


APPENDIX C


Breakdown of PCT Applications by IPC Filings

Intellectual Property, the Immigration Backlog,
and a Reverse Brain-Drain
America's New Immigrant Entrepreneurs, Part III



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This document serves as Appendix C to the paper, “Intellectual Property, the Immigration Backlog, and a Reverse Brain-Drain.” In this separate appendix, we present a complete list of the international patent classification (IPC) codes, including the code, the description, and the total number for each code for 1998 and 2006.

Breakdown of PCT Applications by IPC Filings

Code	Description	1998	2006
A61K	Preparations for medical, dental or toilet purposes	2979	4762
G06F	Electric digital data processing	1134	3397
A61B	Diagnosis, surgery, identification	973	1866
G01N	Investigating or analyzing materials by determining their chemical or physical properties	997	1579
H01L	Semiconductor devices; electric solid-state devices not otherwise provided for	602	1580
C07D	Heterocyclic compounds	842	1352
A61P	Therapeutic activity of chemical compounds or medicinal preparations	38	1307
A61F	Contraceptive devices, bandages, dressings	688	1302
H04L	Transmission of digital information	845	1569
C12N	Micro-organisms or enzymes	1085	1014
C12Q	Measuring or testing processes involving enzymes or micro-organisms	501	958
C07K	Peptides	1644	829
A61M	Devices for introducing media into or onto the body	537	840
H04N	Pictorial communication, e.g., television	563	842
H04B	Transmission systems	434	810
H04Q	Selecting (switches, relays)	624	736
B32B	Products built-up of strata of flat or non-flat, e.g., cellular or honeycomb, form	264	682
B65D	Containers for storage or transport of articles	361	638
G02B	Optical elements, systems, or apparatus	364	709
C07C	Acyclic or carbocyclic compounds	561	579
B01D	Separation	419	562
A61N	Electrotherapy, magnetotherapy, radiation, ultrasound therapy	276	533
G06K	Recognition of data; presentation of data; record carriers; handling record carriers	155	605
A01N	Preservations of bodies	237	486
A61L	Methods or apparatus for sterilizing	342	420
C07H	Sugars, nucleosides, nucleotides, nucleic acids	189	424
H04M	Telephonic communication	402	423
C08L	Compositions of macromolecular compounds	262	429
C12P	Fermentation or enzyme-using processes to synthesize a desired compound	112	381
B01J	Chemical or physical processes, e.g., catalysis, colloid chemistry	440	415
B29C	Shaping or joining of plastics, shaping of substances in a plastic state	384	388
C08G	General processes of compounding	284	386
G01R	Measuring electric variables; measuring magnetic variables	159	338

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Code	Description	1998	2006
C08K	Use of inorganic on non-macromolecular substances as compounding ingredients	160	356
C23C	Chemical conversion, substitution, vacuum evaporation, sputtering, chemical vapor deposition	183	337
C08F	Macromolecular compounds involving only C-C unsaturated bonds	307	339
A63F	Card, board, or roulette games, indoor games using small moving playing bodies	68	322
H01M	Process or means, e.g., batteries, for the direct conversion of chemical energy into electrical energy	207	379
G08B	Signaling or calling systems; order telegraphs; alarm systems	86	294
H01J	Electric discharge tubes or discharge lamps	219	258
C09D	Coating compositions, e.g., paints, varnishes, lacquers, filling pastes	198	305
A23L	Preservation, general	167	231
H01R	Electrically-conductive connections; structural associations of a plurality of mutually-insulated electrical connecting elements; coupling devices; current collectors	225	274
E21B	Earth or rock drilling	172	257
A63B	Apparatus for physical training, gymnastics, swimming, climbing, or fencing, training equipment	168	232
G01S	Radio direction-finding; radio navigation; determining distance or velocity by use of radio waves	166	218
G09G	Arrangements or circuits for control of indicating devices using static means to present variable information	92	229
H04J	Multiplex communication	102	263
H05K	Printed circuits, casings, manufacture	234	208
C08J	Working-up, processes of compounding	177	245
A01K	Birds, fishes, insects	99	194
G11C	Static stores	147	216
G06T	Image data processing or generation, in general	206	239
B05D	Processes for applying liquids or other fluent materials to surfaces	71	233
G05B	Control or regulating systems in general; functional elements of such systems; monitoring or testing arrangements for such systems or elements	80	193
C09K	Materials for miscellaneous applications	128	210
C01B	Non-metallic elements, compounds	136	194
C12M	Apparatus for enzymology or microbiology	45	170
A61C	Dentistry or oral hygiene	96	191
G01J	Measurement of intensity, velocity, spectral content, polarization, phase or pulse characteristics of infra-red, visible or ultra-violet light; colorimetry; radiation pyrometer	72	180
C07F	Acyclic or heterocyclic compounds, containing elements other than C,H, halogens, O, N, S, Se, Te	192	168
B41J	Typewriters, selective printing mechanisms	71	206
H05B	Electric heating, electric lighting not provided for otherwise	93	175
G01C	Measuring distances, levels, or bearings; surveying; navigation	76	164
B60R	Vehicles, vehicle fittings, or vehicle parts not otherwise provided for	219	190

Code	Description	1998	2006
G11B	Information storage based on relative movement between record carrier and transducer	346	174
C11D	Detergent compositions	276	173
F16K	Valves; taps; cocks; actuating floats; devices for venting or aerating	84	171
C10G	Cracking of hydrocarbon oils, liquid hydrocarbon mixtures, polymerization	121	155
G01B	Measuring length, thickness, or similar linear dimensions; measuring angles; measuring areas; measuring irregularities of surfaces or contours	95	161
H01Q	Aerials	130	176
C02F	Treatment of water, waste water, sewage, or sludge	162	158
G02F	Devices or arrangements, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements for the control of the intensity, color, phase, polarization or direction of light	95	172
B23K	Soldering or unsoldering, welding, cladding, or plating	91	151
F16L	Pipes; joints for fittings for pipes; supports for pipes, cables or protective tubing; means for thermal insulation in general	139	146
G05D	Systems for controlling or regulating non-electric variables	54	141
F21V	Functional features or details of lighting devices or systems thereof; structural combinations of lighting devices with other articles, not otherwise provided for	55	140
B05B	Spraying apparatus, atomizing apparatus, nozzles	102	139
H01S	Devices using stimulated emission	96	150
A01H	Plant tissue culture	30	132
H04R	Loudspeakers, microphones, PA systems, deaf-aid sets	88	124
G01F	Measuring volume, volume flow, mass flow, or liquid level; metering by volume	83	120
B65B	Machines, apparatus or methods of packing articles or materials	79	127
A47C	Chairs, sofas, beds	48	123
G07F	Coin-feed or like apparatus	171	117
G03B	Apparatus or arrangements for taking photographs or for projecting or viewing them; apparatus or arrangements employing analog techniques using waves other than optical waves; accessories therefor	37	131
B01L	Chemical or physical laboratory apparatus for general use	108	117
F04B	Positive-displacement machines for liquids; pumps	47	121
G01V	Geophysics; gravitational measurements; detecting masses or objects; tags	67	124
G03F	Photomechanical production of textured or patterned surfaces, e.g., for printing, for processing of semiconductor devices; materials therefor; originals therefor; apparatus specially adapted therefor	108	126
H01B	Cables, conductors; insulators; selection of materials for their conductive, insulating, or dielectric properties	66	120
G09B	Educational or demonstration appliances; appliances for teaching, or communicating with, the blind, deaf or mute; models; planetaria; globes; maps; diagrams	66	109
C10M	Lubricating compositions	54	100
B65G	Transport or storage devices	80	117
B65H	Handling thin or filamentary material, e.g., sheets, webs, cables	82	103
H03M	Coding, decoding or code conversion in general	85	123

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Code	Description	1998	2006
C04B	Lime, magnesia, slag, cements, compositions thereof, concrete and building materials	141	120
B08B	Cleaning in general, prevention of fouling in general	61	107
A47L	Domestic washing or cleaning	52	111
D04H	Making textile fabrics	101	105
A23G	Cocoa, chocolate, confectionery, ice cream	49	90
H02K	Dynamo-electric machines	67	98
B62D	Motor vehicles, trailers	48	91
H02J	Circuit arrangements or systems for supplying or distributing electric power; systems for storing electric energy	75	91
E04B	Walls, partitions, roofs	56	104
H03K	Pulse technique	109	102
A47J	Kitchen equipment, beverage apparatus	39	92
H04K	Secret communication; jamming	6	111
G01L	Measuring force, stress, torque, work, mechanical power, mechanical efficiency, or fluid pressure	73	82
F02B	Internal-combustion piston engine	71	105
H01H	Electric switches; relays; selectors; emergency protective devices	100	92
A43B	Parts of footwear	48	82
B41M	Printing, duplicating, marking or copying processes, color printing	80	90
F16D	Couplings for transmitting rotation; clutches; brakes	74	86
G09F	Displaying; advertising; signs; labels or name-plates; seals	116	93
G10L	Speech analysis or synthesis; speech recognition	47	121
C03C	Chemical composition of glasses, glazes or vitreous enamels	93	107
B29D	Producing particular articles from plastics or from substances in a plastic state	59	90
E05B	Locks, accessories, handcuffs	42	78
F01D	Non-positive displacement machines or engines	47	78
A47G	Household or table equipment	51	80
F02M	Supplying combustion engines in general with combustible mixtures or constituents thereof	56	92
D21H	Pulp compositions; coating of paper	95	85
A62B	Devices, apparatus, or methods for life-saving	21	98
B01F	Mixing, e.g., dissolving, emulsifying, dispersing	87	81
G01M	Testing static or dynamic balance of machines or structures; testing structures or apparatus not otherwise provided for	42	74
F02C	Gas-turbine plants; air intakes for jet-propulsion plants	33	68
A41D	Outerwear, accessories	56	80
A23K	Fodder	46	66
C22C	Alloys	65	75
H02H	Emergency protective circuit arrangements	49	87
C10L	Natural gas, LPG, fire-lighters	45	68
A61H	Physical therapy apparatus	44	69

Code	Description	1998	2006
B64C	Airplanes, helicopters	41	80
B60K	Arrangement or mounting of propulsion units or of transmissions in vehicles	51	79
B67D	Dispensing, delivering or transferring liquids, not otherwise provided for	42	86
A63H	Toys, e.g., tops, dolls, hoops, building blocks	36	70
B63B	Ships or other waterborne vessels, equipment for shipping	48	67
F16C	Engineering elements or units; general measures for producing and maintaining effective functioning of machines or installations; thermal insulation in general	53	69
F01N	Gas-flow silencers or exhaust apparatus for machines or engines in general	41	75
A47K	Sanitary equipment	32	68
E04H	Swimming pools, fencing	36	72
C09J	Adhesives, Adhesive processes in general	106	93
E06B	Fixed or movable closures for openings in buildings, vehicles, fences, or like enclosures, in general	41	67
F16B	Devices for fastening or securing constructional elements or machine parts together, e.g., nails, bolts, circlips, clamps, clips, wedges; joints or jointing	51	68
D01F	Chemical features in the manufacture of artificial filaments, threads	56	75
G01D	Measuring not specially adapted for a specific variable; arrangements for measuring two or more variables not covered by a single other subclass; tariff metering apparatus; measuring or testing not otherwise provided for	50	64
B25B	Tools or bench devices for fastening, connecting, disengaging or holding	46	63
B64D	Flying suits, parachutes, arrangements for mounting of power planes or propulsion transmissions	34	60
C30B	Single crystal growth	48	60
C23F	Non-chemical removal of metallic material from surfaces	23	64
H03F	Amplifiers	47	68
G02C	Spectacles; sunglasses or goggles insofar as they have the same features as spectacles	43	60
F16H	Gearing	63	81
A47B	Tables, desks, office furniture	49	65
C03B	Manufacture, shaping or supplementary processes	53	61
C25D	Processes for electrolytic production of coatings	28	61
B21D	Working or processing of sheet-metal or metal tubes	52	66
A47F	Furniture for stores, bars, restaurants	39	58
A45C	Purses, traveling bags	21	58
F02K	Jet-propulsion plants	18	54
B05C	Apparatus for applying liquids or other fluent materials to surfaces	34	67
H02P	Control or regulation of electric motors, generators, or dynamo-electric converters; controlling transformers, reactors or choke coils	27	60
B60Q	Arrangement of signaling or lighting devices	28	52
G01P	Measuring linear or angular speed, acceleration, deceleration, or shock, indicating presence, absence, or direction, or movement	33	57
A46B	Brushes	25	56

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Code	Description	1998	2006
H02M	Apparatus for conversion between AC and AC, between AC and DC, or between DC and DC	50	74
G08C	Transmission systems for measured values, control or similar signals	27	59
A61G	Transport for patients, operating tables for patients	58	52
B23B	Turning, boring	34	58
B24B	Machines, devices or processes for grinding or polishing	68	69
F21S	Non-portable lighting devices or systems thereof	25	48
G07C	Time or attendance registers; registering or indicating the working of machines; generating random numbers; voting or lottery apparatus; arrangements, systems, or apparatus for checking not provided for elsewhere	71	53
G08G	Traffic control systems	35	55
G05F	Systems for regulating electric or magnetic variables	24	63
G03C	Photosensitive materials for photographic purposes (for photomechanical purposes G03F); photographic processes, e.g., cine, X-ray, color, stereo-photographic processes, auxiliary processes in photography	33	60
A61J	Containers specially adapted for medical or pharmaceutical purposes	50	46
A21D	Treatment of food	39	52
B66B	Elevators, escalators or moving walkways	17	45
H04H	Broadcast communication	73	55
F04D	Non-positive-displacement pumps	40	48
E04C	Structural elements	34	59
B60P	Vehicles adapted for load transportation	27	48
B22F	Working metallic powder, making metallic powder	45	51
B23P	Other working of metal, combined operations, universal machine tools	23	46
B60J	Windows, windscreens, non-fixed roofs, doors, or similar devices for vehicles	33	45
F16F	Springs; shock-absorbers; means for damping vibration	59	45
A62C	Fire-fighting	14	47
H03H	Impedance networks	58	49
G03G	Electrography; electrophotography; magnetography	42	51
B60N	Vehicle passenger accommodation	50	52
B26B	Hand-held cutting tools	21	42
C25B	Electrolytic or electrophoretic processes for production of compounds	20	41
H01F	Magnets; inductances; transformers; selection of materials for their magnetic properties	51	44
G01K	Measuring temperature; measuring quantity of heat; thermally sensitive elements not otherwise provided for	33	45
A23B	Preservation by canning	26	39
C08B	Polysaccharides	31	44
B60C	Vehicle tires	51	36
G06G	Analog computers	4	39
B60T	Vehicle brake control systems	43	43
A45D	Hairdressing or shaving equipment	45	38
B26D	Cutting, details common to machines for severing	24	41

Code	Description	1998	2006
A01G	Horticulture	34	37
B44C	Producing decorative effects	32	42
B28B	Shaping clay or other ceramic compositions, slag or mixtures containing cementitious material	11	41
B02C	Crushing, pulverizing or disintegrating in general	13	42
H03L	Automatic control, starting, synchronization, or stabilization of generators of electronic oscillations or pulses	52	45
D06M	Treatment, not provided for elsewhere	56	35
F16J	Pistons; cylinders; pressure vessels in general; sealings	32	47
G01T	Measurement of nuclear or X-radiation	26	37
B23Q	Details, components or accessories for machine tools	22	38
A01M	Trapping animals	26	32
E04F	Finishing work on buildings	16	37
H03B	Generation of oscillations, directly or by frequency-changing, by circuits employing active elements which operate in a non-switching manner; generation of noise by such circuits	20	37
E02D	Foundations, excavations, embankments	22	35
B60G	Vehicle suspension arrangements	16	30
D21F	Paper-making machines	65	31
B62B	Hand-propelled vehicles	22	31
A45F	Traveling or camp equipment	17	32
F02D	Controlling combustion engine	41	41
H01G	Capacitors; capacitors, rectifiers, detectors, switching devices, light-sensitive or temperature-sensitive devices of electrical type	25	36
H01P	Waveguides; resonators, lines	31	43
F17C	Vessels for containing or storing compresses, liquefied, or solidified gases; fixed-capacity gas-holders; filling vessels with, or discharging from vessels, compresses, liquefied, or solidified gases	27	37
B29B	Preparation or pre-treatment of the material to be shaped, making granules, recovery of plastics	28	36
E04D	Roof coverings	23	30
F21L	Lighting devices or systems thereof, being portable or specially adapted for transportation	2	32
C09B	Organic dyes or closely related compounds for producing dyes	29	32
F01L	Cyclically operating valves for machines	17	38
C09C	Treatment of inorganic materials	29	47
H03D	Demodulation or transference of modulation from one carrier to another	31	40
G06N	Computer systems based on specific computational models	20	33
C01G	Compounds containing metals not covered by sub-classes C01D or C01F	50	33
H03G	Control of amplification	27	33
B24D	Tools for grinding, buffing or sharpening	54	48
B03C	Magnetic or electrostatic separation	21	35
F16M	Frames, casings, or beds, of engines or other machines of apparatus, not specific to an engine, machine, or apparatus provided for elsewhere; stands or supports	18	29

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Code	Description	1998	2006
B60B	Vehicle wheels, castors, axles, increasing wheel adhesion	33	28
H05H	Plasma techniques	25	31
C07J	Steroids	37	30
A23J	Protein compositions for food	13	27
F15B	Systems acting by means of fluids in general; fluid-pressure actuators, e.g., servomotors; details of fluid-pressure systems, not otherwise provided for	16	31
A44B	Buttons, pins, buckles, fasteners	42	34
B63H	Marine propulsion or steering	13	26
B25C	Hand-held nailing or stapling tools, manually operated portable stapling tools	7	26
E03D	Flushing devices	6	28
B43K	Implements for writing or drawing	7	25
A42B	Hats, head coverings	21	28
B41F	Printing machines or presses	17	30
E02B	Hydraulic engineering	19	25
E04G	Scaffolding, forms, shuttering, building implements	13	26
D01D	Mechanical methods or apparatus in the manufacture of artificial filaments	41	29
D03D	Woven fabrics, methods of weaving, looms	10	33
C22B	Production or refining of metals	42	30
B60H	Arrangements or adaptations of heating, cooling, ventilating, other devices	12	23
H02G	Installation of electric cables or lines, or of combined optical and electric cables or lines	42	33
A23C	Dairy products	19	27
F04C	Rotary-piston, or oscillating-piston, positive-displacement machines for liquids	11	22
E05C	Bolts or fastening devices	8	25
D02G	Crimping or curling fibers, filaments, yarns or threads	9	32
B42D	Books, book covers, loose leaves, printed matter of special format or style	24	32
B62M	Rider propulsion of wheeled vehicles or sledges, powered propulsion of sledges on cycles	12	23
E01C	Construction of roads, sports grounds	19	23
H02N	Electric machines not otherwise provided for	19	24
B07C	Postal sorting, sorting individual articles	14	27
B22D	Casting of metals, casting of other substances by the same processes or devices	31	32
E01F	Construction of platforms, helicopter landing stages, signs, snow fences	26	24
G07B	Ticket-issuing apparatus; fare-registering apparatus; franking apparatus	17	23
F01B	Machines or engines, in general	12	23
F01K	Steam engine plants; steam accumulators	14	23
E05D	Hinges or suspension devices	19	21
A63C	Skates, skis, roller skates, design or layout of courts, rinks or the like	50	21
E03C	Domestic plumbing installations for fresh water or waste water	12	24
A44C	Jewelry, bracelets	12	19
A22C	Processing meat, fish	21	21
A01D	Harvesting	22	19

Code	Description	1998	2006
C01F	Compounds of beryllium, magnesium, aluminum, calcium, strontium, barium, radium, thorium	20	23
B60L	Electric propulsion of vehicles, magnetic suspension or levitation, electrodynamic braking	15	21
C25C	Processes for electrolytic production, recovery or refining of metals	11	18
G21C	Nuclear reactors	14	22
C10J	Producer gas, water gas	14	20
F03B	Machines or engines for liquids	3	18
B30B	Presses in general	16	21
G10H	Electroponic musical instruments	25	20
G04B	Mechanically-driven clocks or watches; mechanical parts of clocks or watches in general; time-pieces using the position of the sun, moon, or stars	8	18
A63G	Merry-go-rounds, swings, rocking-horses	13	18
B27B	Saws; components or accessories	8	17
B31D	Making other paper articles	10	18
B42F	Sheets temporarily attached together, filing appliances, file cards, indexing	17	24
C21D	Modifying the physical structure of ferrous metals; decarburization, tempering et. al	24	18
A62D	Chemical means for extinguishing fires, chemical materials for use in breathing apparatus	46	19
A23P	Shaping or working of foodstuffs	10	17
B23D	Planing, slotting, shearing, broaching, sawing, filing, scraping	20	18
B62K	Cycles, cycle frames, steering devices	25	19
F03D	Wind motors	3	16
D06P	Dyeing or printing textiles	27	17
G21G	Conversion of chemical elements	3	17
D06N	Wall, floor or like covering materials	24	18
B25J	Manipulators, chambers provided with manipulation devices	15	18
G21K	Techniques for handling particles or electromagnetic radiation not otherwise provided for; irradiation devices; gamma- or X-ray microscopes	13	18
D21C	Production of cellulose	44	17
C11B	Producing, refining or preserving fats, essential oils, perfumes	15	16
C22F	Changing the physical structure of non-ferrous metals / alloys	19	18
E02F	Dredging, soil-shifting	28	18
G07G	Registering the receipt of cash, valuables, or tokens	19	20
F03C	Positive-displacement engines driven by liquids	1	14
B61D	Body details or kinds of railway vehicles	5	15
B23C	Milling	10	21
B65C	Labeling or tagging machines, apparatus or processes	18	15
G10D	Organs; harmoniums	7	18
C07B	General methods of organic chemistry	79	21
F02F	Cylinders, pistons	9	17
A23D	Edible oils	15	15

APPENDIX C

Code	Description	1998	2006
C10B	Destructive distillation of carbonaceous materials	11	13
G03H	Holographic processes or apparatus	9	15
G01H	Measurement of mechanical vibrations or ultrasonic, sonic or infrasonic waves	14	16
B31F	Mechanical working or deformation of paper or cardboard	22	13
B25G	Handles for hand implements	16	18
F01C	Rotary-piston or oscillating-piston machines or engines	7	14
H05G	X-ray techniques	14	16
G10K	Acoustics not otherwise provided for	39	16
A23F	Coffee, tea	8	14
A24F	Smokers' requisites	17	14
G04F	Time-interval measuring	7	12
G05G	Control devices or systems insofar as characterized by mechanical features only	11	14
G07D	Sorting, testing, changing, delivering, or otherwise handling coins; testing or changing paper currency; testing securities, bonds or similar valuable papers	23	14
B04B	Centrifuges	20	16
B26F	Perforating, punching, cutting-out, stamping-out, severing by means other than cutting	13	14
G01G	Weighing (sorting by weighing B07C 5/16)	27	12
B66F	Hoisting, lifting, hauling or pushing not otherwise provided for	11	19
F01M	Lubricating of machines or engines in general	14	13
C23G	Cleaning or de-greasing of metallic material by chemical methods	20	13
B22C	Foundry moulding	18	11
F02G	Hot-gas or combustion-product positive-displacement engine plants	8	11
A63D	Bowling alleys, bagatelle, billiards	4	11
G21F	Protection against X-radiation, gamma radiation, corpuscular radiation or particle bombardment	24	11
B66C	Cranes, load-engaging elements or devices for cranes, capstans, winches or tackles	13	12
B24C	Abrasive or related blasting with particulate material	13	11
B31B	Making boxes, cartons, envelopes, or bags	17	17
B60D	Vehicle connections	1	11
F15C	Fluid-circuit elements predominantly used for computing or control purposes	10	12
C25F	Processes for electrolytic removal of materials from objects	5	13
F03G	Spring, weight, inertia or like motors	6	11
E03B	Installations or methods for obtaining, collecting or distributing water	3	11
C11C	Fatty acids from fats, oils or waxes	3	11
B06B	Generating or transmitting mechanical vibrations in general	18	11
B60S	Servicing, cleaning, repairing, supporting, lifting or maneuvering of vehicles	23	14
B67B	Applying closure members to bottles, jars or similar containers; opening closed containers	5	11
A01C	Planting, sowing	12	12
B64G	Cosmonautics, vehicles or equipment	21	12

Code	Description	1998	2006
B67C	Filling with liquids or semi-liquids, or emptying bottles, jars, cans, casks, barrels	7	11
C09G	Polishing compositions other than French polish	16	23
H01C	Resistors	18	13
H04S	Stereophonic systems	12	11
H03C	Modulation	8	16
B21J	Forging, hammering, pressing, riveting, forge furnaces	7	12
D06F	Laundering, drying, ironing, pressing or folding textile articles	20	13
B63C	Launching, hauling out or dry-docking of vessels, life-saving in water	9	12
F17D	Pipe-line systems; pipe-lines	9	10
B21C	Manufacture of metal sheets, wire, rods, tubes or profiles	14	10
B21F	Working or processing of wire	6	10
D04B	Knitting	11	10
A43C	Fastenings, laces	7	10
A41B	Shirts, underwear, handkerchiefs	10	12
F16N	Lubricating	17	10
G04C	Electromechanical clocks or watches	3	10
B41C	Processes for the manufacture or reproduction of printing surfaces	18	13
H03J	Tuning resonant circuits	11	10
B23H	Working of metal by the action of a high concentration of electric current on a workpiece	3	11
H01T	Spark gaps; overvoltage arresters using spark gaps; sparking plugs; corona devices; generating ions to be introduced into non-enclosed gases	10	9
A21B	Baking equipment	3	11
B03B	Separating solid materials using liquids or using pneumatic tables or jigs	14	11
B09C	Reclamation of contaminated soil	37	9
B64F	Ground or aircraft-carrier-deck installations	14	11
F16G	Belts, cables, or ropes, predominantly used for driving purposes; chains; fittings predominantly used therefor	9	11
G03D	Apparatus for processing exposed photographic materials	8	9
A22B	Slaughtering	2	8
C07G	Compounds of unknown constitution	7	9
C08C	Treatment or chemical modification of rubber	5	7
A24B	Manufacture of tobacco for smoking, chewing	4	7
B61L	Guiding railway traffic, ensuring safety	3	7
F01P	Cooling of machines or engines in general	21	7
A23N	Machines for treating fruit, vegetables	6	7
F02P	Ignition, other than compression ignition, for internal-combustion engines	6	8
A41G	Artificial flowers, wigs, masks	1	9
B09B	Disposal of solid waste	24	9
B21B	Rolling of metal	9	7
B66D	Capstans, winches, tackles	10	8

APPENDIX C

Code	Description	1998	2006
E06C	Ladders	5	7
B28D	Working stone or stone-like materials	8	7
C05F	Fertilizers from waste or refuse	15	8
E01B	Permanent way; machines for making railways	1	7
B62J	Cycle saddles on seats	15	9
A45B	Walking sticks, umbrellas	4	8
E01H	Street cleaning, cleaning of permanent ways, dispersing fog	10	8
B61H	Brakes or retarding apparatus peculiar to rail vehicles	0	7
E21C	Mining, quarrying	8	7
G21B	Nuclear physics, engineering	4	6
A01J	Dairy products	5	11
B01B	Boiling, boiling apparatus	0	6
B41N	Printing plates or foils, photosensitive materials	7	8
A61D	Veterinary instruments or methods	7	6
B44D	Painting or artistic drawing	10	8
B21K	Making forged or pressed products	5	6
B68C	Saddles, stirrups	4	7
B43L	Articles for writing or drawing upon, accessories for writing or drawing	1	10
A41F	Garment fastenings	2	7
A24D	Cigars, cigarettes, smoke filters	3	6
H02B	Boards, substations, or switching arrangements for the supply or distribution of electric power	6	7
A01B	Soil	17	6
A47D	Furniture specially adapted for children	13	6
F21W	Indexing scheme associated with subclasses F21L, F21S and F21V, relating to uses or applications of lighting devices or systems	0	6
H01K	Electric incandescent lamps	4	7
C12S	Processes using enzymes or micro-organisms to liberate, separate or purify pre-existing compound	0	5
C14C	Chemical treatment of hides, skins or leather	0	5
D06L	Bleaching, dry-cleaning or washing fibers	16	6
A47H	Furnishings for windows or doors	1	6
G09C	Ciphering or deciphering apparatus for cryptographic or other purposes involving the need for secrecy	0	6
C06B	Explosive or thermic compositions; use of single substances as explosives	28	9
B44F	Special designs or pictures	4	9
A21C	Dough processing	9	6
C12H	Pasteurization, sterilization of alcohol	3	6
B07B	Sieving, screening, sifting	11	8
B25F	Combination or multi-purpose tools	12	7
D21G	Calendars, accessories for paper-making machines	8	6

Code	Description	1998	2006
B02B	Preparing grain for milling	0	5
B61K	Other auxiliary equipment for railways	1	5
B43M	Bureau accessories not otherwise provided for	5	8
C21B	Manufacture of iron or steel	11	6
C09F	Natural resins, French polish, drying-oils	2	5
B61G	Couplings, draught or buffing appliances	2	6
B64B	Lighter-than-air aircraft	2	5
B27N	Manufacture by dry processes of articles, with or without organic binding agents	7	6
G01W	Meteorology	4	5
D06C	Finishing, dressing, tendering, or stretching textile / fabrics	5	5
C12C	Brewing of beer	5	4
C01C	Ammonia, cyanogen, compounds	8	4
C01D	Compounds of alkali metals, lithium, sodium, potassium, rubidium, cesium or francium	5	5
C05C	Nitrogenous fertilizers	7	5
F15D	Fluid dynamics, i.e., methods or means for influencing the flow of gases or liquids	6	5
B41L	Apparatus or devices for mainfolding, duplicating, or printing	1	4
A63J	Devices for theatres, circuses, conjuring appliances	4	4
F21K	Light sources not otherwise provided for	4	7
B25D	Percussive tools	3	4
B61B	Railway systems, equipment not otherwise provided for	5	4
E01D	Bridges	4	4
E03F	Sewers, cesspools	13	4
D01C	Chemical treatment of natural filamentary fibrous material	0	3
G06J	Hybrid computing arrangements	2	4
B04C	Apparatus using free vortex flow, e.g., cyclones	7	5
C08H	Derivatives of natural macromolecular compounds	3	3
G06M	Counting mechanisms; counting of objects not otherwise provided for	0	4
H05F	Static electricity	1	3
C06D	Means for generating smoke or mist, gas attack compositions	22	6
F16P	Safety devices in general	1	5
B27K	Processes, apparatus or selection of substances for impregnating, staining, dyeing of wood	7	4
A43D	Machines for manufacturing footwear	4	5
D06B	Treating textile materials by liquids, gases or vapors	8	4
B03D	Flotation or differential sedimentation	10	3
B27F	Dovetailed work tenons, slotting machines, nailing or stapling machines	4	3
E21D	Shafts; tunnels; galleries; large underground chambers	6	3
B61C	Locomotives, motor railcars	0	3
D01H	Spinning or twisting	6	4
B41B	Machines or accessories for making, setting, or distributing type;	0	4
B68G	Methods, equipment or machines for use in upholstery	4	4

APPENDIX C

Code	Description	1998	2006
A01L	Shoeing of animals	0	3
B21H	Making particular metal objects by rolling, e.g., screws, wheels, rings, barrels, balls	4	3
B27C	Planing, drilling, milling, turning, or universal machines	1	3
B28C	Preparing clay, producing mixtures containing clay or cementitious material, e.g., plaster	0	3
B62C	Vehicles drawn by animals	0	3
G06C	Digital computers in which all the computation is effected mechanically	0	3
G10G	Aids for music	7	3
C13K	Glucose, invert sugar, lactose, maltose	3	2
D01B	Mechanical treatment of natural fibrous or filamentary material	0	3
C12F	Recovery of by-products of fermented solutions, denaturing of alcohol	0	2
B65F	Gathering or removal of domestic or like refuse	14	5
G21H	Obtaining energy from radioactive sources; applications of radiation from radioactive sources; utilizing cosmic radiation	1	3
C05B	Phosphatic fertilizers	3	2
G04G	Electronic time-pieces	8	2
C05G	Mixtures of fertilizers	21	3
D05B	Sewing	6	3
A24C	Machines for making cigars, cigarettes	1	2
A41H	Appliances or methods for making clothes	4	2
B23F	Making gears or toothed racks	1	2
B27L	Removing bark or vestiges of branches, splitting of wood	2	2
B60F	Vehicles for use both on rail and road; amphibious or like vehicles, convertible vehicles	1	2
B61F	Rail vehicle suspensions	6	2
B62L	Brakes specially adapted for cycles	4	2
B63G	Offensive or defensive arrangements on vessels, mine-laying, submarines, aircraft carriers	1	2
B63J	Auxiliaries on vessels	2	2
C21C	Processing of pig-iron	6	2
D01G	Preliminary treatment of fibers	1	2
F04F	Pumping of fluid by direct contact of another fluid or by using inertia of fluid to be pumped	3	2
F21Y	Indexing scheme associated with subclasses F21L, F21S and F21V, relating to the form of the light sources	0	2
G10F	Musical instruments not otherwise provided for	1	2
G21D	Nuclear power plant	4	2
G06E	Optical computing devices	0	2
B25H	Workshop equipment	9	3
C05D	Fertilizers producing carbon dioxide	5	3
D05C	Embroidering, tufting	3	3
B27D	Working veneer or plywood	5	2
B31C	Making wound articles	1	2

Code	Description	1998	2006
B44B	Machines, apparatus or tools for artistic work	1	1
B42B	Permanently attaching together sheets, quires, or signatures	0	1
C06C	Detonating or priming devices, fuses	16	3
D21B	Fibrous raw materials or their mechanical treatment	10	3
C10K	Purifying or modifying the chemical compositions of combustible gases	3	2
D21J	Fiberboard, manufacture of articles from papier-mâché	2	2
F02N	Starting of combustion engines	3	2
A42C	Manufacturing hats	2	1
A46D	Manufacture of brushes	12	1
A63K	Racing, riding sports, equipment or accessories	0	1
B27M	Working of wood not provided for in subclasses	4	1
B42C	Bookbinding	0	1
B61J	Shifting or shunting of rail vehicles	1	1
C12G	Wine, other alcoholic beverages	0	1
C23D	Enameling or applying of vitreous layer to metals	1	1
D02J	Finishing or dressing of filaments, yarns, threads, cords, ropes	1	1
D04C	Braiding or manufacture of lace	1	1
E02C	Ship-lifting devices or mechanisms	0	1
E05G	Safes or strong-rooms for valuables	5	1
F03H	Producing a reactive propulsive thrust, not otherwise provided for	1	1
G09D	Railway or like time or fare tables; perpetual calendars	0	1
C13J	Extraction of sugar from molasses	1	1
B21G	Making needles, pins, or nails	0	1
B62H	Cycle stands, locks integral with cycles	2	1
B68B	Harness, whips	2	1
B41K	Stamps, stamping or numbering apparatus or devices	0	3
B41D	Apparatus for mechanical reproduction of printing surfaces for stereotype printing	0	2
D04G	Making nets by knotting of filamentary material, making knotted carpets	0	2
B60M	Power supply lines, or devices along rails, for electrically propelled vehicles	0	1
A01F	Processing	8	0
B23G	Thread cutting, working of screws	3	0
B27G	Accessory machines or apparatus, tools, safety devices	6	0
B27J	Mechanical working of cane, cork, or similar materials	1	0
B60V	Air cushion vehicles	1	0
C09H	Preparation of glue or gelatin	1	0
C10C	Working-up tar, pitch, asphalt, bitumen, pyroligenous acid	3	0
C10F	Drying or working-up of peat	1	0
C10H	Production of acetylene by wet methods	1	0
C13D	Production or purification of sugar juices	7	0
C13F	Preparation or processing of raw sugar, sugar or syrup	1	0
C14B	Mechanical treatment or processing of skins, hides or leather	2	0

APPENDIX C

Code	Description	1998	2006
D04D	Trimnings, ribbons, tapes or bands	1	0
D06H	Marking, inspecting, seaming, or severing textile materials	1	0
D06Q	Decorating textiles	4	0
D07B	Ropes or cables in general	1	0
D21D	Treatment of the materials before passing to the paper-making machine	6	0
E21F	Safety devices, transport, filling-up, rescue, ventilation, or drainage in or of mines or tunnels	2	0
F16T	Steam traps or like apparatus for draining off liquids from enclosures predominantly containing gases or vapors	1	0
G10C	Pianos	2	0
H05C	Electric circuits designed for use in equipment for killing, stunning	1	0
	Total	36,607	56,796

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