

B23 MACHINE TOOLS; METAL-WORKING NOT OTHERWISE PROVIDED FOR (punching, perforating, making articles by processing sheet metal, tubes, or profiles B21D; wire-working B21F; making pins, needles, or nails B21G; making chains B21L; grinding B24)

B23C MILLING (broaching B23D; broach-milling in making gears B23F; arrangements for copying or controlling B23Q)

MILLING MACHINES IN GENERAL..... 1/00
MILLING PARTICULAR WORK..... 3/00
COMPONENT PARTS, ACCESSORIES 5/00, 9/00

DEVICES FOR ATTACHMENT TO ANY
MACHINE..... 7/00

1/00 Milling machines not designed for particular work or special operations

- 1/02 . with one horizontal working-spindle
- 1/025 . . with working-spindle in a fixed position [2]
- 1/027 . . with working-spindle movable in a vertical direction [2]
- 1/04 . with a plurality of horizontal working-spindles
- 1/06 . with one vertical working-spindle
- 1/08 . with a plurality of vertical working-spindles
- 1/10 . with both horizontal and vertical working-spindles
- 1/12 . with spindle adjustable to different angles, e.g. either horizontally or vertically
- 1/14 . with rotary work-carrying table (work-tables for machine tools in general B23Q 1/00)
- 1/16 . specially designed for control by copying devices
- 1/18 . . for milling while revolving the work
- 1/20 . Portable devices or machines (details or components, e.g. casings, bodies, of portable power-driven tools not particularly related to the operation performed B25F 5/00); Hand-driven devices or machines [4]

3/00 Milling particular work; Special milling operations; Machines therefor (milling gear teeth B23F; milling of threads B23G 1/32) [2]

- 3/02 . Milling surfaces of revolution (B23C 3/06, B23C 3/08 take precedence)
- 3/04 . . while revolving the work
- 3/05 . . Finishing valves or valve seats [2]
- 3/06 . Milling crankshafts
- 3/08 . Milling cams, camshafts, or the like
- 3/10 . Relieving by milling (lathes or turning devices for relieving B23B 5/42)
- 3/12 . Trimming or finishing edges, e.g. deburring welded corners
- 3/13 . Surface milling of plates, sheets or strips [2]
- 3/14 . Scrubbing or peeling ingots or similar workpieces
- 3/16 . Working surfaces curved in two directions
- 3/18 . . for shaping screw-propellers, turbine blades, or impellers
- 3/20 . . for shaping dies
- 3/22 . Forming overlapped joints, e.g. of the ends of piston-rings

- 3/24 . Making square or polygonal ends on workpieces, e.g. key studs on tools
- 3/26 . Making square or polygonal holes in workpieces, e.g. key holes in tools
- 3/28 . Grooving workpieces
- 3/30 . . Milling straight grooves, e.g. keyways
- 3/32 . . Milling helical grooves, e.g. in making twist-drills
- 3/34 . . Milling grooves of other forms, e.g. circumferential
- 3/35 . . Milling grooves in keys
- 3/36 . Milling milling-cutters (B23C 3/28 takes precedence)

5/00 Milling-cutters (for cutting gear teeth B23F 21/12)

- 5/02 . characterised by the shape of the cutter
- 5/04 . . Plain cutters, i.e. having essentially a cylindrical or tapered cutting surface of substantial length (B23C 5/10 takes precedence)
- 5/06 . . Face-milling cutters, i.e. having only or primarily a substantially flat cutting surface
- 5/08 . . Disc-type cutters
- 5/10 . . Shank-type cutters, i.e. with an integral shaft
- 5/12 . . Cutters specially designed for producing particular profiles (B23C 5/10 takes precedence)
- 5/14 . . . essentially comprising curves
- 5/16 . characterised by physical features other than shape
- 5/18 . . with permanently-fixed cutter-bits or teeth
- 5/20 . . with removable cutter-bits or teeth
- 5/22 . . . Securing arrangements for bits or teeth
- 5/24 adjustable
- 5/26 . Securing milling-cutters to the driving spindle
- 5/28 . Features relating to lubricating or cooling

7/00 Milling devices able to be attached to a machine tool, whether or not replacing an operative portion of the machine tool

- 7/02 . to lathes
- 7/04 . to planing or slotting machines

9/00 Details or accessories so far as specially adapted to milling machines or cutters (drives, control devices, or accessories, in general B23Q)