

CPC**COOPERATIVE PATENT CLASSIFICATION****B25B****TOOLS OR BENCH DEVICES NOT OTHERWISE PROVIDED FOR, FOR FASTENING, CONNECTING, DISENGAGING OR HOLDING****NOTE**

This subclass is to be understood as covering those hand tools for fastening, connecting, disengaging, or holding which are not provided for in another subclass such as [B25C](#) (nailing or stapling tools) or in an application class such as [B65B](#) (packaging) or [B21F](#) (working of wire)

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:

[B25B 23/143](#) covered by [B25B 23/1422](#)
[B25B 23/144](#) covered by [B25B 23/1425](#)
[B25B 23/151](#) covered by [B25B 23/14](#), [B25B 23/147](#)
[B25B 23/153](#) covered by [B25B 23/1415](#)
[B25B 23/155](#) covered by [B25B 23/141](#)
[B25B 23/157](#) covered by [B25B 23/14](#)
[B25B 23/159](#) covered by [B25B 23/14](#)
[B25B 27/067](#) covered by [B25B 27/06](#)
[B25B 27/073](#) covered by [B25B 27/062](#)

B25B 1/00

Vices (specially adapted for tying flies for angling [A01K 97/28](#); specially adapted for machine tools [B23Q 3/00](#); { rope or cable splicing vices [D07B 7/162](#) })

B25B 1/02

- . with sliding jaws

B25B 1/04

- . with pivoted jaws

B25B 1/06

- . Arrangements for positively actuating jaws

B25B 1/08

- .. using cams

B25B 1/10

- .. using screws

B25B 1/103

- ... { with one screw perpendicular to the jaw faces, e.g. a differential or telescopic screw }

B25B 1/106

- ... { with mechanical or hydraulic power amplifiers }

B25B 1/12

- ... with provision for disengagement

B25B 1/125

- { with one screw perpendicular to the jaw faces }

B25B 1/14

- .. using toggle links

B25B 1/16

- .. by pedal, with or without provision for additional manual actuation

B25B 1/18

- .. motor driven, e.g. with fluid drive, with or without provision for manual actuation

B25B 1/20

- . Vices for clamping work of special profile, e.g. pipes

B25B 1/205

- .. { Vices of the chain or strip type }

B25B 1/22

- . Arrangements for turning or tilting vices

B25B 1/24	. Details, e.g. jaws of special shape, slideways
B25B 1/2405	.. { Construction of the jaws }
B25B 1/241	... { characterised by surface features or material }
B25B 1/2415	.... { being composed of a plurality of parts adapting to the shape of the workpiece }
B25B 1/2421	..... { the parts having a linear movement }
B25B 1/2426	..... { the parts having a pivotal movement }
B25B 1/2431	... { the whole jaw being pivotable around an axis perpendicular to the actioning direction of the vice }
B25B 1/2436	.... { around a vertical axis (B25B 1/2447 takes precedence) }
B25B 1/2442	.... { around a horizontal axis (B25B 1/2447 takes precedence) }
B25B 1/2447	.... { to put one of the jaw faces in a position opposite to the second jaw }
B25B 1/2452	... { with supplementary jaws }
B25B 1/2457	... { with auxiliary attachments }
B25B 1/2463	.... { Supports for the workpiece }
B25B 1/2468	.... { Lateral positioning arms }
B25B 1/2473	... { with pull-down action on the workpiece }
B25B 1/2478	... { with more than one pair of jaws }
B25B 1/2484	.. { Supports }
B25B 1/2489	.. { Slideways }
B25B 1/2494	.. { Means indicating the distance between jaws or their angular position }

B25B 3/00 Hand vices, i.e. vices intended to be held by hand; Pin vices

B25B 5/00 **Clamps** (for holding or positioning work for welding, soldering, or cutting by applying heat locally [B23K 37/04](#))

B25B 5/003	. { Combinations of clamps }
B25B 5/006	. { Supporting devices for clamps }
B25B 5/02	. with sliding jaws
B25B 5/04	. with pivoted jaws
B25B 5/06	. Arrangements for positively actuating jaws
B25B 5/061	.. { with fluid drive (B25B 5/087 , B25B 5/122 take precedence) }
B25B 5/062	... { with clamping means pivoting around an axis parallel to the pressing direction }
B25B 5/064	... { with clamping means pivoting around an axis perpendicular to the pressing direction (B25B 5/122 takes precedence) }
B25B 5/065	... { involving the use of flexible pressure bags or diaphragms }
B25B 5/067	.. { C-clamps (B25B 5/061 , B25B 5/082 , B25B 5/101 , B25B 5/125 take precedence) }

- B25B 5/068 .. { with at least one jaw sliding along a bar ([B25B 5/061](#), [B25B 5/085](#), [B25B 5/102](#), [B25B 5/127](#) take precedence) }
- B25B 5/08 .. using cams
- B25B 5/082 ... { C-clamps }
- B25B 5/085 ... { with at least one jaw sliding along a bar }
- B25B 5/087 ... { actuated by a hydraulic or pneumatic piston }
- B25B 5/10 .. using screws
- B25B 5/101 ... { C-clamps }
- B25B 5/102 ... { with at least one jaw sliding along a bar }
- B25B 5/103 ... { with a hinge }
- B25B 5/104 ... { with one screw and one clamping lever and one fulcrum element }
- B25B 5/105 { with one end of the lever resting on a table and the screw being positioned between the ends of the lever }
- B25B 5/106 { with one end of the lever resting on an additional block and the screw being positioned between the ends of the lever }
- B25B 5/107 { Blocks therefor }
- B25B 5/108 { the screw contacting one of the ends of the lever }
- B25B 5/109 ... { with two screws, e.g. parallel screw clamps }
- B25B 5/12 .. using toggle links
- B25B 5/122 ... { with fluid drive }
- B25B 5/125 ... { C-clamps }
- B25B 5/127 ... { with at least one jaw sliding along a bar }
- B25B 5/14 . Clamps for work of special profile { (using chains or strips [B25B 1/205](#)) }
- B25B 5/142 .. { for windows and frames }
- B25B 5/145 .. { for plates }
- B25B 5/147 .. { for pipes }
- B25B 5/16 . Details, e.g. jaws, jaw attachments
- B25B 5/163 .. { Jaws or jaw attachments }
- B25B 5/166 .. { Slideways; Guiding and/or blocking means for jaws thereon }

B25B 7/00 **Pliers; Other hand-held gripping tools with jaws on pivoted limbs; Details applicable generally to pivoted-limb hand tools** (implements for fastening, connecting, or tensioning wire or strip [B25B 25/00](#); adapted for other fitting or separating purposes [B25B 27/00](#); for marking animals [A01K 11/00](#); dentists' forceps [A61C 3/00](#); bending wire eyes [B21F 1/06](#); hand-held metal-shearing or metal-cutting devices [B23D 29/00](#); hand cutting tools [B26B](#) ; for punching or perforating [B26F 1/36](#); devices for securing ends of binding material in bundling machines [B65B 13/24](#); specially designed for watch-making or comparable work [G04D 1/00](#))

- B25B 7/02 . Jaws
- B25B 7/04 .. adjustable
- B25B 7/06 . Joints
- B25B 7/08 .. with fixed fulcrum

- B25B 7/10
 - .. with adjustable fulcrum
- B25B 7/12
 - . involving special transmission means between the handles and the jaws, e.g. toggle levers, gears
- B25B 7/123
 - .. { with self-locking toggle levers }
- B25B 7/126
 - .. { with fluid drive }
- B25B 7/14
 - . Locking means { ([B25B 7/123](#) takes precedence) }
- B25B 7/16
 - .. combined with means for tightening the operating arms of jaws
- B25B 7/18
 - . Adjusting means for the operating arms
- B25B 7/20
 - . Pliers for sealing
- B25B 7/22
 - . Pliers provided with auxiliary tool elements, e.g. cutting edges, nail extractors ([for removing insulation or armouring from electric cables H02G 1/12](#))
- B25B 9/00**

Hand-held gripping tools other than those covered by group [B25B 7/00](#) (wrenches [B25B 13/00](#); specially adapted for watchmakers` or like use [G04D](#))
- B25B 9/02
 - . without sliding or pivotal connections, e.g. tweezers, onepiece tongs
- B25B 9/04
 - . with sliding jaws
- B25B 11/00**

Work holders not covered by any preceding group in the subclass, e.g. magnetic work holders, vacuum work holders ([for holding or positioning work for welding, soldering, or cutting by applying heat locally B23K 37/04](#); specially adapted to machine tools [B23Q 3/00](#))
- B25B 11/002
 - . { Magnetic work holders }
- B25B 11/005
 - . { Vacuum work holders }
- B25B 11/007
 - .. { portable, e.g. handheld }
- B25B 11/02
 - . Assembly jigs
- B25B 13/00**

Spanners; Wrenches (hand-driven gear-operated [B25B 17/00](#); impact wrenches [B25B 19/00](#); portable power-driven [B25B 21/00](#); { spanners or wrenches pecially adapted for osteosynthesis [A61B 17/8875](#) }; machines for fitting together or separating metal parts [B23P 19/00](#); { for mounting or dismounting wheels [B60B 29/003](#) })
- B25B 13/005
 - . { Cross wrenches }
- B25B 13/02
 - . with rigid jaws ([B25B 13/46](#), [B25B 13/48](#) take precedence)
- B25B 13/04
 - .. of ring jaw type
- B25B 13/06
 - .. of socket type
- B25B 13/065
 - ... { characterised by the cross-section of the socket }
- B25B 13/08
 - .. of open jaw type
- B25B 13/10
 - . with adjustable jaws ([B25B 13/46](#), [B25B 13/48](#) { [B25B 13/5041](#) } take precedence)

- B25B 13/102 .. { composed of a plurality of sockets slidable in each other }
- B25B 13/105 .. { composed of a plurality of slidable pins }
- B25B 13/107 .. { composed of a main body with exchangeable inserts }
- B25B 13/12 .. the jaws being slidable
- B25B 13/14 ... by rack and pinion, worm or gear
- B25B 13/16 ... by screw or nut
- B25B 13/18 ... by cam, wedge, or lever
- B25B 13/20 ... Arrangements for locking the jaws
- B25B 13/22 by ratchet action or toothed bars
- B25B 13/24 by cam, wedge, or friction means
- B25B 13/26 by toggle links
- B25B 13/28 .. the jaws being pivotally movable
- B25B 13/30 ... by screw or nut
- B25B 13/32 ... by cam, wedge or lever
- B25B 13/34 ... Arrangements for locking the jaws
- B25B 13/36 by ratchet action
- B25B 13/38 by cam, wedge, or friction means
- B25B 13/40 by toggle links
- B25B 13/42 with self-locking action

- B25B 13/44 . of the chuck type

- B25B 13/46 . of the ratchet type, for providing a free return stroke of the handle
- B25B 13/461 .. { with concentric driving and driven member }
- B25B 13/462 ... { the ratchet parts engaging in a direction radial to the tool operating axis }
- B25B 13/463 { a pawl engaging an externally toothed wheel }
- B25B 13/465 { a pawl engaging an internally toothed ring }
- B25B 13/466 ... { the ratchet parts engaging in an axial direction }
- B25B 13/467 ... { which are gear-operated }
- B25B 13/468 ... { with possibility of locking the ratchet mechanism }

- B25B 13/48 . for special purposes
- B25B 13/481 .. { for operating in areas having limited access }
- B25B 13/483 .. { for spark plugs }
- B25B 13/485 .. { for theft-proof screws, bolts or nuts }
- B25B 13/486 ... { using a threaded connection between screw and tool }
- B25B 13/488 .. { for connections where two parts must be turned in opposite directions by one tool }

- B25B 13/50 .. for operating on work of special profile, e.g. pipes
- B25B 13/5008 ... { for operating on pipes or cylindrical objects ([B25B 13/52](#) takes precedence) }
- B25B 13/5016 { by externally gripping the pipe }
- B25B 13/5025 { using a pipe wrench type tool }
- B25B 13/5033 { with fixed jaws }

B25B 13/5041	.....	{ with movable or adjustable jaws }
B25B 13/505	.....	{ Pivotaly moving or adjustable }
B25B 13/5058	.....	{ Linearly moving or adjustable, e.g. with an additional small tilting or rocking movement }
B25B 13/5066	.....	{ using rollers moving along radial cams in a cage structure at least partially surrounding the pipe }
B25B 13/5075	.....	{ using jaws moving along radial cams or by excentric disks in a cage structure at least partially surrounding the pipe }
B25B 13/5083	....	{ by internally gripping the pipe }
B25B 13/5091	...	{ for operating on wing nuts, hooks, eye hooks or the like }
B25B 13/52	...	Chain or strap wrenches
B25B 13/54	...	Internal grip wrenches { (B25B 13/5083 takes precedence) }
B25B 13/56	.	Spanner sets
B25B 13/58	.	Jaw attachments
B25B 15/00		Screwdrivers (hand-driven gear-operated B25B 17/00 ; impact screwdrivers B25B 19/00 ; portable power-driven B25B 21/00 ; { screwdrivers specially adapted for osteosynthesis A61B 17/8875 })
B25B 15/001	.	{ characterised by material or shape of the tool bit }
B25B 15/002	..	{ characterised by material used or surface finishing }
B25B 15/004	..	{ characterised by cross-section }
B25B 15/005	...	{ with cross- or star-shaped cross-section }
B25B 15/007	...	{ with blade of flat or substantially flat cross-section }
B25B 15/008	...	{ Allen-type keys }
B25B 15/02	.	operated by rotating the handle
B25B 15/04	..	with ratchet action
B25B 15/06	.	operated by axial movement of the handle
B25B 17/00		Hand-driven gear-operated wrenches or screwdrivers (ratchet-operated B25B 13/46 { B25B 13/467 }, B25B 15/04 ; { for mounting or dismounting wheels B60B 29/005 })
B25B 17/02	.	providing for torque amplification
B25B 19/00		Impact wrenches or screwdrivers (portable power-driven B25B 21/02)
B25B 21/00		Portable power-driven screw or nut setting or loosening tools ; (details or components, e.g. casings, bodies, of portable power-driven tools not particularly related to the operation performed B25F 5/00 ; { for mounting or dismounting wheels B60B 29/006 }); Attachments for drilling apparatus serving the same purpose (machines B23P 19/06)
B25B 21/001	.	{ Combined nut setting and crimping }

- B25B 21/002 . { for special purposes }
- B25B 21/004 . { of the ratchet type }
- B25B 21/005 . . { driven by a radially acting hydraulic or pneumatic piston }
- B25B 21/007 . { Attachments for drilling apparatus for screw or nut setting or loosening }
- B25B 21/008 . { with automatic change-over from high speed-low torque mode to low speed-high torque mode }
- B25B 21/02 . with means for imparting impact to screwdriver blade or nut socket
- B25B 21/023 . . { for imparting an axial impact, e.g. for self-tapping screws }
- B25B 21/026 . . { Impact clutches }
- B25B 23/00** **Details of, or accessories for, spanners, wrenches, screwdrivers (bolt tensioners [B25B 29/02](#))**
- B25B 23/0007 . { Connections or joints between tool parts }
- B25B 23/0014 . . { Screwdriver- or wrench-heads provided with cardan joints or the like }
- B25B 23/0021 . . { Prolongations interposed between handle and tool }
- B25B 23/0028 . . { Angular adjustment means between tool head and handle }
- B25B 23/0035 . . { Connection means between socket or screwdriver bit and tool }
- B25B 23/0042 . . { Connection means between screwdriver handle and screwdriver shaft }
- B25B 23/005 . { Screw guiding means }
- B25B 23/0057 . { Socket or nut ejector means }
- B25B 23/0064 . { Means for adjusting screwing depth }
- B25B 23/0071 . { Abutment for screws or nuts }
- B25B 23/0078 . { Reaction arms }
- B25B 23/0085 . { Counterholding devices }
- B25B 23/0092 . { Tools for placing nut or screw lock wires }
- B25B 23/02 . Arrangements for handling screws or nuts
- B25B 23/04 . . for feeding screws or nuts
- B25B 23/045 . . . { using disposable strips or discs carrying the screws or nuts }
- B25B 23/06 . . . using built-in magazine ([B25B 23/045](#) takes precedence)
- B25B 23/065 { the magazine being coaxial with the tool axis }
- B25B 23/08 . . for holding or positioning screw or nut prior to or during its rotation
- B25B 23/10 . . . using mechanical gripping means
- B25B 23/101 { for hand-driven screw-drivers ([B25B 23/105](#) takes precedence) }
- B25B 23/103 { for gripping threaded studs }

- B25B 23/105 { the gripping device being an integral part of the driving bit }
- B25B 23/106 { the driving bit being a blade }
- B25B 23/108 { the driving bit being a Philips type bit, an Allen type bit or a socket }
- B25B 23/12 . . . using magnetic means

- B25B 23/14 . Arrangement of torque limiters or torque indicators in wrenches or screwdrivers
(couplings for transmitting rotation or clutches [F16D](#) ; devices for measuring torque per se [G01L](#))
- B25B 23/1405 . . { for impact wrenches or screwdrivers }
- B25B 23/141 . . { Mechanical overload release couplings }
- B25B 23/1415 . . { Break members; Arrangements specially adapted for break-bolts (break-bolts per se [F16B 31/00](#)) }
- B25B 23/142 . . specially adapted for hand operated wrenches or screwdrivers
- B25B 23/1422 . . . { torque indicators or adjustable torque limiters }
- B25B 23/1425 { by electrical means }
- B25B 23/1427 { by mechanical means }
- B25B 23/145 . . specially adapted for fluid operated wrenches or screwdrivers
- B25B 23/1453 . . . { for impact wrenches or screwdrivers }
- B25B 23/1456 . . . { having electrical components }
- B25B 23/147 . . specially adapted for electrically operated wrenches or screwdrivers
- B25B 23/1475 . . . { for impact wrenches or screwdrivers }
- B25B 23/15 . . having a mechanism to mark the work when the selected torque is applied to the work

- B25B 23/16 . Handles (in general [B25G](#))

- B25B 23/18 . Devices for illuminating the head of the screw or the nut

- B25B 25/00** **Implements for fastening, connecting or tensioning of wire or strip**

- B25B 25/005 . { for applying wire clasps to hose couplings }

- B25B 27/00** **Hand tools, specially adapted for fitting together or separating parts or objects whether or not involving some deformation, not otherwise provided for (machines for simply fitting together or separating metal parts or objects [B23P 19/00](#))**

- B25B 27/0007 . { Tools for fixing internally screw-threaded tubular fasteners }
- B25B 27/0014 . . { motor-driven }

- B25B 27/0021 . { Tools for bonding or debonding brake linings }

- B25B 27/0028 . { Tools for removing or installing seals ([B25B 27/0092](#) takes precedence) }

- B25B 27/0035 . { for motor-vehicles (wrenches for mounting or dismounting wheels [B60B 29/003](#)) }
- B25B 27/0042 . . { Tools for removing or replacing filters or for draining oil; Tools for setting or loosening closure means for radiators, batteries, or the like }
- B25B 27/005 . . { for pulling off battery terminals }

- B25B 27/0057 . . { for screwing or unscrewing tire valve caps }
- B25B 27/0064 . . { for assembling or disassembling clutches }
- B25B 27/0071 . { for bicycles }
- B25B 27/0078 . { Tools for wheel weights }
- B25B 27/0085 . { explosive-powered }
- B25B 27/0092 . { Tools moving along strips, e.g. decorating or sealing strips, to insert them in, or remove them from, grooves or profiles (machines therefor [B23P 19/047](#)) }
- B25B 27/02 . for connecting objects by press fit or detaching same { ([B25D 1/16](#) takes precedence) }
- B25B 27/023 . . { using screws }
- B25B 27/026 . . { fluid driven }
- B25B 27/04 . . inserting or withdrawing keys
- B25B 27/06 . . inserting or withdrawing sleeves or bearing races
- B25B 27/062 . . . { using screws }
- B25B 27/064 . . . { fluid driven }
- B25B 27/08 . . inserting or withdrawing cotter pins
- B25B 27/10 . . inserting fittings into hoses
- B25B 27/12 . . mounting or demounting piston rings
- B25B 27/14 . for assembling objects other than by press fit or detaching same
- B25B 27/143 . . { for installing wire thread inserts or tubular threaded inserts }
- B25B 27/146 . . { Clip clamping hand tools }
- B25B 27/16 . . abutted flanges
- B25B 27/18 . . withdrawing broken threaded parts or twist drills
- B25B 27/20 . . inserting or withdrawing split pins or circlips
- B25B 27/205 . . . { Pliers or tweezer type tools with tow actuated jaws }
- B25B 27/22 . . positioning sprocket chains, endless tracks, antiskid chains (tools or implements for repairing chains using metal-working operations [B21L 21/00](#))
- B25B 27/24 . . mounting or demounting valves (for tyre valves [B60C 25/18](#))
- B25B 27/26 . . . compressing the springs
- B25B 27/28 . . positioning or withdrawing resilient bushings or the like
- B25B 27/30 . . positioning or withdrawing springs, e.g. coil or leaf springs ([B25B 27/26](#) takes precedence; watchmakers` or watch-repairers` tools [G04D](#))
- B25B 27/302 . . . { coil springs other than torsion coil springs }
- B25B 27/304 { by compressing coil springs }
- B25B 27/306 { by tensioning coil springs }
- B25B 27/308 . . . { leaf springs }
- B25B 28/00** **Portable power-driven joining or separation tools ([B25B 21/00](#) takes precedence)**
- B25B 29/00** **Accessories (specially for spanners, wrenches, screwdrivers [B25B 23/00](#); tool boxes, tool positioning stands [B25H](#))**

B25B 29/02 . Bolt tensioners

B25B 31/00 **Hand tools for applying fasteners (nailing or stapling tools [B25C](#))**

B25B 31/005 . { for temporarily connecting sheets before or during assembly operations }

B25B 33/00 **Hand tools not covered by any other group in this subclass**

B25B 33/005 . { Chuck keys }