CPC COOPERATIVE PATENT CLASSIFICATION

F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
(NOTE omitted)

LIGHTING; HEATING

F23 COMBUSTION APPARATUS; COMBUSTION PROCESSES
(NOTE omitted)

F23M CASINGS, LININGS, WALLS OR DOORS SPECIALLY ADAPTED FOR COMBUSTION CHAMBERS, e.g. FIREBRIDGES; DEVICES FOR DEFLECTING AIR, FLAMES OR COMBUSTION PRODUCTS IN COMBUSTION CHAMBERS; SAFETY ARRANGEMENTS SPECIALLY ADAPTED FOR COMBUSTION APPARATUS; DETAILS OF COMBUSTION CHAMBERS, NOT OTHERWISE PROVIDED FOR

3/00 **Firebridges**
3/02 . modified for circulation of fluids, e.g. air, steam, water
3/04 . . for delivery of gas, e.g. air, steam
3/06 . . . into or towards fire
3/08 . . . away from fire, e.g. towards smoke outlet
3/10 . . . transversely
3/12 . characterised by shape or construction (F23M 3/02 takes precedence)
3/14 . . with apertures for passage of combustion products
3/16 . . built-up in sections, e.g. using bars or blocks
3/18 . . double; multiple
3/20 . . comprising loose refractory material, wholly or in part
3/22 . movable; adjustable

5/00 **Casings; Linings; Walls** (construction or support of tube walls for steam boilers F22B)
5/02 . characterised by the shape of the bricks or blocks used (ceramic materials C04B 33/00, C04B 35/00)
5/025 . . {specially adapted for burner openings}
5/04 . Supports for linings
5/06 . Crowns or roofs for combustion chambers (F23M 5/02, F23M 5/04 take precedence)
5/08 . Cooling thereof; Tube walls
5/085 . . {using air or other gas as the cooling medium}

7/00 **Doors**
7/02 . Frames therefor
7/04 . Cooling doors or door frames

9/00 **Baffles or deflectors for air or combustion products** (structurally associated with burners F23D); **Flame shields**
9/003 . {in flue gas ducts}
9/006 . . {Backflow diverters}
9/02 . in air inlets
9/04 . with air supply passages in the baffle or shield
9/06 . in fire-boxes
9/08 . Helical or twisted baffles or deflectors
9/10 . Baffles or deflectors formed as tubes, e.g. in water-tube boilers (interconnection of such tubes in boilers for fluid flow F22)

11/00 **Safety arrangements** (structurally associated with burners F23D; for liquid fuel feeding F23K 5/16; involving control of combustion F23N 5/24; structurally associated with igniters F23Q)
11/02 . Preventing emission of flames or hot gases, or admission of air, through working or charging apertures
11/04 . Means for supervising combustion, e.g. window (alarm systems G08B)
11/042 . . {Viewing ports of windows}
11/045 . . {by observing the flame}
11/047 . . {by observing the flue gas (controlling combustion using gas detectors F23N 5/003)}

20/00 **Details of combustion chambers, not otherwise provided for {, e.g. means for storing heat from flames}**
20/005 . {Noise absorbing means}

2700/00 **Constructional details of combustion chambers**
2700/005 . Structures of combustion chambers or smoke ducts
2700/0053 . . Bricks for combustion chamber walls
2700/0056 . . Bricks for water tube combustion chamber walls
2700/007 . Automatic fire extinguishing devices
2700/008 . Preventing outwards emission of flames or hot gases

2900/00 **Special features of, or arrangements for combustion chambers**
2900/05001 . Preventing corrosion by using special lining materials or other techniques
2900/05002 . Means for accommodate thermal expansion of the wall liner
2900/05003 . Details of manufacturing specially adapted for combustion chambers
2900/05004 . Special materials for walls or lining
2900/05005 . Sealing means between wall tiles or panels
2900/05021 . Wall blocks adapted for burner openings
2900/09061 . Moving baffles, e.g. rotating baffles, for creating vortices

2900/09062 . Tube-shaped baffles confining the flame
(flame tubes forming part of the burner head F23D 2900/11403)

2900/11021 . Means for avoiding accidental fires in rooms where the combustion device is located

2900/11041 . Means for observing or monitoring flames using photoelectric devices, e.g. phototransistors

2900/13001 . Energy recovery by fuel cells arranged in the combustion plant

2900/13002 . Energy recovery by heat storage elements arranged in the combustion chamber

2900/13003 . Energy recovery by thermoelectric elements, e.g. by Peltier/Seebeck effect, arranged in the combustion plant

2900/13004 . Energy recovery by thermo-photo-voltaic [TPV] elements arranged in the combustion plant