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(71) Applicant: **Alumetrica 2000, S.L.**
08420 Canovelles (ES)

(72) Inventor: **Fresquet Marion, Daniel**
08420, Canovelles (ES)

(74) Representative: **Esteban Perez-Serrano, Maria Isabel**
UDAPI & ASOCIADOS
Explanada, 8
28040 Madrid (ES)

(54) Triple alarm security system and autonomous alarm arrangement

(57) Security system which comprises an anti-theft case provided with means of activation of the alarm of a security arch inside which an autonomous alarm arrangement is placed, which is fed by batteries, and activated by mechanical means when an attempt is made to open the anti-theft case, or by electronic means when the arrangement passes through a security arch which sets off the alarm, and which may be deactivated by means of a label deactivator. Due to the combination of both parts, greater security against theft is achieved with minimum changes.

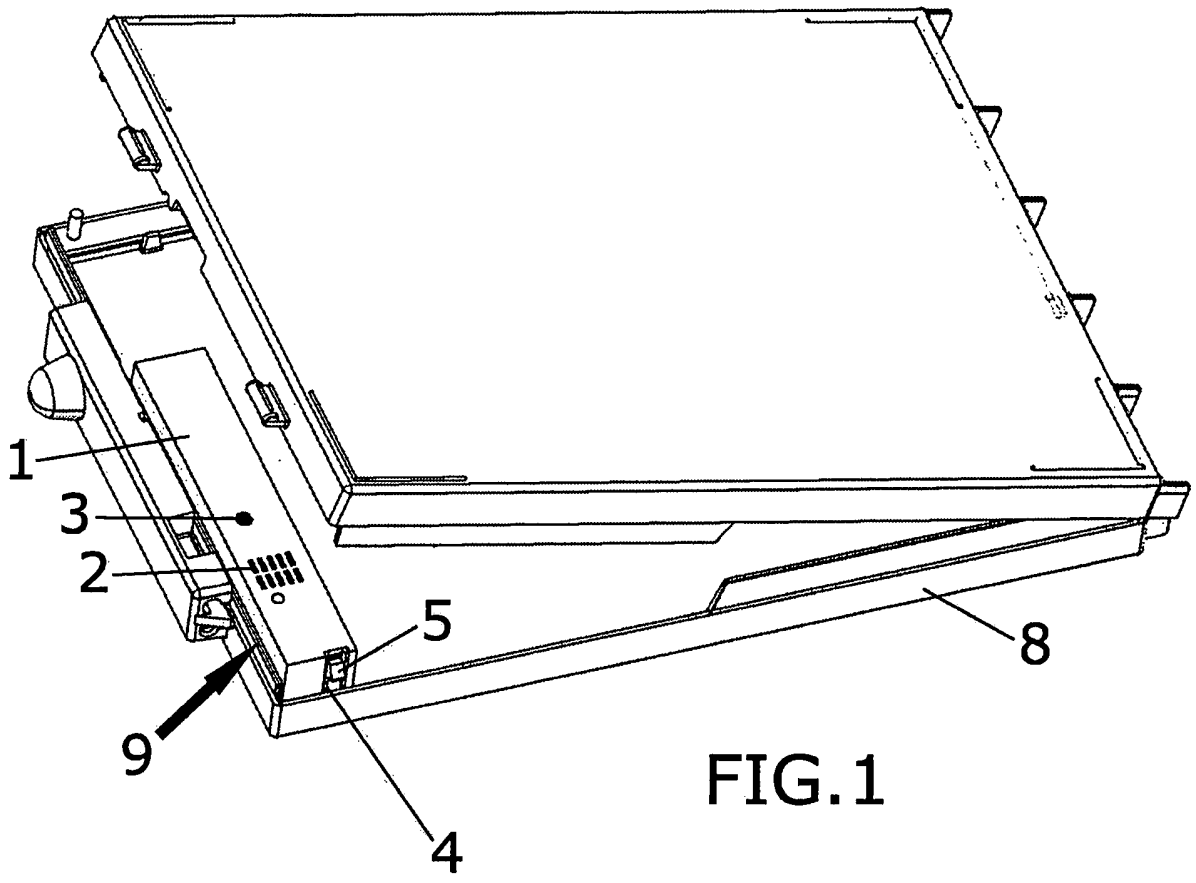

FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The object of the invention is a security system which is provided with a triple alarm as well as an autonomous alarm arrangement which, mounted on an anti-theft case permits a triple alarm security system to be obtained.

[0002] The present invention is characterised by the special features of the autonomous alarm arrangement as well as the cooperation between the autonomous alarm arrangement and the anti-theft case on which it is mounted, in this way obtaining a security system with a triple alarm.

[0003] The security system in the invention consists of an anti-theft case or safety case in which an autonomous alarm arrangement is mounted, each of which has its own properties and alarm means permitting a security system with triple alarm to be obtained.

[0004] Therefore, the present invention is circumscribed by the scope of the anti-theft security means applied to object, and in particular of the type which uses anti-theft cases which hold products requiring protection in their interior.

BACKGROUND TO THE INVENTION

[0005] Numerous security cases are known, one of which is described in the patent with publication number US6240750 protecting a security case with key closing device.

[0006] Many other types of security case have a magnetic closure based on a metal element acting as a pin which blocks or unblocks the case according to its position, this type of closure is well known and therefore has become increasingly easy for unauthorised persons to open.

[0007] Nevertheless, the security systems based on anti-theft cases provided with means of alarm activated when a security arch is passed are not sufficient, and therefore other systems have been devised with additional forms of alarm.

[0008] These security systems which could be included in triple security systems have, however, some disadvantages.

[0009] On one hand, in the event of opening the anti-theft case, despite being provided with an alarm system, only the light is activated, for example by means of a photo-electric cell, and thus it might not be activated in a dark atmosphere. Furthermore, another difficulty derives from the deactivation means of the additional alarm arranged inside the security case, as these are magnetic deactivators with the concomitant complexity and costs involved in providing all shops with magnetic deactivators.

[0010] In addition, all the triple alarm systems known by the present application are incorporated in a box forming a single part, and therefore it is not possible to change the batteries once they have been spent.

[0011] Therefore, the object of the invention is to develop a safety system with a triple alarm which overcomes the previous disadvantages, improving the activation means of the alarm in the event that the security case opens, as well as also improving the means required for deactivating the alarm.

EXPLANATION OF THE INVENTION

[0012] The security system invention with triple alarm basically consists of an anti-theft case or security case which houses an autonomous alarm arrangement in its interior.

[0013] The anti-theft case is provided with its own means of activation for the alarm, consisting of a security arch which is activated when a product passes through it. Furthermore, the autonomous alarm arrangement is provided with means of alarm which are activated in two situations, ie if the case opens, or should it pass through the security arch, with said alarm remaining active until deactivated by means of a label deactivator.

[0014] Therefore, as a result of the security system with triple alarm which is the object of the invention, various possibilities are covered.

a) When anyone attempts to remove a product in its safety case from a shop, in which case it is not only the security arch alarm which is activated, but also the alarm of the autonomous arrangement housed inside in anti-theft box, which permits the thief to be pursued.

b) When someone attempts to open the anti-theft box in order to extract a product.

[0015] The autonomous security arrangement housed inside the anti-theft case which is designed to activate when the box is opened should be provided with mechanical activation means, such as for example, displacement of a tongue which presses a micro switch, and additionally the anti-theft case should have complementary means, such as for example, a projection or jutting piece which, following opening of the lid, causes displacement of the tongue.

[0016] This means of collaboration between the anti-theft box and the autonomous arrangement permits both the anti-theft case and the autonomous arrangement to work independently, thus enabling them to be manufactured and distributed independently and to be joined at the final moment. In addition, it is also possible to connect the autonomous arrangement to the anti-theft cases, with only slight modifications in order to achieve activation.

[0017] The autonomous alarm arrangement is provided with its own batteries, so that it will have the requisite autonomy in order to function without provision of any external energy, and due to this, in the event that the alarm were to be activated, the buzzer or alarm of the

autonomous arrangement would continue to function until it was deactivated. Furthermore, since the alarm arrangement is autonomous, it is possible for the client to change the batteries supplying the product, thus extending the useful life of the product.

[0018] The autonomous alarm arrangement also has means for deactivation which are the same as those used to deactivate labels, using a label deactivator which emits a frequency for destroying the alarm labels of origin which deactivate the alarm. This characteristic of being able to deactivate the autonomous alarm arrangement by means of an alarm deactivator improves and reduces the cost of operation of the arrangement, as there is no need for additional inversion in a different deactivation arrangement.

DESCRIPTION OF THE FIGURES

[0019] In order to complete the description below and to assist in a better comprehension of its characteristics, the present descriptive report is accompanied by a set of plans with figures representing in an illustrative, but not restrictive, way the most significant details of the invention.

Figure 1, shows a representation of the security system with triple alarm which comprises an anti-theft case and an autonomous alarm arrangement.

Figure 2, shows a perspective view of the base of support case of the autonomous alarm arrangement.

Figure 3, shows another perspective view of the support case of the arrangement in which other details may be appreciated.

Figure 4, shows an autonomous arrangement closed by its lid.

PREFERRED EMBODIMENT OF THE INVENTION

[0020] In the light of the figures below, a preferred embodiment of the proposed invention is described.

[0021] The object of the invention of the triple alarm security system, as may be seen in figure 1, comprises an anti-theft case (8) inside which there is an autonomous alarm arrangement (9).

[0022] The anti-theft case (8) shall be provided with means of activation of the alarm from a security arch in such a way that when the case passes through the arch without being deactivated, the alarm is activated.

[0023] In addition, the autonomous alarm arrangement (9) is provided with two means of activation of one alarm. One of the means is mechanical through displacement of a tongue (4) which presses on the micro switch of the alarm system housed inside the autonomous arrangement (9). The other of the means of activation of the alarm is electronic, by means of a signal emitted by the security arch and captured by the means with which the autonomous alarm arrangement (9) is provided.

[0024] Figure 2 shows in detail the constructive characteristics of the autonomous alarm arrangement (9), which consists of a base receptacle or support (1), which presents a parallelepipedic configuration although it may be of any other type. In the bottom of said receptacle there is a series of grids(2) as well as an opening (3).

[0025] An electronic plaque is placed inside the receptacle base or support (1) and on which batteries are arranged, neither of which items are illustrated here.

[0026] The grid (2) on the bottom of the base receptacle (1) serves to extend the sound of the alarm, and the opening (3) is in order to access an activation button so that if the alarm is pressed it remains active in order to enter into operation.

[0027] Figure 3 shows an improved view of the displacement tongue (4) which at its end is provided with a tab or projection (5) in such a way that when attempting to open the anti-theft case (8), it is necessary to press the tab or projection (5) which causes the tongue (4) to bend inwards into the base receptacle (1) such that it acts on a micro switch for the electronic plaque housed inside the base receptacle (1).

[0028] Figure 3 also shows means of anchoring a lid (6) (figure 4) which consists of a groove (10) on one of the smaller sides, and a hole (11) in which an attachment screw for the lid is threaded.

[0029] Figure 4 shows a perspective view of the autonomous alarm (9) arrangement in which a lid (6) has been arranged on a base receptacle or support (1), with the whole arrangement being perfectly closed.

[0030] The means of affixing the autonomous alarm (9) arrangement to the anti-theft case (8) is to arrange on the lid (6) a double sided adhesive, so that the arrangement adheres by the lid on the base or on a wall of the anti-theft case. This provision permits the sound diffuser grid (2) to remain open to the air. In addition, the access opening (3) to the activation button is accessible.

[0031] The essential nature of this invention is not altered by any variations in materials, form, size and arrangement of its component elements, which are described in a non-restrictive manner, with this being sufficient to proceed to its reproduction by an expert.

Claims

1. Security system with triple alarm which consists of:

- an anti-theft case provided with activation means for the alarm consisting of a security arch.
- An autonomous alarm arrangement which is housed in the anti-theft case and which is provided with its own batteries, being

characterised in that,

- the autonomous alarm case consists of two

means of activating an alarm, one of the means is mechanical and works in collaboration with the anti-theft case, whereas the other means of activation of the electronic alarm is through a signal emitted by the security arch and captured by the means with which the autonomous alarm (9) arrangement is provide, for activating the alarm.

- both parts, the anti-theft case and the autonomous alarm arrangement are independent, although the autonomous alarm arrangement is housed in the anti-theft case.

2. Triple alarm security system according to claim 1, **characterised in that** the mechanical activation means of the autonomous alarm arrangement consists of a displacement tongue (4) which at its end is provided with a tab or projection (5).

3. Triple alarm security system according to claim 1, **characterised in that** the alarm of the autonomous alarm arrangement is deactivated by means of a label alarm deactivator.

4. Triple alarm security system according to claim 1, **characterised in that** the autonomous alarm arrangement is affixed in the anti-theft case by means of double sided adhesive fixed to the anti-theft arrangement lid.

5. Triple alarm security system according to claim 1, **characterised in that** the autonomous alarm consists of a base receptacle or support (1) and a lid (6) in the bottom of the base receptacle or support (1) there is a grid (2) provided for improved diffusion of the alarm sound, and an opening (3) is provided for access to an activation button.

6. Triple alarm security system according to claim 5, **characterised in that** on the upper edge of the base receptacle or support (1) there are means for affixing the lid (6) which consist of a groove (10) on which an attachment screw is threaded for the lid on the other smaller side.

7. Autonomous alarm arrangement which is provided with a base receptacle or support, the interior of which houses an electronic plaque and a feed battery, **characterised in that** it is provided with two alarm activation means, a first mechanical means and a second electronic means.

8. Triple alarm security system according to claim 7, **characterised in that** the mechanical activation means of the autonomous alarm arrangement consist of a displacement tongue (4) which at its end is provided with a tab or projection (5).

9. Autonomous alarm arrangement according to claim 7, **characterised in that** the electronic means for activating the alarm consist of passing through a security arch, maintaining the alarm activated until it is deactivated.

10. Autonomous alarm arrangement according to claim 7, **characterised in that** the deactivation of the alarm is carried out by means of a label deactivator.

11. Triple alarm security system according to claim 7, **characterised in that** the autonomous alarm consists of a base receptacle or support (1) and a lid (6) in the bottom of the base receptacle or support (1) there is a grid (2) provided for improved diffusion of the alarm sound, and an opening (3) is provided for access to an activation button.

12. Triple alarm security system according to claim 11, **characterised in that** on the upper edges of the base receptacle or support (1) there are means of affixing the lid (6) which consist of a groove (10) on one of the smaller sides, and a hole (11) in which an attachment screw is threaded for the lid on the other smaller side.

13. Autonomous alarm arrangement according to claim 7, **characterised in that** it is possible for the client to change the supply battery of the product, thus extending the useful life of the product.

Amended claims in accordance with Rule 137(2) EPC.

1. Security system with triple alarm which consists of:

- an anti-theft case provided with activation means for an alarm contained within - An autonomous alarm arrangement which is housed in the anti-theft case and which is provided with its own batteries, being

characterised in that,
the autonomous alarm case consists of a base receptacle or support (1), the interior of which houses an electronic plaque and a feed battery, wherein the autonomous alarm is provided with two alarm activation means, a first mechanical means which works in collaboration with the anti-theft case, and a second electronic means, wherein the base receptacle or support (1) is provided with:

- a displacement tongue (4) which at its end is provided with a tab or projection (5).
- a grid (2) provided for improved diffusion of the alarm sound,
- an opening (3) is provided for access to an

activation button, and
- a lid (6)

both parts, the anti-theft case and the autonomous alarm arrangement are independent, although the autonomous alarm arrangement is housed in the anti-theft case.

2. Triple alarm security system according to claim 1, **characterised in that** the alarm of the autonomous alarm arrangement is deactivated by means of a label alarm deactivator.

3. Triple alarm security system according to claim 1, **characterised in that** the autonomous alarm arrangement is affixed in the anti-theft case by means of double sided adhesive fixed to the anti-theft arrangement lid.

4. Triple alarm security system according to claim 1, **characterised in that** on the upper edge of the base receptacle or support (1) there are means for affixing the lid (6) which consist of a groove (10) on which an attachment screw is threaded for the lid on the other smaller side.

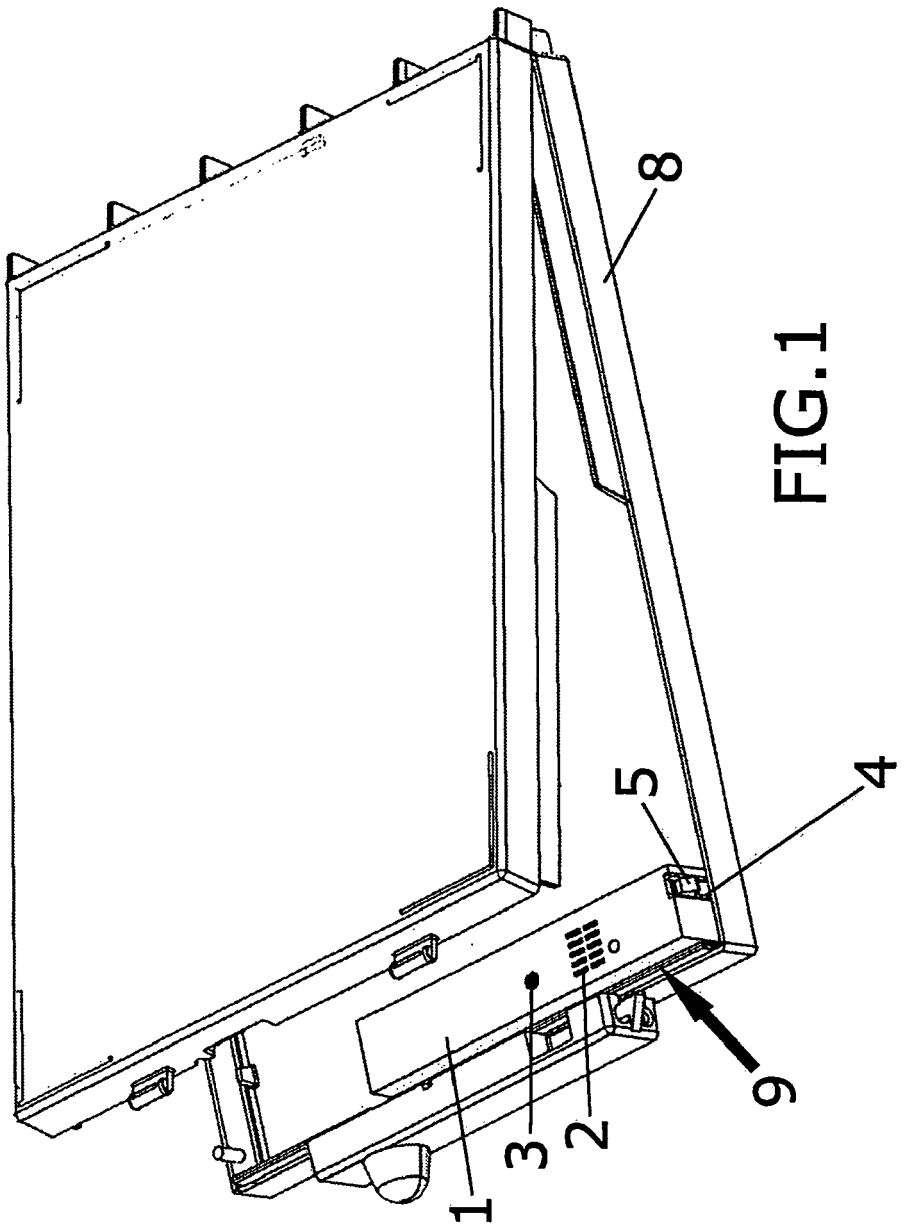

FIG.1

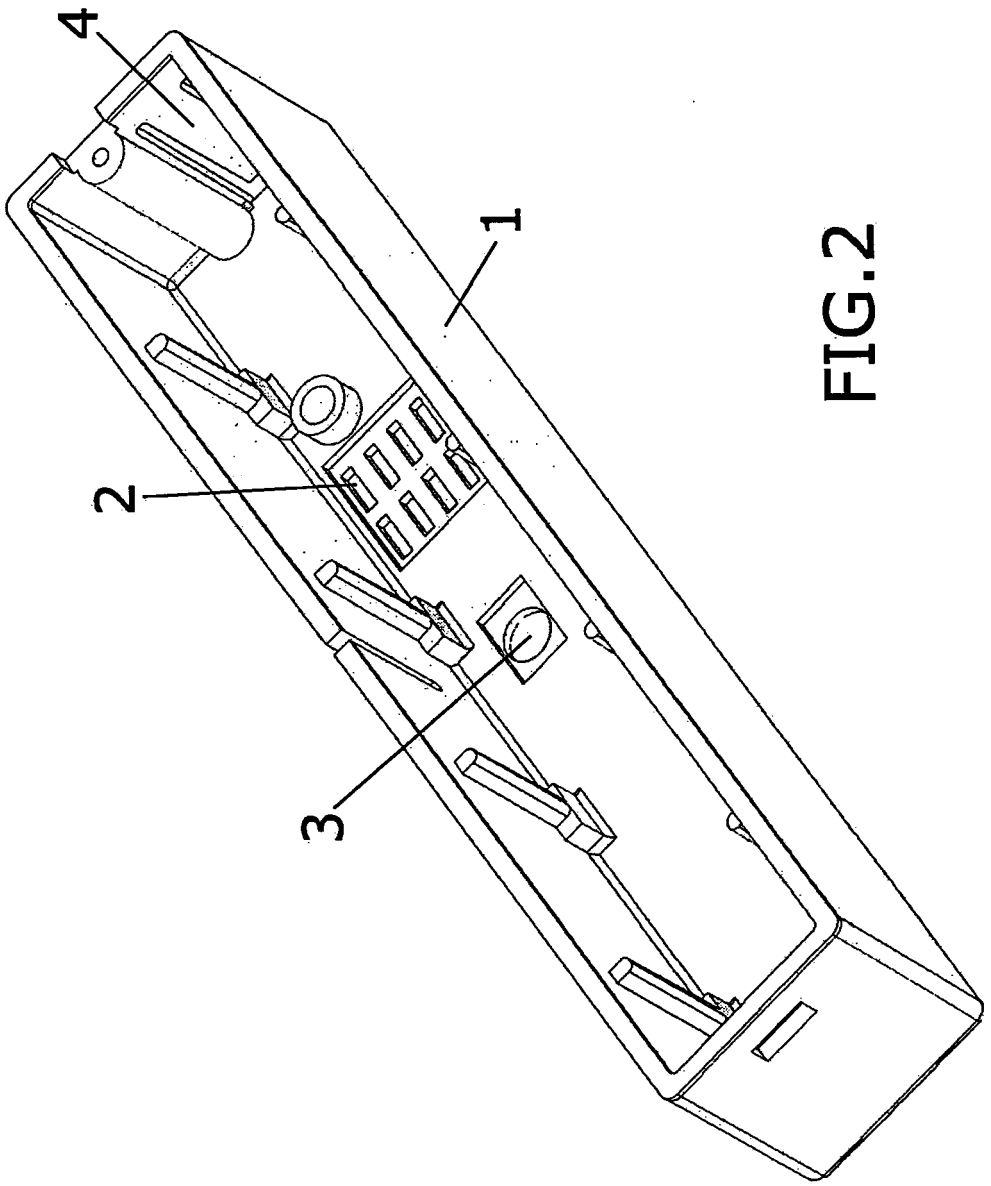

FIG.2

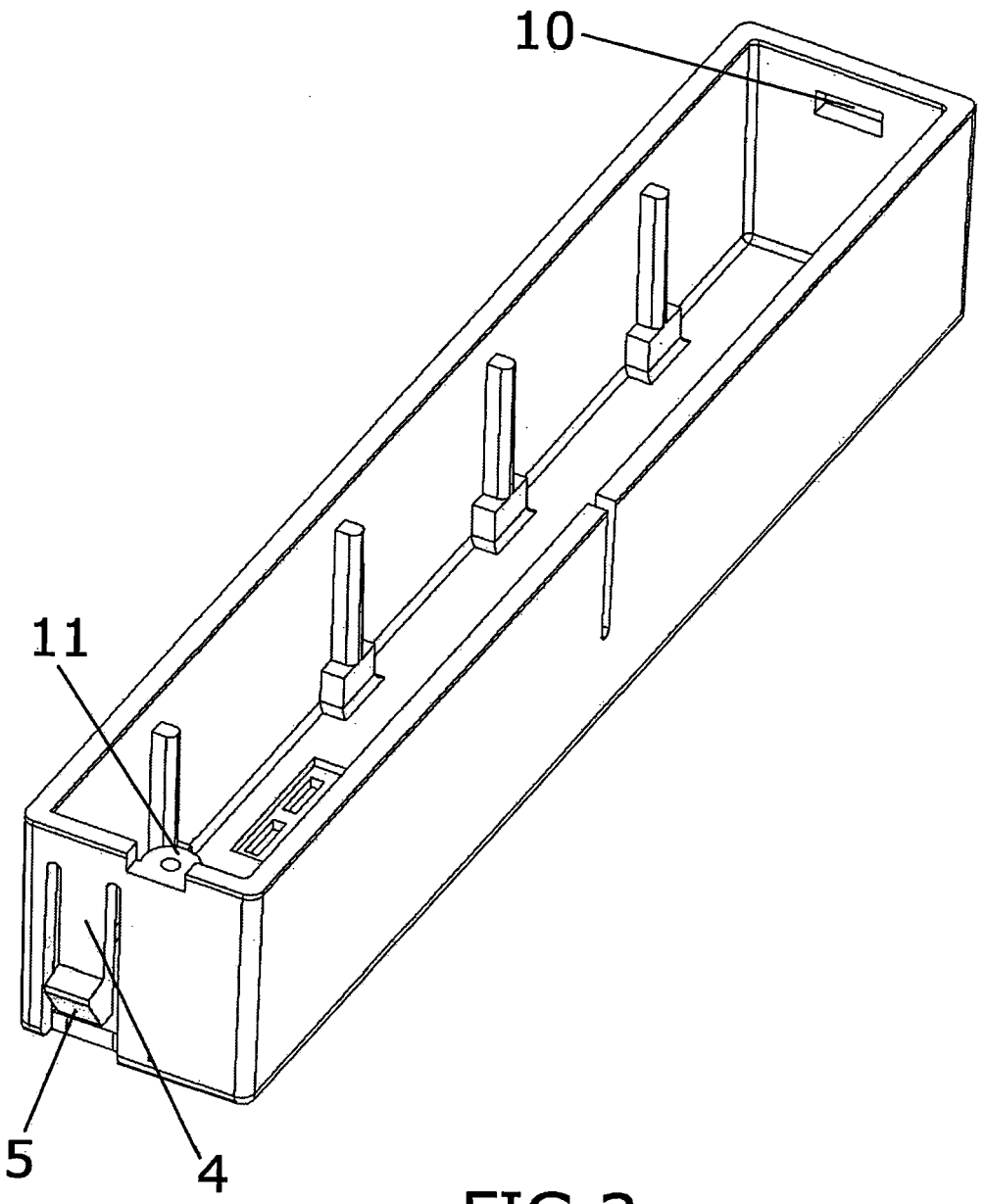

FIG.3

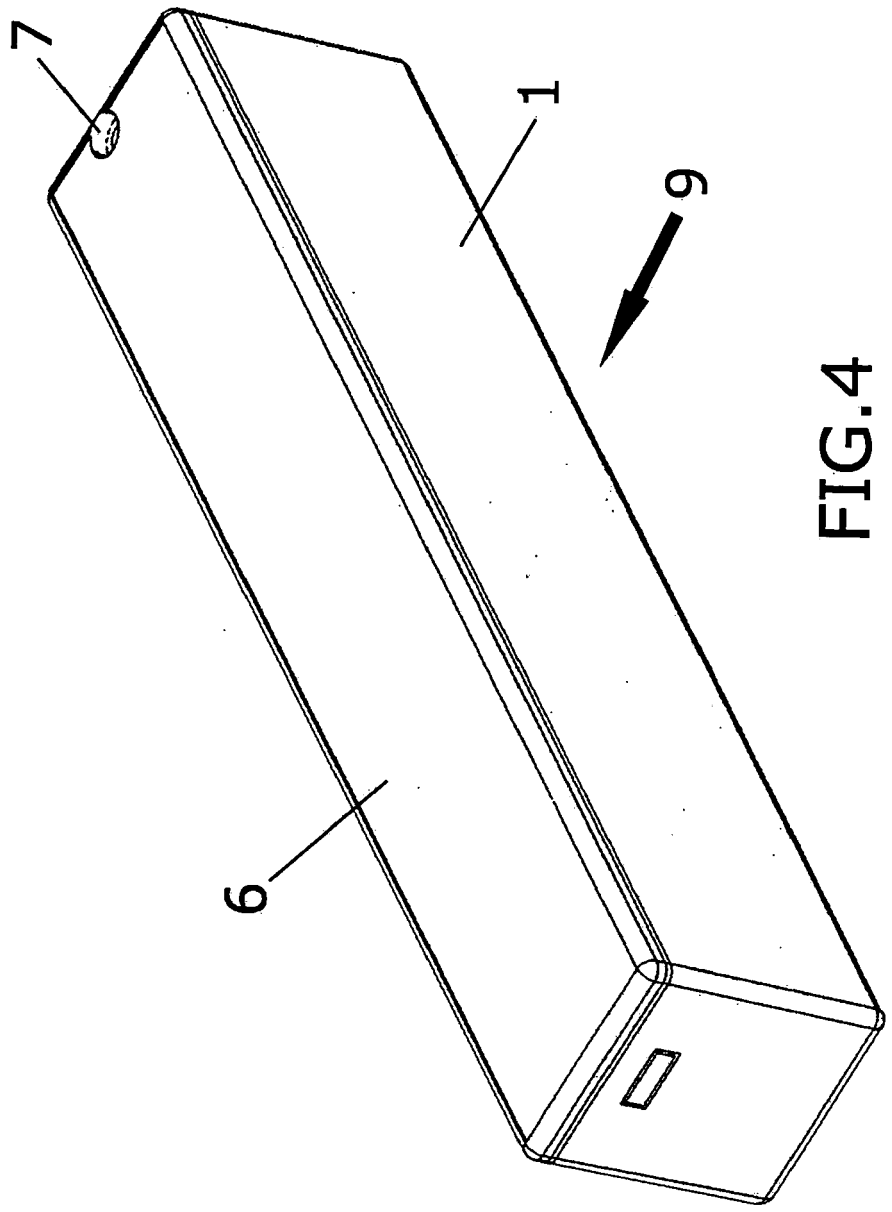

FIG.4

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EUROPEAN SEARCH REPORT

Application Number
EP 08 38 1028

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	30 March 2009	de la Cruz Valera, D

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