

## 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

<b>1/00</b>	<b>Vices</b> (specially adapted for tying flies for angling A01K 97/28; specially adapted for machine tools B23Q 3/00) [5]	5/14	• Clamps for work of special profile
1/02	• with sliding jaws	5/16	• Details, e.g. jaws, jaw attachments
1/04	• with pivoted jaws	<b>7/00</b>	<b>Pliers; Other hand-held gripping tools with jaws on pivoted limbs; Details applicable generally to pivoted-limb hand tools</b> (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)
1/06	• Arrangements for positively actuating jaws	7/02	• Jaws
1/08	• • using cams	7/04	• • adjustable
1/10	• • using screws	7/06	• Joints
1/12	• • • with provision for disengagement	7/08	• • with fixed fulcrum
1/14	• • using toggle links	7/10	• • with adjustable fulcrum
1/16	• • by pedal, with or without provision for additional manual actuation	7/12	• involving special transmission means between the handles and the jaws, e.g. toggle levers, gears
1/18	• • motor driven, e.g. with fluid drive, with or without provision for manual actuation	7/14	• Locking means
1/20	• Vices for clamping work of special profile, e.g. pipes	7/16	• • combined with means for tightening the operating arms or jaws
1/22	• Arrangements for turning or tilting vices	7/18	• Adjusting means for the operating arms
1/24	• Details, e.g. jaws of special shape, slideways	7/20	• Pliers for sealing
<b>3/00</b>	<b>Hand vices, i.e. vices intended to be held by hand; Pin vices</b>	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)
<b>5/00</b>	<b>Clamps</b> (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		

## 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)
- 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]