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(54) **An integrated component for controlling lighting systems, for example, for fitted furniture or fittings**

(57) The component (1) is intended for use, preferably, for mounting on fitted furniture or fittings such as, for example, bathroom mirrors or the like. In the preferred embodiment, the component (1) includes:

- a power supply such as a transformer (6) for supplying light sources such as halogen or fluorescent lamps,
- an electric socket (2), preferably a safety socket, preferably activated under the control of a switch (4), and
- at least one presence detector (8) which, when a person approaches the component (1), can switch on or arrange for switching-on one or more of the electrical devices associated therewith.

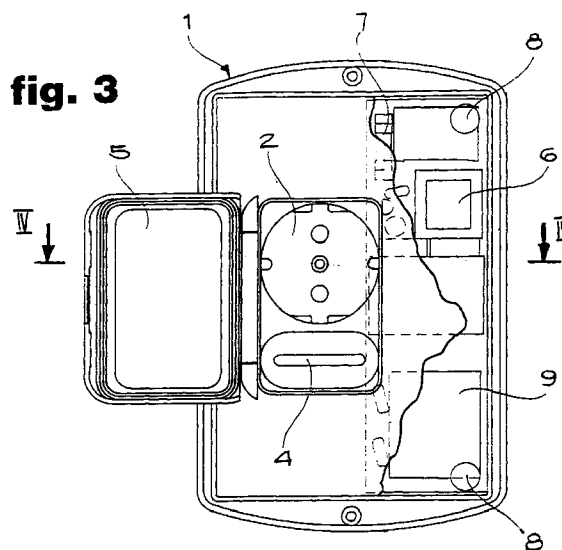


fig. 3

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Description

The present invention relates to components for controlling electrical systems and has been developed with particular attention to the control of lighting systems, particularly for fitted furniture and fittings such as bathroom mirrors, kitchen units and similar products.

With reference to fitted mirrors (but this should not be interpreted as limiting of the scope of the invention), it has been established practice for some time to associate with the actual mirror a shelf, usually arranged horizontally in the region of the upper edge of the mirror. One or more lighting members (such as halogen lamps or fluorescent lamps) and a control component, usually configured as a kind of overhead fixture housing an electric socket, possibly concealed by a drop-down door, are mounted, facing downwards, on the lower face of the shelf.

The possibility of arranging the transformer for supplying the lamps (whether they are halogen or fluorescent lamps) on the same shelf which also houses the overhead fixture is also known.

It is also known to entrust the function of switching on one or more lamps (and possibly also an electric socket) to a presence sensor, for example, an infra-red sensor (of the type currently used in anti-theft systems). This enables one or more of the electrical members of a certain system to be switched on or arranged for switching on only when the sensor in question detects the presence of a person in the vicinity.

The present invention, which has the characteristics recited in the following claims, is based on the recognition of the unexpected synergic effect resulting from the integration of the above-mentioned functions to a greater or lesser extent in a single integrated component which advantageously can be configured in the form of a kind of overhead fixture which can be mounted recessed or partially recessed in a shelf or similar portion of an item of furniture or a fitting.

The invention will now be described, purely by way of non-limiting example, with reference to the appended drawings, in which:

Figure 1 is a perspective view of an integrated component according to the invention, shown in a typical mounting position on a fitting such as a mirror, Figure 2 shows schematically the configuration of a system comprising a component according to the invention,

Figure 3 is an exemplary view of a component according to the invention, viewed from below on the line III of Figure 1, on an enlarged scale, and with some parts cut away for clarity, and

Figure 4 is a view taken on the line IV-IV of Figure 3.

In Figure 1, an integrated component according to the invention is generally indicated 1 and is shown in a possible mounting position on a fitting.

In the specific embodiment, the fitting in question is constituted simply by a mirror S having, associated with its upper edge, a horizontal shelf D on which, in addition to the component 1, one or more lighting elements such as halogen lamps L are mounted.

The component 1 as a whole is configured as a kind of overhead fixture recessed or partially recessed in the lower face of the shelf D.

In the currently-preferred embodiment of the invention, the component 1 is intended to combine three basic functions, that is:

- the supply of the lamps L (whether they are halogen or fluorescent lamps) by means of a transformer housed inside the component 1,
- the provision, in the body of the device 1, of an electric socket, particularly a watertight safety socket 2, for example, for supplying electrical equipment such as razors, depilatory devices, etc., and
- the provision of one or more presence sensors 3 which switch on the lamps L and/or the socket 2 or arrange them for switching on.

With reference to the switching-on and/or arranging for switching-on, it should be borne in mind that it is possible to adopt various alternative solutions whilst the basic approach remains the same, for example:

- switching-on of the lamps L by the presence sensors 3 only when the presence of a person is detected in the vicinity of the component 1 (and of the furniture or fitting with which it is associated), the socket 2 being arranged for operating as a result of the operation by the user of a switch 4 disposed in the vicinity of the socket 2, usually in a compartment of the body of the component 1 closed by a hinged, drop-down door 5,
- reversal of the functions just described with the lamps L switched on by means of the switch 4 and the activation of the socket 2 controlled by the presence detector or detectors 3, or
- operation of both the lamps L and the socket 2 controlled by the detector or detectors, for example, with the possibility of selectively switching off the socket 2 by operation of the switch 4.

Clearly, some of the modes of operation just described or variants which can be inferred directly therefrom may not be relevant or useful with reference to the specific embodiment described herein (a fitted mirror) in which the main objective to be pursued is automatic lighting of the lamps L when a person approaches the mirror or moves his hands towards the lamps, so as to avoid the need to touch a switch with hands which may be wet or damp. These modes of operation may, however, be quite relevant and permissible in other situations of use. In any case, the specific criteria for the switching-on of the various electrical

members just described does not itself constitute the subject of the present invention.

The partially cut-away view of Figure 3 shows how the body of the component 1 can house, for example, a transformer 6 for supplying the lamps L (which is achieved by means of electrical connecting wires shown schematically solely in Figure 2), possibly with the provision, for example, of a protecting fuse 7.

An infra-red detector (or two infra-red detectors in the embodiment shown), indicated 8, can detect the presence of a person in the vicinity of the component 1 so as to control the above-mentioned switching on/off functions by means of respective actuation circuits (of widely known type since they are in current use, for example, in the anti-intrusion and anti-theft field). In particular, Figure 3 shows how it is possible, if necessary, to provide the two detectors 8 in opposite corners of the body of the component 1 to ensure better coverage of the region situated in the vicinity of the device 1.

Naturally, the principle of the invention remaining the same, the details of construction and forms of embodiment may be varied widely with respect to those described and illustrated, without thereby departing from the scope of the present invention.

Claims

1. An integrated component (1) for controlling lighting systems, particularly in fitted furniture and fittings, characterized in that it has at least two of the following characteristics in combination:
 - the component has associated presence detector means (8) which can detect the presence of people in the vicinity of the component (1),
 - the component (1) includes an electric socket (2), preferably a safety socket, and
 - the component (1) includes a power supply (6, 7) for supplying at least one lamp (L).
2. An integrated component according to Claim 1, characterized in that at least one of the socket (2) and the supply function (6, 7) is rendered operative by the presence detector means (8).
3. A component according to Claim 1 or Claim 2, characterized in that it comprises at least one switch (4) which can act on one of the electric socket (2) and the supply function (6, 7).
4. A component according to any one of the preceding claims, characterized in that the electric socket (2) is housed in a housing in the body of the component (1) with an associated closure door (5).
5. A component according to Claim 3 and Claim 4, characterized in that the switch (4) is also housed in the housing.
6. A component according to any one of the preceding claims, characterized in that it is configured for recessed or partially recessed mounting in a respective portion of an item of furniture or fitting (D).
7. A component according to Claim 6, mounted so as to be recessed or partially recessed in a fitting such as a mirror (S).

fig. 1

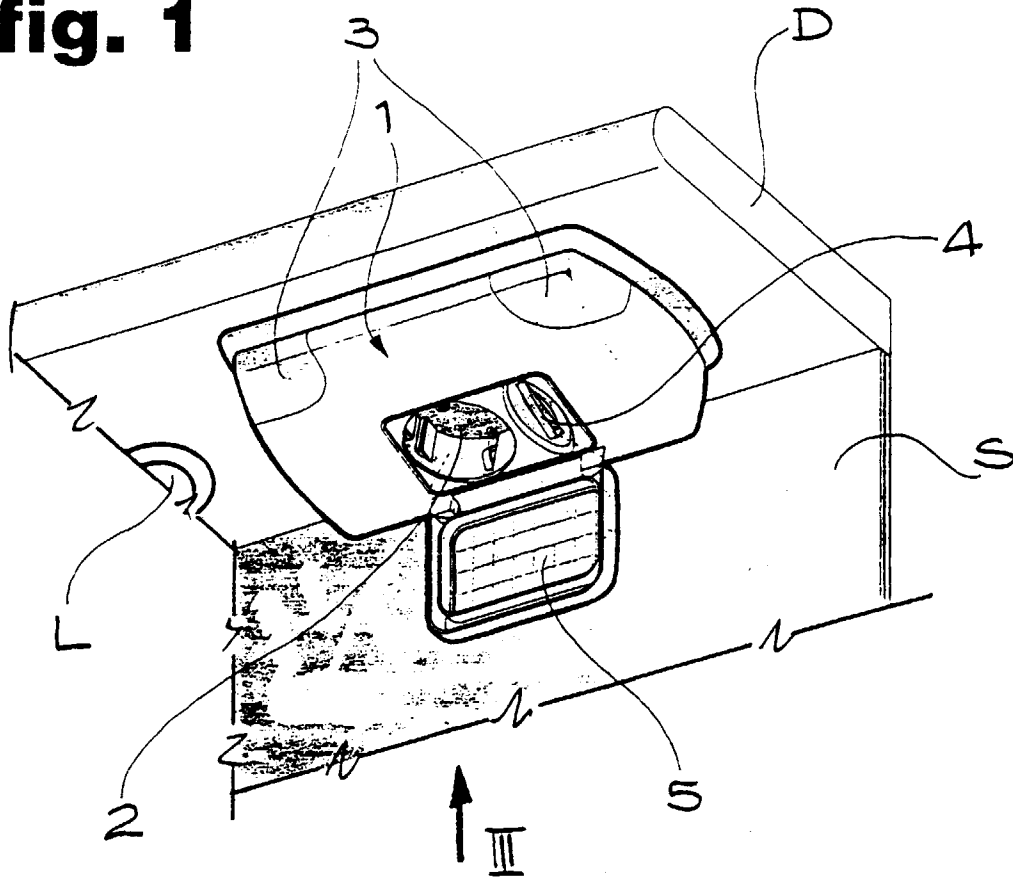


fig. 2

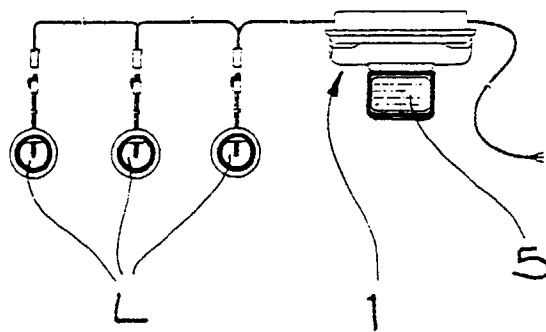


fig. 3

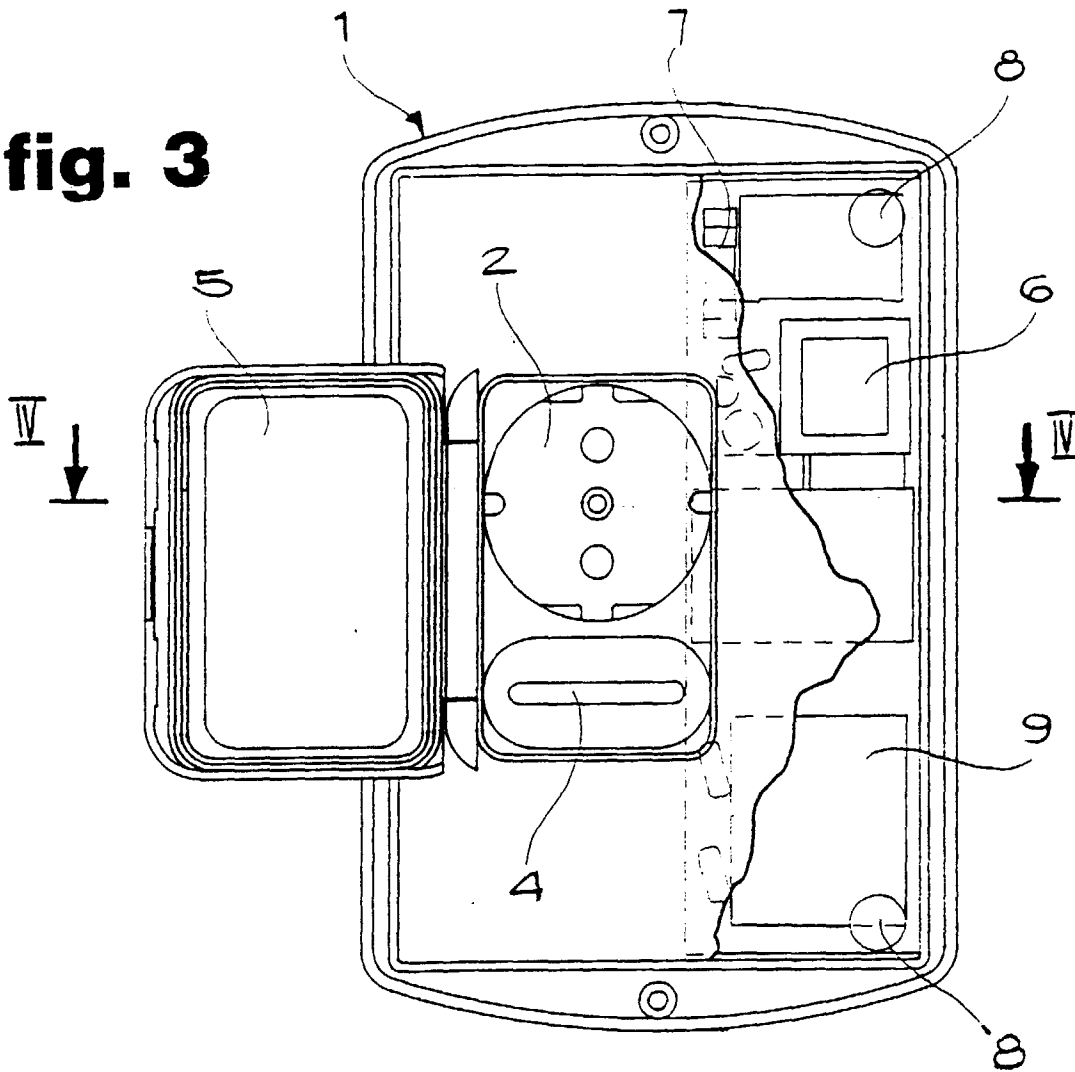


fig. 4

