

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SHAPING

B25 HAND TOOLS; PORTABLE POWER-DRIVEN TOOLS; MANIPULATORS

(NOTE omitted)

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 in the CPC scheme. The subject matter for these IPC 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	9/02	. of the tool-carrier piston type, i.e. in which the tool is connected to an impulse member
1/005	. {with nail feeding devices}	9/04	. of the hammer piston type, i.e. in which the tool bit or anvil is hit by an impulse member
1/02	. Inserts or attachments forming the striking part of hammer heads (B25D 1/08 - B25D 1/14 take precedence)	9/06	. Means for driving the impulse member
1/04	. with provision for withdrawing or holding nails or spikes	9/08	. . comprising a built-in air compressor {, i.e. the tool being driven by air pressure}
1/045	. . {with fulcrum member for extracting long nails}	9/10	. . comprising a built-in internal-combustion engine
1/06	. . Magnetic holders	9/11	. . operated by combustion pressure generated by detonation of a cartridge
1/08	. having deformable heads (B25D 1/12 takes precedence)	9/12	. . comprising a built-in liquid motor {, i.e. the tool being driven by hydraulic pressure}
1/10	. having work protector surrounding faces {(B25D 1/12 takes precedence)}	9/125	. . . {driven directly by liquid pressure working with pulses}
1/12	. having shock-absorbing means	9/14	. Control devices for the reciprocating piston
1/14	. having plural striking faces	9/145	. . {for hydraulically actuated hammers having an accumulator}
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	9/16	. . Valve arrangements therefor {(B25D 9/145 takes precedence)}
3/00	Hand chisels	9/18	. . . involving a piston-type slide valve
5/00	Centre punches	9/20	. . . involving a tubular-type slide valve
5/02	. Automatic centre punches	9/22	. . . involving a rotary-type slide valve
7/00	Picks {(combined with other tools B25F)}	9/24	. . . involving a rocking-plate type valve
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}	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 }
9/005	. {Devices for testing the tool's performance}	9/265	. . . {with arrangements for automatic stopping when the tool is lifted from the working face or suffers excessive bore resistance}
		11/00	Portable percussive tools with electromotor {or other motor} drive

- 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}
- 11/02 . in which the tool is connected to an impulse member
- 11/04 . in which the tool bit or anvil is hit by an impulse member
- 11/06 . Means for driving the impulse member
- 11/062 . . {comprising a wobbling mechanism, swash plate}
- 11/064 . . {using an electromagnetic drive}
- 11/066 . . {using centrifugal or rotary impact elements}
- 11/068 . . . {in which the tool bit or anvil is hit by a rotary impulse member}
- 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}
- 11/104 {with rollers or balls as cam surface}
- 11/106 {cam member and cam follower having the same shape (B25D 11/104 takes precedence)}
- 11/108 . . . {the rotation axis of the cam member being parallel but offset to the tool axis}
- 11/12 . . comprising a crank mechanism
- 11/125 . . . {with a fluid cushion between the crank drive and the striking body}
- 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)}**
- 16/003 . {Clutches specially adapted therefor}
- 16/006 . {Mode changers; Mechanisms connected thereto}
- 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)}**
- 17/005 . {Attachments or adapters placed between tool and hammer}
- 17/02 . Percussive tool bits {(drill bits for earth drilling E21B 10/00)}
- 17/04 . Handles; Handle mountings
- 17/043 . . {Handles resiliently mounted relative to the hammer housing (B25D 17/046 takes precedence)}
- 17/046 . . {Sleeve-like handles surrounding the tool bit}
- 17/06 . Hammer pistons; Anvils {; Guide-sleeves for pistons}
- 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)}
- 17/082 . . {Retainers consisting of a swinging yoke or latching means (B25D 17/086 takes precedence)}
- 17/084 . . {Rotating chucks or sockets}
- 17/086 . . . {with a swinging yoke or latching means}
- 17/088 . . . {with radial movable locking elements co-operating with bit shafts specially adapted therefor}
- 17/11 . Arrangements of noise-damping means {(noise damping in general G10K 11/16)}
- 17/12 . . of exhaust silencers {(exhaust silencers in general F01N)}
- 17/20 . Devices for cleaning or cooling tool or work
- 17/22 . . using pressure fluid
- 17/24 . Damping the reaction force {(resiliently mounted handles B25D 17/043; dampers in connections of hammers to backhoes E02F 3/966)}
- 17/245 . . {using a fluid}
- 17/26 . Lubricating {(in general F16N)}
- 17/265 . . {the lubricant being entrained to the machine parts by the driving fluid}
- 17/28 . Supports; Devices for holding power-driven percussive tools in working position {(connections of hammers to backhoes E02F 3/966)}
- 17/30 . . Pillars and struts
- 17/32 . . Trolleys
- 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**
- 2209/002 . Pressure accumulators
- 2209/005 . having a tubular-slide valve, which is coaxial with the piston
- 2209/007 . having a tubular-slide valve, which is not coaxial with the piston
- 2211/00** **Details of portable percussive tools with electromotor or other motor drive**
- 2211/003 . Crossed drill and motor spindles
- 2211/006 . Parallel drill and motor spindles
- 2211/06 . Means for driving the impulse member
- 2211/061 . . Swash-plate actuated impulse-driving mechanisms
- 2211/062 . . Cam-actuated impulse-driving mechanisms
- 2211/064 . . . Axial cams, e.g. two camming surfaces coaxial with drill spindle
- 2211/065 . . . with ball-shaped or roll-shaped followers
- 2211/067 . . . wherein the cams are involved in a progressive mutual engagement with increasing pressure of the tool to the working surface
- 2211/068 . . Crank-actuated impulse-driving mechanisms
- 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**
- 2216/0007 . Details of percussion or rotation modes
- 2216/0015 . . Tools having a percussion-only mode
- 2216/0023 . . Tools having a percussion-and-rotation mode
- 2216/003 . . . comprising de-phasing of percussion and rotation
- 2216/0038 . . Tools having a rotation-only mode
- 2216/0046 . . Preventing rotation
- 2216/0053 . . . and percussion
- 2216/0061 . . . preventing reverse rotation
- 2216/0069 . Locking means
- 2216/0076 . Angular position of the chisel modifiable by hand
- 2216/0084 . Mode-changing mechanisms
- 2216/0092 . . Tool comprising two or more collaborating mode-changing mechanisms
- 2217/00** **Details of, or accessories for, portable power-driven percussive tools**
- 2217/0003 . Details of shafts of percussive tool bits

2217/0007	. . Shaft ends	2250/041	. Cable management or routing of electrical cables and wires
2217/0011	. Details of anvils, guide-sleeves or pistons	2250/045	. Cams used in percussive tools
2217/0015	. . Anvils	2250/051	. Couplings, e.g. special connections between components
2217/0019	. . Guide-sleeves	2250/055	. Depth properties, e.g. tools having depth indicator or depth control
2217/0023	. . Pistons	2250/065	. Details regarding assembling of the tool
2217/0026	. . . Double pistons	2250/071	. . Assembled by brazing
2217/003	. Details relating to chucks with radially movable locking elements	2250/075	. . Assembled by welding
2217/0034	. . Details of shank profiles	2250/085	. Elastic behaviour of tool components
2217/0038	. . Locking members of special shape	2250/091	. Electrically-powered tool components
2217/0042	. . . Ball-shaped locking members	2250/095	. . Electric motors
2217/0046	. . . Conically-shaped locking members	2250/101	. Emitting warning signals, e.g. visual or sound
2217/0049	. . . Roll-shaped locking members	2250/105	. Exchangeable tool components
2217/0053	. . Devices for securing the tool retainer to the machine part	2250/111	. . Bits, i.e. inserts or attachments for hammer, chisel, pick
2217/0057	. Details related to cleaning or cooling the tool or workpiece	2250/115	. Foldable parts of the tool, e.g. in order to reduce its size
2217/0061	. . related to cooling	2250/121	. Housing details
2217/0065	. . Use of dust covers	2250/125	. Hydraulic tool components
2217/0069	. . . Protecting chucks against entering of chip dust	2250/131	. Idling mode of tools
2217/0073	. Arrangements for damping of the reaction force	2250/141	. Magnetic parts used in percussive tools
2217/0076	. . by use of counterweights	2250/145	. . Electro-magnetic parts
2217/008	. . . being electronically-driven	2250/155	. Marks, e.g. identification marks, indication scales, visualising means
2217/0084	. . . being fluid-driven	2250/161	. . Indication scales
2217/0088	. . . being mechanically-driven	2250/165	. Overload clutches, torque limiters
2217/0092	. . . being spring-mounted	2250/171	. Percussive pulling action of tools for extraction of elements
2217/0096	. Details of lubrication means	2250/175	. Phase shift of tool components
2222/00	Materials of the tool or the workpiece	2250/181	. Pneumatic tool components
2222/03	. Ceramics	2250/185	. Pressure equalising means between sealed chambers
2222/06	. Composite materials	2250/191	. Ram catchers for stopping the ram when entering idling mode
2222/09	. Diamond	2250/195	. Regulation means
2222/12	. Glass	2250/201	. . for speed, e.g. drilling or percussion speed
2222/15	. Ice	2250/205	. . for torque
2222/18	. Leather	2250/211	. Cross-sections of the tool
2222/21	. Metals	2250/215	. . Narrowing cross-sections
2222/24	. . Aluminium	2250/221	. Sensors
2222/27	. . Brass	2250/225	. Serrations
2222/31	. . Bronze	2250/231	. Sleeve details
2222/33	. . Copper	2250/235	. . Sleeve couplings
2222/36	. . Lead	2250/241	. Sliding impact heads, i.e. impact heads sliding inside a rod or around a shaft
2222/39	. . Mercury	2250/245	. Spatial arrangement of components of the tool relative to each other
2222/42	. . Steel	2250/255	. Switches
2222/45	. . Titanium	2250/261	. . Means for locking an operative switch on
2222/48	. . Zinc	2250/265	. . Trigger mechanism in handle
2222/51	. . Hard metals, e.g. tungsten carbide	2250/271	. Tools for breaking windows
2222/54	. Plastics	2250/275	. Tools having at least two similar components
2222/57	. . Elastomers, e.g. rubber	2250/281	. . Double motors
2222/61	. . Polyamides, e.g. Nylon	2250/285	. . Tools having three or more similar components, e.g. three motors
2222/66	. . Polypropylene	2250/291	. . . Tools having three or more parallel bits, e.g. needle guns
2222/69	. . Foamed polymers, e.g. polyurethane foam	2250/295	. Tools used in automobiles or automobile manufacture
2222/72	. Stone, rock or concrete	2250/301	. Torque transmission means
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		

B25D

- 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