

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SHAPING

B21 MECHANICAL METAL-WORKING WITHOUT ESSENTIALLY REMOVING MATERIAL; PUNCHING METAL

(NOTES omitted)

B21F WORKING OR PROCESSING OF METAL WIRE (rolling of metal wire [B21B 1/16](#); by drawing, auxiliary operations used in connection with metal-working without essentially removing material [B21C](#))

Wire working characterised by operations performed

- 1/00 Bending wire other than coiling; Straightening wire**
- 1/002 . {by means of manually operated devices, e.g. pliers}
 - 1/004 . {by means of press-type tooling}
 - 1/006 . {in 3D with means to rotate the tools about the wire axis}
 - 1/008 . {in 3D with means to rotate the wire about its axis}
 - 1/02 . Straightening
 - 1/023 . . {in a device rotating about the wire axis}
 - 1/026 . . {Straightening and cutting}
 - 1/04 . Undulating
 - 1/06 . Bending wire-eyes
- 3/00 Coiling wire into particular forms**
- 3/02 . helically
 - 3/027 . . with extended ends formed in a special shape, e.g. for clothes-pegs
 - 3/04 . . externally on a mandrel or the like
 - 3/06 . . internally on a hollow form
 - 3/08 . to flat spiral
 - 3/10 . to spirals other than flat, e.g. conical
 - 3/12 . of interconnected helical springs
- 5/00 Upsetting wire**
- 5/005 . {Upsetting wire}
- 7/00 Twisting wire; Twisting wire together (for connections of limited size [B21F 15/04](#))**
- 9/00 Straining wire**
- 9/002 . {to maintain tension in the wire, e.g. to pull the wire taut}
 - 9/005 . {to affect the material properties of the wire}
 - 9/007 . {to induce a plastic deformation of the wire}
 - 9/02 . by tools adapted also for making connections
- 11/00 Cutting wire**
- 11/005 . {springs}
- 13/00 Splitting wire**

15/00

Connecting wire to wire or other metallic material or objects; Connecting parts by means of wire (tools for both straining and connecting [B21F 9/02](#); jacketing or reinforcing [B21F 17/00](#); manufacture of wire network [B21F 27/00](#); in making bands [B21F 43/00](#))

15/02

. wire with wire

15/04

. . without additional connecting elements or material, e.g. by twisting

15/06

. . with additional connecting elements or material

15/08

. . . making use of soldering or welding

15/10

. wire with sheet metal

17/00

Jacketing or reinforcing articles with wire

19/00

Metallic coating of wire (by extruding [B21C 23/24](#); by soldering or welding, e.g. cladding or plating, [B23K](#))

23/00

Feeding wire in wire-working machines or apparatus

23/002

. {Feeding means specially adapted for handling various diameters of wire or rod}

23/005

. {Feeding discrete lengths of wire or rod}

23/007

. . {using pick-up means, e.g. for isolating a predefined number of wires from a bundle}

Wire working characterised by the particular articles produced

25/00

Making barbed wire

27/00

Making wire network, i.e. wire nets (making meshed-ring network from wire [B21F 31/00](#); in making bands [B21F 43/00](#))

27/005

. {Wire network *per se*}

27/02

. without additional connecting elements or material at crossings, e.g. connected by knitting

27/04

. . Manufacturing on machines with rotating blades or formers

27/06

. . Manufacturing on twister-gear machines

27/08

. with additional connecting elements or material at crossings

27/10

. . with soldered or welded crossings

27/12

. Making special types or portions of network by methods or means specially adapted therefor

27/121

. . {of tubular form, e.g. as reinforcements for pipes or pillars}

- 27/122 . . . {by attaching a continuous stirrup to longitudinal wires}
- 27/124 {applied by rotation}
- 27/125 . . . {by attaching individual stirrups to longitudinal wires}
- 27/127 . . . {by bending preformed mesh}
- 27/128 . . {of three-dimensional form by connecting wire networks, e.g. by projecting wires through an insulating layer}
- 27/14 . . Specially bending or deforming free wire ends
- 27/16 . . for spring mattresses
- 27/18 . . of meshed work for filters or sieves
- 27/20 . . of plaster-carrying network
- 27/22 . . of network for wire-reinforced glass or the like
- 29/00 Making fencing or like material made partly of wire** ([B21F 25/00](#) takes precedence)
- 29/02 . comprising bars or the like connected by wires
- 31/00 Making meshed-ring network from wire**
- 33/00 Tools or devices specially designed for handling or processing wire fabrics or the like**
- 33/002 . {Coiling or packing wire network}
- 33/005 . {Cutting wire network}
- 33/007 . {Connecting wire network}
- 33/02 . Mounting of wire network on frames
- 33/025 . . {Mounting of mattress innersprings on borderframes}
- 33/04 . Connecting ends of helical springs for mattresses
- 35/00 Making springs from wire**
- 35/003 . {Multi-filament springs, e.g. made of stranded, braided, cable or multi-filament material}
- 35/006 . {Double-twist coil springs}
- 35/02 . Bending or deforming ends of coil springs to special shape
- 35/04 . Making flat springs, e.g. sinus springs
- 37/00 Manufacture of rings from wire**
- 37/02 . of resilient rings, e.g. key-rings
- 37/04 . of washers ([B21F 37/02](#) takes precedence)
- 39/00 Making wheel spokes from wire**
- 41/00 Making umbrella frames or members from wire**
- 43/00 Making bands, e.g. bracelets, from wire**
- 45/00 Wire-working in the manufacture of other particular articles** (of pins, needles, nails, hairpins [B21G](#); of chains [B21L](#))
- 45/002 . {of frames for spectacles}
- 45/004 . {Mounting bails on containers}
- 45/006 . {of concrete reinforcement fibres}
- 45/008 . {of medical instruments, e.g. stents or corneal rings}
- 45/02 . of clothes hangers
- 45/04 . of elements, e.g. levers or links, for bottle stoppers
- 45/06 . of flexible shafts or hollow conduits, e.g. for Bowden mechanisms
- 45/08 . of loom heddles
- 45/10 . of cards for fabric-napping machines
- 45/12 . of fishing hooks
- 45/14 . of end-pieces for laces or ropes
- 45/16 . of devices for fastening or securing purposes
- 45/18 . . of slide fastener elements
- 45/20 . . of spring hooks; of spring safety hooks
- 45/22 . . of paper fasteners or clips ([staples B21F 45/24](#))
- 45/24 . . of staples; of belt-fastening elements
- 45/26 . . of buttons
- 45/28 . . . of "patent-fastener" or press-button type
- 99/00 Subject matter not provided for in other groups of this subclass**