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| 1 | HAVING POLARITY SAFETY FEATURE | 34 | .Housing member, seal, spacer or |
| 2 | HAVING LIVING MATTER, E.G., MICROORGANISM, ETC. | | fluid distributing or |
| 3 | HAVING PULSE FEATURE | 35 | directing means |
| 4 | WITH SONIC OR ULTRASONIC FEATURE | 36 | ..Having sealing feature |
| 5 | RADIO ACTIVE MATERIAL CONTAINING | | ...Having bonded seal, e.g., |
| 6 | WITH PRESSURE EQUALIZING MEANS | | welded, adhesive, molded in |
| | FOR LIQUID IMMERSION OPERATION | 37 | situ, etc. |
| 7 | WITH NONBATTERY ELECTRICAL | 38 | ...Having clamping means |
| | COMPONENT ELECTRICALLY | | ...Having support or spacers with |
| | CONNECTED WITHIN CELL CASING | 39 | fluid distribution means |
| | OTHER THAN TESTING OR | 40 | ...And fluid directing means |
| | INDICATING COMPONENTS | 41 | .Catalytic electrode structure or |
| 8 | HAVING DISPARATE NONELECTRICAL | | composition |
| | FUNCTION | 42 | ..Having electrolyte matrix or |
| 9 | HAVING DIVERSE CELLS OR DIVERSE | | barrier layer |
| | REMOVABLE CELLS IN A SUPPORT | 43 | ..Having organic constituent as |
| | MEANS | 44 | part of the electrode |
| 10 | HAVING MAGNETIC FIELD FEATURE | 45 | ...Organic catalyst |
| 11 | CURRENT PRODUCTION DEPENDENT UPON | 46 | ..Having an inorganic matrix, |
| | TEMPERATURE DIFFERENTIAL | 47 | substrate or support |
| | BETWEEN A PAIR OF ELECTRODES | 48 | ...Of sintered particles |
| 12 | FUEL CELL, SUBCOMBINATION THEREOF | 49 | .Chemically specified electrolyte |
| | OR METHODS OF OPERATING | | HAVING EARTH FEATURE |
| 13 | .Process of operating | | PRESERVING CELL IN STORAGE |
| 14 | ..Circulating or feeding | | FEATURE |
| | electrolyte | 50 | REGENERATING, SALVAGE OR REPAIR |
| 15 | ...Active material in electrolyte | | FEATURE OTHER THAN ONLY |
| 16 | ..Fused or molten electrolyte | | ADDITION OF ELECTROLYTE TO |
| 17 | ..Generating, regenerating or | | CELL OR ELECTRICALLY CHARGING |
| | recycling reactant | 51 | PER SE |
| 18 | .Plural cells having means to | 52 | PROCESS OF CELL OPERATION |
| | reduce ionic short circuit | 53 | .Electrolyte circulation |
| 19 | .Having means for active material | | .Activation of inactive cell |
| | generation or regeneration | | MEANS EXTERNALLY RELEASING |
| 20 | ..By heating or cooling | | INTERNAL GAS PRESSURE FROM |
| 21 | ..By electrical current | 54 | CLOSED CELL, I.E., VALVE ETC. |
| 22 | .Automatic control means | | .Elastic, resilient or spring |
| 23 | ..Electrical output dependent | 55 | biasing valve means |
| 24 | ..Temperature dependent | | ..Elastic band or O-ring valve |
| 25 | ..Pressure dependent | 56 | member |
| 26 | .Having heat exchange means | 57 | .Blowout type |
| 27 | .Active material electrode-type | | SEALED CELL HAVING GAS PREVENTION |
| | cell or subcombination thereof | 58 | OR ELIMINATION MEANS |
| 28 | ..Envelope cathode-type or | | .Prevention means controlling an |
| | subcombination thereof | 59 | auxiliary device |
| 29 | ..And chemically specified | | .Prevention or elimination means |
| | electrolyte material | | is one of the cell electrodes |
| 30 | .Solid electrolyte | | or is electrically connected |
| 31 | ..Tubular | 60 | to an electrode |
| 32 | ..Plural disc or modules | | ..Electrodes having different |
| 33 | ..Electrolyte composition | | total capacity or one |
| | chemically specified | | electrode with charge or |
| | | | discharge reserve |

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| 61 | WITH CONTROL MEANS RESPONSIVE TO BATTERY CONDITION SENSING MEANS | 86 | ..Reactive, absorbable or diffusive type |
| 62 | .Temperature control | 87 | ..Gang type |
| 63 | .Electrolyte feeding control from reserve supply | 88 | ...Having manifold |
| 64 | ..Having valve in control | 89 | ..Other stopper, cap or plug type |
| 65 | TERMINAL PROTECTOR OTHER THAN SEAL THROUGH CASING | 90 | WITH MEASURING, TESTING, OR INDICATING MEANS |
| 66 | HAVING MEANS TO ACCOMMODATE ELECTRODE EXPANSION | 91 | .For charge or liquid level |
| 67 | HAVING MOVABLE MECHANICAL MEANS TO PROVIDE RELATIVE MOTION BETWEEN ELECTRODE AND ELECTROLYTE | 92 | ..Having electrical circuitry |
| 68 | .Means moves electrode | 93 | ...External type |
| 69 | ..Rotary motion | 94 | PLURAL CONCENTRIC OR SINGLE COILED ELECTRODE |
| 70 | .Means moves electrolyte externally of electrode chamber | 95 | HAVING MEANS FOR DRAINING OR REMOVING ELECTROLYTE FROM A CELL OTHER THAN FILLER OPENING |
| 71 | WITH SYSTEM HAVING MEANS TO MOVE VENTILATING FLUID | 96 | CELL SUPPORT FOR REMOVABLE CELL |
| 72 | HAVING SPECIFIED VENTING, FEEDING OR CIRCULATION STRUCTURE (OTHER THAN FEEDING OR FILLING FOR ACTIVATING DEFERRED ACTION-TYPE BATTERY) | 97 | .Having switch or interlock means |
| 73 | .Single filling opening and means to equalize fluid level in plural cells | 98 | .Having disparate support structure, e.g., eyeglass temple, etc. |
| 74 | .Having means to control electrolyte level when liquid is added, other than a visual reference point | 99 | .For plural cells |
| 75 | ..For different levels | 100 | .Support or holder per se |
| 76 | ..Float valve | 101 | FLUID ACTIVE MATERIAL OR TWO-FLUID ELECTROLYTE COMBINATION HAVING AREAS OF NONMIXTURE |
| 77 | ..By establishing an air lock | 102 | .Active material in molten state |
| 78 | ...Liquid seal only | 103 | ..With fused electrolyte, i.e., molten |
| 79 | ..Movable valve structure supported within the filler opening | 104 | ..With solid-state electrolyte |
| 80 | .Having (manual) electrolyte storage feeding a device | 105 | .Active material in solution |
| 81 | .Having nonmovable means providing motion between electrolyte and electrodes, i.e., circulation | 106 | ..Copper sulfate solution |
| 82 | .Venting structure | 107 | ..Iron containing material |
| 83 | ..Separate ventilating inlet and exhaust openings | 108 | ..Nitrogen containing material |
| 84 | ..Nonspill fluent electrolyte type other than gas diffusive type | 109 | ..Chromium containing material |
| 85 | ...Weight actuated valve type | 110 | DEFERRED ACTION TYPE |
| | | 111 | .Responsive to light |
| | | 112 | .Responsive to heat |
| | | 113 | .Responsive to movement of electrode on contained electrolyte |
| | | 114 | ..Activated by spin or set back |
| | | 115 | ..Activated by explosive charge |
| | | 116 | ..Frangible separation means |
| | | 117 | ..By orientation of the cell |
| | | 118 | .Responsive to addition of liquid |
| | | 119 | ..Activated by immersion, e.g., sea water type |
| | | 120 | WITH HEAT EXCHANGE FEATURE |

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| 121 | ADJUNCTS IN COMBINATION WITH OR FOR CONNECTION TO AN EXTERNAL ELECTRICAL ELECTRIC CURRENT CARRYING MEMBER OF A BATTERY OTHER THAN TERMINAL PROTECTORS, E.G., TERMINAL ADAPTER, CAPS, LIFTERS, ETC. AND CONNECTORS PER SE | 143 | ...Ribs or projections attached to sheet material |
| | | 144 | ...Plural layers |
| | | 145 | ...Having defined porosity either functional or by size (i.e., semipermeable, permselective, ionpermeable, microporous, etc.) |
| 122 | CURRENT PRODUCING CELL, ELEMENTS, SUBCOMBINATIONS AND COMPOSITIONS FOR USE THEREWITH AND ADJUNCTS | 146 | ..Having electrode spacing projections |
| | | 147 | ...Projections are deformed portions, of a sheet material, i.e., corrugations, etc. |
| 123 | .Having means to interchangeably connect plural individual cells or means to connectively support cell to current seeking apparatus | 148 | .Plural housing having spacing means or channels for air circulation and short prevention |
| 124 | .Printed cell type | 149 | .Plural cells |
| 125 | .Standard cell or counter emf type | 150 | ..With integral switch means |
| | | 151 | ..Casing having interlocking structure |
| 126 | .Cell with protective layer on electrolyte | 152 | ..Individual cells connected in repeating contiguous layered units |
| 127 | .Tape or flexible-type cell including tape fuel cells or subcombination thereof | 153 | ...Having unit enclosing housing |
| | | 154 | ...Having sectional component |
| 128 | .Electrode or plural tablets, pellets or discs | 155 |Of tray, cup or dish shape in nested or telescopic relationship |
| | | 156 | ..Complete cells |
| 129 | .Separator, retainer or spacer insulating structure (other than a single porous flat sheet, or either an impregnated or coated sheet not having distinct layers) | 157 | ...In end-to-end contact, e.g., stacked button-type cell, etc. |
| | | 158 | ...Having intercell connector |
| 130 | ..Insulator structure is only spacer of the rod, button, strip, or frame type | 159 | ...And common external casing, tray or clamp means |
| | | 160 | ..Having intercell connector |
| 131 | ..Having electrode enclosing feature | 161 | .Intracell assembly having cell electrode connector |
| | | 162 | .Flat-type unit cell and specific unit cell components |
| 132 | ...Separating material in bulk form about electrode | 163 | .Cell enclosure structure, e.g., housing, casing, container, cover, etc. |
| 133 | ...Cylindrical unit cell type, flat unit cell type or porous cup type | 164 | ..Cylindrical unit cell type, e.g., cup container electrode, tubular electrode, casing, etc. |
| 134 |Paste or gel | | |
| 135 |With layer of material or spacing means | 165 | ...Having centrally located anode, i.e., "inside-out" type cell |
| 136 | ...Envelope type | | |
| 137 |Coating on electrode | 166 | ...Reactive metallic can, cup or tubular electrode |
| 138 | ...Having support frame or cover | | |
| 139 | ...Having edge bond or seal | 167 | ...Having outer nonreactive housing, casing, or jacket |
| 140 | ...Tubular type | | |
| 141 |Having plural layers of diverse material | | |
| 142 | ..Having plural distinct components | | |

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| 168 |Having metallic or conductive outer casing | 310 |Hetero ring containing polymer |
| 169 |Outer casing electrically connected to reactive electrode | 311 |Oxygen is a ring member of the hetero ring |
| 170 |Electrical contact terminal plate or cap clamped to or embedded in a portion of the housing | 312 |The hetero ring is three membered |
| 171 |Having seal | 313 |Silicon containing polymer |
| 172 |Mechanical clamping pressure seal | 314 |Sulfur, nitrogen, or phosphorus containing polymer |
| 173 |And sealing mass or compound | 315 |Nitrogen and phosphorus in the polymer |
| 174 | ...Having seal material | 316 |Halogen containing polymer |
| 175 | ..Cover only | 317 |Oxygen containing polymer |
| 176 | ..Container only | 318 | ...Silver containing component |
| 177 | ..Housing or casing with plural covers | 319 | ...Aluminum containing component (e.g., LiAlCl ₄ , etc.) |
| 178 | ..Having terminal | 320 |The component is alumina (i.e., aluminum oxide) |
| 179 | ...On or through a side of housing | 321 | ..Alkali metal containing component |
| 180 | ...Sealing sleeve embedded or molded in cover | 322 |The alkali metal is lithium |
| 181 | ..And terminal seal | 323 |Lithium and halogen containing compound |
| 182 |Means to stop rotational movement between cover and terminal | 324 | ..Chemically specified organic solvent containing |
| 183 |Having threaded compression means | 325 | ...And chemically specified inorganic solvent |
| 184 |Sealing mass or compound | 326 | ...Plural organic solvents (i.e., solvent mixture) |
| 185 | ..Having seal feature | 327 |One of the organic solvents contains a hetero ring |
| 186 | ..Having cell assembly support feature | 328 |Nitrogen is ring member of the hetero ring |
| 187 | ..Having handle or lifting device | 329 |Oxygen is ring member of the hetero ring |
| 188 | ..Include electrolyte chemically specified and method | 330 |The hetero ring is a cyclic carbonate |
| 189 | ..Precursor composition | 331 |Plural cyclic carbonate solvents |
| 300 | ..The electrolyte is gelled | 332 |And acyclic carbonate or acyclic carboxylic acid ester solvent |
| 301 | ...Carbohydrate or derivative containing (e.g., starch, cellulose, etc.) | 333 |And acyclic ether solvent |
| 302 | ...Silicon containing | 334 |And acyclic oxygen or nitrogen containing solvent compound |
| 303 | ...Organic polymer containing | 335 |The acyclic oxygen containing solvent compound is an acyclic ether |
| 304 | ..The electrolyte is solid | 336 | ...Hetero ring in the organic solvent |
| 305 | ..Temperature range of electrolyte operation or electrolyte processing is specified | 337 | ...Oxygen is the only ring hetero atom in the hetero ring (e.g., dioxolane, gamma butyrolactone, etc.) |
| 306 | ...Organic component containing | | |
| 307 |Chemically specified organic solute | | |
| 308 |Carbohydrate or derivative | | |
| 309 |Two or more polymers (i.e., polymer mixture) | | |

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| 338 |The hetero ring is a cyclic carbonate (e.g., ethylene carbonate, propylene carbonate, etc.) | 218.2 | ...Hydrogen storage material is active material |
| | | 219 | ...Silver component is active material |
| 339 | ...Nitrogen containing organic solvent compound (e.g., acetonitrile, etc.) | 220 | ...Copper component is active material |
| 340 | ..Sulfur containing organic solvent compound | 221 | ...Iron component is active material |
| 341 | ...Oxygen containing organic solvent compound | 222 | ...Cadmium component is active material |
| 342 |Acyclic carbonate solvent | 223 | ...Nickel component is active material |
| 343 |Acyclic carboxylic acid ester solvent | 224 | ...Manganese component is active material |
| 344 | ..Chemically specified inorganic solvent other than water | 225 | ...Lead component is active material |
| 345 | ...Sulfur or phosphorus in the inorganic solvent | 226 |Alloy |
| | | 227 |Metal sulphate or carbonate |
| 346 |Sulfur dioxide containing inorganic solvent | 228 |Lead oxide |
| | | 229 | ...Zinc component |
| 347 | ..Organic solute component in aqueous electrolyte | 230 |With mercury |
| | | 231 |Zinc oxide |
| 199 | ..Halogen containing | 231.1 | ..Alkalated transition metal chalcogenide component is active material |
| 200 | ..Hydrogen containing | | |
| 201 |Ammonium | | |
| 202 | ..Chromium containing | 231.2 |Alkalated vanadium (V) chalcogenide |
| 203 | ..With acid containing N or P constituent | 231.3 |Alkalated cobalt (Co) chalcogenide |
| 204 | ..Sulphuric acid | | |
| 205 | ..Sulphate containing | 231.4 | ..Alkalated carbon, graphite, or carbonaceous component is active material |
| 206 | ..Alkaline | | |
| 207 | ..With salt or acid component | | |
| 208 | ..Electrode support for suspending or holding an electrode in a battery | 231.5 | ..Vanadium (V), chromium (Cr), niobium (Nb), molybdenum (Mo), titanium (Ti), or tungsten (W) component is active material |
| 209 | ..Electrode | | |
| 210 | ..Bipolar type | 231.6 | ..Alkaline earth metal or magnesium (Mg) component is active material |
| 211 | ..Having connector tab | | |
| 212 | ..Having active material with organic component | 231.7 | ..Halogenated carbon, graphite, or carbonaceous component is active material |
| 213 | ...Organic component is active material | | |
| 214 | ...Organic component is an antioxidant | 231.8 | ..Carbon, graphite, or carbonaceous component is active material |
| 215 | ...Organic component is an expander or addition agent for improving electrode capacity or plating characteristics | 231.9 | ...Alkali metal component is active material |
| | | 231.95 |The alkali metal is lithium |
| 216 |Dendrite or "tree" forming inhibitor | 232 | ..Having inorganic binder or conductive filler |
| 217 | ...Organic component is a binder | 233 | ..Grid or holder for active material |
| 218.1 | ..Chemically specified inorganic electrochemically active material containing | 234 | ...Grid or holder has nonconducting component portion thereof |

CLASS 429 CHEMISTRY: ELECTRICAL CURRENT PRODUCING APPARATUS, PRODUCT, AND PROCESS

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| 235 | ...Having particulate or fibrous porous mass including a sintered mass | Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived. |
| 236 | ...Having coating in the pores | |
| 237 | ...Having support or reinforcing member | |
| 238 | ...Having longitudinal electrically conducting tubes or cores | |
| 239 | ...Having conductive receptacle or mechanical locking means for the active material | |
| 240 | ...Locking means being bendable tabs | |
| 241 | ...Open mesh or perforated plate | |
| 242 | ...Expanded metal | |
| 243 | ...Having members in a face plane of the grid being offset from members in the plane of the opposite face | |
| 244 |Distinct elements or members intermediate the face members | |
| 245 | ..Materials chemically specified | |
| 246 | ..With insulating separator, spacer or retainer means | |
| 247 | .Separator, retainer, spacer or materials for use therewith | |
| 248 | ..Having additive for effecting the charge capacity, life, etc., of a cell | |
| 249 | ..Organic material | |
| 250 | ..And wetting agent or surface acting agent | |
| 251 | ..And inorganic material | |
| 252 | ...Silicon containing | |
| 253 | ..Phenolic or thermosetting resin | |
| 254 | ..Rubber or thermoplastic resin | |
| 255 | ..Natural or treated plant materials | |

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