

Symbol	Typ	Titel
F	Sektion	SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
F16	Klasse	ENGINEERING ELEMENTS OR UNITS; GENERAL MEASURES FOR PRODUCING AND MAINTAINING EFFECTIVE FUNCTIONING OF MACHINES OR INSTALLATIONS ; THERMAL INSULATION IN GENERAL
F16B	Unterklasse	DEVICES FOR FASTENING OR SECURING CONSTRUCTIONAL ELEMENTS OR MACHINE PARTS TOGETHER, e.g. NAILS, BOLTS, CIRCLIPS, CLAMPS, CLIPS, WEDGES; JOINTS OR JOINTING
F16B 1/00	Hauptgruppe	Devices for securing together, or preventing relative movement between, constructional elements or machine parts
F16B 1/02	1-Punkt Untergruppe	. Means for securing elements of mechanisms after operation (means for bringing members to rest F16D)
F16B 1/04	2-Punkt Untergruppe	. . disengaged by movement of the actuating member of the element (locking of actuators G05G, e.g. G05G 5/00)
		<u>Fastenings for constructional elements or machine parts in general (couplings for transmitting rotation F16D)</u>
F16B 2/00	Hauptgruppe	Friction-grip releasable fastenings (for cables or ropes, e.g. cleats, F16G 11/00; supports for pipes, cables or protective tubing F16L 3/00)
F16B 2/02	1-Punkt Untergruppe	. Clamps, i.e. with gripping action effected by positive means other than the inherent resistance to deformation of the material of the fastening
F16B 2/04	2-Punkt Untergruppe	. . internal, i.e. with spreading action (F16B 2/14-F16B 2/18 take precedence)
F16B 2/06	2-Punkt Untergruppe	. . external, i.e. with contracting action (F16B 2/14-F16B 2/18 take precedence)
F16B 2/08	3-Punkt Untergruppe	. . . using bands (clips for connecting hoses to rigid members F16L 33/02)
F16B 2/10	3-Punkt Untergruppe	. . . using pivoting jaws
F16B 2/12	3-Punkt Untergruppe	. . . using sliding jaws
F16B 2/14	2-Punkt Untergruppe	. . using wedges
F16B 2/16	2-Punkt Untergruppe	. . using rollers or balls
F16B 2/18	2-Punkt Untergruppe	. . using cams, levers, eccentrics, or toggles
F16B 2/20	1-Punkt Untergruppe	. Clips, i.e. with gripping action effected solely by the inherent resistance to deformation of the material of the fastening
F16B 2/22	2-Punkt Untergruppe	. . of resilient material, e.g. rubbery material
F16B 2/24	3-Punkt Untergruppe	. . . of metal
F16B 2/26	2-Punkt Untergruppe	. . of pliable non-resilient material, e.g. plant tie
F16B 3/00	Hauptgruppe	Key-type connections; Keys (F16B 2/00 takes precedence; for rods or tubes mutually F16B 7/00)
F16B 3/04	1-Punkt Untergruppe	. using keys formed of wire or other flexible material, to be inserted through an opening giving access to grooves in the adjacent surfaces of the parts to be connected
F16B 3/06	1-Punkt Untergruppe	. using taper sleeves
F16B 4/00	Hauptgruppe	Shrinkage connection, e.g. assembled with the parts at different temperature; Force fits (restricted to metal parts or objects B23P 11/02); Non-releasable friction-grip fastenings (F16B 2/00 takes precedence)
F16B 5/00	Hauptgruppe	Joining sheets or plates to one another or to strips or bars parallel to them (by sticking together F16B 11/00; dowel connections F16B 13/00; pins, including deformable elements F16B 19/00;

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		covering of walls E04F 13/00; fastening signs, plates, panels, or boards to a supporting structure, fastening readily-detachable elements, e.g. letters, to signs, plates, panels, or boards, G09F 7/00)
F16B 5/01	1-Punkt Untergruppe	. by means of fastening elements specially adapted for honeycomb panels
F16B 5/02	1-Punkt Untergruppe	. by means of fastening members using screw-thread (construction of screw-threaded connections F16B 25/00-F16B 39/00)
F16B 5/04	1-Punkt Untergruppe	. by means of riveting (rivets F16B 19/04)
F16B 5/06	1-Punkt Untergruppe	. by means of clamps or clips (friction-grip releasable fastenings in general F16B 2/00)
F16B 5/07	1-Punkt Untergruppe	. by means of multiple interengaging protrusions on the surfaces, e.g. hooks, coils
F16B 5/08	1-Punkt Untergruppe	. by means of welds or the like (welding B23K)
F16B 5/10	1-Punkt Untergruppe	. by means of bayonet connections (fastening devices locking by rotation F16B 21/02)
F16B 5/12	1-Punkt Untergruppe	. Fastening strips or bars to sheets or plates, e.g. rubber strips, decorative strips for motor vehicles, by means of clips (friction-grip releasable fastenings in general F16B 2/00; fastening rods or tubular parts to flat surfaces at an angle F16B 9/00; clips for connecting hoses to rigid members F16L 33/02)
F16B 7/00	Hauptgruppe	Connections of rods or tubes, e.g. of non-circular section, mutually, including resilient connections (umbrella frames A45B 25/02; welding or soldering of connections B23K; vehicle connections in general B60D; railway couplings B61G; bicycle frames B62K; couplings for transmitting rotation F16D; couplings for tubes conveying fluid F16L)
F16B 7/02	1-Punkt Untergruppe	. with conical parts
F16B 7/04	1-Punkt Untergruppe	. Clamping or clipping connections (friction-grip releasable fastenings in general F16B 2/00)
F16B 7/06	1-Punkt Untergruppe	. Turnbuckles (for cables, ropes, or wire F16G 11/12)
F16B 7/08	1-Punkt Untergruppe	. Pipe saddles (friction-grip releasable fastenings in general F16B 2/00)
F16B 7/10	1-Punkt Untergruppe	. Telescoping systems (for scaffolding E04G 25/04; telescope props for mining E21D 15/14-E21D 15/46; stands or trestles as supports for apparatus or articles placed thereon F16M 11/00)
F16B 7/12	2-Punkt Untergruppe	. . locking only in extreme extended position
F16B 7/14	2-Punkt Untergruppe	. . locking in intermediate positions
F16B 7/16	3-Punkt Untergruppe	. . . locking only against movement in one direction
F16B 7/18	1-Punkt Untergruppe	. using screw-thread elements
F16B 7/20	1-Punkt Untergruppe	. using bayonet connections
F16B 7/22	1-Punkt Untergruppe	. using hooks or like elements
F16B 9/00	Hauptgruppe	Connections of rods or tubular parts to flat surfaces at an angle (friction-grip releasable fastenings in general F16B 2/00; making press-fit connections B23P 11/00, B23P 19/00; fluid-tight connecting of pipes to reservoirs, sheets, or the like F16L, e.g. joining pipes to walls F16L 41/00; supports for pipes, cables or protective tubing F16L 3/00)
F16B 9/02	1-Punkt Untergruppe	. Detachable connections
F16B 11/00	Hauptgruppe	Connecting constructional elements or machine parts by sticking or pressing them together, e.g. cold pressure welding (non-electric welding in general B23K; methods of using adhesives independently of the form of the surfaces joined C09J 5/00)
F16B 12/00	Hauptgruppe	Joining of furniture or the like, e.g. hidden from exterior (F16B 2/00-F16B 11/00 take precedence; fastening means <u>per se</u> F16B 13/00-F16B 47/00; wood-working B27)
F16B 12/02	1-Punkt Untergruppe	. Joints between panels and corner posts

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F16B 12/04	1-Punkt Untergruppe	. Non-loosenable joints for non-metal furniture parts, e.g. glued
F16B 12/06	1-Punkt Untergruppe	. Non-loosenable joints for metal furniture parts
F16B 12/08	2-Punkt Untergruppe	. . without use of separate connecting elements
F16B 12/10	1-Punkt Untergruppe	. using pegs, bolts, tenons, clamps, clips, or the like (glued F16B 12/04; fastening means <u>per se</u> F16B 15/00-F16B 47/00)
F16B 12/12	2-Punkt Untergruppe	. . for non-metal furniture parts, e.g. made of wood, of plastics
F16B 12/14	3-Punkt Untergruppe	. . . using threaded bolts or screws
F16B 12/16	4-Punkt Untergruppe	 using self-tapping screws
F16B 12/18	4-Punkt Untergruppe	 using drawing bars
F16B 12/20	3-Punkt Untergruppe	. . . using clamps, clips, wedges, sliding bolts, or the like
F16B 12/22	3-Punkt Untergruppe	. . . using keyhole-shaped slots and pins
F16B 12/24	3-Punkt Untergruppe	. . . using separate pins, dowels, or the like
F16B 12/26	3-Punkt Untergruppe	. . . using snap-action elements
F16B 12/28	2-Punkt Untergruppe	. . for metal furniture parts
F16B 12/30	3-Punkt Untergruppe	. . . using threaded bolts
F16B 12/32	3-Punkt Untergruppe	. . . using clamps, clips, wedges, sliding bolts, or the like
F16B 12/34	3-Punkt Untergruppe	. . . using keyhole-shaped slots and pins
F16B 12/36	3-Punkt Untergruppe	. . . using separate pins, dowels, or the like
F16B 12/38	3-Punkt Untergruppe	. . . using snap-action elements
F16B 12/40	1-Punkt Untergruppe	. Joints for furniture tubing
F16B 12/42	2-Punkt Untergruppe	. . connecting furniture tubing to non-tubular parts
F16B 12/44	1-Punkt Untergruppe	. Leg joints; Corner joints
F16B 12/46	2-Punkt Untergruppe	. . Non-metal corner connections
F16B 12/48	2-Punkt Untergruppe	. . Non-metal leg connections (F16B 12/46 takes precedence)
F16B 12/50	2-Punkt Untergruppe	. . Metal corner connections
F16B 12/52	2-Punkt Untergruppe	. . Metal leg connections (F16B 12/50 takes precedence)
F16B 12/54	1-Punkt Untergruppe	. Fittings for bedsteads or the like
F16B 12/56	2-Punkt Untergruppe	. . Brackets for bedsteads; Coupling joints consisting of bolts or the like; Latches therefor
F16B 12/58	2-Punkt Untergruppe	. . Tapered connectors for bed rails
F16B 12/60	2-Punkt Untergruppe	. . Fittings for detachable side panels
F16B 13/00	Hauptgruppe	Dowels or other devices fastened in walls or the like by inserting them in holes made therein for that purpose (nails F16B 15/00; self-locking pins or bolts in general, stud-and-socket releasable fastenings F16B 21/00; dowels or bolts for railroad sleepers E01B 9/00; means for anchoring structural elements or bulkheads specially adapted to foundation engineering E02D 5/74; bolts or

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		dowels used while laying bricks or casting concrete E04B 1/38; setting anchoring bolts in shafts, tunnels or galleries E21D 20/00; anchoring bolts for shafts, tunnels or galleries E21D 21/00) [5]
F16B 13/02	1-Punkt Untergruppe	. in one piece with protrusions or ridges on the shaft
F16B 13/04	1-Punkt Untergruppe	. with parts gripping in the hole or behind the reverse side of the wall after inserting from the front (friction-grip releasable fastenings in general F16B 2/00)
F16B 13/06	2-Punkt Untergruppe	. . combined with expanding sleeve
F16B 13/08	2-Punkt Untergruppe	. . with separate gripping parts moved into their final position in relation to the body of the device without further manual operation
F16B 13/10	2-Punkt Untergruppe	. . with separate gripping parts moved into their final position in relation to the body of the device by a separate operation (F16B 13/06 takes precedence)
F16B 13/12	1-Punkt Untergruppe	. Separate metal dowel sleeves fastened by inserting the screw, nail, or the like
F16B 13/13	2-Punkt Untergruppe	. . self-cutting [2]
F16B 13/14	1-Punkt Untergruppe	. Non-metallic plugs or sleeves; Use of liquid, loose solid or kneadable material therefor [5]
		<u>Fastening means without screw-thread (horseshoe nails A01L 7/10; nails for footwear A43B 23/20; thumb-tacks B43M 15/00; for building constructions E04B 1/38; for hand railings E04F 11/18; for fencing E04H 17/00)</u>
F16B 15/00	Hauptgruppe	Nails; Staples (surgical staples A61B 17/064; manufacture of nails or staples B21G; railway spikes E01B 9/06)
F16B 15/02	1-Punkt Untergruppe	. with specially shaped heads, e.g. with enlarged surfaces (ornaments for furniture A47B 95/04; removable ornamental heads for nails A47G 3/00)
F16B 15/04	1-Punkt Untergruppe	. with spreading shaft
F16B 15/06	1-Punkt Untergruppe	. with barbs, e.g. for metal parts; Drive screws
F16B 15/08	1-Punkt Untergruppe	. formed in integral series but easily separable
F16B 17/00	Hauptgruppe	Connecting constructional elements or machine parts by a part of or on one member entering a hole in the other (construction of bolts, pins, or rivets F16B 19/00; riveting F16B 19/04; means for preventing withdrawal of a pin, spigot, or the like from its operative position, stud-and-socket releasable fastenings F16B 21/00)
F16B 19/00	Hauptgruppe	Bolts without screw-thread; Pins, including deformable elements (in screwed connections F16B 29/00); Rivets (means for preventing withdrawal F16B 21/00)
F16B 19/02	1-Punkt Untergruppe	. Bolts or sleeves for positioning of machine parts, e.g. notched taper pins, fitting pins, sleeves, eccentric positioning rings
F16B 19/04	1-Punkt Untergruppe	. Rivets; Spigots or the like fastened by riveting (lead seals G09F 3/00)
F16B 19/05	2-Punkt Untergruppe	. . Bolts fastening by swaged-on collars (F16B 19/08 takes precedence)
F16B 19/06	2-Punkt Untergruppe	. . Solid rivets made in one piece
F16B 19/08	2-Punkt Untergruppe	. . Hollow rivets; Multi-part rivets
F16B 19/10	3-Punkt Untergruppe	. . . fastened by expanding mechanically
F16B 19/12	3-Punkt Untergruppe	. . . fastened by fluid pressure, including by explosion (bolts shot by means of detonation-operated nailing tools into concrete constructions, metal walls, or the like F16B 19/14)
F16B 19/14	1-Punkt Untergruppe	. Bolts or the like for shooting into concrete constructions, metal walls, or the like by means of detonation-operated nailing tools (tools therefor B25C, B27F)
F16B 21/00	Hauptgruppe	Means for preventing relative axial movement of a pin, spigot, shaft, or the like and a member surrounding it (riveted or deformable spigots F16B 19/04; for gudgeon pins F16J 1/18); Stud-and-socket releasable fastenings

Symbol	Typ	Titel
F16B 21/02	1-Punkt Untergruppe	. Releasable fastening devices locking by rotation (with snap action F16B 21/06; studs or coupling-pins with resilient protrusions F16B 21/08)
F16B 21/04	2-Punkt Untergruppe	. . with bayonet catch
F16B 21/06	1-Punkt Untergruppe	. Releasable fastening devices with snap action
F16B 21/07	2-Punkt Untergruppe	. . in which the socket has a resilient part
F16B 21/08	2-Punkt Untergruppe	. . in which the stud, pin, or spigot has a resilient part (wall-dowels F16B 13/00)
F16B 21/09	1-Punkt Untergruppe	. Releasable fastening devices with a stud engaging a keyhole slot
F16B 21/10	1-Punkt Untergruppe	. by separate parts (key-type connection F16B 3/00; locking screws or nuts against rotation by such means F16B 39/04)
F16B 21/12	2-Punkt Untergruppe	. . with locking-pins or split-pins thrust into holes
F16B 21/14	3-Punkt Untergruppe	. . . Details of locking-pins or split-pins
F16B 21/16	2-Punkt Untergruppe	. . with grooves or notches in the pin or shaft
F16B 21/18	3-Punkt Untergruppe	. . . with circlips or like resilient retaining devices; Details (spring-washers for locking nuts F16B 39/24; adjusting-rings F16B 43/00)
F16B 21/20	2-Punkt Untergruppe	. . for bolts or shafts without holes, grooves, or notches for locking members
		<u>Fastening means using screw-thread (wall-dowels F16B 13/00; manufacture of threaded fastening means B21H, B21K, B23G; screws or bolts for railway sleepers E01B 9/10; screw mechanisms F16H)</u>
F16B 23/00	Hauptgruppe	Specially-shaped heads of bolts or screws for rotations by a tool
F16B 25/00	Hauptgruppe	Screws that form threads in the body into which they are screwed, e.g. wood screws, self-tapping screws [4]
F16B 25/02	1-Punkt Untergruppe	. by a cutting and material removing action, e.g. fluted self-tapping screws [4]
F16B 25/04	1-Punkt Untergruppe	. by a slicing and material displacing action, e.g. wood screws with sharp thread crests [4]
F16B 25/06	1-Punkt Untergruppe	. by swaging, i.e. material deforming action [4]
F16B 25/08	1-Punkt Untergruppe	. by a combination of any two or all of the actions provided for in groups F16B 25/02-F16B 25/06 [4]
F16B 25/10	1-Punkt Untergruppe	. Screws performing an additional function to thread-forming, e.g. drill screws [4]
F16B 27/00	Hauptgruppe	Bolts, screws, or nuts formed in integral series but easily separable, particularly for use in automatic machines
F16B 29/00	Hauptgruppe	Screwed connection with deformation of nut or auxiliary member while fastening (members deformed for locking screws, bolts or nuts F16B 39/22)
F16B 31/00	Hauptgruppe	Screwed connections specially modified in view of tensile load; Break-bolts (shape of thread F16B 33/04)
F16B 31/02	1-Punkt Untergruppe	. for indicating or limiting tensile load
F16B 31/04	1-Punkt Untergruppe	. for maintaining constant tensile load
F16B 31/06	1-Punkt Untergruppe	. having regard to possibility of fatigue rupture
F16B 33/00	Hauptgruppe	Features common to bolt and nut
F16B 33/02	1-Punkt Untergruppe	. Shape of thread; Special thread-forms (used as screw-locking device F16B 39/30)
F16B 33/04	2-Punkt Untergruppe	. . in view of tensile load
F16B 33/06	1-Punkt Untergruppe	. Surface treatment of parts furnished with screw-thread, e.g. for preventing seizure

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F16B 35/00	Hauptgruppe	Screw-bolts; Stay bolts; Screw-threaded studs; Screws; Set screws (thread-cutting screws F16B 25/00)
F16B 35/02	1-Punkt Untergruppe	. divided longitudinally
F16B 35/04	1-Punkt Untergruppe	. with specially-shaped head or shaft in order to fix the bolt on or in an object (locking the bolt against turning in the object by the use of accessory parts F16B 39/00)
F16B 35/06	2-Punkt Untergruppe	. . Specially-shaped heads (special shape in order to rotate the bolt F16B 23/00)
F16B 37/00	Hauptgruppe	Nuts or like thread-engaging members
F16B 37/02	1-Punkt Untergruppe	. made of thin sheet material (fastening to surfaces F16B 37/04)
F16B 37/04	1-Punkt Untergruppe	. Devices for fastening nuts to surfaces, e.g. sheets, plates
F16B 37/06	2-Punkt Untergruppe	. . by means of welding or riveting
F16B 37/08	1-Punkt Untergruppe	. Quickly-detachable nuts, e.g. consisting of two or more parts; Nuts movable along the bolt after tilting the nut
F16B 37/10	2-Punkt Untergruppe	. . divided parallel or about parallel to the bolt axis
F16B 37/12	1-Punkt Untergruppe	. with thread-engaging surfaces formed by inserted coil-springs, discs, or the like; Independent pieces of wound wire used as nuts; Threaded inserts for holes
F16B 37/14	1-Punkt Untergruppe	. Cap nuts; Nut caps or bolt caps
F16B 37/16	1-Punkt Untergruppe	. Wing nuts (F16B 37/14 takes precedence)
F16B 39/00	Hauptgruppe	Locking of screws, bolts, or nuts (locking of bottle closures B65D; locking of rail-fastening bolts for permanent ways E01B 9/12; locking of fastening means for railway fishplates E01B 11/38; locking devices for valves or cocks F16K)
F16B 39/01	1-Punkt Untergruppe	. specially adapted to prevent loosening at extreme temperatures
F16B 39/02	1-Punkt Untergruppe	. in which the locking takes place after screwing down (F16B 39/01 takes precedence; split-pins, circlips, or the like for preventing relative axial movement only F16B 21/10; fastening nuts by welding or riveting F16B 37/06)
F16B 39/04	2-Punkt Untergruppe	. . with a member penetrating the screw-threaded surface of at least one part, e.g. a pin, wedge, cotter-pin, screw
F16B 39/06	3-Punkt Untergruppe	. . . with a pin or staple parallel to the bolt axis
F16B 39/08	2-Punkt Untergruppe	. . with a cap interacting with the nut, connected to the bolt by a pin or cotter-pin
F16B 39/10	2-Punkt Untergruppe	. . by a plate or ring immovable with regard to the bolt or object (F16B 39/08 takes precedence)
F16B 39/12	2-Punkt Untergruppe	. . by means of locknuts
F16B 39/14	3-Punkt Untergruppe	. . . made of thin sheet material or formed as spring washers (locknuts <u>per se</u> made of thin sheet material F16B 37/02)
F16B 39/16	3-Punkt Untergruppe	. . . in which the screw-thread of the locknut differs from that of the nut
F16B 39/18	4-Punkt Untergruppe	 in which the locknut grips with screw-thread in the nuts as well as on the bolt
F16B 39/20	2-Punkt Untergruppe	. . by means of steel wire or the like (F16B 39/10 takes precedence)
F16B 39/22	1-Punkt Untergruppe	. in which the locking takes place during screwing down or tightening (F16B 39/01 takes precedence)
F16B 39/24	2-Punkt Untergruppe	. . by means of washers, spring washers, or resilient plates that lock against the object (locking to the screw-thread F16B 39/14, F16B 39/36)

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F16B 39/26	3-Punkt Untergruppe	. . . with spring washers fastened to the nut or bolt-head
F16B 39/28	2-Punkt Untergruppe	. . by special members on, or shape of, the nut or bolt (F16B 39/26 takes precedence; locknuts F16B 39/12)
F16B 39/282	3-Punkt Untergruppe	. . . Locking by means of special shape of work-engaging surfaces, e.g. notched or toothed nuts
F16B 39/284	3-Punkt Untergruppe	. . . Locking by means of elastic deformation (F16B 39/38 takes precedence)
F16B 39/286	4-Punkt Untergruppe	 caused by saw cuts
F16B 39/30	3-Punkt Untergruppe	. . . Locking exclusively by special shape of the screw-thread
F16B 39/32	3-Punkt Untergruppe	. . . Locking by means of a pawl or pawl-like tongue
F16B 39/34	3-Punkt Untergruppe	. . . Locking by deformable inserts or like parts
F16B 39/36	3-Punkt Untergruppe	. . . with conical locking parts, which may be split, including use of separate rings co-operating therewith
F16B 39/38	3-Punkt Untergruppe	. . . with a second part of the screw-thread which may be resiliently mounted (F16B 39/30 takes precedence)
F16B 41/00	Hauptgruppe	Measures against loss of bolts, nuts, or pins; Measures against unauthorised operation of bolts, nuts, or pins (seals G09F 3/00)
F16B 43/00	Hauptgruppe	Washers or equivalent devices; Other devices for supporting bolt-heads or nuts (circlips F16B 21/18; with special means for locking bolts or nuts F16B 39/10, F16B 39/24)
F16B 43/02	1-Punkt Untergruppe	. with special provisions for engaging surfaces which are not perpendicular to a bolt axis or do not surround the bolt
F16B 45/00	Hauptgruppe	Hooks; Eyes (if the attaching parts or means are concerned, groups F16B 13/00, F16B 15/00, F16B 19/00, F16B 25/00, F16B 35/00, F16B 47/00 take precedence; for hanging pictures or the like A47G 1/16; towing hooks for ships B63B 21/58; for hoisting or hauling purposes B66C; hooks or eyes with integral parts designed to facilitate quick attachment to cables or ropes at any point F16G 11/14)
F16B 45/02	1-Punkt Untergruppe	. Hooks with pivoting closing member
F16B 45/04	1-Punkt Untergruppe	. Hooks with sliding closing member
F16B 45/06	1-Punkt Untergruppe	. Hooks with two symmetrically-pivoting hook parts
F16B 47/00	Hauptgruppe	Suction cups for attaching purposes; Equivalent means using adhesives