SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B23 MACHINE TOOLS; METAL-WORKING NOT OTHERWISE PROVIDED FOR

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

Subclass index

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)