CPC COOPERATIVE PATENT CLASSIFICATION

F21S NON-PORTABLE LIGHTING DEVICES OR SYSTEMS THEREOF (burners F23D)

NOTE

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 to F21S 15/00 only if a special adaptation related to the use of a non-electric light source is of interest.

Guidance heading: **Electric lighting**

F21S 2/00 **Systems of lighting devices, not provided for in main groups F21S 4/00 to 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 4/001 . { using a string of light sources, i.e. lighting devices or systems where the light sources are supported by loose electric cables, e.g. Christmas tree lights }

F21S 4/002 . . { the strings forming a grid, net or web structure }

F21S 4/003 . { using a strip of light sources, i.e. lighting devices or systems where the light sources are supported on a linear support }

F21S 4/005 . . { the lighting device being flexible or deformable, e.g. into a curved shape }

F21S 4/006 . . . { the lighting device being a LED tape }

F21S 4/007 . . . { the lighting device being a LED rope light }

F21S 4/008 . . { the lighting device being rigid or comprising an elongated rigid housing, 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 }

F21S 8/00 **Lighting devices intended for fixed installation** (F21S 9/00 , F21S 10/00 take precedence; using a string or strip of light sources F21S 4/00)

F21S 8/003 . { Searchlights, i.e. outdoor lighting device producing powerful beam of parallel rays, e.g. for military or attraction purposes (searchlights mounted on a vehicle B60Q 1/24) }

F21S 8/006 . { Solar simulators, e.g. for testing photovoltaic panels }

F21S 8/02 . of recess-mounted type, e.g. downlighters (F21S 8/10 takes precedence; { details of recessed bases F21V 21/04 })

F21S 8/022 . . { intended to be recessed in a floor or like ground surface, e.g. pavement or false floor }

F21S 8/024 . . { intended to be recessed in a wall or like vertical structure, e.g. building facade }

F21S 8/026 . . { intended to be recessed in a ceiling or like overhead structure, e.g. suspended ceiling }

F21S 8/028 . . { being retractable, i.e. having two fixed positions, one recessed, e.g. in a wall, floor or ceiling, and one extended when in use }

F21S 8/03 . { of surface-mounted type (F21S 8/02 , F21S 8/04 take precedence; details of wall or floor bases F21V 21/02) }

WARNING

Group F21S 8/03 does not correspond to former or future IPC groups. Correspondence CPC : IPC for this group is as following: - F21S 8/03 : F21S 8/00

F21S 8/031 . . { the device consisting essentially only of a light source holder with an exposed light source, e.g. a fluorescent tube }

F21S 8/032 . . { the surface being a floor or like ground surface, e.g. pavement }

F21S 8/033 . . { the surface being a wall or like vertical structure, e.g. building facade }

F21S 8/035 . . . { by means of plugging into a wall outlet, e.g. night light }

F21S 8/036 . . . { by means of a rigid support, e.g. bracket or arm }

F21S 8/037 . . . { for mounting in a corner, i.e. between adjacent walls or wall and ceiling }

F21S 8/038 . . { intended to be mounted on a light track (suspended from a light track F21S 8/066 ; details of supporting elements displaceable along a guiding element F21V 21/34) }

F21S 8/04 . intended only for mounting on a ceiling or the like overhead structures (F21S 8/02 takes precedence; { details of ceiling bases F21V 21/03 })

F21S 8/043 . . { mounted by means of a rigid support, e.g. bracket or arm }

F21S 8/046 . . { having multiple lighting devices, e.g. connected to a common ceiling base }

F21S 8/06 . . by suspension

F21S 8/061 . . . { with a non-rigid pendant, i.e. a cable, wire or chain }

F21S 8/063 . . . { with a rigid pendant, i.e. a pipe or rod }

F21S 8/065 . . . { multi-branched, e.g. a chandelier }

F21S 8/066 . . . { from a light track (details of supporting elements displaceable along a guiding element F21V 21/34) }

F21S 8/068 . . . { from a stretched wire }

F21S 8/08 . with a standard { (F21S 6/00 takes precedence) }

F21S 8/081 . . { of low-built type, e.g. landscape light }

F21S 8/083 . . . { of bollard type, i.e. with lighting fixture integrated into the standard or mounted on top of it and having substantially the same diameter }

F21S 8/085 . . { of high-built type, e.g. street light }

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

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 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 (F21S 8/00P7 takes precedence) }

F21S 10/005 . { using light guides (light guides specially adpated 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 to 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 }

Guidance heading: **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**

Guidance heading:

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) }

WARNING

Groups F21S 48/00 to F21S 48/34 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - F21S 48/00 - F21S 48/34 : F21S 8/10

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 (F21S 48/1742 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 B60Q) }

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 (F21S 48/1721 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 (light guides per se G02B 6/0001) }
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 (F21S 48/1757 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 (F21S 48/1768 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 (F21S 48/1168 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 G02B 6/0001) }
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 }