

# 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

##### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<b>3/00</b>	<b>Firebridges</b>	9/02	. in air inlets
3/02	. modified for circulation of fluids, e.g. air, steam, water		<b>WARNING</b>
3/04	. . for delivery of gas, e.g. air, steam		Group <a href="#">F23M 9/02</a> is incomplete pending reclassification of documents from groups <a href="#">F23L 1/00</a> and <a href="#">F23L 9/00</a> .
3/06	. . . into or towards fire		Groups <a href="#">F23L 1/00</a> , <a href="#">F23L 9/00</a> , and <a href="#">F23M 9/02</a> should be considered in order to perform a complete search.
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</a> takes precedence)		
3/14	. . with apertures for passage of combustion products	9/04	. with air supply passages in the baffle or shield
3/16	. . built-up in sections, e.g. using bars or blocks	9/06	. in fire-boxes
3/18	. . double; multiple	9/08	. Helical or twisted baffles or deflectors
3/20	. . comprising loose refractory material, wholly or in part	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> )
3/22	. movable; adjustable		
<b>5/00</b>	<b>Casings; Linings; Walls (construction or support of tube walls for steam boilers <a href="#">F22B</a>)</b>	<b>11/00</b>	<b>Safety arrangements (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>)</b>
5/02	. characterised by the shape of the bricks or blocks used ( <a href="#">ceramic materials C04B 33/00</a> , <a href="#">C04B 35/00</a> )	11/02	. Preventing emission of flames or hot gases, or admission of air, through working or charging apertures
5/025	. . { <a href="#">specially adapted for burner openings</a> }		
5/04	. Supports for linings	11/04	. Means for supervising combustion, e.g. window ( <a href="#">alarm systems G08B</a> )
5/06	. Crowns or roofs for combustion chambers ( <a href="#">F23M 5/02</a> , <a href="#">F23M 5/04</a> take precedence)	11/042	. . { <a href="#">Viewing ports of windows</a> }
5/08	. Cooling thereof; Tube walls	11/045	. . { <a href="#">by observing the flame</a> }
5/085	. . { <a href="#">using air or other gas as the cooling medium</a> }	11/047	. . { <a href="#">by observing the flue gas (controlling combustion using gas detectors <a href="#">F23N 5/003</a>)</a> }
<b>7/00</b>	<b>Doors</b>	<b>20/00</b>	<b>Details of combustion chambers, not otherwise provided for {, e.g. means for storing heat from flames}</b>
7/02	. Frames therefor	20/005	. { <a href="#">Noise absorbing means</a> }
7/04	. Cooling doors or door frames		
<b>9/00</b>	<b>Baffles or deflectors for air or combustion products (structurally associated with burners <a href="#">F23D</a>); Flame shields</b>	<b>2700/00</b>	<b>Constructional details of combustion chambers</b>
9/003	. { <a href="#">in flue gas ducts</a> }	2700/005	. Structures of combustion chambers or smoke ducts
9/006	. . { <a href="#">Backflow diverters</a> }	2700/0053	. . Bricks for combustion chamber walls
		2700/0056	. . Bricks for water tube combustion chamber walls
		2700/007	. Automatic fire extinguishing devices

## F23M

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