

561	<b>SOLAR HEAT COLLECTOR FOR POND OR POOL</b>	604	..Having fluid power
562	.Including auxiliary source for adding heat to pool	605	..Motor
563	.Remotely located from pool	606	...Gearing
564	.Within pool water	607	..Gearing
565	.On pool water surface	608	..Manual
566	..Pool cover is collector	609	.With auxiliary heat source for fluent medium
567	.With means to extract heat from pond liquid	610	..In a tank
568	.In contact with pond liquid	611	..In a heat exchanger
569	<b>SOLAR HEAT COLLECTOR</b>	612	..In the collector
570	.Having external damage preventer	613	..Heat pump
571	..Comprising movable support	614	..Fireplace
572	.With control means energized in response to actuator stimulated by condition sensor	615	..Water heater
573	..Including sun position tracking sensor	616	..Hot air furnace
574	...With computer	617	.With heat storage mass
575	...With timer	618	..Phase change
576	...With motor	619	..Specific chemical
577	....With gear	620	..Rocks or soil
578	...Electronic sensor	621	.Solar collector forms part of building roof
579	...Fluid expansion sensor	622	..Solar collector includes roof shingles or tiles
580	....Gas	623	.Solar collector supported on existing roof structure
581	...Solid expansion sensor	624	.Rollable or foldable collector unit of nonrigid material
582	...Phase change sensor	625	..Fluent medium is gas
583	..Of fluent medium	626	..Fluent medium is water
584	...Pressure responsive	627	.Foldable collector unit of rigid material
585	...Temperature responsive	628	.Including means to utilize fluent medium from collector to heat interior of building
586	....Set point control	629	..With device to circulate air from room of building through collector
587	....Differential temperature control	630	...Plural circulators
588	....Freezing prevention	631	...Circulator located in collector
589	....Overheating prevention	632	...Circulator located in building
590	...Fluid level responsive	633	..With fluent medium passage in floor or wall of room
591	...Of fluid flow	634	.With means to convey fluent medium through collector
592	....Liquid	635	..Having evaporator and condenser sections (e.g., heat pipe)
593	..Of collector	636	...Particular fluid
594	...Pressure responsive	637	....Gas
595	...Temperature responsive	638	..Thermosyphonic fluid circulation
596	....Set point control	639	...Liquid
597	....Differential temperature control	640	..With storage tank for fluent medium
598	....Freezing prevention		
599	....Overheating prevention		
600	.With means to reposition solar collector for optimum radiation exposure		
601	..Computer		
602	..Timer		
603	...Electric		

641	...Having heat exchanger within storage tank	678	.Particular fluent medium including radiation absorbing material
642	...Tank is heat exchanger	679	..Specific chemical
643	..With heat exchanger	680	.Energy concentrator with support for material heated
644	...With solid phase change	681	..Solar oven
645	...With liquid phase change	682	...Having foldable energy concentrator
646	..Pump	683	.With concentrating reflector and concentrating lens
647	...Blower	684	.With concentrating reflector
648	..With radiation trap	685	..Plural reflectors in optical series
649	...Plural traps	686	...Flat and curved
650	...Particular material	687	...Flat
651	..Conduit absorber structure	688	..Spot focus
652	...Surrounded by transparent enclosure	689	...Spherical
653	...Sealed chamber between enclosure and absorber contains vacuum promoter (e.g., getter)	690	...Parabolic
654	...Sealed chamber between enclosure and absorber contains gas for promoting heat transfer	691	...Elliptical
655	...Plurality of conduit absorbers	692	..Line focus
656	...Axis of conduit is curved (e.g., helical or serpentine)	693	...Circular
657	...With reflector	694	...Parabolic
658	...Having heat-absorbing fin or plate	695	...Elliptical
659	...With fastener to secure fin to conduit	696	..Reflector support
660	...Plate integral with conduit	697	..Inflatable reflector
661	...Plate surface with conduit secured thereto	698	.With concentrating lens
662	...Conduit positioned in a groove in the plate	699	..Circular lens
663	...Plural conduits	700	..Lens support
664	...Noncircular conduit	701	.Controlling solar radiation
665	...Flexible conduit	702	..Interconnected slats (e.g., blinds, shutters)
666	..Rectangular metallic conduit	703	..Manual
667	...Having internal partition	704	.Collector housing
668	...Rectangular nonmetallic conduit	705	..Cover
669	...Having internal partition	706	...Insulation
670	...Circular metallic conduit	707	...Plastic
671	...Having internal partition	708	...Glass
672	...Circular nonmetallic conduit	709	..Insulation
673	...Having internal partition	710	..Particular material
674	...Absorber having extended surface	711	...Plastic
675	...Corrugated surface	712	...Glass
676	...Particular absorber material	713	...Metal
677	...Metal	714	<b>PROCESS OF HEATING BY USING SOLAR HEAT</b>
		204	<b>BODY WARMERS</b>
		205	.Bed heaters
		207	.Heated block
		206	.Composition fuel
		208	.Liquid or gaseous fuel
		209	..Combined heater and lantern
		210	..Water heater
		401	<b>TOOL HAVING FLUID FUEL BURNER</b>

402	.Branding iron	515	.Inlet air supply from outside fireplace room
403	..Gas	516	..With air pump
404	..Hydrocarbon reservoir	517	...And air flow regulator
405	.Burning tool	518	..With air flow regulator
406	..Gas	519	.Circular viewability of flame
407	..Hydrocarbon reservoir	520	.Insertable into existing window
408	.Curling iron	521	.With air pump
409	..Hydrocarbon reservoir	522	..Tubular heat exchanger
410	.Roll heating type	523	.With heat exchanger for room heating air
411	.Sadiron	524	..Tubular
412	..Hydrocarbon reservoir	525	...Secondary outlet leads air to flame
413	.Soldering iron	526	...With air flow regulator
414	..Hydrocarbon reservoir	527	..Secondary outlet leads air to flame
226	<b>TOOL HEATERS</b>	528	..Air flow path between exterior surface of heat exchanger and facing building surface
236	.Soldering iron	529	...And additional flow path through hollow walled heat exchanger
237	..Gas heaters	530	...With air flow regulator
238	...Tool-controlled valve	531	..Hollow side walls in heat exchanger
239	..Liquid fuel	532	..With means facilitating ash removal
240	...Combined heater and solder pot	533	..With air flow regulator
241	...Lamp	534	...And adjustable flue damper
229	.Liquid or gaseous fuel	535	..And adjustable flue damper
231	..Gas burner attachments	536	.Adjustable flue damper
232	...Combined lighting and heating	537	..Screw operator
233	...Jet mixer	538	..Variable predetermined positions
234	...Tool-controlled valve	539	..From exterior of front face of fireplace
235	..Lamp attachments	540	.Grate structure
230	..Flatiron	541	..Relatively movable parts
227	.Flatiron	542	...Including means facilitating ash removal
228	..Attachments	543	...With removable ash pan
284	<b>GLUE POTS</b>	544	.Front barrier or guard
281	<b>DOUGH RAISERS</b>	545	..With particular seal
282	.Lamp type	546	..Vertically adjustable
343.5 R	<b>MELTING FURNACES</b>	547	..Solid front cover
343.5 A	.Other than snow (asphalt, etc.)	548	...And perforated screen
19.5	<b>COMBUSTION ENGINE-HEATED COOKING STOVES, OVEN OR HEATING VESSELS</b>	549	...And auxiliary air flow adjuster
500	<b>FIREPLACES OR ACCESSORIES</b>	550	..Smoke collecting hood
501	.Hopper feed of solid fuel	551	..Screen slidable on track
502	.Condition responsive control	552	.Heat reflecting structure
503	..Of fluid fuel feed	553	..Adjustable
504	..Of flue damper		
505	.With article warming shelf on grate		
506	.With food cooker		
507	.With filter		
508	.With room humidifier		
509	.For heating plural rooms		
510	..Fireplace in dividing wall		
511	...Rotatable fire chamber		
512	.Fluid fuel		
513	.With liquid heater		
514	..And means conducting liquid to room heater		

554	.With means facilitating ash removal	388.1	..And indicator or signaler feature
555	..Removable ash pan	389.1	..Vent for steam emitted from the liquid
344	<b>LIQUID HEATER</b>	390.1	..Heating wall structure
345	.Kettle furnace	350.1	.Fluid fuel burner for other than top-accessible vessel
346	..Canning	351.1	..And condition responsive feature
348	..Steam generator and cooker	355.1	..And liquid dripping from plate, pan, or suspended strip
349	..Tilting	357.1	..And separable heat exchanger to heat the liquid
347	..Horizontal combustion chamber	358.1	..Wick lamp type
369	.Steam chamber for food	359.1	..And the liquid flows down a cylindrical or conical surface
369.1	..With additional heating fluid	360.1	..And liquid heater is submerged under the liquid
369.2	..Plural steam chambers	360.2	...Direct contact of the liquid by exhaust
369.3	...Selective supply	350.2	..Vaporizer or humidifier
367.1	.Solid fuel burner and submerged under the liquid	361.1	.Boiler receiving hot liquid or steam from stove or furnace (e.g., kitchen boiler, range boiler, etc.)
368.1	..United to vessel containing the liquid	362.1	..Having means to circulate the liquid
364.1	.And stovepipe	363.1	..Support
365.1	..Having means to circulate the liquid		<b>HEATERS</b>
373.1	.Open-top vessel that may include lid	263.01	.Chemical
374.1	..And condition responsive feature	263.02	..Oxidation with air
375.1	..Heat accumulator	263.03	..Crystallization of supercooled liquid
376.1	..Heating fluid confining, directing, or shielding feature	263.04	...By escape of reactant from container within liquid
377.1	..Heating fluid is a liquid or steam	263.05	..Liquid in contact with solid (e.g., water and lime)
378.1	....In closed chamber or coiled pipe to heat the liquid	263.06	...Including separate solid and liquid compartments
379.1	....Steam jet directed into the liquid of vessel	263.07	...Flexible wall compartment (e.g., flexible plastic bag)
392.1	....The liquid circulating between external heating tube and vessel	263.08	....Including means to rupture or open solid or liquid compartment
391.1	...Flue penetrates wall of vessel into the liquid	263.09	...Including means to rupture or open solid or liquid compartment
380.1	..And supply of the liquid to vessel	263.1	...Including time release coating on solid in contact with liquid
381.1	..And condenser for steam from vessel	246	.Dish
382.1	...Condenser is confined body of liquid	269	.Powder
383.1	..Collecting, directing, or shielding feature for overflow or spatter of the liquid	261	.Lunch
384.1	...And in closure for vessel (e.g., lid, etc.)	268	..Wagon
385.1	...Annular receptacle for vessel	265	..Liquid or gaseous fuel
386.1	....Restoring overflow or spatter to vessel		
387.1	..Agitator or circulator using the heated liquid within		

266	...Dinner buckets	109	.Tubular air heater
267	...Combined bucket and lantern	107	.Magazine
262	..Combined can and heater	104 R	.Horizontal combustion chamber
271.1	.Surface	104 A	..Blowers
271.2 R	..Fluid fuel	102	.Circular radiating drum
271.2 A	...Pavement heaters	103	.Downdraft
271.2 B	...Switch heaters	112	.Feeding air
271.2 C	...Machine open burners	113	.Air moisteners
271.3	..Solid fuel	114	.Casings
247	.Frictional	115	.Dust flue
	.Liquid or gaseous fuel	105 R	.Hot-air equalizers
	..Attachments	105 A	..Fan in casing top
248	...Drum	118	.Radiating flanges
249	...Gas jet	119	.Joints
254	...Combined	99 P	.Pipeless
252	...Article support	99 A	.Tubular heater
253	....Jet mixer	99 C	.Helical passages
250	....Air	99 D	.Air baffles
251	....Jet mixer		<b>STOVES</b>
255	...Lamp	1 R	.Cooking
	....Chimney heaters	24	..Ship's galley
258	....Article support	25 R	..Summer
257	....Air	29	...Field
	....Stands	30	....Supporting frame
260	....Article support	27	...Stove top-supported
259 R	....Air heaters	28	....Stove flue-connected
259 M	.....Drums, mufflers and heat exchangers	26	...Detachable fire pot
256	....Article support	25 A	...Variable distance from heat source
	<b>TRASH BURNERS</b>	25 AA	...Rotating and elevating
222	.Cooking stoves	25 B	...Igniting
223	..Feeding attachments	25 C	...Extinguishing
225	.Heating stoves	9 R	..Knockdown or separable
224	.Domestic-refuse burners	9 A	...Disposable units
99 R	<b>HOT-AIR FURNACES</b>	9 B	...Knockdown elements
100	.Combined with cooking stove	4	..Combined cooking and heating stove
101	.Combined with boiler	5	...Steam or water generators
110 R	.Compressed air	6	...Air-heating
110 A	..Blower and air damper	7	...Magazine
110 AA	..Downflow of air being heated	8	..Brick set
110 B	..Unit heaters	23	..Reversible
110 C	..Gas and air mixing	2	..Double fire pot
110 D	..Unitary fan and heater	3	...Cooking and heating
110 E	..Thermally actuated air-propelling means	10	..Magazine
111	.Double fire pot	11	...Portable
116 R	.Liquid or gaseous fuel	33	..Tables, steam-heated
116 A	..Automatic control	55	..Combined base and hot closet
116 B	..Floor and wall furnaces		..Liquid or gaseous fuel
116 C	..Electric auxiliary	38	...Folding or nesting kit
117	.Preliminary air heater	37 R	...Cabinet
106	.Internal air chamber	37 A	....Top cover plate
108	.Secondary heating chamber horizontally arranged	37 B	....Slidable, fold, or swingable
		36	...Combined coal and gas

52	...Valve mechanism, article-controlled	22	...Protector plate
53	...Water backs	19 M	...Movable ovens
54	....Combined burner and water back	34	..Water backs
39 R	...Gas	35	...Safety devices
41 R	....Broilers		..Water-heating
41 A	.....Rotary-vertical axis	31	...Flue extension
41 B	.....Rotary-horizontal axis	12	..Hearths
41 C	.....Endless chain	13	...Fire pot
41 D	.....Drawer	14	..Broiling attachments
41 E	.....Drawer-elevating	32	..Spittoon attachments
40	....Burner stands	1 A	..Side oven
42	....Safety attachments	1 AA	..Wall in common
39 A	....Heating kitchen	1 AB	..Wall separate
39 B	....Frame structure	1 AC	..Wall laterally spaced
39 BA	....Electric features	1 AD	..Wall lateral air feed
39 C	....Miscellaneous ovens	1 AE	..Wall lateral gas passage
39 D	....Indirectly heated	1 B	..Side and superimposed oven
39 E	....Burners and lighters	1 C	..Side and underlying oven
39 F	....Fireless cookers	1 D	..Superimposed oven
39 G	....Thermostatic control	1 E	..Underlying oven
39 H	....Hot plates	1 F	..Insulation
39 N	....Hot plates, front plates, valve and manifold	56	.Car
39 J	....Hot plates with radiants	57	..Protective casings
39 K	....Hot plates, air feed, and flame shields	58	..Heating
39 L	....Rotating stove	59	..Camp
39 M	....Removable liner	59.5	..Orchard
	...Liquid	60	..Horizontal body
43	....Alcohol	61	...Hot air
44	....Vapor	64	..Panel
45	....Wick	65	..Sheet metal
46	.....Extension top	66	...Hot air
47	.....Lamp type	79	..Smoke and gas returning
48	.....Combined top, chimney and burner		..Liquid or gaseous fuel
49	.....Reservoir supporting top and burner	84	...Combined heating and ventilating
51	....Drip pan or receptacle	85 R	...Gas
50	...Supporting frame	91 R	....Radiator type
15 R	..Feeding air	91 A	.....Elongated radiant tube
15 A	...Forced air	86	....Open front
16	..Flue cleaners	87	.....Asbestos fireback
	..Elevated ovens	88	.....Hot air
17	...Smoke pipe-heated	89	.....Hot air
18	...Top plate-supported	90 R	....Hot air
19 R	..Ovens	90 A	.....Electric heater
20	...Steam or hot water	92 R	....Incandescent fire grate
20.1	....Plural	92 AC	.....Radiant
20.2	.....Selective supply	92 A	.....Electric radiant
21 R	...Ventilated	92 B	.....Radiant with reflector
21 A	....Forced circulation	92 C	....Radiant enclosed by furnace shell
		85 A	....Brooder stoves
		85 B	....Connected to outside
		93	...Liquid
		94	....Flue-connected

95	....Vapor	212	.Centers or cross pieces
96	....Wick	220	.Lids
97	....Heating and illuminating	221	.Stove mats
67	..Hot air	400	<b>HEAT ACCUMULATOR STRUCTURES</b>
68	..Magazine	190	<b>STOVE DOORS AND WINDOWS</b>
69	..Revertible draft, base-heating	198	.Oven doors, ventilating
72	..Tubular air heaters	193	.Feeding air
70	..Internal air chamber	191	.Balanced
71	..Central air tube		.Latches
73	..Magazine	197	..Combined latch and operator
74	..Revertible draft, base-heating	192	.Door-operator
75	..Revertible draft, base-heating	194	.Hinges
76	..Downdraft	200	.Transparent panel
77	..Feeding air	332	<b>STOVE SHELVES</b>
78	..Feeding steam	337 R	.Oven shelf or rack
80	..Ventilating attachments	338	..Rotary
81	..Stove plates	339	..Sliding
82	..Adjustable pipe collar	340	...Door-operated
83	..Deflector plate	337 A	..Shelf-adjusting
98	..Joints	334	.Drop
	<b>OVENS</b>	335	..Door-operated
273 R	.Domestic	333	.Brackets or stands
273.5	..With heat accumulator, e.g., fireless	285 R	<b>DAMPERS</b>
274	..Dutch	285.5	.Timer-controlled
275 R	..Portable	286	.Distance operating devices
275 E	...Electric	287	..Door-operated
273 A	..Wall-mounted	287.5	.Fusible release
276	.Wagon	289	.Stove
144	<b>FIRE POTS AND LININGS</b>	290	..Draft
	.Rotary	291	..Repair
149	..Horizontal axis	292	.Stovepipe
150	..Vertical axis	293	..Combined damper and ventilator
145	.Adjustable	295	..Lock and indicator
146	.Feeding air	296	..Multiple
147	.Divided	297	..Sinuous passage
151	.Sectional	294	..Cone
148	.Fire plate	285 A	.Slide
242	<b>ASH DISCHARGE AND COLLECTING</b>	285 B	.Electric
245	.Combined stove and ash pan	152 R	<b>GRATES</b>
243	.Ash pans	163 R	.Feeding air
244	..Sifting	163 A	..Auxiliary grate
211	<b>STOVE LIDS AND TOPS</b>	153	.Adjustable
217	.Heating stove	154	..Vertically
218	..Cooking attachments	160	.Closures
219	..Ornaments and urns	166	.Fuel cut-off
213	.Illuminating	161	.Cut-off
214 R	.Liquid or gaseous fuel		.Rotary
215	..Elevating support	181	..Horizontal axis
216	..Extension top	182	..Vertical axis
214 A	..Units mounted in counter top		.OSCILLATORY
214 B	..Buck panel structure	170	..Vertical axis
214 C	..Top grid	171	...Dumping section
214 D	..Shields and deflectors	172	...Sliding section
		176 R	.Rocking bar

177 ..Dumping  
 178 ..Duplex  
 179 ..Grate bar  
 180 ...Removing fuel support  
 176 A ..Detachable shaker arms  
 174 ..Reciprocating  
 175 ..Alternate bar  
 155 ..Agitating  
 159 ..Pocket  
 158 ..Dumping  
 156 ..Alternate ends  
 157 ..Alternate bar  
 162 ..Dumping  
 167 ..Grate bar  
 168 ..Removable fuel support  
 169 ..Operating mechanism  
 173 ..Raking attachments  
 152 A ..Reinforcements  
 152 B ..Special features  
 299 R **STOVE HOODS**  
 300 ..Stove discharge  
 301 ..Stovepipe discharge  
 302 ..Stove casing  
 303 ..Top plate casing  
 299 C ..Splatter shields  
 299 D ..Stove surface ventilation only  
 299 E ..Including liquid contact  
 299 F ..Smoke eliminators and flue  
         deflectors  
 307 R **STOVEPIPES**  
 312 ..Ventilation  
 313 ..Air-moistening attachments  
 307 A ..Back draft diverter  
 314 **STOVEPIPE THIMBLES**  
 316 ..Combined thimble and ventilator  
 315 ..Adjustable flue collar  
 318 ..Stovepipe anchor or lock  
 319 ..Flue stoppers  
 317 ..Floor or ceiling plates  
 280 **SOOT CATCHERS**  
 201 **FENDERS**  
 298 **FIRE DOGS**  
 277 **PLATFORMS**  
 278 ..Stove boards  
 279 ..Ventilating  
 304 R **STOVE LEGS**  
 305 ..Base supports  
 306 ..Sheet metal  
 304 A ..Adjustable legs  
 283 **FUEL BOXES**

**CROSS-REFERENCE ART COLLECTIONS**

903 **SOLAR COLLECTOR CLEANING DEVICE**  
 904 **ARRANGEMENTS FOR SEALING SOLAR  
 COLLECTOR**  
 905 **PREVENTING CONDENSING OF MOISTURE  
 IN SOLAR COLLECTOR**  
 906 **CONNECTING PLURAL SOLAR  
 COLLECTORS AS A UNIT**  
 907 **ABSORBER COATING**  
 908 ..Particular chemical  
 909 **LINEAR CONCENTRATING LENS**  
 910 **HEAT STORAGE LIQUID**

**FOREIGN ART COLLECTIONS**

FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**

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

**LIQUID HEATER**

FOR 100 ..Stand boilers (126/361)  
 FOR 101 ..Circulation (126/362)  
 FOR 102 ..Supports (126/363)  
 FOR 103 ..Stovepipe (126/364)  
 FOR 104 ..Circulation (126/365)  
         ..Submerged (126/unnumbered)  
 FOR 105 ..Portable (126/367)  
 FOR 106 ..Closed systems pipes (126/366)  
 FOR 107 ..Stationary (126/368)  
 FOR 108 ..Vessels (126/373)  
 FOR 109 ..With automatic control (126/  
         374)  
 FOR 110 ..With heat accumulator (126/375)  
 FOR 111 ..Fluid-heated (126/376)  
 FOR 112 ...Steam- or water-heated (126/  
         377)  
 FOR 113 ....Closed chamber or coil (126/  
         378)  
 FOR 114 ....Jet (126/379)  
 FOR 115 ..With liquid supply (126/380)



FOR 116 ..With condenser (126/381)  
FOR 117 ...Condensing liquid (126/382)  
FOR 118 ..Overflow directors or receptors  
    (126/383)  
FOR 119 ...In vessel closure (126/384)  
FOR 120 ...Annular receptor (126/385)  
FOR 121 ...With return (126/386)  
FOR 122 ..With heat-type agitator or  
    circulator (126/387)  
FOR 123 ..With signal or indicator (126/  
    388)  
FOR 124 ..With vent passage (126/389)  
FOR 125 ..Heating-surface construction  
    and arrangement (126/390)  
FOR 126 ...Fire tube type (126/391)  
FOR 127 ...Water tube type (126/392)  
FOR 128 ..Liquid and gaseous fuel (126/350  
    R)  
FOR 129 ..Automatic (126/351)  
FOR 130 ..Drip plate (126/355)  
FOR 131 ..Hinged or separable (126/357)  
FOR 132 ..Lamp type (126/358)  
FOR 133 ..Overflow (126/359)  
FOR 134 ..Submerged (126/360 R)  
FOR 135 ...Submerged flame (126/360 A)  
FOR 136 ..Automobile radiator heater  
    (126/350 A)  
FOR 137 ..Vaporizers and humidifiers  
    (126/350 B)  
FOR 138 ..Washing machines (126/350 C)  
FOR 139 ..Shower bath (126/350 D)

