

CPC**COOPERATIVE PATENT CLASSIFICATION****Y10T****TECHNICAL SUBJECTS COVERED BY FORMER US CLASSIFICATION****NOTE**

This subclass has been introduced in January 2015 in view of the CPC to accommodate for technical subjects formerly covered by USPC

Former US Class 16 series**Y10T 16/00**

Miscellaneous hardware [e.g., bushing, carpet fastener, caster, door closer, panel hanger, attachable or adjunct handle, hinge, window sash balance, etc.]

- Y10T 16/05 . Bushing
- Y10T 16/063 .. Providing a restricted or insulated environment [i.e., sealable] for internal elements
- Y10T 16/075 .. Bung or tap
- Y10T 16/082 ... Threaded
- Y10T 16/088 .. Providing strain relief
- Y10T 16/10 . Carpet fasteners
- Y10T 16/104 .. Combined fasteners and stretchers
- Y10T 16/109 .. Hook
- Y10T 16/113 .. Moldings
- Y10T 16/118 .. Rug
- Y10T 16/122 .. Stair
- Y10T 16/124 ... Risers
- Y10T 16/125 ... Rods
- Y10T 16/126 Catches
- Y10T 16/1263 Sliding
- Y10T 16/1267 Swinging
- Y10T 16/127 .. Sliding
- Y10T 16/131 .. Strips
- Y10T 16/134 .. Swinging
- Y10T 16/14 . Carpet stiffener or anti-slip device, per se
- Y10T 16/18 . Casters
- Y10T 16/182 .. Adjustable
- Y10T 16/184 .. Wheels
- Y10T 16/1847 ... Antifrictionally mounted
- Y10T 16/1853 ... Multiple
- Y10T 16/1857 Antifrictionally swivelled

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|--------------|------|------------------------------------|
| Y10T 16/186 | .. | Antifrictionally swivelled |
| Y10T 16/1867 | ... | Ball |
| Y10T 16/1873 | ... | Cylinder |
| Y10T 16/1877 | .... | Pivoted |
| Y10T 16/188 | .. | Ball |
| Y10T 16/1887 | ... | Antifrictionally mounted |
| Y10T 16/1889 | .... | Ball |
| Y10T 16/1891 | .... | Cylinder |
| Y10T 16/1893 | ... | Pivoted |
| Y10T 16/19 | .. | Bracket supports |
| Y10T 16/191 | .. | Detachable |
| Y10T 16/193 | .. | Leg elevators |
| Y10T 16/1937 | ... | Sliding |
| Y10T 16/1943 | ... | Swinging |
| Y10T 16/195 | .. | Locked |
| Y10T 16/196 | ... | Shimmy dampening |
| Y10T 16/197 | .. | Lubricators |
| Y10T 16/199 | .. | Pintles |
| Y10T 16/201 | .. | Pintle retainers |
| Y10T 16/202 | ... | Frame |
| Y10T 16/203 | .. | Frame |
| Y10T 16/204 | ... | Single leg frame or fork |
| Y10T 16/205 | .. | Rigid wheel supports |
| Y10T 16/207 | .. | Scrapers |
| Y10T 16/209 | .. | Sliding |
| Y10T 16/21 | ... | for tubular leg |
| Y10T 16/211 | .. | Sockets |
| Y10T 16/212 | .. | Spring supported |
| Y10T 16/214 | .. | Inclined axle |
| Y10T 16/216 | .. | Caster guard |
| Y10T 16/218 | .. | Obstruction climbing aid |
| Y10T 16/22 | . | Thermally released check or closer |
| Y10T 16/27 | . | Checks and closers |
| Y10T 16/276 | .. | Liquid |
| Y10T 16/2766 | ... | Concentric spring chamber |
| Y10T 16/2769 | .... | Cam |
| Y10T 16/2771 | ... | Hinge |
| Y10T 16/2774 | | Floor pivot |
| Y10T 16/2777 | ... | Multiple piston |
| Y10T 16/2782 | ... | Oscillating cylinder |

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|--------------|-------|--|
| Y10T 16/2788 | ... | Oscillating piston |
| Y10T 16/2793 | ... | Side spring chamber |
| Y10T 16/2796 | | Cam |
| Y10T 16/2799 | ... | Spring and flexible link |
| Y10T 16/2804 | ... | Spring and gear |
| Y10T 16/281 | .. | Pneumatic |
| Y10T 16/282 | ... | Flexible link |
| Y10T 16/283 | ... | Hinge |
| Y10T 16/285 | ... | Spring and gear |
| Y10T 16/286 | ... | Spring and lever |
| Y10T 16/287 | .. | Spring and flexible link |
| Y10T 16/293 | .. | Spring and gear |
| Y10T 16/299 | .. | Spring and lever |
| Y10T 16/304 | .. | Hinge |
| Y10T 16/31 | . | Gate hangers |
| Y10T 16/33 | .. | Sliding and swinging |
| Y10T 16/35 | . | Panel hangers, travelers and/or tracks |
| Y10T 16/353 | .. | with flexible panel attaching means |
| Y10T 16/354 | ... | Covered, hollow or slotted track |
| Y10T 16/3543 | .... | with antifriction means |
| Y10T 16/3545 | ..... | Wood track |
| Y10T 16/3547 | .... | Wood track |
| Y10T 16/355 | ... | with antifriction means |
| Y10T 16/356 | .. | Ball |
| Y10T 16/359 | .. | Cylinder |
| Y10T 16/361 | .. | Guide brackets |
| Y10T 16/364 | .. | Guide rollers |
| Y10T 16/367 | .. | Link and lever |
| Y10T 16/37 | .. | Sliding shoe |
| Y10T 16/372 | ... | Drapery supports |
| Y10T 16/373 | .. | Track and bracket |
| Y10T 16/375 | ... | Drapery supports |
| Y10T 16/376 | .. | Covered, hollow or slotted track |
| Y10T 16/377 | ... | Wood |
| Y10T 16/378 | ... | Drapery supports |
| Y10T 16/3785 | .... | Wood |
| Y10T 16/379 | .. | Tracks |
| Y10T 16/3797 | ... | Drapery supports |
| Y10T 16/3803 | ... | Laminated |
| Y10T 16/381 | .. | Wheel mounts |

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|--------------|------|---|
| Y10T 16/3813 | ... | Antifrictionally mounted wheels |
| Y10T 16/3816 | ... | Door elevating |
| Y10T 16/3819 | ... | Floor |
| Y10T 16/3822 | ... | Reciprocating track |
| Y10T 16/3825 | ... | Traveling wheel |
| Y10T 16/3828 | ... | Swinging |
| Y10T 16/3831 | ... | Swiveling |
| Y10T 16/3834 | ... | Vertically adjustable |
| Y10T 16/3837 | ... | Wheel and guide roller |
| Y10T 16/384 | .. | Wheels |
| Y10T 16/387 | .. | Overlapping doors, common track |
| Y10T 16/39 | . | Ferrules, rings, and thimbles |
| Y10T 16/42 | .. | Ring ferrules |
| Y10T 16/44 | . | Handle, handle component, or handle adjunct |
| Y10T 16/444 | .. | having receptacle within |
| Y10T 16/447 | .. | for plow |
| Y10T 16/451 | .. | Length adjustable pull handle for luggage or luggage cart [e.g., wheeled suitcase handle, etc.] |
| Y10T 16/455 | .. | Luggage-type [loop style] handgrip for carrying [e.g., suitcase, handbag, briefcase, shopping bag, package, etc.] |
| Y10T 16/4554 | ... | Extensible handle |
| Y10T 16/4559 | ... | Detachable handle |
| Y10T 16/4563 | ... | Welded or adhesively attached handle |
| Y10T 16/4567 | ... | Swinging handle |
| Y10T 16/4569 | .... | with means permanently connecting the handle to a carried article |
| Y10T 16/4571 | ... | with means permanently connecting the handle to a carried article |
| Y10T 16/4576 | ... | with carrier handle including a user enhanced grip attachment |
| Y10T 16/458 | .. | Door handle |
| Y10T 16/459 | ... | Detachable handle |
| Y10T 16/46 | ... | Knob type |
| Y10T 16/462 | .. | Drawer pull |
| Y10T 16/4628 | ... | Lift |
| Y10T 16/4636 | ... | Knob type |
| Y10T 16/464 | .... | Swinging |
| Y10T 16/4644 | ... | Loop type |
| Y10T 16/4652 | ... | Ring type |
| Y10T 16/466 | .. | Handle having mounted grip means [e.g., bicycle handlebar grips, etc.] |
| Y10T 16/469 | .. | Detachable handle |
| Y10T 16/4696 | ... | for battery |
| Y10T 16/4701 | ... | for casket |

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|--------------|------|---|
| Y10T 16/4707 | ... | for container |
| Y10T 16/4713 | ... | Auxiliary handle |
| Y10T 16/4719 | ... | Extension |
| Y10T 16/4724 | ... | Cord or rope related |
| Y10T 16/473 | .. | Extensible handle |
| Y10T 16/476 | .. | Handle with ergonomic structure [e.g., finger engagement structure such as indents, grooves, etc.] and handle user-interaction [human engineering] enhancements such as improved handle dimensions and handle positioning |
| Y10T 16/48 | . | Insulated handle |
| Y10T 16/484 | .. | Handwheel |
| Y10T 16/487 | .. | Knob type |
| Y10T 16/491 | .. | Wire type |
| Y10T 16/495 | .. | Unshaped or unattached pad |
| Y10T 16/498 | .. | Bar-type handle |
| Y10T 16/499 | ... | for lawnmower |
| Y10T 16/50 | ... | Swinging |
| Y10T 16/501 | .... | Casket handle |
| Y10T 16/502 | .. | Braced handle |
| Y10T 16/506 | .. | Knob-type handle |
| Y10T 16/508 | ... | with flexible suspending means |
| Y10T 16/509 | .. | Lift |
| Y10T 16/513 | .. | Loop-type handle |
| Y10T 16/515 | ... | Swinging |
| Y10T 16/516 | .. | Ring-type handle |
| Y10T 16/52 | . | Hinge |
| Y10T 16/521 | .. | including frangible or fusible portion |
| Y10T 16/522 | .. | with diverse art portion or attachment |
| Y10T 16/524 | .. | Ball and socket |
| Y10T 16/525 | .. | Pliant or elastic hinge |
| Y10T 16/5253 | ... | Metallic |
| Y10T 16/5257 | ... | Snap or X hinge |
| Y10T 16/526 | .. | Eyeglass hinge |
| Y10T 16/527 | .. | Retractable pintle |
| Y10T 16/5275 | ... | Latch hinge |
| Y10T 16/528 | .. | Latch hinge |
| Y10T 16/5285 | ... | Resilient securing means |
| Y10T 16/529 | .. | including lever for shifting one member of hinge relative to another |
| Y10T 16/531 | .. | having staggered leaves |
| Y10T 16/532 | .. | including adjustment for changing relative orientation of hinged members |
| Y10T 16/5321 | ... | having plural independent adjustments |

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|----------------|-------|---|
| Y10T 16/5322 | | All rectilinear |
| Y10T 16/53225 | | including screw-operated means to move hinged members |
| Y10T 16/5323 | ... | Pivotal adjustment |
| Y10T 16/53235 | .... | including screw-operated means to move hinged members |
| Y10T 16/53238 | ..... | About hinge axis |
| Y10T 16/5324 | ... | including means to move hinged members |
| Y10T 16/53247 | .... | Along or parallel to hinge axis |
| Y10T 16/5325 | ..... | including threaded hinge pin |
| Y10T 16/53253 | .... | Screw-operated |
| Y10T 16/53257 | ..... | to shift plate toward or away from hinged member |
| Y10T 16/5326 | ... | having adjustable spacer between leaf and hinged member [e.g., shim] |
| Y10T 16/5327 | ... | Adjustable along or parallel to hinge axis |
| Y10T 16/5329 | ... | having interdigitated surfaces or slot for hinge-to-member fastener |
| Y10T 16/533 | .. | having cover |
| Y10T 16/5335 | ... | Leaf cover |
| Y10T 16/534 | .. | having clamp for attaching hinge to hinged member |
| Y10T 16/5345 | ... | Circumferential clamp |
| Y10T 16/535 | .. | having means to facilitate assembly and disassembly of hinge sections to join or disjoin hinged members |
| Y10T 16/5353 | ... | Resiliently biased hinge |
| Y10T 16/5355 | .... | having helical spring along hinge axis |
| Y10T 16/5357 | ... | Resiliently biased retaining means |
| Y10T 16/5358 | .... | having discrete latch and spring to slide or pivot latch |
| Y10T 16/5359 | .... | Discrete retaining means for pivotal contacting surfaces |
| Y10T 16/536 | ... | Separation of pivotal contacting surfaces |
| Y10T 16/53605 | .... | having movable or removable connector |
| Y10T 16/53607 | ..... | Pintle removable from remainder of hinge |
| Y10T 16/536075 | ..... | and additional connector for pintle or separate pintle sections |
| Y10T 16/53608 | ..... | Screw-threaded connector |
| Y10T 16/5361 | .... | Axially shifting hinge sections |
| Y10T 16/53613 | ..... | At specific angular orientation of hinge sections |
| Y10T 16/53615 | .... | Hook and pin |
| Y10T 16/5362 | .... | Hook in aperture |
| Y10T 16/53625 | .... | Hook to hook |
| Y10T 16/5363 | ... | and discrete movable or removable connector to fasten one hinge section to another |
| Y10T 16/5367 | ... | by relatively sliding connection [e.g., dovetail] |
| Y10T 16/5369 | .... | including receiving connector attachable to hinged member |
| Y10T 16/537 | .. | having means to reduce friction between hinge parts |
| Y10T 16/5373 | ... | by fluid lubricant |

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|----------------|-------|--|
| Y10T 16/5377 | ... | Ball or roller bearing |
| Y10T 16/5379 | | Circularly distributed balls or rollers |
| Y10T 16/538 | .. | Resiliently biased hinge |
| Y10T 16/5381 | ... | including means to render spring ineffective through all or a portion of swing |
| Y10T 16/53815 | .... | comprising manipulatable element or portion |
| Y10T 16/5382 | ... | Biased from either direction toward neutral position [e.g., double acting] |
| Y10T 16/53822 | .... | Helical spring transverse to hinge axis |
| Y10T 16/53824 | .... | Plural hinge axes [e.g., multiple pintle] |
| Y10T 16/53825 | ..... | and barrels for helical springs on separate axes |
| Y10T 16/53826 | .... | Resiliently biased rolling or sliding cam surface |
| Y10T 16/53828 | .... | by helical spring along hinge axis |
| Y10T 16/5383 | ... | having transverse helical spring or elastic strip |
| Y10T 16/53832 | .... | Plural hinge axes [e.g., multiple pintle] |
| Y10T 16/53833 | ..... | Four or more axes |
| Y10T 16/53834 | .... | to counterbalance weight of hinged member [e.g., closure biased to open position] |
| Y10T 16/53835 | ..... | including pivoted coaxial spring retaining bar |
| Y10T 16/53836 | .... | Over-center spring or linkage travel [e.g., "holdback hinge"] |
| Y10T 16/53838 | .... | having means to hold hinged members against pivotal movement about hinge axis [i.e., catch] |
| Y10T 16/5384 | ... | Over-center spring or linkage travel [e.g., "holdback hinge"] |
| Y10T 16/53843 | .... | Plural hinge axes |
| Y10T 16/53845 | .... | Coil spring having axis along or parallel to hinge axis |
| Y10T 16/53848 | .... | including camming or sliding surface to deflect spring perpendicularly to the hinge axis |
| Y10T 16/5385 | ... | having means to hold hinged members against pivotal movement about hinge axis [e.g., catch] |
| Y10T 16/5386 | ... | having force adjustment |
| Y10T 16/53862 | .... | Rotatable spring-engaging collar |
| Y10T 16/538627 | ..... | having detention aperture or protuberance |
| Y10T 16/538633 | ..... | having tool-receiving aperture |
| Y10T 16/53864 | ... | Plural hinge axes [e.g., multiple pintle] |
| Y10T 16/5387 | ... | having axially biased camming surface |
| Y10T 16/5388 | ... | Coil |
| Y10T 16/53883 | .... | Plural coils |
| Y10T 16/53885 | .... | to counterbalance weight of hinged member [e.g., horizontal closure biased to open position] |
| Y10T 16/53888 | .... | On pintle |
| Y10T 16/5389 | ... | torsion spring |
| Y10T 16/539 | .. | Gravitating hinge having vertical axis |
| Y10T 16/5393 | ... | having lift rod |

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|----------------|-------|---|
| Y10T 16/5395 | ... | having plural spaced hinge axes |
| Y10T 16/5398 | ... | including cam surface and follower |
| Y10T 16/53984 | .... | and rolling element |
| Y10T 16/53985 | ..... | Between opposing surfaces |
| Y10T 16/53987 | ..... | and detent in cam surface |
| Y10T 16/53988 | .... | On axially twisted or helically fluted element |
| Y10T 16/53992 | .... | including means to hold hinged members against pivotal movement |
| Y10T 16/53996 | .... | having aperture for slidably receiving pintle [e.g., camming knuckle] |
| Y10T 16/54 | .. | including means to hold or retard hinged members against pivotal movement [e.g., catch] |
| Y10T 16/5401 | ... | Magnetic |
| Y10T 16/5402 | ... | Resiliently biased catch |
| Y10T 16/54021 | .... | having spring force adjustment |
| Y10T 16/54023 | .... | including toggle linkage |
| Y10T 16/54024 | .... | having discrete manipulatable release means [e.g., lever] |
| Y10T 16/540243 | ..... | including cam or eccentric |
| Y10T 16/540247 | ..... | Sliding release means or lever-actuated sliding catch |
| Y10T 16/54025 | .... | Sliding |
| Y10T 16/540253 | ..... | Movement along or parallel to hinge axis |
| Y10T 16/540254 | ..... | Interdigitated or plural sockets |
| Y10T 16/540255 | ..... | Opposed interdigitated sliding collars on hinge axis |
| Y10T 16/540256 | ..... | and catch receiving socket |
| Y10T 16/540257 | ..... | and catch receiving socket |
| Y10T 16/54026 | .... | Pivoted |
| Y10T 16/54028 | .... | Plural alternately useable detents |
| Y10T 16/54029 | .... | Spring arm |
| Y10T 16/540295 | ..... | Plural opposed arms |
| Y10T 16/5403 | ... | by friction |
| Y10T 16/54033 | .... | Screw-threaded adjustment |
| Y10T 16/54034 | ..... | Along or parallel to hinge axis |
| Y10T 16/540345 | ..... | Threaded pintle |
| Y10T 16/54035 | .... | Cam or wedge actuator |
| Y10T 16/54038 | .... | On hinge pin or between surfaces surrounding hinge axis |
| Y10T 16/5404 | ... | Pivoted |
| Y10T 16/54044 | .... | Plural alternately useable detents |
| Y10T 16/54048 | .... | and sliding |
| Y10T 16/54052 | .... | Serially connected pivoted arms between leaves [e.g., brace] |
| Y10T 16/54056 | .... | About axis along or parallel to hinge axis |
| Y10T 16/5406 | ... | by transversely moving pin in slot |
| Y10T 16/5407 | ... | having discrete manipulatable release means [e.g., lever operated] |

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|---------------|------|--|
| Y10T 16/5408 | ... | by shifting hinged members |
| Y10T 16/54085 | | Along hinge axis |
| Y10T 16/5409 | ... | Sliding |
| Y10T 16/54095 | .... | Along or parallel to hinge axis |
| Y10T 16/541 | .. | including toothed gear |
| Y10T 16/542 | .. | comprising nested open curved portions attached to hinged members |
| Y10T 16/543 | ... | including hinge pin |
| Y10T 16/544 | .. | including transversely moving pin in slot |
| Y10T 16/5443 | ... | Plural noncollinear pins and slots |
| Y10T 16/5444 | .... | Parallel slots |
| Y10T 16/5445 | ... | having pin fixed to pivoted arm or plate |
| Y10T 16/5448 | ... | Hinge pin movable along slot |
| Y10T 16/545 | .. | including sliding surfaces to permit relative translation of hinged members |
| Y10T 16/5453 | ... | and stop or abutment for pivotal movement |
| Y10T 16/5457 | ... | Movement transverse to hinge axis |
| Y10T 16/546 | .. | Three-hinged members |
| Y10T 16/547 | .. | having plural hinge axes [e.g., multiple pintle] |
| Y10T 16/5472 | ... | having transverse or skewed axes |
| Y10T 16/5474 | ... | Connected by serially arranged pivoted links between hinged members |
| Y10T 16/5475 | .... | Plural sets of serially arranged pivoted links |
| Y10T 16/5476 | ... | Four or more axes |
| Y10T 16/5478 | ... | including stop or latch |
| Y10T 16/548 | .. | including laminated leaf |
| Y10T 16/549 | .. | Wire hinge |
| Y10T 16/551 | .. | having stop or abutment |
| Y10T 16/5513 | ... | Adjustable or resilient |
| Y10T 16/5515 | ... | comprising relieved axially opposed relatively rotating surfaces |
| Y10T 16/5518 | ... | comprising platelike bearing portion curved about hinge axis |
| Y10T 16/552 | .. | Hinge axis passes through hinged member [e.g., floor hinge] |
| Y10T 16/5525 | ... | Pintle or pivot concealed in hinged member |
| Y10T 16/553 | .. | including means to retain pintle in hinge [e.g., tamper proof, nonrising pintle, etc.] |
| Y10T 16/5535 | ... | Threaded or slotted pintle or knuckle |
| Y10T 16/554 | .. | including means to fasten leaf to member |
| Y10T 16/5543 | ... | by expandable connector |
| Y10T 16/5547 | ... | Self-penetrating fastener |
| Y10T 16/555 | .. | Specified material |
| Y10T 16/557 | .. | Specific pintle structure |
| Y10T 16/558 | .. | Specific leaf structure |
| Y10T 16/559 | .. | having prongs or cooperating structure on leaf |
| Y10T 16/5595 | ... | Angular leaf sections |

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|---------------|------|--|
| Y10T 16/55963 | | Parallel sections |
| Y10T 16/55975 | | Coplanar sections |
| Y10T 16/55988 | | including planar section perpendicular to hinge axis |
| Y10T 16/56 | . | Closers |
| Y10T 16/568 | .. | Spring and flexible link |
| Y10T 16/577 | .. | Spring and gear |
| Y10T 16/585 | .. | Spring and lever |
| Y10T 16/593 | .. | Spring |
| Y10T 16/595 | ... | Bow |
| Y10T 16/597 | ... | Rubber |
| Y10T 16/599 | ... | torsional |
| Y10T 16/5995 | .... | Coil |
| Y10T 16/60 | ... | Volute |
| Y10T 16/602 | .. | Weight |
| Y10T 16/61 | . | Closure checks |
| Y10T 16/615 | .. | Inertia |
| Y10T 16/62 | .. | Pneumatic |
| Y10T 16/625 | .. | Spring |
| Y10T 16/628 | ... | Rubber |
| Y10T 16/6285 | .... | Rubber cushioned |
| Y10T 16/629 | .... | Multiple or opposed buffer surfaces |
| Y10T 16/6295 | .... | Link type |
| Y10T 16/6298 | . | Sash balances |
| Y10T 16/63 | .. | Cord and counterweight |
| Y10T 16/635 | .. | Sash and cord |
| Y10T 16/64 | .. | Spring |
| Y10T 16/641 | ... | Drum and cord |
| Y10T 16/642 | ... | Friction roller |
| Y10T 16/643 | ... | Lever |
| Y10T 16/644 | ... | Rack and pinion |
| Y10T 16/645 | .. | Rack and pinion |
| Y10T 16/65 | . | Sash-cord fasteners |
| Y10T 16/655 | .. | Bendable |
| Y10T 16/66 | .. | Chain |
| Y10T 16/665 | .. | Clamps |
| Y10T 16/67 | .. | Hooks |
| Y10T 16/675 | .. | Knot |
| Y10T 16/68 | .. | Slack-cord holders |
| Y10T 16/685 | .. | Weight |
| Y10T 16/69 | . | Sash-cord guides |

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|-------------|-----|-------------------------------------|
| Y10T 16/698 | .. | Wheel and casing |
| Y10T 16/706 | .. | Casings |
| Y10T 16/71 | ... | Sheet metal, single piece |
| Y10T 16/714 | .. | Multiple wheel |
| Y10T 16/722 | .. | Sliding |
| Y10T 16/73 | . | Sash weights |
| Y10T 16/743 | .. | Composite |
| Y10T 16/755 | .. | Sectional |
| Y10T 16/767 | .. | Weight and wheel |
| Y10T 16/78 | . | Window-bead fasteners |
| Y10T 16/82 | . | Counterbalance device, per se |
| Y10T 16/84 | .. | Spring |
| Y10T 16/86 | . | Door escutcheon or similar element |
| Y10T 16/90 | . | Paper weight |
| Y10T 16/95 | . | Miscellaneous element or attachment |

Former US Class 24 series

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|-------------------|---------------------------------------|--|
| Y10T 24/00 | Buckles, buttons, clasps, etc. | |
| Y10T 24/10 | . | Miscellaneous |
| Y10T 24/11 | . | Album fasteners |
| Y10T 24/12 | . | Gun band type |
| Y10T 24/13 | . | Article holder attachable to apparel or body |
| Y10T 24/1303 | .. | Chatelaine safety hooks |
| Y10T 24/1306 | .. | Flower |
| Y10T 24/1309 | ... | Pin attached |
| Y10T 24/1312 | .. | Napkin |
| Y10T 24/1315 | ... | Hook |
| Y10T 24/1318 | ... | Neck enclosing |
| Y10T 24/1321 | .. | Pencil |
| Y10T 24/1324 | ... | Clasp attached |
| Y10T 24/1326 | .... | Finger ear, belt attached pencil holder |
| Y10T 24/1329 | .... | Pencil holder with paper clip |
| Y10T 24/1332 | .... | Combined and convertible pencil holder |
| Y10T 24/1335 | .... | Container type pencil holder |
| Y10T 24/1338 | .... | Separate pencil holder and pocket engaging clip |
| Y10T 24/1341 | .... | Sliding jaw pencil holding clip |
| Y10T 24/1344 | .... | Wire pencil holder |
| Y10T 24/1347 | | Flexible shank pencil holder |
| Y10T 24/135 | | with movable catch [e.g., pin pivoted lever, roller, etc.] |

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|--------------|-------|---|
| Y10T 24/1353 | | Pivoted jaw pencil holder |
| Y10T 24/1356 | ... | Pin attached |
| Y10T 24/1359 | ... | Rule holder |
| Y10T 24/1362 | .. | Sleeve holder [e.g., for inner coat] |
| Y10T 24/1365 | .. | Pin attached |
| Y10T 24/1368 | .. | Arm or leg carried holder |
| Y10T 24/1371 | .. | Eyeglass holder including retaining means |
| Y10T 24/1374 | .. | Neck supported holder |
| Y10T 24/1376 | .. | Holder contains pocket engager [e.g., antitheft device, wallet protector] |
| Y10T 24/1379 | .. | Key ring holder |
| Y10T 24/1382 | .. | Receptacle type holder |
| Y10T 24/1385 | ... | Eyeglass or spectacle case |
| Y10T 24/1388 | .. | Open-ended holster type holder |
| Y10T 24/1391 | .. | Article held by clip with spring [e.g., leaf, coil] member |
| Y10T 24/1394 | .. | Article held by clip |
| Y10T 24/1397 | .. | Article held by flexible connector [e.g., chain] |
| Y10T 24/14 | . | Bale and package ties, hose clamps |
| Y10T 24/1402 | .. | Packet holders |
| Y10T 24/1404 | ... | Cord |
| Y10T 24/1406 | ... | Adjustable bands |
| Y10T 24/1408 | ... | Closed loops |
| Y10T 24/141 | ... | Plastic bands |
| Y10T 24/1412 | .. | with tighteners |
| Y10T 24/1414 | ... | Wedge |
| Y10T 24/1416 | ... | Winder |
| Y10T 24/1418 | ... | Self-locking [dead center or snap action] |
| Y10T 24/142 | .... | Adjustable girth |
| Y10T 24/1422 | ..... | Rack bar |
| Y10T 24/1424 | ... | Lever |
| Y10T 24/1427 | ... | Worm and tooth |
| Y10T 24/1429 | .... | Pivotal worm band clamp |
| Y10T 24/1431 | .... | Radial worm band clamp |
| Y10T 24/1433 | ... | Integral thread |
| Y10T 24/1435 | .... | External thread |
| Y10T 24/1437 | ..... | Both ends threaded |
| Y10T 24/1439 | ... | Radial screw |
| Y10T 24/1441 | ... | Tangential screw |
| Y10T 24/1443 | | Adjustable girth |
| Y10T 24/1445 | | Step adjustment |
| Y10T 24/1447 | | Plural separable parts |

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|--------------|-------|--|
| Y10T 24/1449 | | Wire |
| Y10T 24/1451 | | Plural separable parts |
| Y10T 24/1453 | | Pivotal strap parts |
| Y10T 24/1455 | .... | Plural wrap |
| Y10T 24/1457 | .. | Metal bands |
| Y10T 24/1459 | ... | Separate connections |
| Y10T 24/1461 | .... | One piece |
| Y10T 24/1463 | ..... | Sheet metal |
| Y10T 24/1465 | ..... | Buckle band connection |
| Y10T 24/1467 | ..... | Swedged sheet metal band connection |
| Y10T 24/1469 | ..... | End-to-end integral with band connecting means |
| Y10T 24/1471 | .... | Pivoted parts |
| Y10T 24/1473 | .... | Wedging parts |
| Y10T 24/1476 | .... | Wire |
| Y10T 24/1478 | ... | Circumferentially swagged band clamp |
| Y10T 24/148 | ... | End-to-end integral band end connection |
| Y10T 24/1482 | ... | Ratchet and tool tightened band clamp |
| Y10T 24/1484 | ... | Spring closed band clamp |
| Y10T 24/1486 | ... | Screw locked band clamp |
| Y10T 24/1488 | ... | Swedged to lock band ends |
| Y10T 24/149 | .. | Wire |
| Y10T 24/1492 | ... | Separate connections |
| Y10T 24/1494 | .... | Wire |
| Y10T 24/1496 | .. | Wooden bands |
| Y10T 24/1498 | .. | Plastic band |
| Y10T 24/15 | . | Bag fasteners |
| Y10T 24/152 | .. | Swedged bag tie |
| Y10T 24/153 | .. | Plastic band bag tie |
| Y10T 24/155 | .. | Resilient slot bag tie |
| Y10T 24/157 | .. | Twist-to-close bag tie |
| Y10T 24/158 | .. | Slides to lock bag end within housing |
| Y10T 24/16 | . | Belt fasteners |
| Y10T 24/1604 | .. | Tighteners |
| Y10T 24/1608 | .. | Hinged |
| Y10T 24/1612 | ... | Ring connected belt ends |
| Y10T 24/1616 | ... | Bent over flanged ends |
| Y10T 24/162 | ... | Pintle pin connected belt ends |
| Y10T 24/1624 | ... | V and round belts |
| Y10T 24/1628 | ... | Overlapped belt ends |
| Y10T 24/1632 | ... | Sheet metal knuckles, common pintle |

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|--------------|------|--|
| Y10T 24/1636 | ... | Wire knuckles, common pintle |
| Y10T 24/164 | ... | Knuckle integral with belt material |
| Y10T 24/1644 | ... | Multiple pintles interconnected V-belt type |
| Y10T 24/1648 | .. | Lacing |
| Y10T 24/1652 | .. | One piece |
| Y10T 24/1656 | ... | Deflecting prong |
| Y10T 24/166 | .. | Screw clamp |
| Y10T 24/1664 | .. | Splices |
| Y10T 24/1668 | .. | Wire |
| Y10T 24/1672 | .. | Butt connected belt ends |
| Y10T 24/1676 | .. | V, round, trapezoidal belts |
| Y10T 24/168 | .. | Flanged belt ends, connector hold ends |
| Y10T 24/1684 | .. | Lapped ends of endless belts |
| Y10T 24/1688 | .. | Hinged ends of endless belts |
| Y10T 24/1692 | .. | Wire strands reinforce belts |
| Y10T 24/1696 | .. | Hook and loop type fastener and zipper belt end connection |
| Y10T 24/17 | . | Buttoners |
| Y10T 24/18 | . | Cuff holder |
| Y10T 24/181 | .. | Adjustable |
| Y10T 24/183 | .. | Sleeve clasp and button for cuff |
| Y10T 24/184 | .. | Sleeve clasp and clasp for cuff |
| Y10T 24/185 | .. | Sleeve clasp and hook for cuff |
| Y10T 24/186 | .. | Sleeve clasp and pin for cuff |
| Y10T 24/188 | .. | Sleeve pin and button for cuff |
| Y10T 24/189 | .. | Pin fastener |
| Y10T 24/19 | . | Necktie fastener |
| Y10T 24/1903 | .. | Bands |
| Y10T 24/1907 | ... | End-securing pin |
| Y10T 24/191 | ... | Gripping |
| Y10T 24/1914 | ... | Depressors |
| Y10T 24/1917 | .... | Button engaging |
| Y10T 24/1921 | .... | Pin or spur |
| Y10T 24/1924 | .. | Button engaging |
| Y10T 24/1928 | ... | Adjustable |
| Y10T 24/1931 | ... | Cord loop |
| Y10T 24/1934 | ... | Pivoted or sliding jaw |
| Y10T 24/1938 | ... | Pin attached |
| Y10T 24/1941 | .. | Collar button combined |
| Y10T 24/1945 | ... | Clasp attached |
| Y10T 24/1948 | ... | Pin attached |

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|--------------|------|---|
| Y10T 24/1952 | ... | Separable fastener |
| Y10T 24/1955 | .. | Tie, attached hook |
| Y10T 24/1959 | .. | Magnetic, adhesive, or snap type fastener connects tie to shirt |
| Y10T 24/1962 | .. | Tie engaging loop with shirt engaging fastener |
| Y10T 24/1966 | .. | Tie knot engaging and collar attaching |
| Y10T 24/1969 | .. | Tie clip and shirt clasp attaching |
| Y10T 24/1972 | .. | Tie clip and fastening pin |
| Y10T 24/1976 | .. | Tie pin with shirt fastener |
| Y10T 24/1979 | .. | Tie stiffener with shirt fastener |
| Y10T 24/1983 | .. | with pivotal jaws having spring means |
| Y10T 24/1986 | .. | Slider |
| Y10T 24/199 | .. | Ornamental |
| Y10T 24/1993 | ... | Key shaped |
| Y10T 24/1997 | .. | Resilient clasp |
| Y10T 24/20 | . | Paper fastener |
| Y10T 24/201 | .. | with screw threaded or notch engaging securing means |
| Y10T 24/202 | .. | Resiliently biased |
| Y10T 24/203 | ... | including means to open or close fastener |
| Y10T 24/204 | .... | Pivotaly mounted on pintle |
| Y10T 24/205 | ... | One piece |
| Y10T 24/206 | .... | Mounted on support means |
| Y10T 24/207 | .. | Adhesive |
| Y10T 24/208 | .. | Corner fastened |
| Y10T 24/209 | .. | Paper-penetrating |
| Y10T 24/21 | . | Strap tighteners |
| Y10T 24/2102 | .. | Cam lever and loop |
| Y10T 24/2104 | ... | Step adjusted |
| Y10T 24/2106 | .... | Ski boot and garment fasteners |
| Y10T 24/2108 | .... | Split ring tightener |
| Y10T 24/2109 | .... | Chain and rope tighteners |
| Y10T 24/2111 | .... | Tire chain tighteners |
| Y10T 24/2113 | .... | Strap tighteners |
| Y10T 24/2115 | .... | Jewelry |
| Y10T 24/2117 | ... | Strap tighteners |
| Y10T 24/2119 | ... | Tie chain tighteners |
| Y10T 24/2121 | ... | Cargo tie down |
| Y10T 24/2123 | ... | Cover fasteners |
| Y10T 24/2125 | ... | Chain tighteners |
| Y10T 24/2126 | ... | Strap tightener machine |
| Y10T 24/2128 | ... | toggle actuated sliding jaw |

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|--------------|-----|--|
| Y10T 24/213 | ... | Jewelry |
| Y10T 24/2132 | ... | Split ring with tightener |
| Y10T 24/2134 | ... | Concrete form panels |
| Y10T 24/2136 | ... | Seat belt buckles |
| Y10T 24/2138 | ... | Chain, cable, wire tighteners, and anchors |
| Y10T 24/214 | ... | Envelope fasteners |
| Y10T 24/2142 | ... | Ski boot and garment fasteners |
| Y10T 24/2143 | .. | Strap-attached folding lever |
| Y10T 24/2145 | ... | toggle latch |
| Y10T 24/2147 | ... | Strap tightener |
| Y10T 24/2149 | ... | Tire antiskid strap tightener |
| Y10T 24/2151 | ... | Seat belts |
| Y10T 24/2153 | ... | Split ring fasteners |
| Y10T 24/2155 | ... | Jewelry-watch straps |
| Y10T 24/2157 | ... | Tie downs [covers, articles] |
| Y10T 24/2158 | ... | Cable, wire, rope tightener |
| Y10T 24/216 | ... | Ski boot and garment fasteners |
| Y10T 24/2162 | ... | Dress hem raisers |
| Y10T 24/2164 | .. | Midline |
| Y10T 24/2166 | .. | Jewelry |
| Y10T 24/2168 | .. | Seat belt |
| Y10T 24/217 | .. | Accordion straps |
| Y10T 24/2172 | .. | Parallel poles clamp |
| Y10T 24/2174 | .. | form panels for walls |
| Y10T 24/2175 | .. | Cargo tie down |
| Y10T 24/2177 | .. | Chain tighteners |
| Y10T 24/2179 | .. | Split band with tightener |
| Y10T 24/2181 | .. | Tire chain tighteners |
| Y10T 24/2183 | .. | Ski, boot, and shoe fasteners |
| Y10T 24/2185 | .. | Fixed jaw with sliding or pivoted jaw |
| Y10T 24/2187 | .. | Rack and pinion and circular tighteners |
| Y10T 24/2189 | .. | Circular flange container clamp |
| Y10T 24/2191 | .. | Strap stretching tools, tighteners, and sealers |
| Y10T 24/2192 | .. | Buckle type |
| Y10T 24/2194 | .. | Integral piece |
| Y10T 24/2196 | .. | toggle |
| Y10T 24/2198 | .. | Stocking top |
| Y10T 24/22 | . | Trouser guards, clips, straps [e.g., above shoetops] |
| Y10T 24/23 | . | Bedclothes holders |
| Y10T 24/24 | . | T-head nongripping, fabric engaging type |

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|--------------|--|
| Y10T 24/25 | . Zipper or required component thereof |
| Y10T 24/2502 | .. Plural zippers |
| Y10T 24/2504 | ... Zipper chain |
| Y10T 24/2505 | ... having surface sealing structure |
| Y10T 24/2507 | .. having slider or interconnected sliders with access opening for diverse-art member |
| Y10T 24/2509 | .. Plural independently movable sliders |
| Y10T 24/2511 | .. with distinct, stationary means for anchoring slider |
| Y10T 24/2513 | ... and for aligning surfaces or obstructing slider movement |
| Y10T 24/2514 | .. with distinct member for sealing surfaces |
| Y10T 24/2516 | .. with distinct separable-fastener |
| Y10T 24/2518 | .. having coiled or bent continuous wire interlocking surface |
| Y10T 24/252 | ... with stringer tape interwoven or knitted therewith |
| Y10T 24/2521 | ... with stringer tape having specific weave or knit pattern |
| Y10T 24/2523 | ... with core encircled by coils or bends |
| Y10T 24/2525 | ... with mounting portion having structural formations complementary to stitching |
| Y10T 24/2527 | ... Attached by stitching |
| Y10T 24/2529 | String or stringer tape having distinctive property [e.g., heat sensitive] |
| Y10T 24/253 | ... with stringer tape having distinctive property [e.g., heat sensitive] |
| Y10T 24/2532 | .. having interlocking surface with continuous cross section |
| Y10T 24/2534 | ... Opposed interlocking surface having dissimilar cross section |
| Y10T 24/2536 | .. having interlocking surface formed from single member with varying cross section |
| Y10T 24/2538 | ... Opposed surface having dissimilar cross section |
| Y10T 24/2539 | .. Interlocking surface constructed from plural elements in series |
| Y10T 24/2541 | ... having either noninterlocking element in, interrupted, or unequal length series |
| Y10T 24/2543 | ... with element structural feature unrelated to interlocking or securing portion |
| Y10T 24/2545 | ... Dissimilar opposed elements |
| Y10T 24/2546 | ... Wire element |
| Y10T 24/2548 | ... Preattached to mounting cord |
| Y10T 24/255 | ... having interlocking portion with specific shape |
| Y10T 24/2552 | including symmetrical formations on opposite walls for engaging mating elements |
| Y10T 24/2554 | including complementary formations on opposite walls for engaging mating elements |
| Y10T 24/2555 | Mating elements having reversed orientation of formations |
| Y10T 24/2557 | ... having mounting portion with specific shape or structure |
| Y10T 24/2559 | including embracing jaws |
| Y10T 24/2561 | .. Slider having specific configuration, construction, adaptation, or material |
| Y10T 24/2563 | ... including relatively movable spaced wings [i.e., restraining walls] |
| Y10T 24/2564 | ... including converging channel and relatively movable separator island |
| Y10T 24/2566 | ... including position locking-means attached thereto |

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|--------------|-------|---|
| Y10T 24/2568 | | Protrusion on pull tab directly engaging interlocking surfaces |
| Y10T 24/257 | .... | having surface engaging element shifted by reorientation of pull tab |
| Y10T 24/2571 | ..... | Resilient or spring biased element |
| Y10T 24/2573 | ..... | Selectively shifted by either of two pull tabs |
| Y10T 24/2575 | ..... | with relatively movable link |
| Y10T 24/2577 | ..... | Biased by distinct spring |
| Y10T 24/2579 | ..... | having aperture cooperating with guide post |
| Y10T 24/258 | ... | including means preventing bunching of structure-to-be-secured or stringer |
| Y10T 24/2582 | ... | having specific contour or arrangement of converging channel, separator island, or wing |
| Y10T 24/2584 | .... | Spaced segments of each wall of channel supported by different wings |
| Y10T 24/2586 | ... | including pull tab attaching means |
| Y10T 24/2588 | ... | including means for attaching components of slider together |
| Y10T 24/2589 | ... | with ornamental slider |
| Y10T 24/2591 | .. | with means for concealing surfaces |
| Y10T 24/2593 | .. | including complementary, aligning means attached to ends of interlocking surfaces |
| Y10T 24/2595 | ... | having specific mounting connection or reinforcing structure at connection |
| Y10T 24/2596 | .. | including means attaching interlocking surfaces together |
| Y10T 24/2598 | .. | including means for obstructing movement of slider |
| Y10T 24/26 | . | Slit closing means including guides on opposite edges of slit and slidable bridging component |
| Y10T 24/262 | .. | with hand-actuated lever for shifting bridging component |
| Y10T 24/264 | .. | including structure linking and allowing variations in separation between opposite-guide-contacting portions of component |
| Y10T 24/266 | .. | having bridging components attached in series along carrying element |
| Y10T 24/268 | .. | having separate, independently movable, bridging components |
| Y10T 24/27 | . | including readily dissociable fastener having numerous, protruding, unitary filaments randomly interlocking with, and simultaneously moving towards, mating structure [e.g., hook-loop type fastener] |
| Y10T 24/2708 | .. | Combined with diverse fastener |
| Y10T 24/2717 | .. | with distinct structure for sealing securement joint |
| Y10T 24/2725 | .. | with feature facilitating, enhancing, or causing attachment of filament mounting surface to support therefor |
| Y10T 24/2733 | .. | having filaments formed from continuous element interwoven or knitted into distinct, mounting surface fabric |
| Y10T 24/2742 | .. | having filaments of varied shape or size on same mounting surface |
| Y10T 24/275 | .. | with feature facilitating or causing attachment of filaments to mounting surface |
| Y10T 24/2758 | ... | Thermal or adhesive |
| Y10T 24/2767 | .. | having several, repeating, interlocking formations along length of filaments |
| Y10T 24/2775 | .. | having opposed structure formed from distinct filaments of diverse shape to those mating therewith |
| Y10T 24/2783 | .. | having filaments constructed from coated, laminated, or composite material |

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|--------------|-------|---|
| Y10T 24/2792 | .. | having mounting surface and filaments constructed from common piece of material |
| Y10T 24/28 | . | Freight container to freight container fastener |
| Y10T 24/29 | . | Drum or can spacer fastener |
| Y10T 24/30 | . | Trim molding fastener |
| Y10T 24/301 | .. | having externally threaded attaching means |
| Y10T 24/302 | ... | and laterally extending biasing appendage |
| Y10T 24/303 | .. | having laterally extending biasing appendage |
| Y10T 24/304 | .. | Resilient metal type |
| Y10T 24/306 | ... | Strip formed |
| Y10T 24/307 | ... | Sheet metal formed |
| Y10T 24/308 | ... | Wire formed |
| Y10T 24/309 | .. | Plastic type |
| Y10T 24/31 | . | Plural fasteners having intermediate flaccid connector |
| Y10T 24/312 | .. | Chain connector |
| Y10T 24/314 | .. | Elastic connector |
| Y10T 24/316 | ... | Strap connector |
| Y10T 24/318 | .. | Strap connector |
| Y10T 24/32 | . | having magnetic fastener |
| Y10T 24/33 | . | having adhesive fastener |
| Y10T 24/34 | . | Combined diverse multipart fasteners |
| Y10T 24/3401 | .. | Buckle |
| Y10T 24/3403 | ... | and buckles |
| Y10T 24/3404 | .... | having separate material adjustment means |
| Y10T 24/3405 | .... | having separate disconnect means |
| Y10T 24/3407 | ..... | Pivotal lever type |
| Y10T 24/3408 | .... | having disconnect structure |
| Y10T 24/3409 | ..... | Resilient cooperating means |
| Y10T 24/3411 | .... | and pin |
| Y10T 24/3412 | .... | Crossed belt accommodating |
| Y10T 24/3413 | ... | and clasp |
| Y10T 24/3415 | ... | and pin |
| Y10T 24/3416 | ... | and hook |
| Y10T 24/3417 | .... | having disconnect means |
| Y10T 24/3419 | .... | having penetrating prong |
| Y10T 24/342 | .... | Buckle having plural receiving slots |
| Y10T 24/3421 | ... | including a button fastening element |
| Y10T 24/3423 | ... | and separable fastening means for attached fastener |
| Y10T 24/3424 | | Snap fastener |
| Y10T 24/3425 | ... | having roller means |
| Y10T 24/3427 | .. | Clasp |

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|--------------|-------|--|
| Y10T 24/3428 | ... | having pivoted members |
| Y10T 24/3429 | | Cam type member |
| Y10T 24/3431 | | Plural clasps |
| Y10T 24/3432 | ..... | and toggle operator |
| Y10T 24/3433 | ..... | Spring biased |
| Y10T 24/3435 | ..... | Coil |
| Y10T 24/3436 | ..... | and cam |
| Y10T 24/3437 | .... | Coil spring biased |
| Y10T 24/3439 | ... | Plural clasps |
| Y10T 24/344 | .... | Resilient type clasp |
| Y10T 24/3441 | ..... | and cam |
| Y10T 24/3443 | ..... | Spring biased jaw |
| Y10T 24/3444 | ..... | Circular work engageable |
| Y10T 24/3445 | ..... | and pin attachment |
| Y10T 24/3447 | ..... | and disconnect means |
| Y10T 24/3448 | ... | including a button fastening element |
| Y10T 24/3449 | ... | and hook |
| Y10T 24/3451 | .... | having intermediate connector allowing movement |
| Y10T 24/3452 | ..... | and adjustment means |
| Y10T 24/3453 | .... | having gripping configuration on clasp jaw |
| Y10T 24/3455 | ..... | Penetrating type |
| Y10T 24/3456 | .... | having cam |
| Y10T 24/3457 | .... | having separable jaws |
| Y10T 24/3459 | ... | and penetrating prong |
| Y10T 24/346 | ... | and pin |
| Y10T 24/3461 | .... | having separate pin loss prevention means |
| Y10T 24/3463 | ..... | Pin coextensive, coplanar, and contiguous with clasp jaw |
| Y10T 24/3464 | .... | Pin coextensive, coplanar, and contiguous with clasp jaw |
| Y10T 24/3465 | .... | Pin forms part of clasp jaw |
| Y10T 24/3467 | .. | Pin |
| Y10T 24/3468 | ... | and pin |
| Y10T 24/3469 | .... | and disconnect means |
| Y10T 24/3471 | ..... | Hook and eye type |
| Y10T 24/3472 | .... | and hook |
| Y10T 24/3473 | ..... | having connector allowing movement |
| Y10T 24/3475 | .... | having intermediate connector allowing movement |
| Y10T 24/3476 | ... | and hook |
| Y10T 24/3477 | | having intermediate connector allowing movement |
| Y10T 24/3479 | | and adjustment means |
| Y10T 24/348 | | Hook having locking means |

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| Y10T 24/3481 | ... | including a button fastening element |
| Y10T 24/3483 | ... | and penetrating prong |
| Y10T 24/3484 | .. | Hook |
| Y10T 24/3485 | ... | and hook |
| Y10T 24/3487 | .... | having biasing spring |
| Y10T 24/3488 | .... | Separately connected |
| Y10T 24/3489 | .... | having securing means |
| Y10T 24/3491 | ..... | Sliding |
| Y10T 24/3492 | ..... | Snap type |
| Y10T 24/3493 | ..... | Pivoted |
| Y10T 24/3495 | ... | having penetrating prong |
| Y10T 24/3496 | ... | including a button fastening element |
| Y10T 24/3497 | .. | Button fastening element including another fastener element |
| Y10T 24/3499 | .. | Penetrating prong |
| Y10T 24/35 | . | Interchangeable button loop and pin |
| Y10T 24/36 | . | Button with fastener |
| Y10T 24/3602 | .. | Loss-preventing devices |
| Y10T 24/3604 | .. | Adjustable |
| Y10T 24/3606 | .. | Cloth shanks and covers |
| Y10T 24/3609 | .. | Multiple attachment |
| Y10T 24/3611 | .. | Deflecting prong or rivet |
| Y10T 24/3613 | ... | Anvil or plate |
| Y10T 24/3615 | ... | Integral |
| Y10T 24/3617 | .. | Hinged leaf |
| Y10T 24/3619 | ... | Axially rotating |
| Y10T 24/3621 | ... | Double |
| Y10T 24/3623 | ... | Sliding |
| Y10T 24/3626 | .. | Sliding bar |
| Y10T 24/3628 | .. | Integral or rigid stud |
| Y10T 24/363 | ... | Bent sheet metal [integral] |
| Y10T 24/3632 | .. | Link |
| Y10T 24/3634 | ... | Integral rubber button, extendable shank |
| Y10T 24/3636 | ... | Extendably connected |
| Y10T 24/3638 | ... | Pivoted leaf |
| Y10T 24/364 | ... | Releasably locked |
| Y10T 24/3643 | ... | French cuff |
| Y10T 24/3645 | ... | Tufting |
| Y10T 24/3647 | ... | Integral piece |
| Y10T 24/3649 | .. | Pin attached |
| Y10T 24/3651 | .. | Separable |

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|--------------|-------|---|
| Y10T 24/3653 | ... | Screw |
| Y10T 24/3655 | ... | Spring |
| Y10T 24/3657 | | Resilient head |
| Y10T 24/366 | | Resilient socket |
| Y10T 24/3662 | .... | Rotating head |
| Y10T 24/3664 | .... | with operating devices |
| Y10T 24/3666 | .. | Separate thread bar |
| Y10T 24/3668 | .. | Spiral fastener |
| Y10T 24/367 | .. | Covers |
| Y10T 24/3672 | ... | Metal or plastic caps |
| Y10T 24/3674 | .. | Pads |
| Y10T 24/3677 | .. | Flexible button |
| Y10T 24/3679 | .. | Swivel button |
| Y10T 24/3681 | .. | Tufting type |
| Y10T 24/3683 | .. | Button with cavity for friction grip fastener |
| Y10T 24/3685 | .. | Button with shank for friction grip fastener |
| Y10T 24/3687 | .. | Heat or adhesive secured type |
| Y10T 24/3689 | .. | Thread or wire through apertured button |
| Y10T 24/3691 | .. | Eye shank type button |
| Y10T 24/3694 | .. | Ornamental type |
| Y10T 24/3696 | .. | for cuff or collar |
| Y10T 24/3698 | .. | Fabric embracing |
| Y10T 24/37 | . | Drawstring, laced-fastener, or separate essential cooperating device therefor |
| Y10T 24/3703 | .. | Includes separate device for holding drawn portion of lacing |
| Y10T 24/3705 | ... | Device engages tie in lacing |
| Y10T 24/3708 | .... | and fully covers tie |
| Y10T 24/3711 | ... | Device engages element or formation on lacing |
| Y10T 24/3713 | ... | having relatively movable holding components or surfaces |
| Y10T 24/3716 | .... | with pivotal connection therebetween |
| Y10T 24/3718 | .... | with integral resilient linking structure therebetween |
| Y10T 24/3721 | ..... | formed from wire |
| Y10T 24/3724 | ... | having lacing wound thereabout or wedged therein |
| Y10T 24/3726 | .. | with holding means fixedly mounted on lacing |
| Y10T 24/3729 | ... | and forming lacing tips |
| Y10T 24/3732 | .. | Includes lacing holding structure within directing means therefor |
| Y10T 24/3734 | .. | having diverse shaped directing means for lacing |
| Y10T 24/3737 | .. | having lacing directing means in particular pattern |
| Y10T 24/3739 | .. | Includes lacing guiding roller within directing means |
| Y10T 24/3742 | .. | having eyelet type directing means |
| Y10T 24/3745 | ... | with permanently deformed mounting structure |

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|--------------|------|--|
| Y10T 24/3747 | | Mounting structure formed from different material than directing passage |
| Y10T 24/375 | .. | having hook shaped directing means |
| Y10T 24/3753 | ... | and movable component or surface for closing throat |
| Y10T 24/3755 | ... | Mounted by structure allowing bodily movement thereof |
| Y10T 24/3758 | ... | formed from wire |
| Y10T 24/3761 | ... | with mounting structure formed from different material |
| Y10T 24/3763 | ... | with permanently deformed mounting structure |
| Y10T 24/3766 | .... | Expanding stud |
| Y10T 24/3768 | .. | having loop or sleeve shaped directing means |
| Y10T 24/3771 | ... | Entirely formed from flaccid material |
| Y10T 24/3774 | ... | Mounted by structure allowing bodily movement thereof |
| Y10T 24/3776 | ... | formed from wire |
| Y10T 24/3779 | ... | with permanently deformed mounting structure |
| Y10T 24/3782 | .... | Loop or sleeve closed when mounted |
| Y10T 24/3784 | .... | Expanding stud |
| Y10T 24/3787 | .. | having elastic segment in lacing |
| Y10T 24/3789 | .. | having means covering tip of lacing |
| Y10T 24/3792 | ... | Tasseled |
| Y10T 24/3795 | ... | with plural components |
| Y10T 24/3797 | ... | with permanently deformed mounting structure |
| Y10T 24/38 | . | Strap cable or pipe button |
| Y10T 24/39 | . | Cord and rope holders |
| Y10T 24/3902 | .. | Chain |
| Y10T 24/3904 | ... | Bead chain fasteners |
| Y10T 24/3907 | .. | Sheathed strand |
| Y10T 24/3909 | .. | Plural-strand cord or rope |
| Y10T 24/3911 | .. | Friction disk |
| Y10T 24/3913 | .. | Knot engaging |
| Y10T 24/3916 | .. | One-piece |
| Y10T 24/3918 | ... | Wedge slot |
| Y10T 24/392 | ... | Wire |
| Y10T 24/3922 | .... | Cord runs through center of coil |
| Y10T 24/3924 | ... | Sheet material |
| Y10T 24/3927 | ... | Slack adjuster |
| Y10T 24/3929 | ... | Rubber |
| Y10T 24/3931 | ... | Wire |
| Y10T 24/3933 | ... | Swagged, deformable |
| Y10T 24/3936 | .. | Pivoted part |
| Y10T 24/3938 | ... | Lever tension |
| Y10T 24/394 | ... | Cam lever |

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|--------------|------|--|
| Y10T 24/3942 | | Laterally shifted rope |
| Y10T 24/3944 | | Cam engaging or disengaging |
| Y10T 24/3947 | .... | Fixed and movable jaws, movable jaw pulled |
| Y10T 24/3949 | .... | Link-connected parallel jaws |
| Y10T 24/3951 | .... | Dual cam |
| Y10T 24/3953 | ... | Pivotal means with plate aperture |
| Y10T 24/3956 | ... | Jaws locked together by cam, wedge, lever, or screw |
| Y10T 24/3958 | .. | Screw clamp |
| Y10T 24/396 | ... | Screw clamp with snubber |
| Y10T 24/3962 | ... | Tangential bolt |
| Y10T 24/3964 | ... | J-shaped bolt |
| Y10T 24/3967 | ... | Bolt perpendicular to cable axis |
| Y10T 24/3969 | .. | Sliding part or wedge |
| Y10T 24/3971 | ... | Rope looped about movable member |
| Y10T 24/3973 | ... | Rope clamped between cone and socket |
| Y10T 24/3976 | ... | Sliding ball |
| Y10T 24/3978 | ... | Screw actuated |
| Y10T 24/398 | .. | Bendable, ductible |
| Y10T 24/3982 | .. | Safety release |
| Y10T 24/3984 | .. | Alignable aperture and spring pressed moving element |
| Y10T 24/3987 | .. | Loop, adjustable |
| Y10T 24/3989 | .. | Snubbers, cleats by dielectric loss |
| Y10T 24/3991 | .. | Loop engaging |
| Y10T 24/3993 | .. | Ball or roller |
| Y10T 24/3996 | .. | Sliding wedge |
| Y10T 24/3998 | .. | Helical preform |
| Y10T 24/40 | . | Buckles |
| Y10T 24/4002 | .. | Harness |
| Y10T 24/4005 | ... | Combined buckles and snap hooks |
| Y10T 24/4007 | ... | Lock |
| Y10T 24/4009 | .... | Key |
| Y10T 24/4012 | ... | Clamping |
| Y10T 24/4014 | .... | One-piece |
| Y10T 24/4016 | .... | Pivoted part or lever |
| Y10T 24/4019 | .... | Sliding part or wedge |
| Y10T 24/4021 | ... | Cross bails |
| Y10T 24/4023 | .... | Pivoted stud plate |
| Y10T 24/4026 | | Rigid stud |
| Y10T 24/4028 | ... | Penetrating tongue |
| Y10T 24/403 | | Guarded |

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|---------------|-------|--|
| Y10T 24/4033 | | One-piece |
| Y10T 24/4035 | | Multiple |
| Y10T 24/4037 | | Pivoted |
| Y10T 24/404 | | Lever actuated |
| Y10T 24/4042 | ..... | Stud |
| Y10T 24/4044 | .... | Sliding part or wedge |
| Y10T 24/4047 | ... | Strap loops and attaching devices |
| Y10T 24/4049 | ... | Loop shields |
| Y10T 24/4051 | .. | Garment shielded |
| Y10T 24/4053 | .. | Combined pressure bar and guard |
| Y10T 24/4056 | ... | Hook attached |
| Y10T 24/4058 | .. | Penetrating prong |
| Y10T 24/406 | ... | One-piece |
| Y10T 24/4063 | .... | Hook attached |
| Y10T 24/4065 | ... | Pivoted |
| Y10T 24/4067 | .... | Hook attached |
| Y10T 24/407 | ... | Slide |
| Y10T 24/4072 | .. | Pivoted lever |
| Y10T 24/4074 | ... | Hook attached |
| Y10T 24/4077 | ... | Looped strap |
| Y10T 24/4079 | .. | Sliding part of wedge |
| Y10T 24/4081 | ... | Hook attached |
| Y10T 24/4084 | ... | Looped strap |
| Y10T 24/4086 | .. | Looped strap |
| Y10T 24/4088 | .. | One-piece |
| Y10T 24/4091 | ... | Hook attached |
| Y10T 24/4093 | ... | Looped strap |
| Y10T 24/4095 | .. | Fabric covered |
| Y10T 24/4098 | .. | Ornamental and/or object supported |
| Y10T 24/41 | . | Pierced earring fastener |
| Y10T 24/42 | . | Independent, headed, aperture pass-through fastener |
| Y10T 24/43 | . | Fastener with revolving component wrapping structure-to-be-secured about fastener |
| Y10T 24/44 | . | Clasp, clip, support-clamp, or required component thereof |
| Y10T 24/44009 | .. | Gripping member adapted for tool actuation or release |
| Y10T 24/44017 | .. | with specific mounting means for attaching to rigid or semirigid supporting structure or structure-to-be-secured |
| Y10T 24/44026 | ... | for cooperating with aperture in supporting structure or structure-to-be-secured |
| Y10T 24/44034 | .. | Dissociable gripping members |
| Y10T 24/44043 | ... | Channel and inserted bar |
| Y10T 24/44051 | | having operator or locking means |

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|---------------|-------|---|
| Y10T 24/4406 | | Resilient channel or bar |
| Y10T 24/44068 | .. | having gripping member actuated by fluid force |
| Y10T 24/44077 | .. | having inserted and receiving interlocking members connected by bendable, nonbiasing strap |
| Y10T 24/44085 | ... | Discrete flaccid strap |
| Y10T 24/44094 | .... | with distinct means for preventing separation of members |
| Y10T 24/44103 | ..... | Slidably mounted |
| Y10T 24/44111 | .... | with separate flaccid flap or pocket for protecting structure-to-be-secured |
| Y10T 24/4412 | .... | with separate, cavity-blocking gate on receiving member |
| Y10T 24/44128 | .... | Resilient inserted or receiving member |
| Y10T 24/44137 | ..... | Inserted or receiving member substantially covered or coated for protection or to promote gripping |
| Y10T 24/44145 | ..... | Resilient inserted member |
| Y10T 24/44154 | ..... | having engaging face formed from nonmetallic material |
| Y10T 24/44162 | ..... | having head and neck type engaging face |
| Y10T 24/44171 | ..... | having internal supporting or reinforcing element |
| Y10T 24/44179 | ..... | Circular head or neck |
| Y10T 24/44188 | .... | having wedge shaped, inserted and receiving members |
| Y10T 24/44197 | .... | with specific means for attaching to flaccid strap or supporting strap |
| Y10T 24/44205 | ..... | On the inserted member |
| Y10T 24/44214 | .... | having necked button sliding along length of closed, variable width loop |
| Y10T 24/44222 | .. | having flaccid gripping member |
| Y10T 24/44231 | ... | formed from elastic material |
| Y10T 24/44239 | .. | Encircling gripping member including semirigid band and operator for tightening |
| Y10T 24/44248 | .. | Encircling gripping member including semirigid band and means for adjusting girth |
| Y10T 24/44256 | .. | with specifically shaped, nongripping, rigid structure for connecting independently operable clasps, clips, or support-clamps |
| Y10T 24/44265 | .. | Gripping member face integral with or rigidly affixed to screw-driving portion |
| Y10T 24/44274 | .. | having either discrete flaccid or thin, nonbiasing, integral, connecting hinge |
| Y10T 24/44282 | .. | having equally spaced or continual gripping faces revolving about central axis |
| Y10T 24/44291 | .. | including pivoted gripping member |
| Y10T 24/44299 | ... | Pivoted member also slides |
| Y10T 24/44308 | .... | Tapered face |
| Y10T 24/44316 | ... | Pivoting gripping member either supports or coacts with sliding engaging face |
| Y10T 24/44325 | ... | having three or more pivotally connected gripping members |
| Y10T 24/44333 | ... | having toggle operator for moving |
| Y10T 24/44342 | ... | having rigid linking arm pivotally connected to each gripping member |
| Y10T 24/4435 | .... | with extended lever portion |
| Y10T 24/44359 | ..... | having lever end modified for attachment to support |
| Y10T 24/44368 | ... | Pivoted gripping member applies camming force |
| Y10T 24/44376 | ... | Spring or resiliently biased about pivot |

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|---------------|-------|---|
| Y10T 24/44385 | | Distinct spring |
| Y10T 24/44393 | | Attached solely by spring |
| Y10T 24/44402 | | with operator for moving pivoted member |
| Y10T 24/4441 | ..... | Camming or wedging element |
| Y10T 24/44419 | ..... | Pivoted or rotated element |
| Y10T 24/44427 | ..... | with position locking-means for gripping members |
| Y10T 24/44436 | ..... | including pivoted arm |
| Y10T 24/44444 | ..... | having specific surface material or irregularity on or along engaging face |
| Y10T 24/44453 | ..... | having specific handle structure |
| Y10T 24/44462 | ..... | Coil spring |
| Y10T 24/4447 | ..... | having coil portion coaxial or parallel with pivotal axis |
| Y10T 24/44479 | ..... | Flat or leaf spring |
| Y10T 24/44487 | ... | Closed by gravity or weight of structure-to-be-secured |
| Y10T 24/44496 | ... | with operator means for moving pivoted member |
| Y10T 24/44504 | .... | Threaded cylindrical rod and mating cavity |
| Y10T 24/44513 | .... | Camming or wedging element |
| Y10T 24/44521 | ..... | Pivoted or rotated element |
| Y10T 24/4453 | ... | with position locking-means for gripping members |
| Y10T 24/44538 | .... | Integral locking-means |
| Y10T 24/44547 | ... | having inserted and receiving interlocking engaging faces |
| Y10T 24/44556 | .... | Resilient gripping member |
| Y10T 24/44564 | ... | having specific surface material or irregularity on or along engaging face |
| Y10T 24/44573 | .. | including track or way guided and retained gripping member |
| Y10T 24/44581 | ... | Biased by distinct spring |
| Y10T 24/4459 | ... | with operator for moving guided member |
| Y10T 24/44598 | .... | Threaded cylindrical rod and mating cavity |
| Y10T 24/44607 | ... | Track or way oblique to path of gripping member |
| Y10T 24/44615 | ... | with position locking-means for gripping members |
| Y10T 24/44624 | .... | Integral locking-means |
| Y10T 24/44632 | ... | with specific mounting means for attaching to flaccid supporting structure or structure-to-be-secured |
| Y10T 24/44641 | .. | having gripping member formed from, biased by, or mounted on resilient member |
| Y10T 24/4465 | ... | Integrally combined, independently operable, diverse clasps, clips, or support-clamps |
| Y10T 24/44658 | ... | with specific means for mounting to flaccid supporting structure or structure-to-be-secured |
| Y10T 24/44667 | .... | Mounting means made entirely from integral wire portion of resilient gripping member |
| Y10T 24/44675 | ..... | Wire coiled about flaccid supporting structure |
| Y10T 24/44684 | ... | with operator for moving biased engaging face |
| Y10T 24/44692 | | Camming or wedging element |

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|---------------|-------|--|
| Y10T 24/44701 | | Encircling sleeve type element |
| Y10T 24/44709 | | Pivoted or rotated element |
| Y10T 24/44718 | ..... | Element pivots or rotates in plane parallel to plane bisecting opposed engaging faces |
| Y10T 24/44726 | ..... | Elongated element with pivot between cam and handle portions |
| Y10T 24/44735 | ..... | for moving engaging face of U-shaped gripping member |
| Y10T 24/44744 | ... | with position locking-means for engaging faces |
| Y10T 24/44752 | .... | Integral locking-means |
| Y10T 24/44761 | .... | Pivoted lock member |
| Y10T 24/44769 | ... | Opposed engaging faces on gripping member formed from single piece of resilient material |
| Y10T 24/44778 | .... | Piece totally forms clasp, clip, or support-clamp and has shaped, wirelike, or bandlike configuration with uniform cross section throughout its length |
| Y10T 24/44786 | ..... | Opposed faces located in and bias towards common plane in nonuse position |
| Y10T 24/44795 | ..... | Resilient gripping member having tightly twisted portion |
| Y10T 24/44803 | ..... | Resilient gripping member having coiled portion |
| Y10T 24/44812 | ..... | Convolutions of coil form faces |
| Y10T 24/44821 | ..... | Relatively movable segments of resilient gripping member contact and cross in nonuse position |
| Y10T 24/44829 | ..... | Segments form opposed engaging faces |
| Y10T 24/44838 | ..... | having specific handle structure |
| Y10T 24/44846 | ..... | having specific handle structure |
| Y10T 24/44855 | ..... | Terminal end of resilient member having engagement or disengagement enhancing structural modifications |
| Y10T 24/44863 | ..... | having specific surface irregularity on or along engaging face |
| Y10T 24/44872 | .... | having specific handle structure |
| Y10T 24/4488 | ..... | Movably attached to gripping member |
| Y10T 24/44889 | .... | Interlocking faces |
| Y10T 24/44897 | .... | with reinforcing member |
| Y10T 24/44906 | .... | having specific surface irregularity on or along engaging face |
| Y10T 24/44915 | ..... | Corrugated or toothed face |
| Y10T 24/44923 | .... | Clasp, clip, or support-clamp cut or shaped from a single sheet of resilient, uniformly thick, planar material |
| Y10T 24/44932 | ... | having specific surface material or irregularity on or along engaging face |
| Y10T 24/4494 | ... | having specific handle structure |
| Y10T 24/44949 | ... | including resilient biasing wire |
| Y10T 24/44957 | .... | Coiled wire |
| Y10T 24/44966 | .. | having gripping member shifted by operator |
| Y10T 24/44974 | ... | Threaded cylindrical rod and mating cavity |
| Y10T 24/44983 | .. | formed from single rigid piece of material |
| Y10T 24/44991 | ... | having specific surface irregularity on or along engaging face |

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| Y10T 24/45 | . Separable-fastener or required component thereof [e.g., projection and cavity to complete interlock] |
| Y10T 24/45005 | .. with third detached member completing interlock [e.g., hook type] |
| Y10T 24/4501 | ... Quick connect or release [e.g., spring and detent] |
| Y10T 24/45016 | ... for jewelry |
| Y10T 24/45021 | ... including eyelet [e.g., shoes] |
| Y10T 24/45026 | ... for key holder |
| Y10T 24/45031 | ... for tire chain, strap, etc. [e.g., rotatable or sliding spring gate] |
| Y10T 24/45037 | ... for apparel and related accessories |
| Y10T 24/45042 | Button, button related |
| Y10T 24/45047 | Snap [e.g., key hole type] |
| Y10T 24/45052 | Post and receiver [e.g., pin and slot] |
| Y10T 24/45058 | Hook [e.g., within cavity] |
| Y10T 24/45063 | Belt, strap, etc. [e.g., buckle or snap fastener] |
| Y10T 24/45068 | Glove |
| Y10T 24/45073 | Purse, wallet, etc. |
| Y10T 24/45079 | ... Belt, strap, harness, etc. |
| Y10T 24/45084 | for safety belt buckle, strap, harness, etc. |
| Y10T 24/45089 | ... Sliding or rotating element |
| Y10T 24/45094 | Element having key slot |
| Y10T 24/45099 | ... Resilient element [e.g., snap type] |
| Y10T 24/45105 | for upholstery, panel, trim strip, etc. [e.g., spring biased] |
| Y10T 24/4511 | Link with pivoted gate |
| Y10T 24/45115 | ... Hook |
| Y10T 24/4512 | Snap with spring bias [e.g., gate] |
| Y10T 24/45126 | for connecting chains [e.g., opposed pivoted hook] |
| Y10T 24/45131 | for heavy load bearing device [e.g., chain, rope, cable, etc.] |
| Y10T 24/45136 | Haim, harness, whiffletree, rein, etc. |
| Y10T 24/45141 | ... for chain, rope, cable, etc. |
| Y10T 24/45147 | Coupler with sliding socket to complete interlock |
| Y10T 24/45152 | .. Each mating member having similarly shaped, sized, and operated interlocking or intermeshable face |
| Y10T 24/45157 | ... Zipper-type [e.g., slider] |
| Y10T 24/45162 | for garment [e.g., with ribs and grooves interlocking elements] |
| Y10T 24/45168 | for container [e.g., bag] |
| Y10T 24/45173 | ... Resilient element |
| Y10T 24/45178 | Snap [e.g., identical elements] |
| Y10T 24/45183 | ... Clasp [e.g., spring type] |
| Y10T 24/45188 | for jewelry [e.g., buckle type] |
| Y10T 24/45194 | for belt or strap |

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| Y10T 24/45199 | ... | Hook |
| Y10T 24/45204 | | for belt, strap, etc. [e.g., with pivoted gate locking member] |
| Y10T 24/45209 | .... | for apparel |
| Y10T 24/45215 | ... | Slot and tab or tongue |
| Y10T 24/4522 | ... | Sliding or rotating element |
| Y10T 24/45225 | .. | including member having distinct formations and mating member selectively interlocking therewith |
| Y10T 24/4523 | ... | Hook |
| Y10T 24/45236 | .... | Multiple catch [e.g., with pivoted gate] |
| Y10T 24/45241 | ... | Slot and tab or tongue |
| Y10T 24/45246 | .... | having teeth or serrations [e.g., sliding with respect to each other] |
| Y10T 24/45251 | ... | Resilient element [e.g., with spring] |
| Y10T 24/45257 | .... | Snap with cavity |
| Y10T 24/45262 | ... | Pin, post and receiver |
| Y10T 24/45267 | ... | Notched clasp [e.g., with receiving slot] |
| Y10T 24/45272 | ... | Projection passes through cavity then moves toward noninserted portion of its member to complete interlock [e.g., snap hook] |
| Y10T 24/45277 | .... | Entire projection member forms loop or ring when interlocked |
| Y10T 24/45283 | ..... | Includes slidable gate closing entrance throat |
| Y10T 24/45288 | .... | Hook type projection member |
| Y10T 24/45293 | ..... | Plural hooks entering opposite sides of same cavity |
| Y10T 24/45298 | ..... | Hooks formed solely from wire |
| Y10T 24/45304 | ..... | Noninserted portion of projection member includes movably connected gate for closing access throat |
| Y10T 24/45309 | ..... | Threaded gate |
| Y10T 24/45314 | ..... | Revolvably mounted disc shaped gate |
| Y10T 24/45319 | ..... | Pivotally connected gate |
| Y10T 24/45325 | ..... | Gate swings transversely to plane of hook |
| Y10T 24/4533 | ..... | Gate also slides relative to pivot |
| Y10T 24/45335 | ..... | having means biasing gate about pivot |
| Y10T 24/4534 | ..... | and position locking-means for gate |
| Y10T 24/45346 | ..... | Includes distinct biasing spring |
| Y10T 24/45351 | ..... | Coil type spring |
| Y10T 24/45356 | ..... | Coiled about pivotal axis of gate |
| Y10T 24/45361 | ..... | having position locking-means for gate |
| Y10T 24/45366 | ..... | Locking-means pivotally connected |
| Y10T 24/45372 | ..... | Locking-means slidably mounted |
| Y10T 24/45377 | ..... | Gate closes when structure-to-be-secured is tensioned |
| Y10T 24/45382 | ..... | Track or way guided gate |
| Y10T 24/45387 | | having means biasing gate |
| Y10T 24/45393 | | Guide of gate encircles shank |

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| Y10T 24/45398 | | Cavity in shank forms track or way |
| Y10T 24/45403 | | with position locking-means for gate |
| Y10T 24/45408 | ..... | Resilient, self-biased gate |
| Y10T 24/45414 | ..... | with position locking-means for gate |
| Y10T 24/45419 | ..... | Gate and hook formed from plastic |
| Y10T 24/45424 | ..... | Gate and hook formed solely from wire |
| Y10T 24/45429 | ..... | Gate and hook formed from single piece of sheet metal |
| Y10T 24/45435 | ..... | Projection pivotally attached to shank or mounting structure |
| Y10T 24/4544 | ..... | Projection slidably mounted to shank or mounting structure |
| Y10T 24/45445 | ..... | Projection self-biased towards shank or mounting structure |
| Y10T 24/4545 | ..... | and formed solely from wire |
| Y10T 24/45455 | ..... | Cooperating with relatively stationary wire gate |
| Y10T 24/45461 | ... | Interlocking portion actuated or released responsive to preselected condition [e.g., heat, pressure] |
| Y10T 24/45466 | ... | having electric or fluid powered, actuation or release, of interlock |
| Y10T 24/45471 | ... | Projection having movable connection between components thereof or variable configuration |
| Y10T 24/45476 | .... | with additional, similar projection for engaging different cavity |
| Y10T 24/45482 | .... | and operator therefor |
| Y10T 24/45487 | ..... | including camming or wedging element on projection member |
| Y10T 24/45492 | ..... | Pivotally attached element |
| Y10T 24/45497 | .... | including pivotal connection between projection components |
| Y10T 24/45503 | ..... | Component slides relative to connection |
| Y10T 24/45508 | ..... | and spring or resilient extension biasing about pivot |
| Y10T 24/45513 | .... | including slidably guided connection between nonself-biasing projection components |
| Y10T 24/45518 | ..... | and distinct spring biasing component |
| Y10T 24/45524 | .... | including resiliently biased projection component or surface segment |
| Y10T 24/45529 | ..... | Requiring manual force applied against bias to interlock or disengage |
| Y10T 24/45534 | ..... | having connected leading edge and separated trailing arms |
| Y10T 24/45539 | ..... | Cooperating with cavity having side walls and axially biased component capping end |
| Y10T 24/45545 | ..... | forming total external surface of projection |
| Y10T 24/4555 | ..... | and encircling hollow central area |
| Y10T 24/45555 | ..... | having separate mounting means inserted into area |
| Y10T 24/4556 | ..... | Plastic deformation of means or surface required for mounting |
| Y10T 24/45565 | ..... | having separate mounting means encompassing cross section of projection |
| Y10T 24/45571 | ..... | having dome-shaped head and expansion slit along side |
| Y10T 24/45576 | ..... | and connected surface at tip of head |
| Y10T 24/45581 | | having inserted end formed by oppositely biased surface segments |

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|---------------|-------|--|
| Y10T 24/45586 | | Constructed from wire |
| Y10T 24/45592 | | having both resiliently biased and rigid components forming external surface of projection |
| Y10T 24/45597 | ... | Projection member including noninserted spring for engaging and pushing against receiving member |
| Y10T 24/45602 | ... | Receiving member includes either movable connection between interlocking components or variable configuration cavity |
| Y10T 24/45607 | .... | with additional cavity for engaging different projection |
| Y10T 24/45613 | ..... | having common means actuating or releasing interlocking components or surfaces |
| Y10T 24/45618 | ..... | and interlocking with independently associated or dissociated projection members |
| Y10T 24/45623 | .... | and operator therefor |
| Y10T 24/45628 | ..... | for plural, oppositely shifting, similar interlocking components or segments |
| Y10T 24/45634 | ..... | Operator includes camming or wedging element |
| Y10T 24/45639 | ..... | including pivotally connected element on receiving member |
| Y10T 24/45644 | ..... | for shifting pivotally connected interlocking component |
| Y10T 24/45649 | ..... | Element and component pivot about same axis |
| Y10T 24/45654 | ..... | for shifting slidably connected and guided, nonself-biasing interlocking component |
| Y10T 24/4566 | ..... | including slidably connected and guided element on receiving member |
| Y10T 24/45665 | ..... | for shifting pivotally connected interlocking component |
| Y10T 24/4567 | ..... | for shifting slidably connected and guided, nonself-biasing, interlocking component |
| Y10T 24/45675 | .... | having pivotally connected interlocking component |
| Y10T 24/45681 | ..... | Blocking removal of formation on projection from complementary formation on side wall of cavity |
| Y10T 24/45686 | ..... | and position locking-means therefor |
| Y10T 24/45691 | ..... | and relatively movable handle therefor |
| Y10T 24/45696 | ..... | Requiring manual force thereon to interlock or disengage |
| Y10T 24/45702 | ..... | Plural, oppositely shifting, similar interlocking components |
| Y10T 24/45707 | ..... | having aperture therein alignable with parallel access opening |
| Y10T 24/45712 | ..... | having interlocking portion thereof housed continuously within cavity |
| Y10T 24/45717 | .... | having cavity with side walls and axially biased component capping end |
| Y10T 24/45723 | .... | having slidably connected, nonself-biasing interlocking component |
| Y10T 24/45728 | ..... | Blocking removal of formation on projection from complementary formation on side wall of cavity |
| Y10T 24/45733 | ..... | and position locking-means therefor |
| Y10T 24/45738 | ..... | and relatively movable handle therefor |
| Y10T 24/45743 | ..... | Requiring manual force thereon to interlock or disengage |
| Y10T 24/45749 | | Plural, oppositely shifting, similar interlocking components |

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| Y10T 24/45754 | | having closed aperture therethrough alignable with parallel access opening |
| Y10T 24/45759 | .... | having flaccid component defining access opening of cavity |
| Y10T 24/45764 | ..... | Component formed solely by flaccid cord |
| Y10T 24/4577 | ..... | with nonflaccid component |
| Y10T 24/45775 | .... | having resiliently biased interlocking component or segment |
| Y10T 24/4578 | ..... | Cavity or projection rotates about axis of cavity to dissociate |
| Y10T 24/45785 | ..... | Requiring manual force applied against bias to interlock or disengage |
| Y10T 24/45791 | ..... | and partially blocking separate, nonresilient access opening of cavity |
| Y10T 24/45796 | ..... | and closed elongated access opening for guiding transverse projection travel after insertion |
| Y10T 24/45801 | ..... | Nonresilient walls define opening |
| Y10T 24/45806 | ..... | formed from wire |
| Y10T 24/45812 | ..... | and access opening with gapped perimeter for allowing movement of noninserted projection support therepast |
| Y10T 24/45817 | ..... | Cavity constructed solely from wire |
| Y10T 24/45822 | ..... | Partially blocking separate, nonresilient, access opening of cavity |
| Y10T 24/45827 | ..... | and bodily shifted into or out of interlock location by manual force thereon |
| Y10T 24/45832 | ..... | formed from wire |
| Y10T 24/45838 | ..... | having curved or bent engaging section conforming to contour of projection |
| Y10T 24/45843 | ..... | Similar, distinct sections |
| Y10T 24/45848 | ..... | having distinct sections engaging projection at spaced points |
| Y10T 24/45853 | ..... | including separate, nonprojection-engaging spring for biasing |
| Y10T 24/45859 | ..... | Biased component or segment entirely formed from wire |
| Y10T 24/45864 | ..... | having portion of cavity deformed during mounting |
| Y10T 24/45869 | ..... | and cooperating with separate mounting component |
| Y10T 24/45874 | ..... | having axially extending expansion slit along side of cavity |
| Y10T 24/4588 | ... | Means for mounting projection or cavity portion |
| Y10T 24/45885 | .... | Allows bodily movement facilitating interlock |
| Y10T 24/4589 | ..... | About pivotal connection |
| Y10T 24/45895 | ..... | Includes resilient component separate from portion |
| Y10T 24/45901 | .... | Allows relocation of portion |
| Y10T 24/45906 | .... | having component of means permanently deformed during mounting operation |
| Y10T 24/45911 | ..... | and formed from or fixedly attached to projection or cavity portion |
| Y10T 24/45916 | ..... | Cooperates with detached component of means |
| Y10T 24/45921 | ..... | having shape facilitating impaling of mounting surface |
| Y10T 24/45927 | ..... | and inserted into or through cavity or projection |
| Y10T 24/45932 | | and encircling cavity or projection |
| Y10T 24/45937 | | Consisting of thermally fusible substance |

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|---------------|-------|---|
| Y10T 24/45942 | | having threaded formation |
| Y10T 24/45948 | | having specific structure for cooperating with stitching |
| Y10T 24/45953 | .... | having shape facilitating impaling of mounting surface |
| Y10T 24/45958 | ... | Plural distinct cavities or projections |
| Y10T 24/45963 | .... | Hook type |
| Y10T 24/45969 | ... | Hook-shaped projection member passing through cavity |
| Y10T 24/45974 | .... | formed from single piece of sheet metal |
| Y10T 24/45979 | .... | formed solely from wire |
| Y10T 24/45984 | ... | Cavity having specific shape |
| Y10T 24/4599 | .... | including closed elongated access opening for guiding transverse projection travel after insertion |
| Y10T 24/45995 | .... | having access opening with gapped perimeter for allowing movement of noninserted projection support therepast |
| Y10T 24/46 | . | Pin or separate essential cooperating device therefor |
| Y10T 24/4602 | .. | with separately operable, manually releasable, nonpenetrating means for mounting [e.g., drapery hook] |
| Y10T 24/4604 | .. | having distinct guiding, holding, or protecting means for penetrated portion |
| Y10T 24/4605 | ... | Means detachable from or flaccidly connected to pin [e.g., hatpin type] |
| Y10T 24/4607 | .... | for pin having plural penetrating portions |
| Y10T 24/4609 | .... | including relatively movable guiding, holding, or protecting components or surfaces |
| Y10T 24/4611 | ..... | having operator for moving holding component or surface |
| Y10T 24/4613 | ..... | Moves pivoting holding component |
| Y10T 24/4614 | ..... | Moves slidably guided, nonself-biasing, holding component |
| Y10T 24/4616 | ..... | having pierceable [e.g., cork] or naturally resilient [e.g., rubber] surfaces |
| Y10T 24/4618 | ..... | with pivotal connection therebetween |
| Y10T 24/462 | ..... | with slidable connection between nonself-biasing components |
| Y10T 24/4621 | ..... | having resiliently biased component or surface |
| Y10T 24/4623 | ..... | Coiled about longitudinal axis of held portion |
| Y10T 24/4625 | ..... | and aperture therein alignable with another spaced aperture of means |
| Y10T 24/4627 | ..... | and nonresilient structure for guiding portion thereto |
| Y10T 24/4629 | .... | including structure for cooperating with formation [e.g., cavity] formed on penetrating portion |
| Y10T 24/463 | ... | for pin having plural penetrating portions |
| Y10T 24/4632 | .... | Each independently movable towards and into cooperation with means |
| Y10T 24/4634 | ... | including relatively movable guiding, holding, or protecting components or surfaces |
| Y10T 24/4636 | .... | with connection allowing component to revolve about axis of held penetrating portion |
| Y10T 24/4638 | .... | with pivotal connection therebetween |
| Y10T 24/4639 | | having position locking means therefor |
| Y10T 24/4641 | | Spring or resiliently biased |

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| Y10T 24/4643 | | with slidable connection between nonself-biasing components |
| Y10T 24/4645 | ..... | Component slides parallel to axis of held penetrating portion |
| Y10T 24/4646 | .... | Means engages formation formed on penetrating portion |
| Y10T 24/4648 | .... | having nonresilient and resilient components |
| Y10T 24/465 | .... | Means formed from single resilient wire |
| Y10T 24/4652 | .... | Means formed from resilient sheet metal |
| Y10T 24/4654 | ... | with independent, spaced, intermediate connections, or formations [e.g., coils], about which portion or means move |
| Y10T 24/4655 | .... | Includes slidable connection |
| Y10T 24/4657 | ... | with pivotal connection between penetrating portion and means |
| Y10T 24/4659 | .... | Connection also permits sliding movement |
| Y10T 24/4661 | .... | Resiliently biased about connection |
| Y10T 24/4663 | ... | with slidable connection intermediate penetrating portion and means |
| Y10T 24/4664 | ... | having resilient bridging structure between portion and means |
| Y10T 24/4666 | .... | Means includes structure for cooperating with formation [e.g., cavity] formed on portion |
| Y10T 24/4668 | .... | and penetrating portion formed from wire |
| Y10T 24/467 | ..... | Bridging structure includes elongated nonwire element |
| Y10T 24/4671 | ..... | Wire also forms coiled bridging structure about which portion moves |
| Y10T 24/4673 | ..... | including distinct device for cooperating with coil |
| Y10T 24/4675 | ..... | having means also formed from same wire |
| Y10T 24/4677 | .. | with cavity for guiding structure-to-be-secured towards penetrating portion [e.g., stocking support] |
| Y10T 24/4679 | .. | having penetrating portion retractable or of changeable length |
| Y10T 24/468 | .. | having interconnected distinct penetrating portions |
| Y10T 24/4682 | ... | Connection allows movement therebetween |
| Y10T 24/4684 | .... | Slidable connection |
| Y10T 24/4686 | .... | Resilient connection |
| Y10T 24/4688 | ... | formed from common wire |
| Y10T 24/4689 | .... | and pointing in same direction |
| Y10T 24/4691 | .. | Penetrating portion includes relatively movable structure for resisting extraction |
| Y10T 24/4693 | .. | having specific wire penetrating portion |
| Y10T 24/4695 | ... | Wire curved or bent |
| Y10T 24/4696 | .. | having distinct head structure |
| Y10T 24/4698 | ... | Movably connected to penetrating portion |
| Y10T 24/47 | . | Strap-end-attaching devices |
| Y10T 24/4709 | .. | Bendable sheet material |
| Y10T 24/4718 | .. | Watch pintle connected |
| Y10T 24/4727 | .. | Webbing to tube [lawn chair] |
| Y10T 24/4736 | .. | Buckle connected |
| Y10T 24/4745 | .. | End clasp |

- Y10T 24/4755 . . Hook
- Y10T 24/4764 . . Ring-loop
- Y10T 24/4773 . . Cargo tiedown
- Y10T 24/4782 . . Watch strap
- Y10T 24/4791 . . Enlarged end epoxy
- Y10T 24/48 . Pivoted edge stays
- Y10T 24/49 . Fastener destructively secured by reshaping distortion force [e.g., ductile fastener]
- Y10T 24/492 . . Distorted structure having shape facilitating impaling
- Y10T 24/493 . . . and distinct fastener structure cooperating with impaled structure
- Y10T 24/495 Detached cooperating structure
- Y10T 24/497 . . . including plural impaling elements
- Y10T 24/498 Elements form single aperture [e.g., split shank type]
- Y10T 24/50 . Readily interlocking, two-part fastener requiring either destructive or tool disengagement
- Y10T 24/505 . . including additional fastener structure linking parts
- Y10T 24/51 . Hanger on portable article support for manual attachment thereof to overhead support [e.g., drapery hook]

Former US Class 29 Series

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|-------------------|---|
| Y10T 29/00 | Metal working |
| Y10T 29/10 | . Battery-grid making |
| Y10T 29/11 | . Bias [i.e. , helically] cutting of tubular stock |
| Y10T 29/1106 | . . including orbital cutter |
| Y10T 29/1113 | . . . within stock support |
| Y10T 29/1119 | . . . with orbiting strip accumulator |
| Y10T 29/1125 | . . including means to inflate stock |
| Y10T 29/1131 | . . with means to feed stock along support or mandrel |
| Y10T 29/1138 | . . . Single means produces compound motion |
| Y10T 29/1144 | Endless belt drive means |
| Y10T 29/115 | . . . Axially |
| Y10T 29/1156 | . . . Rotatably |
| Y10T 29/1163 | . . with means to rotate and store stock supply |
| Y10T 29/1169 | . . . Axis of rotation parallel to support or mandrel |
| Y10T 29/1175 | . . with means for arcuate shift of mandrel |
| Y10T 29/1181 | . . including means to handle produced strip or web |
| Y10T 29/1188 | . . . with common adjustment for cutter |
| Y10T 29/1194 | . . Method |
| Y10T 29/12 | . Buckle making |
| Y10T 29/13 | . Button-fastener making |
| Y10T 29/14 | . Shredding metal or metal wool article making |

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| Y10T 29/142 | .. Metal wool making |
| Y10T 29/143 | ... Shaving or longitudinal cutting |
| Y10T 29/145 | Soap-pad making |
| Y10T 29/147 | .. Metal wool bundling |
| Y10T 29/148 | ... Soap-pad making |
| Y10T 29/15 | . Cord heddle making |
| Y10T 29/16 | . Cotter-pin making |
| Y10T 29/17 | . Crankshaft making apparatus |
| Y10T 29/18 | . Expanded metal making |
| Y10T 29/185 | .. by use of reciprocating perforator |
| Y10T 29/19 | . Eyebolt or hook making |
| Y10T 29/20 | . Fence barb making |
| Y10T 29/203 | .. by use of reciprocating cutter or die |
| Y10T 29/207 | .. by use of rotary cutter or die |
| Y10T 29/21 | . Finger-ring forming or sizing |
| Y10T 29/22 | . Fishhook making |
| Y10T 29/23 | . Gem and jewel setting |
| Y10T 29/24 | . Hinge making or assembling |
| Y10T 29/25 | . Lacing-stud making |
| Y10T 29/26 | . Paper-fastener making |
| Y10T 29/27 | . Plow or cultivator iron making |
| Y10T 29/28 | . Puddlers balls making |
| Y10T 29/29 | . Railway-chair making |
| Y10T 29/30 | . Foil or other thin sheet-metal making or treating |
| Y10T 29/301 | .. Method |
| Y10T 29/302 | ... Clad or other composite foil or thin metal making |
| Y10T 29/303 | ... with assembling or disassembling of a pack |
| Y10T 29/304 | Using transitory solid cover material |
| Y10T 29/305 | including bond prevention treatment |
| Y10T 29/306 | Disassembling of a pack |
| Y10T 29/307 | ... by shaving or longitudinal cutting |
| Y10T 29/308 | ... Using transitory material |
| Y10T 29/309 | .. Means for opening or separating a pack |
| Y10T 29/31 | . Spectacle-frame making |
| Y10T 29/32 | . Spiral cutting of flat stock |
| Y10T 29/33 | . Stereotype-plate finishing |
| Y10T 29/34 | . Means for forming clench-tongue [eg, for tieband] |
| Y10T 29/35 | . Tire upsetting, with cutting, punching, etc. |
| Y10T 29/36 | . toothed-cylinder making apparatus [e.g. , texture working cylinder] |
| Y10T 29/37 | . Impeller making apparatus |

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| Y10T 29/38 | . Type finishing and grooving |
| Y10T 29/39 | . Venetian blind assembling |
| Y10T 29/40 | . Umbrella-frame making |
| Y10T 29/41 | . Barrier layer or semiconductor device making |
| Y10T 29/413 | .. Barrier layer device making |
| Y10T 29/417 | ... Electrolytic device making [e.g., capacitor] |
| Y10T 29/42 | . Piezoelectric device making |
| Y10T 29/43 | . Electric condenser making |
| Y10T 29/435 | .. Solid dielectric type |
| Y10T 29/44 | . Filing |
| Y10T 29/442 | .. of key article |
| Y10T 29/444 | .. Continuous band type |
| Y10T 29/446 | .. Reciprocating type |
| Y10T 29/448 | .. File-blank stripper |
| Y10T 29/45 | . Scale remover or preventor |
| Y10T 29/4506 | .. for hollow workpiece |
| Y10T 29/4511 | ... Interior surface |
| Y10T 29/4517 | .. Rolling deformation or deflection |
| Y10T 29/4522 | ... for wire or rod |
| Y10T 29/4528 | .. with rotary head |
| Y10T 29/4533 | .. Fluid impingement |
| Y10T 29/4539 | ... with heater |
| Y10T 29/4544 | ... Liquid jet |
| Y10T 29/455 | ... Airblast |
| Y10T 29/4556 | .. Chainer |
| Y10T 29/4561 | .. Scraper or scalper |
| Y10T 29/4567 | .. Brush type |
| Y10T 29/4572 | .. Mechanically powered operator |
| Y10T 29/4578 | ... Tack or needle type |
| Y10T 29/4583 | ... Hammer |
| Y10T 29/4589 | ... Blade or chisel |
| Y10T 29/4594 | .. Hand tool |
| Y10T 29/46 | . Burning in, wearing in, or oil burnishing |
| Y10T 29/47 | . Burnishing |
| Y10T 29/471 | .. of water laid fibrous article [e.g., paper] |
| Y10T 29/473 | ... Heated burnishing member |
| Y10T 29/474 | Burnishing tool reciprocates across work surface |
| Y10T 29/476 | .. Continuous feed |
| Y10T 29/477 | .. of gear article |
| Y10T 29/479 | .. by shot peening or blasting |

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| Y10T 29/48 | . Upholstered article making |
| Y10T 29/481 | .. Method |
| Y10T 29/482 | .. Tufting |
| Y10T 29/483 | ... with means to clench fastener |
| Y10T 29/484 | ... with means to insert guide pin or fastener |
| Y10T 29/486 | .. Cover stretching |
| Y10T 29/487 | .. Edge-roll forming |
| Y10T 29/488 | .. form or holder |
| Y10T 29/489 | ... with follower |
| Y10T 29/49 | . Method of mechanical manufacture |
| Y10T 29/49002 | .. Electrical device making |
| Y10T 29/49004 | ... including measuring or testing of device or component part |
| Y10T 29/49005 | ... Acoustic transducer |
| Y10T 29/49007 | ... Indicating transducer |
| Y10T 29/49009 | ... Dynamoelectric machine |
| Y10T 29/49011 | Commutator or slip ring assembly |
| Y10T 29/49012 | Rotor |
| Y10T 29/49014 | ... Superconductor |
| Y10T 29/49016 | ... Antenna or wave energy "plumbing" making |
| Y10T 29/49018 | with other electrical component |
| Y10T 29/4902 | ... Electromagnet, transformer or inductor |
| Y10T 29/49021 | Magnetic recording reproducing transducer [e.g., tape head, core, etc.] |
| Y10T 29/49023 | including dissassembly step |
| Y10T 29/49025 | Making disc drive |
| Y10T 29/49027 | Mounting preformed head/core onto other structure |
| Y10T 29/49028 | Mounting multitrack head |
| Y10T 29/4903 | with bonding |
| Y10T 29/49032 | Fabricating head structure or component thereof |
| Y10T 29/49034 | Treating to affect magnetic properties |
| Y10T 29/49036 | including measuring or testing |
| Y10T 29/49037 | Using reference point/surface to facilitate measuring |
| Y10T 29/49039 | with dual gap materials |
| Y10T 29/49041 | with significant slider/housing shaping or treating |
| Y10T 29/49043 | Depositing magnetic layer or coating |
| Y10T 29/49044 | Plural magnetic deposition layers |
| Y10T 29/49046 | with etching or machining of magnetic material |
| Y10T 29/49048 | Machining magnetic material [e.g., grinding, etching, polishing] |
| Y10T 29/4905 | Employing workholding means |
| Y10T 29/49052 | by etching |
| Y10T 29/49053 | Multitrack heads having integral holding means |

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| Y10T 29/49055 | | with bond/laminating preformed parts, at least two magnetic |
| Y10T 29/49057 | ..... | Using glass bonding material |
| Y10T 29/49059 | ..... | with work positioning means |
| Y10T 29/4906 | ..... | Providing winding |
| Y10T 29/49062 | ..... | Multilayered winding |
| Y10T 29/49064 | ..... | by coating |
| Y10T 29/49066 | ..... | Preformed winding |
| Y10T 29/49067 | ..... | Specified diverse magnetic materials |
| Y10T 29/49069 | .... | Data storage inductor or core |
| Y10T 29/49071 | .... | by winding or coiling |
| Y10T 29/49073 | .... | by assembling coil and core |
| Y10T 29/49075 | .... | including permanent magnet or core |
| Y10T 29/49076 | ..... | From comminuted material |
| Y10T 29/49078 | ..... | Laminated |
| Y10T 29/4908 | .... | Acoustic transducer |
| Y10T 29/49082 | ... | Resistor making |
| Y10T 29/49083 | .... | Heater type |
| Y10T 29/49085 | .... | Thermally variable |
| Y10T 29/49087 | .... | with envelope or housing |
| Y10T 29/49089 | ..... | Filling with powdered insulation |
| Y10T 29/49091 | ..... | with direct compression of powdered insulation |
| Y10T 29/49092 | ..... | Powdering the insulation |
| Y10T 29/49094 | ..... | by oxidation |
| Y10T 29/49096 | ..... | with winding |
| Y10T 29/49098 | ..... | Applying terminal |
| Y10T 29/49099 | .... | Coating resistive material on a base |
| Y10T 29/49101 | .... | Applying terminal |
| Y10T 29/49103 | .... | Strain gauge making |
| Y10T 29/49105 | ... | Switch making |
| Y10T 29/49107 | ... | Fuse making |
| Y10T 29/49108 | ... | Electric battery cell making |
| Y10T 29/4911 | .... | including sealing |
| Y10T 29/49112 | .... | including laminating of indefinite length material |
| Y10T 29/49114 | .... | including adhesively bonding |
| Y10T 29/49115 | .... | including coating or impregnating |
| Y10T 29/49117 | ... | Conductor or circuit manufacturing |
| Y10T 29/49119 | .... | Brush |
| Y10T 29/49121 | .... | Beam lead frame or beam lead device |
| Y10T 29/49123 | | Co-axial cable |
| Y10T 29/49124 | | On flat or curved insulated base, e.g., printed circuit, etc. |

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| Y10T 29/49126 | | Assembling bases |
| Y10T 29/49128 | | Assembling formed circuit to base |
| Y10T 29/4913 | ..... | Assembling to base an electrical component, e.g., capacitor, etc. |
| Y10T 29/49131 | ..... | by utilizing optical sighting device |
| Y10T 29/49133 | ..... | with component orienting |
| Y10T 29/49135 | ..... | and shaping, e.g., cutting or bending, etc. |
| Y10T 29/49137 | ..... | Different components |
| Y10T 29/49139 | ..... | by inserting component lead or terminal into base aperture |
| Y10T 29/4914 | ..... | with deforming of lead or terminal |
| Y10T 29/49142 | ..... | including metal fusion |
| Y10T 29/49144 | ..... | by metal fusion |
| Y10T 29/49146 | ..... | with encapsulating, e.g., potting, etc. |
| Y10T 29/49147 | ..... | Assembling terminal to base |
| Y10T 29/49149 | ..... | by metal fusion bonding |
| Y10T 29/49151 | ..... | by deforming or shaping |
| Y10T 29/49153 | ..... | with shaping or forcing terminal into base aperture |
| Y10T 29/49155 | ..... | Manufacturing circuit on or in base |
| Y10T 29/49156 | ..... | with selective destruction of conductive paths |
| Y10T 29/49158 | ..... | with molding of insulated base |
| Y10T 29/4916 | ..... | Simultaneous circuit manufacturing |
| Y10T 29/49162 | ..... | by using wire as conductive path |
| Y10T 29/49163 | ..... | with sintering of base |
| Y10T 29/49165 | ..... | by forming conductive walled aperture in base |
| Y10T 29/49167 | ..... | with deforming of conductive path |
| Y10T 29/49169 | .... | Assembling electrical component directly to terminal or elongated conductor |
| Y10T 29/49171 | ..... | with encapsulating |
| Y10T 29/49172 | ..... | by molding of insulating material |
| Y10T 29/49174 | .... | Assembling terminal to elongated conductor |
| Y10T 29/49176 | ..... | with molding of electrically insulating material |
| Y10T 29/49178 | ..... | by shrinking of cover |
| Y10T 29/49179 | ..... | by metal fusion bonding |
| Y10T 29/49181 | ..... | by deforming |
| Y10T 29/49183 | ..... | of ferrule about conductor and terminal |
| Y10T 29/49185 | ..... | of terminal |
| Y10T 29/49187 | ..... | with forming eyelet from elongated conductor |
| Y10T 29/49188 | ..... | with penetrating portion |
| Y10T 29/4919 | ..... | Through insulation |
| Y10T 29/49192 | ..... | with insulation removal |
| Y10T 29/49194 | | Assembling elongated conductors, e.g., splicing, etc. |
| Y10T 29/49195 | | with end-to-end orienting |

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| Y10T 29/49197 | | including fluid evacuating or pressurizing |
| Y10T 29/49199 | | including deforming of joining bridge |
| Y10T 29/49201 | ..... | with overlapping orienting |
| Y10T 29/49202 | ..... | including oppositely facing end orienting |
| Y10T 29/49204 | .... | Contact or terminal manufacturing |
| Y10T 29/49206 | ..... | by powder metallurgy |
| Y10T 29/49208 | ..... | by assembling plural parts |
| Y10T 29/4921 | ..... | with bonding |
| Y10T 29/49211 | ..... | of fused material |
| Y10T 29/49213 | ..... | Metal |
| Y10T 29/49215 | ..... | by impregnating a porous mass |
| Y10T 29/49217 | ..... | by elastic joining |
| Y10T 29/49218 | ..... | with deforming |
| Y10T 29/4922 | ..... | with molding of insulation |
| Y10T 29/49222 | ..... | forming array of contacts or terminals |
| Y10T 29/49224 | ..... | with coating |
| Y10T 29/49226 | ... | Electret making |
| Y10T 29/49227 | ... | Insulator making |
| Y10T 29/49229 | .. | Prime mover or fluid pump making |
| Y10T 29/49231 | ... | I.C. [internal combustion] engine making |
| Y10T 29/49233 | .... | Repairing, converting, servicing or salvaging |
| Y10T 29/49234 | .... | Rotary or radial engine making |
| Y10T 29/49236 | ... | Fluid pump or compressor making |
| Y10T 29/49238 | .... | Repairing, converting, servicing or salvaging |
| Y10T 29/4924 | .... | Scroll or peristaltic type |
| Y10T 29/49242 | .... | Screw or gear type, e.g., Moineau type |
| Y10T 29/49243 | .... | Centrifugal type |
| Y10T 29/49245 | .... | Vane type or other rotary, e.g., fan |
| Y10T 29/49247 | ... | Valve lifter making |
| Y10T 29/49249 | ... | Piston making |
| Y10T 29/4925 | .... | Repairing, converting, servicing or salvaging |
| Y10T 29/49252 | .... | Multi-element piston making |
| Y10T 29/49254 | ..... | Utilizing a high energy beam, e.g., laser, electron beam |
| Y10T 29/49256 | .... | with assembly or composite article making |
| Y10T 29/49258 | ..... | with thermal barrier or heat flow provision |
| Y10T 29/49259 | ..... | with fiber reinforced structure |
| Y10T 29/49261 | ..... | by composite casting or molding |
| Y10T 29/49263 | ..... | by coating or cladding |
| Y10T 29/49265 | | Ring groove forming or finishing |
| Y10T 29/49266 | | Gudgeon pin, wrist pin, piston pin, or boss therefor |

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| Y10T 29/49268 | | with other attaching provision for connecting rod |
| Y10T 29/4927 | ... | Cylinder, cylinder head or engine valve sleeve making |
| Y10T 29/49272 | .... | with liner, coating, or sleeve |
| Y10T 29/49274 | ... | Piston ring or piston packing making |
| Y10T 29/49275 | .... | including forging or hammering |
| Y10T 29/49277 | .... | including casting or molding |
| Y10T 29/49279 | .... | including rolling or die forming, e.g., drawing, punching |
| Y10T 29/49281 | .... | including coating or plating |
| Y10T 29/49282 | .... | including grinding or honing |
| Y10T 29/49284 | .... | including machining or angular cutting |
| Y10T 29/49286 | ... | Crankshaft making |
| Y10T 29/49288 | ... | Connecting rod making |
| Y10T 29/4929 | .... | including metallurgical bonding |
| Y10T 29/49291 | .... | including metal forging or die shaping |
| Y10T 29/49293 | ... | Camshaft making |
| Y10T 29/49295 | ... | Push rod or rocker arm making |
| Y10T 29/49297 | ... | Seal or packing making |
| Y10T 29/49298 | ... | Poppet or I.C. engine valve or valve seat making |
| Y10T 29/493 | .... | Valve guide making |
| Y10T 29/49302 | .... | Repairing, converting, servicing or salvaging |
| Y10T 29/49304 | .... | Valve tappet making |
| Y10T 29/49306 | .... | Valve seat making |
| Y10T 29/49307 | .... | Composite or hollow valve stem or head making |
| Y10T 29/49309 | ..... | including forging |
| Y10T 29/49311 | ..... | including extruding |
| Y10T 29/49313 | ..... | including casting |
| Y10T 29/49314 | .... | with assembly or composite article making |
| Y10T 29/49316 | .. | Impeller making |
| Y10T 29/49318 | ... | Repairing or disassembling |
| Y10T 29/4932 | ... | Turbomachine making |
| Y10T 29/49321 | .... | Assembling individual fluid flow interacting members, e.g., blades, vanes, buckets, on rotary support member |
| Y10T 29/49323 | .... | Assembling fluid flow directing devices, e.g., stators, diaphragms, nozzles |
| Y10T 29/49325 | .... | Shaping integrally bladed rotor |
| Y10T 29/49327 | ... | Axial blower or fan |
| Y10T 29/49329 | ... | Centrifugal blower or fan |
| Y10T 29/4933 | ... | Fluid coupling device |
| Y10T 29/49332 | ... | Propeller making |
| Y10T 29/49334 | | Utilizing hollow tube blank |
| Y10T 29/49336 | ... | Blade making |

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|---------------|-------|---|
| Y10T 29/49337 | | Composite blade |
| Y10T 29/49339 | | Hollow blade |
| Y10T 29/49341 | | with cooling passage |
| Y10T 29/49343 | ..... | Passage contains tubular insert |
| Y10T 29/49345 | .. | Catalytic device making |
| Y10T 29/49346 | .. | Rocket or jet device making |
| Y10T 29/49348 | .. | Burner, torch or metallurgical lance making |
| Y10T 29/4935 | .. | Heat exchanger or boiler making |
| Y10T 29/49352 | ... | Repairing, converting, servicing or salvaging |
| Y10T 29/49353 | ... | Heat pipe device making |
| Y10T 29/49355 | ... | Solar energy device making |
| Y10T 29/49357 | ... | Regenerator or recuperator making |
| Y10T 29/49359 | ... | Cooling apparatus making, e.g., air conditioner, refrigerator |
| Y10T 29/49361 | ... | Tube inside tube |
| Y10T 29/49362 | ... | Tube wound about tube |
| Y10T 29/49364 | ... | Tube joined to flat sheet longitudinally, i.e., tube sheet |
| Y10T 29/49366 | ... | Sheet joined to sheet |
| Y10T 29/49368 | .... | with inserted tubes |
| Y10T 29/49369 | .... | Utilizing bond inhibiting material |
| Y10T 29/49371 | ..... | with subsequent fluid expansion |
| Y10T 29/49373 | ... | Tube joint and tube plate structure |
| Y10T 29/49375 | .... | including conduit expansion or inflation |
| Y10T 29/49377 | ... | Tube with heat transfer means |
| Y10T 29/49378 | .... | Finned tube |
| Y10T 29/4938 | ..... | Common fin traverses plurality of tubes |
| Y10T 29/49382 | ..... | Helically finned |
| Y10T 29/49384 | ..... | Internally finned |
| Y10T 29/49385 | ..... | Made from unitary workpiece, i.e., no assembly |
| Y10T 29/49387 | ... | Boiler making |
| Y10T 29/49389 | ... | Header or manifold making |
| Y10T 29/49391 | ... | Tube making or reforming |
| Y10T 29/49393 | ... | with metallurgical bonding |
| Y10T 29/49394 | .. | Accumulator making |
| Y10T 29/49396 | .. | Condenser, evaporator or vaporizer making |
| Y10T 29/49398 | .. | Muffler, manifold or exhaust pipe making |
| Y10T 29/494 | .. | Fluidic or fluid actuated device making |
| Y10T 29/49401 | .. | Fluid pattern dispersing device making, e.g., ink jet |
| Y10T 29/49403 | .. | Tapping device making |
| Y10T 29/49405 | .. | Valve or choke making |
| Y10T 29/49407 | ... | Repairing, converting, servicing or salvaging |

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|---------------|-------|--|
| Y10T 29/49409 | ... | Valve seat forming |
| Y10T 29/4941 | ... | Valve stem or tire valve making |
| Y10T 29/49412 | ... | with assembly, disassembly or composite article making |
| Y10T 29/49414 | .... | Joining plural semi-circular components |
| Y10T 29/49416 | .... | with material shaping or cutting |
| Y10T 29/49417 | ..... | including molding or casting |
| Y10T 29/49419 | ..... | including machining or drilling |
| Y10T 29/49421 | ..... | including metallurgical bonding |
| Y10T 29/49423 | ..... | including metal deforming |
| Y10T 29/49425 | .... | including metallurgical bonding |
| Y10T 29/49426 | ... | including metal shaping and diverse operation |
| Y10T 29/49428 | .. | Gas and water specific plumbing component making |
| Y10T 29/4943 | ... | Plumbing fixture making |
| Y10T 29/49432 | ... | Nozzle making |
| Y10T 29/49433 | .... | Sprayer |
| Y10T 29/49435 | ... | Flexible conduit or fitting therefor |
| Y10T 29/49437 | ... | Flue connector device making |
| Y10T 29/49439 | ... | Trap making |
| Y10T 29/4944 | ... | Return connector device making |
| Y10T 29/49442 | ... | T-shaped fitting making |
| Y10T 29/49444 | ... | Elbow or L-shaped fitting making |
| Y10T 29/49446 | ... | Ferrule making or reforming |
| Y10T 29/49448 | .. | Agricultural device making |
| Y10T 29/49449 | ... | Traction apparatus, e.g., for tractor |
| Y10T 29/49451 | ... | Harvester guard |
| Y10T 29/49453 | .. | Pulley making |
| Y10T 29/49455 | ... | Assembly |
| Y10T 29/49456 | .... | with shaping |
| Y10T 29/49458 | ... | Disc splitting to form pulley rim groove |
| Y10T 29/4946 | ... | Groove forming in sheet metal pulley rim |
| Y10T 29/49462 | .. | Gear making |
| Y10T 29/49464 | ... | Assembling of gear into force transmitting device |
| Y10T 29/49465 | ... | Gear mounting |
| Y10T 29/49467 | ... | Gear shaping |
| Y10T 29/49469 | .... | Worm gear |
| Y10T 29/49471 | .... | Roll forming |
| Y10T 29/49472 | .... | Punching or stamping |
| Y10T 29/49474 | | Die-press shaping |
| Y10T 29/49476 | | Gear tooth cutting |
| Y10T 29/49478 | | Gear blank making |

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|---------------|-------|--|
| Y10T 29/4948 | | with specific gear material |
| Y10T 29/49481 | .. | Wheel making |
| Y10T 29/49483 | ... | Railway or trolley wheel making |
| Y10T 29/49485 | .... | Multiple part or composite |
| Y10T 29/49487 | ..... | with axle or hub |
| Y10T 29/49488 | ... | Steering wheel |
| Y10T 29/4949 | ... | Material winding, e.g., reel, spool |
| Y10T 29/49492 | ... | Land wheel |
| Y10T 29/49494 | .... | Assembling tire to wheel body |
| Y10T 29/49496 | .... | Disc type wheel |
| Y10T 29/49497 | ..... | Assembling wheel disc to rim and hub |
| Y10T 29/49499 | ..... | Assembling wheel disc to rim |
| Y10T 29/49501 | ..... | with disc shaping |
| Y10T 29/49503 | ..... | Integral rim and disc making |
| Y10T 29/49504 | ..... | Disc shaping |
| Y10T 29/49506 | .... | Tensioned spoke type wheel making |
| Y10T 29/49508 | ..... | Tensioning all spokes simultaneously |
| Y10T 29/4951 | ..... | Tensioning spokes in series |
| Y10T 29/49512 | ..... | Tensioning spokes individually |
| Y10T 29/49513 | .... | Compression, e.g., nontension, spoke type wheel making |
| Y10T 29/49515 | ..... | Joining spokes to rim and hub |
| Y10T 29/49517 | ..... | Joining spokes to rim |
| Y10T 29/49519 | ..... | Joining spokes to hub |
| Y10T 29/4952 | ..... | Making plural spokes from a single blank |
| Y10T 29/49522 | ..... | Individual spoke making |
| Y10T 29/49524 | .... | Rim making |
| Y10T 29/49526 | ..... | with assembling |
| Y10T 29/49528 | ..... | Demountable rim making |
| Y10T 29/49529 | ..... | Die-press shaping |
| Y10T 29/49531 | ..... | Roller forming |
| Y10T 29/49533 | .... | Hub making |
| Y10T 29/49535 | ..... | with assembling |
| Y10T 29/49536 | ..... | Hub shaping |
| Y10T 29/49538 | .... | Tire making |
| Y10T 29/4954 | .... | Wheel trim making, e.g., wheel cover, hubcap |
| Y10T 29/49542 | ..... | with means for retaining trim member on wheel |
| Y10T 29/49544 | .. | Roller making |
| Y10T 29/49545 | ... | Repairing or servicing |
| Y10T 29/49547 | ... | Assembling preformed components |
| Y10T 29/49549 | | Work contacting surface element assembled to core |

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|---------------|-------|--|
| Y10T 29/49551 | | Work contacting surface wound about core |
| Y10T 29/49552 | | with prestressing of component by heat differential, e.g., shrink, fit |
| Y10T 29/49554 | ..... | Work contacting surface having annular axial sections |
| Y10T 29/49556 | .... | Work contacting surface element assembled to end support members |
| Y10T 29/49558 | .... | Includes securing removable cover on roller |
| Y10T 29/4956 | ... | Fabricating and shaping roller work contacting surface element |
| Y10T 29/49561 | .... | toothed roller |
| Y10T 29/49563 | .... | with coating or casting about a core |
| Y10T 29/49565 | ... | One-piece roller making |
| Y10T 29/49567 | .. | Dental appliance making |
| Y10T 29/49568 | ... | Orthodontic device making |
| Y10T 29/4957 | .. | Sound device making |
| Y10T 29/49572 | ... | Hearing aid component making |
| Y10T 29/49574 | ... | Musical instrument or tuning fork making |
| Y10T 29/49575 | ... | including diaphragm or support therefor |
| Y10T 29/49577 | ... | Phonograph component making |
| Y10T 29/49579 | .. | Watch or clock making |
| Y10T 29/49581 | ... | having arbor, pinion, or balance |
| Y10T 29/49583 | ... | having indicia, face, or dial |
| Y10T 29/49584 | ... | having case, cover, or back |
| Y10T 29/49586 | ... | having crown, stem, or pendent |
| Y10T 29/49588 | .. | Jewelry or locket making |
| Y10T 29/4959 | ... | Human adornment device making |
| Y10T 29/49591 | .... | Bracelet making |
| Y10T 29/49593 | .... | Finger ring making |
| Y10T 29/49595 | ... | Latch, clasp, or fastener component making |
| Y10T 29/49597 | ... | Ornamental stock making |
| Y10T 29/49599 | .. | Knob or knob shank making |
| Y10T 29/496 | .. | Multiperforated metal article making |
| Y10T 29/49602 | ... | Coil wound wall screen |
| Y10T 29/49604 | ... | Filter |
| Y10T 29/49606 | .. | Turnbuckle making |
| Y10T 29/49607 | .. | Spring-head clip making |
| Y10T 29/49609 | .. | Spring making |
| Y10T 29/49611 | ... | for vehicle or clutch |
| Y10T 29/49613 | ... | for human comfort |
| Y10T 29/49615 | ... | Resilient shock or vibration absorber utility |
| Y10T 29/49616 | .. | Structural member making |
| Y10T 29/49618 | ... | Restoring existing member, e.g., reinforcing, repairing |
| Y10T 29/4962 | ... | Grille making |

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|---------------|-------|---|
| Y10T 29/49622 | ... | Vehicular structural member making |
| Y10T 29/49623 | ... | Static structure, e.g., a building component |
| Y10T 29/49625 | .... | Openwork, e.g., a truss, joist, frame, lattice-type or box beam |
| Y10T 29/49627 | ..... | Frame component |
| Y10T 29/49629 | .... | Panel |
| Y10T 29/49631 | .... | Columnar member |
| Y10T 29/49632 | .... | Metal reinforcement member for nonmetallic, e.g., concrete, structural element |
| Y10T 29/49634 | .... | Beam or girder |
| Y10T 29/49636 | .. | Process for making bearing or component thereof |
| Y10T 29/49638 | ... | Repairing |
| Y10T 29/49639 | ... | Fluid bearing |
| Y10T 29/49641 | ... | Linear bearing |
| Y10T 29/49643 | ... | Rotary bearing |
| Y10T 29/49645 | .... | Thrust bearing |
| Y10T 29/49647 | .... | Plain bearing |
| Y10T 29/49648 | ..... | Self-adjusting or self-aligning, including ball and socket type, bearing and component making |
| Y10T 29/4965 | ..... | Deforming socket to secure ball |
| Y10T 29/49652 | ..... | Die-press shaping |
| Y10T 29/49654 | ..... | having liner |
| Y10T 29/49655 | ..... | having liner |
| Y10T 29/49657 | ..... | Socket making |
| Y10T 29/49659 | ..... | by molding or casting |
| Y10T 29/49661 | ..... | Nonmetallic socket |
| Y10T 29/49663 | ..... | by assembling |
| Y10T 29/49664 | ..... | Ball making |
| Y10T 29/49666 | ..... | with metallurgical bonding |
| Y10T 29/49668 | ..... | Sleeve or bushing making |
| Y10T 29/4967 | ..... | Nonmetallic |
| Y10T 29/49671 | ..... | Strip or blank material shaping |
| Y10T 29/49673 | ..... | Die-press shaping |
| Y10T 29/49675 | ..... | having inner lining layer |
| Y10T 29/49677 | ..... | having liner |
| Y10T 29/49679 | .... | Anti-friction bearing or component thereof |
| Y10T 29/4968 | ..... | Assembling of race, cage, and rolling anti-friction members |
| Y10T 29/49682 | ..... | Assembling of race and rolling anti-friction members |
| Y10T 29/49684 | ..... | with race making |
| Y10T 29/49686 | | Assembling of cage and rolling anti-friction members |
| Y10T 29/49687 | | with cage making |

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|---------------|-------|---|
| Y10T 29/49689 | | Race making |
| Y10T 29/49691 | | Cage making |
| Y10T 29/49693 | | Roller making |
| Y10T 29/49694 | ..... | Ball making |
| Y10T 29/49696 | ... | Mounting |
| Y10T 29/49698 | ... | Demounting |
| Y10T 29/497 | ... | Pre-usage process, e.g., preloading, aligning |
| Y10T 29/49702 | ... | Lubricating |
| Y10T 29/49703 | ... | Sealing |
| Y10T 29/49705 | ... | Coating or casting |
| Y10T 29/49707 | ... | Bearing surface treatment |
| Y10T 29/49709 | ... | Specific metallic composition |
| Y10T 29/4971 | ... | Nonmetallic bearing element |
| Y10T 29/49712 | .. | Ball making |
| Y10T 29/49714 | ... | Hollow ball |
| Y10T 29/49716 | .. | Converting |
| Y10T 29/49718 | .. | Repairing |
| Y10T 29/49719 | ... | Seal or element thereof |
| Y10T 29/49721 | ... | with disassembling |
| Y10T 29/49723 | .... | including reconditioning of part |
| Y10T 29/49725 | ..... | by shaping |
| Y10T 29/49726 | ..... | Removing material |
| Y10T 29/49728 | ..... | and by a metallurgical operation, e.g., welding, diffusion bonding, casting |
| Y10T 29/4973 | .... | Replacing of defective part |
| Y10T 29/49732 | ... | by attaching repair preform, e.g., remaking, restoring, or patching |
| Y10T 29/49734 | .... | and removing damaged material |
| Y10T 29/49735 | ..... | Mechanically attaching preform with separate fastener |
| Y10T 29/49737 | ..... | Metallurgically attaching preform |
| Y10T 29/49739 | .... | Mechanically attaching preform by separate fastener |
| Y10T 29/49741 | ..... | Screw threaded fastener |
| Y10T 29/49742 | .... | Metallurgically attaching preform |
| Y10T 29/49744 | .... | Screw threaded preform |
| Y10T 29/49746 | ... | by applying fluent material, e.g., coating, casting |
| Y10T 29/49748 | ... | by shaping, e.g., bending, extruding, turning, etc. |
| Y10T 29/4975 | .... | including heating |
| Y10T 29/49751 | .. | Scrap recovering or utilizing |
| Y10T 29/49753 | ... | Metalworking to consolidate scrap |
| Y10T 29/49755 | ... | Separating one material from another |
| Y10T 29/49757 | | by burning or heating |

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|---------------|------|---|
| Y10T 29/49758 | .. | During simulated operation or operating conditions |
| Y10T 29/4976 | ... | Temperature |
| Y10T 29/49762 | .. | Center locating and shaping |
| Y10T 29/49764 | .. | with testing or indicating |
| Y10T 29/49766 | ... | torquing threaded assemblage or determining torque herein |
| Y10T 29/49767 | .... | Determining relative number of threaded member rotations |
| Y10T 29/49769 | ... | Using optical instrument [excludes mere human eyeballing] |
| Y10T 29/49771 | ... | Quantitative measuring or gauging |
| Y10T 29/49773 | .... | by radioactive tracing |
| Y10T 29/49774 | .... | by vibratory or oscillatory movement |
| Y10T 29/49776 | .... | Pressure, force, or weight determining |
| Y10T 29/49778 | ... | with aligning, guiding, or instruction |
| Y10T 29/4978 | .... | Assisting assembly or disassembly |
| Y10T 29/49782 | .. | of a slide fastener |
| Y10T 29/49783 | ... | of slider |
| Y10T 29/49785 | ... | of interlocking element |
| Y10T 29/49787 | .. | Obtaining plural composite product pieces from preassembled workpieces |
| Y10T 29/49789 | .. | Obtaining plural product pieces from unitary workpiece |
| Y10T 29/4979 | ... | Breaking through weakened portion |
| Y10T 29/49792 | ... | Dividing through modified portion |
| Y10T 29/49794 | ... | Dividing on common outline |
| Y10T 29/49796 | ... | Coacting pieces |
| Y10T 29/49798 | ... | Dividing sequentially from leading end, e.g., by cutting or breaking |
| Y10T 29/49799 | .. | Providing transitory integral holding or handling portion |
| Y10T 29/49801 | .. | Shaping fiber or fibered material |
| Y10T 29/49803 | .. | Magnetically shaping |
| Y10T 29/49805 | .. | Shaping by direct application of fluent pressure |
| Y10T 29/49806 | ... | Explosively shaping |
| Y10T 29/49808 | .. | Shaping container end to encapsulate material |
| Y10T 29/4981 | .. | Utilizing transitory attached element or associated separate material |
| Y10T 29/49812 | ... | Temporary protective coating, impregnation, or cast layer |
| Y10T 29/49813 | .. | Shaping mating parts for reassembly in different positions |
| Y10T 29/49815 | .. | Disassembling |
| Y10T 29/49817 | ... | with other than ancillary treating or assembling |
| Y10T 29/49819 | ... | with conveying of work or disassembled work part |
| Y10T 29/49821 | ... | by altering or destroying work part or connector |
| Y10T 29/49822 | ... | by applying force |
| Y10T 29/49824 | .... | to elastically deform work part or connector |
| Y10T 29/49826 | .. | Assembling or joining |
| Y10T 29/49828 | ... | Progressively advancing of work assembly station or assembled portion of work |

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|---------------|-------|---|
| Y10T 29/49829 | | Advancing work to successive stations [i.e., assembly line] |
| Y10T 29/49831 | | Advancing station |
| Y10T 29/49833 | ... | Punching, piercing or reaming part by surface of second part |
| Y10T 29/49835 | .... | with shaping |
| Y10T 29/49837 | ..... | of first part |
| Y10T 29/49838 | ... | by stringing |
| Y10T 29/4984 | ... | Retaining clearance for motion between assembled parts |
| Y10T 29/49842 | .... | Between tube-forming helical coils |
| Y10T 29/49844 | .... | Through resilient media |
| Y10T 29/49845 | .... | by deforming interlock |
| Y10T 29/49847 | ..... | by folding part into plural ears |
| Y10T 29/49849 | ..... | by wrapping around |
| Y10T 29/49851 | ..... | of link closure |
| Y10T 29/49853 | ..... | of sphere, i.e., ball, in socket |
| Y10T 29/49854 | ..... | Ball point pen making |
| Y10T 29/49856 | ..... | Allowing assembled sphere to move in single plane only |
| Y10T 29/49858 | ..... | of flange into tubular socket |
| Y10T 29/4986 | ..... | Outwardly deforming internally fitted rod |
| Y10T 29/49861 | ... | Sizing mating parts during final positional association |
| Y10T 29/49863 | ... | with prestressing of part |
| Y10T 29/49865 | .... | by temperature differential [e.g., shrink fit] |
| Y10T 29/49867 | .... | of skin on frame member |
| Y10T 29/49869 | ..... | by flexing |
| Y10T 29/4987 | .... | Elastic joining of parts |
| Y10T 29/49872 | ..... | Confining elastic part in socket |
| Y10T 29/49874 | .... | Prestressing rod, filament or strand |
| Y10T 29/49876 | .... | by snap fit |
| Y10T 29/49877 | ... | of flexible wall, expansible chamber devices [e.g., bellows] |
| Y10T 29/49879 | ... | Spaced wall tube or receptacle |
| Y10T 29/49881 | ... | of separate helix [e.g., screw thread] |
| Y10T 29/49883 | ... | Ribbing |
| Y10T 29/49885 | ... | with coating before or during assembling |
| Y10T 29/49886 | .... | to roughen surface |
| Y10T 29/49888 | ... | Subsequently coating |
| Y10T 29/4989 | ... | with spreading of cable strands |
| Y10T 29/49892 | ... | Joining plate edge perpendicularly to frame |
| Y10T 29/49893 | ... | Peripheral joining of opposed mirror image parts to form a hollow body |
| Y10T 29/49895 | ... | Associating parts by use of aligning means [e.g., use of a drift pin or a "fixture"] |
| Y10T 29/49897 | | Registering mating opposed tool parts [e.g., registering a punch and a cooperating die] |

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| Y10T 29/49899 | | by multiple cooperating aligning means |
| Y10T 29/49901 | | Sequentially associating parts on stationary aligning means |
| Y10T 29/49902 | .... | by manipulating aligning means |
| Y10T 29/49904 | ... | Assembling a subassembly, then assembling with a second subassembly |
| Y10T 29/49906 | ... | Metal deforming with nonmetallic bonding |
| Y10T 29/49908 | ... | Joining by deforming |
| Y10T 29/49909 | .... | Securing cup or tube between axially extending concentric annuli |
| Y10T 29/49911 | ..... | by expanding inner annulus |
| Y10T 29/49913 | ..... | by constricting outer annulus |
| Y10T 29/49915 | .... | Overedge assembling of seated part |
| Y10T 29/49917 | ..... | by necking in cup or tube wall |
| Y10T 29/49918 | ..... | At cup or tube end |
| Y10T 29/4992 | ..... | by flaring inserted cup or tube end |
| Y10T 29/49922 | ..... | by bending over projecting prongs |
| Y10T 29/49924 | .... | of parallel side-by-side elongated members |
| Y10T 29/49925 | .... | Inward deformation of aperture or hollow body wall |
| Y10T 29/49927 | ..... | Hollow body is axially joined cup or tube |
| Y10T 29/49929 | ..... | Joined to rod |
| Y10T 29/49931 | ..... | Joined to overlapping ends of plural rods |
| Y10T 29/49933 | ..... | After thinning |
| Y10T 29/49934 | ..... | by axially applying force |
| Y10T 29/49936 | .... | Surface interlocking |
| Y10T 29/49938 | .... | Radially expanding part in cavity, aperture, or hollow body |
| Y10T 29/4994 | ..... | Radially expanding internal tube |
| Y10T 29/49941 | ..... | Peripheral edge joining of abutting plates |
| Y10T 29/49943 | ..... | Riveting |
| Y10T 29/49945 | ... | by driven force fit |
| Y10T 29/49947 | ... | by applying separate fastener |
| Y10T 29/49948 | .... | Multipart cooperating fastener [e.g., bolt and nut] |
| Y10T 29/4995 | ..... | Nonthreaded |
| Y10T 29/49952 | ..... | At least one part is nonmetallic |
| Y10T 29/49954 | .... | Fastener deformed after application |
| Y10T 29/49956 | ..... | Riveting |
| Y10T 29/49957 | ..... | At least one part nonmetallic |
| Y10T 29/49959 | .... | Nonresilient fastener |
| Y10T 29/49961 | ..... | At least one part nonmetallic |
| Y10T 29/49963 | .... | Threaded fastener |
| Y10T 29/49964 | ..... | At least one part nonmetallic |
| Y10T 29/49966 | | with supplemental joining |
| Y10T 29/49968 | | Metal fusion joining |

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| Y10T 29/4997 | | At least one part nonmetallic |
| Y10T 29/49972 | .. | with separating, localizing, or eliminating of as-cast defects from a metal casting [e.g., anti-pipe] |
| Y10T 29/49973 | ... | Compressing ingot while still partially molten |
| Y10T 29/49975 | ... | Removing defects |
| Y10T 29/49977 | .... | From center of ingot to leave hollow blank |
| Y10T 29/49979 | .... | After deforming |
| Y10T 29/4998 | .. | Combined manufacture including applying or shaping of fluent material |
| Y10T 29/49982 | ... | Coating |
| Y10T 29/49984 | .... | and casting |
| Y10T 29/49986 | .... | Subsequent to metal working |
| Y10T 29/49988 | ... | Metal casting |
| Y10T 29/49989 | .... | Followed by cutting or removing material |
| Y10T 29/49991 | .... | Combined with rolling |
| Y10T 29/49993 | ... | Filling of opening |
| Y10T 29/49995 | .. | Shaping one-piece blank by removing material |
| Y10T 29/49996 | ... | Successive distinct removal operations |
| Y10T 29/49998 | .. | Work holding |
| Y10T 29/50 | . | Convertible metal working machine |
| Y10T 29/505 | .. | Vise type |
| Y10T 29/51 | . | Plural diverse manufacturing apparatus including means for metal shaping or assembling |
| Y10T 29/5101 | .. | Slide fastener or slide fastener element |
| Y10T 29/5102 | .. | Binding or covering and cutting |
| Y10T 29/5103 | ... | Cutting covering material only |
| Y10T 29/5104 | .. | Type of machine |
| Y10T 29/5105 | ... | Drill press |
| Y10T 29/5107 | .... | Drilling and other |
| Y10T 29/5108 | .... | Portable |
| Y10T 29/5109 | ... | Lathe |
| Y10T 29/511 | .... | Grinding attachment |
| Y10T 29/5111 | .... | Pulley or wheel |
| Y10T 29/5112 | .... | Convertible |
| Y10T 29/5113 | .... | Commutator |
| Y10T 29/5114 | .... | Lathe and tool |
| Y10T 29/5115 | ... | Planer |
| Y10T 29/5116 | .. | forging and bending, cutting or punching |
| Y10T 29/5117 | ... | Fastener [zipper] |
| Y10T 29/5118 | ... | Riveting |
| Y10T 29/512 | ... | Ball making |

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|--------------|-------|---|
| Y10T 29/5121 | ... | Wire working |
| Y10T 29/5122 | .. | with means to feed work during tool contact |
| Y10T 29/5123 | ... | including nonrotary flying tool |
| Y10T 29/5124 | .. | with means to feed work intermittently from one tool station to another |
| Y10T 29/5125 | ... | Stock turret |
| Y10T 29/5126 | .... | Swiss type |
| Y10T 29/5127 | ... | Blank turret |
| Y10T 29/5128 | .... | Rotary work - vertical axis |
| Y10T 29/5129 | .... | Rotary work - horizontal axis |
| Y10T 29/513 | .... | Stationary work |
| Y10T 29/5132 | .... | Belt drive |
| Y10T 29/5133 | .... | Crankshaft |
| Y10T 29/5134 | .... | Collapsible tube |
| Y10T 29/5135 | ... | Endless belt |
| Y10T 29/5136 | .. | Separate tool stations for selective or successive operation on work |
| Y10T 29/5137 | ... | including assembling or disassembling station |
| Y10T 29/5138 | .... | and means to machine work part to fit cooperating work part |
| Y10T 29/5139 | .... | and means to sever work prior to disassembling |
| Y10T 29/514 | ..... | comprising means to strip insulation from wire |
| Y10T 29/5141 | .... | and means to stake electric wire to commutator or armature in assembling of electric motor or generator |
| Y10T 29/5142 | .... | and means to sever work from supply |
| Y10T 29/5143 | .... | and means to machine product |
| Y10T 29/5145 | ..... | to sever product to length |
| Y10T 29/5146 | .. | Common reciprocating support for spaced tools |
| Y10T 29/5147 | .. | including composite tool |
| Y10T 29/5148 | ... | including severing means |
| Y10T 29/5149 | .... | to sever electric terminal from supply strip |
| Y10T 29/515 | .... | to trim electric component |
| Y10T 29/5151 | ..... | Means comprising hand-manipulatable implement |
| Y10T 29/5152 | .. | with turret mechanism |
| Y10T 29/5153 | ... | Multiple turret |
| Y10T 29/5154 | ... | tool turret |
| Y10T 29/5155 | .... | Rotary tool holder |
| Y10T 29/5157 | .... | Sliding tool holder |
| Y10T 29/5158 | .... | Fluid operated |
| Y10T 29/5159 | .... | Cam operated |
| Y10T 29/516 | ..... | Longitudinal turret axis |
| Y10T 29/5161 | ..... | Transverse turret axis |
| Y10T 29/5162 | .... | Lever operated |

| | | |
|---------------|------|--|
| Y10T 29/5163 | .... | Rack-and-pinion operated |
| Y10T 29/5164 | .... | Screw operated |
| Y10T 29/5165 | ... | including rotating and/or locking means |
| Y10T 29/5166 | .... | Frictional and positive |
| Y10T 29/5167 | .... | Lock means for tool or work turrets |
| Y10T 29/5168 | .. | Multiple-tool holder |
| Y10T 29/517 | ... | Laterally movable stock holder |
| Y10T 29/5171 | ... | Axial tool and transversely movable slide rest |
| Y10T 29/5172 | .... | Rotary tool spindle |
| Y10T 29/5173 | ... | Longitudinally and transversely movable |
| Y10T 29/5174 | .... | Rotary tool spindle |
| Y10T 29/5175 | ... | Oscillating tool |
| Y10T 29/5176 | .. | including machining means |
| Y10T 29/5177 | ... | and work-holder for assembly |
| Y10T 29/5178 | .. | Attachment |
| Y10T 29/5179 | .. | Speed controller |
| Y10T 29/518 | .. | Carriage stop mechanism |
| Y10T 29/5182 | .. | Flash remover |
| Y10T 29/5183 | .. | Welding strip ends |
| Y10T 29/5184 | .. | Casting and working |
| Y10T 29/5185 | .. | Tube making |
| Y10T 29/5186 | .. | Covering |
| Y10T 29/5187 | .. | Wire working |
| Y10T 29/5188 | .. | Radiator making |
| Y10T 29/5189 | .. | Printing plate |
| Y10T 29/519 | .. | Turret |
| Y10T 29/5191 | .. | Assembly |
| Y10T 29/5192 | .. | Armature |
| Y10T 29/5193 | .. | Electrical connector or terminal |
| Y10T 29/5195 | .. | Tire valve or spark plug |
| Y10T 29/5196 | .. | Multiple station with conveyor |
| Y10T 29/5197 | .. | Multiple stations working strip material |
| Y10T 29/5198 | .. | Continuous strip |
| Y10T 29/5199 | .. | Work on tubes |
| Y10T 29/52 | . | Plural diverse manufacturing apparatus |
| Y10T 29/53 | . | Means to assemble or disassemble |
| Y10T 29/53004 | .. | with means to regulate operation by use of templet, tape, card or other replaceable information supply |
| Y10T 29/53009 | ... | with comparator |
| Y10T 29/53013 | .... | Computer input |

| | | |
|---------------|-------|--|
| Y10T 29/53017 | ... | Web or strand-carried information supply |
| Y10T 29/53022 | .. | with means to test work or product |
| Y10T 29/53026 | .. | with randomly actuated stopping or disabling means |
| Y10T 29/5303 | ... | Responsive to condition of work or product |
| Y10T 29/53035 | ... | Responsive to operative [e.g., safety device, etc.] |
| Y10T 29/53039 | .. | with control means energized in response to activator stimulated by condition sensor |
| Y10T 29/53043 | ... | including means to divert defective work part |
| Y10T 29/53048 | ... | Multiple station assembly or disassembly apparatus |
| Y10T 29/53052 | .... | including position sensor |
| Y10T 29/53057 | ... | Responsive to timer |
| Y10T 29/53061 | ... | Responsive to work or work-related machine element |
| Y10T 29/53065 | .... | with means to fasten by deformation |
| Y10T 29/5307 | ..... | Self-piercing work part |
| Y10T 29/53074 | .... | with means to fasten by elastic joining |
| Y10T 29/53078 | .... | with means to fasten by frictional fitting |
| Y10T 29/53083 | .... | including means to apply magnetic force directly to position or hold work |
| Y10T 29/53087 | .. | with signal, scale, illuminator, or optical viewer |
| Y10T 29/53091 | ... | for work-holder for assembly or disassembly |
| Y10T 29/53096 | .. | including means to provide a controlled environment |
| Y10T 29/531 | .. | Nuclear device |
| Y10T 29/53104 | .. | Roller or ball bearing |
| Y10T 29/53109 | ... | including deforming means |
| Y10T 29/53113 | .. | Heat exchanger |
| Y10T 29/53117 | ... | including means to manipulate heat exchanger tube bundle |
| Y10T 29/53122 | ... | including deforming means |
| Y10T 29/53126 | .. | Means to place sheath on running-length core |
| Y10T 29/5313 | .. | Means to assemble electrical device |
| Y10T 29/53135 | ... | Storage cell or battery |
| Y10T 29/53139 | .... | including deforming means |
| Y10T 29/53143 | ... | Motor or generator |
| Y10T 29/53148 | .... | Means to assemble commutator |
| Y10T 29/53152 | .... | Means to position insulation |
| Y10T 29/53157 | .... | Means to stake wire to commutator or armature |
| Y10T 29/53161 | .... | including deforming means |
| Y10T 29/53165 | ... | Magnetic memory device |
| Y10T 29/5317 | ... | Laminated device |
| Y10T 29/53174 | ... | Means to fasten electrical component to wiring board, base, or substrate |
| Y10T 29/53178 | | Chip component |
| Y10T 29/53183 | | Multilead component |

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|---------------|-------|--|
| Y10T 29/53187 | ... | Multiple station assembly apparatus |
| Y10T 29/53191 | ... | Means to apply vacuum directly to position or hold work part |
| Y10T 29/53196 | ... | Means to apply magnetic force directly to position or hold work part |
| Y10T 29/532 | ... | Conductor |
| Y10T 29/53204 | .... | Electrode |
| Y10T 29/53209 | .... | Terminal or connector |
| Y10T 29/53213 | ..... | Assembled to wire-type conductor |
| Y10T 29/53217 | ..... | Means to simultaneously assemble multiple, independent conductors to terminal |
| Y10T 29/53222 | ..... | Means comprising hand-manipulatable implement |
| Y10T 29/53226 | ..... | Fastening by deformation |
| Y10T 29/5323 | ..... | Fastening by elastic joining |
| Y10T 29/53235 | ..... | Means to fasten by deformation |
| Y10T 29/53239 | ..... | Means to fasten by elastic joining |
| Y10T 29/53243 | .... | Multiple, independent conductors |
| Y10T 29/53248 | .... | Switch or fuse |
| Y10T 29/53252 | ... | Means to simultaneously fasten three or more parts |
| Y10T 29/53257 | ... | Means comprising hand-manipulatable implement |
| Y10T 29/53261 | ... | Means to align and advance work part |
| Y10T 29/53265 | ... | with work-holder for assembly |
| Y10T 29/5327 | ... | Means to fasten by deforming |
| Y10T 29/53274 | .. | Means to disassemble electrical device |
| Y10T 29/53278 | ... | Storage cell or battery |
| Y10T 29/53283 | ... | Means comprising hand-manipulatable implement |
| Y10T 29/53287 | .. | Means to place traveler on ring or ring on bobbin of a textile machine |
| Y10T 29/53291 | .. | Slide fastener |
| Y10T 29/53296 | ... | Means to assemble stop onto stringer |
| Y10T 29/533 | ... | Means to assemble slider onto stringer |
| Y10T 29/53304 | ... | Means to assemble teeth onto stringer |
| Y10T 29/53309 | ... | Disassembly means |
| Y10T 29/53313 | .. | Means to interrelatedly feed plural work parts from plural sources without manual intervention |
| Y10T 29/53317 | ... | Box or pallet assembly means |
| Y10T 29/53322 | ... | Means to assemble container |
| Y10T 29/53326 | .... | Handle to container |
| Y10T 29/5333 | .... | Label to container |
| Y10T 29/53335 | .... | Pressurized dispensing container |
| Y10T 29/53339 | .... | Hypodermic syringe |
| Y10T 29/53343 | .... | including fluid component |
| Y10T 29/53348 | ... | Running-length work |

| | | |
|---------------|-------|---|
| Y10T 29/53352 | .... | Means including orbiting running-length work supply |
| Y10T 29/53357 | .... | Pipe section |
| Y10T 29/53361 | .... | Assembled to article |
| Y10T 29/53365 | ... | Multiple station assembly apparatus |
| Y10T 29/5337 | ... | including assembly pallet |
| Y10T 29/53374 | ... | including turret-type conveyer |
| Y10T 29/53378 | ... | including converging conveyers |
| Y10T 29/53383 | ... | and means to fasten work parts together |
| Y10T 29/53387 | .... | by deforming |
| Y10T 29/53391 | .... | by elastic joining |
| Y10T 29/53396 | .... | by friction fit |
| Y10T 29/534 | .. | Multiple station assembly or disassembly apparatus |
| Y10T 29/53404 | ... | including turret-type conveyer |
| Y10T 29/53409 | ... | including converging conveyers |
| Y10T 29/53413 | .... | and primary central conveyer |
| Y10T 29/53417 | ... | Means to fasten work parts together |
| Y10T 29/53422 | .... | by deforming |
| Y10T 29/53426 | .... | by elastic joining |
| Y10T 29/5343 | .. | Means to drive self-piercing work part |
| Y10T 29/53435 | .. | including assembly pallet |
| Y10T 29/53439 | .. | including provision to utilize thermal expansion of work |
| Y10T 29/53443 | .. | Means to assemble or disassemble container and fluid component |
| Y10T 29/53448 | .. | Vehicle wheel |
| Y10T 29/53452 | ... | Railway wheel |
| Y10T 29/53457 | .. | Tumbler lock |
| Y10T 29/53461 | .. | toy doll |
| Y10T 29/53465 | .. | Film or tape cartridge |
| Y10T 29/5347 | .. | Crystal to watch or clock |
| Y10T 29/53474 | .. | Means to insert or extract pen point |
| Y10T 29/53478 | .. | with magazine supply |
| Y10T 29/53483 | ... | and magnetic work-holder or positioner |
| Y10T 29/53487 | ... | Assembling means comprising hand-manipulatable implement |
| Y10T 29/53491 | .... | One work part comprising living tissue |
| Y10T 29/53496 | .... | comprising driver for snap-off-mandrel fastener; e.g., Pop [TM] riveter |
| Y10T 29/535 | .... | One work part comprising nut or screw |
| Y10T 29/53504 | .... | One work part comprising paper clip |
| Y10T 29/53509 | .... | Means to assemble tire stud into tire tread |
| Y10T 29/53513 | .... | Means to fasten by deforming |
| Y10T 29/53517 | | Fastening sinker to fishing line |
| Y10T 29/53522 | ... | Means to fasten by deforming |

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|---------------|-------|---|
| Y10T 29/53526 | .. | Running-length work |
| Y10T 29/5353 | ... | Assembled on core |
| Y10T 29/53535 | .. | including means to vibrate work |
| Y10T 29/53539 | .. | including work conveyer |
| Y10T 29/53543 | ... | including transporting track |
| Y10T 29/53548 | .... | and work carrying vehicle |
| Y10T 29/53552 | .. | Valve applying or removing |
| Y10T 29/53557 | ... | Engine valve unit puller or applier |
| Y10T 29/53561 | ... | Engine valve spring compressor [only] |
| Y10T 29/53565 | .... | Plural spring engagement |
| Y10T 29/5357 | .... | Screw operated |
| Y10T 29/53574 | ..... | Parallel or tong type, side entrance |
| Y10T 29/53578 | .... | Lever operated |
| Y10T 29/53583 | ..... | Single jaw or valve engagement |
| Y10T 29/53587 | ..... | Plier type |
| Y10T 29/53591 | ... | to or from wheel rim of resilient tire or tube |
| Y10T 29/53596 | ... | Removal tool |
| Y10T 29/536 | .. | Piston ring inserter or remover |
| Y10T 29/53604 | ... | Plier-type operation |
| Y10T 29/53609 | .... | with ring encirclement |
| Y10T 29/53613 | .. | Spring applier or remover |
| Y10T 29/53617 | ... | Transmission spring |
| Y10T 29/53622 | ... | Helical spring |
| Y10T 29/53626 | ... | Flat spiral spring [e.g., watch or clock type] |
| Y10T 29/5363 | ... | Circular spring |
| Y10T 29/53635 | ... | Leaf spring |
| Y10T 29/53639 | .. | Means to stake watch or clock |
| Y10T 29/53643 | ... | Plier type |
| Y10T 29/53648 | .. | Brake lining to brake shoe |
| Y10T 29/53652 | .. | Tube and coextensive core |
| Y10T 29/53657 | .. | to apply or remove a resilient article [e.g., tube, sleeve, etc.] |
| Y10T 29/53661 | ... | Nipple to nursing bottle |
| Y10T 29/53665 | ... | Well protector to sucker rod |
| Y10T 29/5367 | .. | Coupling to conduit |
| Y10T 29/53674 | .. | Loose-leaf sheet binder |
| Y10T 29/53678 | .. | Compressing parts together face to face |
| Y10T 29/53683 | .. | Spreading parts apart or separating them from face to face engagement |
| Y10T 29/53687 | .. | by rotation of work part |
| Y10T 29/53691 | ... | Means to insert or remove helix |
| Y10T 29/53696 | .. | Means to string |

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|---------------|-------|--|
| Y10T 29/537 | .. | tool handle and tool |
| Y10T 29/53704 | .. | tool chuck and tool |
| Y10T 29/53709 | .. | Overedge assembling means |
| Y10T 29/53713 | ... | Belt-hook attacher |
| Y10T 29/53717 | ... | Annular work |
| Y10T 29/53722 | .... | with radially acting tool inside annular work |
| Y10T 29/53726 | .... | with second workpiece inside annular work one workpiece moved to shape the other |
| Y10T 29/5373 | ..... | comprising driver for snap-off-mandrel fastener; e.g., Pop [TM] riveter |
| Y10T 29/53735 | ..... | including near side fastener shaping tool |
| Y10T 29/53739 | ..... | Pneumatic- or fluid-actuated tool |
| Y10T 29/53743 | ..... | Liquid |
| Y10T 29/53748 | ..... | and gas |
| Y10T 29/53752 | ..... | having rotary drive mechanism |
| Y10T 29/53757 | ..... | having allochiral actuating handles |
| Y10T 29/53761 | ..... | having repositionable annulus engaging tool |
| Y10T 29/53765 | ..... | including near side fastener shaping tool |
| Y10T 29/5377 | ... | Riveter |
| Y10T 29/53774 | .... | Single header |
| Y10T 29/53778 | ..... | Pipe joiner |
| Y10T 29/53783 | ... | Clip applier |
| Y10T 29/53787 | ... | Binding or covering |
| Y10T 29/53791 | .... | Edge binding |
| Y10T 29/53796 | .. | Puller or pusher means, contained force multiplying operator |
| Y10T 29/538 | ... | Hubcap and hub |
| Y10T 29/53804 | ... | Battery post and terminal |
| Y10T 29/53809 | ... | Cotter pin and cooperating member |
| Y10T 29/53813 | .... | Plier type means |
| Y10T 29/53817 | ... | Valve stem pin or key and another member |
| Y10T 29/53822 | ... | Machine key and another member |
| Y10T 29/53826 | ... | Arbor-type press means |
| Y10T 29/5383 | ... | having fluid operator |
| Y10T 29/53835 | ... | having wedge operator |
| Y10T 29/53839 | ... | having percussion or explosive operator |
| Y10T 29/53843 | .... | Tube, sleeve, or ferrule inserting or removing |
| Y10T 29/53848 | ... | having screw operator |
| Y10T 29/53852 | .... | C-frame |
| Y10T 29/53857 | .... | Central screw, work-engagers around screw |
| Y10T 29/53861 | | Work-engager arms along or parallel to screw |
| Y10T 29/53865 | | with arm connecting engaging means |

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|---------------|-------|---|
| Y10T 29/5387 | | Pivotal arms |
| Y10T 29/53874 | | Pivotal grippers on screw |
| Y10T 29/53878 | | Tubular or tube segment forms work-engager |
| Y10T 29/53883 | ..... | Screw threaded work-engager |
| Y10T 29/53887 | ..... | Movable grippers on screw |
| Y10T 29/53891 | ..... | Plate or bar forms work-engager |
| Y10T 29/53896 | ... | having lever operator |
| Y10T 29/539 | .... | Plier type means |
| Y10T 29/53904 | .. | Means comprising piston ring group contractor or holder |
| Y10T 29/53909 | .. | Means comprising hand manipulatable tool |
| Y10T 29/53913 | ... | Aligner or center |
| Y10T 29/53917 | .... | Tube with tube |
| Y10T 29/53922 | .... | Auto wheel with auto chassis |
| Y10T 29/53926 | .... | Clutch plates |
| Y10T 29/5393 | ... | Means comprising impact receiving tool |
| Y10T 29/53935 | .... | C-frame |
| Y10T 29/53939 | .... | Thread protector [e.g., wheel axle type] |
| Y10T 29/53943 | ... | Hand gripper for direct push or pull |
| Y10T 29/53948 | .... | Centrifugal separator |
| Y10T 29/53952 | .... | Tube sleeve or ferrule applying or removing |
| Y10T 29/53957 | ..... | Thread-tapping grip |
| Y10T 29/53961 | .. | with work-holder for assembly |
| Y10T 29/53965 | ... | for assembling a luminescent mantle |
| Y10T 29/5397 | ... | and assembling press [e.g., truss assembling means, etc.] |
| Y10T 29/53974 | ... | having means to permit support movement while work is thereon |
| Y10T 29/53978 | .. | including means to relatively position plural work parts |
| Y10T 29/53983 | .. | Work-supported apparatus |
| Y10T 29/53987 | .. | Tube, sleeve or ferrule |
| Y10T 29/53991 | .. | Work gripper, anvil, or element |
| Y10T 29/53996 | .. | by deforming |
| Y10T 29/54 | . | Miscellaneous apparatus |

Former US Class 70 series

| | |
|-------------------|--|
| Y10T 70/00 | Locks |
| Y10T 70/10 | . Miscellaneous |
| Y10T 70/20 | . Attack-actuated defeating mechanisms |
| Y10T 70/25 | .. With reset mechanisms |
| Y10T 70/30 | . Hasp |
| Y10T 70/308 | .. Combination lock |

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|-------------|-------|--|
| Y10T 70/317 | ... | Hasp-carried |
| Y10T 70/325 | ... | Keeper-carried |
| Y10T 70/333 | .. | Key lock |
| Y10T 70/342 | ... | Hasp-carried |
| Y10T 70/35 | .... | Keeper-encasing |
| Y10T 70/358 | ..... | Dead bolt |
| Y10T 70/367 | ..... | Latching bolt |
| Y10T 70/375 | .... | Dead bolt |
| Y10T 70/383 | .... | Latching bolt |
| Y10T 70/392 | ... | Keeper-carried |
| Y10T 70/40 | . | Portable |
| Y10T 70/402 | .. | Fetters |
| Y10T 70/404 | ... | Manacles and cuffs |
| Y10T 70/407 | .... | Nippers |
| Y10T 70/409 | ... | Shackles |
| Y10T 70/411 | .. | Clamps |
| Y10T 70/413 | .. | Padlocks |
| Y10T 70/415 | ... | Combination and/or key-controlled |
| Y10T 70/417 | ... | Combination-controlled |
| Y10T 70/42 | .... | Non-shackle type |
| Y10T 70/422 | .... | Rigid shackle |
| Y10T 70/424 | ..... | Sliding |
| Y10T 70/426 | ..... | Removable |
| Y10T 70/428 | ..... | Pivoted |
| Y10T 70/43 | ..... | Sliding detent |
| Y10T 70/433 | ..... | Swinging detent |
| Y10T 70/435 | .... | Flexible shackle |
| Y10T 70/437 | ... | Key-controlled |
| Y10T 70/439 | .... | Non-shackle type |
| Y10T 70/441 | ..... | Housing extension and cooperating detent |
| Y10T 70/443 | ..... | Single stem or shank |
| Y10T 70/446 | .... | Rigid shackle |
| Y10T 70/448 | ..... | Divided shackle |
| Y10T 70/45 | ..... | Divided jaw type |
| Y10T 70/452 | ..... | Sliding |
| Y10T 70/454 | ..... | Removable |
| Y10T 70/457 | ..... | Arcuate locus |
| Y10T 70/459 | | Both legs engaged |
| Y10T 70/461 | | Short leg engaged |
| Y10T 70/463 | | Long leg engaged |

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|--------------|-------|---|
| Y10T 70/465 | | Pivoted |
| Y10T 70/467 | | Sliding detent |
| Y10T 70/47 | | Free end only engaged |
| Y10T 70/472 | ..... | Pivoted end only engaged |
| Y10T 70/474 | ..... | Swinging detent |
| Y10T 70/476 | ..... | Free end only engaged |
| Y10T 70/478 | ..... | Pivoted end only engaged |
| Y10T 70/48 | ..... | Arcuate locus |
| Y10T 70/483 | .... | Flexible shackle |
| Y10T 70/485 | ... | With seal |
| Y10T 70/487 | ... | Parts, accessories, attachments and adjuncts |
| Y10T 70/489 | .... | Housings |
| Y10T 70/491 | .... | Shackles |
| Y10T 70/493 | .... | Protectors |
| Y10T 70/496 | ..... | Sheaths |
| Y10T 70/498 | ..... | Shields or canopies |
| Y10T 70/50 | . | Special application |
| Y10T 70/5004 | .. | For antitheft signaling device on protected article |
| Y10T 70/5009 | .. | For portable articles |
| Y10T 70/5013 | ... | Canes, umbrellas, apparel |
| Y10T 70/5018 | ... | Robes |
| Y10T 70/5022 | ... | Tools |
| Y10T 70/5027 | ... | Supporting stands |
| Y10T 70/5031 | ... | Receptacle |
| Y10T 70/5035 | .... | Bag |
| Y10T 70/504 | ..... | Collapsible throat |
| Y10T 70/5044 | ..... | Pivoted rigid jaw |
| Y10T 70/5049 | ..... | Attache or briefcase, portfolio |
| Y10T 70/5053 | ..... | Interengageable slide fastener type |
| Y10T 70/5058 | .... | Trunk and/or suitcase |
| Y10T 70/5062 | ..... | Projecting fixed or movable lug type |
| Y10T 70/5066 | ..... | Bolt type |
| Y10T 70/5071 | ..... | Hasp controlled |
| Y10T 70/5075 | ..... | Link and lever of hasp type |
| Y10T 70/508 | ..... | Hasp type |
| Y10T 70/5084 | ..... | Hasp-carried lock |
| Y10T 70/5089 | ..... | Loop type |
| Y10T 70/5093 | .. | For closures |
| Y10T 70/5097 | ... | Cabinet |
| Y10T 70/5102 | | Projecting lug type |

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|--------------|-------|--------------------------------------|
| Y10T 70/5106 | | External catch |
| Y10T 70/5111 | | Projectable bolt |
| Y10T 70/5115 | | Multiple bolts |
| Y10T 70/5119 | ..... | Multidirectional displacement |
| Y10T 70/5124 | ..... | Swinging and hooked end |
| Y10T 70/5128 | ... | Drawer |
| Y10T 70/5133 | .... | Dead bolt |
| Y10T 70/5137 | .... | Till |
| Y10T 70/5142 | ..... | Combination |
| Y10T 70/5146 | ... | Window |
| Y10T 70/515 | .... | Sliding sash |
| Y10T 70/5155 | ... | Door |
| Y10T 70/5159 | .... | Emergency exit |
| Y10T 70/5164 | .... | Links to limit opening |
| Y10T 70/5168 | .... | Braces |
| Y10T 70/5173 | .... | Sliding door |
| Y10T 70/5177 | ..... | Extending keeper |
| Y10T 70/5181 | ..... | Rigid or fixed |
| Y10T 70/5186 | ..... | Extensible |
| Y10T 70/519 | ..... | Projecting or extending bolt |
| Y10T 70/5195 | ..... | Projectable bolt |
| Y10T 70/5199 | .... | Swinging door |
| Y10T 70/5204 | ..... | Interfitting lock housing and keeper |
| Y10T 70/5208 | ..... | Multiple dead bolts |
| Y10T 70/5212 | ..... | Sliding dead bolt |
| Y10T 70/5217 | ..... | Swinging dead bolt |
| Y10T 70/5221 | ..... | Locking latch bolt, biased |
| Y10T 70/5226 | ..... | Combined dead bolt and latching bolt |
| Y10T 70/523 | ..... | Multiple dead bolts |
| Y10T 70/5235 | ..... | Multiple latch bolts |
| Y10T 70/5239 | ..... | Dead bolt, dogged latch bolt |
| Y10T 70/5243 | ..... | Manually dogged latch bolt |
| Y10T 70/5246 | ..... | Dead bolts |
| Y10T 70/5248 | ..... | Multiple |
| Y10T 70/5252 | ..... | Sliding and swinging |
| Y10T 70/5257 | ..... | Combination operable only |
| Y10T 70/5261 | ..... | Key operable only |
| Y10T 70/5265 | | Sliding and rotary |
| Y10T 70/527 | | Sliding |
| Y10T 70/5274 | | Combination operable only |

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|--------------|-------|--|
| Y10T 70/5279 | | Key operable only |
| Y10T 70/5283 | | Swinging |
| Y10T 70/5288 | | Combination operable only |
| Y10T 70/5292 | ..... | Key operable only |
| Y10T 70/5296 | ..... | Single |
| Y10T 70/5301 | ..... | Sliding and swinging |
| Y10T 70/5305 | ..... | Combination operable only |
| Y10T 70/531 | ..... | Key operable only |
| Y10T 70/5314 | ..... | Sliding and rotary |
| Y10T 70/5319 | ..... | Sliding |
| Y10T 70/5323 | ..... | Multidirectional displacement |
| Y10T 70/5327 | ..... | Keeper interlocking |
| Y10T 70/5332 | ..... | Curved |
| Y10T 70/5336 | ..... | Combination operable only |
| Y10T 70/5341 | ..... | Key operable only |
| Y10T 70/5345 | ..... | Swinging |
| Y10T 70/535 | ..... | Keeper and housing interlocking |
| Y10T 70/5354 | ..... | With hooked end |
| Y10T 70/5358 | ..... | Combination operable only |
| Y10T 70/5363 | ..... | Key operable only |
| Y10T 70/5367 | ..... | Screw |
| Y10T 70/5372 | ..... | Locking latch bolts, biased |
| Y10T 70/5376 | ..... | Keeper interlocking |
| Y10T 70/5381 | ..... | Projectable beyond normal biased position |
| Y10T 70/5385 | ..... | Spring projected |
| Y10T 70/5389 | ..... | Manually operable |
| Y10T 70/5394 | ..... | Directly acting dog for exterior, manual, bolt manipulator |
| Y10T 70/5398 | ..... | Related dog for interior, manual, bolt manipulator |
| Y10T 70/5403 | ..... | Dog having a dog |
| Y10T 70/5407 | ..... | Related dogging means for latch-bolt |
| Y10T 70/5412 | ..... | Dog and dog actuator always interconnected |
| Y10T 70/5416 | ..... | Exterior manipulator declutched from bolt when dogged |
| Y10T 70/542 | ..... | Manual dog-controller concentric with bolt manipulator |
| Y10T 70/5425 | ..... | Shiftable rollback serves as dog |
| Y10T 70/5429 | ..... | Additional dog-controller key actuated for dogging and undogging |
| Y10T 70/5434 | ..... | Dog-controller axially slidable and axially rotatable |
| Y10T 70/5438 | ..... | Dog-controller rotatable |
| Y10T 70/5442 | | Key-actuated lock releases dog |
| Y10T 70/5447 | | Manual bolt-manipulator operation releases dog |

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|--------------|--------|---|
| Y10T 70/5451 | | Manual bolt-manipulator operation releases dog |
| Y10T 70/5456 | | Interior manual bolt-manipulator serves as dog-controller |
| Y10T 70/546 | ..... | For both dogging and undogging |
| Y10T 70/5465 | ..... | Manual dog-controller |
| Y10T 70/5469 | ..... | With additional lock actuated dog-controller |
| Y10T 70/5473 | ..... | Additional dog-controller controls both dogging and undogging |
| Y10T 70/5478 | ..... | Accessible at door edge |
| Y10T 70/5482 | ..... | Slidable only |
| Y10T 70/5487 | ..... | Manual bolt-manipulator is slidable only |
| Y10T 70/5491 | ..... | Manual bolt-manipulator is lever |
| Y10T 70/5496 | ..... | Freely movable external manipulator |
| Y10T 70/55 | ..... | Dogged bolt or connections |
| Y10T 70/5504 | ..... | Automatic |
| Y10T 70/5509 | ..... | Snub bolt |
| Y10T 70/5513 | ..... | By manipulator |
| Y10T 70/5518 | ..... | Connections only |
| Y10T 70/5522 | ..... | Gravity projected |
| Y10T 70/5527 | ..... | Projecting mechanism is lock controlled |
| Y10T 70/5531 | ..... | Combination and/or key operable |
| Y10T 70/5535 | ..... | Trip release |
| Y10T 70/554 | ... .. | Cover, lid, cap, encasing shield |
| Y10T 70/5544 | .... | Pivoted |
| Y10T 70/5549 | ..... | Cover-carried lock |
| Y10T 70/5553 | ..... | Dead bolt |
| Y10T 70/5558 | ..... | Latching bolt |
| Y10T 70/5562 | .... | Removable |
| Y10T 70/5566 | ..... | External locking devices |
| Y10T 70/5571 | ..... | Freely movable when locked |
| Y10T 70/5575 | ..... | Directly seating |
| Y10T 70/558 | ..... | Cover-carried lock |
| Y10T 70/5584 | ..... | Dead bolt |
| Y10T 70/5589 | ..... | Latching bolt |
| Y10T 70/5593 | ..... | Movably seating |
| Y10T 70/5597 | ..... | Cover-carried lock |
| Y10T 70/5602 | ..... | Dead bolt |
| Y10T 70/5606 | ..... | Latching bolt |
| Y10T 70/5611 | .. | For control and machine elements |
| Y10T 70/5615 | ... | Valve |
| Y10T 70/5619 | | Locked stationary |

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|--------------|-------|-----------------------------------|
| Y10T 70/5624 | | Externally mounted locking device |
| Y10T 70/5628 | | Valve encasing |
| Y10T 70/5633 | ..... | Housing-carried lock |
| Y10T 70/5637 | ..... | With padlock |
| Y10T 70/5642 | ... | Rod |
| Y10T 70/5646 | ... | Rotary shaft |
| Y10T 70/565 | .... | Locked stationary |
| Y10T 70/5655 | ..... | Housing-carried lock |
| Y10T 70/5659 | ..... | Dead bolt |
| Y10T 70/5664 | ..... | Latching bolt |
| Y10T 70/5668 | ..... | Shaft-carried lock |
| Y10T 70/5673 | .... | Freely movable when locked |
| Y10T 70/5677 | ..... | Shaft-carried clutch |
| Y10T 70/5681 | ... | Gear |
| Y10T 70/5686 | .... | Planetary |
| Y10T 70/569 | ... | Lever |
| Y10T 70/5695 | .... | Guide |
| Y10T 70/5699 | ..... | Quadrant |
| Y10T 70/5704 | ..... | Lever-carried lock |
| Y10T 70/5708 | ..... | Fixed lever-receiving keeper |
| Y10T 70/5712 | ..... | Lever-carried lock |
| Y10T 70/5717 | .... | Multiple |
| Y10T 70/5721 | ..... | Externally mounted locking device |
| Y10T 70/5726 | ..... | With padlock |
| Y10T 70/573 | .... | Single |
| Y10T 70/5735 | ..... | Externally mounted locking device |
| Y10T 70/5739 | ..... | With padlock |
| Y10T 70/5743 | ..... | Disconnectable |
| Y10T 70/5748 | ..... | Foldable |
| Y10T 70/5752 | ..... | Universal mounting |
| Y10T 70/5757 | ... | Handle, handwheel or knob |
| Y10T 70/5761 | .... | Retractable or flush handle |
| Y10T 70/5765 | .... | Rotary or swinging |
| Y10T 70/577 | ..... | Locked stationary |
| Y10T 70/5774 | ..... | Externally mounted locking device |
| Y10T 70/5779 | ..... | With padlock |
| Y10T 70/5783 | ..... | Combination lock |
| Y10T 70/5788 | | Push pin or button |
| Y10T 70/5792 | | Handle-carried key lock |
| Y10T 70/5796 | | Coaxially mounted |

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|--------------|-------|---|
| Y10T 70/5801 | | Axially movable bolt |
| Y10T 70/5805 | | Freely movable when locked |
| Y10T 70/581 | ..... | Combination lock |
| Y10T 70/5814 | ..... | Push pin or button |
| Y10T 70/5819 | ..... | Handle-carried key lock |
| Y10T 70/5823 | ..... | Coaxial clutch connection |
| Y10T 70/5827 | ..... | Axially movable clutch |
| Y10T 70/5832 | .... | Lock and handle assembly |
| Y10T 70/5836 | ... | Wheel |
| Y10T 70/5841 | .... | Rotation blocking |
| Y10T 70/5845 | ..... | Spoke gap traversing type |
| Y10T 70/585 | ..... | Brake type |
| Y10T 70/5854 | ... | Bolt, nut, stud, stud-cap |
| Y10T 70/5858 | .... | Locked stationary |
| Y10T 70/5863 | .... | Freely movable when locked |
| Y10T 70/5867 | .... | Encased |
| Y10T 70/5872 | .. | For cycles |
| Y10T 70/5876 | ... | Anchors |
| Y10T 70/5881 | ... | Stands |
| Y10T 70/5885 | ... | Drive |
| Y10T 70/5889 | .. | For automotive vehicles |
| Y10T 70/5894 | ... | Plural point |
| Y10T 70/5898 | ..... | With switch |
| Y10T 70/5903 | ... | Hood |
| Y10T 70/5907 | ..... | With switch |
| Y10T 70/5912 | ... | Fuel valve |
| Y10T 70/5916 | ..... | With switch |
| Y10T 70/592 | ..... | Cap combined |
| Y10T 70/5925 | ... | Transmission |
| Y10T 70/5929 | ..... | Cover combined |
| Y10T 70/5934 | ..... | Selective-type shift rod, fork or block |
| Y10T 70/5938 | ..... | With switch |
| Y10T 70/5942 | ..... | Planetary type |
| Y10T 70/5947 | ..... | With switch |
| Y10T 70/5951 | ..... | With switch |
| Y10T 70/5956 | ... | Steering mechanism with switch |
| Y10T 70/596 | ... | Pilot wheel control or linkage |
| Y10T 70/5965 | ... | Control levers with switch |
| Y10T 70/5969 | ... | Other element with switch |
| Y10T 70/5973 | ... | Remote control |

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|--------------|-------|---|
| Y10T 70/5978 | | With switch |
| Y10T 70/5982 | ... | Accessories |
| Y10T 70/5987 | | Spare or mounted wheel or tire |
| Y10T 70/5991 | ..... | Tire or rim only |
| Y10T 70/5996 | .. | For seats |
| Y10T 70/60 | . | Systems |
| Y10T 70/625 | .. | Operation and control |
| Y10T 70/65 | ... | Central control |
| Y10T 70/675 | ... | Serially operable |
| Y10T 70/70 | . | Operating mechanism |
| Y10T 70/7006 | .. | Predetermined time interval controlled |
| Y10T 70/7011 | ... | Positively initiated delay interval |
| Y10T 70/7017 | .... | Interval terminating |
| Y10T 70/7023 | .... | Repeating interval |
| Y10T 70/7028 | ... | Electric |
| Y10T 70/7034 | ... | Clockwork control |
| Y10T 70/704 | .... | Continuously operating once initiated |
| Y10T 70/7045 | ..... | Emergency release |
| Y10T 70/7051 | .. | Using a powered device [e.g., motor] |
| Y10T 70/7057 | ... | Permanent magnet |
| Y10T 70/7062 | ... | Electrical type [e.g., solenoid] |
| Y10T 70/7068 | .... | Actuated after correct combination recognized [e.g., numerical, alphabetical, or magnet[s] pattern] |
| Y10T 70/7073 | ..... | Including use of a key |
| Y10T 70/7079 | ..... | Key rotated [e.g., Eurocylinder] |
| Y10T 70/7085 | ..... | Using a dial having indicia or pointer and indicia |
| Y10T 70/709 | ..... | Plural interdependent or plural independently operable tumbler sets |
| Y10T 70/7096 | ..... | With mechanism having rocker arm or linked bars |
| Y10T 70/7102 | .... | And details of blocking system [e.g., linkage, latch, pawl, spring] |
| Y10T 70/7107 | .... | And alternately mechanically actuated by a key, dial, etc. |
| Y10T 70/7113 | .... | Projected and retracted electrically |
| Y10T 70/7119 | .... | Projected electrically only |
| Y10T 70/7124 | .... | Retracted electrically only |
| Y10T 70/713 | .... | Dogging manual operator |
| Y10T 70/7136 | .... | Key initiated actuation of device |
| Y10T 70/7141 | .. | Combination and key |
| Y10T 70/7147 | .. | Combination or key |
| Y10T 70/7153 | .. | Combination |
| Y10T 70/7158 | ... | Individual blocking elements |
| Y10T 70/7164 | | Selectively operable |

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|--------------|-------|------------------------------------|
| Y10T 70/7169 | ... | Complex movement or puzzle type |
| Y10T 70/7175 | | Labyrinthian passage |
| Y10T 70/7181 | ... | Tumbler type |
| Y10T 70/7186 | .... | Plural interdependent sets |
| Y10T 70/7192 | .... | Plural independently operable sets |
| Y10T 70/7198 | .... | Single tumbler set |
| Y10T 70/7203 | ..... | With ball or roller |
| Y10T 70/7209 | ..... | Intersect sliding tumblers |
| Y10T 70/7215 | ..... | Individually set sliding tumblers |
| Y10T 70/722 | ..... | Manually operable |
| Y10T 70/7226 | ..... | Associated movable operator |
| Y10T 70/7232 | ..... | Removable |
| Y10T 70/7237 | ..... | Rotary or swinging tumblers |
| Y10T 70/7243 | ..... | Intersect tumblers |
| Y10T 70/7249 | ..... | Tumblers released |
| Y10T 70/7254 | ..... | Fence held spaced from tumblers |
| Y10T 70/726 | ..... | Individually set |
| Y10T 70/7266 | ..... | Movable selector |
| Y10T 70/7271 | ..... | Associated movable operator |
| Y10T 70/7277 | ..... | Removable |
| Y10T 70/7282 | ..... | Pin or rod and slot |
| Y10T 70/7288 | ..... | Spindle operator |
| Y10T 70/7294 | ..... | Concentric spindles |
| Y10T 70/7299 | ..... | Axially shiftable spindle |
| Y10T 70/7305 | ..... | Manually operable |
| Y10T 70/7311 | ... | Step-by-step |
| Y10T 70/7316 | ... | Combination upsetting |
| Y10T 70/7322 | ... | Permutation |
| Y10T 70/7328 | .... | Compound tumblers |
| Y10T 70/7333 | ..... | With fastener or holder |
| Y10T 70/7339 | ..... | Pin and socket |
| Y10T 70/7345 | .... | Removable change element |
| Y10T 70/735 | ... | Operating elements |
| Y10T 70/7356 | .... | Fences |
| Y10T 70/7362 | ..... | Bolt or lock housing supported |
| Y10T 70/7367 | .... | Tumbler structure and position |
| Y10T 70/7373 | ..... | Nested |
| Y10T 70/7379 | | Variant diameter |
| Y10T 70/7384 | | Mounts |
| Y10T 70/739 | | Motion-restraining means |

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|--------------|-------|--|
| Y10T 70/7395 | | Friction holder |
| Y10T 70/7401 | | Spindles |
| Y10T 70/7407 | | Operating indicators |
| Y10T 70/7412 | ..... | Portable combination setting guide |
| Y10T 70/7418 | ..... | Dials |
| Y10T 70/7424 | ... | Tampering prevention or attach defeating |
| Y10T 70/7429 | .... | Resonance type |
| Y10T 70/7435 | .... | Hidden or covered dial |
| Y10T 70/7441 | .. | Key |
| Y10T 70/7446 | ... | Multiple keys |
| Y10T 70/7452 | .... | Selective shutout type |
| Y10T 70/7458 | .... | Interdependent |
| Y10T 70/7463 | .... | Master- and change-key |
| Y10T 70/7469 | ..... | Change-key shutout |
| Y10T 70/7475 | ..... | Submaster- and change-key |
| Y10T 70/748 | ..... | Change-key shutout |
| Y10T 70/7486 | ... | Single key |
| Y10T 70/7492 | .... | Tumblerless push or pull key |
| Y10T 70/7497 | .... | Tumblerless warded |
| Y10T 70/7503 | .... | Tumbler and ward type |
| Y10T 70/7508 | .... | Tumbler type |
| Y10T 70/7514 | ..... | Sliding and rotary or swinging tumblers |
| Y10T 70/752 | ..... | Sliding tumblers |
| Y10T 70/7525 | ..... | Longitudinal |
| Y10T 70/7531 | ..... | Transverse |
| Y10T 70/7537 | ..... | Rotary or swinging tumblers |
| Y10T 70/7542 | ..... | Single set |
| Y10T 70/7548 | ..... | Directly key engaged |
| Y10T 70/7554 | ..... | Cylinder type with auxiliary tumblers or wards |
| Y10T 70/7559 | ..... | Cylinder type |
| Y10T 70/7565 | ..... | Plural tumbler sets |
| Y10T 70/7571 | ..... | Concentric tumblers |
| Y10T 70/7576 | ..... | Sliding and rotary plug |
| Y10T 70/7582 | ..... | Sliding plug |
| Y10T 70/7588 | ..... | Rotary plug |
| Y10T 70/7593 | ..... | Sliding tumblers |
| Y10T 70/7599 | ..... | Transverse of plug |
| Y10T 70/7605 | ..... | Pin tumblers |
| Y10T 70/761 | | Rotatable pins [e.g., MEDECO lock] |
| Y10T 70/7616 | | Including sidebar |

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| Y10T 70/7621 | | Including sidebar |
| Y10T 70/7627 | | Rotary or swinging tumblers |
| Y10T 70/7633 | | Transverse of plug |
| Y10T 70/7638 | ..... | Cylinder and plug assembly |
| Y10T 70/7644 | ..... | Key- and tool-controlled |
| Y10T 70/765 | ..... | Key only controlled |
| Y10T 70/7655 | ..... | Cylinder attaching or mounting means |
| Y10T 70/7661 | ..... | Detachable or removable cylinder |
| Y10T 70/7667 | ..... | Operating elements, parts and adjuncts |
| Y10T 70/7672 | ..... | Cylinder |
| Y10T 70/7678 | ..... | Adjustable |
| Y10T 70/7684 | ..... | Plug |
| Y10T 70/7689 | ..... | Tumblers |
| Y10T 70/7695 | ..... | Plate |
| Y10T 70/7701 | ..... | Pin |
| Y10T 70/7706 | ..... | Operating connections |
| Y10T 70/7712 | ..... | Rollbacks |
| Y10T 70/7718 | ..... | Intermediate |
| Y10T 70/7723 | ..... | Cylinder rings |
| Y10T 70/7729 | ... | Permutation |
| Y10T 70/7734 | .... | Automatically key set combinations |
| Y10T 70/774 | .... | Adjustable tumblers |
| Y10T 70/7746 | ..... | Removable change element |
| Y10T 70/7751 | ... | With ball or roller |
| Y10T 70/7757 | ... | Push or pull key operation |
| Y10T 70/7763 | ... | Key ejecting |
| Y10T 70/7768 | ... | Key-removal preventing |
| Y10T 70/7774 | ... | False or picking key trapping |
| Y10T 70/778 | ... | Operating elements |
| Y10T 70/7785 | .... | Tumblers |
| Y10T 70/7791 | .... | Keys |
| Y10T 70/7797 | ..... | Picking |
| Y10T 70/7802 | ..... | Multi-part structures |
| Y10T 70/7808 | ..... | With foldable shank or stem |
| Y10T 70/7814 | ..... | With extensible shank or stem |
| Y10T 70/7819 | ..... | With slidable bit portion |
| Y10T 70/7825 | ..... | With pivoted or swinging bit portion |
| Y10T 70/7831 | ..... | Nested second key |
| Y10T 70/7836 | | Plural shanks, stems or bit wings |
| Y10T 70/7842 | | Single shank or stem |

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| Y10T 70/7847 | | Round rigid |
| Y10T 70/7853 | | Tubular |
| Y10T 70/7859 | | Flat rigid |
| Y10T 70/7864 | | Cylinder lock type |
| Y10T 70/787 | ..... | Irregular nonplanar or undulated |
| Y10T 70/7876 | ..... | Bow or head |
| Y10T 70/7881 | ..... | Bitting |
| Y10T 70/7887 | ..... | Frangible |
| Y10T 70/7893 | ..... | Permutation |
| Y10T 70/7898 | ..... | Threaded |
| Y10T 70/7904 | ..... | Magnetic features |
| Y10T 70/791 | ..... | Ejecting feature |
| Y10T 70/7915 | ... | Tampering prevention or attack defeating |
| Y10T 70/7921 | .... | Armoring |
| Y10T 70/7927 | .... | Anti-jimmy |
| Y10T 70/7932 | .... | Anti-pick |
| Y10T 70/7938 | ..... | Guard ward |
| Y10T 70/7944 | ..... | Guard tumbler |
| Y10T 70/7949 | .... | Yielding or frangible connections |
| Y10T 70/7955 | .... | Keyhole guards |
| Y10T 70/796 | ..... | Portable |
| Y10T 70/7966 | ..... | Combination-controlled |
| Y10T 70/7972 | ..... | Portable |
| Y10T 70/7977 | ..... | Key-controlled |
| Y10T 70/7983 | ..... | Portable |
| Y10T 70/7989 | .... | Key securers, fasteners or retainers |
| Y10T 70/7994 | ..... | Portable |
| Y10T 70/80 | . | Parts, attachments, accessories and adjuncts |
| Y10T 70/8027 | .. | Condition indicators |
| Y10T 70/8054 | ... | With recorder |
| Y10T 70/8081 | .... | Electric |
| Y10T 70/8108 | .... | Padlock |
| Y10T 70/8135 | ... | With register |
| Y10T 70/8162 | .... | Padlock |
| Y10T 70/8189 | ... | Contactual feeler |
| Y10T 70/8216 | ... | Tampering detector |
| Y10T 70/8243 | .... | With seal |
| Y10T 70/827 | ... | Attention-directing |
| Y10T 70/8297 | .. | For combination-operated mechanism |
| Y10T 70/8324 | ... | Housings |

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|--------------|------|---|
| Y10T 70/8351 | ... | Operating attachments |
| Y10T 70/8378 | ... | Knobs, hand grips, etc. |
| Y10T 70/8405 | ... | Combination finders |
| Y10T 70/8432 | .. | For key-operated mechanism |
| Y10T 70/8459 | ... | Housings |
| Y10T 70/8486 | .... | Cylindrical |
| Y10T 70/8514 | .... | Face plate |
| Y10T 70/8541 | .... | Mounting arrangements |
| Y10T 70/8568 | ... | Escutcheons |
| Y10T 70/8595 | ... | Key guides, internal |
| Y10T 70/8622 | ... | Key insertion guides |
| Y10T 70/8649 | ... | Keyhole covers |
| Y10T 70/8676 | ... | Key holders |
| Y10T 70/8703 | .... | Flexible |
| Y10T 70/873 | .... | One-piece |
| Y10T 70/8757 | .... | Releasable catches |
| Y10T 70/8784 | .... | Parallel key loops, coaxially mounted, individually movable |
| Y10T 70/8811 | ... | Key identification |
| Y10T 70/8838 | .. | Adjustment provisions |
| Y10T 70/8865 | .. | Reversible structures |
| Y10T 70/8892 | .. | Silencers or mufflers |
| Y10T 70/8919 | .. | Antifriction provisions |
| Y10T 70/8946 | .. | Emergency unlocking or release arrangements |
| Y10T 70/8973 | .. | Mounting aids, guides and assistors |

Former US Class 74 Series

| Y10T 74/00 | Machine element or mechanism |
|-------------------|--|
| Y10T 74/10 | . High frequency vibratory devices |
| Y10T 74/11 | . Tripping mechanism |
| Y10T 74/111 | .. Speed controlled |
| Y10T 74/113 | ... Valve gear trips [e.g., steam engine "Corliss" type] |
| Y10T 74/114 | .. Retarded |
| Y10T 74/115 | ... Plural, sequential, trip actuations |
| Y10T 74/116 | ... Clock train |
| Y10T 74/118 | Winding knob trip [e.g., alarm mechanism] |
| Y10T 74/119 | .. Hit and miss |
| Y10T 74/12 | . Gyroscopes |
| Y10T 74/1204 | .. with caging or parking means |
| Y10T 74/1207 | ... Rotor spin and cage release type |

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|--------------|------|--|
| Y10T 74/1211 | ... | and resetting means |
| Y10T 74/1214 | .. | with gimbal lock preventing means |
| Y10T 74/1218 | .. | Combined |
| Y10T 74/1221 | .. | Multiple gyroscopes |
| Y10T 74/1225 | ... | with rotor drives |
| Y10T 74/1229 | .. | Gyroscope control |
| Y10T 74/1232 | ... | Erecting |
| Y10T 74/1236 | .... | by plural diverse forces |
| Y10T 74/1239 | .... | by jet |
| Y10T 74/1243 | .... | by weight |
| Y10T 74/1246 | .... | by friction |
| Y10T 74/125 | .... | by magnetic field |
| Y10T 74/1254 | .... | by motor torque |
| Y10T 74/1257 | ... | Damping |
| Y10T 74/1261 | .. | with pick off |
| Y10T 74/1264 | ... | Optical |
| Y10T 74/1268 | ... | Pneumatic |
| Y10T 74/1271 | ... | Conducting liquid |
| Y10T 74/1275 | ... | Electrical |
| Y10T 74/1279 | ... | Electrical and magnetic |
| Y10T 74/1282 | .. | with rotor drive |
| Y10T 74/1286 | .. | Vertical gyroscopes |
| Y10T 74/1289 | .. | Horizontal gyroscopes |
| Y10T 74/1293 | .. | Flexure hinges for gyros |
| Y10T 74/1296 | .. | Flywheel structure |
| Y10T 74/13 | . | Machine starters |
| Y10T 74/131 | .. | Automatic |
| Y10T 74/132 | ... | Separate power mesher |
| Y10T 74/133 | ... | Holders |
| Y10T 74/134 | ... | Clutch connection |
| Y10T 74/136 | ... | Worm and wheel |
| Y10T 74/137 | ... | Reduction gearing |
| Y10T 74/138 | .. | Radial meshing |
| Y10T 74/139 | .. | Cam operated |
| Y10T 74/14 | . | Rotary member or shaft indexing, e.g., tool or work turret |
| Y10T 74/1406 | .. | with safety device or drive disconnect |
| Y10T 74/1412 | .. | with locating point adjusting |
| Y10T 74/1418 | .. | Preselected indexed position |
| Y10T 74/1424 | ... | Sequential |
| Y10T 74/1429 | | Skip position |

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|--------------|-------|--|
| Y10T 74/1435 | | Held by torque |
| Y10T 74/1441 | | Geneva or mutilated gear drive |
| Y10T 74/1447 | | Velocity control |
| Y10T 74/1453 | .... | Interlocked rotator and brake |
| Y10T 74/1459 | ..... | Diverse-type brakes |
| Y10T 74/1465 | ..... | with axially acting friction brake |
| Y10T 74/1471 | .. | Plural operators or input drives |
| Y10T 74/1476 | .. | with means to axially shift shaft |
| Y10T 74/1482 | .. | Single revolution input effects desired fractional output |
| Y10T 74/1488 | .. | Control means |
| Y10T 74/1494 | .. | Locking means |
| Y10T 74/15 | . | Intermittent grip type mechanical movement |
| Y10T 74/1502 | .. | Escapement |
| Y10T 74/1503 | .. | Rotary to intermittent unidirectional motion |
| Y10T 74/1505 | ... | Automatically controlled |
| Y10T 74/1506 | .... | Speed |
| Y10T 74/1508 | ... | Rotary crank or eccentric drive |
| Y10T 74/151 | .... | Adjustable |
| Y10T 74/1511 | .... | Lever transmitter |
| Y10T 74/1513 | ..... | Adjustable leverage |
| Y10T 74/1515 | .... | Rack and pinion transmitter |
| Y10T 74/1516 | ..... | Adjustable throw |
| Y10T 74/1518 | .... | Rotary cam drive |
| Y10T 74/1519 | ..... | Adjustable throw |
| Y10T 74/1521 | ..... | Radial cam |
| Y10T 74/1523 | ..... | Radial cam |
| Y10T 74/1524 | ... | Intermittently engaged clutch |
| Y10T 74/1526 | .. | Oscillation or reciprocation to intermittent unidirectional motion |
| Y10T 74/1527 | ... | Screw and nut devices |
| Y10T 74/1529 | ... | Slide actuator |
| Y10T 74/1531 | .... | Multiple acting |
| Y10T 74/1532 | ... | Rack actuator |
| Y10T 74/1534 | .... | Multiple acting |
| Y10T 74/1535 | ..... | Inwardly facing racks |
| Y10T 74/1537 | .... | Oscillating |
| Y10T 74/1539 | ..... | Multiple acting |
| Y10T 74/154 | ..... | Inwardly facing racks |
| Y10T 74/1542 | ... | Strap actuator |
| Y10T 74/1544 | | Multiple acting |
| Y10T 74/1545 | | Spring or weight return |

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|--------------|-------|---|
| Y10T 74/1547 | | Single acting |
| Y10T 74/1548 | | Engine starter type |
| Y10T 74/155 | | Spring or weight return |
| Y10T 74/1552 | ..... | Spring or weight return |
| Y10T 74/1553 | ... | Lever actuator |
| Y10T 74/1555 | .... | Rotary driven element |
| Y10T 74/1556 | ..... | Multiple acting |
| Y10T 74/1558 | .. | Grip units and features |
| Y10T 74/156 | ... | Compound movement handle |
| Y10T 74/1561 | .... | Reversible |
| Y10T 74/1563 | .... | Transverse pivots |
| Y10T 74/1565 | ... | Gripper releasing devices |
| Y10T 74/1566 | .... | Power pawl lifter |
| Y10T 74/1568 | ..... | Automatic |
| Y10T 74/1569 | ..... | Idle stroke |
| Y10T 74/1571 | ..... | Cooperating holding pawl |
| Y10T 74/1573 | ..... | Power stroke |
| Y10T 74/1574 | ..... | Cooperating holding pawl |
| Y10T 74/1576 | .... | Holding pawl lifter |
| Y10T 74/1577 | ... | Gripper mountings, lever |
| Y10T 74/1579 | .... | Reversible |
| Y10T 74/1581 | .... | Multiple acting |
| Y10T 74/1582 | ..... | Single ratchet or clutch |
| Y10T 74/1584 | ... | Gripper mountings, slide |
| Y10T 74/1585 | .... | Multiple acting |
| Y10T 74/1587 | ... | Grip features |
| Y10T 74/1589 | .... | Driving band |
| Y10T 74/159 | ..... | Clamping |
| Y10T 74/1592 | .... | Driven band and gripper |
| Y10T 74/1594 | ..... | Positive grip |
| Y10T 74/1595 | .... | Driving ratchet-bar or rack |
| Y10T 74/1597 | ..... | Multiple acting |
| Y10T 74/1598 | .... | Driven ratchet-bar and power dog |
| Y10T 74/16 | . | Alternating-motion driven device with means during operation to adjust stroke |
| Y10T 74/1608 | .. | Constant length stroke with means to displace end limits |
| Y10T 74/1616 | ... | Cyclical displacement responsive to the alternating-motion |
| Y10T 74/1625 | .. | Stroke adjustable to zero and/or reversible in phasing |
| Y10T 74/1633 | ... | Plural driving means to jointly drive the driven device |
| Y10T 74/1642 | ... | Device driven from selected points on oscillating link |
| Y10T 74/165 | ... | Driving lever with adjustable pivot point |

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|---------------|-------|---|
| Y10T 74/1658 | ... | Eccentric and strap drive, shiftable eccentric |
| Y10T 74/1667 | | Changing the extent of eccentricity |
| Y10T 74/1675 | ... | Crank pin drive, shiftable pin |
| Y10T 74/1683 | ... | Cam and follower drive |
| Y10T 74/1692 | .... | Axial-type cam [e.g., wabblers type] |
| Y10T 74/17 | . | Rotary driven device adjustable during operation relative to its supporting structure |
| Y10T 74/173 | .. | Screw and nut adjusting means |
| Y10T 74/177 | .. | Rack and pinion adjusting means |
| Y10T 74/18 | . | Mechanical movements |
| Y10T 74/18008 | .. | Oscillating to reciprocating and alternating rotary |
| Y10T 74/18016 | .. | Oscillating to reciprocating and intermittent rotary |
| Y10T 74/18024 | .. | Rotary to reciprocating and rotary |
| Y10T 74/18032 | ... | Rotary to reciprocating or rotary |
| Y10T 74/1804 | .. | Rotary to reciprocating and alternating rotary |
| Y10T 74/18048 | .. | Rotary to reciprocating and intermittent rotary |
| Y10T 74/18056 | .. | Rotary to or from reciprocating or oscillating |
| Y10T 74/18064 | ... | Head motions |
| Y10T 74/18072 | ... | Reciprocating carriage motions |
| Y10T 74/1808 | .... | Phonograph type |
| Y10T 74/18088 | ... | Rack and pinion type |
| Y10T 74/18096 | .... | Shifting rack |
| Y10T 74/18104 | .... | Shiftable pinion |
| Y10T 74/18112 | .... | Segmental pinion |
| Y10T 74/1812 | .... | Alternately rotated pinion |
| Y10T 74/18128 | .... | Clutchable gears |
| Y10T 74/18136 | ..... | Bevel |
| Y10T 74/18144 | ... | Overcoming dead center |
| Y10T 74/18152 | ... | Belt or chain carried member |
| Y10T 74/1816 | ... | Crank, lever, toggle, and slide |
| Y10T 74/18168 | ... | Crank, lazy-tong, and slide |
| Y10T 74/18176 | ... | Crank, pitman, lever, and slide |
| Y10T 74/18182 | .... | Pump jack type |
| Y10T 74/18184 | ... | Crank, pitman, and lever |
| Y10T 74/182 | .... | Multiple levers |
| Y10T 74/18208 | ... | Crank, pitman, and slide |
| Y10T 74/18216 | ... | Crank, lever, and slide |
| Y10T 74/18224 | .... | Rack connections |
| Y10T 74/18232 | ... | Crank and lever |
| Y10T 74/1824 | | Slidable connections |
| Y10T 74/18248 | ... | Crank and slide |

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| Y10T 74/18256 | | Slidable connections [e.g., scotch yoke] |
| Y10T 74/18264 | ... | Crank and multiple pitmans |
| Y10T 74/18272 | ... | Planetary gearing and slide |
| Y10T 74/1828 | ... | Cam, lever, and slide |
| Y10T 74/18288 | ... | Cam and lever |
| Y10T 74/18296 | ... | Cam and slide |
| Y10T 74/18304 | .... | Axial cam |
| Y10T 74/18312 | ..... | Grooved |
| Y10T 74/1832 | ..... | Multiple screw |
| Y10T 74/18328 | ..... | Alternately rotated screw |
| Y10T 74/18336 | .... | Wabblers type |
| Y10T 74/18344 | ... | Unbalanced weights |
| Y10T 74/18352 | ... | Trammel-pitman |
| Y10T 74/1836 | .. | Rotary to rotary |
| Y10T 74/18368 | ... | Inertia or centrifugal transmitters |
| Y10T 74/18376 | ... | Crank, pitman, lever, and crank |
| Y10T 74/18384 | ... | Crank, lever, and crank |
| Y10T 74/18392 | ... | Crank, pitman, and crank |
| Y10T 74/184 | ... | Cranks, link connected |
| Y10T 74/18408 | ... | Cranks, slidable connections |
| Y10T 74/18416 | .. | Rotary to alternating rotary |
| Y10T 74/18424 | ... | Mangle connections |
| Y10T 74/18432 | .... | Shiftable driven gear |
| Y10T 74/1844 | ..... | Central teeth |
| Y10T 74/18448 | .... | Mutilated gearing connections |
| Y10T 74/18456 | ... | Crank, pitman, and lever |
| Y10T 74/18464 | ... | Reciprocating rack connections |
| Y10T 74/18472 | .... | Crank and pitman actuator |
| Y10T 74/1848 | .... | Simple crank actuator |
| Y10T 74/18488 | ... | Oscillating rack connections |
| Y10T 74/18496 | .... | Mangle actuated |
| Y10T 74/18504 | .... | Crank and pitman actuator |
| Y10T 74/18512 | ... | Flexible connector type |
| Y10T 74/1852 | ... | Associated inertia devices |
| Y10T 74/18528 | .. | Rotary to intermittent unidirectional motion |
| Y10T 74/18536 | ... | Space machines |
| Y10T 74/18544 | .. | Rotary to gyratory |
| Y10T 74/18552 | ... | Unbalanced weight |
| Y10T 74/1856 | .. | Reciprocating or oscillating to intermittent unidirectional motion |
| Y10T 74/18568 | .. | Reciprocating or oscillating to or from alternating rotary |

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|---------------|-------|--|
| Y10T 74/18576 | ... | including screw and nut |
| Y10T 74/18584 | | Shaft shorter than nut |
| Y10T 74/18592 | .... | Auxiliary drive [e.g., fluid piston, etc.] for load |
| Y10T 74/186 | .... | Alternate power path operable on failure of primary |
| Y10T 74/18608 | .... | Single input split into two intermediate outputs that are subsequently superposed into a single output |
| Y10T 74/18616 | .... | Single input, plural outputs |
| Y10T 74/18624 | .... | Plural inputs, single output |
| Y10T 74/18632 | ..... | Plural nuts driving shaft |
| Y10T 74/1864 | ..... | Shaft and nut driven |
| Y10T 74/18648 | .... | Carriage surrounding, guided by, and primarily supported by member other than screw [e.g., linear guide, etc.] |
| Y10T 74/18656 | .... | Carriage surrounded, guided, and primarily supported by member other than screw [e.g., linear guide, etc.] |
| Y10T 74/18664 | .... | Shaft moves through rotary drive means |
| Y10T 74/18672 | .... | Plural screws in series [e.g., telescoping, etc.] |
| Y10T 74/1868 | .... | Deflection related |
| Y10T 74/18688 | .... | Limit stop |
| Y10T 74/18696 | .... | including means to selectively transmit power [e.g., clutch, etc.] |
| Y10T 74/18704 | .... | Means to selectively lock or retard screw or nut |
| Y10T 74/18712 | .... | Contamination related |
| Y10T 74/1872 | ..... | Imperforate enclosure |
| Y10T 74/18728 | .... | Backlash |
| Y10T 74/18736 | .... | Pressurized fluid introduced between nut and screw |
| Y10T 74/18744 | .... | Lubrication |
| Y10T 74/18752 | .... | Manually driven |
| Y10T 74/1876 | ... | including inertia device |
| Y10T 74/18768 | .... | with rack and pinion |
| Y10T 74/18776 | ..... | Rectilinear rack |
| Y10T 74/18784 | ... | including bevel gears |
| Y10T 74/18792 | ... | including worm |
| Y10T 74/188 | ... | including spur gear |
| Y10T 74/18808 | .... | with rack |
| Y10T 74/18816 | ..... | Curvilinear rack |
| Y10T 74/18824 | ..... | with biasing means |
| Y10T 74/18832 | ... | including flexible drive connector [e.g., belt, chain, strand, etc.] |
| Y10T 74/1884 | .... | with sprocket wheel |
| Y10T 74/18848 | .... | with pulley |
| Y10T 74/18856 | .. | Oscillating to oscillating |
| Y10T 74/18864 | ... | Snap action |
| Y10T 74/18872 | | Plate spring |

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|---------------|-------|---|
| Y10T 74/1888 | ... | Geared connections |
| Y10T 74/18888 | .. | Reciprocating to or from oscillating |
| Y10T 74/18896 | ... | Snap action |
| Y10T 74/18904 | .... | Plate spring |
| Y10T 74/18912 | ... | Compound lever and slide |
| Y10T 74/1892 | ... | Lever and slide |
| Y10T 74/18928 | .... | Straight line motions |
| Y10T 74/18936 | .... | Slidable connections |
| Y10T 74/18944 | .... | Link connections |
| Y10T 74/18952 | .... | toggle transmissions |
| Y10T 74/1896 | .... | Cam connections |
| Y10T 74/18968 | .... | Flexible connections |
| Y10T 74/18976 | ... | Rack and pinion |
| Y10T 74/18984 | ... | Inclined ramp |
| Y10T 74/18992 | .. | Reciprocating to reciprocating |
| Y10T 74/19 | . | Gearing |
| Y10T 74/19005 | .. | Nonplanetary gearing differential type [e.g., gearless differentials] |
| Y10T 74/19009 | .. | Single gearing unit includes fluid drive |
| Y10T 74/19014 | .. | Plural prime movers selectively coupled to common output |
| Y10T 74/19019 | .. | Plural power paths from prime mover |
| Y10T 74/19023 | .. | Plural power paths to and/or from gearing |
| Y10T 74/19028 | ... | Alternate input connections single hand crank |
| Y10T 74/19033 | ... | Fluid drive divides or combines alternate paths |
| Y10T 74/19037 | ... | One path includes fluid drive |
| Y10T 74/19042 | ... | Friction-type gearing |
| Y10T 74/19047 | ... | Worm-type gearing |
| Y10T 74/19051 | ... | Single driven plural drives |
| Y10T 74/19056 | .... | Parallel |
| Y10T 74/1906 | .... | Nonparallel |
| Y10T 74/19065 | .... | Aligned |
| Y10T 74/1907 | .... | Parallel and aligned |
| Y10T 74/19074 | ... | Single drive plural driven |
| Y10T 74/19079 | .... | Parallel |
| Y10T 74/19084 | ..... | Spur |
| Y10T 74/19088 | ..... | Bevel |
| Y10T 74/19093 | ..... | Spur and bevel |
| Y10T 74/19098 | ..... | Helical |
| Y10T 74/19102 | | Belt or chain |
| Y10T 74/19107 | | Nonparallel |
| Y10T 74/19112 | | Aligned |

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|---------------|-------|--|
| Y10T 74/19116 | | Vehicle |
| Y10T 74/19121 | | Concentric |
| Y10T 74/19126 | ... | Plural drivers plural driven |
| Y10T 74/1913 | .... | Bevel |
| Y10T 74/19135 | .... | Spur |
| Y10T 74/1914 | ... | Alternate drivers and driven |
| Y10T 74/19144 | ... | Miscellaneous [plural power paths] |
| Y10T 74/19149 | .. | with fluid drive |
| Y10T 74/19153 | ... | Condition responsive control |
| Y10T 74/19158 | ... | with one or more controllers for gearing, fluid drive, or clutch |
| Y10T 74/19163 | .... | with interrelated controls |
| Y10T 74/19167 | .. | In series plural interchangeably locked nonplanetary units |
| Y10T 74/19172 | .. | Reversal of direction of power flow changes power transmission to alternate path |
| Y10T 74/19177 | ... | Input and output exchange functions |
| Y10T 74/19181 | .. | toothed gear and recirculated unconnected elements |
| Y10T 74/19186 | .. | Alternating rotary or continuous |
| Y10T 74/19191 | .. | Alternating rotary |
| Y10T 74/19195 | ... | Progressive |
| Y10T 74/192 | ... | Shiftable and/or slidable gears |
| Y10T 74/19205 | ... | Clutchable gears |
| Y10T 74/1921 | .... | On single driven member |
| Y10T 74/19214 | .... | On single driving member |
| Y10T 74/19219 | .. | Interchangeably locked |
| Y10T 74/19223 | ... | Disconnectable counter shaft |
| Y10T 74/19228 | ... | Multiple concentric clutch shafts |
| Y10T 74/19233 | ... | Plurality of counter shafts |
| Y10T 74/19237 | ... | Internal-external gears |
| Y10T 74/19242 | ... | Combined gear and clutch |
| Y10T 74/19247 | .... | Preselector |
| Y10T 74/19251 | ... | Control mechanism |
| Y10T 74/19256 | .... | Automatic |
| Y10T 74/1926 | ..... | Speed responsive |
| Y10T 74/19265 | ..... | Governor |
| Y10T 74/1927 | ..... | with belt gearing |
| Y10T 74/19274 | ..... | torque responsive |
| Y10T 74/19279 | .... | Cam operated |
| Y10T 74/19284 | ... | Meshing assisters |
| Y10T 74/19288 | .... | Double clutch and interposed transmission |
| Y10T 74/19293 | ... | Longitudinally slidable |
| Y10T 74/19298 | | Multiple spur gears |

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|---------------|-------|-----------------------------------|
| Y10T 74/19302 | | with tumbler gear |
| Y10T 74/19307 | | Selective |
| Y10T 74/19312 | | Direct clutch and drive |
| Y10T 74/19316 | ..... | Progressive |
| Y10T 74/19321 | ..... | Direct clutch and drive |
| Y10T 74/19326 | ..... | Fluid operated |
| Y10T 74/1933 | .... | Multiple bevel gears |
| Y10T 74/19335 | .... | Single spur gear |
| Y10T 74/1934 | ..... | Tumbler and cone |
| Y10T 74/19344 | ..... | Multiple cone |
| Y10T 74/19349 | .... | Single bevel gear |
| Y10T 74/19353 | .... | Pin or crown gears |
| Y10T 74/19358 | ... | Laterally slidable gears |
| Y10T 74/19363 | .... | Rotary carriage |
| Y10T 74/19367 | .... | Swinging carriage |
| Y10T 74/19372 | ... | Single forward and reverse speeds |
| Y10T 74/19377 | ... | Slidable keys or clutches |
| Y10T 74/19381 | .... | Alternative clutch shaft |
| Y10T 74/19386 | .... | Multiple clutch shafts |
| Y10T 74/19391 | ..... | Progressive |
| Y10T 74/19395 | ..... | Keys simultaneously slidable |
| Y10T 74/194 | ..... | Selective |
| Y10T 74/19405 | ..... | Multiple forward and reverse |
| Y10T 74/19409 | ..... | Single forward and reverse |
| Y10T 74/19414 | .... | Single clutch shaft |
| Y10T 74/19419 | ..... | Progressive |
| Y10T 74/19423 | ..... | Multiple key |
| Y10T 74/19428 | ..... | Spur |
| Y10T 74/19433 | ..... | Fluid operated |
| Y10T 74/19437 | ..... | Electrically operated |
| Y10T 74/19442 | ..... | Single key |
| Y10T 74/19447 | ..... | Clutch and ratchet |
| Y10T 74/19451 | ..... | Spur gears |
| Y10T 74/19456 | ..... | Intermediate clutch |
| Y10T 74/1946 | ..... | Sliding clutch carrier |
| Y10T 74/19465 | ..... | Sliding clutch operator |
| Y10T 74/1947 | ..... | Selective |
| Y10T 74/19474 | | Multiple key |
| Y10T 74/19479 | | Spur gears |
| Y10T 74/19484 | | Single speed forward and reverse |

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|---------------|-------|---------------------------------------|
| Y10T 74/19488 | | Spur gears |
| Y10T 74/19493 | | Bevel gears |
| Y10T 74/19498 | | Bevel and idler gears |
| Y10T 74/19502 | .. | Pivotally supported |
| Y10T 74/19507 | ... | Windmill turntable |
| Y10T 74/19512 | ... | Screw |
| Y10T 74/19516 | ... | Spur |
| Y10T 74/19521 | ... | Bevel |
| Y10T 74/19526 | .... | Wheel type |
| Y10T 74/1953 | .... | Wringer type |
| Y10T 74/19535 | .. | Follow-up mechanism |
| Y10T 74/1954 | .. | Eccentric driving shaft and axle |
| Y10T 74/19545 | .. | Central driving shaft in axle |
| Y10T 74/1955 | .. | Parallel shafts, adjustable gear mesh |
| Y10T 74/19555 | .. | Varying speed ratio |
| Y10T 74/1956 | .. | Adjustable |
| Y10T 74/19565 | ... | Relative movable axes |
| Y10T 74/1957 | .... | Parallel shafts |
| Y10T 74/19575 | .... | Automatic control |
| Y10T 74/1958 | ..... | Parallel shafts |
| Y10T 74/19585 | ... | Fixed axes |
| Y10T 74/1959 | .... | Parallel shafts |
| Y10T 74/19595 | .... | Automatic control |
| Y10T 74/196 | ..... | Parallel shafts |
| Y10T 74/19605 | .. | Reversing means |
| Y10T 74/19609 | ... | Governor control |
| Y10T 74/19614 | .. | Disconnecting means |
| Y10T 74/19619 | .. | Displaceable elements |
| Y10T 74/19623 | .. | Backlash take-up |
| Y10T 74/19628 | .. | Pressure distributing |
| Y10T 74/19633 | .. | Yieldability in gear trains |
| Y10T 74/19637 | .. | with brake means for gearing |
| Y10T 74/19642 | .. | Directly cooperating gears |
| Y10T 74/19647 | ... | Parallel axes or shafts |
| Y10T 74/19651 | .... | External type |
| Y10T 74/19656 | ..... | Pin teeth |
| Y10T 74/1966 | ... | Intersecting axes |
| Y10T 74/19665 | | Bevel gear type |
| Y10T 74/1967 | ... | Rack and pinion |
| Y10T 74/19674 | ... | Spur and bevel |

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|---------------|-------|---|
| Y10T 74/19679 | ... | Spur |
| Y10T 74/19684 | | Motor and gearing |
| Y10T 74/19688 | ... | Bevel |
| Y10T 74/19693 | | Motor vehicle drive |
| Y10T 74/19698 | ... | Spiral |
| Y10T 74/19702 | .... | Screw and nut |
| Y10T 74/19707 | ..... | Plural longitudinally variably spaced nuts |
| Y10T 74/19712 | ..... | Threadless |
| Y10T 74/19716 | ..... | Non-linear screw |
| Y10T 74/19721 | ..... | Thread geometry |
| Y10T 74/19726 | ..... | Thread pitch varies over axial length |
| Y10T 74/1973 | ..... | Shaft thread is spirally wound wire |
| Y10T 74/19735 | ..... | Nut disengageable from screw |
| Y10T 74/1974 | ..... | Nut segments hinged parallel to shaft [e.g., clam shell-type, etc.] |
| Y10T 74/19744 | ..... | Rolling element engaging thread |
| Y10T 74/19749 | ..... | Recirculating rolling elements |
| Y10T 74/19753 | ..... | Plural independent recirculating element paths |
| Y10T 74/19758 | ..... | Single thread common to plural paths |
| Y10T 74/19763 | ..... | Roller return path in shaft |
| Y10T 74/19767 | ..... | Return path geometry |
| Y10T 74/19772 | ..... | Rolling element deflector |
| Y10T 74/19777 | ..... | Interconnected or cooperating rollers or roller structure |
| Y10T 74/19781 | ..... | Non-recirculating rolling elements |
| Y10T 74/19786 | ..... | Captured sphere |
| Y10T 74/19791 | ..... | Cylindrical or quasi-cylindrical roller element [e.g., inclined roller, etc.] |
| Y10T 74/19795 | ..... | Parallel to shaft |
| Y10T 74/198 | ..... | Perpendicular to shaft |
| Y10T 74/19805 | ..... | Less than 360 degrees of contact between nut and screw |
| Y10T 74/19809 | ..... | Independent nut segments |
| Y10T 74/19814 | ..... | Integral deformable tangs engaging screw |
| Y10T 74/19819 | .... | Driven rack or shaft |
| Y10T 74/19823 | .... | Screw |
| Y10T 74/19828 | .... | Worm |
| Y10T 74/19833 | ..... | Variable speed |
| Y10T 74/19837 | ..... | Intermittent motion |
| Y10T 74/19842 | ..... | Distribution of pressure |
| Y10T 74/19847 | ... | torque actuated safety devices |
| Y10T 74/19851 | .. | Gear and rotary bodies |
| Y10T 74/19856 | ... | Laterally-spaced wheels |

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| Y10T 74/1986 | ... | Radially-spaced wheels |
| Y10T 74/19865 | ... | with flywheel |
| Y10T 74/1987 | .. | Rotary bodies |
| Y10T 74/19874 | ... | Mutilated |
| Y10T 74/19879 | ... | Geneva |
| Y10T 74/19884 | ... | Irregular teeth and bodies |
| Y10T 74/19888 | ... | External and internal teeth |
| Y10T 74/19893 | ... | Sectional |
| Y10T 74/19898 | .... | Backlash take-up |
| Y10T 74/19902 | ..... | Screw and nut |
| Y10T 74/19907 | .... | Sound deadening |
| Y10T 74/19912 | .... | Differential disks |
| Y10T 74/19916 | .... | Multiple disks |
| Y10T 74/19921 | .... | Separate rim |
| Y10T 74/19926 | ..... | Detachable |
| Y10T 74/1993 | .... | Segmental rim |
| Y10T 74/19935 | .... | Sheet metal |
| Y10T 74/1994 | .... | Diametrically split |
| Y10T 74/19944 | .... | Shaft-admitting insert |
| Y10T 74/19949 | .. | Teeth |
| Y10T 74/19953 | ... | Worm and helical |
| Y10T 74/19958 | ... | Bevel |
| Y10T 74/19963 | ... | Spur |
| Y10T 74/19967 | .... | Yieldable |
| Y10T 74/19972 | .... | form |
| Y10T 74/19977 | ..... | Antifriction |
| Y10T 74/19981 | ..... | Roller |
| Y10T 74/19986 | ..... | Twisted |
| Y10T 74/19991 | .. | Lubrication |
| Y10T 74/19995 | ... | Teeth |
| Y10T 74/20 | . | Control lever and linkage systems |
| Y10T 74/20006 | .. | Resilient connections |
| Y10T 74/20012 | .. | Multiple controlled elements |
| Y10T 74/20018 | ... | Transmission control |
| Y10T 74/20024 | .... | Fluid actuator |
| Y10T 74/2003 | .... | Electrical actuator |
| Y10T 74/20037 | .... | Occupant propelled vehicle |
| Y10T 74/20043 | ..... | Transmission controlled by flexible cable |
| Y10T 74/20049 | | Transmission controlled by flexible cable |
| Y10T 74/20055 | | Foot operated |

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| Y10T 74/20061 | | Multiple foot-operated controls |
| Y10T 74/20067 | | Control convertible between automatic and manual operation |
| Y10T 74/20073 | .... | Control of plural mechanisms [e.g., control of transmission and control of 4 - wheel drive] |
| Y10T 74/20079 | ..... | Separate control levers |
| Y10T 74/20085 | .... | Restriction of shift, gear selection, or gear engagement |
| Y10T 74/20091 | ..... | Prevention of reverse shift |
| Y10T 74/20098 | ..... | Separate actuator to disengage restrictor |
| Y10T 74/20104 | ..... | Shift element interlock |
| Y10T 74/2011 | ..... | with detent, recess, notch, or groove |
| Y10T 74/20116 | ..... | Resiliently biased interlock |
| Y10T 74/20122 | ..... | Spherical restrictor |
| Y10T 74/20128 | ..... | Resiliently biased restrictor |
| Y10T 74/20134 | .... | having vibration damper |
| Y10T 74/2014 | .... | Manually operated selector [e.g., remotely controlled device, lever, push button, rotary dial, etc.] |
| Y10T 74/20146 | ..... | Control lever on steering column |
| Y10T 74/20152 | ..... | Control lever movable through plural planes |
| Y10T 74/20159 | ..... | Control lever movable through plural planes |
| Y10T 74/20165 | ..... | Spherical mount [e.g., ball and socket] |
| Y10T 74/20171 | ..... | Resiliently biased control lever |
| Y10T 74/20177 | .... | Particular element [e.g., shift fork, template, etc.] |
| Y10T 74/20183 | ..... | Shift fork structure |
| Y10T 74/20189 | ... | Foot operated |
| Y10T 74/20195 | .... | Offset extension |
| Y10T 74/20201 | ... | Control moves in two planes |
| Y10T 74/20207 | .. | Multiple controlling elements for single controlled element |
| Y10T 74/20213 | ... | Interconnected |
| Y10T 74/2022 | .... | Hand and foot |
| Y10T 74/20226 | ..... | Accelerator |
| Y10T 74/20232 | .... | Marine |
| Y10T 74/20238 | ... | Interlocked |
| Y10T 74/20244 | .... | Push button |
| Y10T 74/2025 | .... | Rod blocks actuation of rotary member |
| Y10T 74/20256 | ... | Steering and controls assemblies |
| Y10T 74/20262 | .... | Rotary control shaft |
| Y10T 74/20268 | .... | Reciprocating control elements |
| Y10T 74/20274 | | Flexible |
| Y10T 74/2028 | | Handle bar type |
| Y10T 74/20287 | | Flexible control element |

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|---------------|-------|--|
| Y10T 74/20293 | | with horn control |
| Y10T 74/20299 | ... | Antirattling elements |
| Y10T 74/20305 | ... | Robotic arm |
| Y10T 74/20311 | .... | including power cable or connector |
| Y10T 74/20317 | .... | including electric motor |
| Y10T 74/20323 | .... | including flaccid drive element |
| Y10T 74/20329 | .... | Joint between elements |
| Y10T 74/20335 | ..... | Wrist |
| Y10T 74/20341 | ... | Power elements as controlling elements |
| Y10T 74/20348 | .... | Planar surface with orthogonal movement and rotation |
| Y10T 74/20354 | .... | Planar surface with orthogonal movement only |
| Y10T 74/2036 | .... | Pair of power elements |
| Y10T 74/20366 | ... | Power and manual controlling elements |
| Y10T 74/20372 | ... | Manual controlling elements |
| Y10T 74/20378 | .... | Planar surface with orthogonal movement or rotation |
| Y10T 74/20384 | .... | Levers |
| Y10T 74/2039 | ..... | Pair of levers |
| Y10T 74/20396 | .. | Hand operated |
| Y10T 74/20402 | ... | Flexible transmitter [e.g., Bowden cable] |
| Y10T 74/20408 | .... | Constant tension sustaining |
| Y10T 74/20414 | ..... | Hydraulic control |
| Y10T 74/2042 | .... | and hand operator |
| Y10T 74/20426 | ..... | Slidable |
| Y10T 74/20432 | ..... | for moving a mirror |
| Y10T 74/20438 | ..... | Single rotatable lever [e.g., for bicycle brake or derailleur] |
| Y10T 74/20444 | .... | including rolling antifriction elements |
| Y10T 74/2045 | .... | and sheath support, connector, or anchor |
| Y10T 74/20456 | .... | Specific cable or sheath structure |
| Y10T 74/20462 | .... | Specific cable connector or guide |
| Y10T 74/20468 | ... | Sliding rod |
| Y10T 74/20474 | ... | Rotatable rod, shaft, or post |
| Y10T 74/2048 | .... | Gear, drum, and cable |
| Y10T 74/20486 | .... | Drum and cable |
| Y10T 74/20492 | .... | Gear |
| Y10T 74/20498 | ..... | Variable ratio |
| Y10T 74/20504 | ..... | Screw and nut |
| Y10T 74/2051 | .... | Adjustable |
| Y10T 74/20516 | | Mountings |
| Y10T 74/20522 | | Antenna |
| Y10T 74/20528 | .. | Foot operated |

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|---------------|-------|----------------------------|
| Y10T 74/20534 | ... | Accelerator |
| Y10T 74/2054 | ... | Signal |
| Y10T 74/20546 | .. | Knee operated |
| Y10T 74/20552 | ... | Elbow |
| Y10T 74/20558 | .. | Variable output force |
| Y10T 74/20564 | ... | Flexible |
| Y10T 74/2057 | ... | Variable input leverage |
| Y10T 74/20576 | .. | Elements |
| Y10T 74/20582 | ... | Levers |
| Y10T 74/20588 | .... | toggle |
| Y10T 74/20594 | ..... | Lazy tongs |
| Y10T 74/206 | .... | Adjustable |
| Y10T 74/20606 | .... | Swing posts |
| Y10T 74/20612 | .... | Hand |
| Y10T 74/20618 | ..... | Jointed |
| Y10T 74/20624 | ..... | Adjustable |
| Y10T 74/2063 | .... | Stops |
| Y10T 74/20636 | ... | Detents |
| Y10T 74/20642 | .... | Hand crank |
| Y10T 74/20648 | .... | Interrelated lever release |
| Y10T 74/20654 | .... | Gear |
| Y10T 74/2066 | .... | Friction |
| Y10T 74/20666 | .... | Lever engaging |
| Y10T 74/20672 | .... | Lever engaging rack |
| Y10T 74/20678 | ..... | Pivoted |
| Y10T 74/20684 | ..... | Lever carried pawl |
| Y10T 74/2069 | ..... | Handle release |
| Y10T 74/20696 | ..... | Finger lever release |
| Y10T 74/20702 | ..... | Slidable |
| Y10T 74/20708 | ..... | Pedal controlled |
| Y10T 74/20714 | .... | Lever carried rack |
| Y10T 74/2072 | ..... | Pivoted |
| Y10T 74/20726 | ..... | Pedal controlled |
| Y10T 74/20732 | ... | Handles |
| Y10T 74/20738 | .... | Extension |
| Y10T 74/20744 | .... | Hand crank |
| Y10T 74/2075 | ..... | Extensible |
| Y10T 74/20756 | | Collapsible |
| Y10T 74/20762 | | Shaft connections |
| Y10T 74/20768 | | Engine starter type |

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|---------------|-------|---|
| Y10T 74/20774 | | Holders |
| Y10T 74/2078 | | Handle bars |
| Y10T 74/20786 | | Spring biased or supported |
| Y10T 74/20792 | ..... | Folding or adjustable |
| Y10T 74/20798 | ..... | Sectional |
| Y10T 74/20804 | ..... | Simultaneously movable |
| Y10T 74/2081 | ..... | Continuous |
| Y10T 74/20816 | ..... | with handle latch |
| Y10T 74/20822 | ..... | Attachments and accessories |
| Y10T 74/20828 | ..... | Handholds and grips |
| Y10T 74/20834 | .... | Hand wheels |
| Y10T 74/2084 | ..... | Knob or dial |
| Y10T 74/20846 | ..... | Slidable |
| Y10T 74/20852 | ..... | Pivoted |
| Y10T 74/20858 | ..... | Releasable |
| Y10T 74/20864 | ..... | Handles |
| Y10T 74/2087 | ..... | Rim grips and covers |
| Y10T 74/20876 | .... | Caps and covers |
| Y10T 74/20882 | ... | Rocker arms |
| Y10T 74/20888 | ... | Pedals |
| Y10T 74/20894 | .... | Treadles |
| Y10T 74/209 | .... | Extension |
| Y10T 74/20906 | ..... | Offset |
| Y10T 74/20912 | .... | Pads and covers |
| Y10T 74/20918 | ... | Foot rests |
| Y10T 74/20924 | ... | Controller checks |
| Y10T 74/2093 | ... | Slot closers and lever guards |
| Y10T 74/21 | . | Elements |
| Y10T 74/2101 | .. | Cams |
| Y10T 74/2102 | ... | Adjustable |
| Y10T 74/2104 | .... | Flexible strip |
| Y10T 74/2105 | .... | Memory devices |
| Y10T 74/2106 | .... | Timer devices |
| Y10T 74/2107 | ... | Follower |
| Y10T 74/2109 | .. | Balancing for drum, e.g., washing machine or arm-type structure, etc., centrifuge, etc. |
| Y10T 74/211 | .. | Eccentric |
| Y10T 74/2111 | ... | Plural, movable relative to each other [including ball[s]] |
| Y10T 74/2112 | | Concentric |
| Y10T 74/2114 | ... | Adjustable |

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|--------------|-------|--|
| Y10T 74/2115 | | Radially |
| Y10T 74/2116 | ... | having anti-friction means, e.g., roller bearing, lubrication, etc. |
| Y10T 74/2117 | .. | Power generating-type flywheel |
| Y10T 74/2119 | ... | Structural detail, e.g., material, configuration, superconductor, discs, laminated, etc. |
| Y10T 74/212 | .... | Containing fiber or filament |
| Y10T 74/2121 | .. | Flywheel, motion smoothing-type |
| Y10T 74/2122 | ... | with fluid balancing means |
| Y10T 74/2123 | .... | and pressure compensation |
| Y10T 74/2125 | .... | and elastic device |
| Y10T 74/2126 | .... | and bearings |
| Y10T 74/2127 | ... | with electrical or magnetic damping |
| Y10T 74/2128 | ... | Damping using swinging masses, e.g., pendulum type, etc. |
| Y10T 74/213 | ... | Damping by increasing frictional force |
| Y10T 74/2131 | ... | Damping by absorbing vibration force [via rubber, elastomeric material, etc.] |
| Y10T 74/2132 | ... | Structural detail, e.g., fiber, held by magnet, etc. |
| Y10T 74/2133 | .. | Pawls and ratchets |
| Y10T 74/2135 | ... | Noiseless |
| Y10T 74/2136 | ... | Pivoted pawls |
| Y10T 74/2137 | .... | Single tooth |
| Y10T 74/2138 | .... | Flexible single tooth |
| Y10T 74/214 | .... | Multiple tooth |
| Y10T 74/2141 | ... | Sliding pawls |
| Y10T 74/2142 | .. | Pitmans and connecting rods |
| Y10T 74/2143 | ... | Radial |
| Y10T 74/2144 | ... | Yieldable |
| Y10T 74/2146 | .... | Longitudinal springs |
| Y10T 74/2147 | .... | Fluid cushion |
| Y10T 74/2148 | .... | Automatic release |
| Y10T 74/2149 | ..... | toggle link type |
| Y10T 74/2151 | ... | Longitudinally adjustable |
| Y10T 74/2152 | ... | Hollow rod, lubricated |
| Y10T 74/2153 | ... | Sheet metal type |
| Y10T 74/2154 | ... | Counterbalanced |
| Y10T 74/2156 | .... | Weight type |
| Y10T 74/2157 | ..... | Rotating |
| Y10T 74/2158 | .... | Spring |
| Y10T 74/2159 | ... | Section coupled |
| Y10T 74/216 | ... | Bearings, adjustable |
| Y10T 74/2162 | ... | Engine type |

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|--------------|------|-------------------------------|
| Y10T 74/2163 | ... | Idler arm |
| Y10T 74/2164 | .. | Cranks and pedals |
| Y10T 74/2165 | ... | with attached gear |
| Y10T 74/2167 | ... | Variable |
| Y10T 74/2168 | ... | Pedals |
| Y10T 74/2169 | .... | Counterbalanced |
| Y10T 74/217 | .... | with toe or shoe clips |
| Y10T 74/2172 | .... | Adjustable or folding |
| Y10T 74/2173 | .. | Cranks and wrist pins |
| Y10T 74/2174 | ... | Multiple throw |
| Y10T 74/2175 | .... | Sectional |
| Y10T 74/2177 | ... | Sectional |
| Y10T 74/2178 | ... | Yieldable |
| Y10T 74/2179 | ... | Adjustable |
| Y10T 74/218 | .... | Automatically |
| Y10T 74/2181 | ... | Variable |
| Y10T 74/2183 | ... | Counterbalanced |
| Y10T 74/2184 | .... | Vibration dampers |
| Y10T 74/2185 | ... | Lubricated |
| Y10T 74/2186 | .. | Gear casings |
| Y10T 74/2188 | ... | Axle and torque tubes |
| Y10T 74/2189 | ... | Cooling |
| Y10T 74/219 | .. | Guards |
| Y10T 74/2191 | ... | for rotary member |
| Y10T 74/2193 | .. | Guard mechanisms |
| Y10T 74/2194 | ... | Automatic |
| Y10T 74/2195 | .... | Oscillating member actuator |
| Y10T 74/2196 | .... | Reciprocating member actuator |
| Y10T 74/2198 | ... | Operator controlled |
| Y10T 74/2199 | ... | Set screw |
| Y10T 74/22 | . | Miscellaneous |

Former US Class 82 Series

| | |
|-------------------|---|
| Y10T 82/00 | Turning |
| Y10T 82/10 | . Process of turning |
| Y10T 82/11 | . Talking machine tablet |
| Y10T 82/12 | . Radially moving rotating tool inside bore |
| Y10T 82/122 | .. Forming non-circular bore |
| Y10T 82/125 | .. Tool simultaneously moving axially |

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|---------------|---|
| Y10T 82/128 | ... Pivoted to tool-carrier |
| Y10T 82/13 | . Pattern section |
| Y10T 82/135 | .. Cam-controlled cutter |
| Y10T 82/14 | . Axial pattern |
| Y10T 82/141 | .. having transverse tool and templet guide |
| Y10T 82/142 | ... with workpiece gauge |
| Y10T 82/143 | ... having electrical actuator |
| Y10T 82/145 | And hydraulic actuator |
| Y10T 82/147 | ... having hydraulic actuator |
| Y10T 82/148 | .. Pivoted tool rest |
| Y10T 82/149 | .. Profiled cutter |
| Y10T 82/15 | . Tapers |
| Y10T 82/152 | .. Offset work axis |
| Y10T 82/154 | .. Transversely shifted cutter |
| Y10T 82/156 | ... Templet controlled |
| Y10T 82/158 | ... Gear controlled |
| Y10T 82/16 | . Severing or cut-off |
| Y10T 82/16016 | .. Processes |
| Y10T 82/16032 | .. Automatic and/or triggered control |
| Y10T 82/16049 | .. Combined with means to sharpen tool[s] |
| Y10T 82/16065 | .. Combined with means to apply fluid |
| Y10T 82/16081 | .. Combined with means to heat tool and/or work |
| Y10T 82/16098 | .. with dust or chip handling |
| Y10T 82/16114 | .. including scrap cutting means |
| Y10T 82/16131 | .. Flying cutter type |
| Y10T 82/16147 | .. Cutting couple straddling work |
| Y10T 82/16163 | ... with pattern, guide or cam means [noncircular product] |
| Y10T 82/16181 | ... Plural cutting means [pairs, or pair, plus single] |
| Y10T 82/16196 | ... Rotary shear pair |
| Y10T 82/16213 | Tool axes parallel to axis of work rotation |
| Y10T 82/16229 | .. Interrelated means for tool infeed and circumrotation |
| Y10T 82/16245 | ... Dependent upon reaction to work |
| Y10T 82/16262 | ... Infeed cam disk rotation geared to tool holder rotation |
| Y10T 82/16278 | Axial infeed cam |
| Y10T 82/16295 | including centrifugal balancing means |
| Y10T 82/16311 | Scroll plate infeed cam |
| Y10T 82/16327 | ... Infeed cam plate braked with respect to tool[s] carrier plate |
| Y10T 82/16344 | ... Orbital cogwheel and fixed detent |
| Y10T 82/16361 | ... Common gear means |
| Y10T 82/16377 | including adjustable means to vary gear speed |

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|---------------|-------|--|
| Y10T 82/16393 | | with manual disconnect lever |
| Y10T 82/16409 | ... | with means to feed work |
| Y10T 82/16426 | .. | Infeed means |
| Y10T 82/16442 | ... | with means to circumrotate tool[s] about work |
| Y10T 82/16459 | .... | Fluid means for relative tool actuation |
| Y10T 82/16475 | .... | Gear means for tool actuation |
| Y10T 82/16491 | ..... | including axial cam |
| Y10T 82/16508 | ..... | with indicator |
| Y10T 82/16524 | .... | Bell crank linkage for tool[s] holder |
| Y10T 82/16541 | .... | Resilient means for tool actuation |
| Y10T 82/16557 | ..... | with means for manual retraction |
| Y10T 82/16573 | ... | Hand crank for tool holder |
| Y10T 82/16591 | ... | Power driven eccentric |
| Y10T 82/16606 | .... | Fluid motor |
| Y10T 82/16622 | .... | Plural tools |
| Y10T 82/16639 | ... | Tool within work |
| Y10T 82/16655 | ... | with means to rotate tool[s] |
| Y10T 82/16672 | .... | including rotatable cutters supporting work |
| Y10T 82/16688 | .... | Planetating work mandrels |
| Y10T 82/16704 | .... | Pivoted tool carriage |
| Y10T 82/16721 | ..... | with adjustable work stops |
| Y10T 82/16737 | .... | Eccentric periphery rotary tool |
| Y10T 82/16754 | .... | Means to feed work axially |
| Y10T 82/16771 | .... | Translatable work support carriage |
| Y10T 82/16786 | .... | with tool groove in support roll[s] |
| Y10T 82/16803 | ... | Rotatable tool[s] driven by contact with work |
| Y10T 82/16819 | .... | Axially movable tool support |
| Y10T 82/16836 | ..... | Freely floating parallel to axis |
| Y10T 82/16852 | ..... | with supplemental nonrotative tool |
| Y10T 82/16868 | ..... | including clutch control for work rotation |
| Y10T 82/16885 | .... | including resilient means urging work against rotary support |
| Y10T 82/16901 | ... | Separate means for plural tools |
| Y10T 82/16918 | ... | Spring urged |
| Y10T 82/16934 | .... | For window shade |
| Y10T 82/16951 | ... | Tool adjustment and/or stop |
| Y10T 82/16967 | ... | with means to support and/or rotate work |
| Y10T 82/16983 | ... | with means to feed work |
| Y10T 82/17 | . | Lathe for pulley |
| Y10T 82/18 | . | Lathe for wheel or axle |
| Y10T 82/185 | .. | In situ lathe for railroad wheel |

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|--------------|--|
| Y10T 82/19 | . Lathe for crank or crank pin |
| Y10T 82/192 | .. Portable lathe for crank pin |
| Y10T 82/195 | .. having work oscillator |
| Y10T 82/198 | ... having work driver |
| Y10T 82/20 | . Lathe for screw cutting |
| Y10T 82/205 | .. having swinging feed nut and tool bar |
| Y10T 82/21 | . Portable lathe for brake drum, disc, or shoe |
| Y10T 82/22 | . Portable lathe for pipe turning |
| Y10T 82/23 | . Portable lathe for piston grooving |
| Y10T 82/24 | . Bench lathe |
| Y10T 82/245 | .. Watchmaker's lathe |
| Y10T 82/25 | . Lathe |
| Y10T 82/2502 | .. with program control |
| Y10T 82/2504 | ... And transmission |
| Y10T 82/2506 | ... And tool turret |
| Y10T 82/2508 | .. with tool turret |
| Y10T 82/2511 | .. Vertical |
| Y10T 82/2512 | .. having facing tool fed transverse to work |
| Y10T 82/2514 | .. with work feeder or remover |
| Y10T 82/2516 | ... Magazine type |
| Y10T 82/2518 | Bar feeder |
| Y10T 82/2521 | ... Bar feeder |
| Y10T 82/2522 | .. Portable |
| Y10T 82/2524 | .. Multiple |
| Y10T 82/2527 | .. having hollow cutter head |
| Y10T 82/2529 | .. Revolvable cutter heads |
| Y10T 82/2531 | .. Carriage feed |
| Y10T 82/2533 | ... Control |
| Y10T 82/2535 | Electrical type |
| Y10T 82/2537 | ... Apron mechanism |
| Y10T 82/2539 | Feednut control |
| Y10T 82/2541 | ... Slide rest |
| Y10T 82/2543 | Multiple tool support |
| Y10T 82/2545 | Tool relief |
| Y10T 82/2547 | ... Change gears |
| Y10T 82/2549 | ... Feedscrews and rods |
| Y10T 82/2552 | .. Headstock |
| Y10T 82/2554 | ... Speed changing gear |
| Y10T 82/2556 | Speed change gears for maintaining constant cutting speed |
| Y10T 82/2558 | ... Spindle reverser |

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|--------------|------|---|
| Y10T 82/2561 | ... | Spindle or work angler |
| Y10T 82/2562 | ... | Spindle and bearings |
| Y10T 82/2564 | .. | Tailstock |
| Y10T 82/2566 | .. | Bed |
| Y10T 82/2568 | .. | Center |
| Y10T 82/2571 | ... | Alignment adjuster |
| Y10T 82/2572 | .. | Attachment |
| Y10T 82/2574 | ... | Stop [e.g., carriage, tool, work, etc.] |
| Y10T 82/2577 | .... | Tool slide |
| Y10T 82/2579 | .... | Collet or spindle |
| Y10T 82/2581 | .... | Indexible [e.g., roll type, etc.] |
| Y10T 82/2583 | .. | Tool and work rest |
| Y10T 82/2585 | .. | Tool rest |
| Y10T 82/2587 | ... | Turret type holder [e.g., multiple tools, etc.] |
| Y10T 82/2589 | ... | Quick release tool or holder clamp |
| Y10T 82/2591 | ... | Tool post |
| Y10T 82/2593 | .. | Work rest |
| Y10T 82/2595 | ... | with noise or vibration dampener |
| Y10T 82/2597 | ... | Center rest |
| Y10T 82/26 | . | Work driver |
| Y10T 82/262 | .. | Lathe dog |
| Y10T 82/264 | ... | Cam grip |
| Y10T 82/266 | .. | Mandrel |
| Y10T 82/268 | ... | Expansible |
| Y10T 82/27 | . | Centerer |
| Y10T 82/28 | . | Drill press attachment for turning |
| Y10T 82/29 | . | Attachment for cutting a valve |
| Y10T 82/30 | . | Miscellaneous |

Former US Class 83 series

| | |
|-------------------|--|
| Y10T 83/00 | Cutting |
| Y10T 83/02 | . Other than completely through work thickness |
| Y10T 83/0207 | .. or through work presented |
| Y10T 83/0215 | ... Including use of rotary scoring blade |
| Y10T 83/0222 | Plural independent rotary scoring blades |
| Y10T 83/023 | ... With infeeding of work |
| Y10T 83/0237 | .. Pricking |
| Y10T 83/0244 | ... Including use of orbiting tool carrier |
| Y10T 83/0252 | ... With infeeding of tool |

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|--------------|-------|--|
| Y10T 83/0259 | .. | Edge trimming [e.g., chamfering, etc.] |
| Y10T 83/0267 | .. | Splitting |
| Y10T 83/0274 | ... | By use of endless band or chain knife |
| Y10T 83/0281 | ... | By use of rotary blade |
| Y10T 83/0289 | .... | Plural independent rotary blades |
| Y10T 83/0296 | ... | With infeeding of work |
| Y10T 83/0304 | .. | Grooving |
| Y10T 83/0311 | ... | By use of plural independent rotary blades |
| Y10T 83/0319 | .... | Forming common groove |
| Y10T 83/0326 | .... | Blades turning about perpendicular axes |
| Y10T 83/0333 | .. | Scoring |
| Y10T 83/0341 | ... | Processes |
| Y10T 83/0348 | ... | Active means to control depth of score |
| Y10T 83/0356 | ... | Serially |
| Y10T 83/0363 | ... | Plural independent scoring blades |
| Y10T 83/037 | .... | Rotary scoring blades |
| Y10T 83/0378 | ..... | On opposite sides of work |
| Y10T 83/0385 | ... | Rotary scoring blade |
| Y10T 83/0393 | .... | With means to rotate blade |
| Y10T 83/04 | . | Processes |
| Y10T 83/0405 | .. | With preparatory or simultaneous ancillary treatment of work |
| Y10T 83/041 | ... | By heating or cooling |
| Y10T 83/0414 | .... | At localized area [e.g., line of separation] |
| Y10T 83/0419 | ... | By distorting within elastic limit |
| Y10T 83/0424 | .... | By stretching |
| Y10T 83/0429 | .... | By compressing |
| Y10T 83/0433 | .... | By flexing around or by tool |
| Y10T 83/0438 | ..... | To conform to shape of tool |
| Y10T 83/0443 | ... | By fluid application |
| Y10T 83/0448 | .. | With subsequent handling [i.e., of product] |
| Y10T 83/0453 | ... | By fluid application |
| Y10T 83/0457 | ... | By retaining or reinserting product in workpiece |
| Y10T 83/0462 | ... | By accelerating travel |
| Y10T 83/0467 | ... | By separating products from each other |
| Y10T 83/0472 | ... | By moving work support to which a tacky product is adhered |
| Y10T 83/0476 | .. | Including stacking of plural workpieces |
| Y10T 83/0481 | .. | Puncturing |
| Y10T 83/0486 | .. | With manipulation of tool protective strip [e.g., backing strip] |
| Y10T 83/0491 | .. | Cutting of interdigitating products |
| Y10T 83/0495 | .. | Making and using a registration cut |

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|--------------|-------|--|
| Y10T 83/05 | .. | With reorientation of tool between cuts |
| Y10T 83/0505 | .. | With reorientation of work between cuts |
| Y10T 83/051 | ... | Relative to same tool |
| Y10T 83/0515 | .. | During movement of work past flying cutter |
| Y10T 83/0519 | ... | Cyclically varying rate of tool or work movement |
| Y10T 83/0524 | .. | Plural cutting steps |
| Y10T 83/0529 | ... | Blanking and cutting |
| Y10T 83/0534 | .... | Cutting to join blanked holes |
| Y10T 83/0538 | ... | Repetitive transverse severing from leading edge of work |
| Y10T 83/0543 | .... | Alternately forming products of less than total width of work |
| Y10T 83/0548 | .... | With longitudinal severing |
| Y10T 83/0553 | ..... | Effected by plural steps |
| Y10T 83/0558 | ..... | Along zigzag or undulant line or cut |
| Y10T 83/0562 | ..... | Prior to transverse severing |
| Y10T 83/0567 | .... | Nonrectilinear cutting |
| Y10T 83/0572 | ... | Plural cutting steps effect progressive cut |
| Y10T 83/0577 | ... | Repetitive blanking |
| Y10T 83/0581 | .. | Cutting part way through from opposite sides of work |
| Y10T 83/0586 | .. | Effecting diverse or sequential cuts in same cutting step |
| Y10T 83/0591 | .. | Cutting by direct application of fluent pressure to work |
| Y10T 83/0596 | .. | Cutting wall of hollow work |
| Y10T 83/06 | .. | Blanking |
| Y10T 83/0605 | .. | Cut advances across work surface |
| Y10T 83/061 | . | With manually actuated means to disturb cyclic operation |
| Y10T 83/081 | . | With randomly actuated stopping means |
| Y10T 83/083 | .. | With means to permit subsequent hand operation |
| Y10T 83/084 | .. | With stop-signal-responsive means to actuate auxiliary cutter |
| Y10T 83/086 | .. | With sensing of product or product handling means |
| Y10T 83/088 | .. | Responsive to tool detector or work-feed-means detector |
| Y10T 83/089 | ... | Responsive to tool characteristic |
| Y10T 83/091 | .. | Responsive to work sensing means |
| Y10T 83/093 | ... | Of buckled work |
| Y10T 83/094 | .... | Running loop |
| Y10T 83/096 | ... | Detector supported on or urged against work |
| Y10T 83/098 | .... | Resiliently biased |
| Y10T 83/099 | .. | Manually operated |
| Y10T 83/101 | . | With stopping means effective on completion of predetermined number of tool cycles |
| Y10T 83/121 | . | With means to accomplish delayed stopping after cessation of cyclic operation |
| Y10T 83/141 | . | With means to monitor and control operation [e.g., self-regulating means] |
| Y10T 83/145 | .. | Including means to monitor product |

| | | |
|--------------|-------|--|
| Y10T 83/148 | .. | Including means to correct the sensed operation |
| Y10T 83/152 | ... | And modify another operation |
| Y10T 83/155 | ... | Optimizing product from unique workpiece |
| Y10T 83/159 | .. | Including means to compensate tool speed for work-feed variations |
| Y10T 83/162 | . | With control means responsive to replaceable or selectable information program |
| Y10T 83/164 | .. | For cutting component of animal; e.g., hair clipper |
| Y10T 83/166 | .. | Removable element carries program |
| Y10T 83/169 | ... | Indeterminate length, web or strand |
| Y10T 83/171 | .... | Magnetic |
| Y10T 83/173 | .. | Arithmetically determined program |
| Y10T 83/175 | ... | With condition sensor |
| Y10T 83/178 | .... | Responsive to work |
| Y10T 83/18 | ... | With operator input means |
| Y10T 83/182 | . | With means to weigh product |
| Y10T 83/202 | . | With product handling means |
| Y10T 83/2022 | .. | Initiated by means responsive to product or work |
| Y10T 83/2024 | ... | Responsive to work |
| Y10T 83/2027 | .. | Initiated by means directly responsive to tool movement |
| Y10T 83/2029 | ... | In return motion of tool |
| Y10T 83/2031 | .. | Including means to drape the product |
| Y10T 83/2033 | .. | Including means to form or hold pile of product pieces |
| Y10T 83/2035 | ... | In nested relation |
| Y10T 83/2037 | ... | In stacked or packed relation |
| Y10T 83/204 | .... | Stacker sweeps along product support |
| Y10T 83/2042 | .... | Including cut pieces overlapped on delivery means |
| Y10T 83/2044 | .... | And means to separate product portions |
| Y10T 83/2046 | .... | Including means to move stack bodily |
| Y10T 83/2048 | ..... | By movement of stack holder |
| Y10T 83/205 | ..... | By timed relocation of holder along path of stack gscheme-change-itemth |
| Y10T 83/2053 | ..... | Interrelated adjustment of holder movement and work-feeder |
| Y10T 83/2055 | .... | And means to resist stack movement |
| Y10T 83/2057 | .... | Including means to deliver individual pieces to a stack holder |
| Y10T 83/2059 | ..... | With spindle to enter a hole or to make hole in product |
| Y10T 83/2061 | ..... | By face-engaging means to push product broadside into stacked relation |
| Y10T 83/2063 | .... | Upon emergence from hollow cutter |
| Y10T 83/2066 | .. | By fluid current |
| Y10T 83/2068 | ... | Plural blasts directed against plural product pieces |
| Y10T 83/207 | ... | By suction means |
| Y10T 83/2072 | .. | By brush means |

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| Y10T 83/2074 | .. | Including means to divert one portion of product from another |
| Y10T 83/2077 | ... | By kerf entering guide |
| Y10T 83/2079 | ... | Remaining or re-inserted product portion from base material |
| Y10T 83/2081 | ... | Gravity type |
| Y10T 83/2083 | ... | Deflecting guide |
| Y10T 83/2085 | .... | Positionable gate in product flow path |
| Y10T 83/2087 | ... | Diverging product movers |
| Y10T 83/209 | .. | Including means to replace product in base material after cutting |
| Y10T 83/2092 | .. | Means to move, guide, or permit free fall or flight of product |
| Y10T 83/2094 | ... | Means to move product at speed different from work speed |
| Y10T 83/2096 | ... | Means to move product out of contact with tool |
| Y10T 83/2098 | .... | With means to effect subsequent conveying or guiding |
| Y10T 83/21 | .... | Out of contact with a rotary tool |
| Y10T 83/2103 | ..... | Mover surrounds axis of tool rotation |
| Y10T 83/2105 | ..... | Mover mounted on rotary tool |
| Y10T 83/2107 | ..... | For radial movement of product |
| Y10T 83/2109 | ..... | Resiliently mounted |
| Y10T 83/2111 | ..... | Mover is resiliently mounted |
| Y10T 83/2113 | ..... | Pivoted mover |
| Y10T 83/2116 | ..... | And plural rotating tools |
| Y10T 83/2118 | ..... | Stationary mover |
| Y10T 83/212 | ..... | And plural rotating tools |
| Y10T 83/2122 | .... | By ejector within a hollow cutter |
| Y10T 83/2124 | ..... | And means to strip the outer surface of a cutter |
| Y10T 83/2127 | ..... | Ejector operated with return stroke of cutter |
| Y10T 83/2129 | ..... | By means carried by cooperating cutter |
| Y10T 83/2131 | ..... | By cam-operated ejector |
| Y10T 83/2133 | ..... | By resiliently biased ejector |
| Y10T 83/2135 | .... | Moving stripper timed with tool stroke |
| Y10T 83/2137 | ..... | And alternatively movable to or from operating position |
| Y10T 83/214 | ..... | Latched stripper released by tool return |
| Y10T 83/2142 | ..... | Plural strippers operative upon plural tools |
| Y10T 83/2144 | ..... | Single stripper operative upon plural tools |
| Y10T 83/2146 | ..... | Spring arm stripper |
| Y10T 83/2148 | ..... | Linkage actuated |
| Y10T 83/215 | ..... | Carried by moving tool element or its support |
| Y10T 83/2153 | ..... | Fluid pressure actuated stripper |
| Y10T 83/2155 | ..... | Stripper biased against product |
| Y10T 83/2157 | | Elastomeric stripper contacting product |
| Y10T 83/2159 | | By spring means |

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| Y10T 83/2161 | | By free weight of stripper |
| Y10T 83/2163 | | Stripper biased against product |
| Y10T 83/2166 | ..... | Spring biased stripper |
| Y10T 83/2168 | .... | Manually operated stripper |
| Y10T 83/217 | .... | Stationary stripper |
| Y10T 83/2172 | ..... | Stripper encircles moving tool |
| Y10T 83/2174 | ... | Blockable exit port |
| Y10T 83/2177 | ... | Tool conforming member interposed between tool and work |
| Y10T 83/2179 | ... | Including means to move, or resist movement of, cut pieces along delivery chute |
| Y10T 83/2181 | ... | Active delivery means mounted on tool support |
| Y10T 83/2183 | ... | Product mover including gripper means |
| Y10T 83/2185 | .... | Suction gripper |
| Y10T 83/2187 | .... | Reciprocating product handler |
| Y10T 83/219 | .... | Rotating or oscillating product handler |
| Y10T 83/2192 | ... | Endless conveyor |
| Y10T 83/2194 | .... | And means to remove product therefrom |
| Y10T 83/2196 | ... | Roller[s] |
| Y10T 83/2198 | ... | Tiltable or withdrawable support |
| Y10T 83/22 | ... | Means to move product laterally |
| Y10T 83/2203 | .... | Oscillating means |
| Y10T 83/2205 | .... | Reciprocating means |
| Y10T 83/2207 | ... | Means to move product in a nonrectilinear path |
| Y10T 83/2209 | ... | Guide |
| Y10T 83/2211 | .... | Abutment in path of product being moved by work feeder |
| Y10T 83/2213 | .... | Product-diverting conduit in or from hollow tool |
| Y10T 83/2216 | .... | Inclined conduit, chute or plane |
| Y10T 83/2218 | .... | Abutment interposed in path of free fall or flight of product |
| Y10T 83/222 | . | With receptacle or support for cut product |
| Y10T 83/242 | . | With means to clean work or tool |
| Y10T 83/263 | . | With means to apply transient nonpropellant fluent material to tool or work |
| Y10T 83/283 | . | With means to control or modify temperature of apparatus or work |
| Y10T 83/293 | .. | Of tool |
| Y10T 83/303 | . | With tool sharpener or smoother |
| Y10T 83/313 | .. | Spatially fixed tool |
| Y10T 83/323 | . | With means to stretch work temporarily |
| Y10T 83/343 | . | With means to deform work temporarily |
| Y10T 83/364 | . | By fluid blast and/or suction |
| Y10T 83/384 | . | By tool inside hollow work |
| Y10T 83/385 | .. | Work pre-packed with internal tool[s] |

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| Y10T 83/386 | .. | With expanding mandrel |
| Y10T 83/387 | .. | Interrelated tool feed means and means to actuate work immobilizer |
| Y10T 83/388 | ... | Actuated clamp element and work holder coact to position work |
| Y10T 83/39 | .. | Synchronized tool and work feeding means |
| Y10T 83/391 | .. | With means to position tool[s] for cutting |
| Y10T 83/392 | .. | One tool [either internal or external] having compound motion |
| Y10T 83/393 | ... | Annulus and disc-type tool pair |
| Y10T 83/394 | .. | One tool having unidirectional rotary motion |
| Y10T 83/395 | .. | One tool having only rectilinear motion[s] |
| Y10T 83/396 | ... | Annulus and disc-type tool pair |
| Y10T 83/397 | .... | A tool has a sequence of motion in plural paths |
| Y10T 83/398 | ... | Internal tool is an active cutter |
| Y10T 83/40 | ... | Multiple external active tools |
| Y10T 83/401 | .... | Tools operate in a substantially common transverse plane of cut |
| Y10T 83/402 | ..... | With tool actuating cams on a common support |
| Y10T 83/403 | .. | With manually actuated means to position or facilitate positioning of work |
| Y10T 83/404 | . | By means to misalign aligned apertured tools |
| Y10T 83/408 | .. | Combined with another type tool of the class |
| Y10T 83/412 | .. | Rectilinear relative movement only |
| Y10T 83/416 | .. | Rotary relative movement solely about a single pivot |
| Y10T 83/42 | ... | With plural apertures in one or both carriers |
| Y10T 83/424 | . | By increased tensioning of work-enclosing wire |
| Y10T 83/444 | . | Tool engages work during dwell of intermittent workfeed |
| Y10T 83/4443 | .. | Unicyclic |
| Y10T 83/4445 | ... | Convertible to and from unicyclic |
| Y10T 83/4448 | ... | Controlled by mechanical means |
| Y10T 83/445 | .. | With work-moving clamp jaw |
| Y10T 83/4453 | .. | Work moved solely by movable abutment |
| Y10T 83/4455 | .. | Operation initiated by work-driven detector means to measure work length |
| Y10T 83/4458 | .. | Work-sensing means to control work-moving or work-stopping means |
| Y10T 83/446 | ... | With means to initiate tool feed by same control impulse |
| Y10T 83/4463 | .. | Work-sensing means to initiate tool feed |
| Y10T 83/4465 | ... | With work-stopping abutment in sensing means |
| Y10T 83/4468 | .. | Plural tools at same station, one positioned for continuous engagement with work |
| Y10T 83/447 | .. | Plural tools successively actuated at same station |
| Y10T 83/4473 | ... | During one dwell period |
| Y10T 83/4475 | .. | Tool has motion additional to cutting stroke during tool cycle |
| Y10T 83/4478 | ... | Tool has additional motion during work dwell |
| Y10T 83/448 | | Included in plural cutting cycles |
| Y10T 83/4483 | ... | Tool has work-feeding motion |

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| Y10T 83/4486 | .. | With variable direction of work-feed from cycle to cycle |
| Y10T 83/4488 | ... | In one of certain selected directions |
| Y10T 83/4491 | .. | Interlock between tool actuating and work feed means |
| Y10T 83/4493 | .. | Tool motion initiates work feed and vice versa |
| Y10T 83/4496 | .. | Stored energy means for moving work or tool, loaded by tool or work |
| Y10T 83/4498 | ... | Work feed means actuates energy storage device for tool |
| Y10T 83/4501 | .. | Work feed means controlled by means mounted on tool or tool support |
| Y10T 83/4503 | ... | Such means drives the work feed means |
| Y10T 83/4506 | .... | Work feed means carried by tool or tool support |
| Y10T 83/4508 | .... | With supplemental work feed means |
| Y10T 83/4511 | .... | On return stroke of tool |
| Y10T 83/4513 | ... | Work feed means halted by means on tool or tool support |
| Y10T 83/4516 | .. | Work-feed mechanism in nonfeed motion effects or initiates tool actuation |
| Y10T 83/4518 | ... | By striking tool actuator |
| Y10T 83/4521 | .... | Nonfeed motion is reverse to feed motion |
| Y10T 83/4523 | .. | With means to vary number of work-feed increments between tool strokes |
| Y10T 83/4526 | .. | Dwell caused by imposing reverse motion on portion of flexible moving work |
| Y10T 83/4529 | .. | With uninterrupted flow of work from supply source |
| Y10T 83/4531 | .. | Work feed increment shorter than longitudinal tool field |
| Y10T 83/4534 | .. | Unequal work feed increments in recurring series |
| Y10T 83/4536 | ... | Work carriage carries ratchet means to determine increments |
| Y10T 83/4539 | .. | Means to change tool position, or length or datum position of work- or tool-feed increment |
| Y10T 83/4541 | ... | With means to vary magnitude of work-feed increment |
| Y10T 83/4544 | .... | Multi-increment type [e.g., ticket issuing] |
| Y10T 83/4546 | ..... | Length selector initiates machine operation |
| Y10T 83/4549 | .... | By change in length of one member of feed-driving linkage |
| Y10T 83/4551 | ..... | Rotating member |
| Y10T 83/4554 | .... | By change of effective shape of driving or driven surface of element of work-feed mechanism |
| Y10T 83/4556 | .... | By adjustment of fixed stop |
| Y10T 83/4559 | ... | With means to vary magnitude or base position of tool stroke |
| Y10T 83/4561 | .. | With means to facilitate manual repositioning [shift] of work |
| Y10T 83/4564 | .. | With means to produce plurality of work-feed increments per tool cycle |
| Y10T 83/4567 | ... | Including supplemental work-feed means |
| Y10T 83/4569 | .... | Manual |
| Y10T 83/4572 | .... | With stop adapted to engage abutment surface on work |
| Y10T 83/4574 | ..... | Plurality of work stops successively effective |
| Y10T 83/4577 | .. | Work fed successively to plural tools |
| Y10T 83/4579 | ... | With change of direction between tools |

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| Y10T 83/4582 | .. | Work advance occurs during return stroke of tool |
| Y10T 83/4584 | .. | Dwell defined only by "dead-center" of rotating crank |
| Y10T 83/4587 | .. | Dwell initiated by disengagement of surface of moving frictional feed means from work |
| Y10T 83/4589 | ... | Feed means has interrupted frictional surface |
| Y10T 83/4592 | ... | Feed means has rotary motion |
| Y10T 83/4594 | .. | Dwell caused by clamping or blocking work during continuous operation of feed means |
| Y10T 83/4597 | .. | With means to control magnitude of work-feed increment or work acceleration |
| Y10T 83/4599 | ... | Means to prevent random or excessive work feeds |
| Y10T 83/4602 | ... | Full stroke required of feed means |
| Y10T 83/4604 | .. | Work feed functions as tool support |
| Y10T 83/4607 | .. | With rotary work-carrier |
| Y10T 83/461 | .. | With abutment to position work being fed with respect to cutter |
| Y10T 83/4612 | ... | With slip between positioned work and feed means |
| Y10T 83/4615 | .. | Work guide and feed means have open side |
| Y10T 83/4617 | .. | Work feed means modified to maintain clearance from tool |
| Y10T 83/462 | .. | Plurality of work feed means in separate paths |
| Y10T 83/4622 | .. | Intermittent drive type of gearing for work-feed means |
| Y10T 83/4625 | ... | Gearing modified to lock the work-feed means |
| Y10T 83/4627 | ... | Mutilated gear in mesh with gear driving work-feed means |
| Y10T 83/463 | .. | Work-feed element contacts and moves with work |
| Y10T 83/4632 | ... | Comprises a work-moving gripper |
| Y10T 83/4635 | ... | Comprises element entering aperture in, or engaging abutment surface on, work |
| Y10T 83/4637 | .. | With means to guide, position, or present work to work-feed means |
| Y10T 83/464 | ... | Means to transport work to work-feed means |
| Y10T 83/4642 | .... | Including means to pick articles from pack or stack |
| Y10T 83/4645 | .. | With means to clamp work during dwell |
| Y10T 83/4647 | .. | One-revolution clutch in tool drive |
| Y10T 83/465 | . | Cutting motion of tool has component in direction of moving work |
| Y10T 83/4653 | .. | With means to initiate intermittent tool action |
| Y10T 83/4656 | ... | Tool moved in response to work-sensing means |
| Y10T 83/4659 | .... | With means to vary "length" of product |
| Y10T 83/4662 | ..... | To vary an end-product "length" [e.g., "crop cut"] |
| Y10T 83/4664 | .... | With photo-electric work-sensing means |
| Y10T 83/4667 | .... | With trip-switch work-sensing means |
| Y10T 83/467 | ..... | To initiate feed movement of tool |
| Y10T 83/4673 | ..... | And to initiate flying movement of tool |
| Y10T 83/4676 | | With work-responsive means to initiate flying movement of tool |
| Y10T 83/4679 | | With flying work-gripper means related to tool carrier |

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| Y10T 83/4682 | | With means controlling flying speed dependent on work speed |
| Y10T 83/4685 | ... | With means to vary frequency of initiation |
| Y10T 83/4688 | .... | By orbitally traveling trigger pin[s] |
| Y10T 83/4691 | .. | Interrelated control of tool and work-feed drives |
| Y10T 83/4693 | .. | With means to concurrently adjust flying frequency and retain flying speed of tool |
| Y10T 83/4696 | .. | Plural diverse flying cutters |
| Y10T 83/4699 | .. | Combined with other type cutter |
| Y10T 83/4702 | ... | With slitter |
| Y10T 83/4705 | .. | Plural separately mounted flying cutters |
| Y10T 83/4708 | .. | With means to render cutter pass[es] ineffective |
| Y10T 83/4711 | ... | With means to produce "mis-cut" |
| Y10T 83/4714 | .. | Oscillating work shifter adjacent cutter |
| Y10T 83/4717 | ... | Work actuated senser initiates shifter |
| Y10T 83/472 | .. | Wire tool |
| Y10T 83/4722 | ... | On tool support having reciprocation parallel to direction of work-feed |
| Y10T 83/4725 | .... | And rotation about axis parallel to direction of work-feed |
| Y10T 83/4728 | .. | Tool flies by engagement with the work |
| Y10T 83/4731 | ... | Tool merely flexes with moving work |
| Y10T 83/4734 | .. | Flying support or guide for work |
| Y10T 83/4737 | .. | With tool speed regulator |
| Y10T 83/474 | .. | With work feed speed regulator |
| Y10T 83/4743 | ... | With means to vary cyclically speed of work |
| Y10T 83/4746 | .. | Spring return of tool in counterfly direction |
| Y10T 83/4749 | .. | Tool mounted on oscillating standard |
| Y10T 83/4751 | ... | Both tools of couple on single standard |
| Y10T 83/4754 | .... | One tool swings out of work path on return stroke |
| Y10T 83/4757 | .. | Tool carrier shuttles rectilinearly parallel to direction of work feed |
| Y10T 83/476 | ... | Including means to secure work to carrier |
| Y10T 83/4763 | ... | Both members of cutting pair on same carrier |
| Y10T 83/4766 | .. | Orbital motion of cutting blade |
| Y10T 83/4769 | ... | Work feeder mounted on tool support |
| Y10T 83/4772 | .... | Gripper-type feeder |
| Y10T 83/4775 | ... | Tool speed varied within each orbital cycle |
| Y10T 83/4778 | ... | Work feed gripper carried on endless belt |
| Y10T 83/478 | ... | Endless belt or chain tool carrier |
| Y10T 83/4783 | ... | Constantly oriented tool with arcuate cutting path |
| Y10T 83/4786 | .... | Cutting couple type |
| Y10T 83/4789 | ... | Rotatable disc-type tool on orbiting axis |
| Y10T 83/4792 | | Idling disc |
| Y10T 83/4795 | ... | Rotary tool |

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| Y10T 83/4798 | | Segmented disc slitting or slotting tool |
| Y10T 83/4801 | | With undulant cutting edge [e.g., "pinking" tool] |
| Y10T 83/4804 | .... | Single tool action drive |
| Y10T 83/4807 | ..... | With one-revolution drive |
| Y10T 83/4809 | .... | With loop former preceding tool |
| Y10T 83/4812 | .... | Compound movement of tool during tool cycle |
| Y10T 83/4815 | ..... | Axial reciprocation of tool |
| Y10T 83/4818 | .... | Interconnected work feeder and tool driver |
| Y10T 83/4821 | .... | Side cutting helical blade |
| Y10T 83/4824 | .... | With means to cause progressive transverse cutting |
| Y10T 83/4827 | ..... | With helical cutter blade |
| Y10T 83/483 | .... | With cooperating rotary cutter or backup |
| Y10T 83/4833 | ..... | Cooperating tool axes adjustable relative to each other |
| Y10T 83/4836 | ..... | With radial overlap of the cutting members |
| Y10T 83/4838 | ..... | With anvil backup |
| Y10T 83/4841 | ..... | With resilient anvil surface |
| Y10T 83/4844 | ..... | Resiliently urged cutter or anvil member |
| Y10T 83/4847 | .... | With cooperating stationary tool |
| Y10T 83/485 | . | Cutter with timed stroke relative to moving work |
| Y10T 83/487 | .. | Work swings about progressively cutting tool during tool stroke |
| Y10T 83/489 | .. | Tool actuated by movable work support |
| Y10T 83/49 | .. | Traveling cutter |
| Y10T 83/492 | .. | With means to vary timing of tool feed |
| Y10T 83/494 | .. | Uniform periodic tool actuation |
| Y10T 83/496 | ... | With periodic lateral feed of tool or work |
| Y10T 83/498 | ... | With plural tool stations |
| Y10T 83/50 | ... | Reciprocating tool |
| Y10T 83/501 | ... | With plural tools on a single tool support |
| Y10T 83/503 | .. | With plural tool stations |
| Y10T 83/505 | . | Operation controlled by means responsive to product |
| Y10T 83/515 | .. | Actuation of tool controlled |
| Y10T 83/525 | . | Operation controlled by detector means responsive to work |
| Y10T 83/527 | .. | With means to control work-responsive signal system |
| Y10T 83/528 | ... | To delay response to work-senser |
| Y10T 83/53 | ... | To change length of product |
| Y10T 83/531 | .. | With plural work-sensing means |
| Y10T 83/533 | .. | With photo-electric work-sensing means |
| Y10T 83/535 | .. | Release of interlock controlled |
| Y10T 83/536 | .. | Movement of work controlled |
| Y10T 83/538 | .. | Positioning of tool controlled |

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| Y10T 83/54 | .. | Actuation of tool controlled by work-driven means to measure work length |
| Y10T 83/541 | .. | Actuation of tool controlled in response to work-sensing means |
| Y10T 83/543 | ... | Sensing means responsive to work indicium or irregularity |
| Y10T 83/544 | ... | With trip-switch in work-sensing mechanism |
| Y10T 83/546 | . | Interrelated tool actuating and work guide moving means |
| Y10T 83/566 | . | Interrelated tool actuating means and means to actuate work immobilizer |
| Y10T 83/5669 | .. | Work clamp |
| Y10T 83/5678 | ... | Tool deflected by guide on tightened clamp |
| Y10T 83/5687 | .... | With means to control clamping force |
| Y10T 83/5696 | ... | Clamp driven by reaction from tool force |
| Y10T 83/5705 | ... | With means providing for plural steps in clamping stroke |
| Y10T 83/5715 | ... | With sequencing means |
| Y10T 83/5724 | ... | With provision for manual control of clamp |
| Y10T 83/5733 | ... | Tool or tool support on movable clamp jaw |
| Y10T 83/5742 | ... | Clamp moved by direct impact of tool or tool support |
| Y10T 83/5751 | .... | Clamp retracted by impact of tool or tool support |
| Y10T 83/576 | ... | Clamp actuating means driven by tool or tool support |
| Y10T 83/5769 | .... | Clamp yieldably driven by tool or tool support |
| Y10T 83/5778 | ..... | With resilient drive element |
| Y10T 83/5787 | ... | Clamp driven by yieldable means |
| Y10T 83/5796 | .... | Drive means is resilient |
| Y10T 83/5805 | .... | Fluid pressure yieldable drive means |
| Y10T 83/5815 | .. | Work-stop abutment |
| Y10T 83/5824 | ... | Oppositely effective abutments |
| Y10T 83/5833 | ... | With cyclic means to alter work-stopping position |
| Y10T 83/5842 | ... | Stop partakes of tool motion |
| Y10T 83/5851 | .... | Carried by tool or tool support |
| Y10T 83/586 | . | Interrelated tool actuating means and means to actuate work-mover stop |
| Y10T 83/606 | . | Interrelated tool actuating means and guard means |
| Y10T 83/613 | .. | Work guard |
| Y10T 83/619 | .. | Cutter guide slot closer |
| Y10T 83/626 | . | Operation of member controlled by means responsive to position of element remote from member [e.g., interlock] |
| Y10T 83/637 | .. | With means to initiate operation of member |
| Y10T 83/647 | . | With means to convey work relative to tool station |
| Y10T 83/6472 | .. | By fluid current |
| Y10T 83/6473 | .. | Centrifugal feed to tangential tool [e.g., "Beria" type] |
| Y10T 83/6475 | .. | With means to regulate work-feed speed |
| Y10T 83/6476 | .. | Including means to move work from one tool station to another |
| Y10T 83/6478 | ... | Tool stations angularly related |

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| Y10T 83/648 | | Work manipulated between tool stations |
| Y10T 83/6481 | | With static tool |
| Y10T 83/6483 | ... | Tool stations staggered relative to one another |
| Y10T 83/6484 | ... | Punch or die station |
| Y10T 83/6486 | ... | Notcher or pinker station |
| Y10T 83/6488 | ... | Work reciprocated past double-edged knife |
| Y10T 83/6489 | ... | Slitter station |
| Y10T 83/6491 | .... | And transverse cutter station |
| Y10T 83/6492 | .. | Plural passes of diminishing work piece through tool station |
| Y10T 83/6494 | ... | Work alternately, angularly re-oriented relative to tool station |
| Y10T 83/6496 | .... | By additional means to engage work and orient it relative to tool station |
| Y10T 83/6497 | .... | By roller or roll-like element |
| Y10T 83/6499 | ... | Work rectilinearly reciprocated through tool station |
| Y10T 83/65 | .... | With means to cause or permit angular re-orientation of work about axis parallel to plane of cut |
| Y10T 83/6502 | ..... | By endless member having work-engaging teeth |
| Y10T 83/6504 | ..... | By member having work-engaging tooth |
| Y10T 83/6505 | ..... | Including plural work-engaging teeth |
| Y10T 83/6507 | ..... | Fluid operated |
| Y10T 83/6508 | .... | With means to cause movement of work transversely toward plane of cut |
| Y10T 83/651 | ..... | By means to cause movement toward and away from plane of cut |
| Y10T 83/6512 | ..... | Actuated by movement of a member on reciprocating means |
| Y10T 83/6513 | ..... | Actuated by passive means which is external to reciprocating means |
| Y10T 83/6515 | .... | By means to define increment of movement toward plane of cut |
| Y10T 83/6516 | ..... | Interrelated with movement of reciprocating means |
| Y10T 83/6518 | ..... | By pusher mechanism |
| Y10T 83/652 | ..... | With additional work holding or positioning means |
| Y10T 83/6521 | ..... | Work holding means includes actuator |
| Y10T 83/6523 | ..... | Including plural, simultaneously acting pusher elements |
| Y10T 83/6524 | ..... | Independently adjustable |
| Y10T 83/6526 | ..... | With additional means to retract elements |
| Y10T 83/6528 | ..... | Power derived from movement of reciprocating means |
| Y10T 83/6529 | ..... | Power derived from fluid pressure means |
| Y10T 83/6531 | ..... | Movement by screw means |
| Y10T 83/6532 | ..... | Movement by rack and pinion or pawl |
| Y10T 83/6534 | ..... | With handle |
| Y10T 83/6536 | ..... | By carriage |
| Y10T 83/6537 | .... | By cable or belt drive |
| Y10T 83/6539 | .. | With means for transverse positioning of work on a moving conveyor |
| Y10T 83/654 | .. | With work-constraining means on work conveyor [i.e., "work-carrier"] |

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| Y10T 83/6542 | ... | Plural means to constrain plural work pieces |
| Y10T 83/6544 | | End of work protrudes through aperture in carrier |
| Y10T 83/6545 | ... | With means to guide work-carrier in nonrectilinear path |
| Y10T 83/6547 | .... | About axis fixed relative to tool station |
| Y10T 83/6548 | ..... | Infeed |
| Y10T 83/655 | ..... | About vertical axis |
| Y10T 83/6552 | ..... | Cut normal to axis |
| Y10T 83/6553 | ..... | Work-guide tube |
| Y10T 83/6555 | ..... | Cut normal to axis |
| Y10T 83/6556 | ..... | Oscillating work-carrier |
| Y10T 83/6558 | ..... | Multiple cutters |
| Y10T 83/656 | ..... | Coaxial rotary cutters |
| Y10T 83/6561 | ..... | Work stationary during cut |
| Y10T 83/6563 | ... | With means to orient or position work carrier relative to tool station |
| Y10T 83/6564 | .... | By pattern or templet |
| Y10T 83/6566 | .... | By indexing means |
| Y10T 83/6568 | ... | With additional work-locating means on work-carrier |
| Y10T 83/6569 | .. | With means to stop work conveyor |
| Y10T 83/6571 | .. | With means to store work articles |
| Y10T 83/6572 | .. | With additional means to engage work and orient it relative to tool station |
| Y10T 83/6574 | ... | By work-stopping abutment |
| Y10T 83/6576 | ... | By opposed lateral guide means |
| Y10T 83/6577 | ... | With means to adjust additional means |
| Y10T 83/6579 | .. | With means to press work to work-carrier |
| Y10T 83/658 | .. | With projections on work-carrier [e.g., pin wheel] |
| Y10T 83/6582 | .. | Tool between tandem arranged work carrying means |
| Y10T 83/6584 | .. | Cut made parallel to direction of and during work movement |
| Y10T 83/6585 | ... | Including nonconcurrently acting tool |
| Y10T 83/6587 | ... | Including plural, laterally spaced tools |
| Y10T 83/6588 | .... | Tools mounted on common tool support |
| Y10T 83/659 | ..... | Tools axially shiftable on support |
| Y10T 83/6592 | ... | Interrelated work-conveying and tool-moving means |
| Y10T 83/6593 | .... | With reciprocating tool [e.g., "jigsaw" type] |
| Y10T 83/6595 | .... | With means to move tool laterally of feed direction during cutting |
| Y10T 83/6596 | .... | With means to effect difference between work speed and tool speed |
| Y10T 83/6598 | .... | Tool co-axial with work-conveying means |
| Y10T 83/66 | ... | With means to press work to tool |
| Y10T 83/6601 | ... | Bevel cutting tool |
| Y10T 83/6603 | ... | Tool shiftable relative to work-conveying means |
| Y10T 83/6604 | ... | Tool in contact with surface of work-conveying means |

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|--------------|-------|--|
| Y10T 83/6606 | ... | Tool between laterally spaced work-conveying means |
| Y10T 83/6608 | ... | By rectilinearly moving work carriage |
| Y10T 83/6609 | .... | Angularly adjustable |
| Y10T 83/6611 | ..... | Having positive adjustment stop; e.g., link |
| Y10T 83/6612 | ..... | Having position indicating means |
| Y10T 83/6614 | .... | Pusher engaging rear surface of work |
| Y10T 83/6616 | ..... | Having means to actuate pusher |
| Y10T 83/6617 | ..... | Hydraulic or pneumatic means |
| Y10T 83/6619 | ..... | Gear or pulley actuated pusher |
| Y10T 83/662 | ..... | Lever, cam, or link actuated pusher |
| Y10T 83/6622 | .... | Having means to actuate carriage |
| Y10T 83/6624 | ..... | Hydraulic or pneumatic means |
| Y10T 83/6625 | ..... | Gear or pulley |
| Y10T 83/6627 | ..... | Adapted to place tension on flacid member |
| Y10T 83/6628 | ..... | Lever, cam, or link means |
| Y10T 83/663 | .... | On or attached to vehicle |
| Y10T 83/6632 | .... | Supported for movement at one side of tool only |
| Y10T 83/6633 | ... | By work moving flexible chain or conveyor |
| Y10T 83/6635 | ... | By feed roller |
| Y10T 83/6636 | .... | Pinch rollers |
| Y10T 83/6638 | ... | Unattached manual work pusher |
| Y10T 83/664 | .. | Roller |
| Y10T 83/6641 | ... | Plural independent rollers for feed of plural distinct work |
| Y10T 83/6643 | ... | Shaped to conform to work |
| Y10T 83/6644 | ... | With work-supplying reel |
| Y10T 83/6646 | .... | And provision for selecting feed length |
| Y10T 83/6648 | ... | Continuous conveying during , cutting; e.g., straw cutting |
| Y10T 83/6649 | ... | Supporting work at cutting station |
| Y10T 83/6651 | .... | Comprising part of cutting station |
| Y10T 83/6652 | ... | Tool and feed roller actuated by common handle |
| Y10T 83/6654 | ... | Tool and roller on common movable support |
| Y10T 83/6656 | .. | Rectilinear movement only |
| Y10T 83/6657 | ... | Tool opposing pusher |
| Y10T 83/6659 | .... | Hydraulically or pneumatically actuated |
| Y10T 83/666 | .... | Screw actuated |
| Y10T 83/6662 | .... | Gear or pulley actuated |
| Y10T 83/6664 | .... | Lever, cam, or link actuated |
| Y10T 83/6665 | .... | Spring or gravity urged |
| Y10T 83/6667 | .. | Work carrier rotates about axis fixed relative to tool station |
| Y10T 83/6668 | .. | Interrelated work-feeding means and tool-moving means |

- Y10T 83/667 . Tool carrier or guide affixed to work during cutting
- Y10T 83/674 . . By flexible work-engaging member
- Y10T 83/68 . . Entirely work supported
- Y10T 83/687 . By tool reciprocable along elongated edge
- Y10T 83/6875 . . With means permitting tool to be rotatably adjusted about its cutting edge during cutting
- Y10T 83/688 . . With dynamic balancing or shock absorbing means
- Y10T 83/6885 . . With tool of another type
- Y10T 83/689 . . With means to change to other type tool
- Y10T 83/6895 . . Plural reciprocable tools
- Y10T 83/69 . . Stored energy furnishes drive in one direction
- Y10T 83/6905 . . With tool in-feed
- Y10T 83/691 . . . And auxiliary means for promoting or retarding tool in-feed
- Y10T 83/6915 By yieldable means
- Y10T 83/692 And means to vary tool in-feed speed
- Y10T 83/6925 With interrelated tool actuating and in-feed means
- Y10T 83/693 . . . Of rectilinearly reciprocating tool
- Y10T 83/6935 With in-feed by pivoting carrier
- Y10T 83/694 . . . And means to prevent tool in-feed
- Y10T 83/6945 . . . With passive means to guide tool directly
- Y10T 83/695 By plural opposed guide surfaces
- Y10T 83/6955 Having relative adjustment between guide surfaces
- Y10T 83/696 With relative adjustment between guide and work or work-support
- Y10T 83/6965 By or with additional movable work-support portion
- Y10T 83/697 By rotation about an axis parallel to the work-support surface
- Y10T 83/6975 By rotation about an axis perpendicular to the work-support surface
- Y10T 83/698 . . . Including means to cause nonrectilinear tool infeed
- Y10T 83/6985 . . . Of arcuately oscillating tool
- Y10T 83/699 . . . Of tool carrier on single moving pivot
- Y10T 83/6995 Pivot moves in closed loop
- Y10T 83/70 Pivot moves to and fro in arcuate path
- Y10T 83/7005 Axis of arcuate path moves during cutting
- Y10T 83/701 Pivot moves to and fro in rectilinear path
- Y10T 83/7015 . . . Having uniplanar compound motion
- Y10T 83/702 . . . By plural arcuately oscillating carrier
- Y10T 83/7025 . . . Constantly oriented tool travelling in orbit
- Y10T 83/703 . . . Tool rocks cutting reciprocations
- Y10T 83/7035 One tool reciprocates along fixed guide element
- Y10T 83/704 . . . With work-support and means to vary relationship between tool and work support
- Y10T 83/7045 . . . Arcuately oscillating tool carried on single pivot

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|--------------|-------|--|
| Y10T 83/705 | .. | With means to support tool at opposite ends |
| Y10T 83/7055 | ... | And apply drive force to both ends of tool |
| Y10T 83/706 | .... | By flexible drive means |
| Y10T 83/7065 | .... | By reciprocating rigid support |
| Y10T 83/707 | . | By endless band or chain knife |
| Y10T 83/7076 | .. | With programming means |
| Y10T 83/7083 | .. | With cutter other than endlessly orbiting type |
| Y10T 83/7089 | .. | Including contiguous oppositely moving knife portions |
| Y10T 83/7095 | .. | With means to change to non-endlessly orbiting cutter |
| Y10T 83/7101 | .. | With tool in-feed |
| Y10T 83/7108 | ... | Including ground-traversing vehicle |
| Y10T 83/7114 | ... | Including means to permit arcuate in-feed motion |
| Y10T 83/712 | .... | Including means to relocate path of in-feed motion |
| Y10T 83/7126 | ..... | Angular relative previous path |
| Y10T 83/7133 | ... | By gravity |
| Y10T 83/7139 | .... | With fluid in-feed regulating means |
| Y10T 83/7145 | ... | By motor-driven mechanism |
| Y10T 83/7151 | .. | With scale or indicator |
| Y10T 83/7158 | .. | Including plural cutting zones |
| Y10T 83/7164 | ... | With adjustment of separation between zones |
| Y10T 83/717 | .... | By lever means |
| Y10T 83/7176 | .... | By screw-threaded means |
| Y10T 83/7183 | ... | Including "figure-8" band |
| Y10T 83/7189 | ... | Comprising plural bands |
| Y10T 83/7195 | .. | Including means to adjust relationship between band and work-support surface |
| Y10T 83/7201 | ... | By varying angle between band and work-support surface |
| Y10T 83/7208 | .... | By tilting band carrier |
| Y10T 83/7214 | ..... | About point of intersection of cutting span and work-support surface |
| Y10T 83/722 | ... | By varying distance between band and work-support surface |
| Y10T 83/7226 | .. | With means to guard the tension |
| Y10T 83/7233 | ... | Including means to retard undriven pulley or sprocket |
| Y10T 83/7239 | ... | With means to vary distance between pulley or sprocket axes |
| Y10T 83/7245 | .... | And angular relationship of axes |
| Y10T 83/7251 | .... | Including means to yieldably bias pulley |
| Y10T 83/7258 | ..... | By fluid means |
| Y10T 83/7264 | .. | With special blade guide means |
| Y10T 83/727 | . | With means to guide moving work |
| Y10T 83/728 | .. | In pivotal or arcuate movement |
| Y10T 83/73 | .. | Guide fixed to or integral with stationary tool element |
| Y10T 83/731 | ... | Tool element cooperates with a second tool |

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|--------------|-------|---|
| Y10T 83/732 | .. | With guard |
| Y10T 83/734 | .. | With attachment or operative connection to tool carrier |
| Y10T 83/735 | .. | With attachment or operative connection to passive tool guide |
| Y10T 83/736 | .. | Guide cooperates with template or straight edge secured to work |
| Y10T 83/738 | .. | Curved or deflecting guide |
| Y10T 83/739 | .. | Positively confines or otherwise determines path of work |
| Y10T 83/74 | .. | Adapted to permit maneuvering of work at tool zone |
| Y10T 83/741 | .. | With movable or yieldable guide element |
| Y10T 83/743 | ... | Opposed to work-supporting surface |
| Y10T 83/744 | .. | Plural guide elements |
| Y10T 83/745 | ... | Opposed |
| Y10T 83/747 | .. | Opposed to work-supporting surface |
| Y10T 83/748 | . | With work immobilizer |
| Y10T 83/7487 | .. | Means to clamp work |
| Y10T 83/7493 | ... | Combined with, peculiarly related to, other element |
| Y10T 83/75 | .... | With or to tool guide |
| Y10T 83/7507 | .... | Guide for traveling cutter |
| Y10T 83/7513 | .... | Tool or tool support on movable clamp jaw |
| Y10T 83/752 | ... | With means providing for plural steps in clamping stroke |
| Y10T 83/7527 | ... | With equalizer or self-aligning jaw |
| Y10T 83/7533 | ... | With biasing or counterbalancing means |
| Y10T 83/754 | ... | Clamp driven by yieldable means |
| Y10T 83/7547 | ... | Liquid pressure actuating means |
| Y10T 83/7553 | ... | Including means to retain clamp jaw in position |
| Y10T 83/756 | ... | Self-locking drive means |
| Y10T 83/7567 | ... | Manually actuated drive means |
| Y10T 83/7573 | ... | Including clamping face of specific structure |
| Y10T 83/758 | ... | With means to adjust clamp position or stroke |
| Y10T 83/7587 | .. | Gapped work-constrainer |
| Y10T 83/7593 | .. | Work-stop abutment |
| Y10T 83/76 | ... | With scale or indicator |
| Y10T 83/7607 | ... | Normal to plane of cut |
| Y10T 83/7613 | .... | Adjustable |
| Y10T 83/762 | ..... | Angularly relative to plane of cut; e.g., miter |
| Y10T 83/7627 | .... | With traversing cutter guide; e.g., cut-off saw |
| Y10T 83/7633 | ... | Collapsible |
| Y10T 83/764 | ... | Retractable |
| Y10T 83/7647 | ... | Adjustable |
| Y10T 83/7653 | | Having curved cutting edge to make arcuate cut, plural nonaligned intersecting cutting edges, or spaced punches |

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| Y10T 83/766 | | Spaced edges |
| Y10T 83/7667 | ... | Having curved cutting edge to make arcuate cut, plural nonaligned intersecting cutting edges, or spaced punches |
| Y10T 83/7673 | .... | Spaced edges |
| Y10T 83/768 | . | Rotatable disc tool pair or tool and carrier |
| Y10T 83/7684 | .. | With means to support work relative to tool[s] |
| Y10T 83/7688 | ... | Plural tool elements successively actuated at same station |
| Y10T 83/7693 | ... | Tool moved relative to work-support during cutting |
| Y10T 83/7697 | .... | Tool angularly adjustable relative to work-support |
| Y10T 83/7701 | ... | Supporting surface and tool axis angularly related |
| Y10T 83/7705 | .... | Adjustable angular relationship |
| Y10T 83/7709 | ... | Unidirectionally movable work support |
| Y10T 83/7713 | .... | With opposed work-presser |
| Y10T 83/7718 | ..... | Presser co-axial with tool |
| Y10T 83/7722 | ... | Support and tool relatively adjustable |
| Y10T 83/7726 | .... | By movement of the tool |
| Y10T 83/773 | ... | Work-support includes passageway for tool [e.g., slotted table] |
| Y10T 83/7734 | .. | With guard for tool |
| Y10T 83/7738 | .. | Optional tool pairs alternatively operative |
| Y10T 83/7743 | ... | One element of tool pairs common to all pairs |
| Y10T 83/7747 | .. | With means to permit replacement of tool |
| Y10T 83/7751 | .. | Means to separate elements of tool pair |
| Y10T 83/7755 | .. | Carrier for rotatable tool movable during cutting |
| Y10T 83/7759 | ... | Unicyclic movement |
| Y10T 83/7763 | ... | Tool carrier reciprocable rectilinearly |
| Y10T 83/7768 | .... | With means to adjust path of reciprocation |
| Y10T 83/7772 | ..... | Angular relative to previous path |
| Y10T 83/7776 | .... | With means to reciprocate carrier |
| Y10T 83/778 | ..... | And means to rotate tool |
| Y10T 83/7784 | .... | With means to rotate tool |
| Y10T 83/7788 | ... | Tool carrier oscillated or rotated |
| Y10T 83/7793 | .. | Means to rotate or oscillate tool |
| Y10T 83/7797 | ... | Including means to rotate both elements of tool pair |
| Y10T 83/7801 | .... | Including means to rotate both elements at different speeds |
| Y10T 83/7805 | .... | And means to change speed of rotation |
| Y10T 83/7809 | .. | Tool pair comprises rotatable tools |
| Y10T 83/7813 | ... | Tool pair elements angularly related |
| Y10T 83/7818 | .... | Elements of tool pair angularly adjustable relative to each other |
| Y10T 83/7822 | ... | Tool pair axially shiftable |
| Y10T 83/7826 | | With shifting mechanism for at least one element of tool pair |

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| Y10T 83/783 | ... | Tool pair comprises contacting overlapped discs |
| Y10T 83/7834 | | With means to effect axial pressure on pair |
| Y10T 83/7838 | ..... | With means to change axial pressure |
| Y10T 83/7843 | .... | With means to change overlap of discs |
| Y10T 83/7847 | ... | Tool element axially shiftable |
| Y10T 83/7851 | ... | Tool pair comprises disc and cylindrical anvil |
| Y10T 83/7855 | .... | With adjustable means to urge tool elements together |
| Y10T 83/7859 | ... | Elements of tool pair adjustably spaced |
| Y10T 83/7863 | .. | Tool pair comprises rotatable tool and nonrotatable tool |
| Y10T 83/7868 | .. | Tool element selectively operative |
| Y10T 83/7872 | .. | Tool element mounted for adjustment |
| Y10T 83/7876 | ... | Plural, axially spaced tool elements |
| Y10T 83/788 | . | Tool pair comprises rotatable anvil and fixed-type tool |
| Y10T 83/793 | .. | Anvil has motion in addition to rotation [i.e., traveling anvil] |
| Y10T 83/798 | ... | Additional motion is along fixed arcuate path |
| Y10T 83/803 | ... | With plural anvils |
| Y10T 83/808 | . | Two tool pairs, driver for one pair moves relative to driver for other pair |
| Y10T 83/811 | .. | One tool support acts as driver for other |
| Y10T 83/814 | ... | Punch and shear |
| Y10T 83/817 | .. | With variable spacing between tool pairs |
| Y10T 83/819 | ... | With intermediate work support |
| Y10T 83/822 | .. | Punch and shear |
| Y10T 83/825 | .. | Successively acting |
| Y10T 83/828 | . | With illuminating or viewing means for work |
| Y10T 83/839 | .. | Mirror or lens |
| Y10T 83/849 | . | With signal, scale, or indicator |
| Y10T 83/85 | .. | Signal; e.g., alarm |
| Y10T 83/851 | .. | Indicator comprising work or product |
| Y10T 83/852 | .. | Responsive to force |
| Y10T 83/853 | .. | Indicates tool position |
| Y10T 83/855 | ... | Relative to another element |
| Y10T 83/856 | .... | To work-engaging member |
| Y10T 83/857 | ..... | Calibrated scale or indicator |
| Y10T 83/858 | ..... | Indicates dimension of work being cut |
| Y10T 83/859 | ..... | Dynamic indicator |
| Y10T 83/86 | .... | To another tool assembly |
| Y10T 83/861 | .... | To cooperating tool |
| Y10T 83/862 | .... | To another component of tool assembly |
| Y10T 83/863 | | Adjustable guide for traversing tool; e.g., radial saw guide or miter saw guide |
| Y10T 83/865 | .. | Indicates work characteristic |

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| Y10T 83/866 | .. | Indicates wear |
| Y10T 83/867 | .. | Bubble level |
| Y10T 83/868 | .. | Counter |
| Y10T 83/869 | . | Means to drive or to guide tool |
| Y10T 83/8691 | .. | Unicyclic |
| Y10T 83/8693 | ... | With adjustable stopping point or tool |
| Y10T 83/8694 | ... | With brake or blocking means |
| Y10T 83/8696 | .. | Means to change datum plane of tool or tool presser stroke |
| Y10T 83/8697 | ... | For disabling of continuously actuated cutter |
| Y10T 83/8699 | ... | With adjustable stop |
| Y10T 83/87 | ... | By varying length of tool stroke |
| Y10T 83/8702 | .. | Clicker die press |
| Y10T 83/8703 | ... | With die handling attachment |
| Y10T 83/8704 | ... | With reciprocating presser |
| Y10T 83/8706 | .... | Laterally movable to selective operative positions |
| Y10T 83/8707 | ..... | Pivotal or revolving only |
| Y10T 83/8709 | ..... | With means to impart, limit, or control pivotal motion of presser |
| Y10T 83/871 | ..... | Interrelated with presser reciprocating means |
| Y10T 83/8712 | ..... | With means to mount presser for oscillation about column |
| Y10T 83/8713 | .... | With adjustable bed block |
| Y10T 83/8714 | .... | Including presser member reinforcing, or flexure compensating, means |
| Y10T 83/8716 | .... | With manually actuated control apparatus for reciprocation of presser member |
| Y10T 83/8717 | .. | By deforming resilient tool or tool support |
| Y10T 83/8719 | .. | With transmission yieldable on overload |
| Y10T 83/872 | .. | With guard means |
| Y10T 83/8722 | ... | Static |
| Y10T 83/8723 | .... | Adjustable |
| Y10T 83/8725 | .. | Including movable, tool protecting, cushioning sheet |
| Y10T 83/8726 | .. | Single tool with plural selective driving means |
| Y10T 83/8727 | .. | Plural tools selectively engageable with single drive |
| Y10T 83/8729 | ... | Predetermined sequence of selection |
| Y10T 83/873 | .... | Of paired tools |
| Y10T 83/8732 | ... | Turret of tools |
| Y10T 83/8733 | .. | Tool movable to cooperate selectively with one of a plurality of mating tools |
| Y10T 83/8735 | .. | With means providing for plural steps in tool stroke |
| Y10T 83/8736 | .. | Sequential cutting motions |
| Y10T 83/8737 | .. | With tool positioning means synchronized with cutting stroke |
| Y10T 83/8739 | ... | Anvil moves into and out of operative position |
| Y10T 83/874 | ... | Straight line positioning |

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| Y10T 83/8742 | .. | Tool pair positionable as a unit |
| Y10T 83/8743 | ... | Straight line positioning |
| Y10T 83/8745 | .. | Tool and anvil relatively positionable |
| Y10T 83/8746 | ... | Straight line |
| Y10T 83/8748 | .. | Tool displaceable to inactive position [e.g., for work loading] |
| Y10T 83/8749 | ... | By pivotal motion |
| Y10T 83/875 | .. | With templet surface following tool |
| Y10T 83/8752 | .. | Tool moves work to and against cooperating tool |
| Y10T 83/8753 | ... | With means to clamp or bind work to moving tool |
| Y10T 83/8755 | ... | One tool resiliently mounted or biased |
| Y10T 83/8756 | ... | Work forced through tool aperture or between spaced cooperating tools |
| Y10T 83/8758 | ... | Manually actuated work-moving tool |
| Y10T 83/8759 | .. | With means to connect or disconnect tool and its drive |
| Y10T 83/8761 | ... | Continuously moving drive means [e.g., "gag"] |
| Y10T 83/8762 | .... | Hand actuated connecting means |
| Y10T 83/8763 | .. | Convertible from tool path to another or from implement to machine |
| Y10T 83/8765 | .. | Magnet- or solenoid-actuated tool |
| Y10T 83/8766 | ... | Tool movement modifies actuating circuit |
| Y10T 83/8768 | ... | Solenoid core is tool or tool support |
| Y10T 83/8769 | .. | Cutting tool operative in opposite directions of travel |
| Y10T 83/8771 | .. | Motion direction of tool influenced by resistance of work |
| Y10T 83/8772 | .. | One tool edge of tool pair encompasses work [e.g., wire cutter] |
| Y10T 83/8773 | .. | Bevel or miter cut |
| Y10T 83/8775 | .. | With tool tensioning means |
| Y10T 83/8776 | .. | Constantly urged tool or tool support [e.g., spring biased] |
| Y10T 83/8778 | ... | Ledger blade |
| Y10T 83/8779 | ... | Oscillating tool urged axially |
| Y10T 83/8781 | .... | And urged about pivotal axis |
| Y10T 83/8782 | ... | Stored energy furnishes cutting force |
| Y10T 83/8784 | .... | With reset |
| Y10T 83/8785 | ... | Through return [noncutting] stroke |
| Y10T 83/8786 | .... | Oscillating tool |
| Y10T 83/8788 | .. | Tool return mechanism separate from tool advance mechanism |
| Y10T 83/8789 | .. | With simple revolving motion only |
| Y10T 83/8791 | ... | Tool mounted on radial face of rotor |
| Y10T 83/8792 | ... | Variable speed during one revolution [e.g., intermittent] |
| Y10T 83/8794 | ... | Revolving tool moves through recess in work holder or cooperating tool |
| Y10T 83/8795 | .... | Progressively cutting |
| Y10T 83/8796 | ... | Progressively cutting |
| Y10T 83/8798 | .. | With simple oscillating motion only |

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| Y10T 83/8799 | ... | Plural tool pairs |
| Y10T 83/8801 | | Plural tools on single oscillating arm [i.e., tool holder] |
| Y10T 83/8802 | ... | And means to move cooperating cutter member |
| Y10T 83/8804 | ... | Tool driver movable relative to tool support |
| Y10T 83/8805 | .... | Cam or eccentric revolving about fixed axis |
| Y10T 83/8807 | .... | Gear or ratchet pawl drives toothed tool support |
| Y10T 83/8808 | .... | Toggle links, one link pivoted to tool support |
| Y10T 83/8809 | .... | Fixed axis lever |
| Y10T 83/8811 | ..... | Adjustable mechanical advantage |
| Y10T 83/8812 | ... | Cutting edge in radial plane |
| Y10T 83/8814 | .... | Adjustable |
| Y10T 83/8815 | .... | With guide means for the cutting member |
| Y10T 83/8817 | ... | Axially extending cutting edge |
| Y10T 83/8818 | .... | Axially progressing cut |
| Y10T 83/882 | .... | Adjustable |
| Y10T 83/8821 | .. | With simple rectilinear reciprocating motion only |
| Y10T 83/8822 | ... | Edge-to-edge of sheet or web [e.g., traveling cutter] |
| Y10T 83/8824 | ... | With provision for dynamic balance |
| Y10T 83/8825 | ... | With lost motion in tool drive |
| Y10T 83/8827 | ... | Means to vary force on, or speed of, tool during stroke |
| Y10T 83/8828 | ... | Plural tools with same drive means |
| Y10T 83/883 | .... | Tools positioned by template |
| Y10T 83/8831 | .... | Plural distinct cutting edges on same support |
| Y10T 83/8832 | ..... | Concentrically mounted |
| Y10T 83/8834 | ..... | Successively acting |
| Y10T 83/8835 | ... | And means to move cooperating cutting member |
| Y10T 83/8837 | ... | With application of force to opposite ends of tool supporting crosshead |
| Y10T 83/8838 | .... | By relatively movable fixed axis levers |
| Y10T 83/884 | .... | By connecting rod articulated with tool support |
| Y10T 83/8841 | ... | Tool driver movable relative to tool support |
| Y10T 83/8843 | .... | Cam or eccentric revolving about fixed axis |
| Y10T 83/8844 | .... | Gear actuated tool support |
| Y10T 83/8845 | .... | Toggle links, one link pivoted to tool support |
| Y10T 83/8847 | .... | Screw actuated tool support |
| Y10T 83/8848 | .... | Connecting rod articulated with tool support |
| Y10T 83/885 | .... | Fixed axis lever |
| Y10T 83/8851 | ..... | Adjustable mechanical advantage |
| Y10T 83/8853 | .... | Including details of guide for tool or tool support |
| Y10T 83/8854 | ... | Progressively cutting |
| Y10T 83/8855 | ... | With spaced guide pins [e.g., die set leader pins] |

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|--------------|------|--|
| Y10T 83/8857 | ... | With inclined guides |
| Y10T 83/8858 | ... | Fluid pressure actuated |
| Y10T 83/886 | | Utilizing fluid amplifier |
| Y10T 83/8861 | .... | Diaphragm |
| Y10T 83/8863 | .... | Explosive fluid |
| Y10T 83/8864 | .... | Plural cylinders |
| Y10T 83/8866 | .... | Offset cutter |
| Y10T 83/8867 | ... | With means to adjust tool position on tool holder |
| Y10T 83/8868 | .... | Adjustably mounted cooperating tool |
| Y10T 83/887 | .. | Parallel draw-cut [e.g., translatable] |
| Y10T 83/8871 | ... | Link suspension |
| Y10T 83/8873 | .. | Straight line motion combined with tilting in plane of stroke |
| Y10T 83/8874 | .. | Uniplanar compound motion |
| Y10T 83/8876 | ... | Reciprocating plus work approach [e.g., saw type] |
| Y10T 83/8877 | ... | With gyratory drive |
| Y10T 83/8878 | .. | Guide |
| Y10T 83/888 | ... | With nonrigidly positioned member |
| Y10T 83/8881 | ... | With anti-friction means |
| Y10T 83/8883 | .... | Roller with peripheral flange or groove |
| Y10T 83/8884 | .... | Disc |
| Y10T 83/8886 | ... | With means to vary space between opposed members |
| Y10T 83/8887 | .... | By rectilinear movement of member |
| Y10T 83/8889 | ... | With means to adjust position |
| Y10T 83/889 | . | Tool with either work holder or means to hold work supply |
| Y10T 83/896 | .. | Rotatable wound package supply |
| Y10T 83/902 | ... | Plural supply sources |
| Y10T 83/909 | . | Cutter assemblage or cutter element therefor [e.g., chain saw chain] |
| Y10T 83/913 | .. | With means permitting removal of cutter element |
| Y10T 83/917 | .. | Having diverse cutting elements |
| Y10T 83/921 | ... | And noncutting depth gauge |
| Y10T 83/925 | .. | Having noncutting depth gauge |
| Y10T 83/929 | . | Tool or tool with support |
| Y10T 83/9292 | .. | Wire tool |
| Y10T 83/9295 | .. | Work supported tool [e.g., clicker die] |
| Y10T 83/9297 | ... | With product ejection facilitator |
| Y10T 83/93 | ... | With tool manipulating portion |
| Y10T 83/9302 | ... | With tool positioning abutment |
| Y10T 83/9304 | ... | To sever article from work and cut within article |
| Y10T 83/9307 | ... | With tool contour adjusting means |
| Y10T 83/9309 | .. | Anvil |

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|--------------|-------|---|
| Y10T 83/9312 | ... | Rotatable type |
| Y10T 83/9314 | .. | Pointed perforators |
| Y10T 83/9317 | .. | Endless band or belt type |
| Y10T 83/9319 | .. | Toothed blade or tooth therefor |
| Y10T 83/9321 | ... | With means to vary tooth position |
| Y10T 83/9324 | ... | With additional cutting means |
| Y10T 83/9326 | ... | Plural separable sections |
| Y10T 83/9329 | .... | Tooth separable from blade |
| Y10T 83/9331 | ..... | By independent connecting element |
| Y10T 83/9333 | ..... | Transversely movable |
| Y10T 83/9336 | ..... | Arcuately movable |
| Y10T 83/9338 | ..... | With additional element to prevent movement of connecting element |
| Y10T 83/9341 | ..... | Rectilinearly movable |
| Y10T 83/9343 | ..... | By deformation |
| Y10T 83/9346 | ... | Uniformly varying teeth or tooth spacing |
| Y10T 83/9348 | ... | Undulating tooth arrangement |
| Y10T 83/935 | ... | Plural tooth groups |
| Y10T 83/9353 | .... | Including raker tooth group |
| Y10T 83/9355 | .... | Including intermediate raker tooth |
| Y10T 83/9358 | ... | Series of dissimilar teeth |
| Y10T 83/936 | ... | Series of allochiral teeth |
| Y10T 83/9362 | ... | Teeth having transversely curved cutting edge |
| Y10T 83/9365 | ... | Teeth having cutting edge parallel to blade surface |
| Y10T 83/9367 | ... | Teeth having cutting edge perpendicular to blade surface |
| Y10T 83/937 | .. | Tool mounted by and between spaced arms |
| Y10T 83/9372 | .. | Rotatable type |
| Y10T 83/9374 | ... | With spacer interposed between shaft-mounted tools |
| Y10T 83/9377 | ... | Mounting of tool about rod-type shaft |
| Y10T 83/9379 | .... | At end of shaft |
| Y10T 83/9382 | ... | Punching plus nonpunching tool |
| Y10T 83/9384 | ... | Notching plus nonnotching tool |
| Y10T 83/9387 | ... | Punching tool |
| Y10T 83/9389 | .... | Shear type |
| Y10T 83/9391 | ... | Notching tool |
| Y10T 83/9394 | ... | Helical tool |
| Y10T 83/9396 | ... | Shear type |
| Y10T 83/9399 | .... | Cutting edge wholly parallel to axis of rotation |
| Y10T 83/9401 | | Cutting edge wholly normal to axis of rotation |
| Y10T 83/9403 | ... | Disc type |

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|--------------|-------|--|
| Y10T 83/9406 | ... | Radially adjustable tool |
| Y10T 83/9408 | ... | Spaced cut forming tool |
| Y10T 83/9411 | .. | Cutting couple type |
| Y10T 83/9413 | ... | Spiral type cutter |
| Y10T 83/9416 | ... | To punch and cut punched article |
| Y10T 83/9418 | ... | Punching plus nonpunching tool |
| Y10T 83/942 | ... | Notching plus nonnotching tool |
| Y10T 83/9423 | ... | Punching tool |
| Y10T 83/9425 | .... | Tool pair |
| Y10T 83/9428 | .... | Shear-type male tool |
| Y10T 83/943 | ..... | Multiple punchings |
| Y10T 83/9432 | ..... | Plural spaced successively operative shearing portions |
| Y10T 83/9435 | ..... | Progressive cutting |
| Y10T 83/9437 | .... | Shear-type female tool |
| Y10T 83/944 | .... | Multiple punchings |
| Y10T 83/9442 | ... | Notching tool |
| Y10T 83/9444 | .... | Shear type |
| Y10T 83/9447 | ... | Shear type |
| Y10T 83/9449 | ... | Spaced cut forming tool |
| Y10T 83/9452 | ... | With tool contour adjusting means |
| Y10T 83/9454 | .. | Reciprocable type |
| Y10T 83/9457 | .. | Joint or connection |
| Y10T 83/9459 | ... | Magnetic connection |
| Y10T 83/9461 | ... | Resiliently biased connection |
| Y10T 83/9464 | ... | For rotary tool |
| Y10T 83/9466 | .... | Flexible sleevelike tool |
| Y10T 83/9469 | .... | Adjustable |
| Y10T 83/9471 | ..... | Rectilinearly |
| Y10T 83/9473 | ... | For rectilinearly reciprocating tool |
| Y10T 83/9476 | .... | Tool is single element with continuous cutting edge [e.g., punch, etc.] |
| Y10T 83/9478 | .... | Tool is single element reciprocable generally perpendicularly to elongate cutting edge [e.g., shear, etc.] |
| Y10T 83/9481 | .... | Tool is single element reciprocable along elongate cutting edge [e.g., saw blade, etc.] |
| Y10T 83/9483 | .... | Adjustable |
| Y10T 83/9486 | ..... | Rectilinearly |
| Y10T 83/9488 | ... | Adjustable |
| Y10T 83/949 | | Rectilinearly |
| Y10T 83/9493 | .. | Stationary cutter |
| Y10T 83/9495 | ... | Nonparallel cutting edges |

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|--------------|----------------------------|
| Y10T 83/9498 | ... Parallel cutting edges |
| Y10T 83/95 | . Machine frame |
| Y10T 83/96 | .. Guard |
| Y10T 83/97 | . Miscellaneous |

Former US Class 117 Series

| | |
|--------------------|---|
| Y10T 117/00 | Single-crystal, oriented-crystal, and epitaxy growth processes; non-coating apparatus therefor |
| Y10T 117/10 | . Apparatus |
| Y10T 117/1004 | .. with means for measuring, testing, or sensing |
| Y10T 117/1008 | ... with responsive control means |
| Y10T 117/1012 | ... with a window or port for visual observation or examination |
| Y10T 117/1016 | .. with means for treating single-crystal [e.g., heat treating] |
| Y10T 117/102 | .. for forming a platelet shape or a small diameter, elongate, generally cylindrical shape [e.g., whisker, fiber, needle, filament] |
| Y10T 117/1024 | .. for crystallization from liquid or supercritical state |
| Y10T 117/1028 | ... Crucibleless apparatus having means providing movement of discrete droplets or solid particles to thin-film precursor [e.g., Verneuil method] |
| Y10T 117/1032 | ... Seed pulling |
| Y10T 117/1036 | including solid member shaping means other than seed or product [e.g., EDFG die] |
| Y10T 117/104 | Means for forming a hollow structure [e.g., tube, polygon] |
| Y10T 117/1044 | including means forming a flat shape [e.g., ribbon] |
| Y10T 117/1048 | Pulling includes a horizontal component |
| Y10T 117/1052 | including a sectioned crucible [e.g., double crucible, baffle] |
| Y10T 117/1056 | including details of precursor replenishment |
| Y10T 117/106 | including sealing means details |
| Y10T 117/1064 | including a fully-sealed or vacuum-maintained crystallization chamber [e.g., ampoule] |
| Y10T 117/1068 | including heating or cooling details [e.g., shield configuration] |
| Y10T 117/1072 | including details of means providing product movement [e.g., shaft guides, servo means] |
| Y10T 117/1076 | ... having means for producing a moving solid-liquid-solid zone |
| Y10T 117/108 | Including a solid member other than seed or product contacting the liquid [e.g., crucible, immersed heating element] |
| Y10T 117/1084 | having details of a stabilizing feature |
| Y10T 117/1088 | including heating or cooling details |
| Y10T 117/1092 | ... Shape defined by a solid member other than seed or product [e.g., Bridgman-Stockbarger] |
| Y10T 117/1096 | ... including pressurized crystallization means [e.g., hydrothermal] |

Former US Class 137 series**Y10T 137/00****Fluid handling**

| | |
|---------------|--|
| Y10T 137/0318 | . Processes |
| Y10T 137/0324 | .. With control of flow by a condition or characteristic of a fluid |
| Y10T 137/0329 | ... Mixing of plural fluids of diverse characteristics or conditions |
| Y10T 137/0335 | Controlled by consistency of mixture |
| Y10T 137/034 | Controlled by conductivity of mixture |
| Y10T 137/0346 | Controlled by heat of combustion of mixture |
| Y10T 137/0352 | Controlled by pressure |
| Y10T 137/0357 | ... For producing uniform flow |
| Y10T 137/0363 | ... For producing proportionate flow |
| Y10T 137/0368 | ... By speed of fluid |
| Y10T 137/0374 | ... For regulating boiler feed water level |
| Y10T 137/0379 | ... By fluid pressure |
| Y10T 137/0385 | .. Carbonated beverage handling processes |
| Y10T 137/0391 | .. Affecting flow by the addition of material or energy |
| Y10T 137/0396 | .. Involving pressure control |
| Y10T 137/0402 | .. Cleaning, repairing, or assembling |
| Y10T 137/0407 | ... Repairing or assembling hydrant [e.g., fireplug, etc.] |
| Y10T 137/0413 | ... Gas or water meter repairing or assembling |
| Y10T 137/0419 | ... Fluid cleaning or flushing |
| Y10T 137/0424 | Liquid cleaning or flushing |
| Y10T 137/043 | Valve or valve seat cleaning |
| Y10T 137/0435 | ... Mechanical cleaning [e.g., pig, etc.] |
| Y10T 137/0441 | ... Repairing, securing, replacing, or servicing pipe joint, valve, or tank |
| Y10T 137/0447 | Including joint or coupling |
| Y10T 137/0452 | Detecting or repairing leak |
| Y10T 137/0458 | Tapping pipe, keg, or tank |
| Y10T 137/0463 | Particular aperture forming means |
| Y10T 137/0469 | Cutter or cutting tool |
| Y10T 137/0475 | Having deformable or inflatable means |
| Y10T 137/048 | With content loading or unloading [e.g., dispensing, discharge assistant, etc.] |
| Y10T 137/0486 | Specific valve or valve element mounting or repairing |
| Y10T 137/0491 | ... Valve or valve element assembling, disassembling, or replacing |
| Y10T 137/0497 | Fluid actuated or retarded |
| Y10T 137/0502 | Multi way valve |
| Y10T 137/0508 | Ball valve or rotary ball valve |
| Y10T 137/0514 | Gate valve |

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|---------------|------|---|
| Y10T 137/0519 | | Plug valve |
| Y10T 137/0525 | | Butterfly valve |
| Y10T 137/053 | | Float valve |
| Y10T 137/0536 | . | Highspeed fluid intake means [e.g., jet engine intake] |
| Y10T 137/0645 | .. | With condition responsive control means |
| Y10T 137/0753 | . | Control by change of position or inertia of system |
| Y10T 137/0777 | .. | With second control |
| Y10T 137/0801 | .. | Position relative body of water [e.g., marine governors] |
| Y10T 137/0826 | ... | Float controlled |
| Y10T 137/085 | ... | Pressure or head controlled |
| Y10T 137/0874 | .. | Vent opening or closing on tipping container |
| Y10T 137/0898 | .. | By shifting of liquid level |
| Y10T 137/0923 | .. | By pendulum or swinging member |
| Y10T 137/0947 | ... | With servo connection to valve |
| Y10T 137/0971 | . | Speed responsive valve control |
| Y10T 137/0989 | .. | Acceleration responsive valve control |
| Y10T 137/1007 | .. | With manual valve control |
| Y10T 137/1026 | .. | Speed change and excess speed valve control |
| Y10T 137/1044 | .. | With other condition responsive valve control |
| Y10T 137/1062 | ... | Governor drive failure responsive |
| Y10T 137/108 | .. | Centrifugal mass type [exclusive of liquid] |
| Y10T 137/1098 | ... | With multiple valves |
| Y10T 137/1116 | ... | Periodically actuated valve |
| Y10T 137/1135 | ... | Rotating valve and rotating governor |
| Y10T 137/1153 | ... | Excess speed responsive |
| Y10T 137/1171 | ... | With fluid servo-motor |
| Y10T 137/1189 | . | Freeze condition responsive safety systems |
| Y10T 137/1244 | .. | With freeze waste |
| Y10T 137/1298 | .. | Stop and waste |
| Y10T 137/1353 | .. | Low temperature responsive drains |
| Y10T 137/1407 | . | Combustion failure responsive fuel safety cut-off for burners |
| Y10T 137/1516 | .. | Thermo-electric |
| Y10T 137/1624 | . | Destructible or deformable element controlled |
| Y10T 137/1632 | .. | Destructible element |
| Y10T 137/1639 | ... | Combined destructible and fusible element |
| Y10T 137/1647 | ... | Explosive actuation |
| Y10T 137/1654 | ... | Separable valve coupling or conduit |
| Y10T 137/1662 | .... | Tensile or sheer pin or bolt |
| Y10T 137/1669 | ... | Tensile or sheer pin or bolt |
| Y10T 137/1677 | | Pressure causes pin or bolt to destruct |

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|---------------|-------|---|
| Y10T 137/1684 | ... | With alarm or indicator |
| Y10T 137/1692 | ... | Rupture disc |
| Y10T 137/1699 | | Means for holding entire disc after rupture |
| Y10T 137/1707 | .... | Disc burst after destruction of additional element |
| Y10T 137/1714 | .... | Direct pressure causes disc to burst |
| Y10T 137/1722 | ..... | Two-way rupture disc |
| Y10T 137/1729 | ..... | Dome shape |
| Y10T 137/1737 | ..... | Reverse buckling |
| Y10T 137/1744 | .... | Specific weakening point |
| Y10T 137/1752 | .... | Integral disc assembly |
| Y10T 137/1759 | .... | Knife or cutter causes disc to break |
| Y10T 137/1767 | ..... | Movable knife or cutter |
| Y10T 137/1774 | ... | With counterbalancing element |
| Y10T 137/1782 | ... | Frangible element returns pressure responsive valve |
| Y10T 137/1789 | ... | Having pressure responsive valve |
| Y10T 137/1797 | .. | Heat destructible or fusible |
| Y10T 137/1804 | ... | With second sensing means |
| Y10T 137/1812 | ... | In fluid flow path |
| Y10T 137/1819 | ... | Safety cut-off |
| Y10T 137/1827 | .... | With heater for destructible or fusible element |
| Y10T 137/1834 | .... | With external closing means |
| Y10T 137/1842 | . | Ambient condition change responsive |
| Y10T 137/1866 | .. | For controlling soil irrigation |
| Y10T 137/189 | ... | Soil moisture sensing |
| Y10T 137/1915 | .. | Burner gas cutoff |
| Y10T 137/1939 | .. | Atmospheric |
| Y10T 137/1963 | ... | Temperature |
| Y10T 137/1987 | .... | With additional diverse control |
| Y10T 137/2012 | ... | Pressure |
| Y10T 137/2036 | .. | Underwater |
| Y10T 137/206 | . | Flow affected by fluid contact, energy field or coanda effect [e.g., pure fluid device or system] |
| Y10T 137/2065 | .. | Responsive to condition external of system |
| Y10T 137/2071 | ... | And causing change or correction of sensed condition |
| Y10T 137/2076 | .. | Utilizing diverse fluids |
| Y10T 137/2082 | .. | Utilizing particular fluid |
| Y10T 137/2087 | .. | Means to cause rotational flow of fluid [e.g., vortex generator] |
| Y10T 137/2093 | ... | Plural vortex generators |
| Y10T 137/2098 | ... | Vortex generator as control for system |
| Y10T 137/2104 | ... | Vortex generator in interaction chamber of device |

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|---------------|-------|---|
| Y10T 137/2109 | ... | By tangential input to axial output [e.g., vortex amplifier] |
| Y10T 137/2115 | | With means to vary input or output of device |
| Y10T 137/212 | .. | System comprising plural fluidic devices or stages |
| Y10T 137/2125 | ... | Plural power inputs [e.g., parallel inputs] |
| Y10T 137/2131 | .... | Variable or different-value power inputs |
| Y10T 137/2136 | ..... | Pulsating power input and continuous-flow power input |
| Y10T 137/2142 | .... | With variable or selectable source of control-input signal |
| Y10T 137/2147 | .... | To cascaded plural devices |
| Y10T 137/2153 | ..... | With feedback passage[s] between devices of cascade |
| Y10T 137/2158 | ..... | With pulsed control-input signal |
| Y10T 137/2164 | .. | Plural power inputs to single device |
| Y10T 137/2169 | ... | Intersecting at interaction region [e.g., comparator] |
| Y10T 137/2174 | .... | Co-lineal, oppositely-directed power inputs [e.g., impact modulator] |
| Y10T 137/218 | .. | Means to regulate or vary operation of device |
| Y10T 137/2185 | ... | To vary frequency of pulses or oscillations |
| Y10T 137/2191 | ... | By non-fluid energy field affecting input [e.g., transducer] |
| Y10T 137/2196 | .... | Acoustical or thermal energy |
| Y10T 137/2202 | ... | By movable element |
| Y10T 137/2207 | .... | Operating at timed intervals [e.g., to produce pulses] |
| Y10T 137/2213 | .... | Electrically-actuated element [e.g., electro-mechanical transducer] |
| Y10T 137/2218 | .... | Means [e.g., valve] in control input |
| Y10T 137/2224 | .. | Structure of body of device |
| Y10T 137/2229 | .. | Device including passages having V over T configuration |
| Y10T 137/2234 | ... | And feedback passage[s] or path[s] |
| Y10T 137/224 | ... | With particular characteristics of control input |
| Y10T 137/2245 | .... | Multiple control-input passages |
| Y10T 137/2251 | ... | And multiple or joined power-outlet passages |
| Y10T 137/2256 | ... | And enlarged interaction chamber |
| Y10T 137/2262 | ... | And vent passage[s] |
| Y10T 137/2267 | .. | Device including passages having V over gamma configuration |
| Y10T 137/2273 | .. | Device including linearly-aligned power stream emitter and power stream collector |
| Y10T 137/2278 | . | Pressure modulating relays or followers |
| Y10T 137/2322 | .. | Jet control type |
| Y10T 137/2365 | .. | Plural series units |
| Y10T 137/2409 | .. | With counter-balancing pressure feedback to the modulating device |
| Y10T 137/2452 | ... | With counter-counter balancing pressure feedback |
| Y10T 137/2496 | . | Self-proportioning or correlating systems |
| Y10T 137/2499 | .. | Mixture condition maintaining or sensing |
| Y10T 137/2501 | ... | Dividing and recombining flow |
| Y10T 137/2504 | ... | By specific gravity |

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|---------------|-------|--|
| Y10T 137/2506 | ... | By viscosity or consistency |
| Y10T 137/2509 | ... | By optical or chemical property |
| Y10T 137/2511 | .. | Fuel controlled by boiler or water system condition |
| Y10T 137/2514 | .. | Self-proportioning flow systems |
| Y10T 137/2516 | ... | Interconnected flow displacement elements |
| Y10T 137/2519 | .... | Movable trap chamber |
| Y10T 137/2521 | ... | Flow comparison or differential response |
| Y10T 137/2524 | .... | Flow dividers [e.g., reversely acting controls] |
| Y10T 137/2526 | .... | Main line flow displaces or entrains material from reservoir |
| Y10T 137/2529 | .... | With electrical controller |
| Y10T 137/2531 | ... | Flow displacement element actuates electrical controller |
| Y10T 137/2534 | ... | Liquid level response |
| Y10T 137/2536 | .... | Float controlled weir or valve |
| Y10T 137/2539 | .... | Swinging outlet pipe controller |
| Y10T 137/2541 | ... | With measuring type discharge assistant |
| Y10T 137/2544 | .. | Supply and exhaust type |
| Y10T 137/2546 | ... | Vacuum or suction pulsator type [e.g., milking machine] |
| Y10T 137/2549 | .... | With trip linkage or snap action |
| Y10T 137/2552 | .... | With pulsation responsive pilot valve |
| Y10T 137/2554 | ... | Reversing or 4-way valve systems |
| Y10T 137/2557 | ... | Waste responsive to flow stoppage |
| Y10T 137/2559 | .. | Self-controlled branched flow systems |
| Y10T 137/2562 | ... | Dividing and recombining |
| Y10T 137/2564 | ... | Plural inflows |
| Y10T 137/2567 | .... | Alternate or successive inflows |
| Y10T 137/2569 | ..... | Control by depletion of source |
| Y10T 137/2572 | .... | One inflow supplements another |
| Y10T 137/2574 | ... | Bypass or relief controlled by main line fluid condition |
| Y10T 137/2577 | .... | Liquid level responsive |
| Y10T 137/2579 | .... | Flow rate responsive |
| Y10T 137/2582 | ..... | Including controlling main line flow |
| Y10T 137/2584 | ..... | Relief or bypass closes as main opens |
| Y10T 137/2587 | ..... | Bypass or relief valve biased open |
| Y10T 137/2589 | ..... | Pilot valve operated |
| Y10T 137/2592 | ..... | Carried choke |
| Y10T 137/2594 | ..... | Choke |
| Y10T 137/2597 | ..... | Variable choke resistance |
| Y10T 137/2599 | | Venturi |
| Y10T 137/2602 | | Flapper |
| Y10T 137/2605 | | Pressure responsive |

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|---------------|-------|---|
| Y10T 137/2607 | | With pressure reducing inlet valve |
| Y10T 137/261 | | Relief port through common sensing means |
| Y10T 137/2612 | ..... | Common sensor for both bypass or relief valve and other branch valve |
| Y10T 137/2615 | ..... | Bypass or relief valve opens as other branch valve closes |
| Y10T 137/2617 | ..... | Bypass or relief valve biased open |
| Y10T 137/262 | ..... | Increasing pressure progressively closes then reopens by-pass or relief valve |
| Y10T 137/2622 | ..... | Bypass or relief valve responsive to pressure downstream of outlet valve |
| Y10T 137/2625 | ..... | Pilot valve |
| Y10T 137/2627 | ..... | Outlet valve carried by bypass or relief valve |
| Y10T 137/263 | ..... | Plural sensors for single bypass or relief valve |
| Y10T 137/2632 | ..... | Sensors interconnected by timing or restrictive orifice |
| Y10T 137/2635 | ..... | Pilot valve operated |
| Y10T 137/2637 | ..... | Mechanical movement between sensor and valve |
| Y10T 137/264 | ..... | Electrical control |
| Y10T 137/2642 | ..... | Sensor rigid with valve |
| Y10T 137/2645 | ..... | Flexible sensor |
| Y10T 137/2647 | ..... | Pressure responsive outlet valve |
| Y10T 137/265 | ... | Plural outflows |
| Y10T 137/2652 | .... | Single actuator operates plural outlets simultaneously |
| Y10T 137/2655 | .... | Biased open isolation valve |
| Y10T 137/2657 | .... | Flow rate responsive |
| Y10T 137/266 | ..... | Primer valve |
| Y10T 137/2663 | .... | Pressure responsive |
| Y10T 137/2665 | ..... | With external control for correlating valve [e.g., manual] |
| Y10T 137/2668 | .... | Alternately or successively substituted outflow |
| Y10T 137/267 | ..... | Control by filling auxiliary gravitating or float operating tank |
| Y10T 137/2673 | ..... | Control by filling outlet tank or receiver |
| Y10T 137/2675 | ..... | Float controlled |
| Y10T 137/2678 | ..... | Four port reversing valve |
| Y10T 137/268 | ..... | Responsive to pressure or flow interruption |
| Y10T 137/2683 | ..... | Plural outlets control with automatic reset |
| Y10T 137/2685 | ..... | Manually set to a single outflow position |
| Y10T 137/2688 | ..... | Flow rate responsive |
| Y10T 137/269 | ..... | Flow sensing turbine |
| Y10T 137/2693 | ..... | Pressure responsive |
| Y10T 137/2695 | ..... | Responsive to outlet pressure |
| Y10T 137/2698 | | Electrical control |
| Y10T 137/27 | .. | Liquid level responsive |
| Y10T 137/2703 | .. | Flow rate responsive |

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|---------------|-------|--|
| Y10T 137/2705 | ... | Pressure differential |
| Y10T 137/2708 | .. | Plural sensors |
| Y10T 137/271 | ... | For single valve |
| Y10T 137/2713 | . | Siphons |
| Y10T 137/272 | .. | Plural |
| Y10T 137/2727 | ... | Tank truck mounted |
| Y10T 137/2733 | ... | Sequentially discharging in parallel |
| Y10T 137/274 | .... | From plural tanks |
| Y10T 137/2747 | ... | Main siphon with auxiliary starting, stopping or resetting siphon |
| Y10T 137/2754 | .... | Sinking or bucket-type float operated main siphon, float emptying auxiliary siphon |
| Y10T 137/2761 | .. | With discharge-controlling receiver |
| Y10T 137/2768 | ... | With float |
| Y10T 137/2774 | .. | Periodic or accumulation responsive discharge |
| Y10T 137/2781 | ... | With manual control |
| Y10T 137/2788 | ... | Control by filling auxiliary tank |
| Y10T 137/2795 | ... | Float-operated inlet to siphon |
| Y10T 137/2802 | ... | Release of trapped air |
| Y10T 137/2808 | .... | Through float-operated vent |
| Y10T 137/2815 | .... | Through liquid trap seal |
| Y10T 137/2822 | ..... | Auxiliary liquid trap seal |
| Y10T 137/2829 | .. | With strainer, filter, separator or sediment trap |
| Y10T 137/2836 | .. | With recorder, register, signal, indicator or inspection window |
| Y10T 137/2842 | .. | With flow starting, stopping or maintaining means |
| Y10T 137/2849 | ... | Siphon venting or breaking |
| Y10T 137/2856 | ... | With leakage or entrained air removal |
| Y10T 137/2863 | ... | Pressure applied to liquid in supply chamber |
| Y10T 137/287 | ... | Plunge or immersion starting |
| Y10T 137/2877 | ... | Pump or liquid displacement device for flow passage |
| Y10T 137/2883 | .... | Piston |
| Y10T 137/289 | ..... | Co-axial within flow passage |
| Y10T 137/2897 | .... | Collapsible bulb |
| Y10T 137/2904 | ... | Siphon inlet movable to and from seat |
| Y10T 137/2911 | ... | With valve or closure in-flow passage |
| Y10T 137/2917 | .. | With means for mounting and/or positioning relative to siphon chamber |
| Y10T 137/2924 | .. | Elements |
| Y10T 137/2931 | . | Diverse fluid containing pressure systems |
| Y10T 137/2934 | .. | Gas lift valves for wells |
| Y10T 137/2937 | .. | Gas pressure discharge of liquids feed traps [e.g., to boiler] |
| Y10T 137/294 | ... | Gas pressure controlled by amount of liquids in boiler or discharge receiver |

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|---------------|-------|---|
| Y10T 137/2943 | | Pressure connection at liquid level in boiler or discharge receiver |
| Y10T 137/2947 | ... | Gas pressure controlled by amount of liquid in trap |
| Y10T 137/295 | .... | Plural trap chambers |
| Y10T 137/2953 | ..... | Gravitating |
| Y10T 137/2956 | .... | Gravitating vessel |
| Y10T 137/2959 | ..... | Sinking or bucket type float |
| Y10T 137/2962 | ..... | Pivoted vessel with fluid passage through pivot |
| Y10T 137/2965 | .... | Float responsive |
| Y10T 137/2968 | ..... | Liquid control valve positively actuated |
| Y10T 137/2971 | ..... | Gas condensing type |
| Y10T 137/2975 | ..... | Gas inlet and outlet valves unitary |
| Y10T 137/2978 | ... | Gas pressure controlled by manual or cyclic means |
| Y10T 137/2981 | .... | Movable trap chamber |
| Y10T 137/2984 | .. | Foam control in gas charged liquids |
| Y10T 137/2987 | ... | Level or pressure responsive |
| Y10T 137/299 | ... | Separate handling of foam |
| Y10T 137/2993 | ... | With conditioning trap or chamber |
| Y10T 137/2996 | .... | Recarbonation |
| Y10T 137/30 | .... | With trap or chamber by-pass |
| Y10T 137/3003 | .. | Fluid separating traps or vents |
| Y10T 137/3006 | ... | Liquids separated from liquid |
| Y10T 137/3009 | ... | Plural discriminating outlets for diverse fluids |
| Y10T 137/3012 | .... | Common actuator for control valves |
| Y10T 137/3015 | .... | Choke or restricted passage gas bleed |
| Y10T 137/3018 | ..... | From above liquid level |
| Y10T 137/3021 | ... | Discriminating outlet for liquid |
| Y10T 137/3024 | .... | With alternately operated inlet and outlet valves |
| Y10T 137/3028 | .... | With non-discriminating gas vent or liquid discharge |
| Y10T 137/3031 | ..... | Abnormal pressure responsive liquid blow-off or drain |
| Y10T 137/3034 | ..... | Manual control |
| Y10T 137/3037 | .... | With auxiliary inlet or by-pass valve |
| Y10T 137/304 | .... | With fluid responsive valve |
| Y10T 137/3043 | ..... | Successively opened valves |
| Y10T 137/3046 | ..... | Gas collecting float [e.g., inverted bucket] |
| Y10T 137/3049 | ..... | Downstream from valve |
| Y10T 137/3052 | ..... | Level responsive |
| Y10T 137/3056 | ..... | Weight or pressure |
| Y10T 137/3059 | | Gravitating vessel |
| Y10T 137/3062 | | Sinking or bucket type float |
| Y10T 137/3065 | | Servo-control |

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|---------------|-------|--|
| Y10T 137/3068 | | Float |
| Y10T 137/3071 | | With main line gas outlet from trap chamber |
| Y10T 137/3074 | ..... | With outlet extending above liquid in trap |
| Y10T 137/3077 | ..... | Servo-control |
| Y10T 137/308 | ..... | With pressure balanced outlet valve |
| Y10T 137/3084 | ... | Discriminating outlet for gas |
| Y10T 137/3087 | .... | With reverse flow stop or pressure regulating valve |
| Y10T 137/309 | .... | Fluid sensing valve |
| Y10T 137/3093 | ..... | With vaporized liquid stop |
| Y10T 137/3096 | ..... | With separate return for condensate |
| Y10T 137/3099 | ..... | Float responsive |
| Y10T 137/3102 | ... | With liquid emptying means |
| Y10T 137/3105 | .... | Self-emptying |
| Y10T 137/3109 | .. | Liquid filling by evacuating container |
| Y10T 137/3112 | .. | Main line flow displaces additive from shunt reservoir |
| Y10T 137/3115 | .. | Gas pressure storage over or displacement of liquid |
| Y10T 137/3118 | ... | Surge suppression |
| Y10T 137/3121 | ... | With return of liquid to supply |
| Y10T 137/3124 | ... | Plural units |
| Y10T 137/3127 | ... | With gas maintenance or application |
| Y10T 137/313 | .... | Gas carried by or evolved from liquid |
| Y10T 137/3133 | ..... | Gas injectors |
| Y10T 137/3137 | .... | Gas injected by liquid pressure or flow |
| Y10T 137/314 | .... | Unitary mounting for gas pressure inlet and liquid outlet |
| Y10T 137/3143 | ... | With liquid level responsive gas vent or whistle |
| Y10T 137/3146 | .... | Combined high and low level responsive |
| Y10T 137/3149 | . | Back flow prevention by vacuum breaking [e.g., anti-siphon devices] |
| Y10T 137/3185 | .. | Air vent in liquid flow line |
| Y10T 137/3222 | ... | With liquid seal in liquid flow line |
| Y10T 137/3258 | .... | Automatic valve in vent line |
| Y10T 137/3294 | ... | Valved |
| Y10T 137/3331 | .... | With co-acting valve in liquid flow path |
| Y10T 137/3367 | . | Larner-Johnson type valves; i.e., telescoping internal valve in expanded flow line section |
| Y10T 137/3421 | .. | Line condition change responsive |
| Y10T 137/3476 | .. | Internal servo-motor with internal pilot valve |
| Y10T 137/353 | ... | Pilot controlled passage in nose or needle |
| Y10T 137/3584 | . | Inflatable article [e.g., tire filling chuck and/or stem] |
| Y10T 137/36 | .. | With pressure-responsive pressure-control means |
| Y10T 137/3615 | ... | Pulsating |

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|---------------|-------|---|
| Y10T 137/3631 | ... | Diaphragm, bellows or expansible tube |
| Y10T 137/3646 | ... | Co-axial inflation and relief valves |
| Y10T 137/3662 | .. | With gauge or indicator |
| Y10T 137/3677 | ... | With deflating means |
| Y10T 137/3693 | ... | Selectively connected |
| Y10T 137/3709 | .. | Stem attached relief valve |
| Y10T 137/3724 | .. | With coupling means |
| Y10T 137/374 | .. | With cap |
| Y10T 137/3755 | ... | Valve actuating, assembling or locking means on cap |
| Y10T 137/3771 | .... | Valve manually seated |
| Y10T 137/3786 | .. | Removable valve head and seat unit [valve insides] |
| Y10T 137/3802 | . | With vehicle guide or support, e.g., service station |
| Y10T 137/402 | . | Distribution systems involving geographic features |
| Y10T 137/4238 | . | With cleaner, lubrication added to fluid or liquid sealing at valve interface |
| Y10T 137/4245 | .. | Cleaning or steam sterilizing |
| Y10T 137/4252 | ... | Reverse fluid flow |
| Y10T 137/4259 | ... | With separate material addition |
| Y10T 137/4266 | ... | Steam sterilizing |
| Y10T 137/4273 | ... | Mechanical cleaning |
| Y10T 137/428 | .... | Valve grinding motion of valve on seat |
| Y10T 137/4287 | ..... | Concentric stem |
| Y10T 137/4294 | ..... | Spring pressed |
| Y10T 137/4301 | ..... | Lost motion permits grinding |
| Y10T 137/4308 | ..... | With swivel-preventing means |
| Y10T 137/4315 | ..... | Nut releasable from body and/or stem |
| Y10T 137/4322 | ..... | With independent grinding actuator |
| Y10T 137/4329 | ..... | Separable |
| Y10T 137/4336 | .... | Cleaning member reciprocates in passage |
| Y10T 137/4343 | ..... | By-pass cleaning |
| Y10T 137/4351 | ..... | Independent actuation |
| Y10T 137/4358 | .. | Liquid supplied at valve interface |
| Y10T 137/4365 | ... | Plural feed |
| Y10T 137/4372 | ... | Line pressure feed |
| Y10T 137/4379 | ... | Feed by or with actuation |
| Y10T 137/4386 | ... | Loss control |
| Y10T 137/4393 | ... | Screw feed |
| Y10T 137/44 | | With check valve |
| Y10T 137/4407 | | Excess relief |
| Y10T 137/4414 | | Jacking |
| Y10T 137/4421 | | Jacking |

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|---------------|-------|---|
| Y10T 137/4428 | | Seating |
| Y10T 137/4435 | ... | Spring biased piston feed |
| Y10T 137/4442 | ... | External pressure |
| Y10T 137/4449 | ... | Gravity or capillary feed |
| Y10T 137/4456 | . | With liquid valves or liquid trap seals |
| Y10T 137/4463 | .. | Liquid seal in liquid flow line; flow liquid forms seal |
| Y10T 137/4471 | ... | Valves |
| Y10T 137/4478 | .... | Line condition change responsive |
| Y10T 137/4486 | ..... | Plural valves or valve seats |
| Y10T 137/4493 | ..... | Pivoted valve |
| Y10T 137/4501 | ..... | Ball valve |
| Y10T 137/4508 | ..... | Seats vertically up |
| Y10T 137/4516 | ... | Seal replenishers |
| Y10T 137/4523 | ... | Plural inlet |
| Y10T 137/4531 | ... | Divided and recombined passages |
| Y10T 137/4538 | ... | Tangential inlet flow |
| Y10T 137/4546 | ... | Downward partition encircles projecting outlet |
| Y10T 137/4553 | ... | Submerged inlet pipe end |
| Y10T 137/4561 | .... | Hinged seal bowl |
| Y10T 137/4568 | .... | Distinct seal bowl in flow line connected casing |
| Y10T 137/4576 | ... | U-seals |
| Y10T 137/4583 | .... | Topside access beneath cover plate closed floor opening |
| Y10T 137/4591 | .... | Enlarged upflow leg |
| Y10T 137/4598 | ..... | Topside access opening |
| Y10T 137/4606 | .... | Even diameter legs |
| Y10T 137/4613 | ..... | Access opening |
| Y10T 137/4621 | .. | Seal for relatively movable valving parts |
| Y10T 137/4628 | ... | Horizontally moving valve |
| Y10T 137/4636 | .... | Rotary |
| Y10T 137/4643 | .. | Liquid valves |
| Y10T 137/4651 | ... | Branched passage for sealing liquid |
| Y10T 137/4658 | ... | With auxiliary means for varying liquid level |
| Y10T 137/4666 | ... | With baffle |
| Y10T 137/4673 | . | Plural tanks or compartments with parallel flow |
| Y10T 137/469 | .. | Sequentially filled and emptied [e.g., holding type] |
| Y10T 137/4707 | ... | With relative rotation of tank group and filling head |
| Y10T 137/4723 | .... | With rotary filling and emptying head |
| Y10T 137/474 | .. | With housings, supports or stacking arrangements |
| Y10T 137/4757 | .. | Battery or electrolytic cell replenishment |
| Y10T 137/4774 | ... | Barometric supply |

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|---------------|------|---|
| Y10T 137/479 | .. | Flow dividing compartments |
| Y10T 137/4807 | .. | Tank type manifold [i.e., one tank supplies or receives from at least two others] |
| Y10T 137/4824 | .. | Tank within tank |
| Y10T 137/4841 | .. | With cross connecting passage |
| Y10T 137/4857 | .. | With manifold or grouped outlets |
| Y10T 137/4874 | ... | Tank truck type |
| Y10T 137/4891 | . | With holder for solid, flaky or pulverized material to be dissolved or entrained |
| Y10T 137/5109 | . | Convertible |
| Y10T 137/5153 | .. | Reversible check |
| Y10T 137/5196 | .. | Unit orientable in a single location between plural positions |
| Y10T 137/524 | ... | Reversible stop and vent or waste |
| Y10T 137/5283 | .. | Units interchangeable between alternate locations |
| Y10T 137/5327 | . | Hydrant type |
| Y10T 137/5333 | .. | Water crane type |
| Y10T 137/5339 | ... | Spout operated valve |
| Y10T 137/5345 | ... | Rotating riser |
| Y10T 137/535 | .... | Spout articulated to riser |
| Y10T 137/5356 | .... | Vertically movable riser |
| Y10T 137/5362 | ... | Extensible spout |
| Y10T 137/5368 | ... | Spout articulated to riser |
| Y10T 137/5374 | .. | Plural riser |
| Y10T 137/538 | .. | Expansible chamber operated by valve actuator for draining riser |
| Y10T 137/5386 | .. | With pump or ejector |
| Y10T 137/5392 | .. | Removable valve and valve seat |
| Y10T 137/5397 | ... | With extension to facilitate removal |
| Y10T 137/5403 | .. | Removable valve with supplemental check valve |
| Y10T 137/5409 | .. | Movable riser actuated valve |
| Y10T 137/5415 | ... | Reciprocating riser |
| Y10T 137/5421 | .... | Piston type valve |
| Y10T 137/5427 | .. | Balanced valve |
| Y10T 137/5433 | .. | Valve actuator extends laterally from bottom of riser |
| Y10T 137/5438 | .. | Valve actuator outside riser |
| Y10T 137/5444 | ... | Lever actuator |
| Y10T 137/545 | ... | With casing, flush with ground or pavement surface |
| Y10T 137/5456 | .. | With casing |
| Y10T 137/5462 | ... | Flush with ground or pavement surface |
| Y10T 137/5468 | ... | Cap, cover or hood |
| Y10T 137/5474 | ... | With heater |
| Y10T 137/5479 | .. | With actuator lubricating means |
| Y10T 137/5485 | .. | With valve at outlet |

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| Y10T 137/5491 | .. | With supplemental valve |
| Y10T 137/5497 | .. | Protection against freezing |
| Y10T 137/5503 | ... | Stop and waste |
| Y10T 137/5509 | .... | With disabling means |
| Y10T 137/5515 | .... | Separate relatively movable valves with single actuator |
| Y10T 137/5521 | ..... | Unidirectional abutting connection between main valve or actuator and waste valve |
| Y10T 137/5526 | ..... | With screw or gear in actuating mechanism |
| Y10T 137/5532 | .... | Reciprocating relatively fixed valves |
| Y10T 137/5538 | ..... | Waste through lower valve guide |
| Y10T 137/5544 | . | Reversing valves - regenerative furnace type |
| Y10T 137/5617 | .. | With cooling |
| Y10T 137/5689 | .. | Rotary reversing valve |
| Y10T 137/5762 | . | With leakage or drip collecting |
| Y10T 137/5835 | .. | Relatively movable receptacle or drain pipe and outlet |
| Y10T 137/5907 | .. | Collector for waste liquid derived from solid, gas or vapor |
| Y10T 137/598 | . | With repair, tapping, assembly, or disassembly means |
| Y10T 137/5983 | .. | Blow out preventer or choke valve device [e.g., oil well flow controlling device, etc.] |
| Y10T 137/5987 | .. | Solenoid or electromagnetically operated valve |
| Y10T 137/599 | .. | Pressure regulating type valve |
| Y10T 137/5994 | ... | Diaphragm type |
| Y10T 137/5997 | .. | Gas or water meter replacing |
| Y10T 137/60 | .. | Assembling or disassembling flexible tube or sleeve type valve |
| Y10T 137/6004 | .. | Assembling or disassembling float or float valve |
| Y10T 137/6007 | .. | Assembling or disassembling multi way valve |
| Y10T 137/6011 | .. | Assembling, disassembling, or removing cartridge type valve [e.g., insertable and removable as a unit, etc.] |
| Y10T 137/6014 | ... | Faucet type [e.g., domestic water use, etc.] |
| Y10T 137/6017 | .... | Including removable valve head and seat unit |
| Y10T 137/6021 | .... | Including mechanical movement actuator |
| Y10T 137/6024 | .... | Particular handle or handle fastening means |
| Y10T 137/6028 | .. | Assembling or disassembling pivoted valve |
| Y10T 137/6031 | .. | Assembling or disassembling rotary valve |
| Y10T 137/6035 | ... | Rotary ball valve |
| Y10T 137/6038 | .... | Particular valve seat or interface seal |
| Y10T 137/6041 | ..... | Replaceable |
| Y10T 137/6045 | ..... | With top entry valve |
| Y10T 137/6048 | ... | Butterfly valve |
| Y10T 137/6052 | | Having valve head or seat packing |
| Y10T 137/6055 | | With head and stem collections |

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|---------------|-------|---|
| Y10T 137/6058 | ... | Plug valve |
| Y10T 137/6062 | | Having retainer at actuator end |
| Y10T 137/6065 | .. | Assembling or disassembling reciprocating valve |
| Y10T 137/6069 | ... | Having particularly packed or sealed mechanical movement actuator |
| Y10T 137/6072 | ... | Gate valve |
| Y10T 137/6075 | .... | Bifaced |
| Y10T 137/6079 | .... | Having particular valve seat |
| Y10T 137/6082 | ..... | Including seal |
| Y10T 137/6086 | .. | Assembling or disassembling check valve |
| Y10T 137/6089 | .. | With mechanical movement between actuator and valve |
| Y10T 137/6092 | ... | Plural motions of valve |
| Y10T 137/6096 | ... | Lever type |
| Y10T 137/6099 | ... | Gear type |
| Y10T 137/6103 | ... | Cam type |
| Y10T 137/6106 | ... | Screw type |
| Y10T 137/6109 | .. | Tool for applying or removing valve or valve member |
| Y10T 137/6113 | ... | Including sealing feature |
| Y10T 137/6116 | .. | With holding means functioning only during transportation assembly or disassembly |
| Y10T 137/612 | .. | Tapping a pipe, keg, or apertured tank under pressure |
| Y10T 137/6123 | ... | With aperture forming means |
| Y10T 137/6126 | ... | Imperforate closure removing and holding tap |
| Y10T 137/613 | ... | With valved closure or bung |
| Y10T 137/6133 | .... | Combined rotary and longitudinal movement of valve |
| Y10T 137/6137 | .... | Longitudinal movement of valve |
| Y10T 137/614 | .... | Rotary movement of valve |
| Y10T 137/6144 | ... | With core ejectors |
| Y10T 137/6147 | .... | Impact operated |
| Y10T 137/615 | .. | Foot valve extraction from top of enclosure |
| Y10T 137/6154 | .. | With disassembly tool engaging feature |
| Y10T 137/6157 | ... | Wrench engaging lugs |
| Y10T 137/6161 | .. | With provision of alternate wear parts |
| Y10T 137/6164 | ... | Valve heads and/or seats |
| Y10T 137/6167 | .... | Opposite duplicate surfaces of unitary structure |
| Y10T 137/6171 | ..... | Homogeneous material |
| Y10T 137/6174 | ..... | Valve heads |
| Y10T 137/6178 | .... | Different portions of continuous surfaces |
| Y10T 137/6181 | .... | Successively used adjacent independent elements |
| Y10T 137/6184 | .. | Removable valve with normally disabled supplemental check valve |
| Y10T 137/6188 | ... | Check valve disabled by normally movable main valve part |

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|---------------|-------|--|
| Y10T 137/6191 | | Ball check |
| Y10T 137/6195 | | Spring bias |
| Y10T 137/6198 | . | Non-valving motion of the valve or valve seat |
| Y10T 137/6253 | .. | Rotary motion of a reciprocating valve |
| Y10T 137/6307 | ... | Turbine on valve |
| Y10T 137/6362 | ... | Manual rotating means |
| Y10T 137/6416 | . | With heating or cooling of the system |
| Y10T 137/6443 | .. | With burner |
| Y10T 137/647 | ... | Flue extending through fluid |
| Y10T 137/6497 | .. | Hot and cold water system having a connection from the hot to the cold channel |
| Y10T 137/6525 | .. | Air heated or cooled [fan, fins, or channels] |
| Y10T 137/6552 | .. | With diversion of part of fluid to heat or cool the device or its contents |
| Y10T 137/6579 | .. | Circulating fluid in heat exchange relationship |
| Y10T 137/6606 | .. | With electric heating element |
| Y10T 137/6633 | . | With fluid system support for workman or non-system material |
| Y10T 137/6851 | . | With casing, support, protector or static constructional installations |
| Y10T 137/6855 | .. | Vehicle |
| Y10T 137/6858 | ... | Locomotive |
| Y10T 137/6862 | .... | Boiler or steam dome |
| Y10T 137/6866 | ... | Railway car |
| Y10T 137/6869 | .... | Car frame |
| Y10T 137/6873 | .... | End of car |
| Y10T 137/6877 | .... | Roof, wall or floor |
| Y10T 137/6881 | ... | Automotive |
| Y10T 137/6884 | .... | Steering post or wheel |
| Y10T 137/6888 | .... | Dash |
| Y10T 137/6892 | .... | Floor or frame |
| Y10T 137/6895 | .... | Fender or running board |
| Y10T 137/6899 | ... | With hose reel storage means |
| Y10T 137/6903 | ... | Guided by means of track or guideway |
| Y10T 137/6906 | ... | Aerial or water-supported [e.g., airplane or ship, etc.] |
| Y10T 137/691 | ... | With retractable or nonuse-positionable support wheel |
| Y10T 137/6914 | ... | Vehicle supports fluid compressor and compressed fluid storage tank |
| Y10T 137/6918 | .. | With hose storage or retrieval means |
| Y10T 137/6921 | ... | With means for plural hoses |
| Y10T 137/6925 | ... | With flow regulation responsive to hose movement |
| Y10T 137/6929 | .... | Reel type |
| Y10T 137/6932 | ... | With retrieval means |
| Y10T 137/6936 | | Power stop or brake |
| Y10T 137/694 | | Responsive to position of hose in casing |

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|---------------|-------|--|
| Y10T 137/6943 | | Biased to retracted position |
| Y10T 137/6947 | | Boom type |
| Y10T 137/6951 | | Weighted |
| Y10T 137/6954 | ... | Reel with support therefor |
| Y10T 137/6958 | .... | Ground supported |
| Y10T 137/6962 | ... | Basket or holder for folded coiled hose |
| Y10T 137/6966 | .. | Static constructional installations |
| Y10T 137/6969 | ... | Buildings |
| Y10T 137/6973 | .... | Outside access to portions of the system |
| Y10T 137/6977 | .... | Escutcheon type support |
| Y10T 137/698 | .... | Wall |
| Y10T 137/6984 | ..... | Recessed gas outlet box |
| Y10T 137/6988 | .... | Floor installation |
| Y10T 137/6991 | ... | Ground supporting enclosure |
| Y10T 137/6995 | .... | Valve and meter wells |
| Y10T 137/6999 | ..... | With means to center well on valve |
| Y10T 137/7002 | ..... | Detachable base plate |
| Y10T 137/7006 | ..... | Vertical casing aligned by valve casing |
| Y10T 137/701 | ..... | Combined with actuator |
| Y10T 137/7014 | ..... | Telescopic well casing |
| Y10T 137/7017 | ..... | Telescopic well casing |
| Y10T 137/7021 | ..... | Covers |
| Y10T 137/7025 | .... | Pipe line transport |
| Y10T 137/7028 | ... | Tapering or tower type |
| Y10T 137/7032 | .. | Furniture and housing furnishings |
| Y10T 137/7036 | .. | Jacketed |
| Y10T 137/7039 | .. | Tank supports |
| Y10T 137/7043 | .. | Guards and shields |
| Y10T 137/7047 | ... | Resilient abutment for preventing breakage |
| Y10T 137/7051 | ... | Nozzle abutment for scratch or damage prevention |
| Y10T 137/7054 | ... | Cover for beer cooler aperture for faucet |
| Y10T 137/7058 | ... | Sanitary covers or shields |
| Y10T 137/7062 | ... | Valve guards |
| Y10T 137/7065 | .... | With means for accommodating a detachable actuator |
| Y10T 137/7069 | . | With lock or seal |
| Y10T 137/71 | .. | With seal |
| Y10T 137/7131 | .. | Common lock and valve actuator |
| Y10T 137/7162 | ... | Combination lock |
| Y10T 137/7194 | ... | Biased valve |
| Y10T 137/7225 | ... | Mechanical movement between lock and valve |

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|---------------|-------|---|
| Y10T 137/7256 | .. | Locks against rotary motion |
| Y10T 137/7287 | . | Liquid level responsive or maintaining systems |
| Y10T 137/729 | .. | Washing machine cycle control |
| Y10T 137/7293 | .. | Liquid excluding devices for gas inlet or outlets |
| Y10T 137/7297 | .. | With second diverse control |
| Y10T 137/73 | ... | Manual control |
| Y10T 137/7303 | .. | Control of both inflow and outflow of tank |
| Y10T 137/7306 | .. | Electrical characteristic sensing |
| Y10T 137/731 | .. | With control fluid connection at desired liquid level |
| Y10T 137/7313 | .. | Control of outflow from tank |
| Y10T 137/7316 | ... | Self-emptying tanks |
| Y10T 137/7319 | .... | By float |
| Y10T 137/7323 | ... | By float |
| Y10T 137/7326 | .... | Low level safety cut-off |
| Y10T 137/7329 | .. | With supplemental or safety closing means or bias |
| Y10T 137/7332 | ... | Sinking or bucket type float |
| Y10T 137/7336 | ... | Gravitating tank |
| Y10T 137/7339 | .. | By weight of accumulated fluid |
| Y10T 137/7342 | ... | In sinking or bucket type float |
| Y10T 137/7345 | ... | Oil burner fuel overflow preventing safety cut-offs |
| Y10T 137/7349 | ... | In communicating measuring vessel |
| Y10T 137/7352 | .... | Top and bottom connections |
| Y10T 137/7355 | ... | In gravitating tank |
| Y10T 137/7358 | .. | By float controlled valve |
| Y10T 137/7361 | ... | Valve opened by external means, closing or closing control by float |
| Y10T 137/7365 | ... | Single float controls plural valves |
| Y10T 137/7368 | ... | Servo relay operation of control |
| Y10T 137/7371 | .... | Fluid pressure |
| Y10T 137/7374 | ..... | Flexible diaphragm valve |
| Y10T 137/7378 | ..... | From tank |
| Y10T 137/7381 | ... | Quick acting |
| Y10T 137/7384 | .... | Pilot float released |
| Y10T 137/7387 | .... | Over center mechanism |
| Y10T 137/7391 | ..... | Shifting weight |
| Y10T 137/7394 | .... | Trip mechanism |
| Y10T 137/7397 | ..... | Weight or spring bias |
| Y10T 137/74 | .... | Lost motion mechanism |
| Y10T 137/7404 | ... | Plural floats |
| Y10T 137/7407 | ... | With counter-balance |
| Y10T 137/741 | | Within tank |

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|---------------|-------|--|
| Y10T 137/7413 | ... | Level adjustment or selection means |
| Y10T 137/7417 | ... | With float leakage disposal |
| Y10T 137/742 | ... | In separate communicating float chamber |
| Y10T 137/7423 | ... | Rectilinearly traveling float |
| Y10T 137/7426 | .... | Float co-axial with valve or port |
| Y10T 137/743 | ..... | Float is spreader or anti-splash means |
| Y10T 137/7433 | ..... | Float surrounds inlet pipe |
| Y10T 137/7436 | ..... | Float rigid with valve |
| Y10T 137/7439 | ... | Float arm operated valve |
| Y10T 137/7442 | .... | With valve retarder or cushion means |
| Y10T 137/7446 | .... | With flow guide or restrictor |
| Y10T 137/7449 | ..... | External hood or deflector or annular outlet surrounding the inlet pipe |
| Y10T 137/7452 | .... | Movable nozzle or inlet terminal |
| Y10T 137/7455 | .... | Valve removable from outside container |
| Y10T 137/7459 | .... | With U-shaped inlet pipe having terminal valve |
| Y10T 137/7462 | .... | With refill pipe |
| Y10T 137/7465 | .... | Assembly mounted on and having reciprocating valve element coaxial with inlet pipe |
| Y10T 137/7468 | ..... | Horizontal or side entering pipe |
| Y10T 137/7472 | ..... | Vertical inlet riser |
| Y10T 137/7475 | .... | With toggle or second lever connected to valve |
| Y10T 137/7478 | .... | With interposed cam, gear or threaded connection |
| Y10T 137/7481 | .... | Rotary valve element |
| Y10T 137/7485 | .... | Pivoted valve |
| Y10T 137/7488 | .... | Ball valves |
| Y10T 137/7491 | .... | Balanced valves |
| Y10T 137/7494 | .... | Flexible valve |
| Y10T 137/7498 | .. | Barometric |
| Y10T 137/7501 | ... | With shut-off between supply tank and receiver |
| Y10T 137/7504 | . | Removable valve head and seat unit |
| Y10T 137/7559 | .. | Pump type |
| Y10T 137/7613 | .. | Threaded into valve casing |
| Y10T 137/7668 | .. | Retained by bonnet or closure |
| Y10T 137/7722 | . | Line condition change responsive valves |
| Y10T 137/7723 | .. | Safety cut-off requiring reset |
| Y10T 137/7724 | ... | Thermal |
| Y10T 137/7725 | ... | Responsive to both high and low pressure or velocity |
| Y10T 137/7726 | ... | Responsive to change in rate of flow |
| Y10T 137/7727 | | Excessive flow cut-off |
| Y10T 137/7728 | ... | High pressure cut-off |

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|---------------|-------|--|
| Y10T 137/7729 | ... | Reset by pressure equalization valve or by-pass |
| Y10T 137/773 | ... | Fluid released trip |
| Y10T 137/7731 | ... | Fluid counter-biased or unseated valve |
| Y10T 137/7732 | .... | With mechanical stop against reopening |
| Y10T 137/7733 | .... | With fluid pressure seating of valve |
| Y10T 137/7734 | .. | Fluid opened valve requiring reset |
| Y10T 137/7736 | .. | Consistency responsive |
| Y10T 137/7737 | .. | Thermal responsive |
| Y10T 137/7738 | .. | Pop valves |
| Y10T 137/7739 | ... | Pop closing valves |
| Y10T 137/774 | ... | Pop pressure reactor in inflow to valve |
| Y10T 137/7741 | ... | Pop pressure reactor in branched released path |
| Y10T 137/7742 | .... | Separate relief valves or valves for each branch |
| Y10T 137/7743 | ... | Lost motion between pop pressure reactor and valve |
| Y10T 137/7744 | ... | Adjustable choke |
| Y10T 137/7745 | .... | Annular lip or baffle |
| Y10T 137/7746 | ..... | On movable valve part |
| Y10T 137/7747 | ..... | Screw threaded |
| Y10T 137/7748 | .. | Combustion engine induction type |
| Y10T 137/7749 | ... | Valve in auxiliary inlet to induction line |
| Y10T 137/775 | ... | With manual modifier |
| Y10T 137/7751 | ... | With suction compensator |
| Y10T 137/7752 | ... | With separate reactor surface |
| Y10T 137/7753 | ... | Unbalanced pivoted valve [e.g., unbalanced butterfly type] |
| Y10T 137/7754 | .. | Line flow effect assisted |
| Y10T 137/7755 | ... | Reactor surface normal to flow |
| Y10T 137/7756 | ... | Reactor surface separated from flow by apertured partition |
| Y10T 137/7757 | .... | Through separate aperture |
| Y10T 137/7758 | .. | Pilot or servo controlled |
| Y10T 137/7759 | ... | Responsive to change in rate of fluid flow |
| Y10T 137/776 | .... | Control by pressures across flow line valve |
| Y10T 137/7761 | ... | Electrically actuated valve |
| Y10T 137/7762 | ... | Fluid pressure type |
| Y10T 137/7764 | .... | Choked or throttled pressure type |
| Y10T 137/7765 | ..... | Pilot valve within main valve head |
| Y10T 137/7766 | ..... | Choked passage through main valve head |
| Y10T 137/7767 | ..... | Loose fitting piston |
| Y10T 137/7768 | | Pilot controls supply to pressure chamber |
| Y10T 137/7769 | | Single acting fluid servo |
| Y10T 137/777 | | Spring biased |

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|---------------|-------|--|
| Y10T 137/7771 | .. | Bi-directional flow valves |
| Y10T 137/7772 | ... | One head and seat carried by head of another |
| Y10T 137/7773 | .... | Supporting valve only spring biased |
| Y10T 137/7774 | .... | Supporting valve spring carried by supporting valve |
| Y10T 137/7775 | ..... | Spring stop on supported valve stem |
| Y10T 137/7776 | ..... | Spring abuts guide for supported valve stem |
| Y10T 137/7777 | .... | Both valves spring biased |
| Y10T 137/7778 | ... | Axes of ports perpendicular |
| Y10T 137/7779 | ... | Axes of ports parallel |
| Y10T 137/778 | ... | Axes of ports co-axial |
| Y10T 137/7781 | .. | With separate connected fluid reactor surface |
| Y10T 137/7782 | ... | With manual or external control for line valve |
| Y10T 137/7783 | ... | Valve closes in responses to reverse flow |
| Y10T 137/7784 | ... | Responsive to change in rate of fluid flow |
| Y10T 137/7785 | .... | Valve closes in response to excessive flow |
| Y10T 137/7786 | .... | Turbine or swinging vane type reactor |
| Y10T 137/7787 | .... | Expansible chamber subject to differential pressures |
| Y10T 137/7788 | ..... | Pressures across fixed choke |
| Y10T 137/7789 | ..... | With Venturi tube having a connection to throat |
| Y10T 137/7791 | ..... | Pressures across flow line valve |
| Y10T 137/7792 | .... | Movable deflector or choke |
| Y10T 137/7793 | ... | With opening bias [e.g., pressure regulator] |
| Y10T 137/7794 | .... | With relief valve |
| Y10T 137/7795 | .... | Multi-stage |
| Y10T 137/7796 | .... | Senses inlet pressure |
| Y10T 137/7797 | .... | Bias variable during operation |
| Y10T 137/7798 | ..... | Ancillary reactor surface responds to inlet pressure |
| Y10T 137/7799 | ..... | Liquid transfer |
| Y10T 137/78 | ..... | Weight |
| Y10T 137/7801 | .... | Balanced valve |
| Y10T 137/7802 | .... | Liquid level responsive gas flow control |
| Y10T 137/7803 | .... | With protective separator |
| Y10T 137/7804 | .... | Main flow through isolated reactor chamber |
| Y10T 137/7805 | .... | Through external pipe |
| Y10T 137/7806 | ..... | Modified valve casing |
| Y10T 137/7807 | ..... | Adjustable external lever |
| Y10T 137/7808 | .... | Apertured reactor surface surrounds flow line |
| Y10T 137/7809 | | Reactor surface separated by apertured partition |
| Y10T 137/781 | | In valve stem |
| Y10T 137/7811 | | Also through reactor surface |

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|---------------|-------|---|
| Y10T 137/7812 | | Valve stem passes through the aperture |
| Y10T 137/7813 | | Plural reactor surfaces |
| Y10T 137/7814 | ..... | Reactor is an inverted cup having liquid seal |
| Y10T 137/7815 | ..... | With movement dampener |
| Y10T 137/7816 | ..... | Valve head in inlet chamber |
| Y10T 137/7818 | ..... | Valve head in inlet chamber |
| Y10T 137/7819 | ..... | Rectilinear valve stem rigid with reactor surface |
| Y10T 137/782 | ..... | Reactor surface is diaphragm |
| Y10T 137/7821 | ..... | With valve closing bias |
| Y10T 137/7822 | .... | Reactor surface closes chamber |
| Y10T 137/7823 | ..... | Valve head in inlet chamber |
| Y10T 137/7824 | ..... | Reactor surface is inverted cup [float] |
| Y10T 137/7825 | ..... | Rectilinear valve stem rigid with reactor surface |
| Y10T 137/7826 | ..... | With valve closing bias |
| Y10T 137/7827 | ..... | In reactor chamber |
| Y10T 137/7828 | ..... | Valve head on yoke |
| Y10T 137/7829 | ..... | Yoke has valve closing bias |
| Y10T 137/783 | ..... | Reactor operatively connected to valve by mechanical movement |
| Y10T 137/7831 | .... | With mechanical movement between actuator and valve |
| Y10T 137/7832 | ... | Plural valves biased closed |
| Y10T 137/7833 | ... | With means for mounting or connecting to system |
| Y10T 137/7834 | ... | Valve seat or external sleeve moves to open valve |
| Y10T 137/7835 | ... | Valve seating in direction of flow |
| Y10T 137/7836 | .... | Flexible diaphragm or bellows reactor |
| Y10T 137/7837 | .. | Direct response valves [i.e., check valve type] |
| Y10T 137/7838 | ... | Plural |
| Y10T 137/7839 | .... | Dividing and recombining in a single flow path |
| Y10T 137/784 | ..... | Integral resilient member forms plural valves |
| Y10T 137/7841 | .... | One valve carries head and seat for second valve |
| Y10T 137/7842 | .... | Diverse types |
| Y10T 137/7843 | .... | Integral resilient member forms plural valves |
| Y10T 137/7845 | .... | With common biasing means |
| Y10T 137/7846 | .... | Mechanically interconnected |
| Y10T 137/7847 | ... | With leak passage |
| Y10T 137/7848 | .... | Permits flow at valve interface |
| Y10T 137/7849 | .... | Bypass in valve casing |
| Y10T 137/785 | ... | With retarder or dashpot |
| Y10T 137/7851 | .... | End of valve forms dashpot chamber |
| Y10T 137/7852 | | End of valve moves inside dashpot chamber |
| Y10T 137/7853 | | Enlarged piston on end of valve stem |

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|---------------|-------|---|
| Y10T 137/7854 | ... | In couplings for coaxial conduits, e.g., drill pipe check valves |
| Y10T 137/7855 | .... | Valve seat threaded into a coupling element |
| Y10T 137/7856 | .... | Valve seat formed on or carried by a coupling element |
| Y10T 137/7857 | .... | Valve seat clamped between coupling elements |
| Y10T 137/7858 | ... | With means for selecting area of valve or seat |
| Y10T 137/7859 | ... | Single head, plural ports in parallel |
| Y10T 137/786 | .... | Concentric ports |
| Y10T 137/7861 | .... | Annular head |
| Y10T 137/7862 | ..... | Central post on seat |
| Y10T 137/7863 | ..... | Stop |
| Y10T 137/7864 | ..... | With guide |
| Y10T 137/7865 | ..... | Guide |
| Y10T 137/7866 | ... | Plural seating |
| Y10T 137/7867 | .... | Sequential |
| Y10T 137/7868 | ..... | Resilient gasket |
| Y10T 137/7869 | ... | Biased open |
| Y10T 137/787 | .... | Oppositely swinging vanes |
| Y10T 137/7871 | .... | Weight biased |
| Y10T 137/7873 | ..... | Ball valves |
| Y10T 137/7874 | ..... | Edge pivoted valve |
| Y10T 137/7875 | .... | Pivoted valves |
| Y10T 137/7876 | ... | With external means for opposing bias |
| Y10T 137/7877 | .... | With means for retaining external means in bias opposing position |
| Y10T 137/7878 | ... | With bias adjustment indicator |
| Y10T 137/7879 | ... | Resilient material valve |
| Y10T 137/788 | .... | Having expansible port |
| Y10T 137/7881 | ..... | Apertured plate |
| Y10T 137/7882 | ..... | Having exit lip |
| Y10T 137/7883 | ..... | With biasing means |
| Y10T 137/7884 | ..... | Side vent |
| Y10T 137/7885 | ..... | Multiple slit |
| Y10T 137/7886 | ..... | Internally extending mount |
| Y10T 137/7887 | .... | Center flexing strip |
| Y10T 137/7888 | .... | With valve member flexing about securement |
| Y10T 137/7889 | ..... | Sleeve |
| Y10T 137/789 | ..... | Central mount |
| Y10T 137/7891 | ..... | Flap or reed |
| Y10T 137/7892 | | With stop |
| Y10T 137/7893 | | With spring |
| Y10T 137/7894 | | With weight |

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|---------------|-------|--|
| Y10T 137/7895 | | Peripherally secured diaphragm |
| Y10T 137/7896 | | Annulus |
| Y10T 137/7897 | ... | Vacuum relief type |
| Y10T 137/7898 | ... | Pivoted valves |
| Y10T 137/79 | .... | Head retained by removable closure |
| Y10T 137/7901 | .... | Valve head movably connected for accommodation to seat |
| Y10T 137/7902 | .... | Valve mounted on end of pipe |
| Y10T 137/7903 | .... | Weight biased |
| Y10T 137/7904 | ... | Reciprocating valves |
| Y10T 137/7905 | .... | Plural biasing means |
| Y10T 137/7906 | .... | Cam means for adjusting and fixing bias |
| Y10T 137/7907 | .... | Varying effective lever arm |
| Y10T 137/7908 | .... | Weight biased |
| Y10T 137/7909 | ..... | Valve body is the weight |
| Y10T 137/791 | ..... | Ball valves |
| Y10T 137/7911 | ..... | Removable cage |
| Y10T 137/7912 | ..... | Separable seat |
| Y10T 137/7913 | ..... | Guided head |
| Y10T 137/7914 | ..... | Cage |
| Y10T 137/7915 | ..... | Guide stem |
| Y10T 137/7916 | ..... | With closing stop |
| Y10T 137/7917 | ..... | Oppositely disposed |
| Y10T 137/7918 | ..... | Head slidable on guide rod |
| Y10T 137/7919 | ..... | Guide and seat integral unit |
| Y10T 137/792 | ..... | Guide and closure integral unit |
| Y10T 137/7921 | .... | Weight coaxial with valve |
| Y10T 137/7922 | .... | Spring biased |
| Y10T 137/7923 | .... | With means to protect spring from fluid |
| Y10T 137/7924 | .... | Spring under tension |
| Y10T 137/7925 | .... | Piston-type valves |
| Y10T 137/7927 | .... | Ball valves |
| Y10T 137/7928 | ..... | With follower |
| Y10T 137/7929 | .... | Spring coaxial with valve |
| Y10T 137/793 | ..... | Broken valve parts retainer |
| Y10T 137/7931 | ..... | Spring in inlet |
| Y10T 137/7932 | ..... | Valve stem extends through fixed spring abutment |
| Y10T 137/7933 | ..... | Yoke or cage-type support for valve stem |
| Y10T 137/7934 | ..... | Spring abuts removable valve stem guide |
| Y10T 137/7935 | | Head slides on guide-rod concentric with spring |
| Y10T 137/7936 | | Spring guides valve head |

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| Y10T 137/7937 | | Cage-type guide for stemless valves |
| Y10T 137/7938 | | Guide means integral and coplanar with valve disk |
| Y10T 137/7939 | ..... | Head between spring and guide |
| Y10T 137/794 | . | With means for separating solid material from the fluid |
| Y10T 137/7976 | .. | Plural separating elements |
| Y10T 137/8013 | .. | Sediment chamber |
| Y10T 137/8049 | .. | Movable strainer |
| Y10T 137/8085 | .. | Hollow strainer, fluid inlet and outlet perpendicular to each other |
| Y10T 137/8122 | .. | Planar strainer normal to flow path |
| Y10T 137/8158 | . | With indicator, register, recorder, alarm or inspection means |
| Y10T 137/8175 | .. | Plural |
| Y10T 137/8192 | ... | Unobvious - "combination lock" type |
| Y10T 137/8208 | .. | Time |
| Y10T 137/8225 | .. | Position or extent of motion indicator |
| Y10T 137/8242 | ... | Electrical |
| Y10T 137/8259 | ... | Selection from plural branches |
| Y10T 137/8275 | ... | Indicator element rigidly carried by the movable element whose position is indicated |
| Y10T 137/8292 | .... | Movable indicator element is a pointer |
| Y10T 137/8309 | ..... | Pointer integral with handle |
| Y10T 137/8326 | .. | Fluid pressure responsive indicator, recorder or alarm |
| Y10T 137/8342 | .. | Liquid level responsive indicator, recorder or alarm |
| Y10T 137/8359 | .. | Inspection means |
| Y10T 137/8376 | . | Combined |
| Y10T 137/8593 | . | Systems |
| Y10T 137/85938 | .. | Non-valved flow dividers |
| Y10T 137/85946 | .. | Faucet connected, sink drained |
| Y10T 137/85954 | .. | Closed circulating system |
| Y10T 137/85962 | ... | With thermal circulating means [thermo-siphons] |
| Y10T 137/8597 | .. | Main line as motive fluid for follower-type feeder |
| Y10T 137/85978 | .. | With pump |
| Y10T 137/85986 | ... | Pumped fluid control |
| Y10T 137/85994 | .... | Manual |
| Y10T 137/86002 | .... | Fluid pressure responsive |
| Y10T 137/8601 | ..... | And pilot valve |
| Y10T 137/86019 | ..... | Direct response valve |
| Y10T 137/86027 | .... | Electric |
| Y10T 137/86035 | ... | Combined with fluid receiver |
| Y10T 137/86043 | | Reserve or surge receiver |
| Y10T 137/86051 | | Compressed air supply unit |

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| Y10T 137/86059 | | Hydraulic power unit |
| Y10T 137/86067 | | Fluid sump |
| Y10T 137/86075 | ... | And jet-aspiration type pump |
| Y10T 137/86083 | ... | Vacuum pump |
| Y10T 137/86091 | ... | Resiliently mounted pump |
| Y10T 137/86099 | ... | Hand pump |
| Y10T 137/86107 | ... | Multiple inlet with multiple outlet |
| Y10T 137/86115 | ... | Downstream cyclic distributor |
| Y10T 137/86123 | .... | Distributor part unitary with movable pump part |
| Y10T 137/86131 | ... | Plural |
| Y10T 137/86139 | .... | Serial |
| Y10T 137/86147 | ..... | With single motive input |
| Y10T 137/86155 | ..... | One pump driven by motive fluid from the other |
| Y10T 137/86163 | .... | Parallel |
| Y10T 137/86171 | ... | With pump bypass |
| Y10T 137/86179 | ... | Drain valve actuator mounted on pump |
| Y10T 137/86187 | .. | Plural tanks or compartments connected for serial flow |
| Y10T 137/86196 | ... | Separable with valved-connecting passage |
| Y10T 137/86204 | ... | Fluid progresses by zigzag flow |
| Y10T 137/86212 | ... | Plural compartments formed by baffles |
| Y10T 137/8622 | ... | Plural top-to-bottom connected tanks |
| Y10T 137/86228 | ... | With communicating opening in common walls of tanks or compartments |
| Y10T 137/86236 | .. | Tank with movable or adjustable outlet or overflow pipe |
| Y10T 137/86244 | ... | Horizontally traversing outlet |
| Y10T 137/86252 | ... | Float-supported outlet |
| Y10T 137/8626 | ... | Swinging outlet pipe or spout |
| Y10T 137/86268 | .. | With running joint between movable parts of system |
| Y10T 137/86276 | .. | Movable tank |
| Y10T 137/86284 | .. | With antisplash means not in flow passage |
| Y10T 137/86292 | .. | System with plural openings, one a gas vent or access opening |
| Y10T 137/863 | ... | Access and outlet |
| Y10T 137/86308 | .... | Tank access opening and bottom outlet |
| Y10T 137/86316 | ..... | Access opening interlock or telltale on outlet valve actuator |
| Y10T 137/86324 | ... | Tank with gas vent and inlet or outlet |
| Y10T 137/86332 | .... | Vent and inlet or outlet in unitary mounting |
| Y10T 137/8634 | ... | With vented outlet |
| Y10T 137/86348 | .. | Tank with internally extending flow guide, pipe or conduit |
| Y10T 137/86356 | ... | Nondraining overflow type |
| Y10T 137/86364 | ... | Inverted "U" passage |
| Y10T 137/86372 | ... | Inlet internally extending |

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|----------------|-------|--|
| Y10T 137/86381 | .. | Head-establishing standpipe or expansion chamber [e.g., surge tanks] |
| Y10T 137/86389 | .. | Programmer or timer |
| Y10T 137/86397 | ... | With independent valve controller |
| Y10T 137/86405 | ... | Repeating cycle |
| Y10T 137/86413 | .... | Self-cycling |
| Y10T 137/86421 | .... | Variable |
| Y10T 137/86429 | ..... | Attachable and removable element |
| Y10T 137/86437 | ..... | Adjustable cam |
| Y10T 137/86445 | ... | Plural, sequential, valve actuations |
| Y10T 137/86453 | .... | Plural trips or trip actuations |
| Y10T 137/86461 | .... | Variable cycle |
| Y10T 137/86469 | ... | Clock alarm mechanism controlled |
| Y10T 137/86477 | ... | Biased latch, cam operated |
| Y10T 137/86485 | .. | Line condition change responsive release of valve |
| Y10T 137/86493 | .. | Multi-way valve unit |
| Y10T 137/86501 | ... | Sequential distributor or collector type |
| Y10T 137/86509 | ... | Sequentially progressive opening or closing of plural ports |
| Y10T 137/86517 | .... | With subsequent closing of first port |
| Y10T 137/86525 | ..... | Flow combining with flow dividing |
| Y10T 137/86533 | ..... | Rotary |
| Y10T 137/86541 | ..... | Plug |
| Y10T 137/86549 | ... | Selective reciprocation or rotation |
| Y10T 137/86558 | ... | Plural noncommunicating flow paths |
| Y10T 137/86566 | .... | Rotary plug |
| Y10T 137/86574 | ... | Supply and exhaust |
| Y10T 137/86582 | .... | Pilot-actuated |
| Y10T 137/8659 | ..... | Variable orifice-type modulator |
| Y10T 137/86598 | ..... | Opposed orifices; interposed modulator |
| Y10T 137/86606 | ..... | Common to plural valve motor chambers |
| Y10T 137/86614 | ..... | Electric |
| Y10T 137/86622 | .... | Motor-operated |
| Y10T 137/8663 | ..... | Fluid motor |
| Y10T 137/86638 | .... | Rotary valve |
| Y10T 137/86646 | ..... | Plug type |
| Y10T 137/86654 | ..... | For plural lines |
| Y10T 137/86662 | ..... | Axial and radial flow |
| Y10T 137/8667 | .... | Reciprocating valve |
| Y10T 137/86678 | | Combined disk or plug and gate or piston |
| Y10T 137/86686 | | Plural disk or plug |
| Y10T 137/86694 | | Piston valve |

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|----------------|-------|---|
| Y10T 137/86702 | | With internal flow passage |
| Y10T 137/8671 | | With annular passage [e.g., spool] |
| Y10T 137/86718 | ... | Dividing into parallel flow paths with recombining |
| Y10T 137/86726 | .... | Valve with bypass connections |
| Y10T 137/86734 | .... | With metering feature |
| Y10T 137/86743 | .... | Rotary |
| Y10T 137/86751 | ..... | Plug |
| Y10T 137/86759 | .... | Reciprocating |
| Y10T 137/86767 | ..... | Spool |
| Y10T 137/86775 | ..... | With internal passage |
| Y10T 137/86783 | ..... | Unequal heads |
| Y10T 137/86791 | ..... | Piston |
| Y10T 137/86799 | ..... | With internal flow passage |
| Y10T 137/86807 | ..... | Sequential opening or closing of serial ports in single flow line |
| Y10T 137/86815 | ... | Multiple inlet with single outlet |
| Y10T 137/86823 | .... | Rotary valve |
| Y10T 137/86831 | ... | Selective opening of plural ports |
| Y10T 137/86839 | ... | Four port reversing valves |
| Y10T 137/86847 | ... | Pivoted valve unit |
| Y10T 137/86855 | .... | Gate |
| Y10T 137/86863 | ... | Rotary valve unit |
| Y10T 137/86871 | .... | Plug |
| Y10T 137/86879 | ... | Reciprocating valve unit |
| Y10T 137/86887 | .... | Combined disk or plug and gate or piston |
| Y10T 137/86895 | .... | Plural disk or plug |
| Y10T 137/86903 | .. | Plural petcocks |
| Y10T 137/86911 | .. | Sequential distributor or collector type |
| Y10T 137/86919 | .. | Sequentially closing and opening alternately seating flow controllers |
| Y10T 137/86928 | .. | Sequentially progressive opening or closing of plural valves |
| Y10T 137/86936 | ... | Pressure equalizing or auxiliary shunt flow |
| Y10T 137/86944 | .... | One valve seats against other valve [e.g., concentric valves] |
| Y10T 137/86952 | ..... | Locomotive throttle |
| Y10T 137/8696 | ..... | Gate |
| Y10T 137/86968 | ..... | With balancing chamber |
| Y10T 137/86976 | ..... | First valve moves second valve |
| Y10T 137/86984 | ..... | Actuator moves both valves |
| Y10T 137/86992 | ... | With subsequent closing of first opened port |
| Y10T 137/87 | .... | Simultaneously moved port controllers |
| Y10T 137/87008 | ... | Screw-actuated differential valves |
| Y10T 137/87016 | ... | Lost motion |

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|----------------|-------|--|
| Y10T 137/87024 | | Cam determines sequence |
| Y10T 137/87032 | | Rotary concentric valves |
| Y10T 137/8704 | .... | First valve actuates second valve |
| Y10T 137/87048 | .. | With preselecting means for plural valve actuator |
| Y10T 137/87056 | .. | With selective motion for plural valve actuator |
| Y10T 137/87064 | ... | Oppositely movable cam surfaces |
| Y10T 137/87072 | ... | Rotation about either of two pivotal axes |
| Y10T 137/8708 | ... | Rotation of actuator arm about its pivot and its axis |
| Y10T 137/87088 | ... | Reciprocation along and rotation about same axis |
| Y10T 137/87096 | .. | Valves with separate, correlated, actuators |
| Y10T 137/87105 | ... | Correlated across separable flow path joint |
| Y10T 137/87113 | ... | Interlocked |
| Y10T 137/87121 | ... | Coaxial stems |
| Y10T 137/87129 | .... | Rotary |
| Y10T 137/87137 | ..... | And reciprocating |
| Y10T 137/87145 | ..... | Concentric, central valve removable |
| Y10T 137/87153 | .. | Plural noncommunicating flow paths |
| Y10T 137/87161 | ... | With common valve operator |
| Y10T 137/87169 | .. | Supply and exhaust |
| Y10T 137/87177 | ... | With bypass |
| Y10T 137/87185 | .... | Controlled by supply or exhaust valve |
| Y10T 137/87193 | ... | Pilot-actuated |
| Y10T 137/87201 | .... | Common to plural valve motor chambers |
| Y10T 137/87209 | .... | Electric |
| Y10T 137/87217 | ... | Motor |
| Y10T 137/87225 | .... | Fluid motor |
| Y10T 137/87233 | ... | Biased exhaust valve |
| Y10T 137/87241 | .... | Biased closed |
| Y10T 137/87249 | .. | Multiple inlet with multiple outlet |
| Y10T 137/87257 | .. | Hydraulic brake line [e.g., hill holders] |
| Y10T 137/87265 | .. | Dividing into parallel flow paths with recombining |
| Y10T 137/87273 | ... | With fluid coupling [e.g., railway car hose coupling, truck-trailer oil system coupling, etc.] |
| Y10T 137/87281 | ... | System having plural inlets |
| Y10T 137/8729 | .... | Having digital flow controller |
| Y10T 137/87298 | ... | Having digital flow controller |
| Y10T 137/87306 | .... | Having plural branches under common control for separate valve actuators |
| Y10T 137/87314 | ..... | Electromagnetic or electric control [e.g., digital control, bistable electro control, etc.] |
| Y10T 137/87322 | ... | With multi way valve having serial valve in at least one branch |

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|----------------|-------|---|
| Y10T 137/8733 | ... | Fluid pressure regulator in at least one branch |
| Y10T 137/87338 | ... | Flow passage with bypass |
| Y10T 137/87346 | .... | Including mixing feature |
| Y10T 137/87354 | .... | Including flowmeter |
| Y10T 137/87362 | .... | Including cleaning, treating, or heat transfer feature |
| Y10T 137/8737 | ..... | Water treatment feature |
| Y10T 137/87378 | ... | Second valve assembly carried by first valve head |
| Y10T 137/87386 | .... | With rotary plug having variable restrictor |
| Y10T 137/87394 | .... | Carried valve is direct response valve [e.g., check valve, etc.] |
| Y10T 137/87402 | ... | With foam controlling means [e.g., beer, soda faucets] |
| Y10T 137/8741 | ... | With common operator |
| Y10T 137/87418 | .... | Balanced valve |
| Y10T 137/87426 | .... | Single resilient member actuates or forms plural passages |
| Y10T 137/87434 | .... | Valves deform to close passage |
| Y10T 137/87442 | .... | Rotary valve |
| Y10T 137/8745 | ..... | Including rigid plate with flexible or resilient seal |
| Y10T 137/87458 | ..... | Axes of rotation of valves intersect at point |
| Y10T 137/87467 | ..... | Axes of rotation parallel |
| Y10T 137/87475 | ..... | Adjacent plate valves always parallel |
| Y10T 137/87483 | ..... | Adjacent plate valves counter rotate |
| Y10T 137/87491 | .... | Mechanical movement between actuator and non-rotary valve |
| Y10T 137/87499 | ... | Fluid actuated or retarded |
| Y10T 137/87507 | ... | Electrical actuator |
| Y10T 137/87515 | ... | Mechanical movement between actuator and valve |
| Y10T 137/87523 | ... | Rotary valve |
| Y10T 137/87531 | .... | Butterfly valve |
| Y10T 137/87539 | ... | Having guide or restrictor |
| Y10T 137/87547 | .... | Manually variable |
| Y10T 137/87555 | ... | Having direct response valve [e.g., check valve, etc.] |
| Y10T 137/87563 | .... | With reverse flow direction |
| Y10T 137/87571 | .. | Multiple inlet with single outlet |
| Y10T 137/87579 | ... | Faucet attachment |
| Y10T 137/87587 | ... | Combining by aspiration |
| Y10T 137/87595 | .... | Combining of three or more diverse fluids |
| Y10T 137/87603 | .... | Plural motivating fluid jets |
| Y10T 137/87611 | .... | Flow control by varying position of a fluid inlet relative to entrainment chamber |
| Y10T 137/87619 | | With selectively operated flow control means in inlet |
| Y10T 137/87627 | | Flow control means is located in aspirated fluid inlet |

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|----------------|-------|---|
| Y10T 137/87635 | | Single actuator operates flow control means located in both motivating fluid and aspirated fluid inlets |
| Y10T 137/87643 | .... | With condition responsive valve |
| Y10T 137/87652 | ... | With means to promote mixing or combining of plural fluids |
| Y10T 137/8766 | .... | With selectively operated flow control means |
| Y10T 137/87668 | ..... | Single actuator operates plural flow control means |
| Y10T 137/87676 | ... | With flow control |
| Y10T 137/87684 | .... | Valve in each inlet |
| Y10T 137/87692 | ..... | With common valve operator |
| Y10T 137/877 | .. | With flow control means for branched passages |
| Y10T 137/87708 | ... | With common valve operator |
| Y10T 137/87716 | .... | For valve having a flexible diaphragm valving member |
| Y10T 137/87724 | .... | For valve having a ball head |
| Y10T 137/87732 | .... | With gearing |
| Y10T 137/8774 | .... | Threaded actuator |
| Y10T 137/87748 | .... | Pivoted or rotary motion converted to reciprocating valve head motion |
| Y10T 137/87756 | ..... | Spring biased |
| Y10T 137/87764 | .... | Having fluid actuator |
| Y10T 137/87772 | .... | With electrical actuation |
| Y10T 137/8778 | .... | Spring biased |
| Y10T 137/87788 | ... | With valve or movable deflector at junction |
| Y10T 137/87796 | .... | Movable deflector spout in lateral port |
| Y10T 137/87804 | .... | Valve or deflector is tubular passageway |
| Y10T 137/87812 | .... | Pivoted valve or deflector |
| Y10T 137/8782 | .... | Rotary valve or deflector |
| Y10T 137/87829 | ... | Biased valve |
| Y10T 137/87837 | .... | Spring bias |
| Y10T 137/87845 | ..... | For valve having a ball head |
| Y10T 137/87853 | ..... | With threaded actuator |
| Y10T 137/87861 | ..... | Spring coaxial with valve |
| Y10T 137/87869 | ..... | Biased open |
| Y10T 137/87877 | ... | Single inlet with multiple distinctly valved outlets |
| Y10T 137/87885 | ... | Sectional block structure |
| Y10T 137/87893 | ... | With fluid actuator |
| Y10T 137/87901 | ... | With threaded actuator |
| Y10T 137/87909 | ... | Containing rotary valve |
| Y10T 137/87917 | .. | Flow path with serial valves and/or closures |
| Y10T 137/87925 | ... | Separable flow path section, valve or closure in each |
| Y10T 137/87933 | | Common joint and valve seat faces, or sections joined by closing members |
| Y10T 137/87941 | | Each valve and/or closure operated by coupling motion |

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|----------------|-------|--|
| Y10T 137/87949 | | Linear motion of flow path sections operates both |
| Y10T 137/87957 | | Valves actuate each other |
| Y10T 137/87965 | .... | Valve- or closure-operated by coupling motion |
| Y10T 137/87973 | .... | Coupling interlocked with valve, or closure or actuator |
| Y10T 137/87981 | ... | Common actuator |
| Y10T 137/87989 | .... | Delivery cock with terminal valve |
| Y10T 137/87997 | .... | Alternately seating |
| Y10T 137/88005 | ..... | Biased valve |
| Y10T 137/88014 | .... | Opposed screw |
| Y10T 137/88022 | ... | One valve head provides seat for other head |
| Y10T 137/8803 | .... | Also carries head of other valve |
| Y10T 137/88038 | ... | One valve head carries other valve head |
| Y10T 137/88046 | ... | Biased valve with external operator |
| Y10T 137/88054 | ... | Direct response normally closed valve limits direction of flow |
| Y10T 137/88062 | ... | Coaxial oppositely directed seats |
| Y10T 137/8807 | .. | Articulated or swinging flow conduit |
| Y10T 137/88078 | ... | Actuates valve |
| Y10T 137/88086 | .... | Plural motions of valve |
| Y10T 137/88094 | .... | Reciprocating valve |
| Y10T 137/88102 | .... | Rotary valve |
| Y10T 137/8811 | . | Frangible |
| Y10T 137/9029 | . | With coupling |
| Y10T 137/9138 | .. | Flexible |
| Y10T 137/9247 | . | With closure |
| Y10T 137/9464 | . | Faucets and spouts |
| Y10T 137/9682 | . | Miscellaneous |

Former US Class 152 Series

| | |
|--------------------|-----------------------------------|
| Y10T 152/00 | Resilient tires and wheels |
| Y10T 152/10 | . Tires, resilient |
| Y10T 152/10009 | .. Emergency |
| Y10T 152/10018 | .. with splash guards |
| Y10T 152/10027 | .. with wear indicating feature |
| Y10T 152/10036 | .. Cushion and pneumatic combined |
| Y10T 152/10045 | ... Metallic spring cushion |
| Y10T 152/10054 | ... Enclosed cushion |
| Y10T 152/10063 | ... Superimposed |
| Y10T 152/10072 | Plungers |
| Y10T 152/10081 | Edge-secured cushion |

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|----------------|-------|---------------------------------|
| Y10T 152/1009 | | Guide flanges |
| Y10T 152/10099 | | Radial stops |
| Y10T 152/10108 | | Bolts or studs |
| Y10T 152/10117 | ... | Integral |
| Y10T 152/10126 | .... | with removable inner tube |
| Y10T 152/10135 | .. | Armored |
| Y10T 152/10144 | ... | Single tube tires internal |
| Y10T 152/10153 | .... | Metal |
| Y10T 152/10162 | ..... | Plates |
| Y10T 152/10171 | ... | Casing construction |
| Y10T 152/1018 | .... | Embedded |
| Y10T 152/10189 | ..... | Metal |
| Y10T 152/10198 | ..... | Plates |
| Y10T 152/10207 | ..... | Annular |
| Y10T 152/10216 | ..... | Linked mat |
| Y10T 152/10225 | ..... | Woven |
| Y10T 152/10234 | ... | Interliners |
| Y10T 152/10243 | .... | Cotton, fabric, or rubber |
| Y10T 152/10252 | .... | Metal |
| Y10T 152/10261 | ..... | Scale armor |
| Y10T 152/1027 | ..... | Annular |
| Y10T 152/10279 | .. | Cushion |
| Y10T 152/10288 | ... | Sectional |
| Y10T 152/10297 | .... | Annular |
| Y10T 152/10306 | ..... | Superimposed |
| Y10T 152/10315 | .... | Superimposed |
| Y10T 152/10324 | .... | with apertured external binders |
| Y10T 152/10333 | .... | Radial bolt secured |
| Y10T 152/10342 | .... | Abutting sections |
| Y10T 152/10351 | ..... | with annular internal binders |
| Y10T 152/1036 | ..... | Interfitting |
| Y10T 152/10369 | ..... | Indented at joints |
| Y10T 152/10378 | ... | Casing enclosed core |
| Y10T 152/10387 | .... | Separate core |
| Y10T 152/10396 | ..... | Removable |
| Y10T 152/10405 | ..... | Sponge rubber |
| Y10T 152/10414 | ..... | with core compression |
| Y10T 152/10423 | | Superimposed rings |
| Y10T 152/10432 | | Sectional transversely |
| Y10T 152/10441 | | Balls |

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|----------------|-------|---|
| Y10T 152/1045 | | Integral structure |
| Y10T 152/10459 | | Recessed |
| Y10T 152/10468 | | Chambered |
| Y10T 152/10477 | ..... | Perforated |
| Y10T 152/10486 | ..... | Chambered |
| Y10T 152/10495 | .. | Pneumatic tire or inner tube |
| Y10T 152/10504 | ... | Asymmetric tire |
| Y10T 152/10513 | ... | Tire reinforcement material characterized by short length fibers or the like |
| Y10T 152/10522 | ... | Multiple chamber |
| Y10T 152/10531 | .... | Cylinder and piston |
| Y10T 152/1054 | ..... | Mutually free walls |
| Y10T 152/10549 | ..... | Interfitting |
| Y10T 152/10558 | ..... | Balls |
| Y10T 152/10567 | ..... | with simultaneous inflating means |
| Y10T 152/10576 | .... | Annular chambers |
| Y10T 152/10585 | ..... | with simultaneous inflating means |
| Y10T 152/10594 | ..... | Mutually free walls |
| Y10T 152/10603 | ..... | with simultaneous inflating means |
| Y10T 152/10612 | ..... | with simultaneous inflating means |
| Y10T 152/10621 | ... | Sectional casings |
| Y10T 152/1063 | .... | Circumferential |
| Y10T 152/10639 | ..... | Rigid inner sections |
| Y10T 152/10648 | ... | with means restricting relative movement between tire and inner tube [e.g., anti-creep feature, etc.] |
| Y10T 152/10657 | ... | with means to protect inner tube from rim |
| Y10T 152/10666 | ... | Automatic sealing of punctures [e.g., self-healing, etc.] |
| Y10T 152/10675 | .... | Using flowable coating or composition |
| Y10T 152/10684 | ..... | On inner surface of tubeless tire |
| Y10T 152/10693 | ..... | Sealant in plural layers or plural pockets |
| Y10T 152/10702 | ..... | within or part of construction of inflating inner tube |
| Y10T 152/10711 | ..... | Sealant in plural layers or plural pockets |
| Y10T 152/1072 | .... | by compression |
| Y10T 152/10729 | .... | with reinflating means |
| Y10T 152/10738 | ... | with means to protect tire from rim |
| Y10T 152/10747 | ... | Means other than rim closing the tire opening |
| Y10T 152/10756 | .... | Positive casing closure |
| Y10T 152/10765 | ... | Characterized by belt or breaker structure |
| Y10T 152/10774 | | Consisting of only one ply |
| Y10T 152/10783 | | Reinforcing plies made up from wound narrow ribbons |

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|----------------|-------|---|
| Y10T 152/10792 | | Structure where each bias angle reinforcing cord ply has no opposingly angled ply |
| Y10T 152/10801 | .... | Structure made up of two or more sets of plies wherein the reinforcing cords in one set lie in a different angular position relative to those in other sets |
| Y10T 152/1081 | .... | Breaker or belt characterized by the chemical composition or physical properties of elastomer or the like |
| Y10T 152/10819 | ... | Characterized by the structure of the bead portion of the tire |
| Y10T 152/10828 | .... | Chafer or sealing strips |
| Y10T 152/10837 | .... | Bead characterized by the radial extent of apex, flipper or chafer into tire sidewall |
| Y10T 152/10846 | .... | Bead characterized by the chemical composition and or physical properties of elastomers or the like |
| Y10T 152/10855 | ... | Characterized by the carcass, carcass material, or physical arrangement of the carcass materials |
| Y10T 152/10864 | .... | Sidewall stiffening or reinforcing means other than main carcass plies or foldups thereof about beads |
| Y10T 152/10873 | .... | with two or more differing cord materials |
| Y10T 152/10882 | .. | Patches |
| Y10T 152/10891 | ... | Mechanically secured |
| Y10T 152/109 | .... | Inside and outside, bolt connected |
| Y10T 152/10909 | ... | with plugs |
| Y10T 152/10918 | ... | Bandages |
| Y10T 152/10927 | | Mechanically secured |
| Y10T 152/10936 | | to felly or rim |

Former US Class 156 Series

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|--------------------|--|--|
| Y10T 156/00 | Adhesive bonding and miscellaneous chemical manufacture | |
| Y10T 156/10 | . | Methods of surface bonding and/or assembly therefor |
| Y10T 156/1002 | .. | with permanent bending or reshaping or surface deformation of self sustaining lamina |
| Y10T 156/1003 | ... | by separating laminae between spaced secured areas [e.g., honeycomb expanding] |
| Y10T 156/1005 | ... | by inward collapsing of portion of hollow body |
| Y10T 156/1007 | ... | Running or continuous length work |
| Y10T 156/1008 | .... | Longitudinal bending |
| Y10T 156/101 | ..... | Prior to or during assembly with additional lamina |
| Y10T 156/1011 | ..... | Overedge bending or overedge folding |
| Y10T 156/1013 | ..... | and edge-joining of one piece blank to form tube |
| Y10T 156/1015 | .... | Folding |
| Y10T 156/1016 | .... | Transverse corrugating |
| Y10T 156/1018 | | Subsequent to assembly of laminae |
| Y10T 156/102 | | with deformation or cutting of corrugated lamina |

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|---------------|-------|--|
| Y10T 156/1021 | | Treating material of corrugated lamina or dry adhesive thereon to render tacky |
| Y10T 156/1023 | .... | Surface deformation only [e.g., embossing] |
| Y10T 156/1025 | ... | to form undulated to corrugated sheet and securing to base with parts of shaped areas out of contact |
| Y10T 156/1026 | ... | with slitting or removal of material at reshaping area prior to reshaping |
| Y10T 156/1028 | ... | by bending, drawing or stretch forming sheet to assume shape of configured lamina while in contact therewith |
| Y10T 156/103 | .... | Encasing or enveloping the configured lamina |
| Y10T 156/1031 | .... | with preshaping of lamina |
| Y10T 156/1033 | .... | Flexible sheet to cylinder lamina |
| Y10T 156/1034 | ... | Overedge bending of lamina about edges of sheetlike base |
| Y10T 156/1036 | ... | Bending of one piece blank and joining edges to form article |
| Y10T 156/1038 | .... | Hollow cylinder article |
| Y10T 156/1039 | ... | Surface deformation only of sandwich or lamina [e.g., embossed panels] |
| Y10T 156/1041 | .... | Subsequent to lamination |
| Y10T 156/1043 | ... | Subsequent to assembly |
| Y10T 156/1044 | .... | of parallel stacked sheets only |
| Y10T 156/1046 | ..... | Bending of one lamina only |
| Y10T 156/1048 | ..... | to form dished or receptacle-like product |
| Y10T 156/1049 | .... | Folding only |
| Y10T 156/1051 | ... | by folding |
| Y10T 156/1052 | .. | with cutting, punching, tearing or severing |
| Y10T 156/1054 | ... | and simultaneously bonding [e.g., cut-seaming] |
| Y10T 156/1056 | ... | Perforating lamina |
| Y10T 156/1057 | .... | Subsequent to assembly of laminae |
| Y10T 156/1059 | ... | Splitting sheet lamina in plane intermediate of faces |
| Y10T 156/1061 | ... | Spiral peeling |
| Y10T 156/1062 | ... | Prior to assembly |
| Y10T 156/1064 | .... | Partial cutting [e.g., grooving or incising] |
| Y10T 156/1066 | .... | Cutting to shape joining edge surfaces only |
| Y10T 156/1067 | .... | Continuous longitudinal slitting |
| Y10T 156/1069 | ..... | Bonding face to face of laminae cut from single sheet |
| Y10T 156/107 | .... | Punching and bonding pressure application by punch |
| Y10T 156/1072 | ..... | Closure cap liner applying type |
| Y10T 156/1074 | .... | Separate cutting of separate sheets or webs |
| Y10T 156/1075 | .... | of plural laminae from single stock and assembling to each other or to additional lamina |
| Y10T 156/1077 | ..... | Applying plural cut laminae to single face of additional lamina |
| Y10T 156/1079 | | Joining of cut laminae end-to-end |
| Y10T 156/108 | ... | Flash, trim or excess removal |

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|---------------|-------|---|
| Y10T 156/1082 | ... | Partial cutting bonded sandwich [e.g., grooving or incising] |
| Y10T 156/1084 | ... | of continuous or running length bonded web |
| Y10T 156/1085 | .... | One web only |
| Y10T 156/1087 | .... | Continuous longitudinal slitting |
| Y10T 156/1089 | .. | of discrete laminae to single face of additional lamina |
| Y10T 156/109 | ... | Embedding of laminae within face of additional laminae |
| Y10T 156/1092 | ... | All laminae planar and face to face |
| Y10T 156/1093 | .... | with covering of discrete laminae with additional lamina |
| Y10T 156/1095 | ..... | Opposed laminae are running length webs |
| Y10T 156/1097 | .... | Lamina is running length web |
| Y10T 156/1098 | ..... | Feeding of discrete laminae from separate sources |
| Y10T 156/11 | . | Methods of delaminating, per se; i.e., separating at bonding face |
| Y10T 156/1105 | .. | Delaminating process responsive to feed or shape at delamination |
| Y10T 156/1111 | .. | Using solvent during delaminating [e.g., water dissolving adhesive at bonding face during delamination, etc.] |
| Y10T 156/1116 | ... | Using specified organic delamination solvent |
| Y10T 156/1121 | .. | Using vibration during delaminating |
| Y10T 156/1126 | .. | Using direct fluid current against work during delaminating |
| Y10T 156/1132 | ... | Using vacuum directly against work during delaminating |
| Y10T 156/1137 | ... | Using air blast directly against work during delaminating |
| Y10T 156/1142 | .. | Changing dimension during delaminating [e.g., crushing, expanding, warping, etc.] |
| Y10T 156/1147 | ... | Using shrinking or swelling agent during delaminating |
| Y10T 156/1153 | .. | Temperature change for delamination [e.g., heating during delaminating, etc.] |
| Y10T 156/1158 | ... | Electromagnetic radiation applied to work for delamination [e.g., microwave, uv, ir, etc.] |
| Y10T 156/1163 | ... | Sintering for delamination |
| Y10T 156/1168 | .. | Gripping and pulling work apart during delaminating |
| Y10T 156/1174 | ... | Using roller for delamination [e.g., roller pairs operating at differing speeds or directions, etc.] |
| Y10T 156/1179 | ... | with poking during delaminating [e.g., jabbing, etc.] |
| Y10T 156/1184 | .... | Piercing layer during delaminating [e.g., cutting, etc.] |
| Y10T 156/1189 | ... | with shearing during delaminating |
| Y10T 156/1195 | ... | Delaminating from release surface |
| Y10T 156/12 | . | Surface bonding means and/or assembly means with cutting, punching, piercing, severing or tearing |
| Y10T 156/125 | .. | Plural severing means each acting on a different work piece |
| Y10T 156/13 | .. | Severing followed by associating with part from same source |
| Y10T 156/1304 | .. | Means making hole or aperture in part to be laminated |
| Y10T 156/1309 | ... | and securing separate part over hole or aperture |
| Y10T 156/1313 | .. | Cutting element simultaneously bonds [e.g., cut seaming] |
| Y10T 156/1317 | .. | Means feeding plural workpieces to be joined |

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|---------------|-------|--|
| Y10T 156/1322 | ... | Severing before bonding or assembling of parts |
| Y10T 156/1326 | | Severing means or member secured thereto also bonds |
| Y10T 156/133 | .... | Delivering cut part to indefinite or running length web |
| Y10T 156/1335 | ..... | Cutter also delivers cut piece |
| Y10T 156/1339 | .... | Delivering cut part in sequence to serially conveyed articles |
| Y10T 156/1343 | ... | Cutting indefinite length web after assembly with discrete article |
| Y10T 156/1348 | .. | Work traversing type |
| Y10T 156/1352 | ... | with liquid applying means |
| Y10T 156/1357 | .... | Slitting and severing |
| Y10T 156/1361 | .... | Cutting after bonding |
| Y10T 156/1365 | ... | Fixed cutter |
| Y10T 156/137 | .. | Stamp from multiple row sheet type |
| Y10T 156/1374 | .. | with means projecting fluid against work |
| Y10T 156/1378 | .. | Cutter actuated by or secured to bonding element |
| Y10T 156/1383 | ... | with liquid applicator |
| Y10T 156/1387 | .... | Common actuator for bonding and liquid applying means |
| Y10T 156/1391 | ..... | Liquid applied to web before cutting |
| Y10T 156/1396 | ..... | Roller applicator |
| Y10T 156/14 | . | Surface bonding means and/or assembly means with shaping, scarifying, or cleaning joining surface only |
| Y10T 156/15 | . | Combined or convertible surface bonding means and/or assembly means |
| Y10T 156/16 | . | Surface bonding means and/or assembly means with bond interfering means [slip sheet, etc.] |
| Y10T 156/17 | . | Surface bonding means and/or assembly means with work feeding or handling means |
| Y10T 156/1702 | .. | For plural parts or plural areas of single part |
| Y10T 156/1705 | ... | Lamina transferred to base from adhered flexible web or sheet type carrier |
| Y10T 156/1707 | .... | Discrete spaced laminae on adhered carrier |
| Y10T 156/171 | ..... | Means serially presenting discrete base articles or separate portions of a single article |
| Y10T 156/1712 | ... | Indefinite or running length work |
| Y10T 156/1715 | .... | Means joining indefinite length work edge to edge |
| Y10T 156/1717 | ..... | Means applying adhesively secured tape to seam |
| Y10T 156/172 | ..... | Means applying fluid adhesive to work edge |
| Y10T 156/1722 | .... | Means applying fluent adhesive or adhesive activator material between layers |
| Y10T 156/1724 | ..... | At spaced areas |
| Y10T 156/1727 | ..... | Plural indefinite length or running length workpieces |
| Y10T 156/1729 | ..... | Fluid applied to nip between indefinite length webs |
| Y10T 156/1732 | ..... | Fluid applied to plural workpieces |
| Y10T 156/1734 | | Means bringing articles into association with web |
| Y10T 156/1737 | | Discontinuous, spaced area, and/or patterned pressing |

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|---------------|-------|---|
| Y10T 156/1739 | | Webs of different width, longitudinally aligned |
| Y10T 156/1741 | | Progressive continuous bonding press [e.g., roll couples] |
| Y10T 156/1744 | ... | Means bringing discrete articles into assembled relationship |
| Y10T 156/1746 | .... | Plural lines and/or separate means assembling separate sandwiches |
| Y10T 156/1749 | .... | All articles from single source only |
| Y10T 156/1751 | .... | At least three articles |
| Y10T 156/1754 | ..... | At least two applied side by side to common base |
| Y10T 156/1756 | ..... | Plural ranks |
| Y10T 156/1759 | ..... | Sheet form common base |
| Y10T 156/1761 | ..... | Stacked serially |
| Y10T 156/1763 | .... | Magazine stack directly contacting separate work |
| Y10T 156/1766 | ..... | Magazine movable to work |
| Y10T 156/1768 | .... | Means simultaneously conveying plural articles from a single source and serially presenting them to an assembly station |
| Y10T 156/1771 | ..... | Turret or rotary drum-type conveyer |
| Y10T 156/1773 | ..... | For flexible sheets |
| Y10T 156/1776 | .... | Means separating articles from bulk source |
| Y10T 156/1778 | ..... | Stacked sheet source |
| Y10T 156/178 | ..... | Rotary or pivoted picker |
| Y10T 156/1783 | ..... | Translating picker |
| Y10T 156/1785 | .. | Magazine stack directly contacting work |
| Y10T 156/1788 | .. | Work traversing type and/or means applying work to wall or static structure |
| Y10T 156/179 | ... | with liquid applying means |
| Y10T 156/1793 | ... | Grip or clamp for web end |
| Y10T 156/1795 | ... | Implement carried web supply |
| Y10T 156/1798 | .. | with liquid adhesive or adhesive activator applying means |
| Y10T 156/18 | . | Surface bonding means and/or assembly means with handle or handgrip |
| Y10T 156/19 | . | Delaminating means |
| Y10T 156/1906 | .. | Delaminating means responsive to feed or shape at delamination |
| Y10T 156/1911 | .. | Heating or cooling delaminating means [e.g., melting means, freezing means, etc.] |
| Y10T 156/1917 | ... | Electromagnetic radiation delaminating means [e.g., microwave, uv, ir, etc.] |
| Y10T 156/1922 | .. | Vibrating delaminating means |
| Y10T 156/1928 | .. | Differential fluid pressure delaminating means |
| Y10T 156/1933 | ... | Spraying delaminating means [e.g., atomizer, etc.] |
| Y10T 156/1939 | .... | Air blasting delaminating means] |
| Y10T 156/1944 | ... | Vacuum delaminating means [e.g., vacuum chamber, etc.] |
| Y10T 156/195 | .. | Delaminating roller means |
| Y10T 156/1956 | ... | Roller pair delaminating means |
| Y10T 156/1961 | .. | Severing delaminating means [e.g., chisel, etc.] |
| Y10T 156/1967 | ... | Cutting delaminating means |

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|---------------|------|---|
| Y10T 156/1972 | | Shearing delaminating means |
| Y10T 156/1978 | .. | Delaminating bending means |
| Y10T 156/1983 | ... | Poking delaminating means |
| Y10T 156/1989 | ... | Corner edge bending delaminating means |
| Y10T 156/1994 | .. | Means for delaminating from release surface |

Former US Class 225 series

| | | |
|--------------------|--|--|
| Y10T 225/00 | Severing by tearing or breaking | |
| Y10T 225/10 | . | Methods |
| Y10T 225/12 | .. | With preliminary weakening |
| Y10T 225/14 | .. | Longitudinally of direction of feed |
| Y10T 225/16 | .. | Transversely of continuously fed work |
| Y10T 225/18 | ... | Progressively to or from one side edge |
| Y10T 225/20 | . | Severing by manually forcing against fixed edge |
| Y10T 225/201 | .. | With other type severing means |
| Y10T 225/202 | .. | With timer-released means for preventing work feed-out |
| Y10T 225/203 | .. | Including means to effect bias cut |
| Y10T 225/205 | .. | With feed-out of predetermined length from work supply |
| Y10T 225/206 | ... | Including means to select or adjust feed-out length |
| Y10T 225/207 | ... | Including feed-out stop for manually pulled work |
| Y10T 225/208 | .... | Stop abuts work edge or work-mounted article |
| Y10T 225/209 | .... | With feed-out of lead-end to aid initial grasping |
| Y10T 225/21 | ... | Merely to provide lead-end for manual grasping |
| Y10T 225/211 | ... | Manually operated feed-out mechanism |
| Y10T 225/213 | .. | With indicator |
| Y10T 225/214 | ... | Indicates length to be severed from supply |
| Y10T 225/215 | .. | With blade-edge guard |
| Y10T 225/216 | ... | Movable |
| Y10T 225/217 | .. | Work stripped from blade by relatively movable means |
| Y10T 225/218 | ... | Including movable blade |
| Y10T 225/22 | .. | With means to move work toward or into severing position |
| Y10T 225/221 | ... | With means to strip adhering work therefrom |
| Y10T 225/222 | .. | With work-immobilizing pasteur surface |
| Y10T 225/223 | ... | With finger-access opening |
| Y10T 225/224 | .. | With means to hold pad or stack of individual sheets |
| Y10T 225/225 | ... | With means to separate severed end of stub from supply package |
| Y10T 225/226 | ... | With changeable blade-edge contour |
| Y10T 225/228 | | Slidable notcher |
| Y10T 225/229 | ... | Blade slidable along plane of work surface |

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|--------------|-------|--|
| Y10T 225/23 | .. | Zigzag-folded supply package |
| Y10T 225/231 | .. | Separate blades usable alternatively or sequentially on same work supply |
| Y10T 225/232 | .. | Plural supply sources |
| Y10T 225/233 | ... | On turret-type support with single blade |
| Y10T 225/234 | ... | With movable blade registrable selectively with each source |
| Y10T 225/236 | ... | With plural blades |
| Y10T 225/237 | .... | With individual blade for each source |
| Y10T 225/238 | .. | With housing for work supply |
| Y10T 225/239 | ... | Liquid-, gas-, or light-tight work passage |
| Y10T 225/24 | ... | With inspection window or transparent panel |
| Y10T 225/241 | ... | With mounting means for housing |
| Y10T 225/243 | ... | Blade on pivoted closure for housing |
| Y10T 225/244 | ... | Sectional telescoping housing |
| Y10T 225/245 | .... | Including removable cap or sleeve enclosure for spooled work supply |
| Y10T 225/246 | ... | Including special support for wound supply package |
| Y10T 225/247 | .... | Bearing or trunnions to engage package core |
| Y10T 225/248 | ... | Single blank container |
| Y10T 225/249 | .... | Blade unitary with container |
| Y10T 225/251 | .... | With closure fastener |
| Y10T 225/252 | ... | With brake or tensioner |
| Y10T 225/253 | .... | Restricted or restrictable work outlet |
| Y10T 225/254 | ... | With finger-access opening to facilitate work feed-out |
| Y10T 225/255 | ... | With internal guide |
| Y10T 225/256 | .. | Blade carrier bodily and slidably supported on running length work |
| Y10T 225/257 | .. | Blade mounted on hand-held wound package |
| Y10T 225/259 | ... | With lead-end stripper for tacky adhesive work |
| Y10T 225/26 | ... | By resiliently embracing outer circumference of package |
| Y10T 225/261 | ... | Work supply nonrotatably wound on flanged spool |
| Y10T 225/262 | .... | Circumferentially movable blade radially retained by beaded or grooved flanges |
| Y10T 225/263 | .... | Blade carrier supports hollow spool for rotation |
| Y10T 225/264 | .... | Flange edge notched to provide or coact with cutter |
| Y10T 225/266 | .... | With clamp for lead-end of strand-type work |
| Y10T 225/267 | ..... | Strand clamped against flange |
| Y10T 225/268 | ... | By resiliently engaging package ends or interior of core |
| Y10T 225/269 | ... | Blade carrier supports package for rotation |
| Y10T 225/27 | .. | Movable blade continually biased toward wound web supply package |
| Y10T 225/271 | ... | Including temporary bias-disabling means |
| Y10T 225/272 | ... | Including stripper to separate lead-end from package |
| Y10T 225/274 | ... | Weight of bodily movable package contributes to blade-biasing force |

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|--------------|-------|--|
| Y10T 225/275 | ... | Blade slidably guided |
| Y10T 225/276 | .. | Blade movable to severing position by moving work |
| Y10T 225/277 | ... | With simultaneous application of brake or clamp |
| Y10T 225/278 | .... | Applied to running length work |
| Y10T 225/279 | ..... | Opposed movable jaws |
| Y10T 225/28 | .. | Wound package bodily biased toward fixed blade |
| Y10T 225/282 | .. | With fixed blade and support for wound package |
| Y10T 225/283 | ... | Body- or belt-attached |
| Y10T 225/284 | ... | With brake applied to supply package |
| Y10T 225/285 | ... | With guide spaced from blade edge to provide lead-end therebetween |
| Y10T 225/286 | .. | With work-abutment stop |
| Y10T 225/287 | .. | With brake or clamp |
| Y10T 225/289 | ... | Thread cutter and clamp attachment for sewing machine presser foot |
| Y10T 225/29 | ... | Applied to running length work |
| Y10T 225/291 | .... | Spaced from blade edge to provide lead-end therebetween |
| Y10T 225/292 | ..... | Blade manually movable to expose lead-end |
| Y10T 225/293 | ... | Manually applied, spring returned |
| Y10T 225/294 | .. | With guide for running length work |
| Y10T 225/295 | .. | Blade manually movable to or from severing position |
| Y10T 225/297 | .. | With means to facilitate lead-end grasping |
| Y10T 225/298 | .. | Blades or severing devices |
| Y10T 225/299 | ... | Adjustable blade-edge contour |
| Y10T 225/30 | . | Breaking or tearing apparatus |
| Y10T 225/304 | .. | Including means to apply thermal shock to work |
| Y10T 225/307 | .. | Combined with preliminary weakener or with nonbreaking cutter |
| Y10T 225/314 | ... | Successively actuated sharp and dull tools |
| Y10T 225/321 | ... | Preliminary weakener |
| Y10T 225/325 | .... | With means to apply moment of force to weakened work |
| Y10T 225/329 | .. | Plural breakers |
| Y10T 225/336 | .. | Conveyer diverter for moving work |
| Y10T 225/343 | ... | Plural divergent work paths |
| Y10T 225/35 | .. | Work-parting pullers [burststers] |
| Y10T 225/357 | ... | Relatively movable clamps |
| Y10T 225/364 | .. | Axial twisters |
| Y10T 225/371 | .. | Movable breaking tool |
| Y10T 225/379 | ... | Breaking tool intermediate spaced work supports |
| Y10T 225/386 | .... | Clamping supports |
| Y10T 225/393 | .. | Web restrainer |

Former US Class 279 Series**Y10T 279/00****Chucks or sockets**

- Y10T 279/10 . Expanding
- Y10T 279/1004 .. Collet type
- Y10T 279/1008 ... Fixed jaws and moving cam
- Y10T 279/1012 ... Fixed cam and moving jaws
- Y10T 279/1016 .. Jaws mounted on flexible member; i.e., diaphragm
- Y10T 279/1021 .. Fluid-pressure actuator
- Y10T 279/1024 ... Directly expanding jaws
- Y10T 279/1029 Jaw is expansible chamber; i.e., bladder type
- Y10T 279/1033 ... Expanding jaws via mechanical connection
- Y10T 279/1037 .. Axially moving actuator
- Y10T 279/1041 ... Wedge
- Y10T 279/1045 Internal cone
- Y10T 279/1049 with jaw positively interlocked with wedge; e.g., dovetail or T-slot
- Y10T 279/1054 with resilient means contacting nonresilient jaw
- Y10T 279/1058 Constricting band, annulus, or clip
- Y10T 279/1062 ... Toggle
- Y10T 279/1066 ... Axially compressible element expands radially
- Y10T 279/1071 ... Lever
- Y10T 279/1074 .. Rotary actuator
- Y10T 279/1079 ... Clutch or self-actuating type
- Y10T 279/1083 .. Jaw structure
- Y10T 279/1087 ... Resilient
- Y10T 279/1091 ... Ball or roller
- Y10T 279/1095 ... Pivoted
- Y10T 279/11 . Vacuum
- Y10T 279/12 . with fluid-pressure actuator
- Y10T 279/1208 .. with measuring, indicating or control means
- Y10T 279/1216 .. Jaw is expansible chamber; i.e., bladder type
- Y10T 279/1224 .. Pneumatic type
- Y10T 279/1233 .. Jaws mounted on flexible member; i.e., diaphragm
- Y10T 279/1241 .. Socket type
- Y10T 279/1249 ... Collet
- Y10T 279/1258 Fixed cam and moving jaws
- Y10T 279/1266 Moving cam and fixed jaws
- Y10T 279/1274 .. Radially reciprocating jaws
- Y10T 279/1283 ... Fluid pressure directly moves jaws

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|----------------|-------|---|
| Y10T 279/1291 | ... | Fluid pressure moves jaws via mechanical connection |
| Y10T 279/13 | . | Angularly adjustable or indexing |
| Y10T 279/14 | . | Eccentric |
| Y10T 279/15 | . | Threaded grip |
| Y10T 279/16 | . | Longitudinal screw clamp |
| Y10T 279/17 | . | Socket type |
| Y10T 279/17008 | .. | Multiple alternative |
| Y10T 279/17017 | .. | Self-centering of floating |
| Y10T 279/17025 | ... | Radially reciprocating jaws |
| Y10T 279/17034 | ... | Transverse holder and setscrew |
| Y10T 279/17042 | .. | Lost motion |
| Y10T 279/17051 | ... | Swinging external yoke or detent |
| Y10T 279/17059 | .... | Rotary socket |
| Y10T 279/17068 | ... | Rotary socket |
| Y10T 279/17076 | ... | Spreading elements |
| Y10T 279/17085 | ... | Key retainer |
| Y10T 279/17094 | ... | Sleeve type retainer |
| Y10T 279/17102 | .... | Sleeve in socket |
| Y10T 279/17111 | .. | Fluid-conduit drill holding |
| Y10T 279/17119 | .. | Feed type |
| Y10T 279/17128 | .. | Self-grasping |
| Y10T 279/17136 | ... | Yielding grasping jaws |
| Y10T 279/17145 | .... | Ball or roller |
| Y10T 279/17153 | .... | Spring jaws |
| Y10T 279/17162 | ... | Yielding detent |
| Y10T 279/17171 | ... | One-way-clutch type |
| Y10T 279/17179 | .... | Wedge |
| Y10T 279/17188 | .... | Side detent |
| Y10T 279/17196 | ..... | Ball or roller |
| Y10T 279/17205 | .. | Conical clamp threaded in socket |
| Y10T 279/17213 | .. | Transversely oscillating jaws |
| Y10T 279/17222 | ... | Screw actuated |
| Y10T 279/17231 | .. | Pivoted jaws |
| Y10T 279/17239 | ... | Moving-cam actuator |
| Y10T 279/17247 | .... | Threaded cam sleeve |
| Y10T 279/17256 | .... | Reciprocating cam sleeve |
| Y10T 279/17264 | ... | Fixed cam and moving jaws |
| Y10T 279/17273 | .... | Axial screw actuator |
| Y10T 279/17282 | | Threaded-sleeve actuator |
| Y10T 279/17291 | .. | Resilient split socket |

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|----------------|-------|---|
| Y10T 279/17299 | ... | Threaded cam sleeve |
| Y10T 279/17307 | ... | Reciprocating cam sleeve |
| Y10T 279/17316 | ... | Unitary |
| Y10T 279/17324 | .... | Split at one end only |
| Y10T 279/17333 | ..... | Transverse screw actuator |
| Y10T 279/17341 | ..... | Cam actuator |
| Y10T 279/17351 | .... | Split end to end |
| Y10T 279/17358 | .... | with jaw pads or insert |
| Y10T 279/17367 | ... | Nonresilient member biased by a resilient member |
| Y10T 279/17376 | ... | Resilient member reinforced by another resilient member |
| Y10T 279/17384 | .. | with means to exclude contaminants; e.g., seal, shield |
| Y10T 279/17393 | .. | One movable side |
| Y10T 279/17401 | ... | Sleeved |
| Y10T 279/17411 | .. | Spring biased jaws |
| Y10T 279/17418 | ... | Unitary |
| Y10T 279/17427 | .... | Split at one end only |
| Y10T 279/17435 | .... | Split at both ends |
| Y10T 279/17444 | .... | Split end to end |
| Y10T 279/17452 | .... | with jaw pads or insert |
| Y10T 279/17461 | ... | Nonresilient member biased by a resilient member |
| Y10T 279/17471 | ... | Resilient member reinforced by another resilient member |
| Y10T 279/17478 | ... | with means to exclude contaminants; e.g., seal, shield |
| Y10T 279/17487 | ... | Moving-cam actuator |
| Y10T 279/17495 | .... | Threaded sleeve and wedge |
| Y10T 279/17504 | .... | Threaded cam sleeve |
| Y10T 279/17512 | ..... | Loose jaws |
| Y10T 279/17521 | .... | Reciprocating cam sleeve |
| Y10T 279/17529 | ... | Fixed cam and moving jaws |
| Y10T 279/17538 | .... | Threaded-sleeve actuator |
| Y10T 279/17547 | .... | Axial screw actuator |
| Y10T 279/17555 | ... | Loose jaws |
| Y10T 279/17564 | .. | Loose jaws |
| Y10T 279/17572 | ... | Moving-cam actuator |
| Y10T 279/17581 | .... | Threaded cam sleeve |
| Y10T 279/17589 | .... | Reciprocating cam sleeve |
| Y10T 279/17598 | ... | Fixed cam and moving jaws |
| Y10T 279/17606 | .... | Threaded sleeve and body |
| Y10T 279/17615 | .. | Obliquely guided reciprocating jaws |
| Y10T 279/17623 | ... | Threaded sleeve and jaw |
| Y10T 279/17632 | | Conical sleeve |

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|----------------|-------|------------------------------------|
| Y10T 279/17641 | ... | Threaded central cone and jaw |
| Y10T 279/17649 | ... | Threaded sleeve and body |
| Y10T 279/17658 | ... | Reciprocating jaw advancing sleeve |
| Y10T 279/17666 | .. | Radially reciprocating jaws |
| Y10T 279/17675 | ... | Transverse-screw actuated |
| Y10T 279/17683 | .... | Interlaced jaws |
| Y10T 279/17692 | ... | Moving-cam actuator |
| Y10T 279/17701 | .... | Threaded cam sleeve |
| Y10T 279/17709 | .... | Threaded sleeve and wedge |
| Y10T 279/17717 | .... | Rotary eccentric-cam sleeve |
| Y10T 279/17726 | ..... | Roller and rocking jaw |
| Y10T 279/17735 | ..... | Worm actuated |
| Y10T 279/17743 | .... | Reciprocating cam sleeve |
| Y10T 279/17752 | ..... | Ball or roller jaws |
| Y10T 279/17761 | .. | Side detent |
| Y10T 279/17769 | ... | Pivoted or rotary |
| Y10T 279/17777 | .... | Sleeved |
| Y10T 279/17786 | ... | Spring |
| Y10T 279/17794 | .... | Sleeved |
| Y10T 279/17803 | ... | Rotary cam sleeve |
| Y10T 279/17811 | ... | Reciprocating sleeve |
| Y10T 279/17821 | ... | Set screw |
| Y10T 279/17829 | ... | U-clamp |
| Y10T 279/17837 | ... | Plural bolt |
| Y10T 279/17846 | ... | Single transverse bolt |
| Y10T 279/17854 | ... | Longitudinal clamping wedge |
| Y10T 279/17863 | .. | Shouldered-tang holding |
| Y10T 279/17871 | ... | Cap |
| Y10T 279/17881 | .... | Screw |
| Y10T 279/17888 | .. | Tang offset within socket |
| Y10T 279/17897 | .. | Tang offset without socket |
| Y10T 279/17905 | .. | Bottomless |
| Y10T 279/17914 | ... | Friction grip |
| Y10T 279/17923 | .. | Transverse pin |
| Y10T 279/17931 | .. | Screw threaded |
| Y10T 279/17941 | ... | Nut lock |
| Y10T 279/17948 | .... | Threaded sleeve |
| Y10T 279/17957 | .. | Friction grip |
| Y10T 279/17965 | ... | Drill type |
| Y10T 279/17974 | .. | Barbed or pronged tang |

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|----------------|-----|---|
| Y10T 279/17982 | .. | Molded or cast-in tang |
| Y10T 279/17991 | .. | Adjustable length or size |
| Y10T 279/18 | . | Pivoted jaw |
| Y10T 279/182 | .. | Cam-sleeve actuated |
| Y10T 279/185 | .. | Internal-cone actuated |
| Y10T 279/188 | .. | Toggle actuated |
| Y10T 279/19 | . | Radially reciprocating jaws |
| Y10T 279/1906 | .. | with indicator |
| Y10T 279/1913 | .. | Transverse-screw actuated |
| Y10T 279/1921 | ... | Annular rack |
| Y10T 279/1926 | .. | Spiral cam or scroll actuated |
| Y10T 279/1933 | ... | Worm |
| Y10T 279/1941 | ... | Bevel pinion |
| Y10T 279/1946 | .. | Rack-and-pinion actuated |
| Y10T 279/1953 | .. | Toggle actuated |
| Y10T 279/1961 | .. | Lever actuated |
| Y10T 279/1966 | ... | Internal cone |
| Y10T 279/1973 | .. | Wedge actuated |
| Y10T 279/1981 | .. | External-cone actuated |
| Y10T 279/1986 | .. | Jaws |
| Y10T 279/1993 | ... | with means to facilitate jaw removal |
| Y10T 279/20 | . | with safety feature |
| Y10T 279/21 | . | with measuring, indicating or control means |
| Y10T 279/22 | . | Double acting |
| Y10T 279/23 | . | with magnetic or electrostatic means |
| Y10T 279/24 | . | by centrifugal force |
| Y10T 279/243 | .. | to counterbalance jaws |
| Y10T 279/247 | .. | to grip tool or workpiece |
| Y10T 279/25 | . | Compensation for eccentricity |
| Y10T 279/26 | . | with centering means |
| Y10T 279/27 | . | Separate chuck-actuating power source |
| Y10T 279/275 | .. | Self-contained |
| Y10T 279/28 | . | for gear or spline molding |
| Y10T 279/29 | . | More than one set of gripping means |
| Y10T 279/30 | . | Torsion mandrel |
| Y10T 279/31 | . | Jaws mounted on flexible member; i.e. , diaphragm |
| Y10T 279/32 | . | Means to prevent jaw loosening |
| Y10T 279/33 | . | Member applies axial force component |
| Y10T 279/34 | . | Accessory or component |
| Y10T 279/3406 | .. | Adapter |

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|---------------|------|---|
| Y10T 279/3412 | ... | Drive conversion |
| Y10T 279/3418 | ... | for particular tool or workpiece |
| Y10T 279/3425 | .. | Sliding cam chuck actuator |
| Y10T 279/3431 | .. | Chuck key |
| Y10T 279/3437 | ... | Safety feature; e.g., ejector, interlock |
| Y10T 279/3443 | ... | Key holding or attaching means |
| Y10T 279/3451 | ... | Nonseparable or built-in |
| Y10T 279/3456 | .. | Padded or cushioned jaw |
| Y10T 279/3462 | .. | Jaw insert |
| Y10T 279/3468 | ... | Machinable jaw |
| Y10T 279/3475 | .... | Locking or positioning means |
| Y10T 279/3481 | .. | Tool or workpiece ejector |
| Y10T 279/3487 | .. | Tool or work stop or locator |
| Y10T 279/3493 | .. | Protection means; e.g., cover, seal, overstress prevention, air blast |
| Y10T 279/35 | . | Miscellaneous |

Former US Class 292 series

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|--------------------|-----------------------------|
| Y10T 292/00 | Closure fasteners |
| Y10T 292/03 | . Miscellaneous |
| Y10T 292/06 | . Adjustable backset |
| Y10T 292/08 | . Bolts |
| Y10T 292/0801 | .. Multiple |
| Y10T 292/0802 | ... Sliding and rotary |
| Y10T 292/0803 | ... Sliding and swinging |
| Y10T 292/0805 | Combined motion |
| Y10T 292/0806 | Lever-operating means |
| Y10T 292/0807 | ... Sliding and hooked end |
| Y10T 292/0808 | ... Sliding and roller |
| Y10T 292/0809 | ... Sliding and spring arm |
| Y10T 292/081 | ... Swinging and hooked end |
| Y10T 292/0811 | ... Swinging and roller |
| Y10T 292/0813 | ... Swinging and spring arm |
| Y10T 292/0814 | ... Double acting |
| Y10T 292/0815 | Roller |
| Y10T 292/0816 | Sliding |
| Y10T 292/0817 | Spring arm |
| Y10T 292/0818 | Swinging |
| Y10T 292/082 | ... Spring arm |
| Y10T 292/0821 | Combined motion |

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|---------------|-------|--|
| Y10T 292/0822 | ... | Emergency operating means |
| Y10T 292/0823 | ... | Gear |
| Y10T 292/0824 | ... | Roller |
| Y10T 292/0825 | ... | Hooked end |
| Y10T 292/0826 | .... | Operating means |
| Y10T 292/0828 | ..... | Link and lever |
| Y10T 292/0829 | ..... | Cam |
| Y10T 292/083 | ..... | Flexible |
| Y10T 292/0831 | ..... | Lever |
| Y10T 292/0832 | ..... | Push or pull rod |
| Y10T 292/0833 | ..... | Rigid |
| Y10T 292/0834 | ... | Sliding |
| Y10T 292/0836 | .... | Operating means |
| Y10T 292/0837 | ..... | Cam and lever |
| Y10T 292/0838 | ..... | Lever and push or pull rod |
| Y10T 292/0839 | ..... | Link and lever |
| Y10T 292/084 | ..... | Cam |
| Y10T 292/0841 | ..... | Flexible |
| Y10T 292/0843 | ..... | Gear |
| Y10T 292/0844 | ..... | Lever |
| Y10T 292/0845 | ..... | Push or pull rod |
| Y10T 292/0846 | ..... | Rigid |
| Y10T 292/0847 | ..... | Screw |
| Y10T 292/0848 | ... | Swinging |
| Y10T 292/0849 | .... | Operating means |
| Y10T 292/0851 | ..... | Cam and lever |
| Y10T 292/0852 | ..... | Link and cam |
| Y10T 292/0853 | ..... | Link and lever |
| Y10T 292/0854 | ..... | Cam |
| Y10T 292/0855 | ..... | Flexible |
| Y10T 292/0856 | ..... | Gear |
| Y10T 292/0857 | ..... | Lever |
| Y10T 292/0859 | ..... | Push or pull rod |
| Y10T 292/086 | ..... | Rigid |
| Y10T 292/0861 | ..... | Screw |
| Y10T 292/0862 | .. | Swinging and hooked end, multiple head |
| Y10T 292/0863 | .. | Sliding and rotary |
| Y10T 292/0864 | ... | Combined motion |
| Y10T 292/0866 | ... | Multiple head |
| Y10T 292/0867 | ... | Spring projected |

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|---------------|-------|---|
| Y10T 292/0868 | | Combined motion |
| Y10T 292/0869 | ... | Spring retracted |
| Y10T 292/087 | .. | Loops |
| Y10T 292/0871 | ... | Sliding and swinging, lever-operating means |
| Y10T 292/0872 | ... | Sliding catch |
| Y10T 292/0874 | ... | Spring-arm catch |
| Y10T 292/0875 | ... | Swinging catch |
| Y10T 292/0876 | .. | Double acting |
| Y10T 292/0877 | ... | Sliding and swinging |
| Y10T 292/0878 | ... | Sliding |
| Y10T 292/0879 | .... | Roller |
| Y10T 292/088 | ... | Spring arm |
| Y10T 292/0882 | .... | Roller |
| Y10T 292/0883 | ... | Swinging |
| Y10T 292/0884 | .... | Roller |
| Y10T 292/0885 | ... | Roller |
| Y10T 292/0886 | .. | Sliding and swinging |
| Y10T 292/0887 | ... | Operating means |
| Y10T 292/0889 | .... | Cam |
| Y10T 292/089 | .... | Lever |
| Y10T 292/0891 | .... | Rigid |
| Y10T 292/0892 | ... | Multiple head |
| Y10T 292/0893 | ... | Spring retracted |
| Y10T 292/0894 | .. | Spring arm |
| Y10T 292/0895 | ... | Operating means |
| Y10T 292/0897 | .... | Link and lever |
| Y10T 292/0898 | .... | Cam |
| Y10T 292/0899 | .... | Flexible |
| Y10T 292/09 | .... | Lever |
| Y10T 292/0901 | .... | Push or pull rod |
| Y10T 292/0902 | .... | Rigid |
| Y10T 292/0903 | ..... | Seal catch |
| Y10T 292/0905 | ..... | Swinging catch |
| Y10T 292/0906 | .... | Screw |
| Y10T 292/0907 | ... | Multiple head |
| Y10T 292/0908 | .. | Emergency operating means |
| Y10T 292/0909 | ... | Panel |
| Y10T 292/091 | ... | Platform |
| Y10T 292/0911 | .. | Hooked end |
| Y10T 292/0913 | ... | Sliding and swinging |

| | | |
|---------------|-------|-----------------------|
| Y10T 292/0914 | .... | Operating means |
| Y10T 292/0915 | ..... | Cam |
| Y10T 292/0916 | ..... | Gear |
| Y10T 292/0917 | ..... | Lever |
| Y10T 292/0918 | ..... | Rigid |
| Y10T 292/092 | ..... | Screw |
| Y10T 292/0921 | ... | Multiple head |
| Y10T 292/0922 | .... | Operating means |
| Y10T 292/0923 | ..... | Lever |
| Y10T 292/0924 | ..... | Push or pull rod |
| Y10T 292/0925 | ..... | Rigid |
| Y10T 292/0926 | ... | Spring projected |
| Y10T 292/0928 | .... | Operating means |
| Y10T 292/0929 | ..... | Link and lever |
| Y10T 292/093 | ..... | Cam |
| Y10T 292/0931 | ..... | Flexible |
| Y10T 292/0932 | ..... | Lever |
| Y10T 292/0933 | ..... | Push or pull rod |
| Y10T 292/0934 | ..... | Rigid |
| Y10T 292/0936 | ... | Spring retracted |
| Y10T 292/0937 | ... | Gravity actuated |
| Y10T 292/0938 | .... | Operating means |
| Y10T 292/0939 | ..... | Cam |
| Y10T 292/094 | ..... | Flexible |
| Y10T 292/0941 | ..... | Lever |
| Y10T 292/0943 | ..... | Push or pull rod |
| Y10T 292/0944 | ..... | Rigid |
| Y10T 292/0945 | ... | Operating means |
| Y10T 292/0946 | .... | Link and lever |
| Y10T 292/0947 | .... | Cam |
| Y10T 292/0948 | .... | Closure |
| Y10T 292/0949 | .... | Lever |
| Y10T 292/0951 | .... | Rigid |
| Y10T 292/0952 | ..... | Closure catch |
| Y10T 292/0953 | ..... | Friction catch |
| Y10T 292/0954 | ..... | Padlock or seal catch |
| Y10T 292/0955 | ..... | Screw catch |
| Y10T 292/0956 | | Sliding catch |
| Y10T 292/0957 | | Spring-arm catch |
| Y10T 292/0959 | | Swinging catch |

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|---------------|-------|--|
| Y10T 292/096 | .. | Sliding |
| Y10T 292/0961 | ... | Multiple head |
| Y10T 292/0962 | | Operating means |
| Y10T 292/0963 | ..... | Link and lever |
| Y10T 292/0964 | ..... | Cam |
| Y10T 292/0966 | ..... | Gear |
| Y10T 292/0967 | ..... | Lever |
| Y10T 292/0968 | ..... | Rigid |
| Y10T 292/0969 | ... | Spring projected |
| Y10T 292/097 | .... | Operating means |
| Y10T 292/0971 | ..... | Cam and lever |
| Y10T 292/0972 | ..... | Lever and push or pull rod |
| Y10T 292/0974 | ..... | Link and lever |
| Y10T 292/0975 | ..... | Link and push or pull rod |
| Y10T 292/0976 | ..... | Sliding cam |
| Y10T 292/0977 | ..... | Cam |
| Y10T 292/0978 | ..... | Specifically related to vehicle closure |
| Y10T 292/0979 | ..... | Bolt disabled by contraretractive movement of inside handle |
| Y10T 292/098 | ..... | Auxiliary bolt |
| Y10T 292/0982 | ..... | Bolt blocking or disabling means |
| Y10T 292/0983 | ..... | Involves rollback |
| Y10T 292/0984 | ..... | Rollback members located on separate spindles |
| Y10T 292/0985 | ..... | Discrete pivotable or rotatable actuator |
| Y10T 292/0986 | ..... | Discrete push or pull actuator |
| Y10T 292/0987 | ..... | Bolt has ancillary projection spring |
| Y10T 292/0989 | ..... | Plural rollback elements directionally selectively effective |
| Y10T 292/099 | ..... | On separate spindles |
| Y10T 292/0991 | ..... | On a tubular member |
| Y10T 292/0992 | ..... | Flexible |
| Y10T 292/0993 | ..... | Gear |
| Y10T 292/0994 | ..... | Lever |
| Y10T 292/0995 | ..... | Push or pull rod |
| Y10T 292/0997 | ..... | Rigid |
| Y10T 292/0998 | ..... | Screw |
| Y10T 292/0999 | ... | Spring retracted |
| Y10T 292/10 | .... | Friction catch |
| Y10T 292/1001 | .... | Sliding catch |
| Y10T 292/1002 | | Spring-arm catch |
| Y10T 292/1003 | | Swinging catch |
| Y10T 292/1005 | | Cam-operating means |

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|----------------|-------|-----------------------|
| Y10T 292/1006 | ... | Gravity actuated |
| Y10T 292/1007 | | Operating means |
| Y10T 292/1008 | | Cam and lever |
| Y10T 292/1009 | ..... | Link and lever |
| Y10T 292/101 | ..... | Cam |
| Y10T 292/1011 | ..... | Lever |
| Y10T 292/1013 | ..... | Rigid |
| Y10T 292/1014 | ... | Operating means |
| Y10T 292/1015 | .... | Link and lever |
| Y10T 292/1016 | .... | Cam |
| Y10T 292/1017 | .... | Flexible |
| Y10T 292/1018 | .... | Gear |
| Y10T 292/102 | .... | Lever |
| Y10T 292/1021 | .... | Motor |
| Y10T 292/1022 | .... | Rigid |
| Y10T 292/1023 | ..... | Closure catch |
| Y10T 292/1024 | ..... | Friction catch |
| Y10T 292/1025 | ..... | Padlock or seal catch |
| Y10T 292/1026 | ..... | Screw catch |
| Y10T 292/1028 | ..... | Sliding catch |
| Y10T 292/1029 | ..... | Seal |
| Y10T 292/103 | ..... | Spring-arm catch |
| Y10T 292/1031 | ..... | Swinging catch |
| Y10T 292/1032 | ..... | Seal |
| Y10T 292/1033 | .... | Screw |
| Y10T 292/1034 | ... | Curved |
| Y10T 292/1036 | ... | End lever |
| Y10T 292/1037 | ... | Pivoted end |
| Y10T 292/1038 | ... | Roller |
| Y10T 292/1039 | .. | Swinging and camming |
| Y10T 292/10395 | ... | Spring projected |
| Y10T 292/104 | .... | Rigid operating means |
| Y10T 292/1041 | ... | Rigid operating means |
| Y10T 292/1043 | .. | Swinging |
| Y10T 292/1044 | ... | Multiple head |
| Y10T 292/1045 | .... | Operating means |
| Y10T 292/1046 | | Cam |
| Y10T 292/1047 | | Closure |
| Y10T 292/1048 | | Lever |
| Y10T 292/1049 | | Rigid |

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|---------------|-------|----------------------------|
| Y10T 292/1051 | ... | Spring projected |
| Y10T 292/1052 | | Operating means |
| Y10T 292/1053 | | Lever and push or pull rod |
| Y10T 292/1054 | ..... | Link and cam |
| Y10T 292/1055 | ..... | Link and lever |
| Y10T 292/1056 | ..... | Cam |
| Y10T 292/1057 | ..... | Flexible |
| Y10T 292/1059 | ..... | Lever |
| Y10T 292/106 | ..... | Push or pull rod |
| Y10T 292/1061 | ..... | Rigid |
| Y10T 292/1062 | ... | Spring retracted |
| Y10T 292/1063 | ... | Gravity actuated |
| Y10T 292/1064 | .... | Operating means |
| Y10T 292/1066 | ..... | Cam and lever |
| Y10T 292/1067 | ..... | Link and lever |
| Y10T 292/1068 | ..... | Cam |
| Y10T 292/1069 | ..... | Flexible |
| Y10T 292/107 | ..... | Lever |
| Y10T 292/1071 | ..... | Push or pull rod |
| Y10T 292/1072 | ..... | Rigid |
| Y10T 292/1074 | .... | Roller |
| Y10T 292/1075 | ... | Operating means |
| Y10T 292/1076 | .... | Link and lever |
| Y10T 292/1077 | .... | Cam |
| Y10T 292/1078 | .... | Closure |
| Y10T 292/1079 | .... | Gear |
| Y10T 292/108 | .... | Lever |
| Y10T 292/1082 | .... | Motor |
| Y10T 292/1083 | .... | Rigid |
| Y10T 292/1084 | ..... | Closure catch |
| Y10T 292/1085 | ..... | Friction catch |
| Y10T 292/1086 | ..... | Padlock or seal catch |
| Y10T 292/1087 | ..... | Screw catch |
| Y10T 292/1089 | ..... | Sliding catch |
| Y10T 292/109 | ..... | Seal |
| Y10T 292/1091 | ..... | Spring-arm catch |
| Y10T 292/1092 | ..... | Swinging catch |
| Y10T 292/1093 | | Seal |
| Y10T 292/1094 | | Screw |
| Y10T 292/1095 | .. | Seal-rupturing devices |

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|---------------|------|-------------------------------------|
| Y10T 292/1097 | .. | Reversible |
| Y10T 292/1098 | ... | Cam and lever operating means |
| Y10T 292/1099 | .. | Screw |
| Y10T 292/11 | . | Magnetic |
| Y10T 292/14 | . | Ball |
| Y10T 292/17 | . | Bendable securers |
| Y10T 292/175 | . | Bolt releasers |
| Y10T 292/18 | .. | Free-end-engaging means |
| Y10T 292/19 | .. | Foot operated |
| Y10T 292/20 | . | Clamps |
| Y10T 292/202 | .. | Hatch fastener |
| Y10T 292/205 | .. | Ring |
| Y10T 292/207 | ... | Permanently deformed |
| Y10T 292/209 | ... | Resilient wedge |
| Y10T 292/212 | ... | With expanding or contracting means |
| Y10T 292/214 | .... | Screw |
| Y10T 292/216 | .... | Toggle lever |
| Y10T 292/218 | .. | Screw against closure |
| Y10T 292/221 | .. | Screw and nut |
| Y10T 292/223 | ... | Swingable |
| Y10T 292/225 | .. | Cam-operating means |
| Y10T 292/228 | .. | Portable |
| Y10T 292/23 | . | Cross bars |
| Y10T 292/237 | .. | Screw-operating means |
| Y10T 292/243 | .. | Vehicle door latches |
| Y10T 292/25 | . | Cylinder |
| Y10T 292/28 | . | Extension link |
| Y10T 292/282 | .. | Multiple |
| Y10T 292/283 | .. | Chain |
| Y10T 292/285 | .. | Notched bar |
| Y10T 292/286 | ... | Sliding catch |
| Y10T 292/288 | ... | Swinging catch |
| Y10T 292/289 | .. | Slotted bar |
| Y10T 292/291 | ... | Sliding catch |
| Y10T 292/293 | ... | Swinging catch |
| Y10T 292/2935 | .. | Slotted or notched keeper |
| Y10T 292/294 | ... | Sliding catch |
| Y10T 292/296 | ... | Swinging catch |
| Y10T 292/297 | .. | Notched keeper |
| Y10T 292/299 | .. | Slotted keeper |

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|--------------|--|
| Y10T 292/301 | .. Friction catch |
| Y10T 292/302 | .. Screw catch |
| Y10T 292/304 | .. Sliding catch |
| Y10T 292/305 | .. Swinging catch |
| Y10T 292/306 | . Gear |
| Y10T 292/307 | .. Sliding catch |
| Y10T 292/308 | .. Swinging catch |
| Y10T 292/31 | . Hasps |
| Y10T 292/314 | .. Sliding catch |
| Y10T 292/319 | ... Seal |
| Y10T 292/323 | .. Swinging catch |
| Y10T 292/327 | ... Seal |
| Y10T 292/331 | .. Seal catch |
| Y10T 292/336 | .. Seal-rupturing devices |
| Y10T 292/34 | . Portable |
| Y10T 292/37 | . Portable securer plate or bar |
| Y10T 292/373 | .. Sliding and swinging holding member |
| Y10T 292/376 | .. Screw-holding member |
| Y10T 292/379 | .. Sliding holding member |
| Y10T 292/382 | ... Screw-operating means |
| Y10T 292/385 | ... Screw catch |
| Y10T 292/388 | ... Sliding catch |
| Y10T 292/391 | ... Swinging catch |
| Y10T 292/394 | .. Swinging holding member |
| Y10T 292/397 | ... Catch devices |
| Y10T 292/40 | . Rings |
| Y10T 292/42 | . Rigid engaging means |
| Y10T 292/426 | .. Screw catch |
| Y10T 292/432 | .. Sliding catch |
| Y10T 292/438 | .. Spring-arm catch |
| Y10T 292/444 | .. Swinging catch |
| Y10T 292/45 | . Rod clamps |
| Y10T 292/47 | .. Friction-plate catch |
| Y10T 292/48 | . Seals |
| Y10T 292/481 | .. Compressible disk |
| Y10T 292/483 | ... Reinforced |
| Y10T 292/484 | ... Multiple |
| Y10T 292/485 | Sheet metal |
| Y10T 292/487 | Hard and soft metal |
| Y10T 292/488 | ... Sheet metal |

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|---------------|-----|---|
| Y10T 292/49 | .. | Compressible rivets and eyelets |
| Y10T 292/491 | .. | Distorted shackle |
| Y10T 292/492 | .. | Driving |
| Y10T 292/494 | .. | Interengaging shackle ends, inclosing housing |
| Y10T 292/4945 | .. | Rigid shackle ends |
| Y10T 292/495 | ... | Resilient and rigid engaging means |
| Y10T 292/496 | ... | Resilient engaging means |
| Y10T 292/497 | .. | Resilient shackle ends |
| Y10T 292/498 | ... | Rigid engaging means |
| Y10T 292/499 | ... | Resilient engaging means |
| Y10T 292/50 | .. | Single piece, spring catch |
| Y10T 292/502 | .. | Shiftable catch shackle operated |
| Y10T 292/503 | .. | Split-ring catch, shackle operated |
| Y10T 292/505 | .. | Strap-end fasteners |
| Y10T 292/506 | .. | Rigid disk, distorted shackle |
| Y10T 292/507 | .. | Tag type |
| Y10T 292/509 | .. | Encasing |
| Y10T 292/51 | . | Seal bolts |
| Y10T 292/513 | . | Shackles |
| Y10T 292/516 | .. | Sliding catch, seal |
| Y10T 292/522 | .. | Swinging catch, seal |
| Y10T 292/528 | .. | Seal catch |
| Y10T 292/534 | .. | Seal-rupturing devices |
| Y10T 292/54 | . | Trippers |
| Y10T 292/546 | .. | Sliding detent |
| Y10T 292/552 | .. | Spring-arm detent |
| Y10T 292/558 | .. | Sliding bolt, swinging detent |
| Y10T 292/564 | .. | Swinging bolt, swinging detent |
| Y10T 292/57 | . | Operators with knobs or handles |
| Y10T 292/59 | . | Rollback and spindle connection |
| Y10T 292/62 | . | Bolt casings |
| Y10T 292/65 | . | Braces |
| Y10T 292/67 | .. | Portable |
| Y10T 292/68 | . | Keepers |
| Y10T 292/683 | .. | Segment |
| Y10T 292/685 | .. | With anti-friction means |
| Y10T 292/688 | .. | With silencing or anti-rattle means |
| Y10T 292/691 | ... | Take-up |
| Y10T 292/694 | .. | Covers |
| Y10T 292/696 | .. | With movable dog, catch or striker |

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|--------------|--------------------------|
| Y10T 292/699 | ... Motor controlled |
| Y10T 292/702 | ... Pivoted or swinging |
| Y10T 292/705 | .. Adjustable |
| Y10T 292/707 | ... Vertically |
| Y10T 292/71 | . Wedges |
| Y10T 292/73 | .. Portable |
| Y10T 292/74 | . Weights |
| Y10T 292/76 | . Blind-slat holders |
| Y10T 292/79 | . Bolt guards |
| Y10T 292/82 | . Knobs |
| Y10T 292/85 | . Knob-attaching devices |
| Y10T 292/854 | .. Friction |
| Y10T 292/858 | .. Screw |
| Y10T 292/861 | ... Guards |
| Y10T 292/865 | .. Sliding |
| Y10T 292/869 | .. Spring arm |
| Y10T 292/873 | .. Swinging |
| Y10T 292/876 | .. Wedge |
| Y10T 292/88 | . Knob bearings |
| Y10T 292/91 | . Knob rose plates |
| Y10T 292/93 | . Latch spindles |
| Y10T 292/96 | . Latch-spindle catches |

Former US Class 307 series

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|--------------------|---|
| Y10T 307/00 | Electrical transmission or interconnection systems |
| Y10T 307/25 | . Plural load circuit systems |
| Y10T 307/258 | .. Common conductor or return type |
| Y10T 307/266 | ... Polyphase |
| Y10T 307/273 | Phase balancing |
| Y10T 307/281 | ... Voltage divider type |
| Y10T 307/289 | ... Plural output generators |
| Y10T 307/297 | .. Transformer connections |
| Y10T 307/305 | .. Plural sources of supply |
| Y10T 307/313 | ... Interconnected for energy transfer |
| Y10T 307/32 | With control of magnitude of energy transfer |
| Y10T 307/328 | Diverse sources |
| Y10T 307/336 | AC and DC |
| Y10T 307/344 | ... Substitute or alternate source |
| Y10T 307/352 | ... With control of magnitude of current or power |

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|--------------|-------|--|
| Y10T 307/359 | ... | Diverse sources |
| Y10T 307/367 | | AC and DC |
| Y10T 307/375 | | Different frequencies |
| Y10T 307/383 | .... | Different voltages |
| Y10T 307/391 | ... | Selectively connected loads and/or sources |
| Y10T 307/398 | .. | Anticoupling of load circuits through same source |
| Y10T 307/406 | .. | Control of current or power |
| Y10T 307/414 | ... | Load current proportioning or dividing |
| Y10T 307/422 | ... | Constant magnitude control |
| Y10T 307/43 | .... | By control of one or more load circuits |
| Y10T 307/438 | ... | Limit control |
| Y10T 307/445 | .. | Serially connected load circuits |
| Y10T 307/453 | ... | Selective series-parallel connections |
| Y10T 307/461 | .. | Selectively connected or controlled load circuits |
| Y10T 307/469 | ... | Condition responsive |
| Y10T 307/477 | ... | Code-controlled |
| Y10T 307/484 | ... | Sequential or alternating |
| Y10T 307/492 | .. | Circuit arrangements or layouts |
| Y10T 307/50 | . | Plural supply circuits or sources |
| Y10T 307/505 | .. | One source floats across or compensates for other source |
| Y10T 307/511 | ... | With intervening converter |
| Y10T 307/516 | .... | Storage battery or accumulator-type source |
| Y10T 307/522 | ... | Dynamoelectric-type source |
| Y10T 307/527 | ... | Storage battery or accumulator-type source |
| Y10T 307/533 | .... | With series-connected auxiliary source |
| Y10T 307/538 | .... | Tap-changing or variable number of cells |
| Y10T 307/544 | .. | Circulating- or inter-current control or prevention |
| Y10T 307/549 | .. | Load current control |
| Y10T 307/555 | ... | Load current division |
| Y10T 307/56 | .... | Serially connected sources |
| Y10T 307/565 | .... | Fixed or predetermined ratio |
| Y10T 307/571 | ..... | Diverse-or unlike-type sources |
| Y10T 307/576 | ..... | Plural generators |
| Y10T 307/582 | ..... | Plural converters |
| Y10T 307/587 | .... | Peak or excess load |
| Y10T 307/593 | ... | Constant load or current |
| Y10T 307/598 | .... | Serially connected sources |
| Y10T 307/604 | ... | Load-limiting |
| Y10T 307/609 | ... | Serially connected sources |
| Y10T 307/615 | .. | Substitute or emergency source |

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|--------------|-------|--|
| Y10T 307/62 | ... | Plural substitute sources |
| Y10T 307/625 | ... | Storage battery or accumulator |
| Y10T 307/631 | .... | With intervening dynamoelectric machine |
| Y10T 307/636 | ... | Dynamoelectric |
| Y10T 307/642 | .. | Sources distributed along load circuit |
| Y10T 307/647 | .. | Load transfer without paralleling sources |
| Y10T 307/653 | .. | Series-parallel connection of sources |
| Y10T 307/658 | .. | Diverse or unlike electrical characteristics |
| Y10T 307/664 | ... | Differing frequencies |
| Y10T 307/669 | ... | Differing capacities |
| Y10T 307/675 | ... | Differing voltages |
| Y10T 307/68 | .... | Generator sources |
| Y10T 307/685 | .. | Series-connected sources |
| Y10T 307/691 | ... | Generator sources |
| Y10T 307/696 | .. | Selective or optional sources |
| Y10T 307/702 | ... | Predetermined sequence |
| Y10T 307/707 | .. | Plural converters |
| Y10T 307/713 | .. | Plural transformers |
| Y10T 307/718 | .. | Plural generators |
| Y10T 307/724 | .. | Connecting or disconnecting |
| Y10T 307/729 | ... | Condition responsive |
| Y10T 307/735 | .... | Attainment of voltage, frequency or phase relationship |
| Y10T 307/74 | . | Switching systems |
| Y10T 307/747 | .. | Plural switches |
| Y10T 307/753 | ... | Lazy-man switch type |
| Y10T 307/76 | ... | Selectively actuated |
| Y10T 307/766 | .. | Condition responsive |
| Y10T 307/773 | ... | Light, heat, vibratory or radiant energy |
| Y10T 307/779 | ... | Fluid pressure, density, level, velocity or humidity |
| Y10T 307/786 | ... | Mechanical force |
| Y10T 307/793 | .... | Speed, centrifugal or kinetic force |
| Y10T 307/799 | ..... | Inertia or acceleration |
| Y10T 307/806 | ..... | Direction of rotation |
| Y10T 307/812 | ..... | Differential speed between two bodies |
| Y10T 307/819 | ..... | Torque |
| Y10T 307/826 | ... | Electrical |
| Y10T 307/832 | .... | Power or energy |
| Y10T 307/839 | | Polarity, phase sequence or reverse flow |
| Y10T 307/845 | | AC or DC discriminating |
| Y10T 307/852 | | Frequency |

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|--------------|------|---|
| Y10T 307/858 | | Voltage |
| Y10T 307/865 | | Current |
| Y10T 307/872 | .. | Repetitive make and break |
| Y10T 307/878 | ... | Electronically controlled relay |
| Y10T 307/885 | .... | Responsive to physical condition |
| Y10T 307/891 | ... | Thermal relay |
| Y10T 307/898 | ... | Vibrating relay |
| Y10T 307/904 | ... | Miscellaneous |
| Y10T 307/911 | .. | With operation facilitating feature |
| Y10T 307/918 | ... | Preliminary reduction in current or voltage of system |
| Y10T 307/924 | ... | Switch contact conditioning |
| Y10T 307/931 | .... | Polarity reversing |
| Y10T 307/937 | .. | Switch actuation |
| Y10T 307/944 | ... | Power circuit controlled |
| Y10T 307/951 | ... | With time delay or retardation means |
| Y10T 307/957 | .... | Electrically initiated |
| Y10T 307/964 | .... | Series connected switches |
| Y10T 307/97 | ... | With locking, holding or braking means |
| Y10T 307/977 | ... | Electrical actuator |
| Y10T 307/983 | ... | Fluid-pressure actuator |

Former US Class 403 Series

| | | |
|--------------------|-------------------------------|--|
| Y10T 403/00 | Joints and connections | |
| Y10T 403/10 | . | Selectively engageable hub to shaft connection |
| Y10T 403/11 | . | including frangible component |
| Y10T 403/12 | . | Selectively assembled, e.g. , convertible, etc. |
| Y10T 403/125 | .. | Selective orientation |
| Y10T 403/13 | . | Inflatable connector |
| Y10T 403/14 | . | with opening for access to connector or operator |
| Y10T 403/142 | .. | to threaded component |
| Y10T 403/145 | ... | Transverse to thread axis |
| Y10T 403/148 | .. | to biased component |
| Y10T 403/15 | . | Closure or plug spaced from joint |
| Y10T 403/16 | . | with adjunctive protector, broken parts retainer, repair, assembly or disassembly feature |
| Y10T 403/1608 | .. | Holding means or protector functioning only during transportation, assembly or disassembly |
| Y10T 403/1616 | .. | Position or guide means |
| Y10T 403/1624 | ... | Related to joint component |
| Y10T 403/1633 | .. | Utilizing fluid pressure |

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| Y10T 403/1641 | .. Back-off means, e.g., separator, etc. |
| Y10T 403/1649 | .. Handle or handwheel |
| Y10T 403/1658 | ... Actuates retainer or blocker |
| Y10T 403/1666 | .. tool-engaging or accommodating means or with tool |
| Y10T 403/1674 | ... for latch or retainer |
| Y10T 403/1683 | .. Releasably captive nut or bolt |
| Y10T 403/1691 | .. Means to lock bolt or nut when other is turned |
| Y10T 403/17 | . with adjunctive shield |
| Y10T 403/18 | . Structurally installed in diverse art device |
| Y10T 403/185 | .. Head or base |
| Y10T 403/19 | . Coupling supported by independent bearing |
| Y10T 403/20 | . with indicator or inspection means |
| Y10T 403/21 | . Utilizing thermal characteristic, e.g. , expansion or contraction, etc. |
| Y10T 403/213 | .. Interposed material of intermediate coefficient of expansion |
| Y10T 403/217 | .. Members having different coefficients of expansion |
| Y10T 403/22 | . with fluid pressure responsive component |
| Y10T 403/23 | . with ambient condition responsive control means |
| Y10T 403/24 | . with independent handle or operator |
| Y10T 403/25 | . with distinct fluid or article handling or directing feature |
| Y10T 403/251 | .. External reservoir |
| Y10T 403/253 | .. Pressure fitting |
| Y10T 403/255 | .. including port or reservoir communicating with joint |
| Y10T 403/257 | ... Articulated member |
| Y10T 403/259 | At joint interface |
| Y10T 403/26 | . Non-adhering fluent material at joint |
| Y10T 403/27 | . with strain-limiting means |
| Y10T 403/28 | . Combined |
| Y10T 403/29 | . Rotarily connected, differentially translatable members, e.g. , turn-buckle, etc. |
| Y10T 403/291 | .. having tool-engaging means or operating handle |
| Y10T 403/293 | .. having operating mechanism |
| Y10T 403/295 | .. having locking means |
| Y10T 403/297 | .. Differential pitch, similar hand |
| Y10T 403/299 | .. Externally threaded actuator |
| Y10T 403/30 | . Laterally related members connected by latch means, e.g. , scaffold connectors |
| Y10T 403/31 | . Flexible diaphragm or bellows |
| Y10T 403/315 | .. with additional connection or packing |
| Y10T 403/32 | . Articulated members |
| Y10T 403/32008 | .. Plural distinct articulation axes |
| Y10T 403/32016 | ... Three or more parallel axes |
| Y10T 403/32024 | ... Single adjustment for plural axes |

| | | |
|----------------|-------|---|
| Y10T 403/32032 | ... | Plural ball and socket |
| Y10T 403/32041 | ... | Universal |
| Y10T 403/32049 | .... | Non-coplanar axes |
| Y10T 403/32057 | ... | Angular and linear |
| Y10T 403/32065 | .... | Screw and swivel |
| Y10T 403/32073 | .... | Pivot stud slidable in elongated opening |
| Y10T 403/32081 | ... | Parallel rotary |
| Y10T 403/32091 | ... | Plural translating connections |
| Y10T 403/32098 | .. | Branched |
| Y10T 403/32106 | .. | Member pivoted at rigid corner |
| Y10T 403/32114 | .. | including static joint |
| Y10T 403/32122 | ... | Trunnion assembly to side of rod |
| Y10T 403/32131 | ... | One member is plate or side |
| Y10T 403/32139 | .... | Secant, i.e., rod extending through plate |
| Y10T 403/32147 | .... | Plate or side forms bearing surface |
| Y10T 403/32155 | .... | Bearing component clamped to plate or side, e.g., bolted, etc. |
| Y10T 403/32163 | ... | Articulate joint intermediate end joints |
| Y10T 403/32172 | .... | Variable angle |
| Y10T 403/32181 | ..... | Universal |
| Y10T 403/32188 | ... | Angled or offset members |
| Y10T 403/32196 | ... | Articulate joint is ball and socket |
| Y10T 403/32204 | .... | with threaded joint |
| Y10T 403/32213 | ... | Articulate joint is a swivel |
| Y10T 403/32221 | ... | Articulate joint comprises pivoted clevis or channel bar |
| Y10T 403/32229 | ... | Articulate joint is a slide |
| Y10T 403/32237 | .. | including operator |
| Y10T 403/32245 | .. | Arcuate shank moves in complementary guide |
| Y10T 403/32254 | .. | Lockable at fixed position |
| Y10T 403/32262 | ... | At selected angle |
| Y10T 403/32271 | .... | Movable brace between members |
| Y10T 403/32278 | .... | Members rotatable about oblique axes |
| Y10T 403/32286 | .... | Clamping screw traverses sliding complementary arcuate bearing surfaces |
| Y10T 403/32295 | .... | Securing yoke or ring spaced radially from locking means |
| Y10T 403/32303 | ..... | Eyebolt |
| Y10T 403/32311 | .... | Ball and socket |
| Y10T 403/32319 | .... | including pivot stud |
| Y10T 403/32327 | ..... | including radially spaced detent or latch component |
| Y10T 403/32336 | ..... | Engaging notch or recess in outer periphery of component |
| Y10T 403/32344 | | Side of rod engages recess in radial face |
| Y10T 403/32352 | | Pivoted detent |

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|----------------|-------|--|
| Y10T 403/32361 | | Engaging recess in radial face |
| Y10T 403/32368 | | including radial interengaging tongue and slot or serrations |
| Y10T 403/32377 | ..... | Radially spaced arcuate slot engages fastener |
| Y10T 403/32385 | ..... | Locked by plural motions of one member |
| Y10T 403/32393 | ..... | including bridging keeper |
| Y10T 403/32401 | ..... | Locked by nesting parts |
| Y10T 403/32409 | ..... | Members locked in axial alignment |
| Y10T 403/32418 | .... | Plural distinct positions |
| Y10T 403/32426 | ... | Plural distinct positions |
| Y10T 403/32434 | .... | Unidirectional movement, e.g., ratchet, etc. |
| Y10T 403/32442 | .... | At least one discrete position |
| Y10T 403/32451 | ..... | Step-by-step adjustment |
| Y10T 403/32459 | ..... | Retainer extends through aligned recesses |
| Y10T 403/32467 | ... | Telescoping members |
| Y10T 403/32475 | .... | having detent |
| Y10T 403/32483 | ..... | Spring biased |
| Y10T 403/32491 | ..... | Threaded |
| Y10T 403/32501 | ..... | Cam or wedge |
| Y10T 403/32508 | ..... | having transverse pin |
| Y10T 403/32516 | .... | Remotely actuated |
| Y10T 403/32524 | .... | Self-locking |
| Y10T 403/32532 | ... | Clamped members |
| Y10T 403/32541 | .. | Rotatable members resiliently biased to one position |
| Y10T 403/32549 | .. | including limit means |
| Y10T 403/32557 | ... | for pivotal motion |
| Y10T 403/32565 | .... | Ball and socket with restricted movement about one axis |
| Y10T 403/32573 | ..... | Ball stud passes through confining opening |
| Y10T 403/32581 | .... | Pin and slot |
| Y10T 403/32591 | .... | Opposed stops on one member |
| Y10T 403/32598 | .. | Threaded interface |
| Y10T 403/32606 | .. | Pivoted |
| Y10T 403/32614 | ... | including circumferential biasing or damping means |
| Y10T 403/32622 | ... | Rocking or rolling contact |
| Y10T 403/32631 | ... | Universal ball and socket |
| Y10T 403/32639 | .... | including internal tie means |
| Y10T 403/32647 | .... | Plural concave surfaces with diverse curvature |
| Y10T 403/32655 | ..... | Interposed concavo-convex component |
| Y10T 403/32663 | ..... | Outer surfaces |
| Y10T 403/32672 | | Swiveled ball parts or seat |
| Y10T 403/32681 | | Composite ball |

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|----------------|-------|---|
| Y10T 403/32688 | | Spring biased segments |
| Y10T 403/32696 | | Nonmetallic part |
| Y10T 403/32704 | | Stud extends into ball |
| Y10T 403/32713 | .... | Elastomerically biased or backed components |
| Y10T 403/32721 | .... | Elastomeric seat |
| Y10T 403/32729 | .... | Externally packed |
| Y10T 403/32737 | .... | including liner, shim, or discrete seat |
| Y10T 403/32745 | ..... | Spring acts through wedging surfaces |
| Y10T 403/32754 | ..... | Variably preloaded |
| Y10T 403/32762 | ..... | Spring-biased seat opposite ball stud |
| Y10T 403/32771 | ..... | Porous |
| Y10T 403/32778 | ..... | Completely spacing the members |
| Y10T 403/32786 | .... | Divided socket-type coupling |
| Y10T 403/32795 | .... | Bifurcated socket |
| Y10T 403/32803 | .... | Separable socket sections |
| Y10T 403/32811 | .... | Spring-biased |
| Y10T 403/32819 | ... | including tension or take-up means |
| Y10T 403/32827 | .... | Interposed spring means coaxial with pivot |
| Y10T 403/32836 | .... | Acting through tapered surface on bearing component |
| Y10T 403/32844 | .... | Manually variable |
| Y10T 403/32852 | .... | External of bearing assembly, e.g., antirattler, etc. |
| Y10T 403/32861 | ... | T-pivot, e.g., wrist pin, etc. |
| Y10T 403/32868 | .... | Floating pin |
| Y10T 403/32877 | .... | Pin is integral with or secured to inner member |
| Y10T 403/32885 | .... | Expanded pin or end |
| Y10T 403/32893 | .... | including distinct pin retainer |
| Y10T 403/32901 | ..... | Unitary clip or plug |
| Y10T 403/32909 | ..... | Threaded pin end |
| Y10T 403/32918 | .... | fork and tongue |
| Y10T 403/32926 | ..... | with interposed antifriction means |
| Y10T 403/32934 | ..... | Oppositely laterally movable tines |
| Y10T 403/32942 | ... | On oblique interface |
| Y10T 403/32951 | ... | Transverse pin or stud |
| Y10T 403/32959 | .... | Traverses interposed facing component |
| Y10T 403/32967 | .... | Attached to or integral with one member |
| Y10T 403/32975 | .. | Rotatable |
| Y10T 403/32983 | ... | Rod in socket |
| Y10T 403/32991 | .. | Axially spring-biased coaxial members |
| Y10T 403/33 | . | Transverse rod to spaced plate surfaces |
| Y10T 403/335 | .. | Retainer utilizes or abuts plural plates |

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|---------------|---|
| Y10T 403/34 | . Branched |
| Y10T 403/341 | .. Three or more radiating members |
| Y10T 403/342 | ... Polyhedral |
| Y10T 403/343 | Unilateral of plane |
| Y10T 403/344 | ... Plural pairs of axially aligned members |
| Y10T 403/345 | ... Coplanar |
| Y10T 403/346 | Additional rod held by encompassing means |
| Y10T 403/347 | .. Polyhedral |
| Y10T 403/348 | .. Parallel rods |
| Y10T 403/349 | .. Coplanar |
| Y10T 403/35 | . Diverse material coupling member |
| Y10T 403/36 | . Three or more serial joints, at least one diverse |
| Y10T 403/362 | .. Nonaligned axes |
| Y10T 403/364 | .. Separable intermediate joint |
| Y10T 403/366 | ... Axially acting connector |
| Y10T 403/368 | ... Screw or cam |
| Y10T 403/37 | . Joint involving plural layers of single rod |
| Y10T 403/38 | . Laterally related rods independently joined to transverse surface |
| Y10T 403/39 | . Rod to member to side, e.g. , plate, rod side, etc. |
| Y10T 403/3906 | .. Rod side to member to side |
| Y10T 403/3913 | .. Unilateral of side |
| Y10T 403/3921 | .. Arcuate or multiplanar side |
| Y10T 403/3926 | ... Encompassed side |
| Y10T 403/3933 | .. Intermediate member includes tubular part |
| Y10T 403/3941 | ... Side or tubular part deformed in situ |
| Y10T 403/3946 | ... Intermediate member extends through side |
| Y10T 403/3953 | Split or divided tubular part and coacting compressor |
| Y10T 403/3961 | Transverse clamp secures rod and tubular part |
| Y10T 403/3966 | Rod also extends through side |
| Y10T 403/3973 | ... Oblique rod |
| Y10T 403/3981 | ... Intermediate member secured to side by radial flange |
| Y10T 403/3986 | ... Internally threaded tubular part |
| Y10T 403/3993 | .. Intermediate member extends completely through side |
| Y10T 403/40 | . Radially spaced members joined by independent coupling |
| Y10T 403/405 | .. Flexible intermediate member |
| Y10T 403/41 | . Coacting connection between inner member and plural parts of outer member |
| Y10T 403/42 | . Rigid angle coupling, e.g. , elbow or u, etc. |
| Y10T 403/43 | . Axially curved or bent portion of rod is joint component |
| Y10T 403/4309 | .. Interfitted crossing rods |
| Y10T 403/4318 | .. Joined to laterally related transverse surface at axially spaced points |

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|---------------|------|--|
| Y10T 403/4327 | .. | Reversely bent portion |
| Y10T 403/4336 | ... | Around eye-forming thimble |
| Y10T 403/4345 | ... | with wedge clamp |
| Y10T 403/4354 | ... | Held by crimped collar |
| Y10T 403/4363 | ... | Open U |
| Y10T 403/4372 | .. | Intertwisted ends |
| Y10T 403/4381 | .. | End of rod is deflected laterally within connector |
| Y10T 403/4391 | .. | Plural rods distorted by single component |
| Y10T 403/44 | . | Three or more members connected at single locus |
| Y10T 403/443 | .. | All encompassed |
| Y10T 403/447 | .. | Mutually contacting |
| Y10T 403/45 | . | Flexibly connected rigid members |
| Y10T 403/451 | .. | Rigid sleeve encompasses flexible bushing |
| Y10T 403/452 | ... | Longitudinally divided sleeve |
| Y10T 403/453 | .. | Flexible sleeve-type coupling |
| Y10T 403/454 | .. | Connecting pin traverses radially interposed elastomer |
| Y10T 403/455 | .. | Elastomer interposed between radially spaced members |
| Y10T 403/456 | ... | Elastomer encompasses shoulder on inner member |
| Y10T 403/457 | ... | including axially acting compressing means |
| Y10T 403/458 | ... | Composite bushing with elastomeric component |
| Y10T 403/459 | .. | Helical spring type coupling |
| Y10T 403/46 | . | Rod end to transverse side of member |
| Y10T 403/4602 | .. | Corner joint |
| Y10T 403/4605 | .. | Stirrup |
| Y10T 403/4608 | .. | Structure attached to rod end encompasses side |
| Y10T 403/4611 | ... | Clamped saddle |
| Y10T 403/4614 | ... | Yoke or ring |
| Y10T 403/4617 | .... | having radial screw at bight |
| Y10T 403/4621 | .. | including saddle |
| Y10T 403/4622 | .. | Gland type |
| Y10T 403/4625 | ... | Rod and side gripped simultaneously by single actuation |
| Y10T 403/4628 | .. | Rod clamped to hole edge |
| Y10T 403/4631 | .. | Rod to open edge of side, e.g., wrap-around connection |
| Y10T 403/4634 | .. | Rod and side deformingly interlocked |
| Y10T 403/4637 | .. | Radially interposed, side-engaging shim or bushing |
| Y10T 403/4641 | .. | Socket formed by shaping or deforming side |
| Y10T 403/4642 | .. | Integral transverse projection on side, e.g., necked, etc. |
| Y10T 403/4645 | ... | From rod side |
| Y10T 403/4648 | .. | Utilizing opposite sides of member |
| Y10T 403/4651 | ... | Rod is expanded by component inserted from distal side |

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|---------------|-------|--|
| Y10T 403/4654 | | Separate and deformable component |
| Y10T 403/4657 | | Plural contacting components |
| Y10T 403/4661 | .... | Barbed component |
| Y10T 403/4662 | ... | Inserted, blind-side-engaging, retaining portion on rod |
| Y10T 403/4665 | ... | Stepped or tapered recess in side |
| Y10T 403/4668 | .... | Terminal, rod-attached retainer engages distal side |
| Y10T 403/4671 | ..... | Inserted into rod |
| Y10T 403/4674 | ... | Clamped member |
| Y10T 403/4677 | .... | Clamping component engages recessed side |
| Y10T 403/4681 | .... | Bolted to rod |
| Y10T 403/4682 | .... | Between rod shoulder and terminal nut |
| Y10T 403/4685 | .... | Bolted through member |
| Y10T 403/4688 | .... | Coaxial collar or shoulder or rod is clamp element |
| Y10T 403/4691 | .. | Flange on rod bolted to side |
| Y10T 403/4694 | .. | Rod received in recessed side, e.g., socket or tapered opening, etc. |
| Y10T 403/4697 | .. | Utilizing internal rod structure |
| Y10T 403/47 | . | Molded joint |
| Y10T 403/471 | .. | And independent connection |
| Y10T 403/472 | .. | including mechanical interlock |
| Y10T 403/473 | .. | Socket or open cup for bonding material |
| Y10T 403/475 | .. | Member cast in situ |
| Y10T 403/477 | .. | Fusion bond, e.g., weld, etc. |
| Y10T 403/478 | ... | Metallic fusion material |
| Y10T 403/479 | .... | Added bonding material, e.g., solder, braze, etc. |
| Y10T 403/48 | . | Shrunk fit |
| Y10T 403/49 | . | Member deformed in situ |
| Y10T 403/4908 | .. | Separating element between strands of member |
| Y10T 403/4916 | .. | Interposed deforming element contacts socket bottom |
| Y10T 403/4924 | .. | Inner member is expanded by longitudinally inserted element |
| Y10T 403/4933 | .. | by separate, deformable element |
| Y10T 403/4941 | .. | Deformation occurs simultaneously with action of separate, diverse function, joint component |
| Y10T 403/4949 | .. | Deforming component is inserted section |
| Y10T 403/4958 | .. | Separate deforming means remains with joint assembly |
| Y10T 403/4966 | .. | Deformation occurs simultaneously with assembly |
| Y10T 403/4974 | .. | by piercing |
| Y10T 403/4983 | .. | Diverse resistance to lateral deforming force |
| Y10T 403/4991 | .. | Both members deformed |
| Y10T 403/50 | . | Bridged by diverse connector |
| Y10T 403/51 | . | including spaced, diverse connections |

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|---------------|---|
| Y10T 403/52 | . including distinct packing |
| Y10T 403/53 | . Split end with laterally movable opposed portions |
| Y10T 403/535 | .. with separate force-applying means |
| Y10T 403/54 | . Flexible member is joint component |
| Y10T 403/55 | . Member ends joined by inserted section |
| Y10T 403/551 | .. Externally bridged |
| Y10T 403/553 | .. Laterally inserted section |
| Y10T 403/555 | .. Angle section |
| Y10T 403/556 | .. Section threaded to member |
| Y10T 403/557 | .. Expansible section |
| Y10T 403/559 | .. Fluted or splined section |
| Y10T 403/56 | . Thread adaptor |
| Y10T 403/57 | . Distinct end coupler |
| Y10T 403/5706 | .. Diverse serial connections |
| Y10T 403/5713 | ... Axially cleft coupler |
| Y10T 403/5721 | .. Single actuator for plural connections |
| Y10T 403/5726 | ... Axially biased end portions |
| Y10T 403/5733 | .. Plural opposed sockets |
| Y10T 403/5741 | .. Separate screw or pin-type connections |
| Y10T 403/5746 | .. Continuous thread |
| Y10T 403/5753 | .. having separable end caps or plugs |
| Y10T 403/5761 | .. Interrupted periphery, e.g., split or segmental, etc. |
| Y10T 403/5766 | ... Axially divided segments |
| Y10T 403/5773 | Interfitting |
| Y10T 403/5781 | Bolted |
| Y10T 403/5786 | ... Split |
| Y10T 403/5793 | .. including member wedging or camming means |
| Y10T 403/58 | . including ancillary means blocking disconnection of joint |
| Y10T 403/581 | .. Blocker for assembled joint retainer |
| Y10T 403/583 | ... Blocker keeper |
| Y10T 403/585 | ... Blocked key |
| Y10T 403/587 | .. Blocker is catch or key |
| Y10T 403/589 | .. Cam or thread lock |
| Y10T 403/59 | . Manually releaseable latch type |
| Y10T 403/591 | .. having operating mechanism |
| Y10T 403/592 | ... Ball detent |
| Y10T 403/593 | ... Remotely actuated |
| Y10T 403/595 | ... Lever |
| Y10T 403/597 | .. Swiveled bolt |
| Y10T 403/598 | .. Transversely sliding pin |

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|---------------|---|
| Y10T 403/599 | .. Spring biased manipulator |
| Y10T 403/60 | . Biased catch or latch |
| Y10T 403/602 | .. by separate spring |
| Y10T 403/604 | ... Radially sliding catch |
| Y10T 403/606 | .. Leaf spring |
| Y10T 403/608 | .. Pivoted |
| Y10T 403/61 | . Side slide: elongated co-linear members |
| Y10T 403/62 | . Annular recess is joint component |
| Y10T 403/63 | . Convergent interface |
| Y10T 403/635 | .. Tapered |
| Y10T 403/64 | . Interconnected flanges or shoulders |
| Y10T 403/642 | .. Separate flange or shoulder |
| Y10T 403/645 | .. Axially bolted or riveted |
| Y10T 403/648 | .. Clamped |
| Y10T 403/65 | . Scarf |
| Y10T 403/655 | .. Mirror images |
| Y10T 403/66 | . Interfitted members with external bridging piece |
| Y10T 403/67 | . Thimble: screw or cam |
| Y10T 403/68 | . Screw or cam |
| Y10T 403/69 | . Axially split or separable member |
| Y10T 403/70 | . Interfitted members |
| Y10T 403/7001 | .. Crossed rods |
| Y10T 403/7003 | ... One rod is encompassed by the other |
| Y10T 403/7005 | .. Lugged member, rotary engagement |
| Y10T 403/7007 | ... Bayonet joint |
| Y10T 403/7009 | .. Rotary binding cam or wedge |
| Y10T 403/7011 | ... Radially interposed shim or bushing |
| Y10T 403/7013 | Arcuate slip |
| Y10T 403/7015 | .. Assembled by plural manipulations of member |
| Y10T 403/7016 | .. Diametric end slot is joint component |
| Y10T 403/7018 | .. including separably interposed key |
| Y10T 403/7021 | ... Axially extending |
| Y10T 403/7022 | Resilient |
| Y10T 403/7024 | Longitudinally stepped or tapered |
| Y10T 403/7026 | .. Longitudinally splined or fluted rod |
| Y10T 403/7028 | ... Splayed or having a cam surface for anti-backlash |
| Y10T 403/7031 | ... Rod designed to be manipulable, e.g., twistable, within coupling for quick disconnect |
| Y10T 403/7032 | ... including a means, e.g., spring biased portion, for misalignment correction |
| Y10T 403/7033 | ... including a lock or retainer |

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|---------------|-------|---|
| Y10T 403/7035 | ... | Specific angle or shape of rib, key, groove, or shoulder |
| Y10T 403/7037 | .. | Externally shouldered or headed rod |
| Y10T 403/7039 | .. | Socket |
| Y10T 403/7041 | .. | including set screw |
| Y10T 403/7043 | .. | Interfitted angle or channel bars |
| Y10T 403/7045 | .. | Interdigitated ends |
| Y10T 403/7047 | .. | Radially interposed shim or bushing |
| Y10T 403/7049 | ... | Biased by distinct radially acting means |
| Y10T 403/7051 | ... | Wedging or camming |
| Y10T 403/7052 | .... | Engaged by axial movement |
| Y10T 403/7054 | ..... | Plural, circumferentially related shims between members |
| Y10T 403/7056 | ..... | Threaded actuator |
| Y10T 403/7058 | ..... | Split or slotted bushing |
| Y10T 403/7061 | ... | Resilient |
| Y10T 403/7062 | .. | Clamped members |
| Y10T 403/7064 | ... | by wedge or cam |
| Y10T 403/7066 | .... | having actuator |
| Y10T 403/7067 | ..... | Threaded actuator |
| Y10T 403/7069 | ..... | Axially oriented |
| Y10T 403/7071 | ..... | Lever actuator |
| Y10T 403/7073 | .. | Peripheral enlargement, depression, or slot on one member is joint component |
| Y10T 403/7075 | .. | including discrete retainer |
| Y10T 403/7077 | ... | for telescoping members |
| Y10T 403/7079 | .... | Transverse pin |
| Y10T 403/7081 | ..... | Multiple retainers |
| Y10T 403/7083 | ..... | having means to prevent removal of retainer |
| Y10T 403/7084 | ..... | Bolt, rivet, or screw |
| Y10T 403/7086 | ..... | Wedge pin |
| Y10T 403/7088 | ..... | Sliding pin |
| Y10T 403/7091 | ..... | Expansible retainer |
| Y10T 403/7092 | ... | for interfitted side faces |
| Y10T 403/7094 | .. | Enlarged head in complementary recess, e.g., dovetail, etc. |
| Y10T 403/7096 | .. | Rigid angle |
| Y10T 403/7098 | .. | Non-circular rod section is joint component |
| Y10T 403/71 | . | Rod side to plate or side |
| Y10T 403/7105 | .. | Connected by double clamp |
| Y10T 403/7111 | .. | Shackle is integral with or independently attached to proximate side of plate or other side |
| Y10T 403/7117 | .. | Flanged or grooved rod |
| Y10T 403/7123 | .. | Traversed by connector |

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|---------------|-----|---|
| Y10T 403/7129 | .. | Laterally spaced rods |
| Y10T 403/7135 | ... | by separable shim or bushing in connector |
| Y10T 403/7141 | ... | Plural channels in connector |
| Y10T 403/7147 | .. | Connected by flexible tie |
| Y10T 403/7152 | .. | Lapped rod ends |
| Y10T 403/7158 | .. | Diagonal connector |
| Y10T 403/7164 | .. | One rod held between bight and other rod extending through aperture in leg of connector |
| Y10T 403/7171 | .. | Two rods encompassed by single connector |
| Y10T 403/7176 | .. | Resilient clip |
| Y10T 403/7182 | .. | Yoke or ring-type connector |
| Y10T 403/7188 | ... | Rod received in open channel |
| Y10T 403/7194 | .. | Crossed rods |
| Y10T 403/72 | . | Miter joint |
| Y10T 403/725 | .. | Connector bridges inner or outer periphery |
| Y10T 403/73 | . | Rigid angle |
| Y10T 403/74 | . | Particular configuration or material of member |
| Y10T 403/75 | . | having a joining piece extending through aligned openings in plural members |
| Y10T 403/76 | . | having a cam, wedge, or tapered portion |
| Y10T 403/77 | . | Miscellaneous |

Former US Class 407 Series

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|--------------------|---|
| Y10T 407/00 | Cutters, for shaping |
| Y10T 407/10 | . including noncutting work modifying means |
| Y10T 407/11 | . including chip breaker, guide or deflector detachable from tool and tool holder |
| Y10T 407/112 | .. Adjustable relative to cutting edge |
| Y10T 407/114 | ... including adjusting means |
| Y10T 407/116 | .. Attached to or integral with tool clamping jaw |
| Y10T 407/118 | .. Chip breaker |
| Y10T 407/12 | . Freely movable cutting edge |
| Y10T 407/13 | . Yieldable tool |
| Y10T 407/134 | .. Resiliently mounted tool |
| Y10T 407/137 | ... including yield stress or flexure limit adjusting means |
| Y10T 407/14 | . with means to apply fluid to cutting tool |
| Y10T 407/15 | . Rotary broach |
| Y10T 407/16 | . Rectilinear broach |
| Y10T 407/1614 | .. Hollow tool for surrounding workpiece |
| Y10T 407/1628 | .. including holder having seat for inserted tool |
| Y10T 407/1642 | ... Annular tool |

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|---------------|-------|---|
| Y10T 407/1657 | ... | including single tooth |
| Y10T 407/1671 | .. | Plural tooth groups |
| Y10T 407/1685 | .. | including sequentially acting teeth of stepped cutting width |
| Y10T 407/17 | . | Gear cutting tool |
| Y10T 407/1705 | .. | Face mill gear cutting tool |
| Y10T 407/171 | ... | Adjustable teeth |
| Y10T 407/1715 | .. | Hob |
| Y10T 407/172 | ... | Thread cutting |
| Y10T 407/1725 | ... | including holder having seat for inserted tool |
| Y10T 407/173 | ... | for cutting involute gear tooth |
| Y10T 407/1735 | .. | Rotary, gear shaving cutting tool |
| Y10T 407/174 | .. | Gear generating, revolving shaper cutting tool |
| Y10T 407/1745 | .. | Rotary, tooth form cutting tool |
| Y10T 407/18 | . | File or rasp |
| Y10T 407/1805 | .. | Flexible blade or carrier therefor |
| Y10T 407/181 | .. | Tire rasp |
| Y10T 407/1815 | .. | Rotary file or round disc |
| Y10T 407/182 | .. | Composite, diverse sector, or assembled |
| Y10T 407/1825 | .. | Handle or holder, per se |
| Y10T 407/19 | . | Rotary cutting tool |
| Y10T 407/1902 | .. | Gang |
| Y10T 407/1904 | .. | Composite body of diverse material |
| Y10T 407/1906 | .. | including holder [i.e., head] having seat for inserted tool |
| Y10T 407/1908 | ... | Face or end mill |
| Y10T 407/191 | .... | Plural simultaneously usable separable tools in common seat or common clamp actuator for plural simultaneously usable tools |
| Y10T 407/1912 | .... | Tool adjustable relative to holder |
| Y10T 407/1914 | ..... | Radially |
| Y10T 407/1916 | ..... | And axially |
| Y10T 407/1918 | ..... | Selectively |
| Y10T 407/192 | .... | with separate means to fasten tool to holder |
| Y10T 407/1922 | ..... | Wedge clamp element |
| Y10T 407/1924 | .... | Specified tool shape |
| Y10T 407/1926 | ... | Plural simultaneously usable separable tools in common seat or common clamp actuator for plural simultaneously usable tools |
| Y10T 407/1928 | ... | Tool adjustable relative to holder |
| Y10T 407/193 | .... | Radially |
| Y10T 407/1932 | ... | with means to fasten tool seat to holder |
| Y10T 407/1934 | ... | with separate means to fasten tool to holder |
| Y10T 407/1936 | .... | Apertured tool |

| | | |
|---------------|-------|---|
| Y10T 407/1938 | .... | Wedge clamp element |
| Y10T 407/194 | ..... | Resilient clamp jaw |
| Y10T 407/1942 | ... | Peripherally spaced tools |
| Y10T 407/1944 | .... | Sectional support |
| Y10T 407/1946 | .. | Face or end mill |
| Y10T 407/1948 | ... | with cutting edge entirely across end of tool [e.g., router bit, end mill, etc.] |
| Y10T 407/195 | .. | Compound tooth arrangement |
| Y10T 407/1952 | .. | Having peripherally spaced teeth |
| Y10T 407/1954 | ... | Axially tapering tool |
| Y10T 407/1956 | ... | Circumferentially staggered |
| Y10T 407/1958 | .... | Plural teeth spaced about a helix |
| Y10T 407/196 | ... | Varying in cutting edge profile |
| Y10T 407/1962 | ... | Specified tooth shape or spacing |
| Y10T 407/1964 | .... | Arcuate cutting edge |
| Y10T 407/1966 | ..... | Helical tooth |
| Y10T 407/20 | . | Profiled circular tool |
| Y10T 407/21 | . | Arc segment tool |
| Y10T 407/22 | . | including holder having seat for inserted tool |
| Y10T 407/2202 | .. | Plural spaced seats and common holder |
| Y10T 407/2204 | ... | Relatively adjustable seats |
| Y10T 407/2206 | ... | Simultaneously usable |
| Y10T 407/2208 | .. | Plural simultaneously usable separable tools in common seat or common clamp actuator for plural simultaneously usable tools |
| Y10T 407/221 | ... | Adjustable tool |
| Y10T 407/2212 | .. | with tool ejector |
| Y10T 407/2214 | .. | with separate means to adjust tool to and fro relative to holder |
| Y10T 407/2216 | ... | with indicator |
| Y10T 407/2218 | ... | Plural provisions for adjustment |
| Y10T 407/222 | ... | by moving tool seat |
| Y10T 407/2222 | .. | Tool adjustable relative to holder |
| Y10T 407/2224 | ... | with indicator |
| Y10T 407/2226 | ... | Plural provisions for adjustment |
| Y10T 407/2228 | .... | Plural interfering seats |
| Y10T 407/223 | .... | including pivotable seat or tool |
| Y10T 407/2232 | ..... | with detent |
| Y10T 407/2234 | ..... | Pivoted seat |
| Y10T 407/2236 | ..... | And pivotable tool |
| Y10T 407/2238 | ... | by adjustable or replaceable stop |
| Y10T 407/224 | .... | Adjustable |
| Y10T 407/2242 | ..... | Screw |

| | | |
|---------------|-------|---|
| Y10T 407/2244 | ... | by movement of seat relative to holder |
| Y10T 407/2246 | .... | Pivoted seat |
| Y10T 407/2248 | ... | Pivoted tool |
| Y10T 407/225 | ... | Resiliently biased tool clamping jaw |
| Y10T 407/2252 | ... | Rectilinearly |
| Y10T 407/2254 | .... | including rotatable cam clamp element |
| Y10T 407/2256 | .... | including wedge clamp element |
| Y10T 407/2258 | ..... | And guide or detent |
| Y10T 407/226 | .... | including detent |
| Y10T 407/2262 | .... | Tool gripped directly by set screw |
| Y10T 407/2264 | .... | Slidable jaw |
| Y10T 407/2266 | .. | Holder adapted for tools of different shape |
| Y10T 407/2268 | .. | with chip breaker, guide or deflector |
| Y10T 407/227 | .. | with separate means to fasten tool seat to holder |
| Y10T 407/2272 | .. | with separate means to fasten tool to holder |
| Y10T 407/2274 | ... | Apertured tool |
| Y10T 407/2276 | .... | with means projecting through aperture to force tool laterally against reaction surface |
| Y10T 407/2278 | ..... | Tilting clamp element and separate means to tilt same |
| Y10T 407/228 | ... | Rotatable cam clamp element |
| Y10T 407/2282 | ... | including tool holding clamp and clamp actuator |
| Y10T 407/2284 | .... | Wedge clamp element |
| Y10T 407/2286 | .... | Resiliently biased clamp jaw |
| Y10T 407/2288 | ..... | Integral with holder |
| Y10T 407/229 | .... | Pivoted jaw |
| Y10T 407/2292 | .... | Slidable jaw |
| Y10T 407/23 | . | including tool having plural alternatively usable cutting edges |
| Y10T 407/235 | .. | with integral chip breaker, guide or deflector |
| Y10T 407/24 | . | with chip breaker, guide or deflector |
| Y10T 407/245 | .. | comprising concave surface in cutting face of tool |
| Y10T 407/25 | . | including cut off tool |
| Y10T 407/26 | . | comprising cutting edge bonded to tool shank |
| Y10T 407/27 | . | comprising tool of specific chemical composition |
| Y10T 407/28 | . | Miscellaneous |

Former US Class 408 Series

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|--------------------|---|
| Y10T 408/00 | Cutting by use of rotating axially moving tool |
| Y10T 408/03 | . Processes |
| Y10T 408/04 | .. Bit detachable |

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|---------------|---|
| Y10T 408/05 | . with means to weigh or test work or product |
| Y10T 408/08 | . with means to regulate operation by use of templet, tape, card, or other replaceable information supply |
| Y10T 408/10 | . with interlock between machine elements |
| Y10T 408/13 | . with randomly-actuated stopping means |
| Y10T 408/14 | .. Responsive to condition of Tool or tool-drive |
| Y10T 408/15 | .. Responsive to condition of work or product |
| Y10T 408/16 | . with control means energized in response to activator stimulated by condition sensor |
| Y10T 408/165 | .. to control Tool rotation |
| Y10T 408/17 | .. to control infeed |
| Y10T 408/172 | ... Responsive to Tool |
| Y10T 408/173 | ... Responsive to work |
| Y10T 408/175 | .. to control relative positioning of Tool and work |
| Y10T 408/18 | . with stopping upon completion of prescribed operation |
| Y10T 408/20 | .. Responsive to condition of work or product |
| Y10T 408/21 | . with signal, indicator, illuminator or optical means |
| Y10T 408/23 | . including means to cause Tool to progressively vibrate toward work |
| Y10T 408/26 | . with means to condition tool |
| Y10T 408/29 | . with means to deForm work temporarily |
| Y10T 408/31 | . Convertible cutting means |
| Y10T 408/33 | .. Utilizing common cutting Tool |
| Y10T 408/34 | . Combined cutting means |
| Y10T 408/344 | .. including Tool operating on rotating work |
| Y10T 408/348 | .. Plural other type cutting means |
| Y10T 408/35 | ... including plural rotating tools |
| Y10T 408/352 | .. including rotating cutter other than rotating, axially moving Tool |
| Y10T 408/353 | ... Crystalline cutter |
| Y10T 408/355 | ... Utilized in cutting work or product to length |
| Y10T 408/3555 | Adapted to cut entire thickness of work at one pass |
| Y10T 408/356 | .. including plunging [single stroke] cutter |
| Y10T 408/36 | . Machine including plural tools |
| Y10T 408/365 | .. Axes of tools moving with work during operation |
| Y10T 408/367 | ... including means to infeed Tool and means to infeed work or including coaxial tools |
| Y10T 408/368 | ... Plural work stations |
| Y10T 408/37 | .. Turret of tools |
| Y10T 408/375 | .. Coaxial tools |
| Y10T 408/378 | ... Coaxial, opposed tools |
| Y10T 408/3784 | with additional, converging Tool |
| Y10T 408/3788 | Plural pairs of coaxial, opposed tools |

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|---------------|-------|---|
| Y10T 408/3792 | | with means to sequentially feed tools toward work |
| Y10T 408/3796 | | with interconnected means to simultaneously feed tools |
| Y10T 408/38 | .. | Plural, simultaneously operational tools |
| Y10T 408/3806 | ... | with plural simultaneously operational work stations |
| Y10T 408/3809 | .... | Successively acting on workpiece |
| Y10T 408/381 | ..... | Pivotally mounted, work-advancing, work-supporting means, pivot-axis parallel to tool-axis |
| Y10T 408/3811 | ... | with provision for adjustment of relationship of axes |
| Y10T 408/3817 | ... | at least one Tool driven by orbiting wrist plate |
| Y10T 408/3822 | ... | at least one Tool including flexible drive connection |
| Y10T 408/3828 | ... | with work-infeed |
| Y10T 408/3833 | ... | with means to advance work relative to Tool |
| Y10T 408/3839 | ... | with presser-foot |
| Y10T 408/3844 | ... | with tool-opposing, work-engaging surface |
| Y10T 408/385 | .. | Rotatable about parallel axes |
| Y10T 408/39 | . | with radially outer limit of cutting edge moving to define cylinder partially, but not entirely encircled by work |
| Y10T 408/42 | . | Axis of Tool moving with work during operation |
| Y10T 408/44 | . | with means to apply transient, fluent medium to work or product |
| Y10T 408/45 | .. | including Tool with duct |
| Y10T 408/453 | ... | and means to move gaseous fluid by application of vacuum |
| Y10T 408/455 | ... | Conducting channel extending to end of Tool |
| Y10T 408/458 | ... | including nozzle |
| Y10T 408/46 | .. | including nozzle |
| Y10T 408/47 | . | with work-infeed means |
| Y10T 408/476 | .. | Driven by fluid motor |
| Y10T 408/482 | .. | Driven by means having sliding engagement therewith |
| Y10T 408/488 | .. | Driven by lever or connecting link |
| Y10T 408/494 | .. | and gear to drive infeed means |
| Y10T 408/50 | . | with product handling or receiving means |
| Y10T 408/51 | .. | Ejector |
| Y10T 408/52 | . | with work advancing or guiding means |
| Y10T 408/54 | .. | Means to intermittently advance work |
| Y10T 408/545 | ... | Rotary, work-supporting means |
| Y10T 408/55 | . | with work-engaging structure other than Tool or tool-support |
| Y10T 408/551 | .. | with means actuated by work to release Tool from fixed position in Tool support |
| Y10T 408/552 | ... | Adapted to engage work at tool-axis |
| Y10T 408/553 | .. | Centering means adapted to be replaced by Tool |
| Y10T 408/554 | .. | Magnetic or suction means |
| Y10T 408/556 | .. | Tool supporting wheel |

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|----------------|-------|---|
| Y10T 408/5565 | ... | Wheel-axis parallel to tool-axis |
| Y10T 408/557 | .. | Frictionally engaging sides of opening in work |
| Y10T 408/558 | ... | Opening coaxial with Tool |
| Y10T 408/5583 | .... | Engaging sides of opening being enlarged by Tool |
| Y10T 408/5584 | ..... | Engaging surface axially advanced of tool-action |
| Y10T 408/5586 | ..... | Engaging surface subsequent to tool-action on that surface |
| Y10T 408/5587 | .... | Valve fitting |
| Y10T 408/559 | .. | Funnel like work-engaging surface cooperating with protuberance on work |
| Y10T 408/56 | .. | Adapted to "form" recession in work |
| Y10T 408/5605 | ... | Recession at tool-axis |
| Y10T 408/561 | .. | Having tool-opposing, work-engaging surface |
| Y10T 408/5612 | ... | Tool having shiftable tool-axis |
| Y10T 408/5614 | ... | Angularly adjustable surface |
| Y10T 408/5616 | .... | Adjustable about axis that is parallel to tool-axis |
| Y10T 408/5617 | ... | Laterally adjustable surface |
| Y10T 408/5619 | ... | Flexible or concatenated member |
| Y10T 408/5621 | ... | Connected to Tool through opening being enlarged by Tool |
| Y10T 408/5622 | .... | Plural, coaxially opposing, work-engaging means |
| Y10T 408/5623 | ... | with presser foot |
| Y10T 408/56238 | .... | Encompassed by Tool during cut |
| Y10T 408/56245 | .... | including tool-guide [or bushing] |
| Y10T 408/56253 | .... | Base supported machine |
| Y10T 408/5626 | ... | with means to move Tool relative to other work-engaging structure along tool-axis |
| Y10T 408/5627 | .... | Having sliding engagement therewith |
| Y10T 408/56275 | ..... | Screw coaxial with Tool |
| Y10T 408/5628 | ... | Tool having screw-thread engaging frame to cause infeed |
| Y10T 408/563 | .. | Work-gripping clamp |
| Y10T 408/5633 | ... | Adapted to coaxially grip round work |
| Y10T 408/56337 | .... | Oppositely moving lateral clamps |
| Y10T 408/5634 | ..... | Three or more moving clamps |
| Y10T 408/56343 | .... | Base supported clamp |
| Y10T 408/5635 | ... | Oppositely moving lateral clamps |
| Y10T 408/5638 | ... | Adjustable relative to tool-axis |
| Y10T 408/564 | .. | Movable relative to Tool along tool-axis |
| Y10T 408/5647 | ... | including means to move Tool |
| Y10T 408/5653 | ... | with means to bias Tool away from work |
| Y10T 408/566 | .. | Axially fixed to Tool |
| Y10T 408/5665 | ... | Work-engaging surface parallel to tool-axis |
| Y10T 408/567 | .. | Adjustable, tool-guiding jig |

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|---------------|--|
| Y10T 408/568 | ... Guide bushing |
| Y10T 408/569 | .. Bushing |
| Y10T 408/57 | . Tool-support with means to receive tool-position indicator |
| Y10T 408/60 | . Plural tool-assemblages |
| Y10T 408/62 | .. Coaxial |
| Y10T 408/625 | ... Spring biased |
| Y10T 408/63 | . Tool or tool-support with torque-applying ratchet |
| Y10T 408/637 | .. with thrust applying means |
| Y10T 408/639 | ... Reversible ratchet |
| Y10T 408/641 | ... Double-acting ratchet |
| Y10T 408/643 | .. Reversible ratchet |
| Y10T 408/65 | . Means to drive tool |
| Y10T 408/655 | .. with specific Tool structure |
| Y10T 408/66 | .. Friction gearing |
| Y10T 408/665 | .. Universal or flexible drive connection to rotate Tool |
| Y10T 408/67 | .. Belt and pulley |
| Y10T 408/675 | .. including means to move Tool along tool-axis |
| Y10T 408/6757 | ... Fluid means |
| Y10T 408/6764 | ... Laterally adjustable Tool |
| Y10T 408/6771 | ... with clutch means |
| Y10T 408/6774 | including plural speed drive |
| Y10T 408/6776 | Actuated by Tool movement |
| Y10T 408/6779 | ... Rack and pinion |
| Y10T 408/6786 | ... Manually moved lever |
| Y10T 408/6793 | ... Screw coaxial with Tool |
| Y10T 408/68 | . Tool or tool-support with thrust-applying machine-engaging screw |
| Y10T 408/70 | . Tool or tool-support with torque-applying clutch |
| Y10T 408/72 | .. Friction clutch |
| Y10T 408/73 | . Tool or tool-support with torque-applying spline |
| Y10T 408/75 | .. Relative motion of splined shaft and tool-support causing release of Tool from operating position |
| Y10T 408/76 | . Tool-carrier with vibration-damping means |
| Y10T 408/78 | . Tool of specific diverse material |
| Y10T 408/81 | . Tool having crystalline cutting edge |
| Y10T 408/83 | . Tool-support with means to move Tool relative to tool-support |
| Y10T 408/85 | .. to move radially |
| Y10T 408/852 | ... with Tool releasing trigger |
| Y10T 408/853 | and separate Tool setting means |
| Y10T 408/854 | ... to move eccentrically mounted Tool |
| Y10T 408/855 | Tool-support including plural, adjustable sections |

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|-----------------|-------|---|
| Y10T 408/856 | ... | Moving means including pinion engaging rack-like surface of Tool |
| Y10T 408/858 | ... | Moving means including wedge, screw or cam |
| Y10T 408/8583 | .... | with resiliently urged Tool |
| Y10T 408/85837 | ..... | with spring retainer |
| Y10T 408/85843 | ..... | Resilient Tool or tool-support |
| Y10T 408/8585 | .... | including oppositely moving, diverging tools |
| Y10T 408/8588 | .... | Axially slidable moving-means |
| Y10T 408/85884 | ..... | Tool pivotally mounted on support |
| Y10T 408/85888 | ..... | Having axially spaced shoulders |
| Y10T 408/85892 | ..... | Screw driven wedge or cam |
| Y10T 408/85893 | ..... | Screw with axis radially spaced from tool-axis |
| Y10T 408/85894 | ..... | Annular wedge-collar |
| Y10T 408/858945 | ..... | Axially spaced tool-retaining collars |
| Y10T 408/858946 | ..... | with travelling wedge |
| Y10T 408/858948 | ..... | Tool having axially facing, collar-receiving groove |
| Y10T 408/858949 | ..... | including two-piece collar |
| Y10T 408/85895 | ..... | Traveling wedge |
| Y10T 408/858953 | ..... | Interfitting, tool-retaining wedge |
| Y10T 408/858955 | ..... | including separable interfitting element |
| Y10T 408/858957 | ..... | Having externally threaded shank connected to tool-support |
| Y10T 408/85896 | ..... | Annular wedge-collar |
| Y10T 408/859 | .... | Rotary cam |
| Y10T 408/8591 | ..... | Scroll plate |
| Y10T 408/85913 | ..... | Volute scroll |
| Y10T 408/85915 | ..... | with means to rotate scroll |
| Y10T 408/85918 | ..... | with adjustable means to limit scroll movement |
| Y10T 408/8592 | ..... | Coaxial with tool-axis |
| Y10T 408/8593 | .... | Wedge moving perpendicular to tool-axis |
| Y10T 408/8595 | .... | Pivotable tool-support |
| Y10T 408/8598 | .... | Screw extending perpendicular to tool-axis |
| Y10T 408/85985 | ..... | Plural tools moved by diametrically opposed screws |
| Y10T 408/85988 | ..... | Screws mounted on common shaft |
| Y10T 408/8599 | ..... | Tool having pitch-stabilizing ridge |
| Y10T 408/85995 | ..... | with tool-holding clamp and clamp actuator |
| Y10T 408/86 | . | Tool-support with means to permit positioning of the Tool relative to support |
| Y10T 408/865 | .. | Pivotable Tool |
| Y10T 408/868 | ... | with multiple cutting positions |
| Y10T 408/87 | .. | Tool having stepped cutting edges |
| Y10T 408/8713 | ... | including means to permit both radial and axial positioning of edge |
| Y10T 408/8725 | ... | including means to permit relative axial positioning of edges |

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|----------------|------|--|
| Y10T 408/8729 | | with work-engaging structure other than cutting edge |
| Y10T 408/8734 | | including central Tool axially movable relative to support |
| Y10T 408/8738 | ... | including inverse cutting edge |
| Y10T 408/875 | .. | including means to "form" depression in work |
| Y10T 408/88 | .. | including central-lead |
| Y10T 408/885 | .. | including tool-holding clamp and clamp actuator |
| Y10T 408/888 | ... | Movable along tool-axis |
| Y10T 408/89 | . | Tool or Tool with support |
| Y10T 408/892 | .. | with work-engaging structure detachable from cutting edge |
| Y10T 408/8923 | ... | Removable central lead |
| Y10T 408/8925 | ... | Depth-limiting member |
| Y10T 408/8928 | ... | Adjustable |
| Y10T 408/893 | .. | Hollow milling Tool |
| Y10T 408/895 | .. | Having axial, core-receiving central portion |
| Y10T 408/8953 | ... | with lateral outlet |
| Y10T 408/8957 | ... | and having stepped cutting edges |
| Y10T 408/896 | .. | Having product-receiving chamber |
| Y10T 408/8967 | ... | and central lead-screw |
| Y10T 408/8973 | ... | and central lead |
| Y10T 408/898 | .. | Helical ribbon Tool |
| Y10T 408/899 | .. | Having inversely angled cutting edge |
| Y10T 408/90 | ... | and axially extending peripheral cutting spur |
| Y10T 408/901 | .. | Having axially extending peripheral cutting spur |
| Y10T 408/902 | .. | Having central lead-screw |
| Y10T 408/904 | .. | with pitch-stabilizing ridge |
| Y10T 408/9042 | ... | and radially spaced cutting edge |
| Y10T 408/9044 | ... | including cutting teeth of different width |
| Y10T 408/9045 | .... | and different root circles |
| Y10T 408/9046 | ... | including tapered section |
| Y10T 408/90467 | .... | and relieved cutting edge |
| Y10T 408/90473 | .... | including work-embracing cutting edges |
| Y10T 408/9048 | ... | Extending outwardly from tool-axis |
| Y10T 408/905 | .. | Having stepped cutting edges |
| Y10T 408/906 | ... | Axially spaced |
| Y10T 408/9065 | .... | with central lead |
| Y10T 408/907 | .. | including detailed shank |
| Y10T 408/909 | .. | Having peripherally spaced cutting edges |
| Y10T 408/9093 | ... | Each formed by a pair of axially facing facets |
| Y10T 408/9095 | ... | with axially extending relief channel |
| Y10T 408/9097 | | Spiral channel |

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|----------------|------|--|
| Y10T 408/9098 | ... | with means to retain Tool to support |
| Y10T 408/90987 | | Wedge means |
| Y10T 408/90993 | .... | Screw driven means |
| Y10T 408/91 | . | Machine frame |
| Y10T 408/92 | .. | with counterweight mechanism |
| Y10T 408/93 | .. | including pivotally mounted tool-carrier |
| Y10T 408/935 | ... | including laterally movable tool-carrier |
| Y10T 408/94 | . | Tool-support |
| Y10T 408/95 | .. | with tool-retaining means |
| Y10T 408/953 | ... | Clamping jaws |
| Y10T 408/957 | ... | Tool adapter |
| Y10T 408/96 | . | Miscellaneous |
| Y10T 408/97 | .. | Drill bushings |
| Y10T 408/98 | .. | Drill guide |
| Y10T 408/99 | .. | Adjustable stop |

Former US Class 409 Series

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|--------------------|--|---|
| Y10T 409/00 | Gear cutting, milling, or planing | |
| Y10T 409/10 | . | Gear cutting |
| Y10T 409/100159 | .. | with regulation of operation by use of templet, card, or other replaceable information supply |
| Y10T 409/100318 | ... | including follower for templet |
| Y10T 409/100477 | .. | and burnishing simultaneously |
| Y10T 409/100636 | .. | with compensation for backlash in drive means |
| Y10T 409/100795 | .. | with work or product advancing |
| Y10T 409/100954 | ... | Utilizing transfer arm |
| Y10T 409/101113 | .. | Gear chamfering or deburring |
| Y10T 409/101272 | ... | Using relatively reciprocating or oscillating cutter |
| Y10T 409/101431 | .. | Gear tooth shape generating |
| Y10T 409/10159 | ... | Hobbing |
| Y10T 409/101749 | .... | Process |
| Y10T 409/101908 | ..... | Generating tooth for bevel gear |
| Y10T 409/102067 | .... | including means to shift hob between cutting passes |
| Y10T 409/102226 | .... | with control means energized in response to activator stimulated by condition sensor |
| Y10T 409/102385 | .... | Plural hobs |
| Y10T 409/102544 | .... | including infeed means |
| Y10T 409/102703 | ..... | to infeed along axis of work rotation |
| Y10T 409/102862 | | Infeed of cutter |
| Y10T 409/103021 | | and infeed radially of axis of work rotation |

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|-----------------|-------|---|
| Y10T 409/10318 | | Vertically |
| Y10T 409/103339 | | to infeed radially of axis of work rotation |
| Y10T 409/103498 | ..... | Infeed of cutter |
| Y10T 409/103657 | ..... | and infeed tangentially of work axis |
| Y10T 409/103816 | ... | Milling with radial faced tool |
| Y10T 409/103975 | .... | Process |
| Y10T 409/104134 | .... | Adapted to cut bevel gear |
| Y10T 409/104293 | ..... | with means to continuously rotate work and means to co-form all teeth of gear |
| Y10T 409/104452 | ..... | Bevel gear having nonparallel opposing tooth flanks |
| Y10T 409/104611 | ..... | including rotary cutter cradle |
| Y10T 409/10477 | ... | by relative axial movement between synchronously indexing or rotating work and cutter |
| Y10T 409/104929 | .... | Crowning |
| Y10T 409/105088 | .... | Displacing cutter axially relative to work [e.g., gear shaving, etc.] |
| Y10T 409/105247 | ..... | Using gear shaper-cutter |
| Y10T 409/105406 | ..... | Plural distinct cutting edges |
| Y10T 409/105565 | ..... | Cutting rotating work, the axis of which lies in a plane intersecting the cutter axis |
| Y10T 409/105724 | ... | Gear shaving |
| Y10T 409/105883 | ... | Using rotary cutter |
| Y10T 409/106042 | .... | having axially directed cutting edge |
| Y10T 409/106201 | .... | Plural rotary cutters |
| Y10T 409/10636 | .... | On reciprocating carriage |
| Y10T 409/106519 | ... | Using reciprocating or oscillating cutter |
| Y10T 409/106678 | .... | Bevel gear cutting |
| Y10T 409/106837 | ..... | Dual cutters |
| Y10T 409/106996 | ..... | Double acting cutter |
| Y10T 409/107155 | .... | Rectilinearly reciprocating cutter |
| Y10T 409/107314 | ..... | Cutter comprising a rack |
| Y10T 409/107473 | ... | Making a noncircular gear, worm, rotor, or a planar-faced gear |
| Y10T 409/107632 | .. | Gear shaving |
| Y10T 409/107791 | .. | Using rotary cutter |
| Y10T 409/10795 | ... | Process |
| Y10T 409/108109 | ... | End mill |
| Y10T 409/108268 | .... | Radially faced |
| Y10T 409/108427 | ..... | Using plural, selectively usable tools |
| Y10T 409/108586 | ... | Plural rotary cutters |
| Y10T 409/108745 | ... | Cutting action along work axis |
| Y10T 409/108904 | | Cutting action intersecting work axis |
| Y10T 409/109063 | .. | Using reciprocating or oscillating cutter |

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|-----------------|-------|--|
| Y10T 409/109222 | ... | Broach |
| Y10T 409/109381 | ... | including circumferentially disposed cutting edges |
| Y10T 409/10954 | .. | Work dividing or checking of work position or division |
| Y10T 409/109699 | .. | with work clamping |
| Y10T 409/20 | . | with furbishing of cutter |
| Y10T 409/30 | . | Milling |
| Y10T 409/300056 | .. | Thread or helix generating |
| Y10T 409/300112 | ... | Process |
| Y10T 409/300168 | ... | with means to regulate operation by use of templet, card, or other replaceable information supply |
| Y10T 409/300224 | .... | Complete cycle |
| Y10T 409/30028 | .... | to regulate cutting depth [e.g., relief, taper, etc.] |
| Y10T 409/300336 | .... | to regulate rate of motion [e.g., stopping, etc.] |
| Y10T 409/300392 | ... | with nonthread or nonhelix generating, milling cutter |
| Y10T 409/300448 | ... | with means to advance work or product |
| Y10T 409/300504 | ... | Plural cutters or work holders |
| Y10T 409/30056 | ... | with planetary cutter |
| Y10T 409/300616 | ... | Work means to move work axially and means to interrelate work movement with cutter rotation |
| Y10T 409/300672 | ... | with means to rotate work and means to interrelatedly infeed the work relative to the cutter |
| Y10T 409/300728 | .... | Means to infeed the cutter |
| Y10T 409/300784 | ... | with means to circumferentially adjust the position of the cutter with respect to the work |
| Y10T 409/30084 | .. | with regulation of operation by templet, card, or other replaceable information supply |
| Y10T 409/300896 | ... | with sensing of numerical information and regulation without mechanical connection between sensing means and regulated means [i.e., numerical control] |
| Y10T 409/300952 | ... | to cut lock key |
| Y10T 409/301008 | .... | Using templet other than a key |
| Y10T 409/301064 | .... | Complete cycle |
| Y10T 409/30112 | ... | Process |
| Y10T 409/301176 | ... | Reproducing means |
| Y10T 409/301232 | .... | including pantograph cutter-carrier |
| Y10T 409/301288 | ..... | and means to move work at work station |
| Y10T 409/301344 | ..... | About work axis |
| Y10T 409/3014 | ..... | Pivotaly supported for vertical movement |
| Y10T 409/301456 | ..... | and means to counterbalance carrier |
| Y10T 409/301512 | ..... | including plural cutters |
| Y10T 409/301568 | | by use of pivotaly supported tracer |
| Y10T 409/301624 | | Duplicating means |

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|-----------------|-------|---|
| Y10T 409/30168 | | with means for operation without manual intervention |
| Y10T 409/301736 | | to make a double curvature foil |
| Y10T 409/301792 | ..... | including means to sense optical or magnetic image |
| Y10T 409/301848 | ..... | with means to support templet above or under work |
| Y10T 409/301904 | ..... | including tracer adapted to trigger electrical energy |
| Y10T 409/30196 | ..... | to actuate electrically driven work or tool moving means |
| Y10T 409/302016 | ..... | to actuate fluid driven work or tool moving means |
| Y10T 409/302072 | ..... | including tracer adapted to trigger fluid energy |
| Y10T 409/302128 | ..... | to actuate fluid driven work or tool moving means |
| Y10T 409/302184 | ..... | including cutter and tracer fixed to move laterally together |
| Y10T 409/30224 | ..... | and provision for circumferential relative movement of cutter and work |
| Y10T 409/302296 | ..... | including plural cutters |
| Y10T 409/302352 | ..... | including plural cutters |
| Y10T 409/302408 | ..... | including cross-slide tool carrier |
| Y10T 409/302464 | ..... | including plural cutters |
| Y10T 409/30252 | ..... | including cross-slide tool carrier |
| Y10T 409/302576 | ..... | with means to support templet above or under work |
| Y10T 409/302632 | ..... | with provision for circumferential relative movement of cutter and work |
| Y10T 409/302688 | .... | with provision for circumferential relative movement of cutter and work |
| Y10T 409/302744 | ..... | and means for operation without manual intervention |
| Y10T 409/3028 | ..... | including tracer adapted to trigger electrical or fluid energy |
| Y10T 409/302856 | .... | For using planar templet in cutting profile [e.g., contour map from planar map, etc.] |
| Y10T 409/302912 | .... | including means for operation without manual intervention |
| Y10T 409/302968 | ... | including means for operation without manual intervention |
| Y10T 409/303024 | .... | including simultaneously usable plural tracers or including tracer adapted to simultaneously use plural templates |
| Y10T 409/30308 | ..... | to make a double curvature foil |
| Y10T 409/303136 | .... | to make a double curvature foil |
| Y10T 409/303192 | .... | including cutter and tracer fixed to move together |
| Y10T 409/303248 | .... | with provision for circumferential relative movement of cutter and work |
| Y10T 409/303304 | ... | and provision for circumferential relative movement of cutter and work |
| Y10T 409/30336 | ... | including cutter and tracer fixed to move together |
| Y10T 409/303416 | .. | Templet, tracer, or cutter |
| Y10T 409/303472 | ... | Tracer |
| Y10T 409/303528 | .... | Adapted to trigger electrical energy |
| Y10T 409/303584 | ..... | Photocell |
| Y10T 409/30364 | | Adapted to trigger fluid energy |
| Y10T 409/303696 | ... | Templet |
| Y10T 409/303752 | .. | Process |

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|-----------------|-------|--|
| Y10T 409/303808 | ... | including infeeding |
| Y10T 409/303864 | .. | with means to weigh or test work or product |
| Y10T 409/30392 | .. | with means to protect operative or machine [e.g., guard, safety device, etc.] |
| Y10T 409/303976 | .. | with means to control temperature or lubricate |
| Y10T 409/304032 | ... | Cutter or work |
| Y10T 409/304088 | .. | with means to remove chip |
| Y10T 409/304144 | .. | Means to trim edge |
| Y10T 409/3042 | .. | Means to remove scale or raised surface imperfection |
| Y10T 409/304256 | ... | Means to remove flash or burr |
| Y10T 409/304312 | .. | with means to dampen vibration |
| Y10T 409/304368 | .. | Means to mill epitrochoidal shape |
| Y10T 409/304424 | .. | Means for internal milling |
| Y10T 409/30448 | .. | with detachable or auxiliary cutter support to convert cutting action |
| Y10T 409/304536 | .. | including means to infeed work to cutter |
| Y10T 409/304592 | ... | with compensation for backlash in drive means |
| Y10T 409/304648 | ... | with control means energized in response to activator stimulated by condition sensor |
| Y10T 409/304704 | .... | In response to cutter or cutter carriage |
| Y10T 409/30476 | .... | In response to work or work carriage |
| Y10T 409/304816 | ..... | to control rate of infeed or return |
| Y10T 409/304872 | ..... | to control limit of infeed |
| Y10T 409/304928 | ..... | Adapted to hydraulically or pneumatically stimulate control |
| Y10T 409/304984 | ..... | Adapted to electrically stimulate control |
| Y10T 409/30504 | .... | to control rate of infeed or return |
| Y10T 409/305096 | .... | to effect stopping of infeed |
| Y10T 409/305152 | ... | with means to change rate of infeed |
| Y10T 409/305208 | ... | Means to mill indeterminate length work |
| Y10T 409/305264 | ... | Multiple work stations |
| Y10T 409/30532 | ... | with means to advance work or product |
| Y10T 409/305376 | .... | Vertically |
| Y10T 409/305432 | .... | Endless or orbital work or product advancing means |
| Y10T 409/305488 | ... | to reciprocate or oscillate work |
| Y10T 409/305544 | ... | with work holder |
| Y10T 409/3056 | .... | and means to selectively position work |
| Y10T 409/305656 | .... | including means to support work for rotation during operation |
| Y10T 409/305712 | ..... | and including means to infeed cutter toward work axis |
| Y10T 409/305768 | ..... | with linear movement of work |
| Y10T 409/305824 | ..... | with angular movement of work |
| Y10T 409/30588 | ... | including friction gearing drive |
| Y10T 409/305936 | ... | including fluid drive |

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|-----------------|-------|---|
| Y10T 409/305992 | .. | with means to effect stopping upon completion of operation |
| Y10T 409/306048 | .. | with means to advance work or product |
| Y10T 409/306104 | ... | Endless or orbital work or product advancing means |
| Y10T 409/30616 | .. | with means to precisely reposition work |
| Y10T 409/306216 | .. | Randomly manipulated, work supported, or work following device |
| Y10T 409/306272 | ... | For machining commutator |
| Y10T 409/306328 | ... | For cutting longitudinal groove in shaft [e.g., keyway, etc.] |
| Y10T 409/306384 | ... | with work supported guide means |
| Y10T 409/30644 | .... | to guide tool to move in arcuate path |
| Y10T 409/306496 | ... | with work follower |
| Y10T 409/306552 | ... | Randomly manipulated |
| Y10T 409/306608 | .... | End mill [e.g., router, etc.] |
| Y10T 409/306664 | .. | including means to infeed rotary cutter toward work |
| Y10T 409/30672 | ... | with means to limit penetration into work |
| Y10T 409/306776 | ... | Axially |
| Y10T 409/306832 | .... | with infeed control means energized in response to activator stimulated by condition sensor |
| Y10T 409/306888 | ..... | In response to cutter condition |
| Y10T 409/306944 | ..... | In response to work condition |
| Y10T 409/307 | .... | with work holder |
| Y10T 409/307056 | .... | and laterally |
| Y10T 409/307112 | ..... | Simultaneously |
| Y10T 409/307168 | .... | Plural cutters |
| Y10T 409/307224 | .. | with infeed control means energized in response to activator stimulated by condition sensor |
| Y10T 409/30728 | .... | In response to cutter condition |
| Y10T 409/307336 | .... | In response to work condition |
| Y10T 409/307392 | ... | with means to change rate of infeed |
| Y10T 409/307448 | ... | with work holder |
| Y10T 409/307504 | .... | Indexable |
| Y10T 409/30756 | ... | Machining arcuate surface |
| Y10T 409/307616 | .... | with means to move cutter eccentrically |
| Y10T 409/307672 | ... | Angularly adjustable cutter head |
| Y10T 409/307728 | ... | including gantry-type cutter-carrier |
| Y10T 409/307784 | ... | Plural cutters |
| Y10T 409/30784 | .. | including means to adjustably position cutter |
| Y10T 409/307896 | ... | with work holder or guide |
| Y10T 409/307952 | ... | Linear adjustment |
| Y10T 409/308008 | | with control for adjustment means responsive to activator stimulated by condition sensor |
| Y10T 409/308064 | | Responsive to position of cutter |

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|-----------------|-------|---|
| Y10T 409/30812 | | and means to clamp cutter support in adjusted position |
| Y10T 409/308176 | | with position indicator or limit means |
| Y10T 409/308232 | .... | and angular adjustment |
| Y10T 409/308288 | .... | including gantry-type cutter-carrier |
| Y10T 409/308344 | .... | Plural cutters |
| Y10T 409/3084 | ... | with position indicator or limit means |
| Y10T 409/308456 | ... | with right angle cutter drive |
| Y10T 409/308512 | ... | Compound angular adjustment |
| Y10T 409/308568 | ... | Plural cutters |
| Y10T 409/308624 | .. | with limit means to aid in positioning of cutter bit or work [e.g., gauge, stop, etc.] |
| Y10T 409/30868 | .. | Work support |
| Y10T 409/308736 | ... | with position indicator or stop |
| Y10T 409/308792 | ... | Indexable |
| Y10T 409/308848 | .... | including dividing head |
| Y10T 409/308904 | ..... | Multiple row dividing head |
| Y10T 409/30896 | ... | with angular adjustment |
| Y10T 409/309016 | ... | with work holder or guide |
| Y10T 409/309072 | .... | including cutter limited to rotary motion |
| Y10T 409/309128 | ... | with means to adjust work support vertically |
| Y10T 409/309184 | .. | including cutter limited to rotary motion |
| Y10T 409/30924 | ... | Cutter turning about vertical axis |
| Y10T 409/309296 | .. | Detachable or repositionable tool head |
| Y10T 409/309352 | .. | Cutter spindle or spindle support |
| Y10T 409/309408 | ... | with cutter holder |
| Y10T 409/309464 | .... | and draw bar |
| Y10T 409/30952 | .. | with cutter holder |
| Y10T 409/309576 | .. | Machine frame |
| Y10T 409/309632 | ... | Overarm harness structure |
| Y10T 409/309688 | ... | including counterbalancing means |
| Y10T 409/309744 | ... | including means to compensate for deformation |
| Y10T 409/3098 | .... | Deflection of cutter spindle |
| Y10T 409/309856 | ... | Convertible from lathe |
| Y10T 409/309912 | ... | including relatively movable components and means to relatively immobilize these components |
| Y10T 409/309968 | .. | Tailstock |
| Y10T 409/40 | . | Broaching |
| Y10T 409/400175 | .. | Process |
| Y10T 409/40035 | .. | with control means energized in response to activator stimulated by condition sensor |
| Y10T 409/400525 | ... | Responsive to condition of work or product |

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|-----------------|------|--|
| Y10T 409/4007 | .. | with means to distribute cutter infeed force |
| Y10T 409/400875 | .. | with means to select cutter or to select or modify cutter drive |
| Y10T 409/40105 | .. | with means to clean, lubricate, or modify temperature of work or cutter |
| Y10T 409/401225 | .. | with product handling means |
| Y10T 409/4014 | ... | Between plural broaching stations |
| Y10T 409/401575 | ... | Means to eject broached product |
| Y10T 409/40175 | ... | Chip removal means |
| Y10T 409/401925 | .. | with means to protect operative or machine [e.g., guard, safety device, etc.] |
| Y10T 409/4021 | ... | with safety means for overload or safety interlock |
| Y10T 409/402275 | .. | with work immobilizer and means to activate work immobilizer interrelated with cutter infeed, work infeed, or work advance |
| Y10T 409/40245 | .. | with work infeed or advancing means and means to clamp the work thereto, which clamping means is interrelated with work or cutter infeed |
| Y10T 409/402625 | .. | Means to remove flash or burr |
| Y10T 409/4028 | .. | Means for cutting groove |
| Y10T 409/402975 | ... | Arcuate groove in cylindrical surface |
| Y10T 409/40315 | .... | Rifling |
| Y10T 409/403325 | .. | Orbital carrier for cutter |
| Y10T 409/4035 | .. | Orbital carrier for work |
| Y10T 409/403675 | .. | with means to cyclically manipulate cutter or cutter support |
| Y10T 409/40385 | ... | to reorient, introduce, or remove cutter |
| Y10T 409/404025 | ... | Cutter released to interim support at termination of cutting stroke |
| Y10T 409/4042 | ... | to remove and return cutter to cutter support |
| Y10T 409/404375 | .. | with plural cutters |
| Y10T 409/40455 | .. | with means to advance, infeed, or manipulate work |
| Y10T 409/404725 | ... | Interrelated with cutter infeed |
| Y10T 409/4049 | .... | including means supporting work and additional means opposing infeed force |
| Y10T 409/405075 | .... | including work indexing means for sequential cutting of different surfaces of a single workpiece |
| Y10T 409/40525 | .... | including work indexing means for sequential cutting of surfaces of different workpieces |
| Y10T 409/405425 | .... | with means to retract work from path of tool's idle return stroke |
| Y10T 409/4056 | ... | to infeed work past cutter |
| Y10T 409/405775 | .. | with means to hold work during cutting |
| Y10T 409/40595 | ... | including work clamping means |
| Y10T 409/406125 | ... | with means to adjust or facilitate adjustment of work or work holder |
| Y10T 409/4063 | ... | with means on work or work holder to guide cutter during infeed |
| Y10T 409/406475 | .. | Cutter infeed means |
| Y10T 409/40665 | ... | Imparting rectilinear motion to cutter |
| Y10T 409/406825 | | and rotary motion to cutter |

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|-----------------|------|--|
| Y10T 409/407 | | Fluid powered means |
| Y10T 409/407175 | | Rack means |
| Y10T 409/40735 | | Screw means |
| Y10T 409/407525 | .. | Machine frame |
| Y10T 409/4077 | .. | Cutter support or guide |
| Y10T 409/50 | . | Planing |
| Y10T 409/500164 | .. | with regulation of operation by templet, card, or other replaceable information supply |
| Y10T 409/500328 | ... | including use of tracer adapted to trigger electrical or fluid energy |
| Y10T 409/500492 | .... | including provision for circumferential relative movement of cutter and work |
| Y10T 409/500656 | ... | including provision for circumferential relative movement of cutter and work |
| Y10T 409/50082 | .. | Process |
| Y10T 409/500984 | .. | with means to lubricate |
| Y10T 409/501148 | .. | with product handling means |
| Y10T 409/501312 | .. | Randomly manipulated, work supported, or work following device |
| Y10T 409/501476 | .. | Means to remove flash or burr |
| Y10T 409/50164 | ... | Elongated work |
| Y10T 409/501804 | .... | Flash or burr inside hollow work |
| Y10T 409/501968 | .... | Transverse burr |
| Y10T 409/502132 | ... | Flat work |
| Y10T 409/502296 | .. | of commutator |
| Y10T 409/50246 | .. | Means for trimming edge [e.g., chamfering, scarfing, etc.] |
| Y10T 409/502624 | .. | Means for cutting groove |
| Y10T 409/502788 | ... | Arcuate groove |
| Y10T 409/502952 | .... | For rifling |
| Y10T 409/503116 | ... | Inside hollow work |
| Y10T 409/50328 | .. | Means for shaving by blade spanning work surface |
| Y10T 409/503444 | ... | Concave work surface [e.g., bearing, stereotype printing plate, etc.] |
| Y10T 409/503608 | ... | Circumferential surface |
| Y10T 409/503772 | ... | including rack driven infeed means |
| Y10T 409/503936 | ... | including roller infeed means |
| Y10T 409/5041 | .. | Means for cutting arcuate surface |
| Y10T 409/504264 | ... | Cycloidal surface |
| Y10T 409/504428 | ... | with work infeed and means to arcuately reposition the cutter |
| Y10T 409/504592 | ... | with work infeed and means to arcuately reposition the work |
| Y10T 409/504756 | .. | with means to relatively infeed cutter and work |
| Y10T 409/50492 | ... | and means to rotate work and cutter at same rate about converging axes |
| Y10T 409/505084 | ... | with plural sequentially acting cutters or with double acting cutter |
| Y10T 409/505248 | ... | and means to vary rate of infeed |
| Y10T 409/505412 | ... | Reciprocating work infeed means |

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|-----------------|-------|---|
| Y10T 409/505576 | | with fluid-driven bed |
| Y10T 409/50574 | | with rack-driven bed |
| Y10T 409/505904 | | with screw-driven bed |
| Y10T 409/506068 | .... | and means to permit repositioning of cutter laterally |
| Y10T 409/506232 | ... | Reciprocating cutter infeed means |
| Y10T 409/506396 | .... | Reciprocating cutter horizontally |
| Y10T 409/50656 | ..... | with work support and lead screw to reposition work support |
| Y10T 409/506724 | ..... | with fluid-powered means to drive cutter |
| Y10T 409/506888 | ..... | with pivoting link to drive cutter |
| Y10T 409/507052 | ..... | Link driven by crank |
| Y10T 409/507216 | ..... | with rack to drive cutter |
| Y10T 409/50738 | ..... | with screw to drive cutter |
| Y10T 409/507544 | .... | with link or cam to drive cutter |
| Y10T 409/507708 | .... | with rack to drive cutter |
| Y10T 409/507872 | ... | including means causing return stroke |
| Y10T 409/508036 | .. | Machine frame |
| Y10T 409/5082 | ... | Means to permit repositioning of cutter |
| Y10T 409/508364 | .... | Laterally |
| Y10T 409/508528 | ..... | Plural independently positioned cutters |
| Y10T 409/508692 | ..... | including clutch |
| Y10T 409/508856 | ..... | including repositioning means and means to effect stopping thereof |
| Y10T 409/50902 | ... | including relatively movable components and means to relatively immobilize these components |
| Y10T 409/509184 | ... | Work table |
| Y10T 409/509348 | .. | Tool head |
| Y10T 409/509512 | ... | with selectively usable cutting edges |
| Y10T 409/509676 | ... | with means to permit repositioning of cutting for idle return stroke |
| Y10T 409/50984 | | comprising pivotable cutter or cutter support |

Former US Class 428 Series

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|--------------------|--|
| Y10T 428/00 | Stock material or miscellaneous articles |
| Y10T 428/10 | . Liquid crystal optical display having layer of specified composition |
| Y10T 428/1005 | .. Alignment layer of specified composition |
| Y10T 428/1009 | ... Alignment layer is inorganic |
| Y10T 428/1014 | ... Silicon compound [i.e., organosilicon] |
| Y10T 428/1018 | ... Polyamide |
| Y10T 428/1023 | ... Polyimide |
| Y10T 428/1027 | Polyimidfluoride |
| Y10T 428/1032 | Polyimidmetalo |

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|----------------|-------|--|
| Y10T 428/1036 | .. | with viewing layer of specified composition |
| Y10T 428/1041 | ... | Polarizer or dye containing viewing layer |
| Y10T 428/1045 | ... | Silicon compound [e.g., glass, organosilicon, etc.] |
| Y10T 428/105 | ... | Ester [e.g., polycarbonate, polyacrylate, etc.] |
| Y10T 428/1055 | .. | with charge transferring layer of specified composition |
| Y10T 428/1059 | .. | with bonding or intermediate layer of specified composition [e.g., sealant, space, etc.] |
| Y10T 428/1064 | ... | Inorganic layer |
| Y10T 428/1068 | ... | Silicon compound [i.e., organosilicon] |
| Y10T 428/1073 | ... | Epoxy |
| Y10T 428/1077 | ... | Ester |
| Y10T 428/1082 | ... | Unsaturated aliphatic polymer [e.g., vinyl, etc.] |
| Y10T 428/1086 | .. | with substrate layer of specified composition |
| Y10T 428/1091 | ... | Releasable substrate layer to expose adhesive |
| Y10T 428/1095 | ... | Inorganic substrate layer [e.g., ceramic, metallic, glass, etc.] |
| Y10T 428/11 | . | Magnetic recording head |
| Y10T 428/1107 | .. | Magnetoresistive |
| Y10T 428/1114 | ... | having tunnel junction effect |
| Y10T 428/1121 | ... | Multilayer |
| Y10T 428/1129 | .... | Super lattice [e.g., giant magneto resistance [GMR] or colossal magneto resistance [CMR], etc.] |
| Y10T 428/1136 | ... | Single film |
| Y10T 428/1143 | ... | with defined structural feature |
| Y10T 428/115 | .. | Magnetic layer composition |
| Y10T 428/1157 | .. | Substrate composition |
| Y10T 428/1164 | .. | with protective film |
| Y10T 428/1171 | .. | with defined laminate structural detail |
| Y10T 428/1179 | ... | Head with slider structure |
| Y10T 428/1186 | ... | with head pole component |
| Y10T 428/1193 | .. | with interlaminar component [e.g., adhesion layer, etc.] |
| Y10T 428/12 | . | All metal or with adjacent metals |
| Y10T 428/12007 | .. | Component of composite having metal continuous phase interengaged with nonmetal continuous phase |
| Y10T 428/12014 | .. | having metal particles |
| Y10T 428/12021 | ... | having composition or density gradient or differential porosity |
| Y10T 428/12028 | ... | Composite; i.e., plural, adjacent, spatially distinct metal components [e.g., layers, etc.] |
| Y10T 428/12035 | .... | Fiber, asbestos, or cellulose in or next to particulate component |
| Y10T 428/12042 | | Porous component |
| Y10T 428/12049 | | Nonmetal component |
| Y10T 428/12056 | | Entirely inorganic |

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|----------------|-------|---|
| Y10T 428/12063 | | Nonparticulate metal component |
| Y10T 428/12069 | | Plural nonparticulate metal components |
| Y10T 428/12076 | ..... | Next to each other |
| Y10T 428/12083 | ..... | Nonmetal in particulate component |
| Y10T 428/1209 | ..... | Plural particulate metal components |
| Y10T 428/12097 | ..... | Nonparticulate component encloses particles |
| Y10T 428/12104 | ..... | Particles discontinuous |
| Y10T 428/12111 | ..... | Separated by nonmetal matrix or binder [e.g., welding electrode, etc.] |
| Y10T 428/12118 | ..... | Nonparticulate component has Ni-, Cu-, or Zn-base |
| Y10T 428/12125 | ..... | Nonparticulate component has Fe-base |
| Y10T 428/12132 | ..... | Next to Fe-containing particles |
| Y10T 428/12139 | ..... | Nonmetal particles in particulate component |
| Y10T 428/12146 | .... | Nonmetal particles in a component |
| Y10T 428/12153 | ... | Interconnected void structure [e.g., permeable, etc.] |
| Y10T 428/1216 | ... | Continuous interengaged phases of plural metals, or oriented fiber containing |
| Y10T 428/12167 | .... | Nonmetal containing |
| Y10T 428/12174 | .... | Mo or W containing |
| Y10T 428/12181 | .. | Composite powder [e.g., coated, etc.] |
| Y10T 428/12188 | .. | having marginal feature for indexing or weakened portion for severing |
| Y10T 428/12194 | ... | For severing perpendicular to longitudinal dimension |
| Y10T 428/12201 | .. | Width or thickness variation or marginal cuts repeating longitudinally |
| Y10T 428/12208 | ... | Variation in both width and thickness |
| Y10T 428/12215 | ... | Marginal slots [i.e., deeper than wide] |
| Y10T 428/12222 | .. | Shaped configuration for melting [e.g., package, etc.] |
| Y10T 428/12229 | .. | Intermediate article [e.g., blank, etc.] |
| Y10T 428/12236 | ... | Panel having nonrectangular perimeter |
| Y10T 428/12243 | .... | Disk |
| Y10T 428/1225 | .... | Symmetrical |
| Y10T 428/12257 | ..... | Only one plane of symmetry |
| Y10T 428/12264 | ... | having outward flange, gripping means or interlocking feature |
| Y10T 428/12271 | ... | having discrete fastener, marginal fastening, taper, or end structure |
| Y10T 428/12278 | .... | Same structure at both ends of plural taper |
| Y10T 428/12285 | .... | Single taper [e.g., ingot, etc.] |
| Y10T 428/12292 | .. | Workpiece with longitudinal passageway or stopweld material [e.g., for tubular stock, etc.] |
| Y10T 428/12299 | .. | Workpiece mimicking finished stock having nonrectangular or noncircular cross section |
| Y10T 428/12306 | .. | Workpiece of parallel, nonfastened components [e.g., fagot, pile, etc.] |
| Y10T 428/12313 | ... | Arranged to avoid lateral displacement |
| Y10T 428/12319 | ... | Composite |

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|----------------|-------|--|
| Y10T 428/12326 | .. | with provision for limited relative movement between components |
| Y10T 428/12333 | .. | Helical or with helical component |
| Y10T 428/1234 | .. | Honeycomb, or with grain orientation or elongated elements in defined angular relationship in respective components [e.g., parallel, inter- secting, etc.] |
| Y10T 428/12347 | .. | Plural layers discontinuously bonded [e.g., spot-weld, mechanical fastener, etc.] |
| Y10T 428/12354 | .. | Nonplanar, uniform-thickness material having symmetrical channel shape or reverse fold [e.g., making acute angle, etc.] |
| Y10T 428/12361 | .. | having aperture or cut |
| Y10T 428/12368 | ... | Struck-out portion type |
| Y10T 428/12375 | .. | having member which crosses the plane of another member [e.g., T or X cross section, etc.] |
| Y10T 428/12382 | .. | Defined configuration of both thickness and nonthickness surface or angle therebetween [e.g., rounded corners, etc.] |
| Y10T 428/12389 | .. | having variation in thickness |
| Y10T 428/12396 | ... | Discontinuous surface component |
| Y10T 428/12403 | ... | Longitudinally smooth and symmetrical |
| Y10T 428/1241 | .. | Nonplanar uniform thickness or nonlinear uniform diameter [e.g., L-shape] |
| Y10T 428/12417 | ... | Intersecting corrugating or dimples not in a single line [e.g., waffle form, etc.] |
| Y10T 428/12424 | .. | Mass of only fibers |
| Y10T 428/12431 | .. | Foil or filament smaller than 6 mils |
| Y10T 428/12438 | ... | Composite |
| Y10T 428/12444 | .. | Embodying fibers interengaged or between layers [e.g., paper, etc.] |
| Y10T 428/12451 | .. | Macroscopically anomalous interface between layers |
| Y10T 428/12458 | .. | having composition, density, or hardness gradient |
| Y10T 428/12465 | .. | having magnetic properties, or preformed fiber orientation coordinate with shape |
| Y10T 428/12472 | .. | Microscopic interfacial wave or roughness |
| Y10T 428/12479 | .. | Porous [e.g., foamed, spongy, cracked, etc.] |
| Y10T 428/12486 | .. | Laterally noncoextensive components [e.g., embedded, etc.] |
| Y10T 428/12493 | .. | Composite; i.e., plural, adjacent, spatially distinct metal components [e.g., layers, joint, etc.] |
| Y10T 428/125 | ... | Deflectable by temperature change [e.g., thermostat element] |
| Y10T 428/12507 | .... | More than two components |
| Y10T 428/12514 | .... | One component Cu-based |
| Y10T 428/12521 | .... | Both components Fe-based with more than 10% Ni |
| Y10T 428/12528 | ... | Semiconductor component |
| Y10T 428/12535 | ... | with additional, spatially distinct nonmetal component |
| Y10T 428/12542 | .... | More than one such component |
| Y10T 428/12549 | ..... | Adjacent to each other |
| Y10T 428/12556 | | Organic component |
| Y10T 428/12562 | | Elastomer |
| Y10T 428/12569 | | Synthetic resin |

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| Y10T 428/12576 | | Boride, carbide or nitride component |
| Y10T 428/12583 | | Component contains compound of adjacent metal |
| Y10T 428/1259 | ..... | Oxide |
| Y10T 428/12597 | .... | Noncrystalline silica or noncrystalline plural-oxide component [e.g., glass, etc.] |
| Y10T 428/12604 | ..... | Film [e.g., glaze, etc.] |
| Y10T 428/12611 | .... | Oxide-containing component |
| Y10T 428/12618 | ..... | Plural oxides |
| Y10T 428/12625 | .... | Free carbon containing component |
| Y10T 428/12632 | ... | Four or more distinct components with alternate recurrence of each type component |
| Y10T 428/12639 | ... | Adjacent, identical composition, components |
| Y10T 428/12646 | .... | Group VIII or IB metal-base |
| Y10T 428/12653 | ..... | Fe, containing 0.01-1.7% carbon [i.e., steel] |
| Y10T 428/1266 | ... | O, S, or organic compound in metal component |
| Y10T 428/12667 | .... | Oxide of transition metal or Al |
| Y10T 428/12674 | ... | Ge- or Si-base component |
| Y10T 428/12681 | ... | Ga-, In-, Tl- or Group VA metal-base component |
| Y10T 428/12687 | ... | Pb- and Sn-base components: alternative to or next to each other |
| Y10T 428/12694 | .... | and next to Cu- or Fe-base component |
| Y10T 428/12701 | ... | Pb-base component |
| Y10T 428/12708 | ... | Sn-base component |
| Y10T 428/12715 | .... | Next to Group IB metal-base component |
| Y10T 428/12722 | .... | Next to Group VIII metal-base component |
| Y10T 428/12729 | ... | Group IIA metal-base component |
| Y10T 428/12736 | ... | Al-base component |
| Y10T 428/12743 | .... | Next to refractory [Group IVB, VB, or VIB] metal-base component |
| Y10T 428/1275 | .... | Next to Group VIII or IB metal-base component |
| Y10T 428/12757 | ..... | Fe |
| Y10T 428/12764 | .... | Next to Al-base component |
| Y10T 428/12771 | ... | Transition metal-base component |
| Y10T 428/12778 | .... | Alternative base metals from diverse categories |
| Y10T 428/12785 | .... | Group IIB metal-base component |
| Y10T 428/12792 | ..... | Zn-base component |
| Y10T 428/12799 | ..... | Next to Fe-base component [e.g., galvanized] |
| Y10T 428/12806 | .... | Refractory [Group IVB, VB, or VIB] metal-base component |
| Y10T 428/12812 | ..... | Diverse refractory group metal-base components: alternative to or next to each other |
| Y10T 428/12819 | ..... | Group VB metal-base component |
| Y10T 428/12826 | | Group VIB metal-base component |
| Y10T 428/12833 | | Alternative to or next to each other |

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| Y10T 428/1284 | | W-base component |
| Y10T 428/12847 | | Cr-base component |
| Y10T 428/12854 | | Next to Co-, Fe-, or Ni-base component |
| Y10T 428/12861 | .... | Group VIII or IB metal-base component |
| Y10T 428/12868 | ..... | Group IB metal-base component alternative to platinum group metal-base component [e.g., precious metal, etc.] |
| Y10T 428/12875 | ..... | Platinum group metal-base component |
| Y10T 428/12882 | ..... | Cu-base component alternative to Ag-, Au-, or Ni-base component |
| Y10T 428/12889 | ..... | Au-base component |
| Y10T 428/12896 | ..... | Ag-base component |
| Y10T 428/12903 | ..... | Cu-base component |
| Y10T 428/1291 | ..... | Next to Co-, Cu-, or Ni-base component |
| Y10T 428/12917 | ..... | Next to Fe-base component |
| Y10T 428/12924 | ..... | Fe-base has 0.01-1.7% carbon [i.e., steel] |
| Y10T 428/12931 | ..... | Co-, Fe-, or Ni-base components, alternative to each other |
| Y10T 428/12937 | ..... | Co- or Ni-base component next to Fe-base component |
| Y10T 428/12944 | ..... | Ni-base component |
| Y10T 428/12951 | ..... | Fe-base component |
| Y10T 428/12958 | ..... | Next to Fe-base component |
| Y10T 428/12965 | ..... | Both containing 0.01-1.7% carbon [i.e., steel] |
| Y10T 428/12972 | ..... | Containing 0.01-1.7% carbon [i.e., steel] |
| Y10T 428/12979 | ..... | Containing more than 10% nonferrous elements [e.g., high alloy, stainless] |
| Y10T 428/12986 | ... | Adjacent functionally defined components |
| Y10T 428/12993 | .. | Surface feature [e.g., rough, mirror] |
| Y10T 428/13 | . | Hollow or container type article [e.g., tube, vase, etc.] |
| Y10T 428/1303 | .. | Paper containing [e.g., paperboard, cardboard, fiberboard, etc.] |
| Y10T 428/1307 | ... | Bag or tubular film [e.g., pouch, flexible food casing, envelope, etc.] |
| Y10T 428/131 | .. | Glass, ceramic, or sintered, fused, fired, or calcined metal oxide or metal carbide containing [e.g., porcelain, brick, cement, etc.] |
| Y10T 428/1314 | ... | Contains fabric, fiber particle, or filament made of glass, ceramic, or sintered, fused, fired, or calcined metal oxide, or metal carbide or other inorganic compound [e.g., fiber glass, mineral fiber, sand, etc.] |
| Y10T 428/1317 | ... | Multilayer [continuous layer] |
| Y10T 428/1321 | .... | Polymer or resin containing [i.e., natural or synthetic] |
| Y10T 428/1324 | .. | Flexible food casing [e.g., sausage type, etc.] |
| Y10T 428/1328 | .. | Shrinkable or shrunk [e.g., due to heat, solvent, volatile agent, restraint removal, etc.] |
| Y10T 428/1331 | ... | Single layer [continuous layer] |
| Y10T 428/1334 | .. | Nonself-supporting tubular film or bag [e.g., pouch, envelope, packet, etc.] |
| Y10T 428/1338 | ... | Elemental metal containing |

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| Y10T 428/1341 | ... | Contains vapor or gas barrier, polymer derived from vinyl chloride or vinylidene chloride, or polymer containing a vinyl alcohol unit |
| Y10T 428/1345 | ... | Single layer [continuous layer] |
| Y10T 428/1348 | .. | Cellular material derived from plant or animal source [e.g., wood, cotton, wool, leather, etc.] |
| Y10T 428/1352 | .. | Polymer or resin containing [i.e., natural or synthetic] |
| Y10T 428/1355 | ... | Elemental metal containing [e.g., substrate, foil, film, coating, etc.] |
| Y10T 428/1359 | .... | Three or more layers [continuous layer] |
| Y10T 428/1362 | ... | Textile, fabric, cloth, or pile containing [e.g., web, net, woven, knitted, mesh, nonwoven, matted, etc.] |
| Y10T 428/1366 | .... | Textile, fabric, cloth, or pile is sandwiched between two distinct layers of material unlike the textile, fabric, cloth, or pile layer |
| Y10T 428/1369 | ... | Fiber or fibers wound around each other or into a self-sustaining shape [e.g., yarn, braid, fibers shaped around a core, etc.] |
| Y10T 428/1372 | ... | Randomly noninterengaged or randomly contacting fibers, filaments, particles, or flakes |
| Y10T 428/1376 | ... | Foam or porous material containing |
| Y10T 428/1379 | ... | Contains vapor or gas barrier, polymer derived from vinyl chloride or vinylidene chloride, or polymer containing a vinyl alcohol unit |
| Y10T 428/1383 | .... | Vapor or gas barrier, polymer derived from vinyl chloride or vinylidene chloride, or polymer containing a vinyl alcohol unit is sandwiched between layers [continuous layer] |
| Y10T 428/1386 | ... | Natural or synthetic rubber or rubber-like compound containing |
| Y10T 428/139 | ... | Open-ended, self-supporting conduit, cylinder, or tube-type article |
| Y10T 428/1393 | .... | Multilayer [continuous layer] |
| Y10T 428/1397 | ... | Single layer [continuous layer] |
| Y10T 428/14 | . | Layer or component removable to expose adhesive |
| Y10T 428/1405 | .. | Capsule or particulate matter containing [e.g., sphere, flake, microballoon, etc.] |
| Y10T 428/141 | .. | Bituminous |
| Y10T 428/1414 | .. | Ceramic, glass, glasslike, vitreous |
| Y10T 428/1419 | .. | Wax containing |
| Y10T 428/1424 | .. | Halogen containing compound |
| Y10T 428/1429 | ... | Fluorine |
| Y10T 428/1433 | ... | Coloring agent containing |
| Y10T 428/1438 | .. | Metal containing |
| Y10T 428/1443 | ... | Aluminum |
| Y10T 428/1448 | ... | Coloring agent containing |
| Y10T 428/1452 | .. | Polymer derived only from ethylenically unsaturated monomer |
| Y10T 428/1457 | ... | Silicon |
| Y10T 428/1462 | .. | Polymer derived from material having at least one acrylic or alkacrylic group or the nitrile or amide derivative thereof [e.g., acrylamide, acrylate ester, etc.] |
| Y10T 428/1467 | .. | Coloring agent |
| Y10T 428/1471 | .. | Protective layer |

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| Y10T 428/1476 | .. | Release layer |
| Y10T 428/1481 | .. | Dissimilar adhesives |
| Y10T 428/1486 | .. | Ornamental, decorative, pattern, or indicia |
| Y10T 428/149 | .. | Sectional layer removable |
| Y10T 428/1495 | ... | Adhesive is on removable layer |
| Y10T 428/15 | . | Sheet, web, or layer weakened to permit separation through thickness |
| Y10T 428/16 | . | Two dimensionally sectional layer |
| Y10T 428/161 | .. | with frame, casing, or perimeter structure |
| Y10T 428/162 | .. | Transparent or translucent layer or section |
| Y10T 428/163 | .. | Next to unitary web or sheet of equal or greater extent |
| Y10T 428/164 | ... | Continuous two dimensionally sectional layer |
| Y10T 428/166 | .... | Glass, ceramic, or metal sections [e.g., floor or wall tile, etc.] |
| Y10T 428/167 | .... | Cellulosic sections [e.g., parquet floor, etc.] |
| Y10T 428/168 | ... | Nonrectangular |
| Y10T 428/169 | .. | Sections connected flexibly with external fastener |
| Y10T 428/17 | . | Three or more coplanar interfitted sections with securing means |
| Y10T 428/18 | . | Longitudinally sectional layer of three or more sections |
| Y10T 428/183 | .. | Next to unitary sheet of equal or greater extent |
| Y10T 428/187 | ... | Continuous sectional layer |
| Y10T 428/19 | . | Sheets or webs edge spliced or joined |
| Y10T 428/192 | .. | Sheets or webs coplanar |
| Y10T 428/193 | ... | Double faced corrugated sheets or webs connected |
| Y10T 428/195 | ... | Beveled, stepped, or skived in thickness |
| Y10T 428/197 | ... | with noncoplanar reinforcement |
| Y10T 428/198 | .... | Pile or nap surface sheets connected |
| Y10T 428/20 | . | Patched hole or depression |
| Y10T 428/21 | . | Circular sheet or circular blank |
| Y10T 428/211 | .. | Gear |
| Y10T 428/213 | .. | Frictional |
| Y10T 428/214 | .. | End closure |
| Y10T 428/215 | .. | Seal, gasket, or packing |
| Y10T 428/216 | .. | Ornamental, decorative, pattern, or indicia |
| Y10T 428/218 | .. | Aperture containing |
| Y10T 428/219 | .. | Edge structure |
| Y10T 428/22 | . | Nonparticulate element embedded or inlaid in substrate and visible |
| Y10T 428/23 | . | Sheet including cover or casing |
| Y10T 428/231 | .. | Filled with gas other than air; or under vacuum |
| Y10T 428/232 | .. | Encased layer derived from inorganic settable ingredient |
| Y10T 428/233 | .. | Foamed or expanded material encased |
| Y10T 428/234 | .. | including elements cooperating to form cells |

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| Y10T 428/236 | ... | Honeycomb type cells extend perpendicularly to nonthickness layer |
| Y10T 428/237 | .. | Noninterengaged fibered material encased [e.g., mat, batt, etc.] |
| Y10T 428/238 | ... | Metal cover or casing |
| Y10T 428/239 | .. | Complete cover or casing |
| Y10T 428/23907 | . | Pile or nap type surface or component |
| Y10T 428/23914 | .. | Interlaminar |
| Y10T 428/23921 | .. | With particles |
| Y10T 428/23929 | .. | Edge feature or configured or discontinuous surface |
| Y10T 428/23936 | ... | Differential pile length or surface |
| Y10T 428/23943 | .. | Flock surface |
| Y10T 428/2395 | .. | Nap type surface |
| Y10T 428/23957 | .. | Particular shape or structure of pile |
| Y10T 428/23964 | ... | U-, V-, or W-shaped or continuous strand, filamentary material |
| Y10T 428/23971 | .... | Continuous strand with adhesive bond to backing |
| Y10T 428/23979 | .. | Particular backing structure or composition |
| Y10T 428/23986 | .. | With coating, impregnation, or bond |
| Y10T 428/23993 | .. | Composition of pile or adhesive |
| Y10T 428/24 | . | Structurally defined web or sheet [e.g., overall dimension, etc.] |
| Y10T 428/24008 | .. | including fastener for attaching to external surface |
| Y10T 428/24017 | ... | Hook or barb |
| Y10T 428/24025 | .. | Superposed movable attached layers or components |
| Y10T 428/24033 | .. | including stitching and discrete fastener[s], coating or bond |
| Y10T 428/24041 | ... | Discontinuous or differential coating, impregnation, or bond |
| Y10T 428/2405 | .... | Coating, impregnation, or bond in stitching zone only |
| Y10T 428/24058 | .. | including grain, strips, or filamentary elements in respective layers or components in angular relation |
| Y10T 428/24066 | ... | Wood grain |
| Y10T 428/24074 | ... | Strand or strand-portions |
| Y10T 428/24083 | .... | Nonlinear strands or strand-portions |
| Y10T 428/24091 | .... | with additional layer[s] |
| Y10T 428/24099 | ..... | On each side of strands or strand-portions |
| Y10T 428/24107 | ..... | including mechanically interengaged strands, strand-portions or strand-like strips |
| Y10T 428/24116 | .... | Oblique to direction of web |
| Y10T 428/24124 | ... | Fibers |
| Y10T 428/24132 | .. | including grain, strips, or filamentary elements in different layers or components parallel |
| Y10T 428/2414 | .. | including fringe |
| Y10T 428/24149 | .. | Honeycomb-like |
| Y10T 428/24157 | ... | Filled honeycomb cells [e.g., solid substance in cavities, etc.] |
| Y10T 428/24165 | ... | Hexagonally shaped cavities |

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| Y10T 428/24174 | .. | including sheet or component perpendicular to plane of web or sheet |
| Y10T 428/24182 | ... | Inward from edge of web or sheet |
| Y10T 428/2419 | .. | Fold at edge |
| Y10T 428/24198 | ... | Channel-shaped edge component [e.g., binding, etc.] |
| Y10T 428/24207 | ... | with strand[s] or strand-portion[s] between layers [e.g., upholstery trim, etc.] |
| Y10T 428/24215 | ... | Acute or reverse fold of exterior component |
| Y10T 428/24223 | .... | Embedded in body of web |
| Y10T 428/24231 | .... | At opposed marginal edges |
| Y10T 428/2424 | ..... | Annular cover |
| Y10T 428/24248 | ..... | One piece |
| Y10T 428/24256 | ..... | Abutted or lapped seam |
| Y10T 428/24264 | ... | Particular fold structure [e.g., beveled, etc.] |
| Y10T 428/24273 | .. | including aperture |
| Y10T 428/24281 | ... | Struck out portion type |
| Y10T 428/24289 | .... | Embedded or interlocked |
| Y10T 428/24298 | ... | Noncircular aperture [e.g., slit, diamond, rectangular, etc.] |
| Y10T 428/24306 | .... | Diamond or hexagonal |
| Y10T 428/24314 | .... | Slit or elongated |
| Y10T 428/24322 | ... | Composite web or sheet |
| Y10T 428/24331 | .... | including nonapertured component |
| Y10T 428/24339 | ..... | Keyed |
| Y10T 428/24347 | ..... | From both sides |
| Y10T 428/24355 | .. | Continuous and nonuniform or irregular surface on layer or component [e.g., roofing, etc.] |
| Y10T 428/24364 | ... | with transparent or protective coating |
| Y10T 428/24372 | ... | Particulate matter |
| Y10T 428/2438 | .... | Coated |
| Y10T 428/24388 | ..... | Silicon containing coating |
| Y10T 428/24397 | .... | Carbohydrate |
| Y10T 428/24405 | .... | Polymer or resin [e.g., natural or synthetic rubber, etc.] |
| Y10T 428/24413 | .... | Metal or metal compound |
| Y10T 428/24421 | .... | Silicon containing |
| Y10T 428/2443 | ..... | Sand, clay, or crushed rock or slate |
| Y10T 428/24438 | ... | Artificial wood or leather grain surface |
| Y10T 428/24446 | ... | Wrinkled, creased, crinkled or creped |
| Y10T 428/24455 | .... | Paper |
| Y10T 428/24463 | ..... | Plural paper components |
| Y10T 428/24471 | ... | Crackled, crazed or slit |
| Y10T 428/24479 | .. | including variation in thickness |
| Y10T 428/24488 | ... | Differential nonuniformity at margin |

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| Y10T 428/24496 | ... | Foamed or cellular component |
| Y10T 428/24504 | | Component comprises a polymer [e.g., rubber, etc.] |
| Y10T 428/24512 | ..... | Polyurethane |
| Y10T 428/24521 | ... | with component conforming to contour of nonplanar surface |
| Y10T 428/24529 | .... | and conforming component on an opposite nonplanar surface |
| Y10T 428/24537 | .... | Parallel ribs and/or grooves |
| Y10T 428/24545 | .... | Containing metal or metal compound |
| Y10T 428/24554 | .... | including cellulosic or natural rubber component |
| Y10T 428/24562 | ... | Interlaminar spaces |
| Y10T 428/2457 | ... | Parallel ribs and/or grooves |
| Y10T 428/24579 | .... | with particulate matter |
| Y10T 428/24587 | .... | Oblique to longitudinal axis of web or sheet |
| Y10T 428/24595 | ... | and varying density |
| Y10T 428/24603 | .... | Fiber containing component |
| Y10T 428/24612 | ... | Composite web or sheet |
| Y10T 428/2462 | .... | with partial filling of valleys on outer surface |
| Y10T 428/24628 | .. | Nonplanar uniform thickness material |
| Y10T 428/24636 | ... | Embodying mechanically interengaged strand[s], strand-portion[s] or strand-like strip[s] [e.g., weave, knit, etc.] |
| Y10T 428/24645 | .... | with folds in parallel planes |
| Y10T 428/24653 | ... | Differential nonplanarity at margin |
| Y10T 428/24661 | ... | Forming, or cooperating to form cells |
| Y10T 428/24669 | ... | Aligned or parallel nonplanarities |
| Y10T 428/24678 | .... | Waffle-form |
| Y10T 428/24686 | .... | Pleats or otherwise parallel adjacent folds |
| Y10T 428/24694 | .... | Parallel corrugations |
| Y10T 428/24702 | ..... | with locally deformed crests or intersecting series of corrugations |
| Y10T 428/24711 | ..... | Plural corrugated components |
| Y10T 428/24719 | ..... | with corrugations of respective components intersecting in plane projection |
| Y10T 428/24727 | ..... | with planar component |
| Y10T 428/24736 | ... | Ornamental design or indicia |
| Y10T 428/24744 | .. | Longitudinal or transverse tubular cavity or cell |
| Y10T 428/24752 | .. | Laterally noncoextensive components |
| Y10T 428/2476 | ... | Fabric, cloth or textile component |
| Y10T 428/24769 | ... | Cellulosic |
| Y10T 428/24777 | .. | Edge feature |
| Y10T 428/24785 | ... | including layer embodying mechanically interengaged strands, strand portions or strand-like strips [e.g., weave, knit, etc.] |
| Y10T 428/24793 | ... | Comprising discontinuous or differential impregnation or bond |

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| Y10T 428/24802 | .. | Discontinuous or differential coating, impregnation or bond [e.g., artwork, printing, retouched photograph, etc.] |
| Y10T 428/2481 | ... | including layer of mechanically interengaged strands, strand-portions or strand-like strips |
| Y10T 428/24818 | .... | Knitted, with particular or differential bond sites or intersections |
| Y10T 428/24826 | ... | Spot bonds connect components |
| Y10T 428/24835 | ... | including developable image or soluble portion in coating or impregnation [e.g., safety paper, etc.] |
| Y10T 428/24843 | ... | with heat sealable or heat releasable adhesive layer |
| Y10T 428/24851 | ... | Intermediate layer is discontinuous or differential |
| Y10T 428/2486 | .... | with outer strippable or release layer |
| Y10T 428/24868 | .... | Translucent outer layer |
| Y10T 428/24876 | ..... | Intermediate layer contains particulate material [e.g., pigment, etc.] |
| Y10T 428/24884 | ..... | Translucent layer comprises natural oil, wax, resin, gum, glue, gelatin |
| Y10T 428/24893 | ... | including particulate material |
| Y10T 428/24901 | .... | including coloring matter |
| Y10T 428/24909 | .... | Free metal or mineral containing |
| Y10T 428/24917 | ... | including metal layer |
| Y10T 428/24926 | ... | including ceramic, glass, porcelain or quartz layer |
| Y10T 428/24934 | ... | including paper layer |
| Y10T 428/24942 | .. | including components having same physical characteristic in differing degree |
| Y10T 428/2495 | ... | Thickness [relative or absolute] |
| Y10T 428/24959 | .... | of adhesive layers |
| Y10T 428/24967 | .... | Absolute thicknesses specified |
| Y10T 428/24975 | ..... | No layer or component greater than 5 mils thick |
| Y10T 428/24983 | ... | Hardness |
| Y10T 428/24992 | ... | Density or compression of components |
| Y10T 428/249921 | . | Web or sheet containing structurally defined element or component |
| Y10T 428/249922 | .. | Embodying intertwined or helical component[s] |
| Y10T 428/249923 | .. | Including interlaminar mechanical fastener |
| Y10T 428/249924 | .. | Noninterengaged fiber-containing paper-free web or sheet which is not of specified porosity |
| Y10T 428/249925 | ... | Fiber-containing wood product [e.g., hardboard, lumber, or wood board, etc.] |
| Y10T 428/249926 | ... | Including paper layer |
| Y10T 428/249927 | ... | Fiber embedded in a metal matrix |
| Y10T 428/249928 | ... | Fiber embedded in a ceramic, glass, or carbon matrix |
| Y10T 428/249929 | .... | Fibers are aligned substantially parallel |
| Y10T 428/24993 | ..... | Fiber is precoated |
| Y10T 428/249931 | .... | Free metal or alloy fiber |
| Y10T 428/249932 | ... | Fiber embedded in a layer derived from a water-settable material [e.g., cement, gypsum, etc.] |

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| Y10T 428/249933 | ... | Fiber embedded in or on the surface of a natural or synthetic rubber matrix |
| Y10T 428/249934 | .... | Fibers are aligned substantially parallel |
| Y10T 428/249935 | ..... | Fiber is nonlinear [e.g., crimped, sinusoidal, etc.] |
| Y10T 428/249936 | ..... | Fiber is precoated |
| Y10T 428/249937 | .... | Fiber is precoated |
| Y10T 428/249938 | .... | Composite or conjugate fiber [e.g., fiber contains more than one chemically different material in monofilament or multifilament form, etc.] |
| Y10T 428/249939 | .... | Two or more layers |
| Y10T 428/24994 | ... | Fiber embedded in or on the surface of a polymeric matrix |
| Y10T 428/249941 | .... | Fiber is on the surface of a polymeric matrix having no embedded portion |
| Y10T 428/249942 | .... | Fibers are aligned substantially parallel |
| Y10T 428/249943 | ..... | Fiber is nonlinear [e.g., crimped, sinusoidal, etc.] |
| Y10T 428/249944 | ..... | Fiber is precoated |
| Y10T 428/249945 | ..... | Carbon or carbonaceous fiber |
| Y10T 428/249946 | ..... | Glass fiber |
| Y10T 428/249947 | ..... | Polymeric fiber |
| Y10T 428/249948 | .... | Fiber is precoated |
| Y10T 428/249949 | .... | Two or more chemically different fibers |
| Y10T 428/24995 | .... | Two or more layers |
| Y10T 428/249951 | ..... | Including a free metal or alloy constituent |
| Y10T 428/249952 | ..... | At least one thermosetting synthetic polymeric material layer |
| Y10T 428/249953 | .. | Composite having voids in a component [e.g., porous, cellular, etc.] |
| Y10T 428/249954 | ... | With chemically effective material or specified gas other than air, N, or carbon dioxide in void-containing component |
| Y10T 428/249955 | ... | Void-containing component partially impregnated with adjacent component |
| Y10T 428/249956 | .... | Void-containing component is inorganic |
| Y10T 428/249957 | ..... | Inorganic impregnant |
| Y10T 428/249958 | .... | Void-containing component is synthetic resin or natural rubbers |
| Y10T 428/249959 | .... | Void-containing component is wood or paper |
| Y10T 428/24996 | ... | With internal element bridging layers, nonplanar interface between layers, or intermediate layer of commingled adjacent foam layers |
| Y10T 428/249961 | ... | With gradual property change within a component |
| Y10T 428/249962 | ... | Void-containing component has a continuous matrix of fibers only [e.g., porous paper, etc.] |
| Y10T 428/249963 | .... | And a force disintegratable component [e.g., stencil sheet, etc.] |
| Y10T 428/249964 | .... | Fibers of defined composition |
| Y10T 428/249965 | ..... | Cellulosic |
| Y10T 428/249966 | ..... | Plural cellulosic components |
| Y10T 428/249967 | ... | Inorganic matrix in void-containing component |
| Y10T 428/249968 | | Of hydraulic-setting material |
| Y10T 428/249969 | | Of silicon-containing material [e.g., glass, etc.] |

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|-----------------|-------|---|
| Y10T 428/24997 | | Of metal-containing material |
| Y10T 428/249971 | ... | Preformed hollow element-containing |
| Y10T 428/249972 | .... | Resin or rubber element |
| Y10T 428/249973 | .... | Mineral element |
| Y10T 428/249974 | .... | Metal- or silicon-containing element |
| Y10T 428/249975 | ... | Void shape specified [e.g., crushed, flat, round, etc.] |
| Y10T 428/249976 | ... | Voids specified as closed |
| Y10T 428/249977 | .... | Specified thickness of void-containing component [absolute or relative], numerical cell dimension or density |
| Y10T 428/249978 | ... | Voids specified as micro |
| Y10T 428/249979 | .... | Specified thickness of void-containing component [absolute or relative] or numerical cell dimension |
| Y10T 428/24998 | .... | Composite has more than two layers |
| Y10T 428/249981 | ... | Plural void-containing components |
| Y10T 428/249982 | ... | With component specified as adhesive or bonding agent |
| Y10T 428/249983 | .... | As outermost component |
| Y10T 428/249984 | .... | Adhesive or bonding component contains voids |
| Y10T 428/249985 | .... | Composition of adhesive or bonding component specified |
| Y10T 428/249986 | ... | Void-containing component contains also a solid fiber or solid particle |
| Y10T 428/249987 | ... | With nonvoid component of specified composition |
| Y10T 428/249988 | .... | Of about the same composition as, and adjacent to, the void-containing component |
| Y10T 428/249989 | ..... | Integrally formed skin |
| Y10T 428/24999 | .... | Inorganic |
| Y10T 428/249991 | .... | Synthetic resin or natural rubbers |
| Y10T 428/249992 | ..... | Linear or thermoplastic |
| Y10T 428/249993 | ..... | Hydrocarbon polymer |
| Y10T 428/249994 | .. | Composite having a component wherein a constituent is liquid or is contained within preformed walls [e.g., impregnant-filled, previously void containing component, etc.] |
| Y10T 428/249995 | ... | Constituent is in liquid form |
| Y10T 428/249996 | .... | Ink in pores |
| Y10T 428/249997 | .... | Encapsulated liquid |
| Y10T 428/249998 | ... | Indefinite plurality of similar impregnated thin sheets [e.g., "decorative laminate" type, etc.] |
| Y10T 428/249999 | ... | Differentially filled foam, filled plural layers, or filled layer with coat of filling material |
| Y10T 428/25 | . | Web or sheet containing structurally defined element or component and including a second component containing structurally defined particles |
| Y10T 428/251 | .. | Mica |
| Y10T 428/252 | .. | Glass or ceramic [i.e., fired or glazed clay, cement, etc.] [porcelain, quartz, etc.] |
| Y10T 428/253 | .. | Cellulosic [e.g., wood, paper, cork, rayon, etc.] |

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|---------------|------|--|
| Y10T 428/254 | .. | Polymeric or resinous material |
| Y10T 428/256 | .. | Heavy metal or aluminum or compound thereof |
| Y10T 428/257 | ... | Iron oxide or aluminum oxide |
| Y10T 428/258 | .. | Alkali metal or alkaline earth metal or compound thereof |
| Y10T 428/259 | .. | Silicic material |
| Y10T 428/26 | . | Web or sheet containing structurally defined element or component, the element or component having a specified physical dimension |
| Y10T 428/261 | .. | In terms of molecular thickness or light wave length |
| Y10T 428/263 | .. | Coating layer not in excess of 5 mils thick or equivalent |
| Y10T 428/264 | ... | Up to 3 mils |
| Y10T 428/265 | .... | 1 mil or less |
| Y10T 428/266 | .. | of base or substrate |
| Y10T 428/268 | .. | Monolayer with structurally defined element |
| Y10T 428/269 | .. | including synthetic resin or polymer layer or component |
| Y10T 428/27 | . | Web or sheet containing structurally defined element or component, the element or component having a specified weight per unit area [e.g., gms/sq cm, lbs/sq ft, etc.] |
| Y10T 428/273 | .. | of coating |
| Y10T 428/277 | ... | Cellulosic substrate |
| Y10T 428/28 | . | Web or sheet containing structurally defined element or component and having an adhesive outermost layer |
| Y10T 428/2804 | .. | Next to metal |
| Y10T 428/2809 | .. | including irradiated or wave energy treated component |
| Y10T 428/2813 | .. | Heat or solvent activated or sealable |
| Y10T 428/2817 | ... | Heat sealable |
| Y10T 428/2822 | .... | Wax containing |
| Y10T 428/2826 | .... | Synthetic resin or polymer |
| Y10T 428/283 | ... | Water activated |
| Y10T 428/2835 | .. | including moisture or waterproof component |
| Y10T 428/2839 | .. | with release or antistick coating |
| Y10T 428/2843 | .. | including a primer layer |
| Y10T 428/2848 | .. | Three or more layers |
| Y10T 428/2852 | .. | Adhesive compositions |
| Y10T 428/2857 | ... | including metal or compound thereof or natural rubber |
| Y10T 428/2861 | ... | having readily strippable combined with readily readhearable properties [e.g., stick-ons, etc.] |
| Y10T 428/2865 | ... | including monomer or polymer of carbohydrate [e.g., starch, dextrin, etc.] Or protein [e.g., casein, animal protein, etc.] Or derivative thereof |
| Y10T 428/287 | ... | including epoxy group or epoxy polymer |
| Y10T 428/2874 | ... | including aldehyde or ketone condensation polymer [e.g., urea formaldehyde polymer, melamine formaldehyde polymer, etc.] |
| Y10T 428/2878 | ... | including addition polymer from unsaturated monomer |
| Y10T 428/2883 | | including addition polymer of diene monomer [e.g., SBR, SIS, etc.] |

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| Y10T 428/2887 | | including nitrogen containing polymer [e.g., polyacrylonitrile, polymethacrylonitrile, etc.] |
| Y10T 428/2891 | .... | including addition polymer from alpha-beta unsaturated carboxylic acid [e.g., acrylic acid, methacrylic acid, etc.] Or derivative thereof |
| Y10T 428/2896 | ... | including nitrogen containing condensation polymer [e.g., polyurethane, polyisocyanate, etc.] |
| Y10T 428/29 | . | Coated or structurally defined flake, particle, cell, strand, strand portion, rod, filament, macroscopic fiber or mass thereof |
| Y10T 428/2902 | .. | Channel shape |
| Y10T 428/2904 | .. | Staple length fiber |
| Y10T 428/2905 | ... | Plural and with bonded intersections only |
| Y10T 428/2907 | ... | with coating or impregnation |
| Y10T 428/2909 | ... | Nonlinear [e.g., crimped, coiled, etc.] |
| Y10T 428/2911 | .. | Mica flake |
| Y10T 428/2913 | .. | Rod, strand, filament or fiber |
| Y10T 428/2915 | ... | including textile, cloth or fabric |
| Y10T 428/2916 | ... | including boron or compound thereof [not as steel] |
| Y10T 428/2918 | ... | including free carbon or carbide or therewith [not as steel] |
| Y10T 428/292 | .... | In coating or impregnation |
| Y10T 428/2922 | ... | Nonlinear [e.g., crimped, coiled, etc.] |
| Y10T 428/2924 | .... | Composite |
| Y10T 428/2925 | .... | Helical or coiled |
| Y10T 428/2927 | ... | including structurally defined particulate matter |
| Y10T 428/2929 | ... | Bicomponent, conjugate, composite or collateral fibers or filaments [i.e., coextruded sheath-core or side-by-side type] |
| Y10T 428/2931 | .... | Fibers or filaments nonconcentric [e.g., side-by-side or eccentric, etc.] |
| Y10T 428/2933 | ... | Coated or with bond, impregnation or core |
| Y10T 428/2935 | .... | Discontinuous or tubular or cellular core |
| Y10T 428/2936 | .... | Wound or wrapped core or coating [i.e., spiral or helical] |
| Y10T 428/2938 | .... | Coating on discrete and individual rods, strands or filaments |
| Y10T 428/294 | .... | including metal or compound thereof [excluding glass, ceramic and asbestos] |
| Y10T 428/2942 | ..... | Plural coatings |
| Y10T 428/2944 | ..... | Free metal in coating |
| Y10T 428/2945 | ..... | Natural rubber in coating |
| Y10T 428/2947 | ..... | Synthetic resin or polymer in plural coatings, each of different type |
| Y10T 428/2949 | ..... | Glass, ceramic or metal oxide in coating |
| Y10T 428/2951 | ..... | Metal with weld modifying or stabilizing coating [e.g., flux, slag, producer, etc.] |
| Y10T 428/2953 | ..... | Titanium compound in coating |
| Y10T 428/2955 | | Silicic material in coating |
| Y10T 428/2956 | | Glass or silicic fiber or filament with metal coating |

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| Y10T 428/2958 | | Metal or metal compound in coating |
| Y10T 428/296 | | Rubber, cellulosic or silicic material in coating |
| Y10T 428/2962 | .... | Silane, silicone or siloxane in coating |
| Y10T 428/2964 | .... | Artificial fiber or filament |
| Y10T 428/2965 | ..... | Cellulosic |
| Y10T 428/2967 | ..... | Synthetic resin or polymer |
| Y10T 428/2969 | ..... | Polyamide, polyimide or polyester |
| Y10T 428/2971 | .... | Impregnation |
| Y10T 428/2973 | ... | Particular cross section |
| Y10T 428/2975 | .... | Tubular or cellular |
| Y10T 428/2976 | .... | Longitudinally varying |
| Y10T 428/2978 | .... | Surface characteristic |
| Y10T 428/298 | ... | Physical dimension |
| Y10T 428/2982 | .. | Particulate matter [e.g., sphere, flake, etc.] |
| Y10T 428/2984 | ... | Microcapsule with fluid core [includes liposome] |
| Y10T 428/2985 | .... | Solid-walled microcapsule from synthetic polymer |
| Y10T 428/2987 | ..... | Addition polymer from unsaturated monomers only |
| Y10T 428/2989 | ... | Microcapsule with solid core [includes liposome] |
| Y10T 428/2991 | ... | Coated |
| Y10T 428/2993 | .... | Silicic or refractory material containing [e.g., tungsten oxide, glass, cement, etc.] |
| Y10T 428/2995 | ..... | Silane, siloxane or silicone coating |
| Y10T 428/2996 | ..... | Glass particles or spheres |
| Y10T 428/2998 | .... | including synthetic resin or polymer |
| Y10T 428/30 | . | Self-sustaining carbon mass or layer with impregnant or other layer |
| Y10T 428/31 | . | Surface property or characteristic of web, sheet or block |
| Y10T 428/315 | .. | Surface modified glass [e.g., tempered, strengthened, etc.] |
| Y10T 428/31504 | . | Composite [nonstructural laminate] |
| Y10T 428/31507 | .. | Of polycarbonate |
| Y10T 428/31511 | .. | Of epoxy ether |
| Y10T 428/31515 | ... | As intermediate layer |
| Y10T 428/31518 | .... | Next to glass or quartz |
| Y10T 428/31522 | .... | Next to metal |
| Y10T 428/31525 | ... | Next to glass or quartz |
| Y10T 428/31529 | ... | Next to metal |
| Y10T 428/31533 | .. | Of polythioether |
| Y10T 428/31536 | .. | Including interfacial reaction product of adjacent layers |
| Y10T 428/3154 | .. | Of fluorinated addition polymer from unsaturated monomers |
| Y10T 428/31544 | ... | Addition polymer is perhalogenated |
| Y10T 428/31547 | .. | Of polyisocyanurate |

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| Y10T 428/31551 | .. | Of polyamidoester [polyurethane, polyisocyanate, polycarbamate, etc.] |
| Y10T 428/31554 | ... | Next to second layer of polyamidoester |
| Y10T 428/31558 | ... | Next to animal skin or membrane |
| Y10T 428/31562 | ... | Next to polyamide [nylon, etc.] |
| Y10T 428/31565 | ... | Next to polyester [polyethylene terephthalate, etc.] |
| Y10T 428/31569 | ... | Next to natural rubber |
| Y10T 428/31573 | ... | Next to addition polymer of ethylenically unsaturated monomer |
| Y10T 428/31576 | .... | Ester monomer type [polyvinylacetate, etc.] |
| Y10T 428/3158 | .... | Halide monomer type [polyvinyl chloride, etc.] |
| Y10T 428/31583 | .... | Nitrile monomer type [polyacrylonitrile, etc.] |
| Y10T 428/31587 | .... | Hydrocarbon polymer [polyethylene, polybutadiene, etc.] |
| Y10T 428/31591 | ... | Next to cellulosic |
| Y10T 428/31594 | ... | Next to aldehyde or ketone condensation product [phenol-aldehyde, etc.] |
| Y10T 428/31598 | ... | Next to silicon-containing [silicone, cement, etc.] layer |
| Y10T 428/31601 | .... | Quartz or glass |
| Y10T 428/31605 | ... | Next to free metal |
| Y10T 428/31609 | ... | Particulate metal or metal compound-containing |
| Y10T 428/31612 | .... | As silicone, silane or siloxane |
| Y10T 428/31616 | ... | Next to polyester [e.g., alkyd] |
| Y10T 428/3162 | .... | Cross-linked polyester [e.g., glycerol maleate-styrene, etc.] |
| Y10T 428/31623 | ... | Next to polyamide or polyimide |
| Y10T 428/31627 | ... | Next to aldehyde or ketone condensation product |
| Y10T 428/3163 | .... | Next to acetal of polymerized unsaturated alcohol [e.g., formal butyral, etc.] |
| Y10T 428/31634 | ... | Next to cellulosic |
| Y10T 428/31638 | .... | Cellulosic ester |
| Y10T 428/31641 | ... | Next to natural rubber, gum, oil, rosin, wax, bituminous or tarry residue |
| Y10T 428/31645 | ... | Next to addition polymer from unsaturated monomers |
| Y10T 428/31649 | .... | Ester, halide or nitrile of addition polymer |
| Y10T 428/31652 | .. | Of asbestos |
| Y10T 428/31656 | ... | With metal layer |
| Y10T 428/31659 | ... | With cellulosic layer |
| Y10T 428/31663 | ... | As siloxane, silicone or silane |
| Y10T 428/31667 | ... | Next to addition polymer from unsaturated monomers, or aldehyde or ketone condensation product |
| Y10T 428/3167 | .. | Of cork |
| Y10T 428/31674 | ... | Including natural oil or gum or rosin [e.g., linoleum, etc.] |
| Y10T 428/31678 | .. | Of metal |
| Y10T 428/31681 | ... | Next to polyester, polyamide or polyimide [e.g., alkyd, glue, or nylon, etc.] |
| Y10T 428/31685 | | Natural source polyamide [e.g., casein, gelatin, etc.] |
| Y10T 428/31688 | ... | Next to aldehyde or ketone condensation product |

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| Y10T 428/31692 | ... | Next to addition polymer from unsaturated monomers |
| Y10T 428/31696 | | Including polyene monomers [e.g., butadiene, etc.] |
| Y10T 428/31699 | .... | Ester, halide or nitrile of addition polymer |
| Y10T 428/31703 | ... | Next to cellulosic |
| Y10T 428/31707 | ... | Next to natural rubber |
| Y10T 428/3171 | .... | With natural rubber next to second layer of natural rubber |
| Y10T 428/31714 | ... | Next to natural gum, natural oil, rosin, lac or wax |
| Y10T 428/31717 | ... | Next to bituminous or tarry residue |
| Y10T 428/31721 | .. | Of polyimide |
| Y10T 428/31725 | .. | Of polyamide |
| Y10T 428/31728 | ... | Next to second layer of polyamide |
| Y10T 428/31732 | .... | At least one layer is nylon type |
| Y10T 428/31736 | ... | Next to polyester |
| Y10T 428/31739 | ... | Nylon type |
| Y10T 428/31743 | .... | Next to addition polymer from unsaturated monomer[s] |
| Y10T 428/31746 | ..... | Polymer of monoethylenically unsaturated hydrocarbon |
| Y10T 428/3175 | ... | Next to addition polymer from unsaturated monomer[s] |
| Y10T 428/31754 | .... | Natural source-type polyamide |
| Y10T 428/31757 | .... | Polymer of monoethylenically unsaturated hydrocarbon |
| Y10T 428/31761 | ... | Next to aldehyde or ketone condensation product |
| Y10T 428/31765 | ... | Inorganic-containing or next to inorganic-containing |
| Y10T 428/31768 | ... | Natural source-type polyamide [e.g., casein, gelatin, etc.] |
| Y10T 428/31772 | .... | Next to cellulosic |
| Y10T 428/31775 | ..... | Paper |
| Y10T 428/31779 | ... | Next to cellulosic |
| Y10T 428/31783 | .... | Paper or wood |
| Y10T 428/31786 | .. | Of polyester [e.g., alkyd, etc.] |
| Y10T 428/3179 | ... | Next to cellulosic |
| Y10T 428/31794 | ... | Of cross-linked polyester |
| Y10T 428/31797 | ... | Next to addition polymer from unsaturated monomers |
| Y10T 428/31801 | .. | Of wax or waxy material |
| Y10T 428/31804 | ... | Next to cellulosic |
| Y10T 428/31808 | .... | Cellulosic is paper |
| Y10T 428/31812 | ..... | Glassine paper |
| Y10T 428/31815 | .. | Of bituminous or tarry residue |
| Y10T 428/31819 | ... | Next to cellulosic |
| Y10T 428/31823 | .... | Paper |
| Y10T 428/31826 | .. | Of natural rubber |
| Y10T 428/3183 | ... | Next to second layer of natural rubber |

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|----------------|-------|---|
| Y10T 428/31833 | ... | Next to aldehyde or ketone condensation product or addition polymer from unsaturated monomers |
| Y10T 428/31837 | .... | Including polyene monomers |
| Y10T 428/31841 | ... | Next to cellulosic |
| Y10T 428/31844 | .. | Of natural gum, rosin, natural oil or lac |
| Y10T 428/31848 | ... | Next to cellulosic |
| Y10T 428/31851 | .... | Natural oil |
| Y10T 428/31855 | .. | Of addition polymer from unsaturated monomers |
| Y10T 428/31859 | ... | Next to an aldehyde or ketone condensation product |
| Y10T 428/31862 | .... | Melamine-aldehyde |
| Y10T 428/31866 | ..... | Impregnated or coated cellulosic material |
| Y10T 428/3187 | .... | Amide-aldehyde |
| Y10T 428/31873 | ..... | Urea or modified urea-aldehyde |
| Y10T 428/31877 | .... | Phenol-aldehyde |
| Y10T 428/3188 | ... | Next to cellulosic |
| Y10T 428/31884 | .... | Regenerated or modified cellulose |
| Y10T 428/31888 | ..... | Addition polymer of hydrocarbon[s] only |
| Y10T 428/31891 | ..... | Where addition polymer is an ester or halide |
| Y10T 428/31895 | .... | Paper or wood |
| Y10T 428/31899 | ..... | Addition polymer of hydrocarbon[s] only |
| Y10T 428/31902 | ..... | Monoethylenically unsaturated |
| Y10T 428/31906 | ..... | Ester, halide or nitrile of addition polymer |
| Y10T 428/31909 | ... | Next to second addition polymer from unsaturated monomers |
| Y10T 428/31913 | .... | Monoolefin polymer |
| Y10T 428/31917 | ..... | Next to polyene polymer |
| Y10T 428/3192 | ..... | Next to vinyl or vinylidene chloride polymer |
| Y10T 428/31924 | .... | Including polyene monomers |
| Y10T 428/31928 | .... | Ester, halide or nitrile of addition polymer |
| Y10T 428/31931 | ... | Polyene monomer-containing |
| Y10T 428/31935 | ... | Ester, halide or nitrile of addition polymer |
| Y10T 428/31938 | ... | Polymer of monoethylenically unsaturated hydrocarbon |
| Y10T 428/31942 | .. | Of aldehyde or ketone condensation product |
| Y10T 428/31946 | ... | Next to second aldehyde or ketone condensation product |
| Y10T 428/31949 | ... | Next to cellulosic |
| Y10T 428/31953 | .... | Modified or regenerated cellulose |
| Y10T 428/31957 | .... | Wood |
| Y10T 428/3196 | ..... | Phenoplast |
| Y10T 428/31964 | | Paper |
| Y10T 428/31967 | | Phenoplast |
| Y10T 428/31971 | .. | Of carbohydrate |

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|----------------|-------|---|
| Y10T 428/31975 | ... | Of cellulosic next to another carbohydrate |
| Y10T 428/31978 | | Cellulosic next to another cellulosic |
| Y10T 428/31982 | ..... | Wood or paper |
| Y10T 428/31986 | ..... | Regenerated or modified |
| Y10T 428/31989 | ... | Of wood |
| Y10T 428/31993 | ... | Of paper |
| Y10T 428/31996 | .... | Next to layer of metal salt [e.g., plasterboard, etc.] |
| Y10T 428/32 | . | Composite [nonstructural laminate] of inorganic material having metal-compound-containing layer and having defined magnetic layer |
| Y10T 428/325 | .. | Magnetic layer next to second metal compound-containing layer |
| Y10T 428/4935 | . | Impregnated naturally solid product [e.g., leather, stone, etc.] |
| Y10T 428/662 | .. | Wood timber product [e.g., piling, post, veneer, etc.] |
| Y10T 428/8305 | . | Miscellaneous [e.g., treated surfaces, etc.] |

Former US Class 436 Series

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| Y10T 436/00 | Chemistry: analytical and immunological testing | |
| Y10T 436/10 | . | Composition for standardization, calibration, simulation, stabilization, preparation or preservation; processes of use in preparation for chemical testing |
| Y10T 436/100833 | .. | Simulative of a gaseous composition |
| Y10T 436/101666 | .. | Particle count or volume standard or control [e.g., platelet count standards, etc.] |
| Y10T 436/102499 | .. | Blood gas standard or control |
| Y10T 436/103332 | .. | Bilirubin or uric acid standard or control |
| Y10T 436/104165 | .. | Lipid, cholesterol, or triglyceride standard or control |
| Y10T 436/104998 | .. | Glucose, ketone, nitrate standard or control |
| Y10T 436/105831 | .. | Protein or peptide standard or control [e.g., hemoglobin, etc.] |
| Y10T 436/106664 | .. | Blood serum or blood plasma standard or control |
| Y10T 436/107497 | .. | Preparation composition [e.g., lysing or precipitation, etc.] |
| Y10T 436/108331 | .. | Preservative, buffer, anticoagulant or diluent |
| Y10T 436/109163 | .. | Inorganic standards or controls |
| Y10T 436/11 | . | Automated chemical analysis |
| Y10T 436/110833 | .. | Utilizing a moving indicator strip or tape |
| Y10T 436/111666 | .. | Utilizing a centrifuge or compartmented rotor |
| Y10T 436/112499 | .. | with sample on test slide |
| Y10T 436/113332 | .. | with conveyance of sample along a test line in a container or rack |
| Y10T 436/114165 | ... | with step of insertion or removal from test line |
| Y10T 436/114998 | ... | with treatment or replacement of aspirator element [e.g., cleaning, etc.] |
| Y10T 436/115831 | .. | Condition or time responsive |
| Y10T 436/116664 | ... | with automated titrator |
| Y10T 436/117497 | .. | with a continuously flowing sample or carrier stream |
| Y10T 436/118339 | ... | with formation of a segmented stream |

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| Y10T 436/119163 | .. | with aspirator of claimed structure |
| Y10T 436/12 | . | Condition responsive control |
| Y10T 436/13 | . | Tracers or tags |
| Y10T 436/14 | . | Heterocyclic carbon compound [i.e. , O, S, N, Se, Te, as only ring hetero atom] |
| Y10T 436/141111 | .. | Diverse hetero atoms in same or different rings [e.g., alkaloids, opiates, etc.] |
| Y10T 436/142222 | .. | Hetero-O [e.g., ascorbic acid, etc.] |
| Y10T 436/143333 | ... | Saccharide [e.g., DNA, etc.] |
| Y10T 436/144444 | .... | Glucose |
| Y10T 436/145555 | .. | Hetero-N |
| Y10T 436/146666 | ... | Bile pigment |
| Y10T 436/147777 | ... | Plural nitrogen in the same ring [e.g., barbituates, creatinine, etc.] |
| Y10T 436/148888 | .... | Uric acid |
| Y10T 436/15 | . | Inorganic acid or base [e.g. , hcl, sulfuric acid, etc.] |
| Y10T 436/153333 | .. | Halogen containing |
| Y10T 436/156666 | .. | Sulfur containing |
| Y10T 436/16 | . | Phosphorus containing |
| Y10T 436/163333 | .. | Organic [e.g., chemical warfare agents, insecticides, etc.] |
| Y10T 436/166666 | .. | of inorganic phosphorus compound in body fluid |
| Y10T 436/17 | . | Nitrogen containing |
| Y10T 436/170769 | .. | N-Nitroso containing [e.g., nitrosamine, etc.] |
| Y10T 436/171538 | .. | Urea or blood urea nitrogen |
| Y10T 436/172307 | .. | Cyanide or isocyanide |
| Y10T 436/173076 | .. | Nitrite or nitrate |
| Y10T 436/173845 | .. | Amine and quaternary ammonium |
| Y10T 436/174614 | ... | Tertiary amine |
| Y10T 436/175383 | ... | Ammonia |
| Y10T 436/176152 | .. | Total nitrogen determined |
| Y10T 436/176921 | ... | As part of an elemental analysis |
| Y10T 436/177692 | .. | Oxides of nitrogen |
| Y10T 436/178459 | ... | Only nitrogen dioxide |
| Y10T 436/179228 | ... | Both nitrogen oxide and dioxide |
| Y10T 436/18 | . | Sulfur containing |
| Y10T 436/182 | .. | Organic or sulfhydryl containing [e.g., mercaptan, hydrogen, sulfide, etc.] |
| Y10T 436/184 | ... | Only hydrogen sulfide |
| Y10T 436/186 | .. | Sulfur dioxide |
| Y10T 436/188 | .. | Total or elemental sulfur |
| Y10T 436/19 | . | Halogen containing |
| Y10T 436/193333 | .. | In aqueous solution |
| Y10T 436/196666 | .. | Carbon containing compound [e.g., vinylchloride, etc.] |
| Y10T 436/20 | . | Oxygen containing |

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|-----------------|-----|--|
| Y10T 436/200833 | .. | Carbonyl, ether, aldehyde or ketone containing |
| Y10T 436/201666 | ... | Carboxylic acid |
| Y10T 436/202499 | ... | Formaldehyde or acetone |
| Y10T 436/203332 | .. | Hydroxyl containing |
| Y10T 436/204165 | ... | Ethanol |
| Y10T 436/204998 | .. | Inorganic carbon compounds |
| Y10T 436/205831 | ... | Carbon monoxide only |
| Y10T 436/206664 | .. | Ozone or peroxide |
| Y10T 436/207497 | .. | Molecular oxygen |
| Y10T 436/208339 | ... | Fuel/air mixture or exhaust gas analysis |
| Y10T 436/209163 | ... | Dissolved or trace oxygen or oxygen content of a sealed environment |
| Y10T 436/21 | . | Hydrocarbon |
| Y10T 436/212 | .. | Aromatic |
| Y10T 436/214 | .. | Acyclic [e.g., methane, octane, isoparaffin, etc.] |
| Y10T 436/216 | ... | Unsaturated [e.g., ethylene, diene, etc.] |
| Y10T 436/218 | .. | Total hydrocarbon, flammability, combustibility [e.g., air-fuel mixture, etc.] |
| Y10T 436/22 | . | Hydrogen, per se |
| Y10T 436/23 | . | Carbon containing |
| Y10T 436/235 | .. | In an aqueous solution [e.g., TOC, etc.] |
| Y10T 436/24 | . | Nuclear magnetic resonance, electron spin resonance or other spin effects or mass spectrometry |
| Y10T 436/25 | . | including sample preparation |
| Y10T 436/25125 | .. | Digestion or removing interfering materials |
| Y10T 436/2525 | .. | Stabilizing or preserving |
| Y10T 436/25375 | .. | Liberation or purification of sample or separation of material from a sample [e.g., filtering, centrifuging, etc.] |
| Y10T 436/255 | ... | including use of a solid sorbent, semipermeable membrane, or liquid extraction |
| Y10T 436/25625 | .. | Dilution |
| Y10T 436/2575 | .. | Volumetric liquid transfer |
| Y10T 436/25875 | .. | Gaseous sample or with change of physical state |

Former US Class 442 series

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| Y10T 442/00 | Fabric [woven, knitted, or nonwoven textile or cloth, etc.] |
| Y10T 442/10 | . Scrim [e.g., open net or mesh, gauze, loose or open weave or knit, etc.] |
| Y10T 442/102 | .. Woven scrim |
| Y10T 442/103 | ... Including a multifilament fiber precoated with other than free metal or alloy prior to weaving |
| Y10T 442/105 | ... Comprising a composite fiber |
| Y10T 442/107 | ... Comprising at least two chemically different fibers |
| Y10T 442/109 | ... Metal or metal-coated fiber-containing scrim |

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| Y10T 442/11 | | Including an additional free metal or alloy constituent |
| Y10T 442/112 | | Particulate free metal or alloy constituent |
| Y10T 442/114 | .... | Including a foam layer |
| Y10T 442/116 | .... | Including a woven fabric which is not a scrim |
| Y10T 442/117 | ..... | Including a nonwoven fabric which is not a scrim |
| Y10T 442/119 | .... | Including a paper layer |
| Y10T 442/121 | .... | Including a nonwoven fabric which is not a scrim |
| Y10T 442/122 | ..... | Two or more nonwoven fabric layers |
| Y10T 442/124 | .... | Including a natural or synthetic rubber layer |
| Y10T 442/126 | .... | Including a preformed film, foil, or sheet |
| Y10T 442/128 | .... | Including a layer derived from a water-settable material [e.g., cement, gypsum, etc.] |
| Y10T 442/129 | .... | Including a ceramic or glass layer |
| Y10T 442/131 | .... | Including a coating or impregnation of synthetic polymeric material |
| Y10T 442/133 | ... | Inorganic fiber-containing scrim |
| Y10T 442/134 | .... | Including a carbon or carbonized fiber |
| Y10T 442/136 | .... | Including a foam layer |
| Y10T 442/138 | .... | Including a metal layer |
| Y10T 442/14 | .... | Including an additional scrim layer |
| Y10T 442/141 | .... | Including a woven fabric which is not a scrim |
| Y10T 442/143 | .... | Including a nonwoven fabric which is not a scrim |
| Y10T 442/145 | .... | Including a preformed film, foil, or sheet |
| Y10T 442/147 | .... | Including a mica layer |
| Y10T 442/148 | .... | Including a coating or impregnation containing particulate material other than fiber |
| Y10T 442/15 | ... | Including a foam layer |
| Y10T 442/152 | ... | Including a free metal or alloy constituent |
| Y10T 442/153 | ... | Including an additional scrim layer |
| Y10T 442/155 | ... | Including a paper layer |
| Y10T 442/157 | ..... | Two or more paper layers |
| Y10T 442/159 | ... | Including a nonwoven fabric which is not a scrim |
| Y10T 442/16 | ..... | Two or more nonwoven layers |
| Y10T 442/162 | ... | Including a natural or synthetic rubber layer |
| Y10T 442/164 | ... | Including a preformed film, foil, or sheet |
| Y10T 442/166 | .... | Cellulose acetate film or sheet |
| Y10T 442/167 | .... | Fluorinated polyolefin film or sheet |
| Y10T 442/169 | .... | Polyolefin film or sheet |
| Y10T 442/171 | ... | Including a layer derived from a water-settable material [e.g., cement, gypsum, etc.] |
| Y10T 442/172 | ... | Coated or impregnated |
| Y10T 442/174 | | Including particulate material other than fiber in coating or impregnation |

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| Y10T 442/176 | | Three or more layers |
| Y10T 442/178 | | Synthetic polymeric fiber |
| Y10T 442/179 | | Nylon fiber |
| Y10T 442/181 | .... | Bitumen coating or impregnation |
| Y10T 442/183 | ... | Synthetic polymeric fiber |
| Y10T 442/184 | .. | Nonwoven scrim |
| Y10T 442/186 | ... | Comprising a composite fiber |
| Y10T 442/188 | ... | Metal or metal-coated fiber-containing scrim |
| Y10T 442/19 | .... | Including a paper layer |
| Y10T 442/191 | ... | Inorganic fiber-containing scrim |
| Y10T 442/193 | .... | Including a foam layer |
| Y10T 442/195 | ... | Including a foam layer |
| Y10T 442/197 | ... | Including a nonwoven fabric which is not a scrim |
| Y10T 442/198 | ... | Coated or impregnated |
| Y10T 442/20 | . | Coated or impregnated woven, knit, or nonwoven fabric which is not [a] associated with another preformed layer or fiber layer or, [b] with respect to woven and knit, characterized, respectively, by a particular or differential weave or knit, wherein the coating or impregnation is neither a foamed material nor a free metal or alloy layer |
| Y10T 442/2008 | .. | Fabric composed of a fiber or strand which is of specific structural definition |
| Y10T 442/2016 | .. | Impregnation is confined to a plane disposed between both major fabric surfaces which are essentially free of impregnating material |
| Y10T 442/2025 | .. | Coating produced by extrusion |
| Y10T 442/2033 | .. | Coating or impregnation formed in situ [e.g., by interfacial condensation, coagulation, precipitation, etc.] |
| Y10T 442/2041 | .. | Two or more non-extruded coatings or impregnations |
| Y10T 442/2049 | ... | Each major face of the fabric has at least one coating or impregnation |
| Y10T 442/2057 | .... | At least two coatings or impregnations of different chemical composition |
| Y10T 442/2066 | ..... | Different coatings or impregnations on opposite faces of the fabric |
| Y10T 442/2074 | ..... | At least one coating or impregnation contains particulate material |
| Y10T 442/2082 | ..... | At least one coating or impregnation functions to fix pigments or particles on the surface of a coating or impregnation |
| Y10T 442/209 | .... | At least one coating or impregnation contains particulate material |
| Y10T 442/2098 | ... | At least two coatings or impregnations of different chemical composition |
| Y10T 442/2107 | .... | At least one coating or impregnation contains particulate material |
| Y10T 442/2115 | ..... | At least one coating or impregnation functions to fix pigments or particles on the surface of a coating or impregnation |
| Y10T 442/2123 | ... | At least one coating or impregnation contains particulate material |
| Y10T 442/2131 | .... | At least one coating or impregnation functions to fix pigments or particles on the surface of a coating or impregnation |
| Y10T 442/2139 | .. | Coating or impregnation specified as porous or permeable to a specific substance [e.g., water vapor, air, etc.] |
| Y10T 442/2148 | ... | Coating or impregnation is specified as microporous but is not a foam |

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| Y10T 442/2156 | .. | Coating or impregnation collects radionuclide or heavy metal |
| Y10T 442/2164 | .. | Coating or impregnation specified as water repellent |
| Y10T 442/2172 | ... | Also specified as oil repellent |
| Y10T 442/218 | ... | Organosilicon containing |
| Y10T 442/2189 | ... | Fluorocarbon containing |
| Y10T 442/2197 | ... | Nitrogen containing |
| Y10T 442/2205 | ... | Natural oil or wax containing |
| Y10T 442/2213 | .. | Coating or impregnation is specified as weather proof, water vapor resistant, or moisture resistant |
| Y10T 442/2221 | .. | Coating or impregnation is specified as water proof |
| Y10T 442/223 | ... | Organosilicon containing |
| Y10T 442/2238 | ... | Fluorocarbon containing |
| Y10T 442/2246 | ... | Nitrogen containing |
| Y10T 442/2254 | ... | Natural oil or wax containing |
| Y10T 442/2262 | .. | Coating or impregnation is oil repellent but not oil or stain release |
| Y10T 442/227 | ... | Fluorocarbon containing |
| Y10T 442/2279 | .. | Coating or impregnation improves soil repellency, soil release, or anti- soil redeposition qualities of fabric |
| Y10T 442/2287 | ... | Fluorocarbon containing |
| Y10T 442/2295 | ... | Linear polyether group chain containing |
| Y10T 442/2303 | .. | Coating or impregnation provides a fragrance or releases an odor intended to be perceptible to humans |
| Y10T 442/2311 | .. | Coating or impregnation is a lubricant or a surface friction reducing agent other than specified as improving the "hand" of the fabric or increasing the softness thereof |
| Y10T 442/232 | ... | Fluorocarbon containing |
| Y10T 442/2328 | ... | Organosilicon containing |
| Y10T 442/2336 | ... | Natural oil or wax containing |
| Y10T 442/2344 | .. | Coating or impregnation is anti-slip or friction-increasing other than specified as an abrasive |
| Y10T 442/2352 | .. | Coating or impregnation functions to soften the feel of or improve the "hand" of the fabric |
| Y10T 442/2361 | .. | Coating or impregnation improves stiffness of the fabric other than specified as a size |
| Y10T 442/2369 | .. | Coating or impregnation improves elasticity, bendability, resiliency, flexibility, or shape retention of the fabric |
| Y10T 442/2377 | ... | Improves elasticity |
| Y10T 442/2385 | ... | Improves shrink resistance |
| Y10T 442/2393 | ... | Coating or impregnation provides crease-resistance or wash and wear characteristics |
| Y10T 442/2402 | .. | Coating or impregnation specified as a size |
| Y10T 442/241 | .. | Coating or impregnation improves snag or pull resistance of the fabric |
| Y10T 442/2418 | .. | Coating or impregnation increases electrical conductivity or anti-static quality |

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| Y10T 442/2426 | ... | Elemental carbon containing |
| Y10T 442/2434 | ... | Linear polyether group chain containing |
| Y10T 442/2443 | ... | Nitrogen and phosphorus containing |
| Y10T 442/2451 | ... | Phosphorus containing |
| Y10T 442/2459 | ... | Nitrogen containing |
| Y10T 442/2467 | ... | Sulphur containing |
| Y10T 442/2475 | .. | Coating or impregnation is electrical insulation-providing, -improving, or -increasing, or conductivity-reducing |
| Y10T 442/2484 | .. | Coating or impregnation is water absorbency-increasing or hydrophilicity-increasing or hydrophilicity-imparting |
| Y10T 442/2492 | ... | Polyether group containing |
| Y10T 442/25 | .. | Coating or impregnation absorbs sound |
| Y10T 442/2508 | .. | Coating or impregnation absorbs chemical material other than water |
| Y10T 442/2516 | ... | Chemical material is one used in biological or chemical warfare |
| Y10T 442/2525 | .. | Coating or impregnation functions biologically [e.g., insect repellent, antiseptic, insecticide, bactericide, etc.] |
| Y10T 442/2533 | ... | Inhibits mildew |
| Y10T 442/2541 | ... | Insect repellent |
| Y10T 442/2549 | .. | Coating or impregnation is chemically inert or of stated nonreactance |
| Y10T 442/2557 | ... | Oxygen or ozone resistant |
| Y10T 442/2566 | ... | Organic solvent resistant [e.g., dry cleaning fluid, etc.] |
| Y10T 442/2574 | ... | Acid or alkali resistant |
| Y10T 442/2582 | .. | Coating or impregnation contains an optical bleach or brightener or functions as an optical bleach or brightener [e.g., it masks fabric yellowing, etc.] |
| Y10T 442/259 | .. | Coating or impregnation provides protection from radiation [e.g., U.V., visible light, I.R., micscheme-change-itemave, high energy particle, etc.] or heat retention thru radiation absorption |
| Y10T 442/2598 | ... | Radiation reflective |
| Y10T 442/2607 | ... | Radiation absorptive |
| Y10T 442/2615 | .. | Coating or impregnation is resistant to penetration by solid implements |
| Y10T 442/2623 | ... | Ballistic resistant |
| Y10T 442/2631 | .. | Coating or impregnation provides heat or fire protection |
| Y10T 442/2639 | ... | Coated or impregnated asbestos fabric |
| Y10T 442/2648 | ... | Coating or impregnation is specified as an intumescent material |
| Y10T 442/2656 | ... | Antimony containing |
| Y10T 442/2664 | ... | Boron containing |
| Y10T 442/2672 | ... | Phosphorus containing |
| Y10T 442/268 | .... | Phosphorus and nitrogen containing compound |
| Y10T 442/2689 | .... | A phosphorus containing compound and a nitrogen containing compound |
| Y10T 442/2697 | .... | Phosphorus and halogen containing compound |
| Y10T 442/2705 | | A phosphorus containing compound and a halogen containing compound |
| Y10T 442/2713 | ... | Halogen containing |

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| Y10T 442/2721 | ... | Nitrogen containing |
| Y10T 442/273 | .. | Coating or impregnation provides wear or abrasion resistance |
| Y10T 442/2738 | .. | Coating or impregnation intended to function as an adhesive to solid surfaces subsequently associated therewith |
| Y10T 442/2746 | ... | Heat-activatable adhesive |
| Y10T 442/2754 | ... | Pressure-sensitive adhesive |
| Y10T 442/2762 | .. | Coated or impregnated natural fiber fabric [e.g., cotton, wool, silk, linen, etc.] |
| Y10T 442/277 | ... | Coated or impregnated cellulosic fiber fabric |
| Y10T 442/2779 | .... | Coating or impregnation contains an acrylic polymer or copolymer [e.g., polyacrylonitrile, polyacrylic acid, etc.] |
| Y10T 442/2787 | .... | Coating or impregnation contains a vinyl polymer or copolymer |
| Y10T 442/2795 | .... | Coating or impregnation contains an epoxy polymer or copolymer or polyether |
| Y10T 442/2803 | .... | Polymeric coating or impregnation from a silane or siloxane not specified as lubricant or water repellent |
| Y10T 442/2811 | .... | Coating or impregnation contains polyimide or polyamide |
| Y10T 442/282 | .... | Coating or impregnation contains natural gum, rosin, natural oil, or wax |
| Y10T 442/2828 | .... | Coating or impregnation contains aldehyde or ketone condensation product |
| Y10T 442/2836 | ..... | Phenol-aldehyde condensate |
| Y10T 442/2844 | ..... | Melamine-aldehyde condensate |
| Y10T 442/2852 | ..... | Amide-aldehyde condensate [e.g., modified urea-aldehyde condensate, etc.] |
| Y10T 442/2861 | .. | Coated or impregnated synthetic organic fiber fabric |
| Y10T 442/2869 | ... | Coated or impregnated regenerated cellulose fiber fabric |
| Y10T 442/2877 | ... | Coated or impregnated polyvinyl alcohol fiber fabric |
| Y10T 442/2885 | ... | Coated or impregnated acrylic fiber fabric |
| Y10T 442/2893 | ... | Coated or impregnated polyamide fiber fabric |
| Y10T 442/2902 | .... | Aromatic polyamide fiber fabric |
| Y10T 442/291 | ... | Coated or impregnated polyolefin fiber fabric |
| Y10T 442/2918 | .... | Polypropylene fiber fabric |
| Y10T 442/2926 | .. | Coated or impregnated inorganic fiber fabric |
| Y10T 442/2934 | ... | Coating or impregnation contains vinyl polymer or copolymer |
| Y10T 442/2943 | .... | Vinyl acetate polymer or copolymer |
| Y10T 442/2951 | ... | Coating or impregnation contains epoxy polymer or copolymer or polyether |
| Y10T 442/2959 | ... | Coating or impregnation contains aldehyde or ketone condensation product |
| Y10T 442/2967 | .... | Amide-aldehyde condensate |
| Y10T 442/2975 | ... | Coated or impregnated ceramic fiber fabric |
| Y10T 442/2984 | ... | Coated or impregnated carbon or carbonaceous fiber fabric |
| Y10T 442/2992 | ... | Coated or impregnated glass fiber fabric |
| Y10T 442/30 | . | Woven fabric [i.e., woven strand or strip material] |
| Y10T 442/3008 | .. | Woven fabric has an elastic quality |

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| Y10T 442/3016 | ... | Including a preformed layer other than the elastic woven fabric [e.g., fabric or film or foil or sheet layer, etc.] |
| Y10T 442/3024 | ... | Including elastic strand or strip |
| Y10T 442/3033 | .. | Including a strip or ribbon |
| Y10T 442/3041 | ... | Woven fabric comprises strips or ribbons only |
| Y10T 442/3049 | .. | Including strand precoated with other than free metal or alloy |
| Y10T 442/3057 | ... | Multiple coatings |
| Y10T 442/3065 | .. | Including strand which is of specific structural definition |
| Y10T 442/3073 | ... | Strand material is core-spun [not sheath-core bicomponent strand] |
| Y10T 442/3081 | .... | Core is synthetic polymeric material |
| Y10T 442/3089 | ... | Cross-sectional configuration of strand material is specified |
| Y10T 442/3098 | .... | Cross-sectional configuration varies longitudinally along the strand |
| Y10T 442/3106 | .... | Hollow strand material |
| Y10T 442/3114 | .... | Cross-sectional configuration of the strand material is other than circular |
| Y10T 442/3122 | ..... | Cross-sectional configuration is multi-lobal |
| Y10T 442/313 | ... | Strand material formed of individual filaments having different chemical compositions |
| Y10T 442/3138 | .... | Including inorganic filament |
| Y10T 442/3146 | .. | Strand material is composed of two or more polymeric materials in physically distinct relationship [e.g., sheath-core, side-by-side, islands-in-sea, fibrils-in-matrix, etc.] or composed of physical blend of chemically different polymeric materials or a physical blend of a polymeric material and a filler material |
| Y10T 442/3154 | ... | Sheath-core multicomponent strand material |
| Y10T 442/3163 | ... | Islands-in-sea multicomponent strand material |
| Y10T 442/3171 | ... | Strand material is a blend of polymeric material and a filler material |
| Y10T 442/3179 | .. | Woven fabric is characterized by a particular or differential weave other than fabric in which the strand denier or warp/weft pick count is specified |
| Y10T 442/3187 | ... | Triaxially woven fabric |
| Y10T 442/3195 | ... | Three-dimensional weave [e.g., x-y-z planes, multi-planar warps and/or wefts, etc.] |
| Y10T 442/3203 | .... | Multi-planar warp layers |
| Y10T 442/3211 | .... | Multi-planar weft layers |
| Y10T 442/322 | ... | Warp differs from weft |
| Y10T 442/3228 | .... | Materials differ |
| Y10T 442/3236 | ..... | Including inorganic strand material |
| Y10T 442/3244 | ..... | Including natural strand material [e.g., cotton, wool, etc.] |
| Y10T 442/3252 | ..... | Including synthetic polymeric strand material |
| Y10T 442/326 | ..... | Including synthetic polymeric strand material |
| Y10T 442/3268 | ..... | Including natural strand material |
| Y10T 442/3276 | | Including polyamide strand material |
| Y10T 442/3285 | | Including polyester strand material |

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| Y10T 442/3293 | ... | Warp and weft are identical and contain at least two chemically different strand materials |
| Y10T 442/3301 | ... | Coated, impregnated, or autogenous bonded |
| Y10T 442/3309 | .... | Woven fabric contains inorganic strand material |
| Y10T 442/3317 | .... | Woven fabric contains synthetic polymeric strand material |
| Y10T 442/3325 | .. | Including a foamed layer or component |
| Y10T 442/3333 | ... | Including a free metal or alloy constituent |
| Y10T 442/3341 | ... | Plural foam layers |
| Y10T 442/335 | ... | Plural fabric layers |
| Y10T 442/3358 | .... | Including a nonwoven fabric layer |
| Y10T 442/3366 | ... | Woven fabric is coated, impregnated, or autogenously bonded |
| Y10T 442/3374 | .... | Coating or impregnation includes particulate material other than fiber |
| Y10T 442/3382 | .. | Including a free metal or alloy constituent |
| Y10T 442/339 | ... | Metal or metal-coated strand |
| Y10T 442/3398 | ... | Vapor or sputter deposited metal layer |
| Y10T 442/3407 | ... | Chemically deposited metal layer [e.g., chemical precipitation or electrochemical deposition or plating, etc.] |
| Y10T 442/3415 | ... | Preformed metallic film or foil or sheet [film or foil or sheet had structural integrity prior to association with the woven fabric] |
| Y10T 442/3423 | .... | Plural metallic films or foils or sheets |
| Y10T 442/3431 | .... | Plural fabric layers |
| Y10T 442/3439 | ..... | Including a nonwoven fabric layer |
| Y10T 442/3447 | .... | Including a preformed synthetic polymeric film or sheet [i.e., film or sheet having structural integrity prior to association with the woven fabric] |
| Y10T 442/3455 | .... | Including particulate material other than fiber |
| Y10T 442/3463 | ... | Plural fabric layers |
| Y10T 442/3472 | .. | Woven fabric including an additional woven fabric layer |
| Y10T 442/348 | ... | Mechanically needled or hydroentangled |
| Y10T 442/3488 | .... | Four or more layers |
| Y10T 442/3496 | .... | Coated, impregnated, or autogenously bonded |
| Y10T 442/3504 | ... | Woven fabric layers comprise chemically different strand material |
| Y10T 442/3512 | .... | Three or more fabric layers |
| Y10T 442/352 | ..... | One of which is a nonwoven fabric layer |
| Y10T 442/3528 | ... | Three or more fabric layers |
| Y10T 442/3537 | .... | One of which is a nonwoven fabric layer |
| Y10T 442/3545 | .... | Woven fabric layers impregnated with a blend of thermosetting and thermoplastic resins |
| Y10T 442/3553 | .... | Woven fabric layers impregnated with an organosilicon resin |
| Y10T 442/3561 | .... | Woven fabric layers impregnated with a natural or synthetic rubber |
| Y10T 442/3569 | | Woven fabric layers impregnated with a thermosetting resin |
| Y10T 442/3577 | | Phenolic resin |

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| Y10T 442/3585 | | Epoxy resin |
| Y10T 442/3594 | | Woven fabric layers impregnated with a thermoplastic resin [e.g., vinyl polymer, etc.] |
| Y10T 442/3602 | ... | Three or more distinct layers |
| Y10T 442/361 | .... | At least one layer is derived from water-settable material [e.g., cement, gypsum, etc.] |
| Y10T 442/3618 | .... | At least one layer contains wood or cork |
| Y10T 442/3626 | .... | At least one layer contains bituminous material [e.g., tar, pitch, asphalt, etc.] |
| Y10T 442/3634 | .... | At least one layer comprises paper |
| Y10T 442/3642 | .... | At least one layer contains natural or synthetic rubber |
| Y10T 442/365 | .... | At least one layer is a preformed synthetic polymeric film or sheet |
| Y10T 442/3659 | .... | At least one layer comprises ceramic or glass material in other than particulate form |
| Y10T 442/3667 | .... | Composite consisting of at least two woven fabrics bonded by an interposed adhesive layer [but not two woven fabrics bonded together by an impregnation which penetrates through the thickness of at least one of the woven fabric layers] |
| Y10T 442/3675 | ..... | Fabric layer contains natural strand material |
| Y10T 442/3683 | ..... | Fabric layer contains carbon or carbonaceous strand material |
| Y10T 442/3691 | ..... | Fabric layer contains glass strand material |
| Y10T 442/3699 | .... | Including particulate material other than fiber |
| Y10T 442/3707 | .. | Woven fabric including a nonwoven fabric layer other than paper |
| Y10T 442/3715 | ... | Nonwoven fabric layer comprises parallel arrays of strand material |
| Y10T 442/3724 | ... | Needled |
| Y10T 442/3732 | .... | Including an additional nonwoven fabric |
| Y10T 442/374 | ..... | Additional nonwoven fabric comprises chemically different strand material than the first nonwoven fabric |
| Y10T 442/3748 | ..... | Including inorganic strand material |
| Y10T 442/3756 | .... | Nonwoven fabric layer comprises at least two chemically different fibers |
| Y10T 442/3764 | .... | Coated, impregnated, or autogenously bonded |
| Y10T 442/3772 | ... | Hydroentangled |
| Y10T 442/378 | ... | Coated, impregnated, or autogenously bonded |
| Y10T 442/3789 | .... | Plural nonwoven fabric layers |
| Y10T 442/3797 | .... | Coating or impregnation is derived from a water-settable material [e.g., cement, gypsum, etc.] |
| Y10T 442/3805 | .... | Coating or impregnation contains natural or synthetic rubber |
| Y10T 442/3813 | .... | Coating or impregnation contains synthetic polymeric material |
| Y10T 442/3821 | .... | Coating or impregnation contains bituminous material |
| Y10T 442/3829 | .... | Four or more layers |
| Y10T 442/3837 | ..... | Including particulate material other than fiber |
| Y10T 442/3846 | | Including particulate material other than fiber |
| Y10T 442/3854 | .. | Woven fabric with a preformed polymeric film or sheet |

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| Y10T 442/3862 | ... | Ester condensation polymer sheet or film [e.g., polyethylene terephthalate, etc.] |
| Y10T 442/387 | ... | Vinyl polymer or copolymer sheet or film [e.g., polyvinyl chloride, polyvinylidene chloride, polyvinyl acetate, etc.] |
| Y10T 442/3878 | ... | Fluorinated olefin polymer or copolymer sheet or film [e.g., Teflon®, etc.] |
| Y10T 442/3886 | ... | Olefin polymer or copolymer sheet or film [e.g., polypropylene, polyethylene, ethylene-butylene copolymer, etc.] |
| Y10T 442/3894 | ... | Amide condensation polymer sheet or film [e.g., nylon 6, etc.] |
| Y10T 442/3902 | ... | Polyimide sheet or film |
| Y10T 442/3911 | ... | Natural or synthetic rubber sheet or film |
| Y10T 442/3919 | ... | Including particulate material other than fiber |
| Y10T 442/3927 | .. | Including a paper or wood pulp layer |
| Y10T 442/3935 | ... | Mica paper layer |
| Y10T 442/3943 | ... | Plural paper or wood pulp layers |
| Y10T 442/3951 | ... | Including a bituminous layer |
| Y10T 442/3959 | ... | Including an outermost adhesive layer |
| Y10T 442/3967 | ... | Including a natural or synthetic rubber layer |
| Y10T 442/3976 | .. | Including strand which is stated to have specific attributes [e.g., heat or fire resistance, chemical or solvent resistance, high absorption for aqueous composition, water solubility, heat shrinkability, etc.] |
| Y10T 442/3984 | ... | Strand is other than glass and is heat or fire resistant |
| Y10T 442/3992 | ... | Strand is heat shrinkable |
| Y10T 442/40 | . | Knit fabric [i.e., knit strand or strip material] |
| Y10T 442/406 | .. | Including parallel strips |
| Y10T 442/413 | .. | Including an elastic strand |
| Y10T 442/419 | .. | Including strand precoated with other than free metal or alloy |
| Y10T 442/425 | .. | Including strand which is of specific structural definition |
| Y10T 442/431 | ... | Cross-sectional configuration of strand material is specified |
| Y10T 442/438 | ... | Strand material formed of individual filaments having different chemical compositions |
| Y10T 442/444 | .. | Strand is a monofilament composed of two or more polymeric materials in physically distinct relationship [e.g., sheath-core, side-by-side, islands-in-sea, fibrils-in-matrix, etc.] or composed of physical blend of chemically different polymeric materials or a physical blend of a polymeric material and a filler material |
| Y10T 442/45 | .. | Knit fabric is characterized by a particular or differential knit pattern other than open knit fabric or a fabric in which the strand denier is specified |
| Y10T 442/456 | ... | Including additional strand inserted within knit fabric |
| Y10T 442/463 | .... | Warp knit insert strand |
| Y10T 442/469 | .. | Including a foamed layer or component |
| Y10T 442/475 | .. | Including a free metal or alloy constituent |
| Y10T 442/481 | ... | Chemically deposited metal layer [e.g., chemical precipitation or electrochemical deposition or plating, etc.] |
| Y10T 442/488 | .. | Including an additional knit fabric layer |
| Y10T 442/494 | .. | Including a nonwoven fabric layer other than paper |

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|--------------|---|
| Y10T 442/50 | . FELT FABRIC |
| Y10T 442/51 | .. From natural organic fiber [e.g., wool, etc.] |
| Y10T 442/53 | ... Including particulate material other than fiber |
| Y10T 442/54 | ... At least three layers |
| Y10T 442/56 | .. From synthetic organic fiber |
| Y10T 442/57 | .. Including particulate material other than fiber |
| Y10T 442/59 | .. At least three layers |
| Y10T 442/60 | . Nonwoven fabric [i.e., nonwoven strand or fiber material] |
| Y10T 442/601 | .. Nonwoven fabric has an elastic quality |
| Y10T 442/602 | ... Nonwoven fabric comprises an elastic strand or fiber material |
| Y10T 442/603 | .. Including strand or fiber material precoated with other than free metal or alloy |
| Y10T 442/604 | ... Strand or fiber material is glass |
| Y10T 442/605 | ... Strand or fiber material is inorganic |
| Y10T 442/607 | ... Strand or fiber material is synthetic polymer |
| Y10T 442/608 | .. Including strand or fiber material which is of specific structural definition |
| Y10T 442/609 | ... Cross-sectional configuration of strand or fiber material is specified |
| Y10T 442/61 | Cross-sectional configuration varies longitudinally along strand or fiber material |
| Y10T 442/611 | Cross-sectional configuration of strand or fiber material is other than circular |
| Y10T 442/612 | Hollow strand or fiber material |
| Y10T 442/613 | Microcellular strand or fiber material |
| Y10T 442/614 | ... Strand or fiber material specified as having micro dimensions [i.e., microfiber] |
| Y10T 442/615 | Strand or fiber material is blended with another chemically different microfiber in the same layer |
| Y10T 442/616 | Blend of synthetic polymeric and inorganic microfibers |
| Y10T 442/618 | Blend of chemically different inorganic microfibers |
| Y10T 442/619 | Including other strand or fiber material in the same layer not specified as having micro dimensions |
| Y10T 442/62 | Including another chemically different microfiber in a separate layer |
| Y10T 442/621 | Including other strand or fiber material in a different layer not specified as having micro dimensions |
| Y10T 442/622 | Microfiber is a composite fiber |
| Y10T 442/623 | Microfiber is glass |
| Y10T 442/624 | Microfiber is carbon or carbonaceous |
| Y10T 442/625 | Autogenously bonded |
| Y10T 442/626 | Microfiber is synthetic polymer |
| Y10T 442/627 | ... Strand or fiber material is specified as non-linear [e.g., crimped, coiled, etc.] |
| Y10T 442/629 | Composite strand or fiber material |
| Y10T 442/63 | Carbon or carbonaceous strand or fiber material |
| Y10T 442/631 | Glass strand or fiber material |

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| Y10T 442/632 | | A single nonwoven layer comprising non-linear synthetic polymeric strand or fiber material and strand or fiber material not specified as non-linear |
| Y10T 442/633 | ..... | Synthetic polymeric strand or fiber material is of staple length |
| Y10T 442/634 | .... | A nonwoven fabric having a layer comprising non-linear synthetic polymeric strand or fiber material and a separate and distinct layer comprising strand or fiber material which is not specified as non-linear |
| Y10T 442/635 | .... | Synthetic polymeric strand or fiber material |
| Y10T 442/636 | ..... | Synthetic polymeric strand or fiber material is of staple length |
| Y10T 442/637 | .. | Including strand or fiber material which is a monofilament composed of two or more polymeric materials in physically distinct relationship [e.g., sheath-core, side-by-side, islands-in-sea, fibrils-in-matrix, etc.] or composed of physical blend of chemically different polymeric materials or a physical blend of a polymeric material and a filler material |
| Y10T 442/638 | ... | Side-by-side multicomponent strand or fiber material |
| Y10T 442/64 | ... | Islands-in-sea multicomponent strand or fiber material |
| Y10T 442/641 | ... | Sheath-core multicomponent strand or fiber material |
| Y10T 442/642 | ... | Strand or fiber material is a blend of polymeric material and a filler material |
| Y10T 442/643 | .. | Including parallel strand or fiber material within the nonwoven fabric |
| Y10T 442/644 | ... | Parallel strand or fiber material is glass |
| Y10T 442/645 | ... | Parallel strand or fiber material is inorganic [e.g., rock wool, mineral wool, etc.] |
| Y10T 442/646 | ... | Parallel strand or fiber material is naturally occurring [e.g., cotton, wool, etc.] |
| Y10T 442/647 | .. | Including a foamed layer or component |
| Y10T 442/648 | ... | Including a free metal or alloy constituent |
| Y10T 442/649 | ... | Plural foamed layers |
| Y10T 442/651 | ... | Plural fabric layers |
| Y10T 442/652 | ... | Nonwoven fabric is coated, impregnated, or autogenously bonded |
| Y10T 442/653 | ..... | Including particulate material other than fiber |
| Y10T 442/654 | .. | Including a free metal or alloy constituent |
| Y10T 442/655 | ... | Metal or metal-coated strand or fiber material |
| Y10T 442/656 | ... | Preformed metallic film or foil or sheet [film or foil or sheet had structural integrity prior to association with the nonwoven fabric] |
| Y10T 442/657 | ... | Vapor, chemical, or spray deposited metal layer |
| Y10T 442/658 | ... | Particulate free metal or alloy constituent |
| Y10T 442/659 | .. | Including an additional nonwoven fabric |
| Y10T 442/66 | ... | Additional nonwoven fabric is a spun-bonded fabric |
| Y10T 442/662 | .... | Needled |
| Y10T 442/663 | .... | Hydroentangled |
| Y10T 442/664 | ... | Including a wood fiber containing layer |
| Y10T 442/665 | ... | Including a layer derived from a water-settable material [e.g., cement, gypsum, etc.] |
| Y10T 442/666 | ... | Mechanically interengaged by needling or impingement of fluid [e.g., gas or liquid stream, etc.] |
| Y10T 442/667 | | Needled |

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|--------------|------|--|
| Y10T 442/668 | ... | Separate nonwoven fabric layers comprise chemically different strand or fiber material |
| Y10T 442/669 | .... | At least one layer of inorganic strand or fiber material and at least one layer of synthetic polymeric strand or fiber material |
| Y10T 442/67 | ... | Multiple nonwoven fabric layers composed of the same inorganic strand or fiber material |
| Y10T 442/671 | ... | Multiple nonwoven fabric layers composed of the same polymeric strand or fiber material |
| Y10T 442/673 | ... | Including particulate material other than fiber |
| Y10T 442/674 | .. | Nonwoven fabric with a preformed polymeric film or sheet |
| Y10T 442/675 | ... | Ester condensation polymer sheet or film [e.g., polyethylene terephthalate, etc.] |
| Y10T 442/676 | ... | Vinyl polymer or copolymer sheet or film [e.g., polyvinyl chloride, polyvinylidene chloride, polyvinyl acetate, etc.] |
| Y10T 442/677 | ... | Fluorinated olefin polymer or copolymer sheet or film [e.g., TeflonR, etc.] |
| Y10T 442/678 | ... | Olefin polymer or copolymer sheet or film [e.g., polypropylene, polyethylene, ethylene-butylene copolymer, etc.] |
| Y10T 442/679 | ... | Natural or synthetic rubber sheet or film |
| Y10T 442/68 | .. | Melt-blown nonwoven fabric |
| Y10T 442/681 | .. | Spun-bonded nonwoven fabric |
| Y10T 442/682 | .. | Needled nonwoven fabric |
| Y10T 442/684 | ... | Containing at least two chemically different strand or fiber materials |
| Y10T 442/685 | .... | Containing inorganic and polymeric strand or fiber materials |
| Y10T 442/686 | .... | Containing polymeric and natural strand or fiber materials |
| Y10T 442/687 | .... | Containing inorganic strand or fiber material |
| Y10T 442/688 | .... | Containing polymeric strand or fiber material |
| Y10T 442/689 | .. | Hydroentangled nonwoven fabric |
| Y10T 442/69 | .. | Autogenously bonded nonwoven fabric |
| Y10T 442/691 | ... | Inorganic strand or fiber material only |
| Y10T 442/692 | ... | Containing at least two chemically different strand or fiber materials |
| Y10T 442/693 | .. | Including a paper layer |
| Y10T 442/695 | .. | Including a wood containing layer |
| Y10T 442/696 | .. | Including strand or fiber material which is stated to have specific attributes [e.g., heat or fire resistance, chemical or solvent resistance, high absorption for aqueous compositions, water solubility, heat shrinkability, etc.] |
| Y10T 442/697 | .. | Containing at least two chemically different strand or fiber materials |
| Y10T 442/698 | ... | Containing polymeric and natural strand or fiber materials |
| Y10T 442/699 | .. | Including particulate material other than strand or fiber material |

Former US Class 464 Series

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| Y10T 464/00 | Rotary shafts, gudgeons, housings, and flexible couplings for rotary shafts |
| Y10T 464/10 | . having heating or cooling means |

- Y10T 464/20 . with auxilliary indicator or alarm
- Y10T 464/30 . Electrical or magnetic coupling
- Y10T 464/40 . Coupling accommodates drive between members having misaligned or angularly related axes, transmits torque via radially directed pin, and has particular balancing means
- Y10T 464/50 . Shafting having particular vibration dampening or balancing structure

Former US Class 477 Series

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|--------------------|--|
| Y10T 477/00 | Interrelated power delivery controls, including engine control |
| Y10T 477/10 | . Steering by driving |
| Y10T 477/20 | . Plural engines |
| Y10T 477/23 | .. Electric engine |
| Y10T 477/24 | ... with brake control |
| Y10T 477/26 | ... with clutch control |
| Y10T 477/27 | .. with clutch control |
| Y10T 477/30 | . Electric engine |
| Y10T 477/32 | .. with clutch control |
| Y10T 477/322 | ... with brake control |
| Y10T 477/3225 | Stopped at end of cycle |
| Y10T 477/323 | ... Engine stopped at end of cycle |
| Y10T 477/325 | ... Common controller |
| Y10T 477/327 | ... Electric clutch |
| Y10T 477/328 | ... Speed responsive |
| Y10T 477/33 | .. with transmission control |
| Y10T 477/333 | ... Load motion limit control |
| Y10T 477/337 | ... Transmission change by moving engine |
| Y10T 477/34 | ... Reversible engine |
| Y10T 477/343 | ... Engine starting interlock |
| Y10T 477/347 | ... Condition responsive engine control |
| Y10T 477/35 | .. Brake engaged when engine energy deactivated, brake disengaged when engine energy activated |
| Y10T 477/357 | ... Cam actuated brake |
| Y10T 477/363 | ... Electrically actuated brake |
| Y10T 477/37 | .. Brake actuation opens switch to engine |
| Y10T 477/373 | ... Electrically actuated brake |
| Y10T 477/377 | ... Fluid actuated brake |
| Y10T 477/38 | .. Control means selectively operates engine energy input and brake |
| Y10T 477/387 | ... Fluid actuated brake |
| Y10T 477/393 | ... Electrically actuated brake |
| Y10T 477/40 | . Gas turbine engine |

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|----------------|-------|--|
| Y10T 477/45 | .. | Continuously variable transmission |
| Y10T 477/50 | . | with supercharger |
| Y10T 477/55 | .. | Manifold pressure control |
| Y10T 477/60 | . | Transmission control |
| Y10T 477/606 | .. | Differential transmission |
| Y10T 477/613 | .. | Plural outputs |
| Y10T 477/619 | .. | Continuously variable friction transmission |
| Y10T 477/6197 | ... | with fluid drive |
| Y10T 477/6203 | ... | with clutch control |
| Y10T 477/621 | ... | with brake control |
| Y10T 477/6217 | ... | Interrelated control of diverse transmissions |
| Y10T 477/6223 | ... | Constant speed output |
| Y10T 477/623 | ... | Controlled by engine map |
| Y10T 477/6237 | ... | Belt-type |
| Y10T 477/624 | .... | Fluid pressure control |
| Y10T 477/6242 | ..... | Ratio change controlled |
| Y10T 477/62423 | ..... | Engine coast braking |
| Y10T 477/62427 | ..... | with electric valve control |
| Y10T 477/62429 | ..... | Duty ratio control |
| Y10T 477/6243 | ... | Fluid pressure control |
| Y10T 477/625 | .. | Fluid resistance inhibits rotation of planetary transmission element |
| Y10T 477/631 | .. | including fluid drive |
| Y10T 477/633 | ... | Impeller-turbine-type |
| Y10T 477/6333 | .... | Engine controlled |
| Y10T 477/6337 | .... | with countershaft gearing |
| Y10T 477/63378 | ..... | and turbine shaft brake |
| Y10T 477/63385 | ..... | and clutch control |
| Y10T 477/63393 | ..... | Control of or by fluid drive |
| Y10T 477/634 | .... | with hydrodynamic braking |
| Y10T 477/6343 | .... | with nonratio brake |
| Y10T 477/6347 | .... | Control responsive to fluid drive |
| Y10T 477/635 | .... | with clutch control |
| Y10T 477/6351 | ..... | Disengaged during shift |
| Y10T 477/6352 | ..... | Speed responsive |
| Y10T 477/63525 | ..... | Electrical |
| Y10T 477/6353 | .... | with fluid unit vane control |
| Y10T 477/6357 | .... | Fill and empty-type fluid units |
| Y10T 477/636 | ... | Ratio control |
| Y10T 477/637 | | with planetary transmission control |
| Y10T 477/638 | .. | with clutch control |

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|---------------|-------|---|
| Y10T 477/6388 | ... | and brake control |
| Y10T 477/6389 | | Temperature responsive control |
| Y10T 477/639 | .... | Engine controlled |
| Y10T 477/6392 | .... | Clutch controlled |
| Y10T 477/6394 | .... | Gearing controlled |
| Y10T 477/6395 | ... | Temperature responsive control |
| Y10T 477/6403 | ... | Clutch, engine, and transmission controlled |
| Y10T 477/6407 | .... | Electronic digital control |
| Y10T 477/641 | ... | Clutch and transmission controlled |
| Y10T 477/6414 | .... | Speed responsive control |
| Y10T 477/6415 | ..... | with manual override |
| Y10T 477/6417 | ..... | Vacuum actuated clutch |
| Y10T 477/6418 | ... | Clutch and engine controlled |
| Y10T 477/6422 | .... | Speed responsive control |
| Y10T 477/6424 | ..... | Plural speed signals |
| Y10T 477/6425 | ... | Clutch controlled |
| Y10T 477/6428 | .... | Electric clutch |
| Y10T 477/643 | .... | Vacuum actuated clutch |
| Y10T 477/6432 | ..... | Electric control |
| Y10T 477/6433 | ... | Engine controlled |
| Y10T 477/6437 | .... | Speed responsive |
| Y10T 477/644 | .. | with brake control |
| Y10T 477/646 | ... | Anti-creep |
| Y10T 477/647 | ... | Brake controls transmission |
| Y10T 477/648 | .... | Pressure controlled |
| Y10T 477/649 | ... | One control blocks another |
| Y10T 477/65 | .. | Control by sensed ambient condition, pattern indicia, external signal, or temperature |
| Y10T 477/653 | ... | Temperature control |
| Y10T 477/656 | .. | Engine starting interlock |
| Y10T 477/663 | .. | Exhaust emission control |
| Y10T 477/669 | .. | Engine ignition control for transmission change |
| Y10T 477/67 | ... | Ignition advanced or retarded |
| Y10T 477/671 | ... | Ignition intermitting and safety means limiting duration of intermission |
| Y10T 477/673 | ... | Ignition intermitting controlled by manifold pressure |
| Y10T 477/674 | ... | Ignition intermitting initiated by positioning accelerator |
| Y10T 477/6745 | ..... | Initiation inhibited by sensed condition |
| Y10T 477/675 | .. | Engine controlled by transmission |
| Y10T 477/676 | ... | Constant output shaft speed |
| Y10T 477/677 | ... | Diminution during transmission change |

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| Y10T 477/679 | ... | Responsive to transmission output condition |
| Y10T 477/68 | ... | Transmission setting contingent |
| Y10T 477/6805 | .... | Change to neutral idles engine |
| Y10T 477/6808 | ..... | Engine input variable in neutral |
| Y10T 477/681 | .. | Anticreep |
| Y10T 477/688 | .. | Transmission controlled by engine |
| Y10T 477/689 | ... | Shift from neutral shock control |
| Y10T 477/6895 | .... | Pressure controlled |
| Y10T 477/69 | ... | Engine [coast] braking |
| Y10T 477/691 | .... | Electric valve control |
| Y10T 477/692 | ... | by acceleration |
| Y10T 477/693 | ... | by input manifold pressure or engine fuel control |
| Y10T 477/6931 | .... | Selector-type |
| Y10T 477/6933 | .... | with positive shift means |
| Y10T 477/69335 | ..... | with synchronization |
| Y10T 477/6934 | .... | Prevents unsafe or unintentional shift |
| Y10T 477/6935 | ..... | Reverse inhibitor |
| Y10T 477/6936 | .... | Shift valve control |
| Y10T 477/69362 | ..... | Hysteresis |
| Y10T 477/693625 | ..... | Electric control |
| Y10T 477/69363 | ..... | Plural shift valves |
| Y10T 477/693635 | ..... | Electric control |
| Y10T 477/693636 | ..... | Downshift control |
| Y10T 477/693637 | ..... | Kickdown |
| Y10T 477/693638 | ..... | Selector valve overrule |
| Y10T 477/69364 | ..... | Downshift control |
| Y10T 477/693643 | ..... | Kickdown |
| Y10T 477/693645 | ..... | Selector valve overrule |
| Y10T 477/69365 | ..... | Electric control |
| Y10T 477/69366 | ..... | Downshift control |
| Y10T 477/69367 | ..... | Downshift control |
| Y10T 477/693675 | ..... | Kickdown |
| Y10T 477/69368 | ..... | Selector valve overrule |
| Y10T 477/6937 | .... | Servo motor timing |
| Y10T 477/69373 | ..... | Downshift |
| Y10T 477/693738 | ..... | with fluid accumulator |
| Y10T 477/693742 | ..... | Electric valve control |
| Y10T 477/693746 | ..... | Double acting servo |
| Y10T 477/693754 | | Speed responsive control |
| Y10T 477/693762 | | Electric valve control |

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| Y10T 477/69377 | | with fluid accumulator |
| Y10T 477/69378 | | Engine parameter controls back pressure |
| Y10T 477/69379 | ..... | Electric valve control |
| Y10T 477/6938 | ..... | Double acting servo |
| Y10T 477/69383 | ..... | Speed responsive control |
| Y10T 477/69387 | ..... | Electric valve control |
| Y10T 477/6939 | .... | Transmission pressure controlled |
| Y10T 477/69393 | ..... | Variable capacity pump |
| Y10T 477/69395 | ..... | Line pressure controlled |
| Y10T 477/693958 | ..... | Responsive to speed |
| Y10T 477/693962 | ..... | Electric valve control |
| Y10T 477/693964 | ..... | Duty ratio control |
| Y10T 477/693965 | ..... | Transmission setting contingent |
| Y10T 477/693973 | ..... | Electric valve control |
| Y10T 477/69398 | ..... | Electric valve control |
| Y10T 477/694 | .. | Engine control linkage mounted on manual gearshift lever |
| Y10T 477/70 | . | Clutch control |
| Y10T 477/71 | .. | with starter |
| Y10T 477/73 | .. | with fluid drive |
| Y10T 477/735 | ... | Speed responsive control |
| Y10T 477/74 | .. | with brake control |
| Y10T 477/743 | ... | Clutch controlled |
| Y10T 477/745 | .... | and brake controlled |
| Y10T 477/747 | ... | Engine controlled |
| Y10T 477/75 | .. | Condition responsive control |
| Y10T 477/753 | ... | Speed responsive |
| Y10T 477/755 | .... | Slip rate control |
| Y10T 477/757 | ... | Overload release |
| Y10T 477/759 | .... | Engine shut off |
| Y10T 477/76 | .. | Electric clutch |
| Y10T 477/78 | .. | Regulated clutch engagement |
| Y10T 477/79 | .. | Engine controlled by clutch control |
| Y10T 477/80 | . | Brake control |
| Y10T 477/81 | .. | Sensed condition responsive control of engine of brake |
| Y10T 477/813 | ... | Brake |
| Y10T 477/814 | .... | and engine |
| Y10T 477/816 | .... | Speed or acceleration responsive |
| Y10T 477/817 | ... | Speed or acceleration responsive |
| Y10T 477/82 | .. | Plural diverse brake means |

- Y10T 477/83 .. Engine energy control having adjusting and holding device, with means on brake control to override holding device
- Y10T 477/833 ... Holding device engaged by electric means
- Y10T 477/835 Magnetic holding device
- Y10T 477/837 ... Mechanical holding device engaged by mechanical means
- Y10T 477/839 Device or means including a threaded shaft, rack or ratchet
- Y10T 477/84 .. Brake control having holding device, with means on engine control to override holding device
- Y10T 477/847 ... Holding device responsive to motion, speed or acceleration
- Y10T 477/85 Holding device comprising brake valve operated by solenoid
- Y10T 477/853 ... Holding device engaged by electric means
- Y10T 477/857 Holding device comprising brake valve operated by solenoid
- Y10T 477/86 .. Brake engaged when engine energy deactivated, brake disengaged when engine energy is activated
- Y10T 477/865 ... Internal combustion engine
- Y10T 477/868 Controls brake valve
- Y10T 477/869 Vacuum actuated brake
- Y10T 477/87 .. Brake condition change modifies engine condition
- Y10T 477/873 ... Brake actuation interrupts ignition circuit of fluid engine
- Y10T 477/877 ... Brake actuation decreases or eliminates fluid energy input to engine
- Y10T 477/878 by closing throttle valve
- Y10T 477/879 by preventing increasing operation of engine energy control
- Y10T 477/88 .. Decreasing fluid energy input to engine actuates brake
- Y10T 477/89 .. Control means selectively operates engine energy input and brake
- Y10T 477/893 ... Foot operated control means
- Y10T 477/8936 Engine and brake control including interconnected elements
- Y10T 477/8941 Pivots and translates
- Y10T 477/8944 Pivots about intermediate fulcrum
- Y10T 477/8947 Pivots about two fulcrums
- Y10T 477/8953 Pivots about intermediate fulcrum
- Y10T 477/8959 Lever reciprocates on moveable supports at both ends
- Y10T 477/8964 Pivots for sequential operation
- Y10T 477/897 ... Control means including fluid passage

Former US Class 483 Series

- Y10T 483/00 Tool changing**
- Y10T 483/10 . Process
- Y10T 483/11 . with safety means
- Y10T 483/115 .. Guard

- Y10T 483/12 . with means to regulate operation by means of replaceable information supply [e.g. , templet, tape, card, etc.]
- Y10T 483/123 . . Replaceable information comprising tool location
- Y10T 483/127 . . . including determining optimum tool access path
- Y10T 483/13 . with control means energized in response to activator stimulated by condition sensor
- Y10T 483/132 . . Responsive to tool identifying information
- Y10T 483/134 . . . Identifying information on tool or tool holder
- Y10T 483/136 . . Responsive to tool
- Y10T 483/138 . . . including means to monitor and control, i.e., adaptive machining
- Y10T 483/14 . with signal or indicator
- Y10T 483/15 . with means to condition or adjust tool or tool support
- Y10T 483/16 . with means to transfer work
- Y10T 483/165 . . Plural machine tools, e.g., flexible manufacturing
- Y10T 483/17 . including machine tool or component
- Y10T 483/1702 . . Rotating work machine tool [e.g., screw machine, lathe, etc.]
- Y10T 483/1705 . . . Tool support comprises rotary spindle
- Y10T 483/1707 . . . Tool having specific mounting or work treating feature
- Y10T 483/171 Workpiece holder [e.g., chuck or chuck jaw, collet, etc.]
- Y10T 483/1712 Turning tool insert changer
- Y10T 483/1714 . . . Tool changer between tool support and matrix
- Y10T 483/1717 Plural matrices
- Y10T 483/1719 Tool support comprises turret
- Y10T 483/1721 Linearly moveable tool changer
- Y10T 483/1724 Linearly moveable tool changer
- Y10T 483/1726 . . . Direct tool exchange between tool support and matrix
- Y10T 483/1729 . . Reciprocating tool machine tool [e.g., broaching machine, shaping machine, etc.]
- Y10T 483/1731 . . . including matrix
- Y10T 483/1733 . . Rotary spindle machine tool [e.g., milling machine, boring, machine, grinding machine, etc.]
- Y10T 483/1736 . . . Tool having specific mounting or work treating feature
- Y10T 483/1738 Tool head
- Y10T 483/174 Abrading wheel
- Y10T 483/1743 including means for angularly orienting tool and spindle
- Y10T 483/1745 Spindle angularly oriented to align with tool
- Y10T 483/1748 . . . Tool changer between spindle and matrix
- Y10T 483/175 Plural matrices
- Y10T 483/1752 including tool holder pivotable about axis
- Y10T 483/1755 Plural tool holders pivotable about common axis
- Y10T 483/1757 including intermediate tool changer
- Y10T 483/176 Intermediate tool changer includes tool holder pivotable about axis

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|---------------|-------|---|
| Y10T 483/1762 | | Tool holders pivotable with respect to each other |
| Y10T 483/1764 | | Tool holders pivotable about plural nonparallel axes |
| Y10T 483/1767 | ..... | Linearly movable tool holders |
| Y10T 483/1769 | ..... | Extensible tool holders |
| Y10T 483/1771 | ..... | Translatable axis |
| Y10T 483/1774 | ..... | Distinct tool changer for each tool |
| Y10T 483/1776 | ..... | including intermediate tool changer |
| Y10T 483/1779 | ..... | Linearly movable tool holder |
| Y10T 483/1781 | ..... | Tool holder pivotable about plural nonparallel axes |
| Y10T 483/1783 | .... | including linearly translatable tool changer [e.g., shuttle, ram, etc.] |
| Y10T 483/1786 | ..... | Plural tool holders |
| Y10T 483/1788 | ..... | Orthogonally translatable |
| Y10T 483/179 | ... | Direct tool exchange between spindle and matrix |
| Y10T 483/1793 | .... | Spindle comprises tool changer |
| Y10T 483/1795 | ..... | Matrix indexes selected tool to transfer position |
| Y10T 483/1798 | .... | including means to project tool from matrix |
| Y10T 483/18 | . | Tool transfer to or from matrix |
| Y10T 483/1809 | .. | Matrix including means to latch tool |
| Y10T 483/1818 | .. | Matrix including means to project tool for transfer |
| Y10T 483/1827 | ... | Rectilinear |
| Y10T 483/1836 | ... | Pivoting |
| Y10T 483/1845 | .. | Plural matrices |
| Y10T 483/1855 | ... | including tool replenishing |
| Y10T 483/1864 | .. | including tool pot or adapter |
| Y10T 483/1873 | .. | Indexing matrix |
| Y10T 483/1882 | ... | Rotary disc |
| Y10T 483/1891 | ... | Chain or belt |
| Y10T 483/19 | . | Miscellaneous |