The following classification changes will be effected by this order:

<table>
<thead>
<tr>
<th>Class</th>
<th>Subclass</th>
<th>Art Unit</th>
<th>Ex’r Search Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abolished:</td>
<td>210</td>
<td>747</td>
<td>1776</td>
</tr>
<tr>
<td>Established:</td>
<td>210</td>
<td>747.1-747.9</td>
<td>1776</td>
</tr>
<tr>
<td>Title Change:</td>
<td>210</td>
<td>170.08</td>
<td>1776</td>
</tr>
</tbody>
</table>

The following classes are also impacted by this order.

405

This order includes the following:

A. CLASSIFICATION MANUAL CHANGES
B. LISTING OF PRINCIPAL SOURCE OF ESTABLISHED AND DISPOSITION OF ABOLISHED SUBCLASSES
C. CHANGES TO THE USPC-TO-IPC CONCORDANCE
D. DEFINITION CHANGES AND NEW OR ADDITIONAL DEFINITIONS
CLASSIFICATION ORDER 1908

APRIL 5, 2011

PROJECT C-A210

Project Leader: Douglas Theisen
Examiner: Christopher Upton
Editor: David Delzingaro
Publications Specialist: Yvonne Smith
600 PROCESSES
601 .Treatment by living organism
602 ..Including plant or animal of higher order
603 ..Including collecting or storing gas (e.g., fuel, carbon monoxide, etc.)
604 ...And reusing oxidant
605 ..Anaerobically, with subsequently aerobically treating liquid
606 ..Adding enzyme or releasing same by treating microorganism
607 ..Dividing, treating, and recombining liquid
608 ..Regulating floating constituent
609 ..Including dewatering sludge
610 ..Including adding ancillary growth medium for microorganism
611 ...For or with specific microorganism
612 ..And regulating temperature during biological step
613 ...Digesting sludge
614 ..Controlling process in response to stream constituent or reactant concentration
615 ..Utilizing contact surfaces supporting microorganism (e.g., trickling filter, etc.)
616 ...Particulate media
617 .....In bed form
618 .....And rehabilitating or regenerating same
619 ...Rotating contactor
620 ..Aerobic treatment
621 ..Recirculating to prior step
622 ....Of separated liquid
623 ....Of sludge or separated solid
624 .....And returning to or withdrawing from diverse treating zones
625 .....Treating outside mainstream (e.g., activated sludge, etc.)
626 .....To mainstream oxygenation (e.g., oxygen-enriched air, ozone, peroxide, etc.)
627 ...Utilizing specific oxidant, other than air alone (e.g., oxygen-enriched air, ozone, peroxide, etc.)
628 ...Utilizing mechanical aeration means
629 ...And internally circulating the liquid
630 ...And anaerobic treatment
631 ..And additional treating agent other than mere mechanical manipulation (e.g., chemical, sorption, etc.)
632 .Treating by enzyme
633 .Extracting utilizing solid solute
634 .Liquid/liquid solvent or colloidal extraction or diffusing or passing through septum selective as to material of a component of liquid; such diffusing or passing being effected by other than only an ion exchange or sorption process
635 ..Liquid/liquid or gel type (i.e., jellylike) chromatography
636 ...Including cleaning or sterilizing of apparatus
637 ..Including regulating pressure to control constituent gradient at membrane or to prevent rupture of membrane
638 ..Including ion exchange or other chemical reaction
639 ..Including prior use of additive (e.g., changing pH, etc.)
640 ...Passing through membrane in vapor phase
641 ..Utilizing plural diverse membranes
642 ..Extracting water from brine utilizing liquid/liquid solvent or colloidal extraction
643 ..Utilizing liquid membrane (e.g., emulsion) in liquid/liquid solvent or colloidal extraction
644 ...Diffusing or passing through septum selective as to material of a component in liquid/liquid solvent or colloidal extraction
645 ...Biological fluid (e.g., blood, urine, etc.)
646 ....Hemodialysis
647 .....Maintaining critical concentration(s)
...Including regenerating or rehabilitating the extracting liquid in liquid/liquid solvent or colloidal extraction

...Diffusing or passing through septum selective as to material of a component of liquid

...Filtering through membrane (e.g., ultrafiltration)

...Removing specified material

...Hyperfiltration (e.g., reverse osmosis, etc.)

.....Utilizing specified membrane material

......Synthetic resin

......Cellulosic

..Chromatography

..Utilizing rotating column

..Utilizing paper or thin layer plate

...Including liquid flow diversion

..Ion exchange or selective sorption

..By passing through suspended bed

..And liquid testing or volume measuring

..Including diverse separating or treating of liquid

...By distilling or degassing

...By making an insoluble substance or accreting suspended constituents

....Utilizing organic agent

....Utilizing aluminum, calcium, or iron containing agent

...By chemically modifying or inhibiting dispersed constituent

...Prior to ion exchange or sorption

...Including rehabilitating or regenerating exchange material or sorbent

...Of oil sorbent material

...Fractional, selective, or partial type

...Utilizing gas, water, or chemical oxidizing or reducing agent

...Utilizing organic regenerant

...Rehabilitating or regenerating in diverse zone or chamber

...Continuous cyclic process

...Using conserved or recirculated fluid

...Including liquid flow direction change

..Utilizing exchange or sorbent material associated with inert material

...Including oil sorbent

..Removing ions

...Radioactive

...Anions

....Metal complexed (e.g., chromate, ferricyanide, chlorplatinate, etc.)

.....Including cation

.....Utilizing mixed bed or amphoteric material

...Calcium or magnesium (e.g., hardness, water softening, etc.)

...Oil removed

....Utilizing activated carbon

....Using magnetic force

..Preventing, decreasing, or delaying precipitation, coagulation or flocculation

..Utilizing inorganic phosphorus agent

..Utilizing organic agent

...Phosphorus containing

....Nitrogen containing

....Acrylic polymer

...Making an insoluble substance or accreting suspended constituents

..Effecting flotation

...Including chemical addition (with or without bouyancy gas)

....Chemically specified precipitant, coagulant, or flocculant

.....And significant characteristic of the bouyancy gas, other than mere addition of same
707 ......Generating gas in situ
708 ..Including emulsion breaking
709 ..Controlling process in response to stream condition
710 ..Treating the insoluble substance
711 ...For recovery of a treating agent
712 ..Including recycling
713 ..Of separated solids
714 ..Seeding
715 ..Utilizing sludge or floc blanket
716 ..Including step of manufacturing inorganic treating agent
717 ...In situ
718 ..Including degassing
719 ..Including chemical reduction
720 ...Of chromium material
721 ..Including oxidation
722 ...Of iron or manganese material
723 ..Utilizing precipitant, flocculant, or coagulant, each with accelerator or with each other or plural precipitants, flocculants, or coagulants
724 ...Regulating pH
725 ....Utilizing organic precipitant
726 ...Sequential introduction
727 ....Including organic agent
728 ...Including organic agent
729 ..Utilizing organic precipitant
730 ...From natural source or chemical modification thereof
731 ....Starch
732 ....Synthetic polymer
733 ....Acrylic
734 .....Nitrogen containing (e.g., amine, azo, etc.)
735 .....Nitrogen containing (e.g., amine, azo, etc.)
736 .....Derived from alkyl halide or epihalophydrin reactant
737 ..Including temperature change
738 ..Including agitation
739 .Including controlling process in response to a sensed condition
740 ..Density or specific gravity sensing
741 ..Pressure sensing
742 ..Temperature sensing
743 ..pH sensing
744 ..Level sensing
745 ..Turbidity or optically sensing

746 ..Electrical property sensing
747.1 ..Including geographic feature
747.2 ..Stormwater treatment
747.3 ...Filtering
747.4 ..Dredging sediments/water mixture from underwater beds treated
747.5 ..Body of freshwater, surface flowing freshwater, or body of saltwater
747.6 ...Utilizing floating treating means
747.7 ..Groundwater treatment
747.8 ...By chemical treatment
747.9 ..Utilizing artificial waste pond or pit (e.g., waste lagoon, wastewater pond, etc.)
748.01 .Utilizing electrical or wave energy directly applied to liquid or material being treated
748.02 ..Sound waves
748.03 ...Destroying living organisms
748.04 ...Destroying/degradation of chemical contaminant
748.05 ...Separating particles
748.06 ..Laser
748.07 ..Microwaves
748.08 ..Infrared radiation
748.09 ..Visible light
748.1 ..Ultraviolet radiation
748.11 ...Destroying living organisms
748.12 ....Including generation of treatment chemical
748.13 ...Destroying/degradation of chemical contaminant
748.14 ....Photocatalytic
748.15 ....Utilizing hydrogen peroxide, ozone, or oxygen
748.16 ...Including chemical treatment
748.17 ...Generating treatment chemical by electrical energy
748.18 ....Metal ion or metal
748.19 ....Ozone
748.2 ....Chlorine or chlorine compound
748.3 ...Chemical treatment
750 ..Including degassing
752 ..Plural spaced feedings
753 ..Utilizing halogen or halogen containing material
754 ...Chlorine or bromine containing
755 ....Organic
756 ....Hypochlorite
757 ..By chemical reduction
758 ..By oxidation
...Utilizing peroxy compound (e.g., hydrogen peroxide, peracid, etc.)

...Utilizing ozone

...Liquid phase high temperature and pressure (e.g., "wet air", etc.)

....Catalytic

...Catalytic

..Destroying microorganisms

..Including liquid recirculation

..Including temperature change

..Separating

..Including treating separated solids

..Destroying cake or solid component

..Including drying (e.g., by squeezing or heating, etc.)

....By gas contact

....Washing with a fluid other than the prefilt

..Including preliminary conversion to liquid state

..Including temperature change

...Thermal diffusion

..Skimming

..Including precoating filter medium with filter aid

...With or by addition to prefilt

..Discharging residue to prefilt

..Including movement of filter during filtration

..Centrifugally extracting

....Blood

....Rotating belt

....Rotating drum

..Cleaning filter utilizing wave energy (e.g., vibrating, pulsating, etc.)

..Of particulate bed (e.g., fluidized or moving bed, etc.)

..Cyclonic, or centrifugal (e.g., whirling or helical motion or by vortex, etc.)

..Introducing liquid tangentially

..Isolating layer

..Dividing and recombingen

..Rehabilitating or regenerating filter medium

..Particulate bed

....Reverse flow

.....Including addition of diverse fluid

...Expanded bed

....Including mechanical agitation

....By diverse fluid

....Reverse flow

..Filtering immiscible liquids

..Utilizing gravitational force

....Including change of mainstream flow direction

....Utilizing parallel separation passages

..Including specified feature of settled solids removal

..And additional diverse separation

..And recirculating liquid

..Plural separating

..Utilizing particulate bed

..Including specified pressure change

WITH ALARM, INDICATOR, REGISTER, RECORDER, SIGNAL OR INSPECTION MEANS

..Material level or thickness responsive

..Responsive to fluid flow

..Meter-controlled cyclic systems

...With time control

..Fluid pressure responsive

..Position or extent of motion

..Test valve

..In effluent conduit

..Transparent

..Sight glass

CONSTITUENT MIXTURE VARIATION RESPONSIVE

..With membrane

FLOW, FLUID PRESSURE OR MATERIAL LEVEL, RESPONSIVE

..Fluid current controlled cyclic system

..Prefilt deverting to drain by prefilt accumulation

..Flow cut-off requiring reset

..Proportionate feed means

..Programming plural units

..Diverse sensing means

..Responsive to material level

..With control for auxiliary liquid inlet

..Filter cleaning

..Rotary movement of filter or mechanical cleaner

..Backwash or blowback

..Discharge of treated material
CLASS 210 LIQUID PURIFICATION OR SEPARATION

110 .With separator inlet control
111 .Responsive to prefilt accumulation or filter clogging
112 .Heavier constituent
113 ...By weight of solids
114 ...By treated liquid accumulation
115 ...With lighter constituent outlet control
116 .Permitted by filtrate accumulation
117 .Check valve controlled
118 ...Non-closing, e.g., sand valve
119 ...Float type
120 .Vent control
121 .Float
122 ...Controls movable separator
123 ...Controls valve
124 ...Controls flow between two separators
125 ...Separator between float and valve
126 ...Float in separate rehabilitating fluid tank
127 ...Additional fluid inlet control
128 ...Float in receptacle other than that of separator
129 ...In flow between inlet and separator
130 .Fluid pressure responsive bypass
131 ...By movement of separation medium
132 ...With additional separation or treating means
133 ...In inlet and outlet closure header
134 .Plural elements controlled
135 ...Including manually controlled element
136 .Check valve
137 .Maintaining stream pressure or flow

WITH TIME CONTROL
138 .Of additional fluid
139 ...Preparation for treating operation

WITH PROGRAM ACTUATOR
140 .Plural treating units or sections sequentially controlled

AUTOMATIC CONTROL
141 .Responsive to vibration or unbalance
142 ...Responsive to rotation

146 .Controlled cover latch
147 .Controlled discharge means
148 .Container movement operated
149 .Thermal

WITH GAS-LIQUID SURFACE CONTACT MEANS
150 .With separator

STRUCTURAL INSTALLATION
151 .Flume stream type
152 ...Plural or diverse screens
153 ...Fluid stream or residue operated
154 ...Revolving cylindrical strainer
155 ...With cleaner for movable strainer
156 ...With cleaner and means to remove residue therefrom
157 ...Endless belt strainer
158 ...Revolving strainer
159 ...Fixed strainer
160 .Grated inlet surface drain
161 .Flat grating at surface level
162 ...With subsurface weep means
163 ...Concentric guard ring or rib
164 .Closed circulating system
165 .For lubrication system
166 ...Having magnetic treating means
167 ...Plural separators
168 ...Having bypass line
169 ...With heating or cooling means
170 ...Evaporator
171 ...Separator for transmission system
172 ...With separator cleaning means
173 ...For swimming pool or spa (e.g., skimmer, etc.)
174 ...With means to add treating material
175 ...Separator external to swimming pool or spa
176 ...Particulate solid filter
177 ...With separator cleaning means (e.g., backwash means, etc.)
178 ...Separator for use on swimming pool or spa bottom and separator for use at water surface
179 ...Separator for use on swimming pool or spa bottom
180 ...Debris collecting bag
181 ...Skimmer arm at skimmer opening at water surface
182 ...Mesh or screen filter at or near water surface
167.2  ...Having floating means
167.21  ...For aquarium
167.22  ...Separator using living organism
167.23  ...Separator or part thereof associated with bottom of aquarium (e.g., means positioned under gravel, etc.)
167.24  ...Having solid sorbent
167.25  ...Particulate filter or particulate sorbent
167.26  ...Separator with aerator
167.27  ...Separator mounted on top edge of aquarium wall
167.28  ...For cooking oil system
167.29  ...Having magnetic treating means
167.3  ...With means to add treating material
167.31  ...Plural separators
167.32  ...With heating or cooling means
170.01  Geographic
170.02  ...For fishpond
170.03  ...For stormwater treatment (e.g., rainwater runoff, stormsewer treatment, etc.)
170.04  ...For excavating means
170.05  ...Floating means
170.06  ...Separator with aerator
170.07  ...Groundwater
170.08  ...Septic system including drain field or leach field or waste liquid treatment system
170.09  ...Body of freshwater (e.g., pond, lake, reservoir, etc.)
170.1  ...Surface flowing freshwater (e.g., stream, river, ditch, canal, etc.)
170.11  ...Body of saltwater (e.g., sea, ocean, etc.)
171  .Machinery
172.1  .Separator ancillary to storage tank
172.2  ...Submerged separator
172.3  ...On pump suction intake
172.4  ...Filter supported by frame (e.g., bag shaped filter in fuel tank for engine, etc.)
172.5  ...Having tethering means
172.6  ...In tank inlet
173  .COMMINUTING
174  .Cylindrical strainer
175  .WITH HEATER OR HEAT EXCHANGER
176  .Thermal diffusion
177  .With treating fluid addition
178  .With mechanical agitator or movable separator
179  .With mechanical agitator or movable separator
180  .Vapor or gas removal
181  .Flow line connected in series with distinct separator
182  .Diverse separators
183  ..Common separators
184  .For filter
185  ..Imbedded or between filter media
186  ..External of casing
187  ..Within gravitational separator
188  WITH GAS SEPARATOR
189  PLURAL CHAMBERS WITH MOVEMENT OF GRANULES THEREBETWEEN
190  WITH EXTERNAL SUPPLY MEANS FOR REGENERATING MEDIUM, E.G., WATER SOFTENING SYSTEM
191  .With pump, injector or siphon
192  WITH PRELIMINARY CHEMICAL MANUFACTURE
193  WITH PRECOAT ADDING OR APPLYING MEANS
194  RECIRCULATION
195.1  ...Serially connected distinct treating or storage units
195.2  ..With semipermeable membrane, e.g., dialyzer, etc.
195.3  ..With sediment recycle means directly to main stream
195.4  ...Means is baffle slot
195.5  .Of filtrate
195.6  .From bottom of separator
196  WITH MEANS TO ADD TREATING MATERIAL
196.1  .Chromatography
196.2  .Thin layer, e.g., plate, etc.
196.3  .Spaced along flow path
196.4  .Plural distinct separators
196.5  ..Serially connected
196.6  ...Diverse type
196.7  ..Filters
196.8  ...Sectional chamber press type
196.9  .With distinct reactor tank, trough or compartment
197  .Chemical holder in series with separator
198.1  ..Diverse type
198.2  .Within gravitational separator
198.3  .Directly applied to separator
198.4  ..Chemical holder in series with separator
198.5  WITH MEANS TO ADD TREATING MATERIAL
PORTABLE RECEPTACLE WITH HOOD OR CLOSURE
.Attached variable flow controller
.Limited opening cover
FILTRATE SPLASH PLATE AND/OR DEFLECTOR
.WITH DRIP, OVERFLOW OR CONTENT DRAINING FEATURE
BRACKET OR LEG SUPPORT FOR STATIC SEPARATOR ASSEMBLY
.Leg
COMBINED
SERIALLY CONNECTED DISTINCT TREATING WITH OR WITHOUT STORAGE UNITS
.Parallel
.With by-pass
.Cascade
.One unit inside another
nels
..Including multiple operation unit
..One unit supports another
..On different levels
PARTICULATE MATERIAL TYPE SEPARATOR, E.G., ION EXCHANGE OR SAND BED
.Selective units or compartments
.With gravitational separator
.With spaced non-particulate separating means
.Trunnion mounted casing
.Gravity flow of particles type
.With rehabilitation means
.Movable means for particle pickup and redeposit
.Surface traversing type
..Including means to apply gas to bed
..Backwash or blowback means
..With mechanical agitator or residue remover
..Flow controller external of closed casing
..Multi-way valve unit
..With embedded fluid distributor
CLASS 210 LIQUID PURIFICATION OR SEPARATION

280..With agitator
281..With access opening to normally closed casing
282.Removable cartridge or hand-manipulated container
283.Pervious divider between and contacting beds
284.Spaced beds
285.Embedded baffle
286..Vertical
287..Within flow line or flow line connected closed casing
288..Conduit through bed, inlet and outlet at same end of casing
289..With particular liquid receiving means or foraminous bed retainer
290..With multi-layer beds
291..Particular liquid receiving means or foraminous bed retainer
292..Hood or top protector type
293.Floor type, e.g., false bottom
294.DIVERSE DISTINCT SEPARATORS
295..Including a filter
296..Including liquid as a separating medium
297.Moving filter medium
298..With mechanical residue or sediment mover
299..Including constituent trapping feature
300..Alternate filters and traps in series
301..Plural traps
302..Flow-line valve upstream of separator
303..Cut-off sediment trap
304..Tangential flow, spiral or convolute baffle
305..Baffle preceding or within sediment trap
306..Deflecting prefilter from filter medium
307..Downstream of filter medium
308..Directly communicating with tubular filter interior
309..Attached to filter element
310..Lateral trap
311..Downflow inlet, upflow through filter medium
312..Sediment discharge means
313..Valve controlled
314..Spaced filters
315..One within another
316..One adjacent inlet or outlet conduit
317..Including non-self-supporting medium
318..Incompatible shapes
319..With agitator
320..With baffle perpendicular to flow direction
321.6 CASING DIVIDED BY MEMBRANE INTO SECTIONS HAVING INLET(S) AND/OR OUTLET(S)
321.61.Membrane secured with adhesive of specified composition
321.62.Antithrombogenic membrane
321.63.Rotating mechanical agitator adjacent membrane
321.64.Plural diverse structured membranes within a single casing
321.65.Permeated liquid quantity measurement or control
321.66.Energy recovery from treated liquid
321.67.Membrane movement during purification
321.68..Nontranslatory rotary
321.69..With membrane cleaning or sterilizing means (other than by filter movement or rotating agitator)
321.7..Solid cleaning material (e.g., balls)
321.71.Dialyzer with dialysate proportioning means
321.72..Each section having inlet(s) and outlet(s)
321.73..Noncoiled nonannular cross section tube
321.74..Coiled membrane
321.75..Planar membrane
321.76..Spiral flow
321.77..Pleated membrane
321.78..Cylindrical membrane
321.79..Plural cylindrical membranes all connected for parallel flow
321.8..All cylindrical membranes are parallel
321.81..With embedded baffle
321.82..Noncoiled nonannular cross section tube
321.83..Coiled membrane
321.84..Planar membrane
321.85..Spiral flow
321.86..Pleated membrane

April 2011
321.87 Cylindrical membrane
321.88 Plural cylindrical membranes all connected for parallel flow
321.89 All cylindrical membranes are parallel
321.9 With embedded baffle

PLURAL DISTINCT SEPARATORS

323.1 Filters
323.2 Tubular
324 Movable separating elements
325 Planetary
326 Drum type on parallel axis
327 Plural cleaners and plural movable elements
328 Pivotally mounted sections
329 Relatively movable
330 Connected for group operation
331 Spaced filter wall type, e.g., multiple hollow leaves
332 With residue removal or liquid agitation
333.1 Backwash or blowback
333.1 Sequential backwash
334 Alternating filter and residue remover
335 In series for prefilt flow
336 Tortuous path
337 Nested units
338 Concentric filter elements
339 Internal flange supporting filter element
340 Parallel filters with flow controller
341 Individually controlled for removal with common receiver
342 One element within another
343 Alternating oppositely opening liquid distributors
344 Abutted alternating medium and pan receiver
345 Radial or radially connected to central header
346 Spaced wall-type filters
347 Central header

FILTER
349 Pulsation dampener or gas trapping
350 With movable means to compress medium
351 Actuating means external of closed casing
352 Internal spring
353 Free cleaning means, e.g., loose abrading particles
354 Medium, cleaner or agitator moved by fluid
355 Cleaner
356 Medium flexed
357 Relatively movable members interleaved for cleaning
358 Imperforate drum, medium on arc, chord or end
359 Movable medium
360.1 Centrifugal extractor
360.2 With inward flow of feed component
361 With individual article container or support
362 ....Container or support reversible
363 With adjustable rotation stabilizer
364 Casing, shaft and filter unit gyratorily mounted
365 Shaft and filter unit gyratorily mounted
366 Gyatory mounting above filter
367 Filter gyratorily mounted on shaft
368 With rotation brake
369 Discharging residue
370 Secondary motion of filter medium
371 With variable flow controller
372 By residue engaging means
373 ....Fixed
374 ....Rotatable
375 ......Pivoted
376 ....Axially reciprocable
377 Internal work distributor
378 Including filtrate receiving means having plural filtrate outlets
379 Including filtrate receiving trough adjacent top discharge
380.1 Rotating element construction
380.2 Laundry
380.3 Horizontal axis
381 Inwardly extending partitions
382 Top filtrate discharge
383 Separate agitator
384 Vibrator and unidirectional motion filter medium
385 With plural motion
386 Rolls or confining members contacting residue
CLASS 210 LIQUID PURIFICATION OR SEPARATION

387  ..Unrollable
388  ..Vibrating or longitudinally reciprocating
389  ...Longitudinally moving prefilt type
390  ..Mounted on movable valve element
391  ..With cleaning means
392  ...Fixed position or attached valve blocking means
393  ...Backwash or blowback and additional cleaner
394  ...Discharging inside, e.g., internal-type drum
395  ...With filter-driven valve means
396  ...Solid cleaner, e.g., scraper
397  ...With plural outlets from filter casing
398  ..Within sealed enclosure
399  ...Movable casing
400  ..Belt type
401  ...Superimposed on additional moving support
402  ..Drum type
403  ...Internal feed
404  ...Annular segmented compartment
405  .Movable prefilt distributor
406  .Vacuumized filtrate receiver
407  .With residue removing means or agitation of liquid
408  ..Diverse, e.g., combined agitators, scrapers, aeration blowback
409  ..Fluid cleaning
410  ...Air pump type
411  ...Backwash or blowback
412  ...Liquid pulsator
413  ...Fixed filter medium and movable stirrer or cleaner
414  ...With plural outlets from filter casing
415  ...Nontranslatory rotary
416.1  ..With pump, gas pressure, or suction source
416.2  ..For aquarium or swimming pool
416.3  ..For drinking water
416.4  ..For fuel system
416.5  ..For lubricating or oil treating system
417  .Alternating oppositely opening liquid distributors
418  .With flow controller for material being treated
419  ..Attached to or within portable prefilt receiver

..Selective directive flow relative to filter
..Pivoted prefilt deflector
...Plural outlets from filter casing
...Attached unitary plural passage header
...Multi-way valve
....Backwash
......Encased
...Backwash
...Backwash
...Filter in valve body recess
..Divided filtered, and unfiltered liquid passages
....Axial flow through filter element
...Inlet and outlet at same end
...Attached to casing
....Head and base connected
...Inlet and outlet at same end
...Filter suspended from head
..Clamped in casing joint
...Axially aligned inlet and outlet
...Laterally removable
...Single open-end-type filter element
...Pipe end attached closed casing, e.g., faucet
..Gasket within casing or spaced removable end members
...Internal fixed shoulder supporting filter element
...Single open-end-type filter element
..Filter element clamped between closure and end wall
..Filter element attached to closure
.Receptacle and modified spacing
surface or support for filter
medium

.Prefilt flow distributor or
diverter

.With central pervious tubular
receiver

 ..Plural concentric receivers

 ..Pipe or plate attached type

 ..Attached to open end of pipe

 ..Spaced wall-type element

 ..Pipe is connection to plate

 ..Inserted holder

 .Portable receptacle draining
type

 .Cooperating handles on
receptacle and drainer

 .Receptacle spout

 ...Within receptacle proper

 ...Spaced from spout discharge

 ...On or adjacent receptacle upper
drainage edge

 .Handled

 .Rim type

 .Vented

 .Resting on supporting receiver,
e.g., portable

 .At upper edge of filtrate
receiver

 ...Filter offset in cover

 ...Telescopied receivers or
receiver sections

 ...Resting on internal stop or
surface

 ...Unitary filter medium and
radially expandable retainer

 ...Inner separate retainer

 ....With contractor for
expandable retainer

 ...Longitudinal retainer or
guide, (e.g., reflex coffee
maker)

 .At lower end or prefilt
receiver

 .Supported, shaped or
superimposed formed mediums

 ..Medium within foraminous
supporting container or sheath

 ..External cage-type support

 ..Spaced wall type, e.g., hollow
leaf

 ...Concentric, convolute or
pleated

 ...Abutted or superimposed members

 ...For series flow

 .Integral or coated layers

 .....All fibrous

 .....Alternating dissimilar

 .....Bonded end caps

 .....Rectangularly shaped

 .....Spirally formed

 .....Filter element

 .....Metal

 .....With edge spacer

 .....Single ring or closed frame
type

 .....Bound, fused or matted, e.g.,
porous shapes, sponges, etc.

 .....Cylindrical, conical, or trough
shape

 .....Helically wound

 .....Filter blank

 .....Conical

 .....Perforated or grooved plates

 .....Screens, e.g., woven

 .....Screen, e.g., woven

 .....Antithrombogenic coating or
membrane

 .....Metal containing

 .....Sorptive component containing

 .....Diverse granular or fibrous

 .....With adhered coating or
impregnant

 .....Including fibers
210 - 12

CLASS 210 LIQUID PURIFICATION OR SEPARATION

506 ...Coated or impregnated, e.g., adhesively bound
507 ...Fabrics
508 ...Fibrous
509 ...Inorganic
510.1 ...Porous unitary mass
511 LIQUID AS SEPARATING MEDIUM
512.1 TANGENTIAL FLOW OR CENTRIFUGAL FLUID ACTION
512.2 .Multiple cyclone
512.3 .With movable means affecting flow
513 GRAVITATIONAL SEPARATOR
514 .Portable invertible, e.g., milk and cream separator
515 ...Selective withdrawal of constituents
516 ...Resilient deformable isolator
517 ...Hinged to handle
518 ...Sectional isolator
519 ...Material supply distributor
520 ...Rotatable
521 ...Superposed compartments or baffles, e.g., parallel plate type
522 ...Each with lighter constituent discharge
523 ...Mechanical constituent mover
524 ...Diverse serial
525 ...Scum sediment removal
526 ...Endless belt or chain
527 ...Rectilinearly movable supporting means
528 ...Horizontally rotating scraper
529 ...Polygonal container and correlating mover
530 ...Tank rim-supported carriage
531 ...Elevatable scrapers
532.1 ...Heavier constituent trap, chamber, or recess
532.2 ...Septic tank
533 ...Closure or valve controlled discharge
534 ...In sloping recess
535 ...Downstream of separator
536 ...In side wall of separator
537 ...With discharge means for two or more lighter constituents
538 ...Lighter constituent trap
539 ...Gas vent or bypass
540 ...With discharge port
541 ADJUNCTS
542 MISCELLANEOUS

CROSS-REFERENCE ART COLLECTIONS

900 ULTRA PURE WATER (E.G., CONDUCTIVITY WATER)
901 SPECIFIED LAND FILL FEATURE (E.G., PREVENTION OF GROUND WATER FOULING)
902 MATERIALS REMOVED
903 .Nitrogenous
904 ...CN containing
905 ...Protein
906 ...Phosphorus containing
907 ...Phosphate slimes
908 ...Organic
909 ...Aromatic compound (e.g., PCB, phenol, etc.)
910 ...Nonbiodegradable surfacant
911 ...Cumulative poison
912 ...Heavy metal
913 ...Chromium
914 ...Mercury
915 ...Fluorine containing
916 ...Odor (including control or abatement)
917 ...Color
918 MISCELLANEOUS SPECIFIC TECHNIQUES
919 .Using combined systems by merging parallel diverse waste systems
920 .Using combined systems of sequential local and regional or municipal sewage systems
921 .Flow equalization or time controlled stages or cycles
922 .Oil spill cleanup (e.g., bacterial, etc.)
923 ...Using mechanical means (e.g., skimmers, pump, etc.)
924 ...Using physical agent (e.g., sponge, mop, etc.)
925 ...Using chemical agent
926 .Using oxidation ditch (e.g., carousel, etc.)
928 PAPER MILL WASTE (E.G., WHITE WATER, BLACK LIQUOR, ETC.) TREATED
929 HEMOULTRAFILTRATE VOLUME MEASUREMENT OR CONTROL PROCESSES
930 PAINT DETACKIFYING
931 ZEBRA MUSSEL MITIGATION OR TREATMENT

April 2011
FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

Any foreign patents or nonpatent literature from subclasses that have been reclassified have been transferred directly to the FOR Collection listed below. These Collections contain ONLY foreign patents or nonpatent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

STRUCTURAL INSTALLATION (210/153)
FOR 100 .Closed circulating systems (210/167)
FOR 101 ..Lubrication (210/168)
FOR 102 ..Aquarium or swimming pool (210/169)
FOR 103 .Geographic (e.g., drainage ditch, septic, pond) (210/170)
FOR 104 .Ancillary to storage tank (210/172)

PROCESSES (210/600)
FOR 105 .Utilizing electrical or wave energy (directly applied to liquid or material being treated) (210/748)
FOR 106 .Including geographic feature (e.g., drainage ditch, septic, pond) (210/747)

DIGESTS

DIG 3 BELT ALIGNMENT
DIG 5 COALESCE
DIG 6 DEHYDRATORS
DIG 7 DRIER BLOCKS
DIG 8 FAT FRYER
DIG 9 FLOATING COVER
DIG 13 PART FLOW-FULL FLOW
DIG 17 TWIST-ON
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CLASSIFICATION ORDER 1908

APRIL 5, 2011

PROJECT C-A210

DISPOSITION CLASSIFICATION(S) OF PATENTS FROM ABOLISHED SUBCLASSES REPORT

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C. CHANGES TO THE USPC-TO-IPC CONCORDANCE

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D. CHANGES TO THE DEFINITIONS

CLASS 210 – LIQUID PURIFICATION OR SEPARATION

Definitions Abolished

Subclasses

747

Definitions Modified

Subclass 170.03:

Insert:

SEE OR SEARCH CLASS:

52, Static Structures (e. g., Buildings), subclass 12 for a roof with a surface water receiver at an eave with a separator.

404, Road Structure, Process, or Apparatus, subclasses 2 through 5 for roadway drain or gutter structure.

Subclass 170.08:

Delete:

The title and the definition.

Insert:

170.08 Septic system including drain field or leach field or waste liquid treatment system:
This subclass is indented under subclass 170.01. Apparatus in which the liquid purification or separation means comprises a tank in which a continuous flow of waste material is decomposed by bacteria and from which liquids overflow through an outlet of the tank into a disposal field where they can leach into the soil or comprises a group of devices including liquid purification or separation means that purify or separate the waste liquid.

(1) Note. While septic tanks are normally found to be underground, the term septic tank is not considered to be a geographic feature.
D. CHANGES TO THE DEFINITIONS

SEE OR SEARCH THIS CLASS, SUBCLASS:

532.2, for a septic tank not associated with a geographic feature.

Definitions Established

747.1 Including geographic feature:
This subclass is indented under subclass 600. Process in which a relationship to a particular feature of the earth’s surface (e.g., ground, a body of water, etc.) is positively recited, other than mere discharge to the particular feature of the earth’s surface.

(1) Note. While septic tanks are normally found to be underground, the term septic tank is not considered to be a geographic feature.

(2) Note. While discharge to the ground or a body of water is not a geographic feature, discharge at a specified depth or in a particular strata or formation, or in a particular location in a body of water is considered to be a geographic feature.

(3) Note. Included in this subclass is in situ purging of flowing or still liquid (e.g., in drainage ditch, pond, etc.) wherein the method of separating or purifying has (a) at least part of a system installed on natural or modified terrain to convey rain, snow melt, a river, sewage, well water or oil, etc. or (b) a relationship to a particular nonland geographic feature, such as a lake, ocean, sea, etc.

SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, subclasses 36-51 for drainage devices; subclasses 52-127 for fluid control, treatment, or containment; subclasses 128.1-128.9 for soil remediation; and subclasses 129.1-129.95 for subterranean waste disposal, containment, or treatment.

747.2 Stormwater treatment:
This subclass is indented under subclass 747.1. Process in which fallen precipitation is subjected to a chemical or physical process that improves or alters the fallen precipitation (e.g., rainwater runoff, storm sewer treatment, etc.).

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 12 for a roof with a surface water receiver at an eave with a separator.

404, Road Structure, Process, or Apparatus, subclasses 2 through 5 for roadway drain or gutter structure.
D.  CHANGES TO THE DEFINITIONS

747.3  Filtering:
This subclass is indented under subclass 747.2. Process in which the fallen precipitation passes through a foraminous or porous mass which separates solid matter from the fallen precipitation by entrapment and retention while permitting the fallen precipitation to pass through.

747.4  Dredging sediments/water mixture from underwater beds treated:
This subclass is indented under subclass 747.1. Process in which disturbed solids and water at the bottom of a body of water are purified or separated.

SEE OR SEARCH CLASS:

37,  Excavating, appropriate subclasses for excavating processes.

747.5  Body of freshwater, surface flowing freshwater, or body of saltwater:
This subclass is indented under subclass 747.1. Process in which the particular feature of the earth’s surface that the liquid purification or separation process is related to is a bounded aggregate of still water that is not salty (e.g., pond, lake, reservoir, etc.), a bounded aggregate of nonsalty, running water flowing on the earth’s surface (e.g., stream, river, ditch, canal, etc.), or an aggregate of salt water covering most of the earth’s surface (e.g., sea, ocean, etc.).

(1)  Note. The water may be what is purified or separated or the purification or separation process may include apparatus located in the water for purifying or separating a liquid other than the water itself.

747.6  Utilizing floating treating means:
This subclass is indented under subclass 747.5. Process in which the liquid purification or separation process uses liquid purification or separation means that is buoyed on or in the water.

747.7  Groundwater treatment:
This subclass is indented under subclass 747.1. Process in which water within the earth’s surface is purified or separated.

747.8  By chemical treatment:
This subclass is indented under subclass 747.7. Process in which a treating agent chemically reacts with a component in the groundwater.

747.9  Utilizing artificial waste pond or pit (e.g., waste lagoon, wastewater pond, etc.):
This subclass is indented under subclass 747.1. Process in which the particular feature of the earth’s surface that the liquid purification or separation process is related to is a man-made body of liquid for processing waste liquids (e.g., waste lagoon, wastewater pond, etc.).
D. Changes to the Definitions

Foreign Art Collections

For 106 Including geographic feature (e.g., drainage ditch, septic, pond) (210/747):
This foreign art collection is indented under unnumbered placeholder 210/600. Process in which a relationship to or a feature of the terrain is positively recited, other than mere discharge to the earth or to a body of water.

(1) Note. While septic tanks are normally found to be underground, the term septic tank is not considered a geographic feature.

(2) Note. While discharge to the ground is not a geographic feature, discharge at a specified depth or in a particular strata or formation, or in a particular location in a body of water is considered a geographic feature.

(3) Note. Included in this subclass is in situ purging of flowing or still liquid (e.g., drainage ditch, septic system, pond) wherein the method of separating or purifying has (a) at least part of a system installed on natural or modified terrain to convey rain, snow melt, a river, sewage, well water or oil, etc. or (b) a relationship to a particular nonland geographic feature, such as a lake, ocean, sea, etc.
D. CHANGES TO THE DEFINITIONS

CLASS 405 — HYDRAULIC AND EARTH ENGINEERING

Definitions Modified

Subclass 36: Under SEE OR SEARCH CLASS

Delete:

The reference to Class 210.

Insert:

210, Liquid Purification or Separation, subclasses 170.01 through 170.11 for liquid purification or separation means installed in a geographic feature and subclasses 747.1 through 747.9 for liquid purification or separation processes including a geographic feature.

Subclass 52: Under SEE OR SEARCH CLASS

Delete:

The reference to Class 210.

Insert:

210, Liquid Purification or Separation, subclasses 170.01 through 170.11 for liquid purification or separation means installed in a geographic feature and subclasses 747.1 through 747.9 for liquid purification or separation processes including a geographic feature.

Subclass 74: Under SEE OR SEARCH CLASS

Delete:

The reference to Class 210.
D. CHANGES TO THE DEFINITIONS

Insert:

210, Liquid Purification or Separation, subclasses 170.01 through 170.11 for liquid purification or separation means installed in a geographic feature and subclasses 747.1 through 747.9 for liquid purification or separation processes including a geographic feature.

Subclass 128.1: Under SEE OR SEARCH CLASS

Delete:

The reference to Class 210.

Insert:

210, Liquid Purification or Separation, subclass 601 for a chemical treatment process to treat groundwater with the use of microorganisms and subclass 747.8 for a chemical treatment process wherein a material is added to the liquid and chemically reacts with a constituent in the liquid to perfect the liquid for an intended use or render the liquid less noxious, wherein the liquid may be groundwater.