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(54) **Adjustable tamper assembly**

(57) An adjustable tamper assembly comprises a tamper member (12) mounted on a support (13) which is connected releasably to a tamper mounting (14) provided on a component part of an alarm. The co-operating

surfaces of the tamper support (13) and mounting (14) are curved in shape to allow the sensitivity of the assembly to be varied by variation of the relative position of the components to one another.

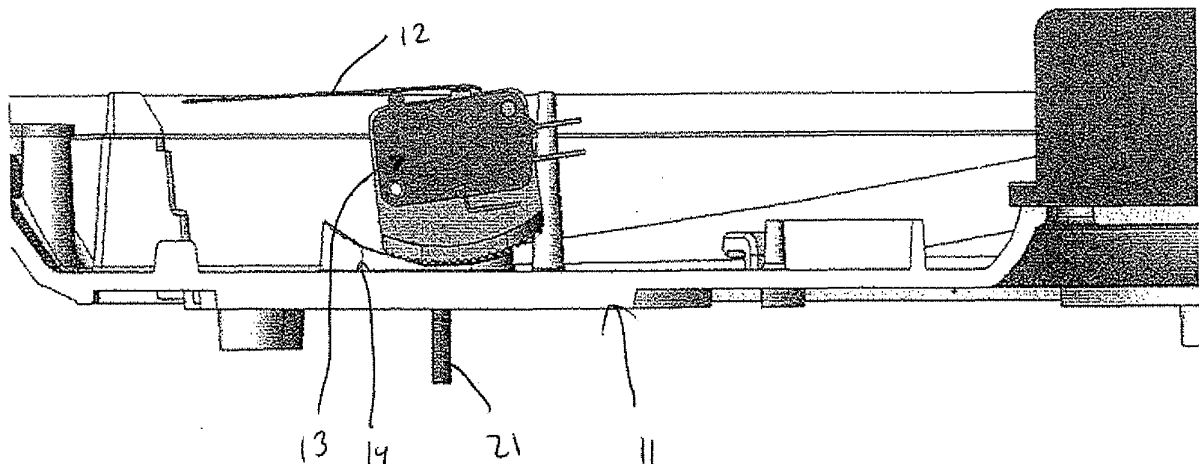


Fig. 2.

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Description

[0001] This invention relates to an adjustable tamper assembly particularly but not exclusively for use in a security alarm system.

[0002] A security alarm system is usually formed by a number of interconnected components and can take the form of a control panel linked to one or more detectors and also to an alarm sounder (commonly referred to as "a bell box"). The bell box can be mounted externally of a building or area to be protected, and is arranged to provide an audible and/or visible alarm under the control of the control panel when an alarm condition is detected. By alarm condition is meant any event which gives rise to actuation of the bell box in normal operation of the system.

[0003] Some or all of the components of existing systems are usually also protected against tampering by use of a tamper assembly which causes an alarm condition if the alarm components are tampered with to interfere with normal alarm operation. For example, some components of existing systems, such as the bell box, are formed as a pair of complementary moulded plastics parts which are releasably connected together along respective edges thereof and which are secured together by a screw or other suitable fastener.

[0004] Our co-pending International Patent Application No. PCT/GB2006/001517 dated 26 April 2006 discloses one solution to the problem of tampering with the bell box to interfere with its operation.

[0005] One known example of a tamper assembly used for this purpose comprises a flexible arm mounted on a body, the arm being arranged to be biased away from the body. When parts of an alarm component are interconnected, the flexible arm is biased against the internal surface of one part and, when in this position, the tamper assembly is armed. If an attempt is made to interfere with the alarm system by separation of the parts, the flexible arm is able to flex outwardly in the space created and this flexing is arranged to trigger an alarm condition which will be detected by the alarm system.

[0006] The present Applicants have identified that it can be desirable for a tamper assembly for use in such a system to be adjustable as to its sensitivity.

[0007] It is therefore an object of the present invention to provide an adjustable tamper assembly for use in, for example, components of a security alarm system, which can allow the sensitivity of the assembly to be adjusted simply and conveniently.

[0008] Thus and in accordance with the present invention therefore there is provided an adjustable tamper assembly for security alarm components comprising a tamper member mounted on a tamper support and a tamper mount provided on a component part, said tamper support and said tamper mount being cooperable such that movement of the tamper support relative to the tamper mount is permitted said movement being such as to allow variation of the relative position of said tamper

member and component part thereby permitting the sensitivity of the assembly to be varied.

[0009] With this arrangement, it is possible to provide an adjustable tamper assembly which can be adjusted to vary the sensitivity of the assembly.

[0010] In one embodiment, the tamper support has an opening therein and said tamper support and said member can be connected together by a fastener extending through said opening into engagement with the tamper support, to connect the parts together. Most preferably the opening is in the form of elongated slot in which the fastener can move, the fastener having an enlarged head of size greater than the width of the slot to retain the fastener in the slot and prevent undesirable separation of the tamper support from the tamper member.

[0011] For the avoidance of doubt, the tamper member may include a separate tamper element either attached to or formed as an integral part of the member.

[0012] Preferably side edges of said slot may have a number of projections projecting into the slot and which define a series of "park positions" in which the fastener can be retained. Each park position may define a specified level of sensitivity.

[0013] Most preferably, a surface of said tamper support in relation to which the member moves is curved whereby the position of the tamper member relative to the surface of the component part can be adjusted.

[0014] The invention will now be described further by way of example only and with reference to the accompanying drawings, in which

Figure 1 shows a perspective view of one embodiment of tamper assembly according to the present invention mounted on an alarm component; and

Figure 2 shows a side view of the tamper assembly of Figure 1.

[0015] Referring now to the figures, there is shown in Figure 1 one embodiment of an adjustable tamper assembly 10 according to the present invention. The tamper assembly 10 is shown mounted on an internal surface of one part 11 of a bell box for a security alarm system (the other part being removed for clarity). It will of course, however, be appreciated that the assembly 10 of the invention.

[0016] The tamper assembly 10 comprises a tamper arm 12 mounted on an arm support 13, the arm support 13 being removably mounted on a mounting 14 provided on one component part 11 in such a manner that relative movement between the support 14 and the mount 13 is facilitated.

[0017] In the embodiment shown in the drawings, the tamper arm 12 is "flexible" and is conveniently formed from a thin strip of metallic material. The tamper arm can, however, be formed from any suitable material as desired or as appropriate, the only requirement being the need for the arm 12 to be flexible. The tamper arm 12 is re-

leasably mounted on the arm support 13 so as to be capable of being removed for the purpose of renewal or repair.

[0018] Whilst in the specification above, the tamper arm 12 is described as being necessarily flexible, such considerations apply only to an assembly of the type discussed. In practice, the tamper assembly can take many different forms, which may or may not incorporate a tamper arm whether flexible or not. The overall advantage of the present invention is the adjustability of the sensitivity of the assembly which is not necessarily a function of the type of assembly used.

[0019] The arm support 13 comprises a body having a transversely extending flange 16 at one end thereof, in the embodiment shown, the one end being opposite to the end on which the arm 12 is mounted. The transversely extending flange 16 has an elongate notch 17 therein which can, if desired, have side edges 18 having regular spaced projections therefrom and between each pair of projections is defined a "park position".

[0020] The tamper mount 14 is preferably formed integrally with the component on which the tamper assembly of the invention is used or can be attached thereto in any suitable manner.

[0021] In the embodiment shown, the mount 14 has a top surface which is generally curved upwardly at each end thereof as shown in the Figures. The curved surface may further be adapted to have a plurality of teeth thereon and, in this case, a lower surface of the arm support may have a complementary set of teeth formed thereon.

[0022] The arm support 13 can be attached to the tamper mount by way of a fastener 21 which passes right through the notch in the flange and into releasable engagement with the mount. The fastener 21 may have an enlarged head at one end thereof to prevent the fastener passing through the notch thereby allowing the body and mount becoming separated. Thus for example, the fastener may be screw threaded at one end thereof and may releasably cooperate with a screw threaded bore in a top surface of the tamper mount 14.

[0023] In use, the arm support 13 is connected to the tamper mount 14 by way of a fastener 21 extending through the elongate notch 17 in the projecting flange 16 in the support and into releasable engagement with the bore in the top surface of the mount 14. In the embodiment to be described herein, the fastener 21 is screw threaded and engages in a corresponding screw threaded bore in the surface of the body, as described above. However, the fastener can take any suitable form as desired or as appropriate.

[0024] If the screw fastener 21 is not tightly closed, relative movement of the arm support and the mount is possible but this movement is constrained by the fastener in the notch. Thus, it will be appreciated that, with a notch in the form shown in the drawings, an essentially linear movement of the support 13 and the mount 14 relative to each other would be possible. Due to the curved shape of the top surface of the assembly mount 14, it can be

seen from Figure 2 that during movement of the body over the top surface, the angle of inclination of the tamper arm 12 relative to the component part can be varied. Using the "park position" defined by the projection in the notch sides, and the cooperating formations on the base of the body and top surface of the mount 14, once the fastener is tightened, the inclination of the tamper arm 12 is fixed in relation to the corresponding part and will therefore be greater or less sensitive depending on the permitted angles of inclination allowed.

[0025] Whilst the embodiment described above comprises a tamper assembly including a flexible tamper arm, any suitable tamper assembly can be utilised as desired or as appropriate. In particular, the only essential requirement is that the tamper assembly includes parts which are capable of movement relative to each other to adjust the sensitivity of the assembly.

[0026] Furthermore, whilst the above embodiment is described in the context of an alarm component, it will be appreciated that the assembly of the invention can be utilised with any arrangement in which a tamper assembly may be used.

[0027] It will of course be understood that the invention is not intended to be restricted to the details of the above embodiment which is described by way of example only.

[0028] The adjustability of the tamper has also advantages in that the assembly can be removed to facilitate ease of assembly or removal for repair or renewal.

Claims

1. An adjustable tamper assembly for security alarm components comprising a tamper member mounted on a tamper support and a tamper mount provided on a component part, said tamper support and said tamper mount being cooperable such that movement of the tamper support relative to the tamper mount is permitted said movement being such as to allow variation of the relative position of said tamper member and component part thereby permitting the sensitivity of the assembly to be varied.
2. An adjustable tamper assembly according to claim 1 wherein the opening is in the form of an elongated slot in which the fastener can move, the fastener having an enlarged head of a size greater than a width of the slot to retain the fastener in the slot.
3. An adjustable tamper assembly according to any one of claims 1 to 2 wherein the tamper member includes a separate tamper element attached thereto.
4. An adjustable tamper assembly according to any one of claims 1 to 3 in which the tamper element is formed as an integral part of the tamper member.
5. An adjustable tamper assembly according to claim

3 wherein the side edges of said slot has a number of projections projecting into the slot between which are defined a series of part positions in which the fastener can be retained.

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6. An adjustable tamper assembly according to any one of claims 1 to 6 wherein a surface of said tamper support in relation to which the member moves is curved whereby the position of the tamper member relative to the surface of the component part can be adjusted.

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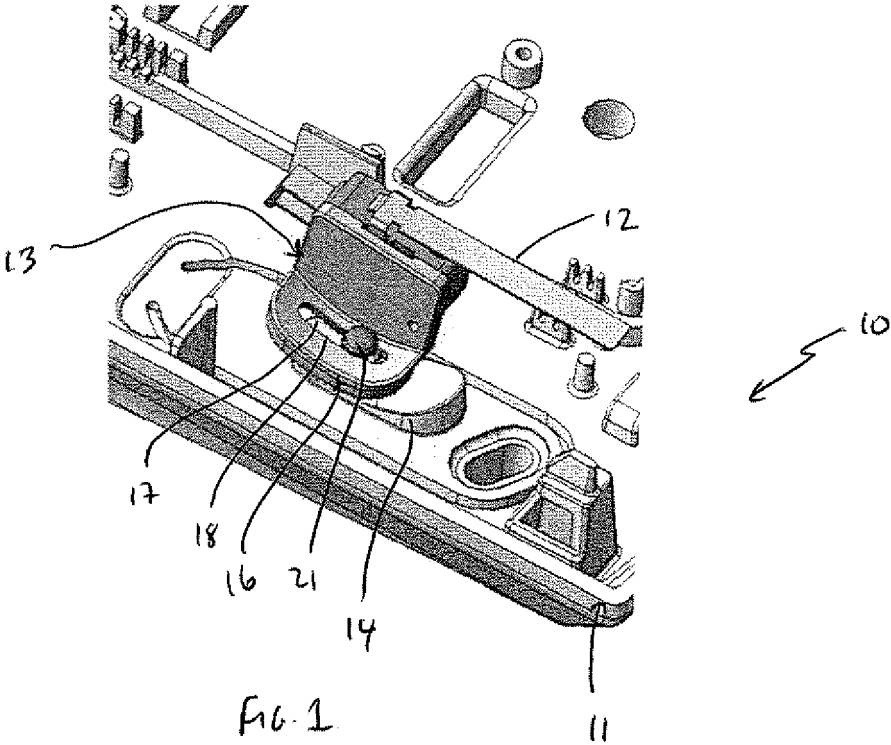
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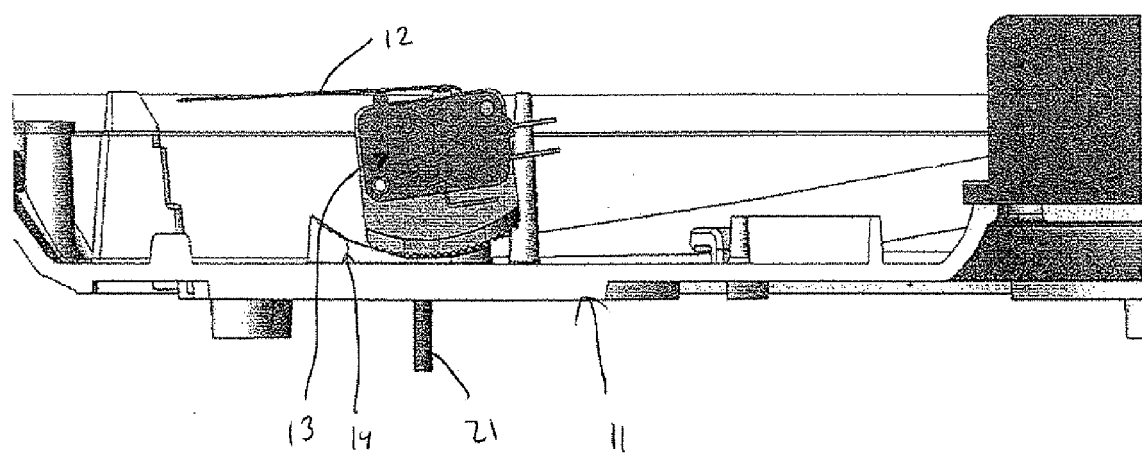


FIG. 2.

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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