SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B25 HAND TOOLS; PORTABLE POWER-DRIVEN TOOLS; HANDLES FOR HAND IMPLEMENTS; WORKSHOP EQUIPMENT; MANIPULATORS

B25B TOOLS OR BENCH DEVICES NOT OTHERWISE PROVIDED FOR, FOR FASTENING, CONNECTING, DISENGAGING, OR HOLDING

Note(s)

This subclass covers hand tools for fastening, connecting, disengaging, or holding, which are not covered by another subclass such as B25C (hand-held nailing or stapling tools) or by an application place such as B21F (working of wire) or B65B (packaging).

Subclass index

DEVICES FOR HOLDING BY PRESSING
- Vices....1/00, 3/00
- Pliers, tweezers or tongs....7/00, 9/00
- Other devices....5/00-11/00

SPANNERS, WRENCHES, OR SCREWDRIVERS
- Spanners or wrenches....13/00, 17/00-21/00
- Screwdrivers....15/00-21/00
- Details or accessories....23/00

OTHER TOOLS FOR FASTENING, CONNECTING, FITTING TOGETHER, SEPARATING, OR TENSIONING....25/00-28/00, 31/00, 33/00

ACCESSORIES....29/00

1/00 **Vices** (specially adapted for tying flies for angling A01K 97/28; specially adapted for machine tools B23Q 3/00) **[5]**

1/02 • with sliding jaws

1/04 • with pivoted jaws

1/06 • Arrangements for positively actuating jaws

1/08 • • using cams

1/10 • • using screws

1/12 • • • with provision for disengagement

1/14 • • using toggle links

1/16 • • by pedal, with or without provision for additional manual actuation

1/18 • • motor driven, e.g. with fluid drive, with or without provision for manual actuation

1/20 • Vices for clamping work of special profile, e.g. pipes

1/22 • Arrangements for turning or tilting vices

1/24 • Details, e.g. jaws of special shape, slideways

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

5/00 **Clamps** (for holding or positioning work for welding, soldering, or cutting by applying heat locally B23K 37/04; work-clamping means for mounting on a work-table, tool-slide, or analogous parts B23Q 3/06)

5/02 • with sliding jaws

5/04 • with pivoted jaws

5/06 • Arrangements for positively actuating jaws

5/08 • • using cams

5/10 • • using screws

5/12 • • using toggle links

5/14 • Clamps for work of special profile

5/16 • Details, e.g. jaws, jaw attachments

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)

7/02 • Jaws

7/04 • • adjustable

7/06 • Joints

7/08 • • with fixed fulcrum

7/10 • • with adjustable fulcrum

7/12 • involving special transmission means between the handles and the jaws, e.g. toggle levers, gears

7/14 • Locking means

7/16 • • combined with means for tightening the operating arms or jaws

7/18 • Adjusting means for the operating arms

7/20 • Pliers for sealing

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)

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)
9/02 • without sliding or pivotal connections, e.g. tweezers, one-piece tongs
9/04 • with sliding jaws

11/00 **Work holders or positioners not covered by groups B25B 1/00-B25B 9/00, 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)
11/02 • Assembly jigs

13/00 **Spanners; Wrenches** (hand-driven gear-operated B25B 17/00; impact wrenches B25B 19/00; portable power-driven B25B 21/00; machines for fitting together or separating metal parts B23P 19/00)
13/02 • with rigid jaws (B25B 13/46, B25B 13/48 take precedence)
13/04 • • of ring jaw type
13/06 • • of socket type
13/08 • • of open jaw type
13/10 • with adjustable jaws (B25B 13/46, B25B 13/48 take precedence)
13/12 • • the jaws being slidable
13/14 • • • by rack and pinion, worm or gear
13/16 • • • by screw or nut
13/18 • • • by cam, wedge, or lever
13/20 • • • Arrangements for locking the jaws
13/22 • • • • by ratchet action or toothed bars
13/24 • • • • by cam, wedge, or friction means
13/26 • • • • by toggle links
13/28 • • the jaws being pivotally movable
13/30 • • • by screw or nut
13/32 • • • by cam, wedge, or lever
13/34 • • • Arrangements for locking the jaws
13/36 • • • • by ratchet action
13/38 • • • • by cam, wedge, or friction means
13/40 • • • • by toggle links
13/42 • • • • with self-locking action
13/44 • of the chuck type
13/46 • of the ratchet type, for providing a free return stroke of the handle
13/48 • for special purposes
13/50 • • for operating on work of special profile, e.g. pipes
13/52 • • • Chain or strap wrenches
13/54 • • • Internal grip wrenches
13/56 • Spanner sets
13/58 • Jaw attachments

15/00 **Screwdrivers** (hand-driven gear-operated B25B 17/00; impact screwdrivers B25B 19/00; portable power-driven B25B 21/00)
15/02 • operated by rotating the handle
15/04 • • with ratchet action
15/06 • operated by axial movement of the handle

17/00 **Hand-driven gear-operated wrenches or screwdrivers** (ratchet operated B25B 13/46, B25B 15/04)
17/02 • providing for torque amplification

19/00 **Impact wrenches or screwdrivers** (portable power-driven B25B 21/02)

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)**; Attachments for drilling apparatus serving the same purpose** (machines B23P 19/06) **[4]**
21/02 • with means for imparting impact to screwdriver blade or nut socket

23/00 **Details of, or accessories for, spanners, wrenches, screwdrivers** (bolt tensioners B25B 29/02)
23/02 • Arrangements for handling screws or nuts
23/04 • • for feeding screws or nuts
23/06 • • • using built-in magazine
23/08 • • for holding or positioning screw or nut prior to or during its rotation
23/10 • • • using mechanical gripping means
23/12 • • • using magnetic means
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)
23/142 • • specially adapted for hand operated wrenches or screwdrivers **[2]**
23/143 • • • wherein the work-contacting component pivots or rotates relative to the handle when a selected torque is exceeded **[4]**
23/144 • • • • having an electrical device activated by the pivotal or rotational movement which emits a signal when the selected torque is exceeded **[4]**
23/145 • • specially adapted for fluid operated wrenches or screwdrivers **[2]**
23/147 • • specially adapted for electrically operated wrenches or screwdrivers **[2]**
23/15 • • having a mechanism to mark the work when the selected torque is applied to the work **[4]**
23/151 • • the motor drive having condition-responsive means to regulate the power output of a motor driving the work-contacting component (control in general G05; controlling electric motors H02P) **[4]**
23/153 • • having a force-transmitting element which is permanently deformed upon application of an excessive amount of torque **[4]**
23/155 • • wherein the work-contacting means is released from torque-transmitting engagement with the work, when a selected torque is exceeded (B25B 23/153 takes precedence) **[4]**
23/157 • • having torque controlled clutch-type arrangements (B25B 23/143 takes precedence) **[4]**
23/159 • • the work-contacting component comprising or being connected to a resilient structural member, which remains rigid and fully force transmitting until a selected torque is exceeded or which signals excessive torque (B25B 23/153 takes precedence) **[4]**
23/16 • Handles (in general B25G)
23/18 • Devices for illuminating the head of the screw or the nut

25/00 **Implements for fastening, connecting, or tensioning of wire or strip** (bundling articles B65B 13/00)

27/00 **Hand tools or bench devices, 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)

27/02 • for connecting objects by press fit or detaching same

27/04 • • inserting or withdrawing keys

27/06 • • inserting or withdrawing sleeves or bearing races

27/067 • • • employing wedging or impacting means **[3]**

27/073 • • • employing screw and nut means **[3]**

27/08 • • inserting or withdrawing cotter pins

27/10 • • inserting fittings into hoses

27/12 • • mounting or demounting piston rings

27/14 • for assembling objects other than by press fit or detaching same

27/16 • • abutted flanges

27/18 • • withdrawing broken threaded parts or twist drills

27/20 • • inserting or withdrawing split pins or circlips

27/22 • • positioning sprocket chains, endless tracks, antiskid chains (tools or implements for repairing chains using metal-working operations B21L 21/00)

27/24 • • mounting or demounting valves (for tyre valves B60C 25/18)

27/26 • • • compressing the springs

27/28 • • positioning or withdrawing resilient bushings or the like **[3]**

27/30 • • positioning or withdrawing springs, e.g. coil or leaf springs (B25B 27/26 takes precedence; watchmakers' or watch-repairers' tools G04D) **[3]**

28/00 **Portable power-driven joining or separation tools** (B25B 21/00 takes precedence) **[3]**

29/00 **Accessories** (specially for spanners, wrenches, screwdrivers B25B 23/00; tool boxes, tool positioning stands B25H)

29/02 • Bolt tensioners

31/00 **Hand tools for applying fasteners** (nailing or stapling tools B25C) **[3]**

33/00 **Hand tools not covered by any other group in this subclass [3]**