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(71) Applicant(s)
Dalen (Birmingham) Limited

(Incorporated in the United Kingdom)

Valepits Road, Garretts Green Industial Estate, BIRMINGHAM, West Midlands, B33 OTD, United Kingdom

(72) Inventor(s)
Alan Clive Broadbridge
Neil David Broadbridge
Clive Beardmore

(74) Agent and/or Address for Service
Marks & Clerk
Alpha Tower, Suffolk Street Queensway, BIRMINGHAM, B1 1TT, United Kingdom

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GB 2290347 A GB 2286630 A WO 95/34732 A1
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(54) Security device

(57) A security device for a tower type computer (28), comprises a main body part (11) of sheet metal, and a cage structure (32) slidably engageable with the main body part (11) to a selected, adjusted position suitable for the size of computer to be protected. The main body part has end plates (29) and together with its front and rear sides (13, 14) and base (12), the main body part prevents movement of a computer engaged therewith backwardly, forwardly and sidewardly. Once the cage is engaged with the main body part (11) and locked thereto by locking means (37), upwards removal of the computer is also prevented. The rear side and base of the main body part (11) are secured, in use, to a wall surface and or a floor surface respectively, fixing means effecting said securement being concealed by the computer.

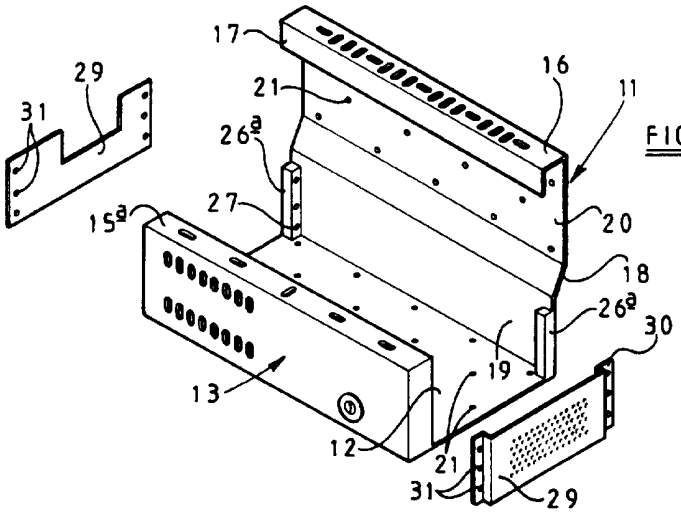
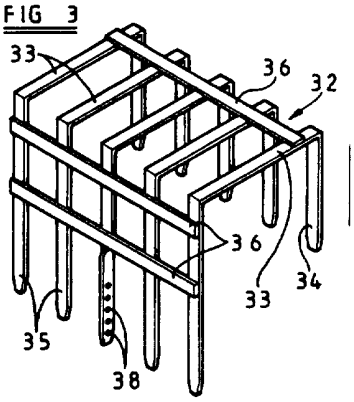


FIG 1

FIG 3



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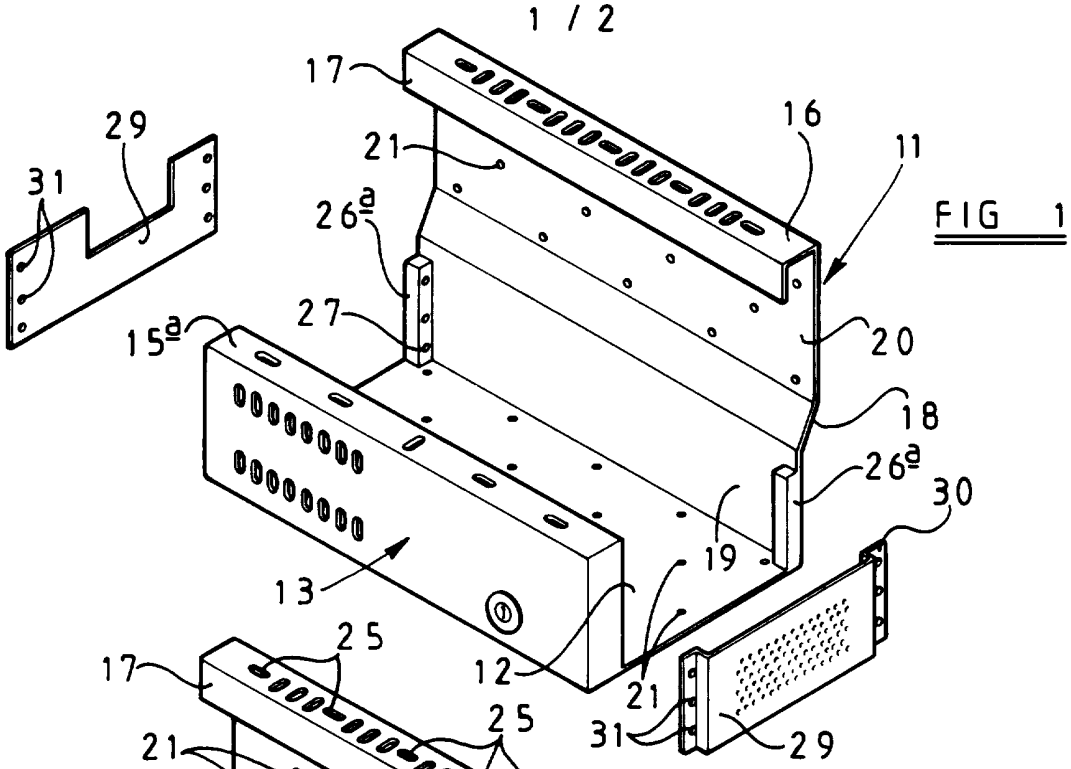


FIG 1

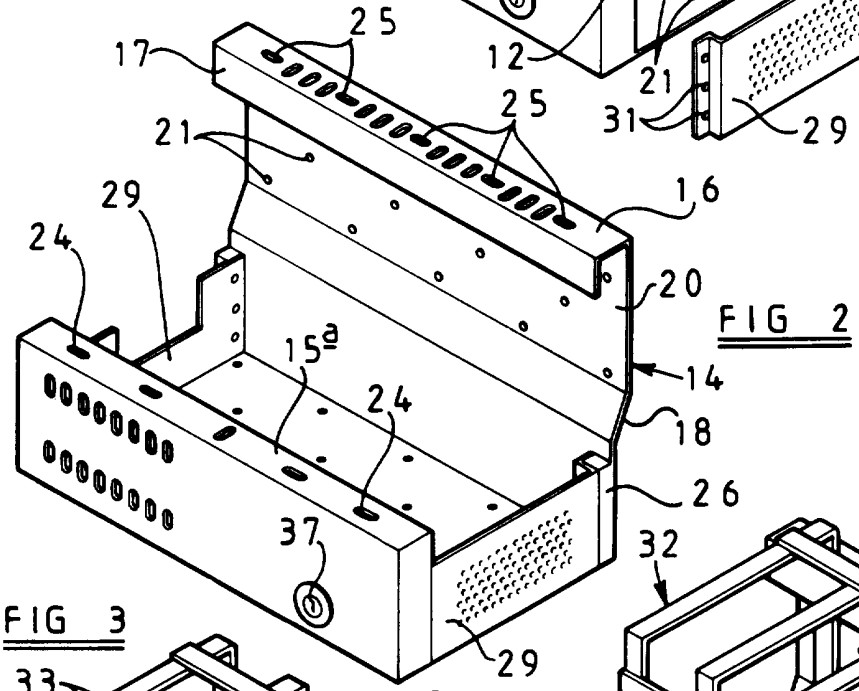


FIG 2

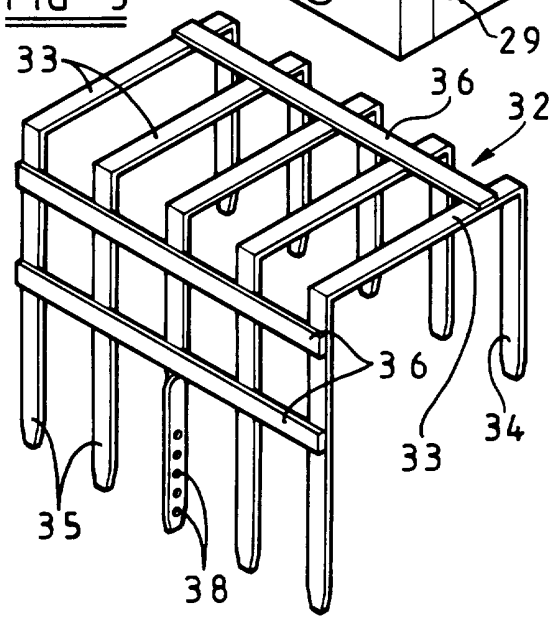


FIG 3

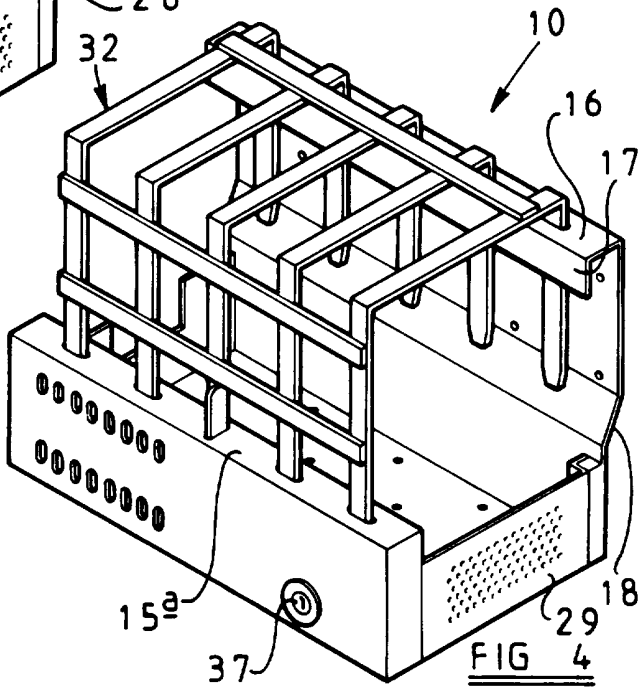
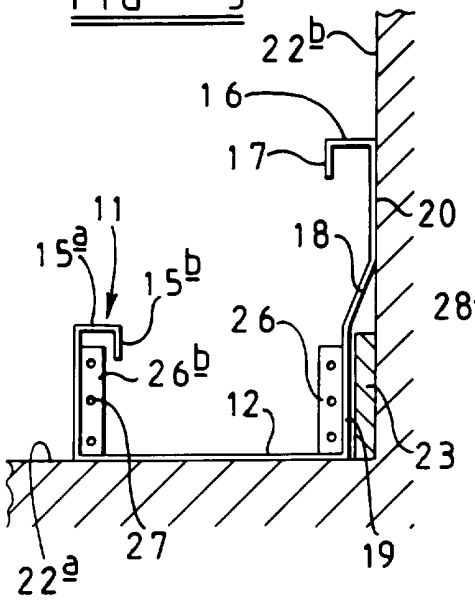


FIG 4

FIG 5



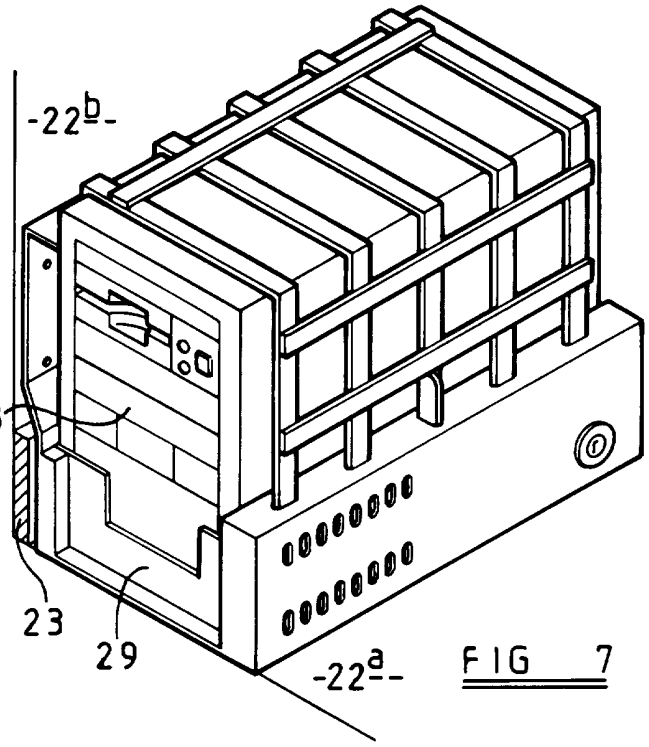
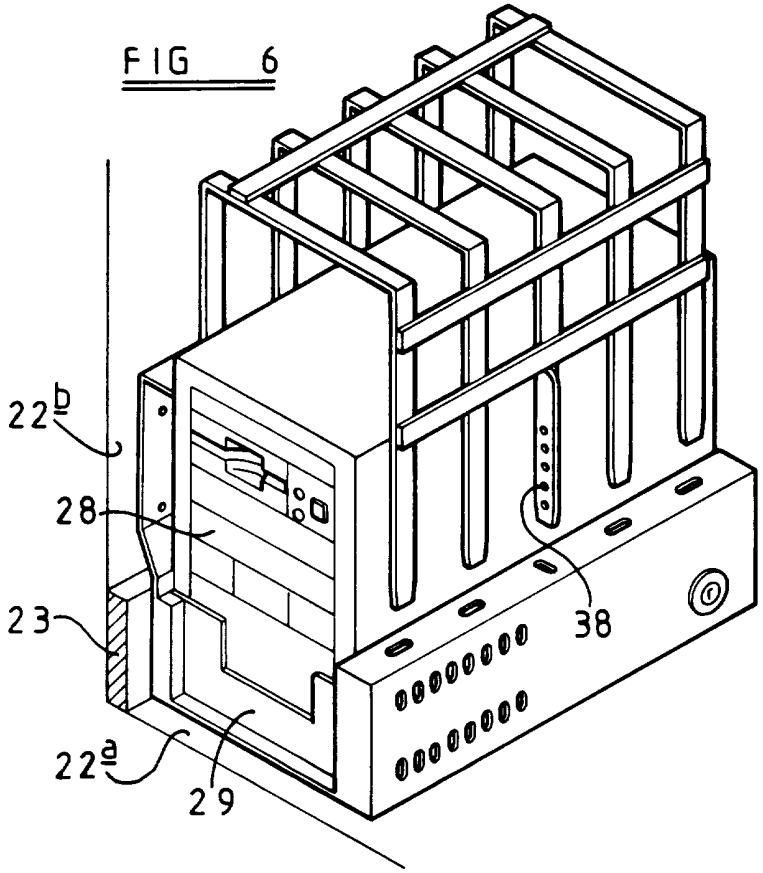


FIG 7

FIG 6



SECURITY DEVICE

This invention relates to a security or anti-theft device for box-shaped or generally box-shaped articles, particularly electrical items such as computers, video cassette recorders and televisions, and has as its object the provision of such a device in an effective and convenient form.

According to the invention there is provided a security device for a box-shaped or generally box-shaped article, the device comprising a casing structure formed in at least two parts, a first part of the casing structure being adapted for securement to a surface, the parts of the casing structure being connectible together and the casing structure having releasable securing means so that, in use, with the securinging means actuated, a box-shaped or generally box-shaped article within the secured casing structure is retained against removal therefrom, and has a part thereof accessible from the exterior of the casing structure.

Preferably with the article retained in the locked casing structure, in use, means securing said at least one part of the casing structure to said surface are inaccessible.

Desirably with the article retained in the locked casing structure, in use, means connecting at least one part of the casing structure to the other or another part thereof are inaccessible.

Conveniently, in use, the at least one part of the casing structure is adapted to be secured to as floor and/or wall surface.

The invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is an exploded perspective view of parts of a casing structure of a security device of the invention,

Figure 2 shows the parts of Figure 1 in an assembled state,

Figure 3 is a perspective view of a further part of the casing structure of the security device,

Figure 4 is a perspective view of the complete casing structure in an assembled state,

Figure 5 is a transverse cross-sectional view of one of the parts of the casing structure shown in Figure 1, positioned at the junction of a wall surface and a floor surface, for securement to one or both thereof, and

Figures 6 and 7 show respective intermediate and final stages in the protection against removal of a computer by the security device.

An anti-theft or security device 10 of the invention is primary intended for use with a so-called tower or mini tower computer, which is conventionally an upright rectangular box-like structure, normally free-standing on the floor near an operator's desk. The invention is not however limited to use with computers and can be used to protect a variety of alternative box-shaped or generally box-shaped articles, normally electrical items, such as video cassette recorders and televisions.

In the embodiment of the invention shown in drawings, the security device comprises a casing structure or cage made up of four separate parts, each made of steel or equivalent high strength material.

A main body part 11 of the casing structure, formed from sheet metal, is of elongate form, having a transverse cross-section as shown in Figure 5, namely a flat base part 12 with a short upright front side 13, and a longer upright rear side 14, the sides being generally mutually parallel and normal to the base part 12.

The front side 13 extends normally from the base part 12 for most of its height, but has its free end formed with two 90° bends to define an inwardly directed, narrow ledge 15a, parallel to the base part, and a short downwardly depending flange 15b normal to the base part.

The longer rear side 14 is of the same form as the front side, having its free end formed with two 90° bends to define an inwardly directed ledge 16 and a downwardly depending flange 17. The upright part of the rear side is, in this example, cranked by way of an angled portion 18 near the junction of the rear side with the base part, to define a recess, in use, at the outside of a short upright part 19 between the base part and the portion 18.

An upright part 20 of the rear side above the portion 18, and also the base part 12, are both provided with fixing holes 21, and by means of these it can be appreciated from Figure 5 that if the main body part 11 is positioned with its base part on a floor surface 22a and its upright part against an adjacent upright wall surface 22b, fixing means (not shown) such as screws or bolts can be passed through the holes 21 so as

securely to fix the part 11 to the two surfaces. Of course the fixing could be to only one of the surfaces, but this would provide less security. Figure 5 shows how the provision of the recess accommodates a skirting board, pipe etc denoted by numeral 23.

The ledges 15a and 16 are provided with a series of spaced holes 24, 25 respectively along the length thereof, and in this example the holes are equi-spaced, the holes 24 in the ledge 15a being at the same lengthwise position along the part 11 as the holes 25 in the ledge 16. The holes are of generally rectangular shape, with the middle one in the series of holes in the ledge 15a lying transversely, the other holes in that series extending longitudinally.

As shown best in Figure 1, an elongate, square cross-section projection 26a is secured to the inner surface of part 19 at both ends thereof, and respective corresponding projections 26b (only one shown) are secured opposite thereto on the inner surface of the upright part of front side 14. The respective inwardly, longitudinally facing surfaces of the projections are formed with threaded bolt holes 27.

The part 11 can have a number of ventilation openings of any selected shape in any of its surfaces, for example as shown in the part 19 and ledge 16. Instead of the sides 13, 14 being of different heights, they could be of equal heights. In any event, neither would normally exceed the height of the computer intended to be secured by the security device. The length of the part 11 is somewhat longer than the length of the computer.

To prevent the computer 28 (Figures 6 and 7) from being withdrawn from either end of the part 11, these ends are completely or partly filled. In the example illustrated the ends are partly filled by respective removable steel plates 29 of rectangular form, at least one of which has its opposite ends bent firstly through 90° and then again through 90° to form end flanges 30 parallel to but out of the plane of the main body of the plate. In the example illustrated both plates have a height less than that of the front side, but they could be higher if necessary.

Fixing holes 31 are provided in the flanges 30, or merely at the ends of a straight plate, and, in use, the plates are disposed normally between the sides of the part 11 with the flanges or ends of the plate against the projections 26a, 26b at said sides, as shown in Figure 2. Fixing bolts, not shown, extend through the holes 31 and into the bolt holes 27 to secure the plates in position.

Completing the security device casing structure is an upper, cage-like element 32, shown in Figure 3. The element 32 is made up of a number, in this example five, of steel strips 33, each bent into an inverted channel form. The inverted channels each have one side limb 34 shorter than the other side limb 35, and the channels are aligned, equally spaced apart, in a row, being interconnected by longitudinally arranged strips 36 on the outside of the upper part of the longer side limb, and on the outside of the channel base.

The element 32 is of a size so that it can inter-fit with the part 11, by virtue of the side limbs 34 being received through the holes 25 in ledge 16, and the ends of the side limbs 35 being received through the holes 24 in ledge 15a. Accordingly all the side limbs 34 are arranged,

widthwise, longitudinally of the cage-like element 32, whereas for the side limbs 35 the lower end of the middle limb is turned through 90°, so that it can be received through the central transverse hole 24 in ledge 15a. Figure 4 shows the element 32 fitted to the remainder of the security device in this manner.

In the front side 13 is fitted a high security lock 37, operable, by key means, from the outside of the security device. This lock can operate a sliding bar or rod (not shown) along the inside of the front side 13. The lower end of the middle side limb 35 is formed with a vertical row of openings 38 to receive the sliding rod or bar, thereby to lock the element 32 to the remainder of the security device. Clearly the engagement of element 32 with the part 11 can be adjusted, as regards upwards or downwards positioning, by virtue of the adjustment openings 38, the sliding rod engaging in the lowermost opening 38 with the element 32 in its maximum upper adjusted position, and in the uppermost opening 38 with the element 32 in its maximum lower adjusted position. The adjustment required is of course dependent on the height of the computer 28 to be received in the security device. Instead of the stepped adjustment disclosed, some form of stepless adjustability could be provided. The sliding rod of the lock could, in an alternative element, be received through aligned openings in all the limbs 35 respectively, if they all had an end part turned through 90° and provided with openings 38.

In use, the plates 29 are secured in place at the ends of the part 11, as described. The length and width of the area defined by the base part 12, sides 13, 14 and plates 29 is such that any conventional size of tower computer 28 can be received therein, normally upright, as shown in

Figures 6 and 7, with a disc slot and other controls thereof being accessible from the exterior, i.e. at one end of the security device, as shown. If required, the or each end plate could cover all or a greater part of the end of the device than that shown. With a conventional size of computer 28, the top thereof will normally terminate no lower than the ledge 16. If it terminates below the ledge, the plates 29 may need to extend further upwards to prevent removal of the computer, in use, from the complete device by lifting it up and then sidewardly out of the end of the device.

Once the computer is in place on the base part 12, the element 32 is engaged with the part 11 by positioning it over the computer, as in Figure 6, and moving it downwards so that the limbs 34 and 35 are received through the holes 25, 24 respectively, as previously described. The element 32 is lowered until it is in contact with, or close to, the top of the computer, whereupon the lock 37 is operated to shoot the rod into an aligned one of the openings 38. With a computer of conventional height, the limbs 34 extend a substantial distance below the ledge16 to resist any attempt to disengage the shorter side of the cage from its engagement with the side 14 by levering the shorter side upwardly whilst the cage 32 is locked to the part 11 at its longer side.

In this state, the computer is secured against removal from the security device in any direction, i.e. by upwards movement, by forwards movement, or by sidewards movement. Moreover access to the fixing means securing the part 11 to the floor and wall surfaces, as well to as the fixing means security the plates 29 to the part 11 is prevented by the computer itself.

The security device of the invention is advantageous in the following respects:

i) It is easily visible to a prospective thief and acts as a deterrent.

ii) It provides a very secure housing for the computer, whilst still allowing good ventilation and normal use of the computer.

iii) It allows easy and quick removal of the computer therefrom by an authorised key holder, and does not mark or damage the computer.

iv) As it will normally be secured to the fabric of the building there is no damage to valuable furniture, such as a desk, as with prior art security devices where fixing plates or pads are secured to such furniture.

Instead of the element 32 being a case-like element formed, as shown, of strips or bars, it could be reinforced by, or solely formed of suitable sheet metal. It could also be provided with end portions co-operating with or replacing the plates 29 to prevent removal of the computer sidewardly from the device.

The locking means could be of any suitable alternative form, for example a padlock engaged with the main body part 11 and also, in its locked position, a selected one of the openings 38 of element 32. An electronic lock instead of a mechanical one could also be used. More than one lock could be provided.

Instead of the casing structure being formed by two main parts, i.e. main body part 11 and element 32, with integral or separate end plates, it could of course be formed of a different number of parts which are lockable together to retain the computer. Some or all of the parts could be hinged together for easy fitting or closing onto the computer.

CLAIMS

1. A security device for a box-shaped or generally box-shaped article, the device comprising a casing structure formed in at least two parts, a first part of the casing structure being adapted for securement to a surface, the parts of the casing structure being connectible together and the casing structure having releasable securing means so that, in use, with the securing means actuated, a box-shaped or generally box-shaped article within the secured casing structure is retained against removal therefrom, and has a part thereof accessible from the exterior of the casing structure.

2. A device as claimed in Claim 1, wherein a second part of the casing structure is engageable with said first part thereof and releasably securable in said engaged position by said securing means.

3. A device as claimed in Claim 2, wherein to prevent removal of the article from the secured casing structure, in use, in directions other than those in which removal is prevented by the first and second parts, plate members are secured to the first member at opposite ends thereof.

4. A device as claimed in Claim 3, wherein fixing means securing the plate members to the first member are inaccessible from the exterior of the casing structure, and normally concealed by the article retained by the casing structure, in use.

5. A device as claimed in any one of Claims 1 to 4, wherein access to fixing means securing said first part of the casing structure to

said surface, is prevented, in use, by the article when it is retained by the casing structure.

6. A device as claimed in Claim 1, wherein the first part of the casing structure defines respective parallel front and rear sides connected by a base normal thereto, at least one of the rear side and the base having fixing holes therein for said securement of said first part to said surface.

7. A device as claimed in Claim 6, wherein respective plates are provided at opposite ends of the first part of the casing structure.

8. A device as claimed in Claim 7, wherein the plates are formed integrally with the first part of the casing structure.

9. A device as claimed in Claim 7, wherein the plates are connected to the first part of the casing structure by fixing means which are inaccessible from the exterior of the casing structure, and normally concealed by the article retained by the casing structure, in use.

10. A device as claimed in any one of Claims 6 to 9, wherein access to fixing means securing said part of the casing structure to said surface by passage through said fixing holes, in use, is prevented by the article when it is retained by the casing structure.

11. A device as claimed in Claim 6, wherein said securing means are locking means, and a second part of the casing structure is engageable with said first part thereof and releasably lockable in said engaged position by said locking means.

12. A device as claimed in Claim 11, wherein the second part of the casing structure is in the form of a cage slidably engageable with the front and rear sides of the first part of the casing structure.

13. A device as claimed in Claim 12, wherein the cage is of inverted general U-shape in cross-section, formed by a series of aligned, spaced, interconnected generally U-shaped bars, opposite ends of the bars being receivable, in use, through respective holes in respective ledges of said front and rear sides of the first part of the casing structure, the cage forming at least a top of the casing structure, in use.

14. A device as claimed in Claim 13, wherein one of the bars of the cage has its lower end which engages with one of the ledges provided with a hole through which, in use, a locking member of said locking means extends when the locking means is actuated, thereby locking the cage to the first part of the casing structure.

15. A device as claimed in Claim 14, wherein said lower end has a series of such holes to allow for adjustment of the position of the cage relative to the first part of the casing structure to accommodate different sizes of article within the casing structure, each adjusted position of the cage placing one of said holes in alignment with said locking member, so that upon actuation of the locking means the locking member extends through said opening to lock the cage in its adjusted position.

16. A device as claimed in Claim 14 or Claim 15, wherein the locking member is a slidable rod.

17. A device as claimed in any one of Claims 6 to 16, wherein the rear side is of substantial height for securement to a wall surface and the front side is significantly shorter.

18. A device as claimed in any one of Claims 6 to 17, wherein the securing means are at said front side.

19. A device as claimed in any one of the preceding claims, wherein the first part is formed of sheet metal.

20. A security device substantially as hereinbefore described, with reference to, and as shown in the accompanying drawings.

The Patent Office

14

Application No: GB 9601918.7
Claims searched: All

Examiner: A Angele
Date of search: 23 April 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): E2A(AARR, AARX), E2X(X7X)

Int Cl (Ed.6): E05B-073/00

Other: ONLINE-EDOC

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X,Y	GB 2290347 A	ANCHOR PAD(See whole doc & especially embodiment of fig 5	1-5,7-9,19
X,Y	GB 2286630 A	MST Dvpt. Co(See whole doc)	1-6,10,11
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Y	US 4471409 A	DITTRICH(See whole doc)	13,14
A	US 4624510 A	JEDZINIAC	
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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.
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