

U.S. Patent Classification – Classes by Title

Class	Title / Main Group
451	Abrading □
51	Abrasive tool making process, material, or composition △
181	Acoustics ✎
257	Active solid-state devices (e.g., transistors, solid-state diodes) ✎
156	Adhesive bonding and miscellaneous chemical manufacture △
226	Advancing material of indeterminate length □
244	Aeronautics ✎ □
366	Agitating □
420	Alloys or metallic compositions △
86	Ammunition and explosive-charge making ✎
102	Ammunition and explosives ✎
330	Amplifiers ✎
472	Amusement devices □
273	Amusement devices: games □
463	Amusement devices: games □
446	Amusement devices: toys □
119	Animal husbandry □
D30	Animal husbandry ◇
2	Apparel □
D2	Apparel and haberdashery ◇
223	Apparel apparatus □
D22	Arms, pyrotechnics, hunting and fishing equipment ◇
221	Article dispensing □
236	Automatic temperature and humidity regulation □
4	Baths, closets, sinks, and spittoons □
136	Batteries: thermoelectric and photoelectric △
384	Bearings □
5	Beds □
449	Bee culture □
402	Binder device releasably engaging aperture or notch of sheet □
8	Bleaching and dyeing; fluid treatment and chemical modification of textiles and fibers △ □
412	Bookbinding: process and apparatus □
281	Books, strips, and leaves □
462	Books, strips, and leaves for manifolding □
12	Boot and shoe making □
36	Boots, shoes, and leggings □
175	Boring or penetrating the earth □
215	Bottles and jars □
188	Brakes □
14	Bridges □
300	Brush, broom, and mop making □
15	Brushing, scrubbing, and general cleaning □
D4	Brushware ◇
24	Buckles, buttons, clasps, etc. □
D25	Building units and construction elements ◇
441	Buoys, rafts, and aquatic devices □
452	Butchering □
79	Button making □
40	Card, picture, or sign exhibiting □
502	Catalyst, solid sorbent, or support therefor: product or process of making △
59	Chain, staple, and horseshoe making □
297	Chairs and seats □
194	Check-actuated control mechanisms □
422	Chemical apparatus and process disinfecting, deodorizing, preserving, or sterilizing △
260	Chemistry of carbon compounds △

Class	Title / Main Group
585	Chemistry of hydrocarbon compounds △
423	Chemistry of inorganic compounds △
436	Chemistry: analytical and immunological testing △
204	Chemistry: electrical and wave energy △
429	Chemistry: electrical current producing apparatus, product, and process △
71	Chemistry: fertilizers △
518	Chemistry: fischer-tropsch processes; or purification or recovery of products thereof △
435	Chemistry: molecular biology and microbiology △
530	Chemistry: natural resins or derivatives; peptides or proteins; lignins or reaction products thereof △
23	Chemistry: physical processes △
279	Chucks or sockets □
209	Classifying, separating, and assorting solids □
134	Cleaning and liquid contact with solids △ □
510	Cleaning compositions for solid surfaces, auxiliary compositions therefor, or processes of preparing the compositions △
292	Closure fasteners □
192	Clutches and power-stop control □
118	Coating apparatus △ □
401	Coating implements with material supply □
427	Coating processes △
341	Coded data generation or conversion ✎
372	Coherent light generators (lasers) ✎
453	Coin handling □
516	Colloid systems and wetting agents; sub-combinations thereof; processes of △
431	Combustion □
342	Communications: directive radio wave systems and devices (e.g., radar, radio navigation) ✎
340	Communications: electrical ✎
367	Communications, electrical: acoustic wave systems and devices ✎
343	Communications: radio wave antennas ✎
252	Compositions △
501	Compositions: ceramic △
106	Compositions: coating or plastic △
7	Compound tools □
345	Computer graphics processing and selective visual display systems ✎
159	Concentrating evaporators △
193	Conveyors, chutes, skids, guides, and ways □
406	Conveyors: fluid current □
198	Conveyors: power-driven □
147	Coopering □
D28	Cosmetic products and toilet articles ◇
460	Crop threshing or separating □
380	Cryptography ✎
30	Cutlery □
407	Cutters, for shaping □
83	Cutting □
408	Cutting by use of rotating axially moving tool □
706	Data processing: artificial intelligence ✎
707	Data processing: database and file management or data structures ✎
716	Data processing: design and analysis of circuit or semiconductor mask ✎
705	Data processing: financial, business practice, management, or cost/price determination ✎
700	Data processing: generic control systems or specific applications ✎
702	Data processing: measuring, calibrating, or testing ✎
715	Data processing: presentation processing of document, operator interface processing, and screen saver display processing ✎

Class	Title / Main Group
717	Data processing: software development, installation, and management ✎
704	Data processing: speech signal processing, linguistics, language translation, and audio compression/decompression ✎
703	Data processing: structural design, modeling, simulation, and emulation ✎
701	Data processing: vehicles, navigation, and relative location ✎
329	Demodulators ✎
433	Dentistry □
232	Deposit and collection receptacles □
222	Dispensing □
202	Distillation: apparatus △
203	Distillation: processes, separatory △
201	Distillation: processes, thermolytic △
424	Drug, bio-affecting and body treating compositions △
514	Drug, bio-affecting and body treating compositions △
34	Drying and gas or vapor contact with solids □
369	Dynamic information storage or retrieval ✎
360	Dynamic magnetic information storage or retrieval ✎
720	Dynamic optical information storage or retrieval ✎
507	Earth boring, well treating, and oil field chemistry △
172	Earth working □
D1	Edible products ◇
434	Education and demonstration □
219	Electric heating ✎
313	Electric lamp and discharge devices ✎
314	Electric lamp and discharge devices: consumable electrodes ✎
315	Electric lamp and discharge devices: systems ✎
445	Electric lamp or space discharge component or device manufacturing ✎ □
363	Electric power conversion systems ✎
392	Electric resistance heating devices ✎
381	Electrical audio signal processing systems and devices ✎
710	Electrical computers and digital data processing systems: input/output ✎
719	Electrical computers and digital processing systems: interprogram communication or interprocess communication (ipc) ✎
711	Electrical computers and digital processing systems: memory ✎
709	Electrical computers and digital processing systems: multicomputer data transferring or plural processor synchronization ✎
712	Electrical computers and digital processing systems: processing architectures and instruction processing (e.g., processors) ✎
713	Electrical computers and digital processing systems: support ✎
718	Electrical computers and digital processing systems: virtual machine task or process management or task management/control ✎
708	Electrical computers: arithmetic processing and calculating ✎
439	Electrical connectors □
310	Electrical generator or motor structure ✎
377	Electrical pulse counters, pulse dividers, or shift registers: circuits and systems ✎
338	Electrical resistors ✎
307	Electrical transmission or interconnection systems ✎
320	Electricity: battery or capacitor charging or discharging ✎
200	Electricity: circuit makers and breakers ✎
174	Electricity: conductors and insulators ✎
361	Electricity: electrical systems and devices ✎
337	Electricity: electrothermally or thermally actuated switches ✎
335	Electricity: magnetically operated switches, magnets, and electromagnets ✎
324	Electricity: measuring and testing ✎
318	Electricity: motive power systems ✎
388	Electricity: motor control systems ✎
323	Electricity: power supply or regulation systems ✎
322	Electricity: single generator systems ✎
191	Electricity: transmission to vehicles ✎ □
205	Electrolysis: processes, compositions used therein, and methods of preparing the compositions △
326	Electronic digital logic circuitry ✎
902	Electronic funds transfer ✎
399	Electrophotography ✎
187	Elevator, industrial lift truck, or stationary lift for vehicle ✎ □
227	Elongated-member-driving apparatus □

Class	Title / Main Group
474	Endless belt power transmission systems or components □
229	Envelopes, wrappers, and paperboard boxes □
D23	Environmental heating and cooling: fluid handling and sanitary equipment ◇
D7	Equipment for preparing or serving food or drink not elsewhere specified ◇
D13	Equipment for production, distribution, or transformation of energy ◇
D29	Equipment for safety, protection, and rescue (1) ◇
714	Error detection/correction and fault detection/recovery ✎
216	Etching a substrate: processes △
37	Excavating □
482	Exercise devices □
411	Expanded, threaded, driven, headed, tool-deformed, or locked-threaded fastener □
92	Expansible chamber devices □
149	Explosive and thermic compositions or charges ✎
442	Fabric (woven, knitted, or nonwoven textile or cloth, etc.) △
358	Facsimile and static presentation processing ✎
168	Farriery □
256	Fences □
182	Fire escape, ladder, or scaffold □
169	Fire extinguishers □
42	Firearms ✎
43	Fishing, trapping, and vermin destroying □
383	Flexible bags □
160	Flexible or portable closure, partition, or panel □
141	Fluent material handling, with receiver or receiver coating means □
137	Fluid handling □
416	Fluid reaction surfaces (i.e., impellers) □
239	Fluid sprinkling, spraying, and diffusing □
303	Fluid-pressure and analogous brake systems □
426	Food or edible material: processes, compositions, and products △
99	Foods and beverages: apparatus □
450	Foundation garments □
410	Freight accommodation on freight carrier □
476	Friction gear transmission systems or components □
44	Fuel and related compositions △
110	Furnaces □
D6	Furnishings ◇
473	Games using tangible projectile □
D21	Games, toys, and sports goods ◇
261	Gas and liquid contact apparatus △
55	Gas separation △
96	Gas separation: apparatus △
95	Gas separation: processes △
48	Gas: heating and illuminating △
409	Gear cutting, milling, or planning □
33	Geometrical instruments ✎
65	Glass manufacturing △
294	Handling: hand and hoist-line implements □
54	Harness □
56	Harvesters □
588	Hazardous or toxic waste destruction or containment △
165	Heat exchange □
432	Heating □
237	Heating systems □
218	High-voltage switches with arc preventing or extinguishing devices ✎
108	Horizontally supported planar surfaces □
968	Horology ✎ ⇄
368	Horology: time measuring systems or devices ✎
903	Hybrid electric vehicles (HEVs) ✎ ⇄
405	Hydraulic and earth engineering □
362	Illumination ✎
382	Image analysis ✎
494	Imperforate bowl: centrifugal separators □
254	Implements or apparatus for applying pushing or pulling force □
347	Incremental printing of symbolic information ✎
376	Induced nuclear reactions: processes, systems, and elements ✎
336	Inductor devices ✎
373	Industrial electric heating furnaces ✎
725	Interactive video distribution systems ✎
373	Industrial electric heating furnaces ✎

Class	Title / Main Group
725	Interactive video distribution systems ✎
123	Internal-combustion engines □ (Also see Hybrid Electric Vehicles.)
477	Interrelated power delivery controls, including engine control □
63	Jewelry □
D11	Jewelry, symbolic insignia, and ornaments ◇
403	Joints and connections □
289	Knots and knot tying □
280	Land vehicles □ (Also see Hybrid Electric Vehicles.)
278	Land vehicles: animal draft appliances □
296	Land vehicles: bodies and tops □
298	Land vehicles: dumping □
301	Land vehicles: wheels and axles □
69	Leather manufactures □
D26	Lighting ◇
349	Liquid crystal cells, elements and systems ✎
122	Liquid heaters and vaporizers □
210	Liquid purification or separation △
70	Locks □
184	Lubrication □
74	Machine element or mechanism □
D15	Machines not elsewhere specified ◇
493	Manufacturing container or tube from paper; or other manufacturing from a sheet or web □
440	Marine propulsion □
414	Material or article handling □
D34	Material or article handling equipment ◇
73	Measuring and testing ✎
D10	Measuring, testing, or signalling instruments ◇
124	Mechanical guns and projectors □
D24	Medical and laboratory equipment ◇
186	Merchandising □
72	Metal deforming □
164	Metal founding □
228	Metal fusion bonding □
76	Metal tools and implements, making □
148	Metal treatment △
29	Metal working □
266	Metallurgical apparatus △ □
196	Mineral oils: apparatus △
208	Mineral oils: processes and products △
299	Mining or in situ disintegration of hard material □
D99	Miscellaneous ◇
327	Miscellaneous active electrical nonlinear devices, circuits, and systems ✎
16	Miscellaneous hardware □
332	Modulators ✎
180	Motor vehicles □
91	Motors: expansible chamber type □
185	Motors: spring, weight, or animal powered □
49	Movable or removable closures □
800	Multicellular living organisms and unmodified parts thereof and related processes △
370	Multiplex communications ✎
84	Music ✎
984	Musical instruments ✎ ⇄
D17	Musical instruments ◇
977	Nanotechnology △ ✎ □ ⇄
163	Needle and pin making □
976	Nuclear technology ✎ ⇄
D19	Office supplies; artists' and teachers' materials ◇
398	Optical communications ✎
385	Optical waveguides ✎
359	Optical: systems and elements ✎
351	Optics: eye examining, vision testing and correcting ✎
353	Optics: image projectors ✎
356	Optics: measuring and testing ✎
352	Optics: motion pictures ✎
89	Ordnance ✎
532	Organic compounds – part of the class 532-570 series △
534	Organic compounds – part of the class 532-570 series △
536	Organic compounds – part of the class 532-570 series △

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540	Organic compounds – part of the class 532-570 series △
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556	Organic compounds – part of the class 532-570 series △
558	Organic compounds – part of the class 532-570 series △
560	Organic compounds – part of the class 532-570 series △
562	Organic compounds – part of the class 532-570 series △
564	Organic compounds – part of the class 532-570 series △
568	Organic compounds – part of the class 532-570 series △
570	Organic compounds – part of the class 532-570 series △
987	Organic compounds containing a bi, sb, as, or p atom or containing a metal atom of the 6th to 8th group of the periodic system △ ⇄
331	Oscillators ✎
224	Package and article carriers □
53	Package making □
D9	Packages and containers for goods ◇
162	Paper making and fiber liberation △
930	Peptide or protein sequence △ ⇄
512	Perfume compositions △
355	Photocopying ✎
396	Photography ✎
D16	Photography and optical equipment ◇
285	Pipe joints or couplings □
138	Pipes and tubular conduits □
475	Planetary gear transmission systems or components □
47	Plant husbandry □
504	Plant protecting and regulating compositions △
111	Planting □
PLT	Plants
264	Plastic and nonmetallic article shaping or treating: processes △
425	Plastic article or earthenware shaping or treating: apparatus □
419	Powder metallurgy processes △
60	Power plants ✎ □
100	Presses □
290	Prime-mover dynamo plants ✎
283	Printed matter □
101	Printing □
D18	Printing and office machinery ◇
623	Prosthesis (i.e., artificial body members), parts thereof, or aids and accessories therefore □
375	Pulse or digital communications ✎
417	Pumps □
150	Purses, wallets, and protective covers □
250	Radiant energy ✎
430	Radiation imagery chemistry: process, composition, or product thereof △
213	Railway draft appliances □
258	Railway mail delivery □
105	Railway rolling stock □
246	Railway switches and signals □
295	Railway wheels and axles □
104	Railways □
238	Railways: surface track □
220	Receptacles □
503	Record receiver having plural interactive leaves or a colorless color former, method of use, or developer therefore △
346	Recorders ✎
D14	Recording, communication, or information retrieval equipment ◇
62	Refrigeration □
235	Registers ✎
152	Resilient tires and wheels □
404	Road structure, process, or apparatus □
901	Robots □
492	Roll or roller □
418	Rotary expansible chamber devices □
415	Rotary kinetic fluid motors or pumps □

Class	Title / Main Group
464	Rotary shafts, gudgeons, housings, and flexible couplings for rotary shafts □
109	Safes, bank protection, or a related device □
D20	Sales and advertising equipment ◇
850	Scanning-probe techniques and apparatus; applications ✎
277	Seal for a joint or juncture □
234	Selective cutting (e.g., punching) □
438	Semiconductor device manufacturing: process △
225	Severing by tearing or breaking □
112	Sewing □
271	Sheet feeding or delivering □
413	Sheet metal container making □
270	Sheet-material associating □
114	Ships ✎ □
116	Signals and indicators ✎
117	Single-crystal, oriented-crystal, and epitaxy growth processes; non-coating apparatus therefor △
508	Solid anti-friction devices, materials therefor, lubricant or separant compositions for moving solid surfaces, and miscellaneous mineral oil compositions △
241	Solid material comminution or disintegration □
206	Special receptacle or package □
75	Specialized metallurgical processes, compositions for use therein, consolidated metal powder compositions, and loose metal particulate mixtures △
267	Spring devices □
365	Static information storage and retrieval ✎
249	Static molds □
52	Static structures (e.g., buildings) □
428	Stock material or miscellaneous articles △
125	Stone working □
126	Stoves and furnaces □
127	Sugar, starch, and carbohydrates △
505	Superconductor technology: apparatus, material, process △ ✎ □
248	Supports □
312	Supports: cabinet structure □
211	Supports: racks □
128	Surgery □
600	Surgery □
604	Surgery □
606	Surgery □
601	Surgery: kinesitherapy □
607	Surgery: light, thermal, and electrical application □
602	Surgery: splint, brace, or bandage □
520	Synthetic resins or natural rubbers – part of the class 520 series △
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528	Synthetic resins or natural rubbers – part of the class 520 series △
455	Telecommunications ✎
178	Telegraphy ✎
379	Telephonic communications ✎
348	Television ✎
386	Television signal processing for dynamic recording or reproducing ✎
135	Tent, canopy, umbrella, or cane □
D5	Textile or paper yard goods; sheet material ◇
87	Textiles: braiding, netting, and lace making □
26	Textiles: cloth finishing □
19	Textiles: fiber preparation □
68	Textiles: fluid treating apparatus □
38	Textiles: ironing or smoothing □
66	Textiles: knitting □
28	Textiles: manufacturing □
57	Textiles: spinning, twisting, and twining □
139	Textiles: weaving □
374	Thermal measuring and testing ✎
470	Threaded, headed fastener, or washer making: process and apparatus □

Class	Title / Main Group
131	Tobacco □
D27	Tobacco and smokers' supplies ◇
132	Toilet □
483	Tool changing □
173	Tool driving or impacting □
81	Tools □
D8	Tools and hardware ◇
291	Track sanders □
D12	Transportation ◇
D3	Travel goods and personal belongings ◇
212	Traversing hoists □
190	Trunks and hand-carried luggage □
334	Tuners ✎
82	Turning □
199	Type casting □
276	Typesetting □
400	Typewriting machines □
27	Undertaking □
171	Unearthing plants or buried objects □
251	Valves and valve actuation □
293	Vehicle fenders □
454	Ventilation □
D32	Washing, cleaning, or drying machine ◇
333	Wave transmission lines and networks ✎
177	Weighing scales ✎
166	Wells □
305	Wheel substitutes for land vehicles □
157	Wheelwright machines □
231	Whips and whip apparatus □
242	Winding, tensioning, or guiding □
245	Wire fabrics and structure □
140	Wireworking □
142	Wood turning □
217	Wooden receptacles □
144	Woodworking □
269	Work holders □
378	X-ray or gamma ray systems or devices ✎

U.S. Patent Classification Main Groups

- △ Group I. Chemical and Related Arts.
- ✎ Group II. Communications, Radiant Energy, Weapons, Electrical and Computer Arts.
- Group III. Body Treatment and Care, Heating and Cooling, Material Handling and Treatment, Mechanical Manufacturing, Mechanical Power, Static, and Related Arts.
- ◇ Group IV. Industrial Designs.

Cross-Reference Art Collection Classes ⇄

- 901 Robots ✎ □
- 902 Electronic funds transfer ✎
- 903 Hybrid electric vehicles (HEV) ✎
- 930 Peptide or protein sequence △
- 968 Horology ✎
- 976 Nuclear technology ✎
- 977 Nanotechnology △ ✎ □
- 984 Musical instruments ✎
- 987 Organic compounds containing a bi, sb, as, or p atom or containing a metal atom of the 6th to 8th group of the periodic system △

Notes

This guide provides a general overview of the U.S. Patent Classification System (USPC). Users should also consult the *Manual of Classification* and *Classification Definitions* in order to determine the scope and organization of any given class. These and other patent classification resources are available on the U.S. Patent and Trademark Office web site at www.uspto.gov.

Michael White, Librarian for Research Services
 Engineering & Science Library, Queen's University
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