . Leather
- 2222/21 . Metals
- 2222/24 . . Aluminium
- 2222/27 . . Brass
- 2222/31 . . Bronze
- 2222/33 . . Copper
- 2222/36 . . Lead
- 2222/39 . . Mercury
- 2222/42 . . Steel
- 2222/45 . . Titanium
- 2222/48 . . Zinc
- 2222/51 . . Hard metals, e.g. tungsten carbide
- 2222/54 . Plastics
- 2222/57 . . Elastomers, e.g. rubber
- 2222/61 . . Polyamides, e.g. Nylon
- 2222/66 . . Polypropylene
- 2222/69 . . Foamed polymers, e.g. polyurethane foam
- 2222/72 . Stone, rock or concrete
- 2222/75 . Wood
- 2250/00 General details of portable percussive tools; Components used in portable percussive tools**
- 2250/005 . Adjustable tool components; Adjustable parameters
- 2250/011 . . Bits, e.g. adjusting bits by setting in the desired angular position
- 2250/015 . . Heads
- 2250/021 . . Stroke length
- 2250/025 . Auxiliary percussive devices
- 2250/035 . Bleeding holes, e.g. in piston guide-sleeves
- 2250/041 . Cable management or routing of electrical cables and wires
- 2250/045 . Cams used in percussive tools
- 2250/051 . Couplings, e.g. special connections between components
- 2250/055 . Depth properties, e.g. tools having depth indicator or depth control
- 2250/065 . Details regarding assembling of the tool
- 2250/071 . . Assembled by brazing
- 2250/075 . . Assembled by welding
- 2250/085 . Elastic behaviour of tool components
- 2250/091 . Electrically-powered tool components
- 2250/095 . . Electric motors
- 2250/101 . Emitting warning signals, e.g. visual or sound
- 2250/105 . Exchangeable tool components
- 2250/111 . . Bits, i.e. inserts or attachments for hammer, chisel, pick
- 2250/115 . Foldable parts of the tool, e.g. in order to reduce its size
- 2250/121 . Housing details
- 2250/125 . Hydraulic tool components
- 2250/131 . Idling mode of tools
- 2250/141 . Magnetic parts used in percussive tools
- 2250/145 . . Electro-magnetic parts
- 2250/155 . Marks, e.g. identification marks, indication scales, visualising means
- 2250/161 . . Indication scales
- 2250/165 . Overload clutches, torque limiters
- 2250/171 . Percussive pulling action of tools for extraction of elements
- 2250/175 . Phase shift of tool components
- 2250/181 . Pneumatic tool components
- 2250/185 . Pressure equalising means between sealed chambers
- 2250/191 . Ram catchers for stopping the ram when entering idling mode
- 2250/195 . Regulation means
- 2250/201 . . for speed, e.g. drilling or percussion speed
- 2250/205 . . for torque
- 2250/211 . Cross-sections of the tool
- 2250/215 . . Narrowing cross-sections
- 2250/221 . Sensors
- 2250/225 . Serrations
- 2250/231 . Sleeve details
- 2250/235 . . Sleeve couplings
- 2250/241 . Sliding impact heads, i.e. impact heads sliding inside a rod or around a shaft
- 2250/245 . Spatial arrangement of components of the tool relative to each other
- 2250/255 . Switches
- 2250/261 . . Means for locking an operative switch on
- 2250/265 . . Trigger mechanism in handle
- 2250/271 . Tools for breaking windows
- 2250/275 . Tools having at least two similar components
- 2250/281 . . Double motors
- 2250/285 . . Tools having three or more similar components, e.g. three motors
- 2250/291 . . . Tools having three or more parallel bits, e.g. needle guns
- 2250/295 . Tools used in automobiles or automobile manufacture
- 2250/301 . Torque transmission means
- 2250/305 . Twisted part of a chisel or percussive non-drilling tool bit
- 2250/311 . Ultrasonic percussion means
- 2250/315 . Use of adhesives
- 2250/321 . Use of balls
- 2250/325 . Use of bayonets
- 2250/331 . Use of bearings
- 2250/335 . . Supports therefor
- 2250/341 . Use of external compressors
- 2250/345 . Use of o-rings
- 2250/351 . Use of pins
- 2250/355 . Use of rolls
- 2250/361 . Use of screws or threaded connections
- 2250/365 . Use of seals
- 2250/371 . Use of springs
- 2250/375 . . Fluid springs

- 2250/381 . . Leaf springs
- 2250/385 . Use of thrust-washers, e.g. for limiting the course of the impulse member
- 2250/391 . Use of weights; Weight properties of the tool