

**CPC****COOPERATIVE PATENT CLASSIFICATION****F23L****AIR SUPPLY; DRAUGHT-INDUCING; SUPPLYING**

**NON-COMBUSTIBLE LIQUID OR GAS** (air-supply arrangements for fluent fuels [F23C](#) ; dampers and throat restrictors for open fire-places [F24](#) ; air inlet valves for open fire fronts [F24](#) )

**Guidance heading:****F23L 1/00**

**Passages or apertures for delivering primary air for combustion**

[F23L 1/02](#)

- by discharging the air below the fire

**F23L 3/00**

**Arrangements of valves or dampers before the fire**

**F23L 5/00**

**Blast-producing apparatus before the fire**

[F23L 5/02](#)

- Arrangements of fans or blowers ([fans or blowers per se F04](#) )

[F23L 5/04](#)

- by induction of air for combustion, e.g. using steam jet

**F23L 7/00**

**Supplying non-combustible liquids or gases, other than air, to the fire, e.g. oxygen, steam**

[F23L 7/002](#)

- {[Supplying water](#) }

[F23L 7/005](#)

- .. { [Evaporated water; Steam](#) }

[F23L 7/007](#)

- {[Supplying oxygen or oxygen-enriched air](#) }

**F23L 9/00**

**Passages or apertures for delivering secondary air for completing combustion of fuel**

[F23L 9/02](#)

- by discharging the air above the fire

[F23L 9/04](#)

- by discharging the air beyond the fire, i.e. nearer the smoke outlet

[F23L 9/06](#)

- by discharging the air into the fire bed

**F23L 11/00**

**Arrangements of valves or dampers after the fire**

[F23L 11/005](#)

- {[for closing the flue during interruption of burner function](#) }

[F23L 11/02](#)

- for reducing draught by admission of air to flues

**F23L 13/00**

**Construction of valves or dampers for controlling air supply or draught** ([in general F16K](#) )

- F23L 13/02 . pivoted about a single axis but having not other movement (formed as linked slats each pivoted about an axis [F23L 13/08](#))
- F23L 13/04 . . with axis perpendicular to face
- F23L 13/06 . slidable only
- F23L 13/08 . operating as a roller blind; operating as a venetian blind
- F23L 13/10 . having a compound movement involving both sliding and pivoting

#### **F23L 15/00 Heating of air supplied for combustion**

- F23L 15/02 . Arrangements of regenerators
- F23L 15/04 . Arrangements of recuperators
- F23L 15/045 . . {using intermediate heat-transfer fluids }

#### **F23L 17/00 Inducing draught**

- F23L 17/005 . {using fans }
- F23L 17/02 . Tops for chimneys or ventilating shafts; Terminals for flues
- F23L 17/04 . . Balanced-flue arrangements, i.e. devices which combine air inlet to combustion unit with smoke outlet
- F23L 17/06 . . branched; T-headed
- F23L 17/08 . . with co-axial cones or louvres
- F23L 17/10 . . wherein the top moves as a whole
- F23L 17/12 . . Devices for fastening the top or terminal to chimney, shaft, or flue
- F23L 17/14 . . Draining devices
- F23L 17/16 . Induction apparatus, e.g. steam jet, acting on combustion products beyond the fire

#### **F23L 99/00 Subject matter not provided for in other groups of this subclass**

#### **Guidance heading:**

#### **F23L 2700/00 Installations for increasing draught in chimneys; Specific draught control devices for locomotives**

- F23L 2700/001 . Installations for increasing draught in chimneys
- F23L 2700/002 . Specific draught control devices for locomotives

#### **Guidance heading:**

#### **F23L 2900/00 Special arrangements for supplying or treating air or oxidant for combustion;**

**Injecting inert gas, water or steam into the combustion chamber**

- F23L 2900/00001 . Treating oxidant before combustion, e.g. by adding a catalyst
- F23L 2900/05021 . Gas turbine driven blowers for supplying combustion air or oxidant, i.e. turbochargers
- F23L 2900/07001 . Injecting synthetic air, i.e. a combustion supporting mixture made of pure oxygen and an inert gas, e.g. nitrogen or recycled fumes
- F23L 2900/07002 . Injecting inert gas, other than steam or evaporated water, into the combustion chambers
- F23L 2900/07003 . Controlling the inert gas supply
- F23L 2900/07004 . Injecting liquid or solid materials releasing oxygen, e.g. perchlorate, nitrate, peroxide, and chlorate compounds, or appropriate mixtures thereof
- F23L 2900/07005 . Injecting pure oxygen or oxygen enriched air
- F23L 2900/07006 . Control of the oxygen supply
- F23L 2900/07007 . using specific ranges of oxygen percentage
- F23L 2900/07008 . Injection of water into the combustion chamber
- F23L 2900/07009 . Injection of steam into the combustion chamber
- F23L 2900/15021 . using regenerative heat exchanger bodies with different layers of material
- F23L 2900/15022 . using pre-purging regenerator beds
- F23L 2900/15041 . Preheating combustion air by recuperating heat from ashes
- F23L 2900/15042 . Preheating combustion air by auxiliary combustion, e.g. in a turbine
- F23L 2900/15043 . Preheating combustion air by heat recovery means located in the chimney, e.g. for home heating devices
- F23L 2900/15044 . Preheating combustion air by heat recovery means using solar or other clean energy