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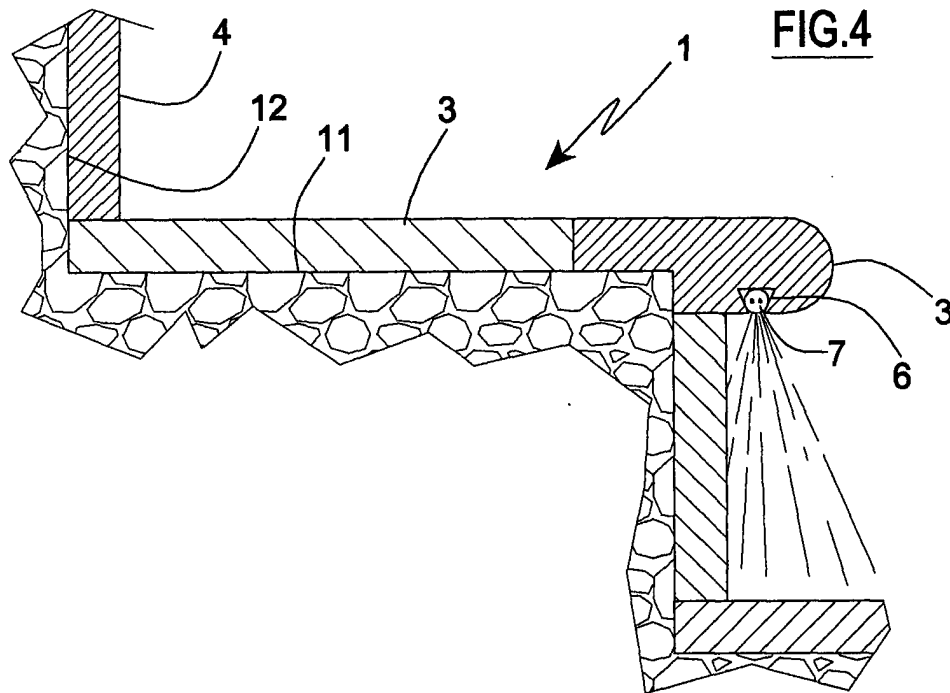
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(54) **Lighting system for complementary building elements**

(57) A lighting system for complementary building elements such as steps, skirting boards, handrails, cornices, endpieces and corners, comprising a seat (6) provided in the visible part of said elements,

with said seat (6) there being associated a light source (7) powered by suitable means.



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Description

[0001] The present patent relates in a general sense to the lighting of complementary building elements, and in particular complementary elements constructed of ceramic material such as steps, skirting boards, hand-

[0002] More particularly, the present invention relates to a system for lighting the steps of stairways at night and during darkness situations in general.

[0003] This problem is generally solved by lamps of low light intensity and low power consumption, generally associated with automatic switching systems which trigger their operation in darkness situations.

[0004] The purpose of said lamps is to illuminate the step treads in order to highlight their presence for safety reasons.

[0005] They are generally fitted to small lampholders fixed to the wall of the stairway, at the side of each step.

[0006] The known art therefore presents considerable deficiencies, deriving from the need to fix a plurality of light sources to the wall at the side of the stairway, and the fact that each of said elements is independent of the others and requires separate maintenance.

[0007] Low intensity light sources of low power consumption are also known, consisting of a flexible sheath of a few millimetres in diameter, which are usually used to display corners and other projections in the dark, particularly on boats.

[0008] These light sources are the subject of US 5485355, US 5869930 and US 6074071, to which reference should be made for a more complete understanding.

[0009] They are marketed by the company ELAM-ELECTROLUMINESCENT INDUSTRIES in different versions, with a power proportional to their length.

[0010] The object of the invention is to provide a simple and economical solution to the aforesaid problem, and is attained according to the invention by a lighting system having the characteristics defined in the claims.

[0011] Although in the present description specific reference will be made to steps of a stairway, the description is to be understood as also relating to complementary building elements such as skirting boards, hand-rails, cornices, endpieces and corners having a visible portion.

[0012] With specific reference to steps, the tread is generally covered with a slab terminating at the front with a profiled edge known as a tread nosing.

[0013] In steps covered with machinable materials such as a marble or wooden slab, the tread nosing is formed in one piece with the covering.

[0014] Elements known as "tread nosings" are therefore now marketed, these being economically and easily formed by extrusion, to be associated with the tile and/or the underlying step.

[0015] The problem of fixing the tread nosing to the tile or to the step will not be considered herein, as this

problem has not only been successfully solved by the known art but is substantially extraneous to the invention. Reference will here be made to a generic tread nosing, either as an element separate from the covering slab of the step tread, or as an element integral with said slab.

[0016] According to the invention, said tread nosing comprises, in the front part projecting from the step riser, a lower seat with which a light source of the aforescribed type is associated.

[0017] Said seat is preferable a lower slot of dovetail shape such as to present a cross-section which tapers towards the open side of the slot. According to the invention, said light source is simply inserted into said slot and retained therein by the tapered walls of the slot, without the need for other retention means.

[0018] Said light source can be connected to the elements of the adjacent steps. The dovetail shape, or downwardly open tapered cross-section, of the slot enables the light beam to be directed to concentrate it on the tread of the underlying steps.

[0019] The characteristics and merits of the invention will be apparent from the ensuing description illustrated by the figures of the accompanying drawings, in which:

Figure 1 is a perspective view of a tread nosing;
Figure 2 is a section therethrough;
Figure 3 shows the invention applied to a step;
Figure 4 is a perspective view of the tread nosing integral with the slab covering the step tread;
Figure 7 shows the electrical schematic of the invention, with connection in parallel;
Figure 8 shows the latter with connection in series.

[0020] Said figures show a stairway 1 the steps of which comprise the tread 11 and riser 12 and are faced with a first series of tiles 2 covering the tread, the tread nosing 3 protecting the front edge of the step, and a second, series of tiles 4 covering the riser.

[0021] The first series of tiles 2 can be replaced by a single slab 5 which in this case will comprise both the riser covering and the tread nosing 51.

[0022] The tread nosing 3, 51 comprises a dovetail cross-sectioned slot 6 positioned adjacent to its front projecting edge, preferably in a flat part of the tread nosing surface and perpendicular to the plane of the tread 11. The slot is preferably of full length, i.e. it opens freely at the two opposing ends of the tread nosing.

[0023] The slot 6 is arranged to receive a light source 7 in the form of wire or tape terminating with two terminals 71, 72 for connecting it to the electricity mains.

[0024] In the example shown in Figure 7 the light sources 7 are connected in parallel, with the two terminals 71 and 72 connected at one end to the two mains conductors and connected at the opposite end together.

[0025] In the example shown in Figure 8, the elements 7 are connected in series, with the terminals 71 and 72 connected to the corresponding terminals of the adja-

cent elements 7. Only the terminals of one of the end elements are connected to the mains.

[0026] Figure 3 shows the light beam, which strikes the step below that to which the invention is applied.

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Claims

1. A lighting system for complementary building elements **characterised by** comprising a seat (6) provided in the visible part of said elements, with said seat (6) there being associated a light source (7) powered by suitable means. 10
2. A system as claimed in claim 1, **characterised in that** said seat (6) is a slot presenting in cross-section a shape tapered towards the open side of the slot. 15
3. A system as claimed in claim 1, **characterised in that** said light source (7) is inserted by simple insertion into said slot (6) and is retained by the tapered walls thereof. 20
4. A system as claimed in claim 1, **characterised in that** said light source (7) is in the form of a flexible cable. 25
5. A system as claimed in claim 1, **characterised in that** said complementary building elements are chosen from the group consisting of steps, skirting boards, handrails, cornices, endpieces and corners. 30
6. A tread nosing (3, 51) for steps, **characterised by** comprising a part intended to project from the step riser (12) and presenting a slot (6) in its lower part. 35
7. A tread nosing (3, 51) as claimed in claim 6, **characterised in that** said slot (6) has a cross-section which tapers towards its opening. 40
8. A tread nosing (3, 51) as claimed in claim 6, **characterised by** being formed of extruded brick or ceramic material. 45

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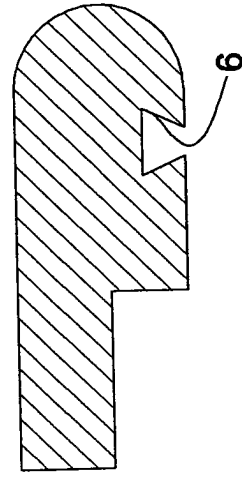
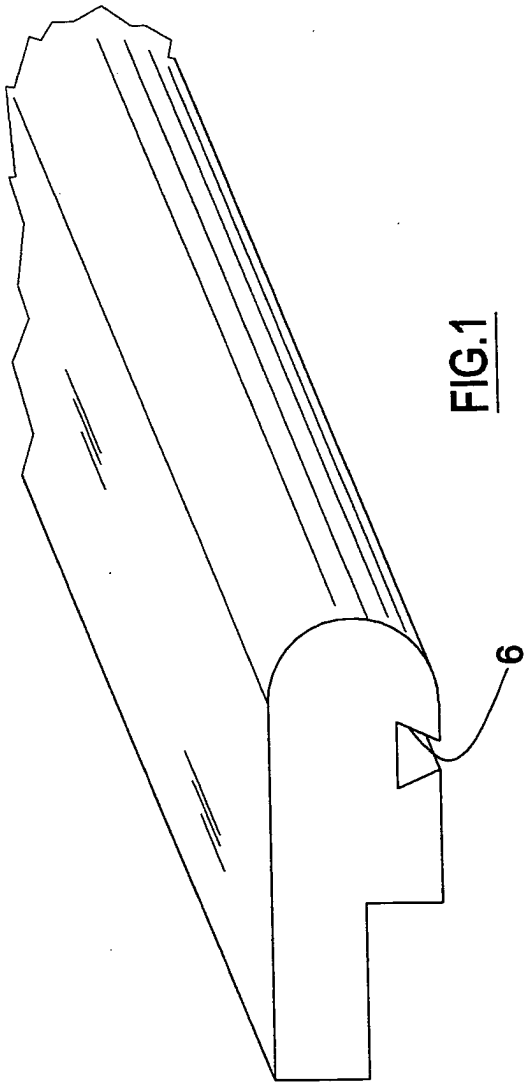


FIG.3

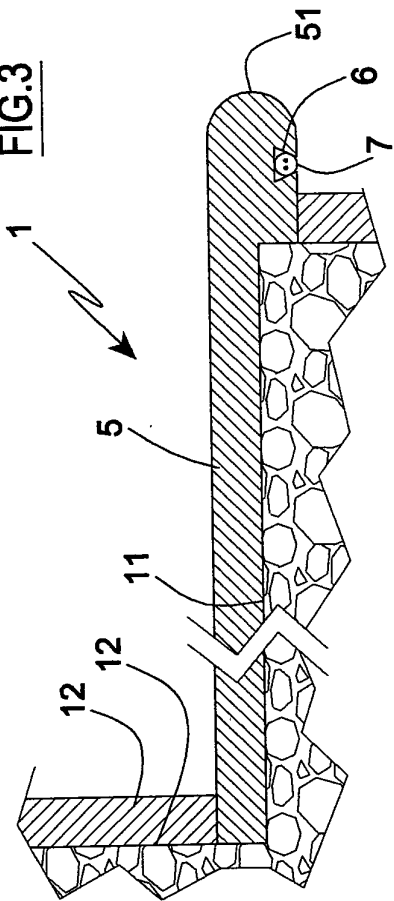
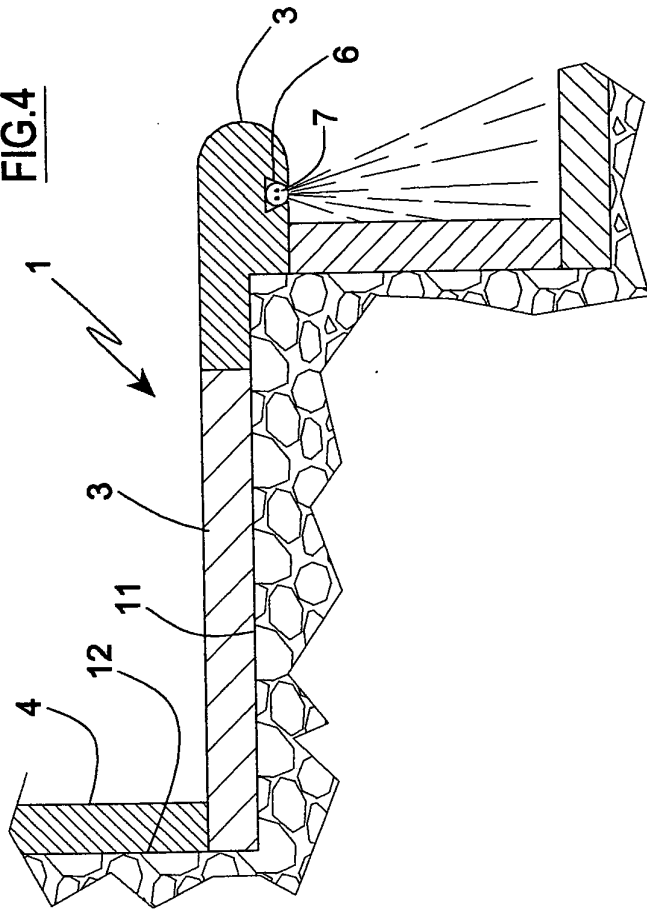


FIG.4



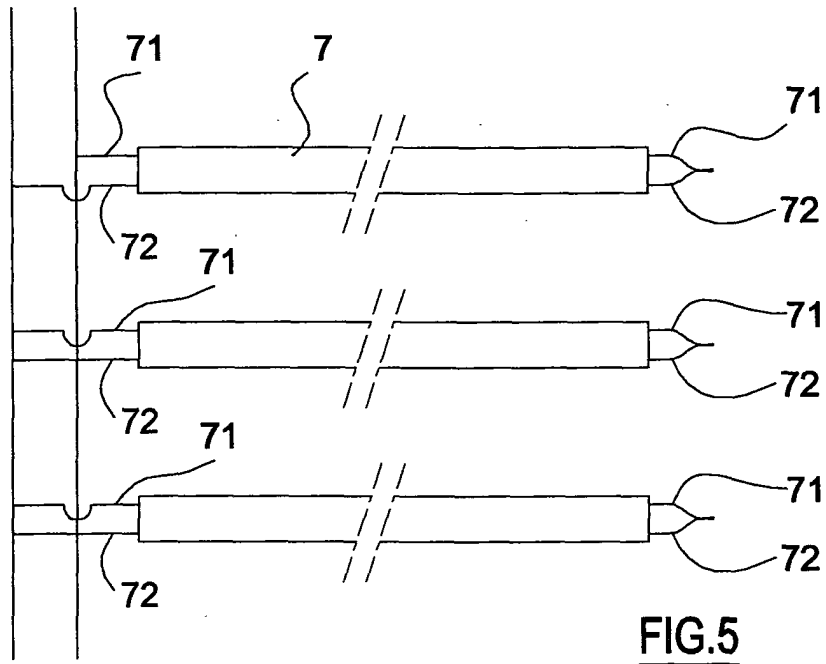


FIG.5

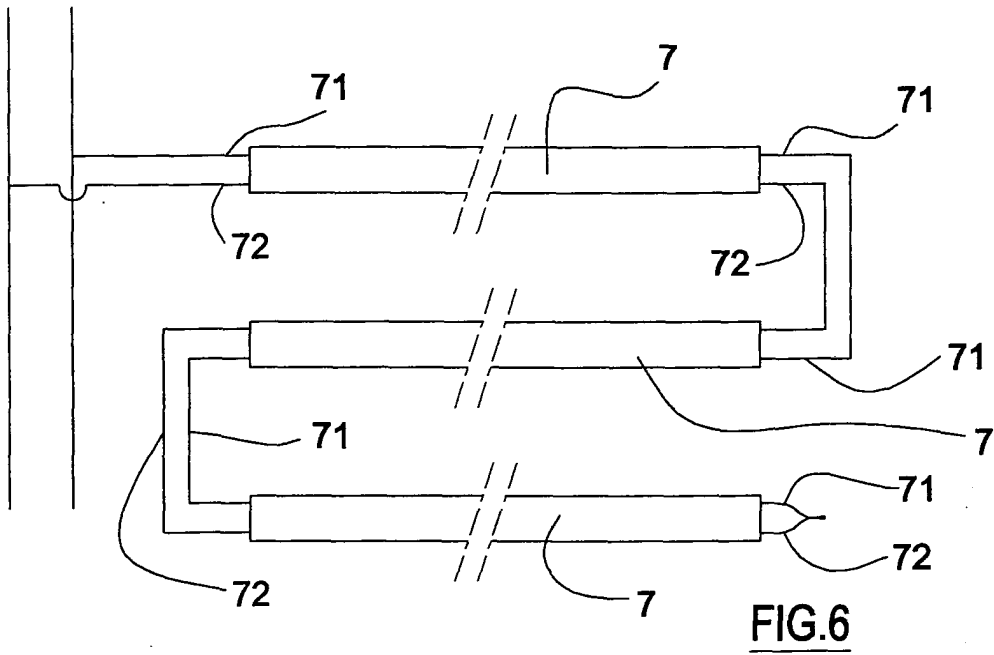


FIG.6