1. Combined Diverse Switches (e.g., manual-actuated and Art Type)
2. Electromagnetically Actuated Switches
3. Utilizing magnetostrictive elements
4. Radio frequency switch (e.g., T/R switch)
5. With coaxial components
6. Automatic circuit-interrupting devices (e.g., circuit-protective devices)
7. Responsive to plural diverse circuit conditions (e.g., voltage and current)
8. Multipole or polyphase
9. With individual latch or trip means in each leg
10. With common latch or trip means
11. Plural switches
12. With shunting contacts
13. With auxiliary switch means (e.g., for energizing coil)
14. With direct connected contact separating means
15. With contact biasing, holding or pressure control means
16. Magnetic or electrodynamic (e.g., blowon or blowoff)
17. With switch condition signalling, indicating or alarm means
18. Responsive to predetermined or abnormal current condition (e.g., direction, phase angle or amplitude)
19. Zero current
20. Voltage responsive (under, over or no voltage)
21. With latch or trip means
22. Plural latch or combined latch operating means for single latch
23. With diverse-type actuating means (e.g., magnetic and thermal)
24. Trip-free (i.e., cannot be manually reclosed while overload exists)
25. With disabling means (for contact-actuator)
26. Reclosing or resetting
27. Automatic combined with manual
28. Automatic combined with timing or delay means
29. Fluid-controlled
30. Mechanical motor-controlled (e.g., clock movement)
31. Thermally actuated
32. With counting or integrating means (e.g., repetitive for given number of reclosures)
33. With means providing for operation after variable intervals or fixed intervals of different duration (e.g., first reset occurs) instantaneously, with other at longer intervals
34. With lockout
35. Plural trips or combined operating means for single trip (e.g., magnetic with thermal)
36. With common structural elements
37. With thermal element comprising magnetic flux source
38. Magnetic
39. With time delay (e.g., thermal)
40. Responsive to or proportional to degree of overload condition
41. With magnetic flux winding directly in series with main contacts
42. With adjusting or calibrating means
43. Thermal
44. Including ambient temperature compensating means
45. With regulating, adjusting or calibrating means
46. With contact rebound or other undesirable motion prevention means
47. Utilizing conductive liquid (e.g., mercury)
48. Comprising three or more electrodes or circuit-completion means
49. With liquid-displacement means
CLASS 335 ELECTRICITY: MAGNETICALLY OPERATED SWITCHES, MAGNETS, AND ELECTROMAGNETS

50 ...Comprising plural interconnected liquid containers
51 ...Magnetic
52 ....Piston or plunger
53 .....Combined with timing or delay means
54 ...Tiltable or rotating liquid chamber
55 ...Armature structure
56 ...Comprising freely movable floating slug or mass
57 ...Contact or electrode structure
58 ...Mercury or mercury wetted
59 ..Retarded or delayed type
60 ..Plural sets of contacts alternately, consecutively or selectively opened or closed
61 ..With pneumatic delay means (e.g., dashpot, etc.)
62 ..With hydraulic delay means
63 ..With magnetic or electromagnetically actuated delay means
64 ..With mechanical delay means
65 ...Motor or motor-controlled (e.g., clockwork)
66 ..Electrothermal delay means
67 ..Adjustable or regulatable
68 ..With motor
69 ..Reversible or oscillatable
70 ..Frequency-responsive or synchronous
71 ..Contact actuating structure
72 ...Plural contacts
73 ...Eccentric or cam
74 ...Including brake, clutch or detent
75 ....Magnetically actuated
76 ...Comprising energy storage means (e.g., wound spring)
77 ...With locking, latch or tripping structure
78 .Polarity-responsive
79 ...Storage or memory type (e.g., bistable)
80 ..Armature structure
81 ...Freely movable within coil or magnetic field between poles
82 ...Floating (i.e., no fixed pivot)
83 ..Contact structure of composition
84 ..Magnetic structure (e.g., saturable)
85 ...Pole structure
86 ..With adjusting means
87 ..Periodic (e.g., vibrators)
88 ..Plural periodic switches or with plural pairs of contacts
89 ...Selectively, alternately, or consecutively actuated
90 ..With vibrating or oscillating element damping, frequency adjusting or vibration control
91 ..Actuating magnet structure or material
92 ...Plural magnets
93 ..Vibratory reed or other periodic contact actuator
94 ...Tuned or resonant at a particular frequency
95 ..Armature
96 ...Adjustable
97 ..Contact arrangement or composition
98 ...Adjustable contacts
99 .Alternating or fluctuating current type
100 ..Induction or eddy current (e.g., vane or closed conductive loop)
101 ..Preselected or synchronous frequency responsive
102 ..Polyphase
103 ..With plural magnetic-actuating structures
104 ..With chatter, bounce or vibration-prevention means
105 ..With damping or adjustment means
106 .Multiple contact type
107 ..Contacts-selectively, sequentially, alternately, or intermittently actuated
108 ...Automatic telephone type
109 ....Plural or multidirection mechanical selector motions
110 ......With motion-conversion means
111 ......Selector structure
112 ......Crossbar type
113 ....With holding, locking or latching means
114 ....Rotary selector motion
115 ....Reciprocating selector motion (e.g., sliding)
...With reset or selector-restoring means
...With operational mode-varying means
...Motor-driven
...Plural armatures
...With interlocking or mechanical connection
...Contact-actuation means
...With rotary or compound motion device (e.g., rack and pinion)
....Pawl and ratchet
....Armature structure
....Rotary armature
....Reciprocating or linearly sliding
...Simultaneously actuated
...By pivotal or rockable armature
....Movable contacts or slidable card bar or comb
....Movable contacts on circular card or comb structure
....By reciprocating armature
...With adjustable, replaceable or interchangeable structural features
...Contact structure or arrangement
...Grid or coordinate
...In pile or stack
...With plural magnet or coil means
...Of diverse type
.Step-by-step type (e.g., closure responsive to predetermined number of control pulses
....With timing or indexing means (e.g., clock mechanism)
....Ratchet and pawl-type actuator
...With electrothermal-actuating means (e.g., expansible wire)
...Fusible element
...Independently operative
...With armature positioning or adjusting
...Bimetallic element
...Thermomagnetic (e.g., device whose magnetic permeability changes with temperature)
...Electrodynamically actuated
...Moving coil type
...Plural coils
...With reset or restoring means

.Vacuum or hermetically sealed type (e.g., reed switch)
...Plural
...With permanent magnet structure
...Armature, contact or contact-actuating means (e.g., sealed reed)
...With predetermined current or voltage value-responsive actuator
...With protective means for switch or contacts
...With operation-inhibiting means (e.g., shock resistant)
....From open position
...Plurality independently operable switches
...Interlocking
...With cooperative-actuating means
...With unitary housing, support or flux path
...With unitary or common magnetic flux source
...Manually or gravity-operated latch with electromagnetic trip
...Contact-actuating means unitary with latch or trip
...With latch- or trip-reset means
...Latching means
...With positive lock (against movement)
...Plural or with auxiliary latch
...Magnetically operated
...Including spring-biasing or energy-storage means
...Tripping means
...Plural diverse (e.g., manual plus electromagnet)
...Magnetically operated
...Utilizing hammer or other impacting means
...With adjusting or regulating means
...Plural magnets or flux sources
...Of diverse electrical characteristics
...Of diverse magnetic characteristics (e.g., permanent plus electromagnet)
...With common core or single armature
...Pivoted armature
Magnetic fields opposing (e.g., differential) magnetic fields or torques acting alternately in opposite directions. With plural reciprocating armatures aligned or rigidly connected. Contact-actuating means. Plural or combined (e.g., manual with other) unitary with armature. Snap-action mechanical linkage. Including cam, roller or eccentric means. Compound motion device (e.g., toggle). With biasing means (open or closed). With vibration-, bounce- or chatter-prevention means. With pressure-maintaining or adjusting means. Magnetic or electrodynamic force. Contact composition or structure. Adjustable or readily detachable convertible from normally open to normally closed and vice versa. Printed circuit. Pivoted or relatively movable independently of the armature. With arc-suppression or extinguishing means. With housing or support means. With armature structure. Through conductor type (i.e., conductor field actuates armature). Permanent magnet-actuated switches. Plural switches. Plural magnets. Thermomagnetic magnets and electromagnets. Electron or ion beam deflecting type. With magnetic shunt. With adjustable magnetic element (e.g., to change the air gap, or its position on the cathode ray tube). With coil structure. With electric or magnetic-shielding means. Magnetostrictive-type device. Superconductive type. Temperature-responsive type (e.g., temp. compensation means). With time-delay means. Combined with diverse-type art device. With magneto-mechanical motive device (e.g., electromagnet with armature). Frequency-responsive type. With relatively movable coil and permanent magnet (e.g., D’Arsonval type) position on the cathode ray tube. With relatively movable conductors (e.g., dynamometer). Induced current-type movable conductor (e.g., eddy current member). Rotating disk. Short-circuited winding. Saturable magnetic type. With motion-conversion means (e.g., reciprocating to rotary motion). With permanent magnet. Polarized electromagnet. Varying alternating current amplitude responsive. With plural armatures. With armature-locking means. With reversible magnetic flux-type movement (e.g., bistable type). With vibrating reed or spring bar-type armature. With a shunt path for magnetic flux. Adjustable. With auxiliary armature-movement control means (e.g., manual). With time delay armature-movement control means. Dashpot type. Auxiliary control coil. With plural armatures selectively retarded. Alternating current type.
...Flux phase displacement or varying means

...Shading coil

...Plural winding type

...With chatter- or noise-preventing means

...Spring or cushion-type vibration absorber

...Special armature construction or mounting means (e.g., to assure positive seating of armature)

...Coil construction or mounting means

...With plunger-type armature

...With vibrating armature

...With armature latch means (e.g., means to retain armature in open or closed position

...With latch-control winding

...Plural coils controlling a single armature

...With shock-absorbing means (e.g., means to absorb the shock of armature or plunger)

...With armature stroke adjustment

...Plural plungers

...With sealed enclosure (e.g., dust or moistureproof)

...Armature structure or material

....With centering or aligning or guiding means

....With plunger rotation preventing means (e.g., means to prevent undesired rotation of the plunger during movement)

....Sectional plunger

...Plural armatures actuated by single electromagnetic coil

...Plural coils or magnets control armature movement

...With plural armatures

...Coils or magnets being separately or selectively controllable

...With dynamically balanced armature

...Armature-mounting means

...With armature bounce or vibration-preventing means

...Rotating disk or cylindrical armature

...With armature-adjusting means (e.g., means to adjust the relative distance between core and armature)

...With armature-biasing means or bias-adjustment means

...Hinge joint type armature-mounting means

...Pivot support type armature-mounting means

...With shock absorption, vibration or bounce-preventing means

...With casing or enclosure

...Armature shape, structure or material

...Balls, filings or granular material

...Core or pole shape, structure or material

.Blade sharpening or conditioning type magnets

.For magnetizing or demagnetizing

.Work or object holding type

..With workpiece to magnet adapted or fixture (e.g., to bridge flux)

...Angularly adjustable fixture

..Rotary-type magnetic chuck (permanent or electromagnet type)

..Electromagnet type (e.g., electromagnetic chuck)

...With circuit control means

...Lifting or attracting type (e.g., for lifting pigiron or pulling hairpins)

....Hermetically sealed or moisture-proofed

....Hand-held type

....With outer casing or housing

...With magnetic-hold control means (e.g., means to control the hold strength)

..Magnet structure or material

...Core structure

...Movable or adjustable cores

..Coil structure or material

...With cooling means

..With electric- or magnetic-shielding means
302 ..Permanent magnets
303 ...Enclosed in flexible plastic, cloth or tape
304 ...With flux leakage-reducing means
305 ...Magnetic plug type (e.g., crankcase plug)
306 ...Plural magnets

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS