(19) Europäisches Patentamt
European Patent Office
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(11) **EP 2 282 315 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
**09.02.2011 Bulletin 2011/06**

(51) Int Cl.:
***H01H 13/02*** *(2006.01)*

(21) Application number: **10171267.7**

(22) Date of filing: **29.07.2010**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR**
Designated Extension States:
**BA ME RS**

(30) Priority: **31.07.2009 IT BO20090060 U**

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(54) **Illuminated push button**

(57) An illuminated push-button for game machine includes a body (2) hookable to the game machine.

Into the body (2) a sliding element is housed (3) supporting a cap (5) illuminable by means of a light source (6), consisting of two LED (6a; 6b) and internal to the push-button (1), and acting on electrical commutation means (7).

The push-button (1) includes moreover connecting means (8) to the game machine and a single supporting means (6) of the light source (6), of the electrical commutation means (7) and of the connecting means (8).

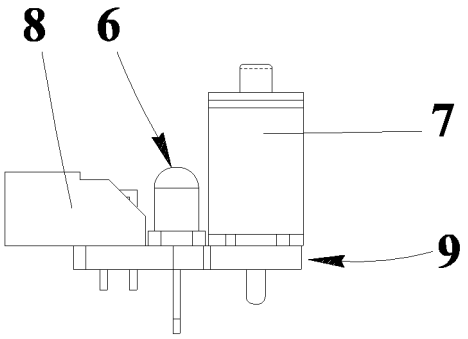


**FIG.4**

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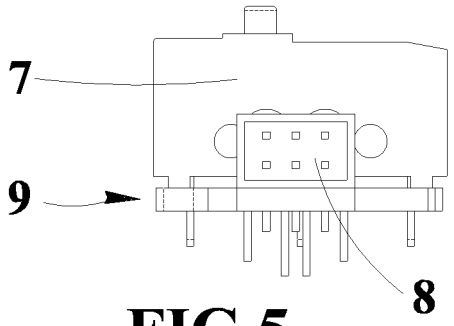



FIG.5

FIG.6

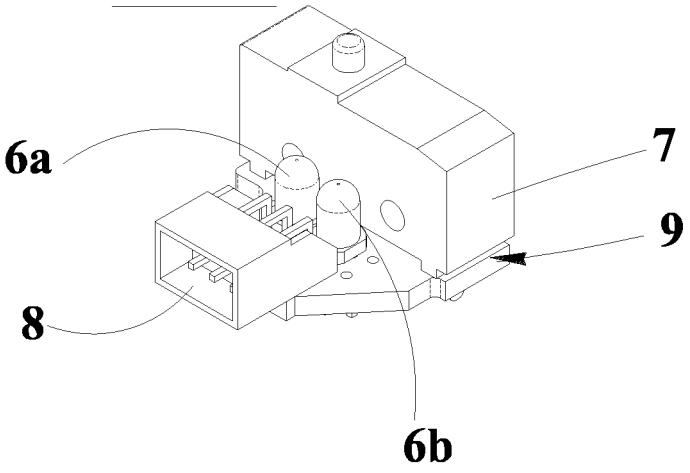
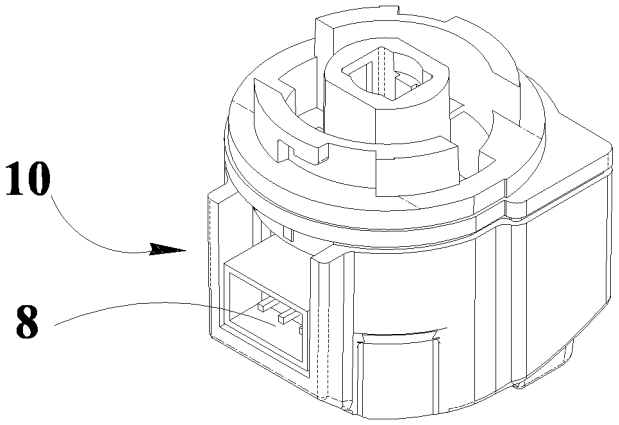



FIG.7



## Description

**[0001]** The present invention relates to game machines, and in particular it refers to an illuminated push-button for such machines.

**[0002]** The known illuminated push-buttons essentially include a body for engaging the game machine and for housing a sliding element, intended for carrying out the opening and closing stroke of the push-button electrical connection, and for supporting at its upper end an overbody providing a seat for a transparent cap fit for enabling the light passage emitted by a lamp opportunely housed inside the sliding element.

**[0003]** Therefore, such known push buttons are fit to operate the main functions of the game machine and, when in operation, they allow the lighting of the transparent cover.

**[0004]** A drawback of the known illuminated push-button is that they incorporate a lamp support different from the micro-switch support which is separated from the electrical means of the push-button connecting to the control card of the game machine.

**[0005]** Further disadvantage of the known push-buttons resides in the fact that the lighted portion, in some cases, is reduced and however is only of one color.

**[0006]** The main object of the present invention is to propose an illuminated push-button incorporating a single supporting means for the lighting, commutation and connecting means.

**[0007]** Further object is to propose an illuminated push-button with more than one illuminable zone also with different colorings.

**[0008]** The characteristics of the invention are in the following evidenced with particular reference to the attached drawings in which:

- figure 1 shows a perspective view of the push-button object of the present invention;
- figure 2 shows a top view of the push-button of figure 1;
- figure 3 shows a section according to the plan III-III of the push-button of figure 2;
- figure 4 shows a side-view of the unique support means of the push-button of figure 1;
- figure 5 shows a front view of the supporting means of figure 4;
- figure 6 shows a perspective view of the supporting means of figure 4;
- figure 7 shows the single housing of the supporting means of figure 4.

**[0009]** With reference to figures 1-7, numeral 1 indicates an illuminated push-button for game machine, known and not shown, that is essentially including a body 2, a sliding element 3, a fixing element, the so-called overbody 4, a cap 5, a supporting means 9, a light source 6, electrical commutation means 7, connecting means 8 and a bolt 11.

**[0010]** The body 2 is internally hollow and houses the sliding element 3 with the interposition of a spring, not shown, and outside is provided with a threaded zone to facilitate the hooking of the push-button 1 to the game machine by means of the bolt 11.

**[0011]** The sliding element 3 is internally hollow, it houses the light source 6, that consists of a LED cup 6a, 6b that, in the preferred embodiment, they produce light of the same color and that, in a variant, have different coloring.

**[0012]** The overbody 4 is fixed to the upper portion of the body 2 and constitutes the peripheral viewable portion of the push-button 1.

**[0013]** The electrical commutation means 7 consists of a microswitch.

**[0014]** The connecting means 8 include at least a pin connector for housing the corresponding connector for the electrical connection of the push-button to the control card of the game machine.

**[0015]** In the preferred embodiment, the supporting means 9 of the light source 6, of the electrical commutation means 7 and of the connecting means 8, consists of a single board where the components are tinned thereon and are made of the two LED 6a, 6b, the microswitch 7 and the connector 8.

**[0016]** Such supporting means 9, namely printed circuit board with the components tinned thereon, is contained in a container (10) removably hookable to the lower portion of the push-button 1 which is opposite to the cap 5.

**[0017]** The operation of the push-button 1 provides the activation of the light source whose brightness hits the inside wall of the cap 5, back-illuminating this latter and allowing the primary lighting of the bright push-button 1.

**[0018]** The brightness of the light source and therefore the brightness and coloring of the cap 5 depends on the activation of one or both LED, and, as already said, it/they can emit light of the same or different color.

**[0019]** The use of a single board 9 for supporting one or more LED, of the microswitch and of the connector allows the use of this solution in a wide variety of illuminated push-buttons, making simple the interchangeability.

**[0020]** The main advantage of the present invention is to supply an illuminated push-button incorporating a single supporting means for the lighting means and for the commutation and electrical connecting means.

**[0021]** Further advantage consists in supplying an illuminated push-button with more than one illuminable zone also with different colorings.

## Claims

1. Illuminated push-button for game machine comprising a hooking body (2) to the game machine, inside the body (2) a sliding element is housed (3) bearing a cap (5) illuminable by means of at least a light

source (6) inside the push-button (1) and acting on electrical commutation means (7), said button comprising moreover connecting means (8) to the game machine and being **characterized by** including a single supporting means (9) of the at least one light source (6), of electrical commutation means (7) and of connecting means (8).

2. Illuminated push-button according to claim 1 **characterized in that** the only one supporting means (9) consists of a single printed circuit.

3. Illuminated push-button according to claim 1 **characterized in that** the at least a light source (6) consists of at least one couple of LED (6a, 6b).

4. Illuminated push-button according to claim 3 **characterized in that** the LED (6a; 6b) emit light of the same color.

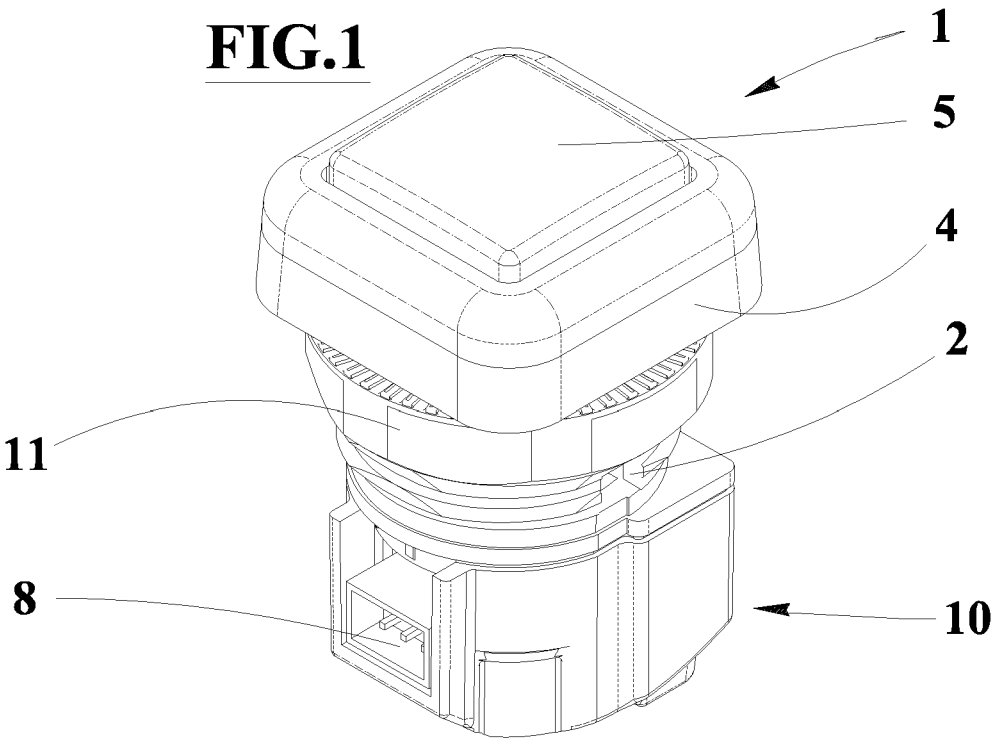
5. Illuminated push-button according to claim 3 **characterized in that** the LED (6a; 6b) emit light of different colors.

6. Illuminated push-button according to claim 1 **characterized in that** the electrical commutation means (7) include a microswitch.

7. Illuminated push-button according to claim 1 **characterized in that** the connecting means (8) include at least a pin connector.

8. Illuminated push-button according to claim 1 **characterized by** comprising moreover a container (10) of the supporting means (9) hookable to the lower portion of the push-button (1) opposite to the cap (5).

FIG.1



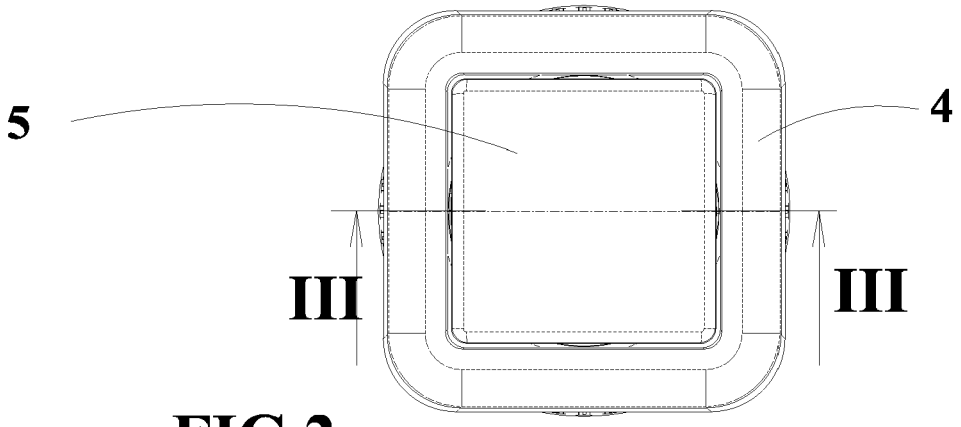




FIG.2

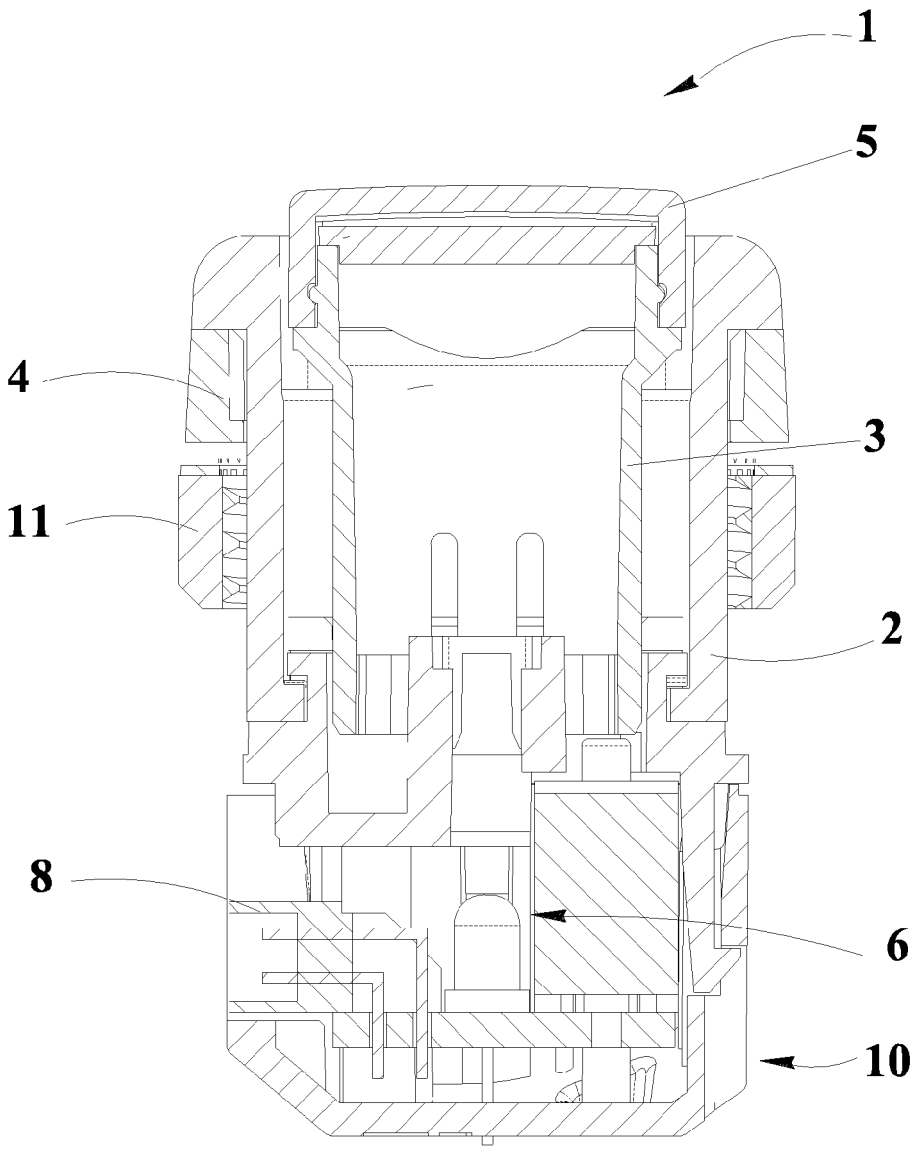



FIG.3

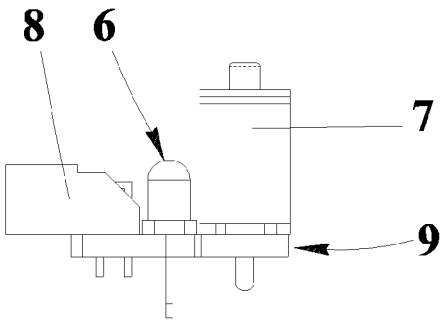



FIG.4

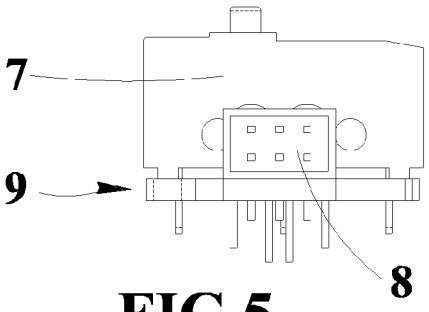



FIG.5

FIG.6

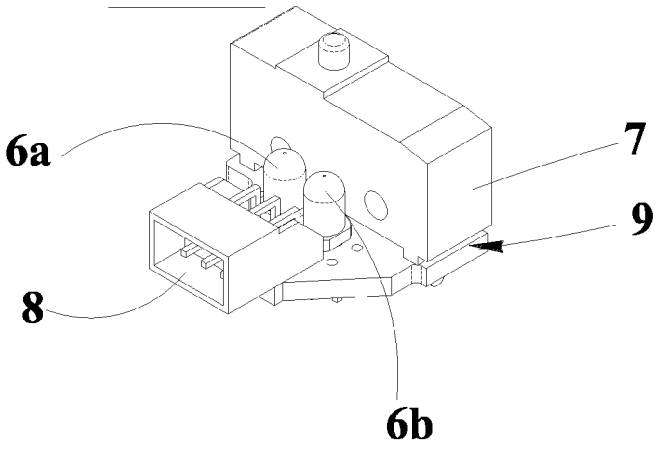
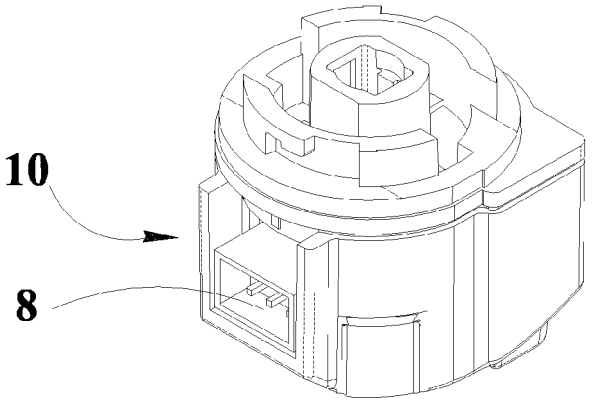



FIG.7



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# EUROPEAN SEARCH REPORT

Application Number
EP 10 17 1267

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
|---|---|---|---|
| X | EP 1 890 308 A1 (IGT UK LTD [GB]) 20 February 2008 (2008-02-20) * paragraph [0030] - paragraph [0055]; figures 1-3 * | 1-8 | INV. H01H13/02 |
| X | WO 2006/040581 A1 (GAMESMAN LTD [GB]; COVE JAMES [GB]) 20 April 2006 (2006-04-20) * page 9, line 12 - page 4, line 15; figures 1-4 * | 1-8 | |
| X | US 6 075 214 A (SATO YOSHIAKI [JP] ET AL) 13 June 2000 (2000-06-13) * column 2, line 53 - column 7, line 18; figures 1-14 * | 1-8 | |
| A | US 5 150 257 A (MOHABBATIZADEH AKBAR [US] ET AL) 22 September 1992 (1992-09-22) * column 3, line 4 - column 7, line 50; figures 1-7 * | 1 | |
| | | | TECHNICAL FIELDS SEARCHED (IPC) |
| | | | H01H |

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| Munich | 28 October 2010 | Nieto, José Miguel |

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