

**CPC****COOPERATIVE PATENT CLASSIFICATION****F21S****NON-PORTABLE LIGHTING DEVICES OR SYSTEMS THEREOF**(burners [F23D](#))**NOTES**

1. This subclass covers devices or systems intended for fixed installation, e.g. vehicle lighting, or for use at a permanent location, e.g. free-standing floor- or table-lamps.
2. This subclass does not cover devices or systems specially adapted for transportation, which are covered by subclass [F21L](#).
3. Non-electric lighting devices or systems are classified in groups [F21S 11/00](#) - [F21S 15/00](#) only if a special adaptation related to the use of a non-electric light source is of interest.

**Electric lighting****F21S 2/00****Systems of lighting devices, not provided for in main groups**[F21S 4/00](#) - [F21S 10/00](#) or [F21S 19/00](#), e.g. of modular construction**F21S 2/005**

- . {of modular construction}

**F21S 4/00****Lighting devices or systems using a string or strip of light sources****F21S 4/10**

- . with light sources attached to loose electric cables, e.g. Christmas tree lights

**F21S 4/15**

- . . the cables forming a grid, net or web structure

**F21S 4/20**

- . with light sources held by or within elongate supports

**F21S 4/22**

- . . flexible or deformable, e.g. into a curved shape

**F21S 4/24**

- . . . of ribbon or tape form, e.g. LED tapes

**F21S 4/26**

- . . . of rope form, e.g. LED lighting ropes, or of tubular form

**F21S 4/28**

- . . rigid, e.g. LED bars

**F21S 6/00**

**Lighting devices intended to be free-standing** ([F21S 9/00](#), [F21S 10/00](#), [F21S 13/12](#)) take precedence {lighting devices specially adapted to be transported from place to place, e.g. lighting devices carried on wheeled supports [F21L](#); details of supports for lighting devices [F21V 21/00](#)}

**F21S 6/001**

- . {being candle-shaped (with varying lighting effect of simulating flames [F21S 10/04](#); string of light sources [F21S 4/00](#))}

**F21S 6/002**

- . {Table lamps, e.g. for ambient lighting}

**F21S 6/003**

- . . {for task lighting, e.g. for reading or desk work, e.g. angle poise lamps}

**F21S 6/004**

- . {with a lamp housing in direct contact with the floor or ground}

**F21S 6/005**

- . {with a lamp housing maintained at a distance from the floor or ground via a support, e.g. standing lamp for ambient lighting}

**F21S 6/006**

- . . {for direct lighting only, e.g. task lighting}

**F21S 6/007**

- . . {for indirect lighting only, e.g. torchiere with reflector bowl directed towards ceiling}

**F21S 6/008**

- . . {with a combination of direct and indirect lighting}

<b>F21S 8/00</b>	<b>Lighting devices intended for fixed installation</b> ( <a href="#">F21S 9/00</a> , <a href="#">F21S 10/00</a> take precedence; using a string or strip of light sources <a href="#">F21S 4/00</a> )
F21S 8/003	<ul style="list-style-type: none"> <li>• {Searchlights, i.e. outdoor lighting device producing powerful beam of parallel rays, e.g. for military or attraction purposes (<a href="#">searchlights mounted on a vehicle B60Q 1/24</a>)}</li> </ul>
F21S 8/006	<ul style="list-style-type: none"> <li>• {Solar simulators, e.g. for testing photovoltaic panels}</li> </ul>
F21S 8/02	<ul style="list-style-type: none"> <li>• of recess-mounted type, e.g. downlighters (<a href="#">F21S 8/10</a> takes precedence; {details of recessed bases <a href="#">F21V 21/04</a>})</li> </ul>
F21S 8/022	<ul style="list-style-type: none"> <li>• . {intended to be recessed in a floor or like ground surface, e.g. pavement or false floor}</li> </ul>
F21S 8/024	<ul style="list-style-type: none"> <li>• . {intended to be recessed in a wall or like vertical structure, e.g. building facade}</li> </ul>
F21S 8/026	<ul style="list-style-type: none"> <li>• . {intended to be recessed in a ceiling or like overhead structure, e.g. suspended ceiling}</li> </ul>
F21S 8/028	<ul style="list-style-type: none"> <li>• . {being retractable, i.e. having two fixed positions, one recessed, e.g. in a wall, floor or ceiling, and one extended when in use}</li> </ul>
F21S 8/03	<ul style="list-style-type: none"> <li>• {of surface-mounted type (<a href="#">F21S 8/02</a>, <a href="#">F21S 8/04</a> take precedence; details of wall or floor bases <a href="#">F21V 21/02</a>)}</li> </ul>
F21S 8/031	<ul style="list-style-type: none"> <li>• . {the device consisting essentially only of a light source holder with an exposed light source, e.g. a fluorescent tube}</li> </ul>
F21S 8/032	<ul style="list-style-type: none"> <li>• . {the surface being a floor or like ground surface, e.g. pavement}</li> </ul>
F21S 8/033	<ul style="list-style-type: none"> <li>• . {the surface being a wall or like vertical structure, e.g. building facade}</li> </ul>
F21S 8/035	<ul style="list-style-type: none"> <li>• . . {by means of plugging into a wall outlet, e.g. night light}</li> </ul>
F21S 8/036	<ul style="list-style-type: none"> <li>• . . {by means of a rigid support, e.g. bracket or arm}</li> </ul>
F21S 8/037	<ul style="list-style-type: none"> <li>• . . {for mounting in a corner, i.e. between adjacent walls or wall and ceiling}</li> </ul>
F21S 8/038	<ul style="list-style-type: none"> <li>• . {intended to be mounted on a light track (<a href="#">suspended from a light track F21S 8/066</a>; details of supporting elements displaceable along a guiding element <a href="#">F21V 21/34</a>)}</li> </ul>
F21S 8/04	<ul style="list-style-type: none"> <li>• intended only for mounting on a ceiling or the like overhead structures (<a href="#">F21S 8/02</a> takes precedence; {details of ceiling bases <a href="#">F21V 21/03</a>})</li> </ul>
F21S 8/043	<ul style="list-style-type: none"> <li>• . {mounted by means of a rigid support, e.g. bracket or arm}</li> </ul>
F21S 8/046	<ul style="list-style-type: none"> <li>• . {having multiple lighting devices, e.g. connected to a common ceiling base}</li> </ul>
F21S 8/06	<ul style="list-style-type: none"> <li>• . by suspension</li> </ul>
F21S 8/061	<ul style="list-style-type: none"> <li>• . . {with a non-rigid pendant, i.e. a cable, wire or chain}</li> </ul>
F21S 8/063	<ul style="list-style-type: none"> <li>• . . {with a rigid pendant, i.e. a pipe or rod}</li> </ul>
F21S 8/065	<ul style="list-style-type: none"> <li>• . . {multi-branched, e.g. a chandelier}</li> </ul>
F21S 8/066	<ul style="list-style-type: none"> <li>• . . {from a light track (<a href="#">details of supporting elements displaceable along a guiding element F21V 21/34</a>)}</li> </ul>
F21S 8/068	<ul style="list-style-type: none"> <li>• . . {from a stretched wire}</li> </ul>
F21S 8/08	<ul style="list-style-type: none"> <li>• with a standard {(<a href="#">F21S 6/00</a> takes precedence)}</li> </ul>
F21S 8/081	<ul style="list-style-type: none"> <li>• . {of low-built type, e.g. landscape light}</li> </ul>
F21S 8/083	<ul style="list-style-type: none"> <li>• . . {of bollard type, i.e. with lighting fixture integrated into the standard or mounted on top of it and having substantially the same diameter}</li> </ul>
F21S 8/085	<ul style="list-style-type: none"> <li>• . {of high-built type, e.g. street light}</li> </ul>

F21S 8/086 . . . {with lighting device attached sideways of the standard, e.g. for roads and highways}

F21S 8/088 . . . {with lighting device mounted on top of the standard, e.g. for pedestrian zones}

F21S 8/10 . specially adapted for vehicles

**WARNING**

This group is no longer used for the classification of new documents as from January 1st, 2012. The backlog of this group is being continuously reclassified to [F21S 48/00](#) and subgroups

F21S 8/12 . . providing single shaped beams or asymmetric beams, e.g. for penetrating fog or for preventing glare

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**F21S 9/00      Lighting devices with a built-in power supply; Systems employing lighting devices with a built-in power supply**

F21S 9/02 . the power supply being a battery or accumulator

F21S 9/022 . . {Emergency lighting devices}

F21S 9/024 . . . {using a supplementary light source for emergency lighting}

F21S 9/026 . . {rechargeable by using wind power, e.g. using wind turbines}

F21S 9/028 . . {rechargeable by using hydropower, e.g. using water powered turbines}

F21S 9/03 . . rechargeable by exposure to light

F21S 9/032 . . . {the solar unit being separate from the lighting unit}

F21S 9/035 . . . {the solar unit being integrated within the support for the lighting unit, e.g. within or on a pole}

F21S 9/037 . . . {the solar unit and the lighting unit being located within or on the same housing}

F21S 9/04 . the power supply being a generator

F21S 9/043 . . {driven by wind power, e.g. by wind turbines}

F21S 9/046 . . {driven by hydropower, e.g. by water powered turbines}

**F21S 10/00      Lighting devices or systems producing a varying lighting effect**

F21S 10/002 . {using liquids, e.g. water ([F21W 2121/02](#) takes precedence)}

F21S 10/005 . {using light guides (light guides specially adapted for lighting devices [G02B 6/0001](#))}

F21S 10/007 . {using rotating transparent or colored disks, e.g. gobo wheels}

F21S 10/02 . changing colors {([F21S 10/002](#) - [F21S 10/007](#), [F21S 10/04](#) take precedence)}

F21S 10/023 . . {by selectively switching fixed light sources}

F21S 10/026 . . {by movement of parts, e.g. by movement of reflectors or light sources ([F21S 10/007](#) takes precedence)}

F21S 10/04 . simulating flames

- F21S 10/043 . . {by selectively switching fixed light sources}
- F21S 10/046 . . {by movement of parts, e.g. by movement of reflectors or light sources}
- F21S 10/06 . flashing, e.g. with rotating reflector or light source {{signalling lighting devices mounted on vehicles [B60Q 1/26](#)}}
- F21S 10/063 . . {for providing a rotating light effect}
- F21S 10/066 . . . {by selectively switching fixed light sources}

### **Non-electric lighting**

- F21S 11/00**      **Non-electric lighting devices or systems using daylight** {{roofs with sky-light opening [E04D 13/03](#); sun blinds for windows with means for redirecting light onto ceiling of a room [E06B 9/00](#); hybrid lighting devices combining artificial and natural light [F21S 19/00](#); solar heat collectors [F24J 2/00](#); solar cells or solar cell modules [H01L 31/00](#)}}
- F21S 11/002 . {characterised by the means for collecting or concentrating the sunlight, e.g. parabolic reflectors or Fresnel lenses}
  - F21S 11/005 . . {with tracking means for following the position of the sun}
  - F21S 11/007 . {characterised by the means for transmitting light into the interior of a building}
- F21S 13/00**      **Non-electric lighting devices or systems employing a point-like light source (candle holders [F21V 35/00](#)); Non-electric lighting devices or systems employing a light source of unspecified shape**
- F21S 13/02 . Devices intended to be fixed, e.g. ceiling lamp, wall lamp
  - F21S 13/04 . . with a pendant
  - F21S 13/06 . . . multi-branched, e.g. chandelier
  - F21S 13/08 . . with suspension from a stretched wire
  - F21S 13/10 . . with a standard, e.g. street lamp
  - F21S 13/12 . Devices intended to be free-standing, e.g. table lamp, floor lamp
  - F21S 13/14 . Lighting systems
- F21S 15/00**      **Non-electric lighting devices or systems employing light sources not covered by main groups [F21S 11/00](#), [F21S 13/00](#) or [F21S 19/00](#)**
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- F21S 2017/00**      **Details solely applicable to the devices covered by groups [F21S 13/00](#) and [F21S 15/00](#)**
- F21S 2017/02 . Fastening and lifting of the lamp-glass
- F21S 19/00**      **Lighting devices or systems employing combinations of electric and non-electric light sources; Replacing or exchanging electric light sources with non-electric light sources or vice-versa**
- F21S 19/005 . {Combining sunlight and electric light sources for indoor illumination}
- F21S 48/00**      **{Lighting devices or systems specially adapted for vehicles (arrangements or adaptations for ships or waterborne vessels [B63B 45/00](#))}**
- F21S 48/10 . {Headlamps}
  - F21S 48/11 . . {characterised by the light source}

F21S 48/1104	. . .	{Attachment of light sources; Lamp holders; Terminals or connectors therefor ( <a href="#">F21S 48/1742</a> takes precedence)}
F21S 48/1109	. . . .	{Details of lamp holders, terminals or connectors (mounting of a ballast for a high intensity discharge lamp on the housing wall of a headlamp <a href="#">B60Q</a> )}
F21S 48/1113	. . . .	{Bayonet attachments}
F21S 48/1118	. . . .	{Wire spring attachments}
F21S 48/1122	. . . .	{Snap-fit attachments}
F21S 48/1127	. . .	{Type of emitted light}
F21S 48/1131	. . . .	{Colored light}
F21S 48/1136	. . . .	{Ultraviolet [UV] or infrared [IR] light}
F21S 48/114	. . . .	{Polarized light}
F21S 48/1145	. . .	{Type of light source}
F21S 48/115	. . . .	{Light emitting diodes (LEDs)}
F21S 48/1154	. . . . .	{the main emission direction of the LED being parallel to the optical axis of the headlamp}
F21S 48/1159	. . . . .	{the main emission direction of the LED being angled to the optical axis of the headlamp}
F21S 48/1163	. . . . .	{Surface emitters, e.g. OLEDs}
F21S 48/1168	. . . . .	{Incandescent light sources, e.g. filament or halogen lamps}
F21S 48/1172	. . . . .	{having two or more filaments}
F21S 48/1177	. . . . .	{characterised by the shape of the filament}
F21S 48/1181	. . . . .	{having a filament being arranged transversally to the optical axis of the headlamp}
F21S 48/1186	. . . . .	{High intensity discharge [HID] light source}
F21S 48/119	. . . . .	{Fluorescent, elongated light source}
F21S 48/1195	. . . . .	{Combination of light sources of different types or shapes}
F21S 48/12	. .	{characterised by refractors, transparent cover plates or filters}
F21S 48/1208	. . .	{Attachment of refractors, transparent cover plates or filters ( <a href="#">F21S 48/1721</a> takes precedence)}
F21S 48/1216	. . . .	{specially adapted to projection lenses}
F21S 48/1225	. . .	{Type of refractor, transparent cover plates or filters}
F21S 48/1233	. . . .	{Cover glass}
F21S 48/1241	. . . .	{Light guides ( <a href="#">light guides per se G02B 6/0001</a> )}
F21S 48/125	. . . .	{Projection lenses}
F21S 48/1258	. . . . .	{Lenses with a circular or truncated circular outline, when seen from the front}
F21S 48/1266	. . . . .	{Elongated lenses}
F21S 48/1275	. . . . .	{Composite lenses; Lenses with a patch like shape}
F21S 48/1283	. . . . .	{Lens surfaces, e.g. coatings, surface structures}
F21S 48/1291	. . . . .	{Thick lenses for providing the final automotive light distribution}
F21S 48/13	. .	{characterised by reflectors}

F21S 48/1305	. . . {Attachment of reflectors ( <a href="#">F21S 48/1757</a> takes precedence)}
F21S 48/1311	. . . . {specially adapted to extension reflectors}
F21S 48/1317	. . . {Optical design}
F21S 48/1323	. . . . {the reflector being a surface of revolution or a planar surface, e.g. truncated}
F21S 48/1329	. . . . {the reflector using total internal reflection}
F21S 48/1335	. . . . {the reflector having two perpendicular cross sections having regular geometrical curves of a distinct nature}
F21S 48/1341	. . . . {the reflector consisting of complete annular areas}
F21S 48/1347	. . . . . {with continuity at the junction between adjacent areas}
F21S 48/1352	. . . . . {with discontinuity at the junction between adjacent areas}
F21S 48/1358	. . . . {the reflector consisting of patch like sectors}
F21S 48/1364	. . . . . {with continuity at the junction between adjacent areas}
F21S 48/137	. . . . . {with discontinuity at the junction between adjacent areas}
F21S 48/1376	. . . . {the reflector having a structured surface, e.g. with facets or corrugations}
F21S 48/1382	. . . . {the reflector having surface portions added to its general concavity}
F21S 48/1388	. . . . {Combination of two or more reflectors}
F21S 48/1394	. . . {Material, surface treatment or coating of the reflector}
F21S 48/14	. . {characterised by screens, non-reflecting members, light-shielding members or fixed shades}
F21S 48/142	. . . {Attachment thereof ( <a href="#">F21S 48/1768</a> takes precedence)}
F21S 48/145	. . . {Details of the shape of screens, non-reflecting members, light-shielding members or fixed shades}
F21S 48/147	. . . . {Hoods or cap-shaped}
F21S 48/15	. . {characterised by aesthetical components or components other than light sources, reflectors, refractors or screens, e.g. partition walls, covers, decorative trims}
F21S 48/155	. . . {Attachment thereof}
F21S 48/17	. . {characterised by a variable light distribution}
F21S 48/1705	. . . {Light distributions being switched}
F21S 48/171	. . . . {between right and left traffic side}
F21S 48/1715	. . . {by acting on refractors, filters or transparent cover plates}
F21S 48/1721	. . . . {by moving refractors, filters or transparent cover plates}
F21S 48/1726	. . . . {by changing the light transmissivity of the refractors, filters or transparent cover plates}
F21S 48/1731	. . . . . {by electro-optic means, e.g. liquid crystal or electrochromic devices}
F21S 48/1736	. . . {by acting on light sources}
F21S 48/1742	. . . . {by moving light sources}
F21S 48/1747	. . . . {by switching light sources ( <a href="#">F21S 48/1168</a> takes precedence)}
F21S 48/1752	. . . {by acting on reflectors}

F21S 48/1757	. . . . {by moving reflectors}
F21S 48/1763	. . . {by acting on screens}
F21S 48/1768	. . . . {by moving screens}
F21S 48/1773	. . . . . {Blades, i.e. screens moving in a vertical plane}
F21S 48/1778	. . . . . {Flaps, i.e. screens pivoting around one of its edges}
F21S 48/1784	. . . . . {Shields, i.e. screens not creating an image meant to be projected, e.g. shielding a part of the light source or a part of an additional optical element}
F21S 48/1789	. . . . . {Rotating screens, i.e. screens rotating around a vertical axis}
F21S 48/1794	. . . . . {Shafts, i.e. screens being a rotating shaft}
F21S 48/20	. {Signal lamps, e.g. brake lamps or turn signal lamps}
F21S 48/21	. . {characterised by the light source}
F21S 48/211	. . . {Attachment of light sources; Lamp holders, terminals or connectors therefor}
F21S 48/212	. . . . {Details of lamp holders, terminals or connectors}
F21S 48/214	. . . {Type of the light source}
F21S 48/215	. . . . {Light emitting diodes (LEDs)}
F21S 48/217	. . . . . {Surface emitters, e.g. OLEDs}
F21S 48/218	. . . . {Strips of light sources}
F21S 48/22	. . {characterised by refractors, filters or transparent cover plates}
F21S 48/2206	. . . {Attachment thereof}
F21S 48/2212	. . . {Type of refractors, filters or transparent cover plates}
F21S 48/2218	. . . . {Filters}
F21S 48/2225	. . . . {Light guides (light guides per se <a href="#">G02B 6/0001</a> )}
F21S 48/2231	. . . . . {characterised by the shape of the light guide}
F21S 48/2237	. . . . . . {Bar or rod-like light guides}
F21S 48/2243	. . . . . . {Plate-like light guides}
F21S 48/225	. . . . . . {Light guides of complex shape or comprising a portion having a complex shape}

**NOTE**

additional classification should be given in the groups characterising the shape of the light guides

F21S 48/2256	. . . . . {characterised by the emission area}
F21S 48/2262	. . . . . . {the light guide emitting on its extremity}
F21S 48/2268	. . . . . . {the light guide emitting on its surface}
F21S 48/2275	. . . . . {characterised by the number of light sources coupled into the light guide}
F21S 48/2281	. . . . . . {Multiple light sources}
F21S 48/2287	. . . . . . {Single light source}
F21S 48/2293	. . . . . {the light guide being used to transport light from a remote light source, e.g. from light generators}



F21S 48/23	. . {characterised by reflectors}
F21S 48/232	. . . {Attachment thereof}
F21S 48/234	. . . {Optical design thereof}
F21S 48/236	. . . . {using total internal reflection}
F21S 48/238	. . . {Materials thereof, e.g. coatings}
F21S 48/24	. . {characterised by the combination of reflectors and refractors}
F21S 48/25	. . {characterised by aesthetical components or components other than light sources, reflectors, refractors, e.g. partition walls, covers or decorative trims}
F21S 48/255	. . . {Attachment thereof}
F21S 48/30	. {Arrangements dedicated to purposes other than light emission or distribution}
F21S 48/31	. . {Protection of the lighting devices}
F21S 48/32	. . {Cooling of the lighting devices}
F21S 48/321	. . . {Attachment of the means for cooling; Cooling arrangements}
F21S 48/323	. . . {Forced cooling}
F21S 48/325	. . . . {using air or other gas}
F21S 48/326	. . . . {using liquid}
F21S 48/328	. . . {Passive cooling}
F21S 48/33	. . {Waterproofing}
F21S 48/332	. . . {Provisions for ventilation or drainage}
F21S 48/335	. . . . {specifically adapted for headlamps}
F21S 48/337	. . . . {specifically adapted for signal lamps}
F21S 48/34	. . {Heating of the lighting devices, e.g. for de-fogging}