

# CPC COOPERATIVE PATENT CLASSIFICATION

## A HUMAN NECESSITIES

### HEALTH; AMUSEMENT

#### A62 LIFE-SAVING; FIRE-FIGHTING (ladders [E06C](#))

#### A62C FIRE-FIGHTING (fire-extinguishing compositions, use of chemical substances in extinguishing fires [A62D 1/00](#); spraying, applying liquids or other fluent materials to surfaces in general [B05](#); alarm arrangements [G08B](#), e.g. fire alarms actuated by smoke or gases [G08B 17/10](#))

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| <p><b>2/00</b></p> <p>2/04</p> <p>2/06</p> <p>2/065</p> <p>2/08</p> <p>2/10</p> <p>2/12</p> <p>2/14</p> <p>2/16</p> <p>2/18</p> <p>2/20</p> <p>2/22</p> <p>2/24</p> <p>2/241</p> <p>2/242</p> <p>2/243</p> <p>2/245</p> <p>2/246</p> <p>2/247</p> <p>2/248</p> <p><b>3/00</b></p> <p>3/002</p> <p>3/004</p> <p>3/006</p> <p>3/008</p> | <p><b>Fire prevention or containment</b> (<a href="#">A62C 3/00</a> takes precedence; flame traps <a href="#">A62C 4/00</a>)</p> <ul style="list-style-type: none"> <li>• Removing or cutting-off the supply of inflammable material</li> <li>• Physical fire-barriers</li> <li>• . {having as the main closure device materials, whose characteristics undergo an irreversible change under high temperatures, e.g. intumescent (intumescent materials forming part of the mechanism of another main closure device, <a href="#">see the relevant class</a>)}</li> <li>• . Water curtains (<a href="#">nozzles A62C 31/02</a>)</li> <li>• . Fire-proof curtains</li> <li>• . Hinged dampers</li> <li>• . . with two or more blades</li> <li>• . . . multi-vane roll or fold-up type</li> <li>• . Sliding dampers</li> <li>• . . at 90 degrees to the plane of the opening</li> <li>• . Fire-dampers with provision for the removal of an obstacle, e.g. rails, conveyors, before closing the opening</li> <li>• . Operating or controlling mechanisms {<a href="#">(emergency operation of doors and windows E05F 1/002, E05F 15/72)</a>}</li> <li>• . . {having mechanical actuators and heat sensitive parts}</li> <li>• . . . {with fusible links}</li> <li>• . . . {with frangible elements}</li> <li>• . . . {with thermostatic elements, e.g. bimetallic, resettable actuators}</li> <li>• . . {having non-mechanical actuators}</li> <li>• . . . {electric}</li> <li>• . . . {pneumatic}</li> </ul> <p><b>Fire prevention, containment or extinguishing specially adapted for particular objects or places</b> (<a href="#">(in oil wells E21B 29/08, A62C 35/00; in mines or tunnels E21F 5/00)</a> ; for nuclear reactors <a href="#">G21C 9/04</a>)</p> <ul style="list-style-type: none"> <li>• {for warehouses, storage areas or other installations for storing goods}</li> <li>• . {for freezing warehouses and storages}</li> <li>• {for kitchens or stoves}</li> <li>• {for decorations, e.g. Christmas trees (<a href="#">Christmas tree decorations incorporating fire extinguishing or fire prevention means A47G 33/0872; blowing or snuffing out candle-flames F23Q 25/00</a>)}</li> </ul> | <p>3/02</p> <p>3/0207</p> <p>3/0214</p> <p>3/0221</p> <p>3/0228</p> <p>3/0235</p> <p>3/0242</p> <p>3/025</p> <p>3/0257</p> <p>3/0264</p> <p>3/0271</p> <p>3/0278</p> <p>3/0285</p> <p>3/0292</p> <p>3/04</p> <p>3/06</p> <p>3/065</p> <p>3/07</p> <p>3/08</p> <p>3/10</p> <p>3/14</p> <p>3/16</p> <p><b>4/00</b></p> <p>4/02</p> <p>4/04</p> <p><b>5/00</b></p> <p>5/002</p> | <ul style="list-style-type: none"> <li>• for area conflagrations, e.g. forest fires, subterranean fires</li> <li>• . {by blowing air or gas currents with or without dispersion of fire extinguishing agents; Apparatus therefor, e.g. fans}</li> <li>• . {for buildings or installations in fire storms}</li> <li>• . {for tunnels}</li> <li>• . {with delivery of fire extinguishing material by air or aircraft (<a href="#">fire-fighting aircraft B64D 1/16</a>)}</li> <li>• . . {by means of containers, e.g. buckets}</li> <li>• . . {by spraying extinguishants from the aircraft (<a href="#">spraying from aircraft in general B64D 1/16</a>)}</li> <li>• . . {Fire extinguishing bombs; Projectiles and launchers therefor (<a href="#">launching apparatus for projectiles, missiles or torpedoes in general F41F 1/00, F41F 3/00, F41F 7/00</a>)}</li> <li>• . {Fire curtains, blankets, walls, fences}</li> <li>• . . {by creating water curtains}</li> <li>• . {Detection of area conflagration fires (<a href="#">fire alarms for forest fires G08B 17/005</a>)}</li> <li>• . {by creating zones devoid of flammable material}</li> <li>• . . {with creation of a fire zone by an explosion or a counter-fire}</li> <li>• . {by spraying extinguishants directly into the fire (<a href="#">A62C 3/0242</a> takes precedence)}</li> <li>• for dust or loosely-baled or loosely-piled materials, e.g. in silos, in chimneys (<a href="#">flame traps A62C 4/00</a>)</li> <li>• of highly inflammable material, e.g. light metals, petroleum products</li> <li>• . {for containers filled with inflammable liquids}</li> <li>• in vehicles, e.g. in road vehicles</li> <li>• . in aircraft {(<a href="#">A62C 3/0207</a> takes precedence)}</li> <li>• . in ships {(<a href="#">A62C 3/0207</a> takes precedence)}</li> <li>• {in connection with doors, windows, ventilators, partitions, or shutters, e.g. automatic closing}</li> <li>• in electrical installations, e.g. cableways</li> </ul> <p><b>Flame traps allowing passage of gas but not of flame or explosion wave</b></p> <ul style="list-style-type: none"> <li>• in gas-pipes (<a href="#">safety valves F16K 17/00</a>)</li> <li>• in flues or chimneys</li> </ul> <p><b>Making of fire-extinguishing materials immediately before use</b> (<a href="#">nozzles A62C 31/02</a>)</p> <ul style="list-style-type: none"> <li>• {Apparatus for mixing extinguishants with water}</li> </ul> |
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- 5/004 . {for producing carbon-dioxide snow, carbon-dioxide ice, carbon-dioxide gas, carbon-dioxide liquid, or mixtures thereof (carbon-dioxide jet-pipes or snow jet-pipes [A62C 31/03](#))}
- 5/006 . {Extinguishants produced by combustion}
- 5/008 . {for producing other mixtures of different gases or vapours, water and chemicals, e.g. water and wetting agents, water and gases}
- 5/02 . of foam
- 5/022 . . {with air or gas present as such}
- 5/024 . . . {Apparatus in the form of pipes (jet-pipes for foam [A62C 31/12](#))}
- 5/027 . . Heavy foam
- 5/033 . of gel

#### **Hand fire-extinguishers**

- 8/00 Hand tools or accessories specially adapted for fire-fighting, e.g. tool boxes**
- 8/005 . {Receptacles or other utensils for water carrying; Bombs filled with extinguishing agents}
- 8/02 . Buckets or pails
- 8/04 . Rakes or beaters
- 8/06 . Fire-blankets
- 8/08 . Shields
- 11/00 Portable extinguishers with manually-operated pumps**
- 11/005 . {Receptacles of extinguishing agent with manually operable pump}
- 13/00 Portable extinguishers which are permanently pressurised or pressurised immediately before use ([A62C 11/00](#) takes precedence)**
- 13/003 . {Extinguishers with spraying and projection of extinguishing agents by pressurised gas}
- 13/006 . {for the propulsion of extinguishing powder}
- 13/02 . with pressure gas produced by chemicals
- 13/04 . . with separate acid container
- 13/06 . . . with acid container without closure device
- 13/08 . . . with acid container with closure device
- 13/10 . . . . with loose-lid closure device (loosely-engaging lids or covers for containers for liquids without means for effecting sealing of container in general [B65D 51/02](#))
- 13/12 . . . . with valve closure device
- 13/14 . . . with acid container the shell of which is ruptured by pin, screw-pin, or similar device
- 13/16 . . . with movable acid container ruptured by falling when operated
- 13/18 . . . with acid container ruptured by a striking weight, e.g. by a falling weight
- 13/20 . . with the chemicals in a single case, e.g. in a cartridge
- 13/22 . . with incendiary substances producing pressure gas
- 13/62 . with a single permanently pressurised container
- 13/64 . . the extinguishing material being released by means of a valve
- 13/66 . with extinguishing material and pressure gas being stored in separate containers
- 13/68 . . characterised by means for releasing the extinguishing material
- 13/70 . . characterised by means for releasing the pressure gas

- 13/72 . . characterised by releasing means operating essentially simultaneously on both containers
- 13/74 . . . the pressure gas container being pierced or broken
- 13/76 . Details or accessories
- 13/78 . . Suspending or supporting devices
- 15/00 Extinguishers essentially of the knapsack type (knapsacks, carrying-frames, pack-frames carried on the body [A45F 3/00](#))**
- 17/00 Hand fire-extinguishers essentially in the form of pistols or rifles**
- 19/00 Hand fire-extinguishers in which the extinguishing substance is expelled by an explosion; Exploding containers thrown into the fire**
- 25/00 Portable extinguishers with power-driven pumps**
- 25/005 . {Accessories}

**Fire-fighting vehicles** ([A62C 31/00](#), [A62C 33/00](#), [A62C 37/00](#) take precedence; vehicle aspects, see the appropriate subclasses of [B60](#) - [B64](#), e.g. fire-fighting aircraft [B64D 1/16](#))

- 27/00 Fire-fighting land vehicles**
- 29/00 Fire-fighting vessels or like floating structures**
- 31/00 Delivery of fire-extinguishing material (pumps [F04](#); {suction or pressure} hoses, {joints or couplings therefor} [F16L](#))**
- 31/005 . {using nozzles}
- WARNING**  
see warning after subclass title
- 31/02 . Nozzles specially adapted for fire-extinguishing
- 31/03 . . adjustable, e.g. from spray to jet or vice versa
- 31/05 . . with two or more outlets
- 31/07 . . . for different media
- 31/12 . . for delivering foam or atomised foam
- 31/22 . . specially adapted for piercing walls, heaped materials, or the like
- 31/24 . . attached to ladders, poles, towers, or other structures with or without rotary heads
- 31/28 . Accessories for delivery devices, e.g. supports
- 33/00 Hose accessories**
- 33/02 . Apparatus for cleaning or drying hoses (drying shelves [F26B](#))
- 33/04 . Supports or clamps for fire hoses
- 33/06 . Hose or pipe bridges

#### **Permanently-installed equipment**

- 35/00 Permanently-installed equipment ([A62C 31/00](#), [A62C 33/00](#), [A62C 37/00](#) take precedence; for forming water curtains [A62C 2/08](#))**
- 35/02 . with containers for delivering the extinguishing substance
- 35/023 . . {the extinguishing material being expelled by compressed gas, taken from storage tanks, or by generating a pressure gas (for foam generation [A62C 5/02](#))}
- 35/026 . . {the extinguishing material being put under pressure by means other than pressure gas, e.g. pumps}
- 35/04 . . Swingable or tiltable containers

- 35/06 . . Containers destroyed or opened by falling
  - 35/08 . . Containers destroyed or opened by bursting charge
  - 35/10 . . Containers destroyed or opened by flames or heat
  - 35/11 . . controlled by a signal from the danger zone
  - 35/13 . . . with a finite supply of extinguishing material
  - 35/15 . . . with a system for topping-up the supply of extinguishing material automatically
  - 35/20 . Hydrants, e.g. wall-hoses, wall units, plug-in cabinets ([hydrants in streets E03B 9/02](#))
  - 35/58 . Pipe-line systems
  - 35/60 . . wet, i.e. containing extinguishing material even when not in use
  - 35/605 . . . {operating and sounding alarm automatically}
  - WARNING**
  - see warning after subclass title
  - 35/62 . . dry, i.e. empty of extinguishing material when not in use
  - 35/64 . . pressurised
  - 35/645 . . . {with compressed gas in pipework}
  - WARNING**
  - see warning after subclass title
  - 35/66 . . . Accelerators
  - 35/68 . . Details, e.g. of pipes or valve systems ([valves in general F16K](#))
  - 37/00 Control of fire-fighting equipment ([heat-sensitive devices G01K](#))**
  - 37/04 . {with electrically-controlled release}
  - 37/08 . comprising an outlet device containing a sensor, or itself being the sensor, i.e. self-contained sprinklers
  - 37/09 . . telescopic or adjustable
  - 37/10 . . Releasing means, e.g. electrically released
  - 37/11 . . . heat-sensitive
  - 37/12 . . . . with fusible links
  - 37/14 . . . . with frangible vessels
  - 37/16 . . . . with thermally-expansible links
  - 37/20 . . Resetting after use; Tools therefor
  - 37/21 . . . automatic
  - 37/28 . . {with an explosive charge}
  - 37/36 . an actuating signal being generated by a sensor separate from an outlet device
  - 37/38 . . by both sensor and actuator, e.g. valve, being in the danger zone
  - 37/40 . . . with electric connection between sensor and actuator
  - 37/42 . . . with mechanical connection between sensor and actuator, e.g. rods, levers
  - 37/44 . . only the sensor being in the danger zone
  - 37/46 . . Construction of the actuator
  - 37/48 . . . Thermally sensitive initiators
  - 37/50 . Testing or indicating devices for determining the state of readiness of the equipment
  - 99/0018 . . {using gases or vapours that do not support combustion, e.g. steam, carbon dioxide}
  - 99/0027 . . . {Carbon dioxide extinguishers}
  - 99/0036 . . {using foam}
  - 99/0045 . . {using solid substances, e.g. sand, ashes; using substances forming a crust}
  - 99/0054 . . {using counter-fire}
  - 99/0063 . . {with simultaneous removal of inflammable materials}
  - 99/0072 . . {using sprayed or atomised water}
  - 99/0081 . {Training methods or equipment for fire-fighting}
  - 99/009 . {Methods or equipment not provided for in groups [A62C 99/0009](#) - [A62C 99/0081](#)}
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- 99/00 Subject matter not provided for in other groups of this subclass**
  - 99/0009 . {Methods of extinguishing or preventing the spread of fire by cooling down or suffocating the flames}