

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}	45/20	. . of spring hooks; of spring safety hooks
27/124 {applied by rotation}	45/22	. . of paper fasteners or clips (staples B21F 45/24)
27/125	. . . {by attaching individual stirrups to longitudinal wires}	45/24	. . of staples; of belt-fastening elements
27/127	. . . {by bending preformed mesh}	45/26	. . of buttons
27/128	. . {of three-dimensional form by connecting wire networks, e.g. by projecting wires through an insulating layer}	45/28	. . . of "patent-fastener" or press-button type
27/14	. . Specially bending or deforming free wire ends	99/00	Subject matter not provided for in other groups of this subclass
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		