

# 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

<b>3/00</b>	<b>Firebridges</b>	9/10	. Baffles or deflectors formed as tubes, e.g. in water-tube boilers ( <a href="#">interconnection of such tubes in boilers for fluid flow F22</a> )
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	<b>11/00</b>	<b>Safety arrangements</b> (structurally associated with burners <a href="#">F23D</a> ; for liquid fuel feeding <a href="#">F23K 5/16</a> ; involving control of combustion <a href="#">F23N 5/24</a> ; structurally associated with igniters <a href="#">F23Q</a> )
3/08	. . . away from fire, e.g. towards smoke outlet		
3/10	. . . transversely		
3/12	. characterised by shape or construction ( <a href="#">F23M 3/02 takes precedence</a> )	11/02	. Preventing emission of flames or hot gases, or admission of air, through working or charging apertures
3/14	. . with apertures for passage of combustion products	11/04	. Means for supervising combustion, e.g. window ( <a href="#">alarm systems G08B</a> )
3/16	. . built-up in sections, e.g. using bars or blocks		
3/18	. . double; multiple	11/042	. . { <a href="#">Viewing ports of windows</a> }
3/20	. . comprising loose refractory material, wholly or in part	11/045	. . { <a href="#">by observing the flame</a> }
3/22	. movable; adjustable	11/047	. . { <a href="#">by observing the flue gas (controlling combustion using gas detectors F23N 5/003)</a> }
<b>5/00</b>	<b>Casings; Linings; Walls</b> ( <a href="#">construction or support of tube walls for steam boilers F22B</a> )	<b>20/00</b>	<b>Details of combustion chambers, not otherwise provided for {, e.g. means for storing heat from flames}</b>
5/02	. characterised by the shape of the bricks or blocks used ( <a href="#">ceramic materials C04B 33/00, C04B 35/00</a> )	20/005	. { <a href="#">Noise absorbing means</a> }
5/025	. . { <a href="#">specially adapted for burner openings</a> }		
5/04	. Supports for linings	<b>2700/00</b>	<b>Constructional details of combustion chambers</b>
5/06	. Crowns or roofs for combustion chambers ( <a href="#">F23M 5/02, F23M 5/04 take precedence</a> )	2700/005	. Structures of combustion chambers or smoke ducts
5/08	. Cooling thereof; Tube walls	2700/0053	. . Bricks for combustion chamber walls
5/085	. . { <a href="#">using air or other gas as the cooling medium</a> }	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
<b>7/00</b>	<b>Doors</b>	<b>2900/00</b>	<b>Special features of, or arrangements for combustion chambers</b>
7/02	. Frames therefor	2900/05001	. Preventing corrosion by using special lining materials or other techniques
7/04	. Cooling doors or door frames	2900/05002	. Means for accommodate thermal expansion of the wall liner
<b>9/00</b>	<b>Baffles or deflectors for air or combustion products</b> ( <a href="#">structurally associated with burners F23D</a> ); <b>Flame shields</b>	2900/05003	. Details of manufacturing specially adapted for combustion chambers
9/003	. { <a href="#">in flue gas ducts</a> }	2900/05004	. Special materials for walls or lining
9/006	. . { <a href="#">Backflow diverters</a> }	2900/05005	. Sealing means between wall tiles or panels
9/02	. in air inlets	2900/05021	. Wall blocks adapted for burner openings
9/04	. with air supply passages in the baffle or shield	2900/09061	. Moving baffles, e.g. rotating baffles, for creating vortices
9/06	. in fire-boxes		
9/08	. Helical or twisted baffles or deflectors		

## F23M

- 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