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(71) Applicant(s):
Scolmore International Limited
(Incorporated in the United Kingdom)
Scolmore Park, Landsberg,
Lichfield Road Industrial Estate, TAMWORTH, Staffs,
B79 7XB, United Kingdom

(72) Inventor(s):
Phillip Andrew Gooch
Barry Boothman

(74) Agent and/or Address for Service:
E.A.Fenwick & Co Limited
5 Stonehouse Road, SUTTON COLDFIELD,
West Midlands, B73 6LR, United Kingdom

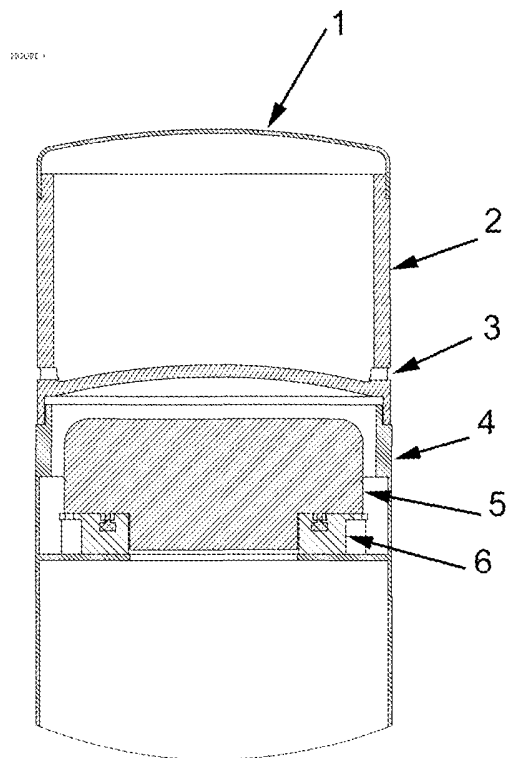
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GB 2388456 A **US 5105347 A**

(58) Field of Search:
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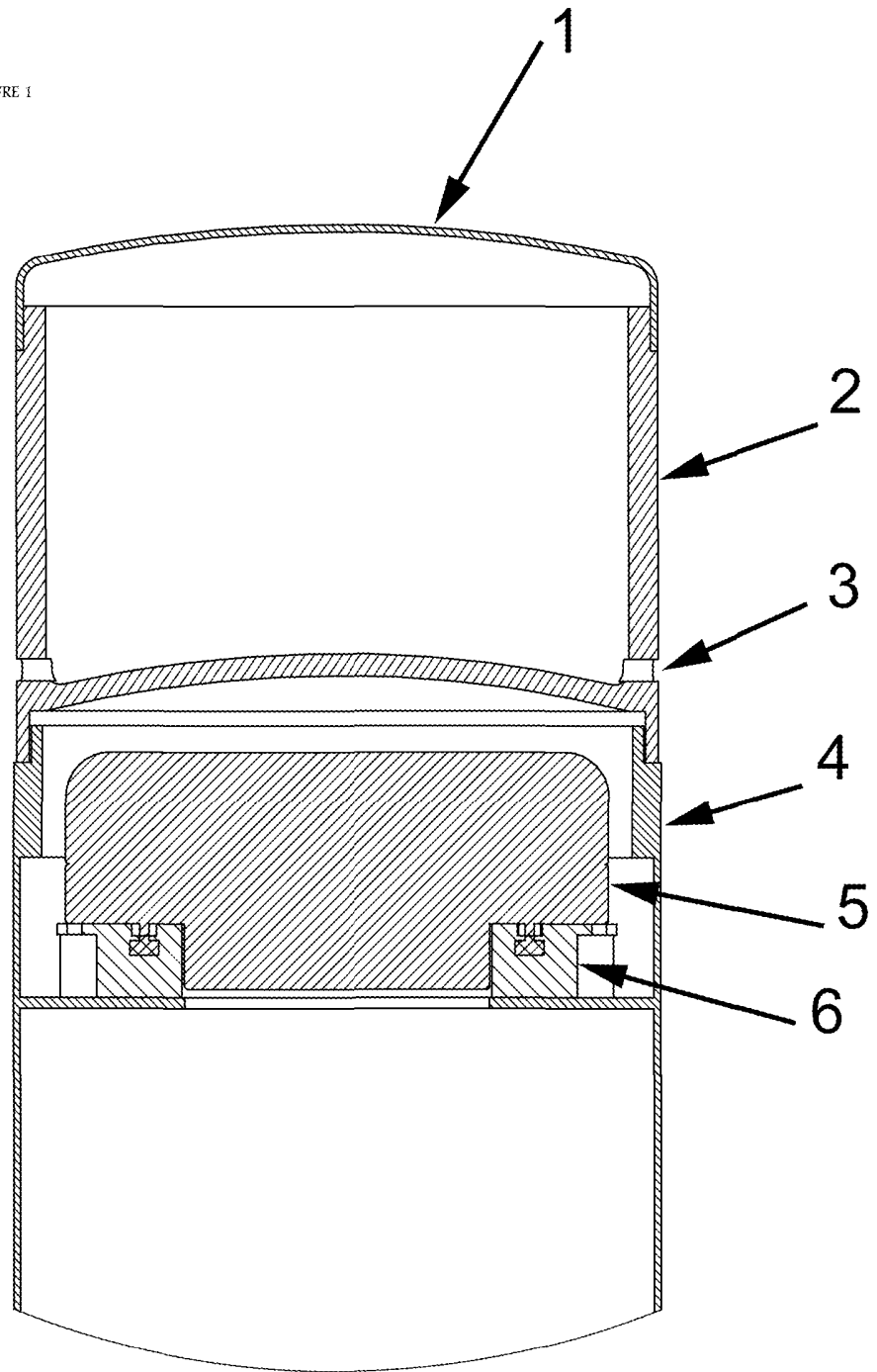
(54) Title of the Invention: **Outdoor light fitting**
Abstract Title: **Outdoor light fitting**

(57) A light fitting, e.g. a bollard for outdoor use, comprises a transparent or translucent upper diffuser portion 2 attached to a lower portion 4 containing a light fitting 6 for receiving a lamp 5 in which the upper diffuser portion 2 is provided with at least one vent means 3. The upper diffusion portion 2 is formed from an enclosure so that in use, water cannot pass from the upper diffuser portion 2 into the lower portion 4.



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FIGURE 1



OUTDOOR LIGHT FITTING

This invention relates to a new fitting for use with electrical fittings, particularly for use with lamp holders where condensation would be a potential problem e.g. outdoors or in a very humid environment.

Bollards designed for outdoor use typically consist of a lower section e.g. of metal and a transparent upper diffuser section e.g. of plastic. The light fitting and electrical wiring are usually in the lower section with the lamp extending into the upper diffuser section to emit light to the exterior. A problem with such a device is that condensation can build up very quickly in the diffuser, followed by discolouration from mould, algae etc. This is unsightly and can cause damage to the light fitting. Attempts have been made to reduce this condensation e.g. by using desiccant and/or providing air circulation means but these have their limitations. Cleaning of such devices is usually not very easy and requires the entire bollard to be dismantled which can also be a safety issue requiring the electrical supply to be temporarily cut off.

An object of the present invention is to provide an improved light fitting in which condensation is reduced, but if it does occur the diffuser part of the light fitting can be removed and cleaned easily. Another object of the present invention is to provide a product where access to the lamp and light fitting is a simple process involving only unscrewing the diffuser from the lower portion e.g. the bollard body. Although the description is directed towards a bollard intended to be fixed in a vertical position in the ground, it could be also be used as a wall-mounted light fitting extending in a generally horizontal direction or a wall mounted up/down light where there is a diffuser at the top and at the bottom.

According to one aspect of the present invention there is provided a light fitting comprising a transparent or translucent upper diffuser portion attached to a lower portion containing a light fitting for receiving a lamp **characterised in that** the upper diffuser portion is provided with at least one vent means and is completely separated from the lower portion so that in use, water cannot pass from the upper diffuser portion into the lower portion

The upper part of the fitting, the diffuser, is preferably easily removable from and replaceable upon the lower portion e.g. by means of complementary screw threads or by means of a force fit. This allows the upper part to be ventilated e.g. by means of at least one vent, whilst maintaining the water tightness of the lamp chamber (in the lower part). This ventilation allows air to circulate and prevent the build up of condensation in the diffuser. The upper surface of the separating wall between the diffuser and the lower part is preferably shaped (e.g. curved and/or concave) so that if any water did enter through the vent(s), it would be encouraged to drain out of them rather than collect in the diffuser. Preferably the diffuser is provided with means to allow easy access for cleaning e.g. a screw-on lid. In its simplest form the lower part is an open top cylindrical and the diffuser comprises a single walled cylindrical plastic cylinder with an open top provided with a screw-on lid, a concave base, vent slot(s) near the base, complementary screw threads adjacent the base and at or near the top of the lower part to allow easy attachment and removal. The lid is preferably of metal e.g. stainless steel, but may be of plastic or other rigid material. The diffuser must allow light through, i.e. be transparent or translucent and therefore is preferably of plastic but may be of glass. Each vent may be of any shape but is conveniently in the form of a slot. The lower section is usually opaque e.g. of metal or other rigid material. Within the lower section is a lamp holder which is conveniently provided with attachment means within the lower section.

It will be appreciated that certain features of the invention which are, for clarity, described in the context of separate embodiments, may also be provided in combination in a single embodiment. Conversely, various features of the invention, which are for brevity described in the context of a single embodiment, may also be provided separately or in any suitable combination.

An embodiment of the present invention will now be described with reference to the accompanying drawing in which:

Figure 1 is a sectional view of an outdoor lamp fitting, a bollard, according to the present invention.

Referring now to Figure 1, the bollard consists of a stainless steel cap 1 screwed on to a transparent plastic diffuser 2 by means of complementary screw threads on the cap 1 and diffuser 2. The diffuser 2 has two slots 3 near the base which is concave and is provided with screw threaded portion attached to complementary screw threaded portion at the top of the lower section, the bollard body 4. The bollard body 4 is an open stainless steel cylinder. The diffuser 2 is simply screwed onto a threaded section at the top of the bollard body 4. For this product, no additional seal is required because water will not run up-hill through the thread. However, in other applications such as a horizontal light fitting or a wall mounted up/down light, a seal may be required to prevent water ingress. The seal would sit around the base of the thread, between the body and the diffuser.

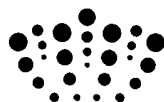
The bollard body 4 has secured within it a lamp holder 6 into which is fitted a lamp 5 which is usually a low energy lamp.

In use, the vents 3 allow air circulation and thus condensation is reduced. If there is any condensation then the concave nature of the base of the diffuser 2 directs the water out of one or both of the vents. If any water enters one of the vents this concave base again tends to direct it back out of the diffuser. Because the diffuser is completely separate from the lower portion holding the lamp fitting there is no danger of water from the diffuser getting to the lamp. Should the diffuser need cleaning this is simply done with out disturbing the lamp fitting by unscrewing the lid 1, cleaning with a cloth, then replacing the lid 1.

CLAIMS:

1. A light fitting comprises a transparent or translucent upper diffuser portion attached to a lower portion containing a light fitting for receiving a lamp in which the upper diffuser portion is provided with at least one vent means and is completely separated from the lower portion so that in use, water cannot pass from the upper diffuser portion into the lower portion.
2. A light fitting according to claim 1 in which the upper diffuser portion is easily removable from the lower portion.
3. A light fitting according to claim 2 in which the upper diffuser portion is easily removable from the lower portion by means of complementary screw threads.
4. A light fitting according to claim 2 in which the upper diffuser portion is easily removable from the lower portion by means of a force fit.
5. A light fitting according to any preceding claim in which the upper diffuser portion is completely separated from the lower portion by a separating wall having an upper surface which is shaped so that any water in the upper diffuser portion would be encouraged to drain out of the vent means.
6. A light fitting according to any preceding claim in which the upper diffuser portion is provided with means to allow easy access.
7. A light fitting according to claim 6 in which the upper diffuser portion is provided with a screw-on lid.
8. A light fitting according to any preceding claim in which the lower diffuser portion is provided with means to allow easy access.
9. A light fitting according to claim 8 in which the means to allow easy access comprises complementary screw threads on the lower portion and the upper diffuser portion.
10. A light fitting according to any preceding claim in which the or each vent means comprises a slot.
11. A light fitting according to any preceding claim in which the upper diffuser portion is provided with a plurality of vent means.

12. A light fitting according to claim 11 in which the vent means are at opposite sides of the upper diffuser portion.
13. A light fitting according to any preceding claim in which the vent means is or are positioned at or near the bottom of the upper diffuser portion.
14. A light fitting according to any preceding claim in which a water-tight seal is provided between the upper diffuser portion and the lower portion.
15. A light fitting according to claim 1 and substantially as herein described with reference to Figure 1.
16. A light fitting according to any preceding claim designed to be fixed in a substantially vertical position.



Application No: GB1018454.7

Examiner: Mr Joseph Mitchell

Claims searched: 1-16

Date of search: 28 January 2011

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-4 & 6-16	GB 2388456 A (SIGNATURE LTD) See figure 4 in particular.
A	-	US 5105347 A (RUUD)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X:

Worldwide search of patent documents classified in the following areas of the IPC

E01F; F21S; F21V; F21W

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC & TXTEN

International Classification:

Subclass	Subgroup	Valid From
F21V	0031/03	01/01/2006
F21W	0131/10	01/01/2006