

CPC**COOPERATIVE PATENT CLASSIFICATION****F23K**

FEEDING FUEL TO COMBUSTION APPARATUS (fuel feeders specially adapted for fluidised-bed combustion apparatus [F23C 10/22](#); regulating or controlling combustion [F23N](#))

F23K 1/00

Preparation of lump or pulverulent fuel in readiness for delivery to combustion apparatus (filtration [B01D](#); mixing [B01F](#); pulverising [B02C](#); drying [F26B](#))

[F23K 1/02](#)

- . Mixing solid fuel with a liquid, e.g. preparing slurries

[F23K 1/04](#)

- . Heating fuel prior to delivery to combustion apparatus

F23K 3/00

Feeding or distributing of lump or pulverulent fuel to combustion apparatus (conveying in general [B65G](#))

[F23K 3/02](#)

- . Pneumatic feeding arrangements, i.e. by air blast

[F23K 3/04](#)

- . for locomotive boiler furnaces

[F23K 3/06](#)

- . for shaft-type furnaces

[F23K 3/08](#)

- . for furnaces having movable grate bars

[F23K 3/10](#)

- . Under-feed arrangements

[F23K 3/12](#)

- .. feeding by piston

[F23K 3/14](#)

- .. feeding by screw

[F23K 3/16](#)

- . Over-feed arrangements

[F23K 3/18](#)

- .. Spreader stokers

[F23K 3/20](#)

- ... with moving hoppers

[F23K 3/22](#)

- . Controlling thickness of fuel bed

F23K 5/00

Feeding or distributing other fuel to combustion apparatus

[F23K 5/002](#)

- . { Gaseous fuel }

[F23K 5/005](#)

- .. { from a central source to a plurality of burners }

[F23K 5/007](#)

- .. { Details }

[F23K 5/02](#)

- . Liquid fuel

[F23K 5/04](#)

- .. Feeding or distributing systems using pumps ([F23K 5/06](#) takes precedence)

[F23K 5/06](#)

- .. from a central source to a plurality of burners

[F23K 5/08](#)

- .. Preparation of fuel

[F23K 5/10](#)

- ... Mixing with other fluids

| | | |
|------------|------|--|
| F23K 5/12 | | Preparing emulsions (spraying an emulsion of water and fuel into the combustion space of burners F23D 11/16) |
| F23K 5/14 | .. | Details thereof |
| F23K 5/142 | ... | { Fuel pumps (pumps in general F04)} |
| F23K 5/145 | | { combined with fans } |
| F23K 5/147 | ... | { Valves } |
| F23K 5/16 | ... | Safety devices (F23K 5/18 takes precedence; safety arrangements for combustion chambers F23M 11/00) |
| F23K 5/18 | ... | Cleaning or purging devices, e.g. filters |
| F23K 5/20 | ... | Preheating devices (in burners using a direct spraying action of liquid droplets or vaporised liquid into the combustion space F23D 11/44) |
| F23K 5/22 | ... | Vaporising devices (in burners using a direct spraying action of liquid droplets or vaporised liquid into the combustion space F23D 11/44) |

F23K 2200/00 Pretreatment and supply of solid fuel

F23K 2201/00 Pretreatment of solid fuel

| | | |
|----------------|----|--|
| F23K 2201/10 | . | Pulverizing |
| F23K 2201/1003 | .. | Processes to make pulverulent fuels |
| F23K 2201/1006 | .. | Mills adapted for use with furnaces |
| F23K 2201/101 | .. | to a specific particle size |
| F23K 2201/103 | .. | with hot gas supply |
| F23K 2201/20 | . | Drying |
| F23K 2201/30 | . | Separating |
| F23K 2201/50 | . | Blending |
| F23K 2201/501 | .. | with other fuels or combustible waste |
| F23K 2201/503 | .. | with non-combustible liquids to prepare slurries |
| F23K 2201/505 | .. | with additives |

F23K 2203/00 Feeding arrangements

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|---------------|----|--|
| F23K 2203/002 | . | Feeding devices for steam boilers, e.g. in locomotives |
| F23K 2203/004 | . | Feeding devices with reciprocating members |
| F23K 2203/006 | . | Fuel distribution and transport systems for pulverulent fuel |
| F23K 2203/008 | . | Feeding devices for pulverulent fuel |
| F23K 2203/10 | . | Supply line fittings |
| F23K 2203/101 | .. | Wear protection devices |
| F23K 2203/102 | .. | Flashback safety, e.g. inertizing devices |

- F23K 2203/103 . . Storage devices
- F23K 2203/104 . . Metering devices
- F23K 2203/105 . . Flow splitting devices to feed a plurality of burners

- F23K 2203/20 . Feeding/conveying devices
- F23K 2203/201 . . using pneumatic means
- F23K 2203/202 . . using screws
- F23K 2203/203 . . using pistons or rams

F23K 2300/00 Pretreatment and supply of liquid fuel

- F23K 2301/10 . Pretreatment
- F23K 2301/101 . . Application of magnetism or electricity
- F23K 2301/103 . . Mixing with other fluids
- F23K 2301/20 . Supply line arrangements
- F23K 2301/201 . . Pumps
- F23K 2301/202 . . Filtering
- F23K 2301/203 . . Purging
- F23K 2301/204 . . Preheating
- F23K 2301/205 . . Vaporising
- F23K 2301/206 . . Control devices

F23K 2400/00 Pretreatment and supply of gaseous fuel

- F23K 2401/10 . Pretreatment
- F23K 2401/20 . Supply line arrangements
- F23K 2401/201 . . Control devices

F23K 2900/00 Special features of, or arrangements for fuel supplies

- F23K 2900/00001 . Treating the fuel, either liquid or gaseous, with sound waves to enhance fuel properties
- F23K 2900/00002 . Treating the fuel, either liquid or gaseous, with far-infrared radiations (FIR) to enhance fuel properties
- F23K 2900/01001 . Cleaning solid fuel before combustion to achieve reduced emissions
- F23K 2900/01002 . Treating solid fuel with electromagnetic fields before combustion
- F23K 2900/01003 . Pulverizing solid fuel in vacuum or a reduced pressure environment
- F23K 2900/01041 . Heating by using exhaust gas heat
- F23K 2900/03001 . Airlock sections in solid fuel supply lines

- F23K 2900/05001 . Control or safety devices in gaseous or liquid fuel supply lines
- F23K 2900/05002 . Valves for gaseous fuel supply lines
- F23K 2900/05003 . Non-continuous fluid fuel supply
- F23K 2900/05004 . Mixing two or more fluid fuels
- F23K 2900/05081 . Treating the fuel with catalyst to enhance combustion
- F23K 2900/05082 . Removing gaseous substances from liquid fuel line, e.g. oxygen
- F23K 2900/05083 . Separating watery fractions from liquid fuel
- F23K 2900/05084 . Creating a combustible foam of liquid fuels and air
- F23K 2900/05141 . Control or safety devices in liquid fuel supply line
- F23K 2900/05142 . Special materials for liquid fuel supply lines