1. **Torque Responsive Nut or Bolt Driving Connection**

2. Frangible connection

3. Between concentric elements

4. Shear pin connecting means

5. Axially displaced

6. Resilient connection

7. Ratchet

**With Means to Indicate Application of Predetermined Stress-Strain**

8. Axially deformable member or portion

9. Deformable washer

10. Resilient

11. Coil spring

12. Color indicator

13. Including gauge means

14. Axially deformable member or portion

15. Deformable washer

16. Resilient

17. Color indicator

18. Including gauge means

**Tensioned Along the Longitudinal Axis by a Coaxial Force Applying Device (E.g., Mechanical Tensioner)**

19. Helical anchor

20. Mates with mandrel thread

21. With wedge-shaped expander

22. Fluent pressure actuated

23. Having securing element projecting through aperture in sleeve

24. Deformable element

25. Oppositely acting double wedge expander means

26. Outwardly moving

27. Both wedges provided with thread cooperating means

28. Having rotation preventing means

29. Groove and follower

30. With hole forming means

31. Formed on expansible sleeve

32. Serrated end

33. Made up of plural expansible segments or sections

34. Identical segments

35. Bulged by axially contracting ends

36. Having wedge-shaped section acting in slot

37. Twistable sleeve

38. Bulged portion including bend line or reduced section

39. Frangible member

40. Frangibly connected expander

41. Projecting outwardly from head

42. Sleeve including weakened portion

43. Frangible mandrel

44. Including sleeve and distinct tapered expander (e.g., anchor bolt type)

45. And means to captively retain expander

46. ...Follower captive within groove

47. ...Bridge-type retainer

48. ...Tongue-type retainer

49. Relative rotation preventing means

50. Guide and follower

51. Splines

52. Follower defined by corners of polygonal element

53. Expander type

54. Expansible element moved relative to stationary expander

54.1 Spread by pressing element over initially inserted expander (e.g., push type)

55. Expander threadedly engaged by mover

56. Stepped expander

70. Expander having integral pull stem

57.1 Slotted sleeve spread by tapered expander

58. Both ends slotted

59. Slot spaced from ends

60.1 Expander moved into stationary sleeve (i.e., pull type)

60.2 Threaded expander

60.3 Including a hinge or hinge-like portion

61. Folded blank type

62. Slot angularly related to sleeve axis

63. Plural-sectioned sleeve

64. Having section retainer

65. Ring or sleeve type

66. Destructible

67. Bight type
CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

68 ....Tongue and groove
69 ..Expander or sleeve extruded during expansion
71 ..Sleeve having external gripping means
72 ...Circumferential rib
73 ....And longitudinal rib
74 ..Struck from sleeve
75 .Relatively sliding wedge surfaces
76 ..Wedge received in transverse slot in holding device or anchor
77 ...Double-faced wedge
78 ..Having wedge retainer means
79 ..Wedge surfaces act in single lateral direction
80 ..Including discrete activating means for wedge
80.1 ..Comprising a head and expandable portions spread by fastener (e.g., drywall anchor)
80.2 ..Three or more expandable portions
80.5 ..Sleeve type (headless) with longitudinal slot, slit, or split expanded by fastener
80.6 ..Sleeve threaded
82 INCLUDING SETTABLE MATERIAL
82.1 .Injected after fastener placement
82.2 .Adhesive coating
82.3 .Adhesive encapsulated
82.5 TEMPERATURE SENSITIVE OR RESPONSIVE
84 ..Prefabricated assembly comprising strip or sheet member carrying plural, similar fasteners
85 ..Including element for holding fasteners against separation from member
86 .Including a series of elements, one element restricting two fasteners of a plurality, and the remainder each restricting one fastener
87 .Elongate member extending between and interlocking plural bolts or nuts
88 ..Member engages inwardly facing surface and a flat side of bolt head or nut
89 .Member extending between plural fasteners and restricting the rotation thereof in one direction more than the other (e.g., pawl and ratchet)
90 .Member extending between and engaging flat formed on side of each of a plurality of bolts or nuts (e.g., side lock)
91 ..And element on opposite face of substructure restricting rotation of a cooperating nut or bolt
92 ..Having plural openings or notches engaging a bolt or nut on two sides
93 ...Having plural parts, one of which engages the inwardly facing surface of a bolt head or nut
94 ....Special fishplate engaging inwardly facing surface
95 ...Elastically or plastically deformable part
96 ...Having plural parts, one comprising a keeper
97 ...Unitary member, deformable in whole or in part
98 ..And engaging the inwardly facing surface of the bolt heads or nuts
99 ..Including separable keeper for member
100 ..Including element spacing member from substructure
101 .Member engages the inwardly facing surface of a plurality of bolt heads or nuts
102 .Series of elements, each restricting a single fastener, cooperating to restrict a series of fasteners
103 .Member preassembled with substructure at through-passage or recess for holding single bolt or nut in coaxial relation therewith
CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

104. Through-passage or recess having laterally extending entry for inserting member and nut

105. And a second substructure and means for capturing a complementary nut or bolt thereto

106. Having means for coupling a bolt to a nut (e.g., thread lock)

107. Member anchors bolt in substructure with threaded portion exposed (e.g., stud bolt)

108. Nut-comprising sleeve member engaged within through-passage or recess

109. Locking ring coaxially related to an elongated, externally threaded nut

110. Member comprises a longitudinal key

111. Member includes elastically or plastically deformable portion

112. Having elastically deformable portion for attaching member to substructure

113. Plastically deformable portion

114. Recessed or toothed member receiving movable pawl carried by bolt head or nut

115. Having discrete, reciprocably movable pawl

116. Fastener, or coaxial adjunct therefor, having sidewardly facing flat or formation engaged by portion of member (e.g., side lock)

117. Adjunct carried flat or formation

118. And thread locking coupling complementary fasteners

119. Member having opening or notch engaging a bolt head or nut on two sides

120. And element maintaining member in operative engagement with bolt head or nut

121. Member elastically or plastically deformable for attaching it to bolt head or nut

122. Member having portion (e.g., tab) deformable in situ into engagement with flat or formation

123. ...And having specific structure to coact with substructure

124. ...Projection on member and coacting formation in substructure

125. Sheet metal member having resilient pawl distorted therefrom

126. ...Member includes means which attempt to penetrate substructure

127. ...Member abuts coacting part on substructure

128. ...Member, or portion thereof, comprises movable pawl

129. ...Member engages inwardly facing surface of bolt head or nut

130. ...And is formed from plural, cooperating parts

131. ...And has specific structure to coact with substructure

132. ...Member or portion thereof located between substructure and inwardly facing surface of bolt head or nut

133. ...Member fixed to bolt shank, and member or bolt fixed to substructure

134. Means holding member to bolt, nut or substructure prior to use

135. ...By discrete element

136. ...Member comprises looplike element (e.g., washer) interlocked with additional element, one of them engaging substructure or surface in other than planar, face to face contact

137. ...Two looplike elements interlocked by laterally introduced key

138. ...Pawl element, movably carried by looplike element, coacts with ratchet on surface

139. ...Laterally introduced key locks looplike element to surface

140. ...Elongate member moves in longitudinally extending opening in bolt head or nut to enter substructure
CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

141 ..Locking dog or pawl carried by bolt head or nut and engaging substructure
142 ..Key introduced laterally at juncture of surface and substructure
143 ..Formations on either member or surface, and cooperative, restricting means on the other
144 ..Formations on surface, means on member, one of which presents a sharp edged configuration
145 ....Formations comprise ramplike teeth, means comprises a movable pawl
146 ....And substructure accommodation for member portion
147 ..Member comprises washer formed as closed loop or apertured plate or as split ring
148 ...Engaging side wall of counterbore in substructure
149 ...Plural, axially adjacent washers, or plural part washer
150 ....Having one washer, or washer part, of a more yieldable nature than another washer, or part
151 ...Split ring having radially outwardly extending end
152 ...Ends of split ring overlap in stressed condition
153 ....Overlap of at least 180 degrees (e.g., coil)
154 ...Apertured plate of uniform thickness having undulating contact surfaces
155 ...Apertured plate having arched sectional configuration (e.g., concavo convex)
156 ....Arched configuration circumscribes aperture
157 ...Split ring having opposed ends offset axially
158 ....Contact surface contains a plurality of generally radially extending ridges or grooves removed from the ends
159 ....Cross section other than rectangular
160 ...Closed loop having plural variations in the profile of a contact surface or a peripheral edge thereof
161 ....Variations comprise generally radially extending ridges or grooves
162 ....Variations comprise circumferentially spaced projections or recesses inset from both peripheries
163 ....Variations are teeth located along a periphery
164 .....Both peripheries
165 .....Each twisted about its radial axis
166 ....Design of fastener or substructure restricts rotation (e.g., flattened head rotatable in receiving slot, depression in substructure, bolt clipped to substructure)
167 ....Locknut type on fastener
168 .....Including a lock thread
169 .....Mass of bolt head or nut offset from fastener longitudinal axis
170 .....Nut and washer type formed from single blank folded over substructure
171 .....Bolt or nut adapted to be fused directly to substructure (e.g., weld nut)
172 .....Nut, and means to engage substructure on its opposite faces for retaining nut at aperture therein, formed as unitary component
173 .....Means to engage extends through aperture
174 .....Means to engage grasps an edge of substructure
175 .....And has projection contacting periphery of aperture
176 .....Fastener having a deformable portion or deforms substructure (e.g., prong)
177 .....Nut assembled to substructure utilizing cooperating regions on both
178 .....Nut is externally and internally threaded cylinder
179 .....Nut penetrates substructure and anchors itself thereto (e.g., pierce nut)

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....Nut deforms wall of preformed opening in substructure during assembly

....Both cooperating regions deformed

....Nonmetallic nut, resiliently deformed during assembly

....Nut assembled to substructure by plastically deformable region on nut

....Region on inwardly facing surface of bolt head or nut

....Surface extends radially beyond flat sides of bolt head or nut

....And includes resilient flange

....Having axially directed projection or recess

....Plural, radially extending, and generally equally spaced

....Surface deforms resiliently

HAVING STRUCTURE TO RESTRICT ROTATION OF THREADED, MATING PIECES (E.G., NUT LOCK)

....Structure contacts nut piece side and is fixed to the nut

....And contacts mating piece side

....Utilizing a resilient characteristic of the member, or of a discrete element

....With a discrete, resilient element

....Other element is a bolt, and member includes opening configured to engage side flat thereon

....And further includes spaced, axially extending legs for engaging side flats on the nut

....Structure is coaxial, distinct member (e.g., washer) that restricts nut piece when fixed

....Utilizing a resilient characteristic of the member, or of a discrete element

....Member comprises key movable laterally into engagement with threaded elements

....Member comprises key movable laterally into engagement with threaded elements

....Member includes plastically deformable portion

....Utilizing a resilient characteristic of the member, or of a discrete element

....With a discrete, resilient element

....Member includes pawl- or pivoting key-type portion engaging threads

....Utilizing a resilient characteristic of the key, or of a discrete element

....With a discrete, resilient element

....Key engageable with aligned formations (e.g., grooves) in axially outwardly facing portion of each threaded element

....Member includes key, screw, tongue, etc. perpendicular to threads

....Utilizing a resilient characteristic of the key, or of a discrete element

....With a discrete, resilient element

....Including plastically deformable portion

....Comprising an elongated element divided longitudinally (e.g., a cotter pin)

....Member includes screw receivable in an axially extending, internally threaded bore

....With an additional member between screw and axially outwardly facing portion

....Member or portion includes an axially disposed key

....Key coacts with bolt by occupying an axially extending recess formed in the radially outward surface thereof

....And includes a portion adapted to extend into a transverse opening provided in the bolt

....And includes a portion adapted to engage a substantial part of the periphery of the bolt
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220 ...And includes a region plastically deformable into engagement with the axially outwardly facing portion

221 ...Member or portion includes piece that interlocks with an axially extending recess or slot in a bolt and a recess in an axially outwardly facing side of a nut

222 ...Internally threaded locking member (e.g., jam nut)

223 ...Including means associated with at least one of the nuts for restricting rotation therebetween

224 ...Key received in part in each of the nuts

225 ...Including a plastically deformable portion

226 ...Received in axially extending passages or recesses

227 ...Comprising one or more discrete members serving as a pawl and ratchet

228 ...Inherently resilient pawl

229 ...Axially directed, resiliently biased detent means

230 ...Canted element

231 ...With means resiliently biasing the nuts apart

232 ...Side lock

233 ...Integral deformable means

234 ...By a discrete element

235 ...Periphery encompassing means (e.g., a sleeve)

236 ...Including plastic deformation (e.g., bending) of the discrete element

237 ...Having a part of one of the nuts extending into a circular, axially directed recess of the other, and further including, in the region of the recess, formations cooperating to restrict relative rotation

238 ...At least one of the formations comprises a surface eccentric to the longitudinal axis of the nuts

239 ...Including cooperating formations on the axially opposing portions of the nuts

240 ...Comprising teeth of the ramp and buttress type

241 ...Comprising surfaces of a curvilinear nature

242 ...Plastic deformation of at least one of the nuts

243 ...Reversed internal and external threads on one of the nuts

244 ...Oppositely threaded

245 ......Intersecting threads on the bolt

246 ...By thread-gripping locking element

247 ...Resilient grip

248 ......Split ring

249 ......Including structure interfitting within a thread for less than a full turn thereof

250 ......Wire structure

251 ......Helically coiled wire

252 ......Including a free end in nonrotational engagement with the threaded element

253 ...Gripping member includes a tapered section adapted to be axially depressed to cause radial movement of a portion thereof

254 ...Gripping member is moved radially into engagement with the threads

255 ......Including discrete means to move or to lock the gripping member relative to the externally threaded element

256 ...Gripping member is moved tangentially into engagement with the threads

257 ...Including material in the nature of (1) a metallic coating, (2) a quantity of fusible metal or (3) a discrete member formed of ductile metal

258 ...Including settable material

259 ...Comprising a thread lock

260 ...Including a distortable metallic washer or sleeve

261 ...In the nature of a dished washer

262 ...Including a coil spring

263 ...Differential thread means

264 ...Rocking thread section on the externally threaded element
..Including a tapered (e.g., a conical) surface for wedging the internally threaded element against the externally threaded one

..Segmented internally threaded element

....Discrete segments carried within a housing

....Including a discrete, threaded member carrying the tapered surface and threadedly engaging one of the threaded elements

.....Engaging a threaded exterior provided on the segmented element

....Including a sleeve or washer type member for carrying the tapered surface and surrounding the segmented element

..Externally threaded element includes an axially extending opening in its free end for receiving an expander member

...With a camming member having an eccentrically arranged recess for receiving the internally threaded element

...Having an element, or with a discrete member, adapted to cant the assembly

...With a discrete, canting member (e.g., a washer)

...Having the internally threaded element distorted

...Radially inward distortion

....With discrete means carried by the element for producing the distortion

.....Threaded means

....Of cantilevered segments (e.g., castellated end)

....Of circumferentially spaced areas of continuous periphery

.....Defining a smooth curving, noncircular thread section (e.g., elliptically shaped)

.....Impacted areas

.....Located on the flats of a polygonally shaped element

...Axial distortion

....With discrete means carried by the element for producing the distortion

....By axially directed impacted areas

....Of axially spaced threaded sections

.....Coiled spring

....Including a region displaceable generally axially relative to another part of the element

.....Having at least one region formed by a cut, slot, etc., across at least one sidewall of the element and extending generally radially into the element

..Including a longitudinal locking member

....Having a toothed surface

..Including a radial locking member

....Threadedly received in the internally threaded element

..Side clutch

...Roller

...Ball

...Spring

..Tangential locking member

..Elastic gripping action

...Elastic insert

....Disposed in a counterbore in the internally threaded element

....Disposed within an interruption of a threaded surface

..Externally threaded element adapted to be compressed radially inwardly

....Resilient element

....Having threads of different pitch, or a thread of varying pitch

..Involving dissimilarities in the sectional configuration of the threads

....Resulting in the deformation of one thread by the other

....By integral, interference-producing deviations from a standard thread shape

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CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

311 .....Located in the vicinity of the crest or the root of the thread
312 ..Including means biasing the threads in axially opposed directions
313 ..Washer having a deformable portion engageable with a threaded element
314 ..Resiliently deformable portion
315 .With a member in the nature of a rotation preventing key movable laterally into engagement with the threaded elements
316 ..And utilizing a resilient characteristic of the key, or of a discrete element
317 ...With a discrete, resilient element
318 ....Comprising a spring of the coiled type
319 ..And including a plastically deformable portion
320 ...Comprising an elongated element divided longitudinally (e.g., a cotter pin)
321 .With an elongated member in the nature of a rotation preventing key disposed axially of the threaded elements
322 ..And utilizing a resilient characteristic of the key, or of a discrete element
323 ..And including a plastically deformable portion
324 .Elastic gripping action
325 .Externally threaded element includes an axially extending opening in its free end for receiving an expander member
326 .Pawl and ratchet
327 ..Pawl carried by the internally threaded element
328 ...Pivoted pawl
329 ...Resilient pawl
330 ..Washer carried pawl
331 ...Resilient
332 ..Including teeth of the ramp and buttress type on the axially inwardly facing portion of the internally threaded element
333 .By deformation of a threaded element
334 ..Plastic deformation
335 ...Of an internally threaded element
336 ....Into an interruption in the thread of the externally threaded element associated therewith

HEADED FASTENER ELEMENT WITH NUT, WASHER, SECURING MEANS OR CAP

338 ..Lap bolt or fastener
339 ..Interference fit type
340 .Securing means pivotable about axis transverse to fastener axis, e.g., toggle bolt, etc.
341 ..And biasing spring
342 ...Spring engaging securing means
343 ...Spring at opposite end from securing means
344 ..And discrete manual actuating means
345 ...And pivoted retention means
346 ..Channel shaped securing means
347 .Headed fastener element with securing means and biasing spring
348 ..Ball detent securing means
349 ..Securing means rotatable about fastener element or rotatably engageable by tool-rotatable headed fastener element
349 ...Outwardly extending projection cooperates with socket member having ramp engagement means
350 ....Including means providing axial adjustment
351 .....Threaded adjustment
352 ....And discrete biasing spring
353 ....Similar, opposed ramp surfaces
354 ...Helically slotted securing means having cooperating engaging portion on socket member
355 ....Through-slot for engagement with crossbar
350 ...Securing means rotatable and axially movable, e.g., wear takeup means, etc.
351 ..Draw bar or draft key fastener
352 .Metallic resilient securing means
353 ..Retainer ring
354 ..Wedge-securing means
355 ..And apertured bolt
356 ..Penetrating pin securing means
CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

357 ..Longitudinally inserted
358 . .Outwardly deflected
359 . .Bifurcated
360 . .Deformable securing means
361 . .Swageable collar
362 . .Securing means deflecting a portion of fastener end
363 . .Plural end legs
364 . .Cotter pin fastener
365 . .Circular deflector
366.1 .Headed bolt or screw with threads and complementary nut
367 . .Having stay bolt spacer sleeve
368 . .Having washer
369 . .Including sealing means
370 . .Stay bolt bearing washer
366.2 .Flush mount or low profile
366.3 .Threads having a specific pitch or angle
371.1 .Sealing-type washer compressed by head
371.2 .Washer adjacent head and having a particular shape (e.g., dished) or composition
372 .And separate attaching or retaining means
372.5 .Cap over the head
372.6 .Having attaching or retaining means
373 .Attachable cap structure
374 . .By screw means
375 . .Crimpable
376 . .Weldable metal
377 . .Moldable
378 EXTERNALLY THREADED FASTENER ELEMENT, E.G., BOLT, SCREW, ETC.
379 .Stay bolt
380 . .Having spherical head
381 . .And telltale bore
382 . .Having telltale bore
383 . .Multipart
384 . .Axially adjustable
385 . .Comprising longitudinal side-by-side sections
386 . .Pilot end having means enhancing fastening or installation
387.1 . .Drill-tip-type end
387.2 . .Having a reaming portion
387.3 . .Having enhanced gripping structure
387.4 . .Thread-tapping portion or with thread pitch stabilizing ridge
387.5 . .Having distinct, spaced cutting edges or points (e.g., prongs)
387.6 . .Resembling a twist-drill-type bit
387.7 . .Cuttings or chips moved along curved relief channel
387.8 . .And specified cutting edge, face, rake, relief surface, or flute angle (e.g., axially facing facets)
388 .Double-ended
389 . .Both ends threaded
390 . .Single element having means facilitating or effecting separation
391 .By fluent pressure
392 . .Resiliently flexible
393 . .Set screw
394 . .Drive screw
395 . .Having bore therethrough
396 . .Separate head element
397 . .Threaded and attached to shank
398 . .Head eccentric with respect to fastener axis
399 . .Head having counter-sinking means
400 . .Hook head, e.g., J-bolt, etc.
401 . .Elongated head, e.g., hanger bolt, etc.
402 . .Head driving structure
403 . .Socket or slot
404 . .Orthogonally arranged slots, e.g., Phillips head, etc.
405 . .Opposed open ended plural slots, e.g., spanner, etc.
406 . .Dovetail
407 . .Having driver retaining means
408 . .Frictional engagement
409 . .Wing structure
410 . .Plural diverse driving structures
411 . .Thread or shank structure
412 . .Plural threads on single shank
413 . .Of different pitch
414 . .Buttress thread
415 . .Of varying thread pitch
416 . .Lobular thread
417 . .Circumferentially interrupted thread
418 . .By longitudinal slot
419 . .Shank bifurcated by slot extending entirely therethrough
420 . .Inclined slot
CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

421.....Helically oriented
422...By transversely extending bore
423..Truncated thread
424..Shank structure
425..Twisted
426..Tapered

INTERNALLY THREADED FASTENER
ELEMENT, E.G., NUT, ETC.
428..Including lubricating means
429..Having cap
430..Cap crimped onto nut
431..Resiliently retained
432..Multipart
433..Including movable threaded segments
434...Moved by fluent pressure
435..Wing
436..Thread structure
437..Interrupted
438..Coll spring

IMPACT DRIVEN FASTENER, E.G., NAIL, SPIKE, TACK, ETC.
440..Having means to facilitate explosive driving
441..Discrete guide or centering means
442..Plural attached fasteners
443..Integral strip
444..Laterally attached only at head or bridge
445..Attached end-to-end
446..Including integral locking means
447..Comprising deformable portion
448..Expansible on impact
449....Axially collapsible section
450..Having means engageable on underside of member being secured by fastener
451.1..Comprising protrusion or recess on shank
452...Longitudinal rib
453....Spiral rib
454.....Defined by twisted shank
455....Circumferential rib
456...Barb or spur-type projection
456.2...Undulating type
456.3...Serrations or sharp teeth
456.4...Longitudinal flute, depression, or channel
456.5...Shoulder-type protrusion
457..Multiple prong, e.g., nailing plate, staple, etc.
458..Oppositely disposed prongs

459...Having plural prongs on one end
460...Having identical ends
461..Of sheet metal
462...Including stiffening means
463....Rib
464.....Entire fastener having corrugations parallel to driving direction
465.....Having sawtooth penetrating edge
466...Prongs cut and formed from body portion
467....Plural prongs from single opening
468.....Including opposed prongs defining mirror image of each other
469..Multipart
470..Having prongs of different length
471..Each prong bevelled from a single side toward its opposite side
472...Bevel located on outsides of prong
473..Having distinct driving head
474....Plural heads
475..Having means to limit penetration short of bridge portion
476...Having frangible portion
477..Of sheet metal
478..Folded or twisted
479..Hollow fastener
480..Separately attached head
481..Head having central recess
482..Plural axially aligned heads
483..Wire formed head
484..Domed head
485..Hook head
486..Head forms segment of disk
487..Shank or penetrating end structure
488..Flat-sided shank
489...Tapered
490..Stepped shank
491..Oval or lobular shank
492..Angular shank portion
493..End structure
494...Pyramidal point
495...Slotted end
496...Chisel point
497...Stepped end

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498 ...Conical point
499 ...Having a curved surface
500 **HEADED FASTENER ELEMENT**
501 .Having plastically flowable or deflectable end, e.g., rivet, etc.
502 ...Plural end legs
503 ...Sheet metal type
504 ...Solid end type
505 ...Stay bolt
506 ...Bolt head and end flowable
507 ...Domed head
508 .Having resilient securing structure on shank
509 ...Concentric ridge or flange
510 ...Plural ridges or flanges
511 **FASTENER SECURING ELEMENT**
512 .Having elastomeric material
513 .Cotter pin
514 ...Having deformed resilient middle portion
515 ...Having folded back leg
516 .Resilient metallic
517 ...Retainer ring
518 ...Having gripper holes
519 ...Plural radial sectioned
520 ...Sheet metal
521 ...Circular
522 ...Parallel legs, e.g., U-shaped, etc.
523 ....Folded leg having fastener aperture or recess
524 .....Plural folds
525 ...Having plural longitudinal slits
526 ....And slit coincident with element axis
527 ....And helically inclined tongues, e.g., speed nut, etc.
528 ...Having longitudinal slit coincident with element axis
529 ...Having longitudinal slot forming fastener engaging slide
530 ...Wire or rod formed
531 ** WASHER STRUCTURE**
532 .Including release means
533 .Including means for retaining washer to fastener
534 .Including antifriction means
535 .Including adjustable thickness means
536 ...Wear or lost motion compensating means
537 .Having leveling means
538 ..Inclined planar face
539 .Radially positionable
540 ...Pivotally hinged sections
541 ...Secured by plastic deformation
542 .Sealing
543 .Wire formed
544 .Axially resilient
545 .Corrugated
546 .Spacer
547 ..Of folded sheet material
548 **MISCELLANEOUS**
549 **CROSS-REFERENCE ART COLLECTIONS**
900 FASTENER OR FASTENER ELEMENT COMPOSED OF PLURAL DIFFERENT MATERIALS
901 .Core and exterior of different materials
902 ...Metal core
903 ...Resinous exterior
904 FASTENER OR FASTENER ELEMENT COMPOSED OF NONMETALLIC MATERIAL
905 .Paper or wood
906 .Leather or fabric
907 .Elastomeric
908 .Resinous material
909 FASTENER OR FASTENER ELEMENT COMPOSED OF THERMO-RESPONSIVE MEMORY MATERIAL
910 ANTITAMPER MEANS
911 .One-way drive
912 ANTISSPLITTING FASTENER
913 SELF-EXPANDING ANCHOR
914 COATED BOLT
915 BOLT HAVING PACKING JOINT
916 BOLT HAVING TENSION FEATURE
917 NUT HAVING TENSION FEATURE
918 THREADLESS NUT
919 SCREW HAVING DRIVING CONTACTS
920 STAPLE
921 MULTIPLE-PRONGED NAIL, SPIKE OR TACK
922 NAIL, SPIKE OR TACK HAVING LOCKING DEVICE
923 NAIL, SPIKE OR TACK HAVING SPECIFIC HEAD STRUCTURE
924 COUPLED NUT AND BOLT
924.1 Deformed
925 .Top stop

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CLASS 411 EXPANDED, THREADED, DRIVEN, HEADED, TOOL-DEFORMED, OR LOCKED-THREADED FASTENER

926 Positive lock
927 .Side
928 .Thread gripper
929 .Thread lock
929.1 .Coil spring
929.2 .Distorted washer
930 .Flowing metal or settable material
931 .Superposed nuts
932 ...Oppositely threaded
933 ...Key or pawl locked
934 ...Side locked
935 ...Cam or cone grip
935.1 ...Cam
936 ...Canted nut
937 ...Distorted nut
937.1 ...Predistorted thread pitch or diameter
937.2 ...Post-distorted thread pitch or diameter
938 ...Distorted thread
939 ...Longitudinal key
940 ...Radial key or gib
941 ...Side clutch
941.1 ...Spring
941.2 ...Roller
941.3 ...Ball
942 ...Tangential key
943 ...Flexible washer
944 ...Flexible key
945 ...Cross key
946 ...Spring-seated
947 ...Elastic-gripping action
948 ...Longitudinal key
949 ...Ratchet and bolt-carried pawl
950 ...Ratchet and nut-carried pawl
951 ...Flexible
952 ...Pivoted
953 ...Washer-carried pawl
954 ...Wedged slotted bolt
955 LOCKED BOLTHEAD OR NUT
956 ...Automatic base clutch
957 ...Biting tooth
958 ...Coiled washer
959 ...Bolt- or nut-carried
960 ...Friction
961 ...Pawl and ratchet
962 ...Bolthead or nut-carried pawl
963 ...Yielding interlocking washer
964 ...Detent
965 ...With retainer
966 ...Multiple (i.e., gang type)
967 ...Deformable bolthead or nut
968 ...Deformable base member
969 .Deformable retainer
970 .Resilient retainer
971 ...And side lock
972 .Distorted
973 .Gravity bolthead, nut or washer
974 ...Side lock
975 ...Rotatable washer
976 ...Bent tongue-locked
977 ...Pawl-locked
978 ...Pawl and ratchet
979 .Resilient
981 ...Automatic
982 ...Spring-tongued washer plate
983 ...Inelastic tongue
984 ...Longitudinal
985 ...Bolthead- or nut-held
986 ...Reversed bolthead or nut
987 ...Side pin
988 ...Spike-held locking plate
989 ...Swaying
990 ...Washer tongue-held
991 ...Transversely sliding
992 ...Key, plate, or bar
993 ...Bolthead- or nut-held
994 ...Sliding washer
995 ...Transversely swinging
996 ...Transverse base-locking key
997 ...Longitudinal fastener
998 WITH POSITIVE BOLT LOCK
999 WITH RETAINER (E.G., TETHER)

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

DIGESTS

DIG 1 THREAD FORMING, REFORMING, OR CLEANING
DIG 2 TEMPERATURE MODIFICATION
DIG 3 UTILIZING FLUID PRESSURE

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