

CPC COOPERATIVE PATENT CLASSIFICATION

F23G CREMATION FURNACES; CONSUMING WASTE PRODUCTS BY COMBUSTION

NOTE

This subclass covers also the burning of low-grade fuel of solid, liquid, or gaseous nature.

1/00	Furnaces for cremation of human or animal carcasses	5/446	. . . {for liquid waste (F23G 5/448 takes precedence)}
5/00	Incineration of waste (of specific waste F23G 7/00); Incinerator constructions; Details, accessories or control therefor	5/448	. . . {in which the waste is fed in containers or the like}
5/002	. {characterised by their grates (F23G 5/05 takes precedence)}	5/46	. . Recuperation of heat
5/004	. . {with endless travelling grates}	5/48	. . Preventing corrosion
5/006	. {General arrangement of incineration plant, e.g. flow sheets}	5/50	. Control or safety arrangements
5/008	. {adapted for burning two or more kinds, e.g. liquid and solid, of waste being fed through separate inlets}	7/00	Incinerators or other apparatus for consuming industrial waste, e.g. chemicals (incinerator closets A47K 11/02; oxidation of sludge C02F 11/06; burners in general, burner details F23D; incinerating radioactive waste G21F 9/00)
5/02	. with pretreatment	7/001	. {for sludges or waste products from water treatment installations (F23G 5/008 takes precedence)}
5/027	. . pyrolysing or gasifying stage (pyrolysis of sludge C02F 11/00 ; destructive distillation of carbonaceous materials C10B 53/00)	7/003	. {for used articles}
5/0273	. . . {using indirect heating}	7/005	. . {cars, vehicles}
5/0276	. . . {using direct heating}	7/006	. . {wires, cables (production and refining of metals C22B , e.g. from scrap to produce non-ferrous metals C22B 7/00 ; salvaging material from cables H01B 15/003)}
5/033	. . comminuting or crushing	7/008	. {for liquid waste (waste oil F23G 7/05 , waste liquors F23G 7/04 , sludges F23G 7/001)}
5/04	. . drying	7/02	. of bagasse, megasse or the like
5/05	. . . using drying grates	7/04	. of waste liquors, e.g. sulfite liquors
5/08	. having supplementary heating	7/05	. of waste oils
5/085	. . {High-temperature heating means, e.g. plasma, for partly melting the waste}	7/06	. of waste gases or noxious gases, e.g. exhaust gases (exhaust apparatus for engines with means for rendering the exhaust innocuous, e.g. by thermal or catalytic conversion, F01N 3/08 ; combustion of uncombusted material from primary combustion within apparatus for combustion of solid or fluent fuel F23B , {of non combusted material from primary combustion of solid fuels F23B 5/00 ; of gases produced by primary combustion of solid fuels F23B 90/04 }, F23C)
5/10	. . electric	7/061	. . {with supplementary heating}
5/12	. . using gaseous or liquid fuel (F23G 5/14 takes precedence)	7/063	. . . {electric heating}
5/14	. . including secondary combustion	7/065	. . . {using gaseous or liquid fuel}
5/16	. . . in a separate combustion chamber	7/066 {preheating the waste gas by the heat of the combustion, e.g. recuperation type incinerator}
5/165 {arranged at a different level}	7/068 {using regenerative heat recovery means}
5/18	. . . in a stack	7/07	. . in which combustion takes place in the presence of catalytic material
5/20	. having rotating or oscillating drums	7/08	. . using flares, e.g. in stacks
5/22	. . the drums being conically shaped	7/085	. . . {in stacks}
5/24	. having a vertical, substantially cylindrical, combustion chamber	7/10	. of field or garden waste {or biomasses}
5/245	. . {with perforated bottom or grate}	7/105	. . {of wood waste}
5/26	. . having rotating bottom	7/12	. of plastics, e.g. rubber
5/28	. . having raking arms	7/14	. of contaminated soil, e.g. by oil
5/30	. having a fluidised bed		
5/32	. the waste being subjected to a whirling movement, e.g. cyclonic incinerators	2200/00	Waste incineration
5/34	. the waste being burnt in a pit or arranged in a heap for combustion	2201/00	Pretreatment
5/36	. having a conical combustion chamber, e.g. "teepee" incinerators (F23G 5/22 takes precedence)	2201/10	. Drying by heat
5/38	. Multi-hearth arrangements		
5/40	. Portable or mobile incinerators		
5/42	. . of the basket type		
5/44	. Details; Accessories		
5/442	. . {Waste feed arrangements}		
5/444	. . . {for solid waste (F23G 5/448 takes precedence)}		

2201/101	. . using indirect heat transfer	2203/501	. . with external recirculation of entrained bed material
2201/20	. Dewatering by mechanical means	2203/502	. . with recirculation of bed material inside combustion chamber
2201/30	. Pyrolysing	2203/503	. . with two or more fluidised beds
2201/301	. . Treating pyrogases	2203/504	. . with essentially horizontal flow of bed material
2201/302	. . Treating pyrosolids	2203/505	. . with fluidised bed rotated as a whole
2201/303	. . Burning pyrogases	2203/60	. Mobile furnace
2201/304	. . Burning pyrosolids	2203/601	. . carried by a vehicle
2201/40	. Gasification	2203/70	. Modular furnace
2201/50	. Devolatilising; from soil, objects	2203/80	. Furnaces with other means for moving the waste through the combustion zone
2201/60	. Separating	2203/801	. . using conveyors
2201/601	. . different calorific values	2203/8013	. . . Screw conveyors
2201/602	. . different sizes	2203/8016	. . . Belt conveyors
2201/603	. . recyclible material	2203/803	. . Rams or pushers
2201/70	. Blending	2203/805	. . using a rotating hearth
2201/701	. . with additives	2204/00	Supplementary heating arrangements
2201/702	. . with other waste	2204/10	. using auxiliary fuel
2201/80	. Shredding	2204/101	. . solid fuel
2201/90	. Cooling	2204/103	. . gaseous or liquid fuel
2202/00	Combustion	2204/20	. using electric energy
2202/10	. in two or more stages	2204/201	. . Plasma
2202/101	. . with controlled oxidant supply	2204/202	. . Laser
2202/102	. . with supplementary heating	2204/203	. . Microwave
2202/103	. . in separate chambers	2204/204	. . Induction
2202/104	. . with ash melting stage	2205/00	Waste feed arrangements
2202/105	. . with waste supply in stages	2205/10	. using ram or pusher
2202/106	. . with recirculation of unburned solid or gaseous matter into combustion chamber	2205/101	. . sequentially operated
2202/20	. to temperatures melting waste	2205/12	. using conveyors
2202/30	. in a pressurised chamber	2205/121	. . Screw conveyor
2202/40	. in a pulsed combustion chamber	2205/122	. . Belt conveyor
2202/50	. in a matrix bed combustion chamber	2205/123	. . Roller conveyor
2202/60	. in a catalytic combustion chamber	2205/124	. . Chain conveyor
2202/70	. with application of specific energy	2205/125	. . Vibrating conveyor
2202/701	. . Electrical fields	2205/14	. using hopper or bin
2202/703	. . Acoustic energy	2205/16	. using chute
2203/00	Furnace arrangements	2205/18	. using airlock systems
2203/10	. Stoker grate furnace	2205/20	. using airblast or pneumatic feeding
2203/101	. with stepped or inclined grate	2206/00	Waste heat recuperation
2203/103	. with roller grate	2206/10	. reintroducing the heat in the same process, e.g. for predrying
2203/105	. with endless chain or travelling grate	2206/20	. using the heat in association with another installation
2203/107	. with vibrating grate	2206/201	. . with an industrial furnace
2203/20	. Rotary drum furnace	2206/202	. . with an internal combustion engine
2203/201	. . using oscillating movement	2206/203	. . with a power/heat generating installation
2203/202	. . rotating around substantially vertical axis	2207/00	Control
2203/203	. . with conically shaped drum	2207/10	. Arrangement of sensing devices
2203/204	. . having non-circular inner cross-section	2207/101	. . for temperature
2203/205	. . with water-cooled wall	2207/1015	. . . Heat pattern monitoring of flames
2203/206	. . with charging ports in the sidewall	2207/102	. . for pressure
2203/207	. . with air supply ports in the sidewall	2207/103	. . for oxygen
2203/208	. . with interior agitating members	2207/104	. . for CO or CO ₂
2203/209	. . with variable inclination of rotation axis	2207/105	. . for NO _x
2203/21	. . with variable speed of rotation	2207/106	. . for SO _x
2203/211	. . Arrangement of a plurality of drums	2207/107	. . for halogen concentration
2203/212	. . Sealing arrangements between rotary and stationary parts	2207/108	. . for hydrocarbon concentration
2203/30	. Cyclonic combustion furnace	2207/112	. . for waste supply flowrate
2203/40	. Stationary bed furnace	2207/113	. . for oxidant supply flowrate
2203/401	. . with support for a grate or perforated plate		
2203/403	. . with substantial cylindrical combustion chamber		
2203/50	. Fluidised bed furnace		

2207/114	. . for combustion bed level	2900/50206	. Pelletising waste before combustion
2207/20	. Waste supply	2900/50207	. Thermoforming of plastic waste materials before combustion
2207/30	. Oxidant supply	2900/50208	. Biologic treatment before burning, e.g. biogas generation
2207/40	. Supplementary heat supply	2900/50209	. Compacting waste before burning
2207/50	. Cooling fluid supply	2900/50211	. Evaporating, e.g. liquid waste before burning
2207/60	. Additives supply	2900/50212	. Extruding waste before combustion
2208/00	Safety aspects	2900/50213	. Preheating processes other than drying or pyrolysis
2208/10	. Preventing or abating fire or explosion, e.g. by purging	2900/50214	. Separating non combustible matters
2209/00	Specific waste	2900/50401	. Drying waste by mixing with drying chemicals, e.g. with CaO
2209/10	. Liquid waste	2900/508	. Providing additional energy for combustion, e.g. by using supplementary heating
2209/101	. . Waste liquor	2900/50801	. . using the heat from externally heated bodies, e.g. steel balls
2209/102	. . Waste oil	2900/50802	. . using solid propellant
2209/103	. . Bagasse, megasse	2900/50803	. . using solar energy
2209/12	. Sludge, slurries or mixtures of liquids	2900/50804	. . using thermit or other compositions of metal oxides as auxiliary fuel
2209/14	. Gaseous waste or fumes	2900/51001	. . using arc discharge electrodes to provide heat
2209/141	. . Explosive gases	2900/52001	. Rotary drums with co-current flows of waste and gas
2209/142	. . Halogen gases, e.g. silane	2900/52002	. Rotary drum furnaces with counter-current flows of waste and gas
2209/16	. Warfare materials, e.g. ammunition	2900/52003	. Rotary drum furnaces with foramenous drum walls, e.g. grate drums
2209/18	. Radioactive materials	2900/53801	. Multi-hearth furnaces with vertical axis
2209/20	. Medical materials	2900/54001	. Hearths or supports movable into and from the furnace, e.g. by a conveyor
2209/22	. Waste papers	2900/54401	. Feeding waste in containers, bags or barrels
2209/24	. Contaminated soil; foundry sand	2900/54402	. Injecting fluid waste into incinerator
2209/26	. Biowaste	2900/54601	. using waste heat for desalinating sea water
2209/261	. . Woodwaste	2900/55	. Controlling; Monitoring or measuring
2209/262	. . Agricultural waste	2900/55001	. . Controlling combustion air preheating
2209/28	. Plastics or rubber like materials	2900/55002	. . Sensing exhaust gas opacity
2209/281	. . Tyres	2900/55003	. . Sensing for exhaust gas properties, e.g. O ₂ content
2209/30	. Solid combustion residus, e.g. bottom or flyash	2900/55004	. . Sensing exhaust gas radioactivity
2900/00	Special features of, or arrangements for incinerators	2900/55005	. . Sensing ash or slag properties
2900/00001	. Exhaust gas recirculation (using the heat thereof F23G 2206/10)	2900/55006	. . Measuring material flow rates
2900/50001	. Combination of two or more furnaces	2900/55007	. . Sensors arranged in waste loading zone, e.g. feed hopper level
2900/50002	. Burning with downwards directed draft through the waste mass	2900/55008	. . Measuring produced steam flow rate
2900/50003	. Waste oxidation, pyrolysis or gasification in water under supercritical conditions	2900/55009	. . Controlling stoker grate speed or vibrations for waste movement
2900/50004	. Furnace with inclined hearth	2900/55011	. . Detecting the properties of waste to be incinerated, e.g. heating value, density
2900/50005	. Waste in combustion chamber supported on bed made of special materials	2900/70	. Incinerating particular products or waste
2900/50006	. Combustion chamber walls reflecting radiant energy within the chamber	2900/7001	. . Air bags or seat belt pre-tensioners
2900/50007	. Co-combustion of two or more kinds of waste, separately fed into the furnace	2900/7002	. . Animal fat, e.g. lard, tallow, stearin
2900/50008	. Combustion of waste suspended or lifted by upward gas flows	2900/7003	. . Incinerating litter from animals, e.g. poultry litter
2900/50009	. Furnace with progressive waste movements in vertical or steeply inclined direction	2900/7004	. . Incinerating contaminated animal meals
2900/50201	. Waste pyrolysis, gasification or cracking by indirect heat transfer	2900/7005	. . Incinerating used asbestos
2900/50202	. Waste pyrolysis, gasification or cracking in presence of catalysts	2900/7006	. . Incinerating used automobiles
2900/50203	. Waste pyrolysis, gasification or cracking in a mechanically fluidised bed, e.g. obtained by a centrifugal force	2900/7007	. . Incinerating or pyrolysing used batteries
2900/50204	. Waste pre-treatment by pyrolysis, gasification or cracking	2900/7008	. . Incinerating remains of building materials after demolishing, e.g. fibreglass asphalt shingles
2900/50205	. Waste pre-treatment by pyrolysis, gasification or cracking followed by condensation of gas into combustible oil or fat	2900/7009	. . Incinerating human or animal corpses or remains
		2900/7011	. . Incinerating PCB-materials
		2900/7012	. . Incinerating rice or grain husks, hulls or bran
		2900/7013	. . Incinerating oil shales

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- 2900/70401 . . Incinerating drainage water from waste pits of incinerators
- 2900/70601 . Temporary storage means, e.g. buffers for accumulating fumes or gases, between treatment stages