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(54) Vandalproof cabinet and lock protection device

(57) A vandalproof cabinet comprises a housing (1) which has a lockable door (2) at at least one side, which door is for this purpose provided with locking means (3) accessible through a keyhole. To protect the cabinet (1) against forceful opening and other forms of vandalism, a lock protection device (4) is securely connected to the door (2) at the area of the keyhole. The lock protection

device (4) comprises a robust body which at the area of the keyhole is provided with a through hole (5). The body further has a cavity (6) which extends substantially transversely to the through hole (5) and intersects the through hole (5). Blocking means (7,8) are present in the cavity (6), blocking up the through hole (5) in a first position and clearing the through hole (5) in a second position, so that the keyhole can be reached with a key.

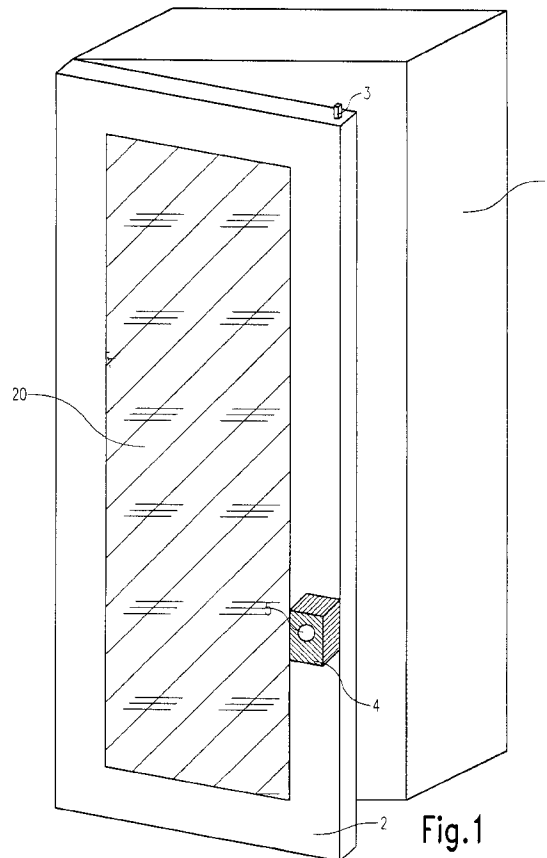


Fig.1

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Description

The invention relates to a vandalproof cabinet comprising a housing which has a lockable door at at least one side, which door is for this purpose provided with locking means accessible through a keyhole.

Such a cabinet, also called armoured cabinet, is often used for protecting vending machines and the like against vandalism in public buildings or in the street. The cabinet for this purpose comprises a sturdy, usually steel housing which can be placed around the vending machine and which comprises a door at the front which may or may not be provided with a transparent window, which door can usually be closed with an espagnolette lock. The door of the vending machine is normally closed so that the vending machine and its contents are continually adequately protected against theft, wilful damage, and other forms of vandalism, also when there is no sufficient supervision. The door has an opening at the area of an operating panel and a delivery compartment of the vending machine, so that the vending machine nevertheless remains operational at all times. The door is provided with locking means so that the door can be opened with a fitting key, whereby the vending machine becomes fully accessible for stocking up the machine and collecting the money present therein.

Although such an armoured cabinet already presents a considerable barrier to breaking-in efforts, known armoured cabinets are found in practice not to be resistant to vandalism such as it prevails nowadays. Especially the keyhole of the cabinet appears to be the weak spot of the otherwise strongly constructed armoured cabinet. The keyhole in fact inevitably forms an aperture in the otherwise impenetrable steel plating of the cabinet. The lock may be forced and the door may be opened in that a crowbar or similar tool is inserted into this aperture.

The present invention has for its object to provide a vandalproof cabinet of the kind mentioned in the opening paragraph in which the above disadvantage is counteracted.

According to the invention, a vandalproof cabinet of the kind mentioned in the opening paragraph is for this purpose characterized in that a lock protection device is securely connected to the door at the area of the keyhole, which device comprises a robust body provided with a through hole at the area of the keyhole and further provided with a cavity which extends substantially transversely to said through hole and also in said through hole, and in that said cavity comprises blocking means which in a first position block up the through hole and in a second position clear the through hole.

In the cabinet according to the invention, the keyhole of the cabinet is accessible via the through hole in the body only. When the through hole is closed off by the blocking means, the keyhole, i.e. the aperture mentioned above, is no longer accessible to a crowbar or similar tool. The body itself is not or substantially not

vulnerable to a crowbar or the like, so that the secure connection between the body and the door cannot be broken. The cabinet according to the invention has proved itself resistant in practice to the most serious forms of vandalism and criminality encountered at the present time.

In a special embodiment, the blocking means comprise a solid body which lies enclosed between the bottom of the cavity on the one hand and fixation means on the other hand, which fixation means in the first position retain the body in the through hole and in the second position release the body therefrom. The body here ensures in the first position that the through hole is closed off and the keyhole is not accessible. To prevent an access being forced in that the body is pierced, the body in a preferred embodiment of the cabinet according to the invention comprises a ball with a convex, cylindrical, at least curved surface, such that a drill has no effect thereon.

A further special embodiment of the cabinet according to the invention is characterized in that the fixation means comprise a cylinder lock which is accommodated in the cavity with sliding fit, and in that the cavity extends laterally adjacent the through hole so as to receive therein a rotatable projection of the cylinder lock in said first position. The cylinder lock itself may be of a conventional type. The projection thereof is introduced into the lateral extension of the cavity so that the cylinder lock and accordingly also the body are fixed in the through hole. When subsequently the projection is turned from the extension into the cylinder of the lock again, the cylinder lock can slide freely into the cavity and thus be brought into the second position, in which the body is removed from the through hole, and the keyhole is accessible again.

The invention will now be explained in more detail with reference to an embodiment and the accompanying drawing, in which:

- 40 Fig. 1 shows an embodiment of a vandalproof cabinet according to the invention;
- Fig. 2 shows cross-sections of the lock protection device of the cabinet of Fig. 1 in a first position thereof; and
- 45 Fig. 3 shows cross-sections of the lock protection device of the cabinet of Fig. 1 in a second position thereof.

The drawing is purely diagrammatic and not true to scale. Some dimensions have been particularly exaggerated for the sake of clarity. Corresponding parts have been given the same reference numerals in the Figures.

In a first embodiment, the vandalproof cabinet according to the invention comprises a heavy metal housing 1 provided at the front with a lockable door 2, which is for this purpose fitted with an espagnolette lock of which a rod 3 projects from the door 2 at the upper and the lower side in the closed state, entering respective

mating receptacles in the bottom and roof of the cabinet 1. The rod 3 is hidden in a shaft in the double-walled door 2 and is accordingly not accessible from the outside. The espagnolette lock can be operated through a keyhole in the door 2. The door 2 is provided with an impact-resistant window 20, which may or may not be associated with a mesh, to render visible a vending machine (not shown) accommodated in the cabinet 2.

To screen off from the outside the aperture inevitably formed by the keyhole, through which aperture access to the rod 3 could be forced by means of a crowbar or similar instrument, a lock protection device 4 according to the invention is fitted on the door 2 at the area of the keyhole. The lock protection device 4 is shown in more detail in Figs. 2 and 3 in cross-section in a first, closed and a second, open position, respectively.

The lock protection device 4 comprises a robust body, made of hardened steel in this case, and is provided at the area of the keyhole with a through hole 5 through which the keyhole can be reached by a key. A cavity 6 extends substantially transversely to the through hole 5 in the body, issuing into the lower side of the body in this example, and traversing the through hole 5 at the opposed side 61. The cavity 6 comprises blocking means in the form of a solid ball 7 which lies enclosed between the bottom 61 of the cavity 6 on the one hand and fixation means in the form of a cylinder lock 8 on the other hand. The cylinder lock 8 slides practically without clearance in the cavity 6.

In the first position drawn in Fig. 2, the cylinder lock is closed so that a rotatable projection 9 thereof lies in a local lateral extension 62 of the cavity 6 present adjacent the through hole 5. The cylinder lock 8 is fixed in the cavity 6 in this position, so that the lock 8 keeps the ball 7 in the through hole 5 and the keyhole is no longer accessible.

To open the door 2, the lock 8 is brought into the open position drawn in Fig. 3 where the projection 9 enters the lock 8, so that the lock 8 can slide freely in the cavity 6. The lock 8 is pulled in outward direction, whereby the ball 7 drops from the through hole 5 under the influence of gravity, thus exposing the keyhole. To prevent the lock 8 from being pulled in its entirety from the cavity 6, a locking pin 10 is arranged in the body 4 at the end of the cavity 6, shown in projection in the Figure.

It is thus achieved in a comparatively simple, but no less effective way that the keyhole, i.e. the weakest spot of the cabinet, is protected against the action of a crowbar and similar tools. The cabinet according to the invention has indeed proved to be resistant to serious forms of vandalism and criminality in practice where prior art cabinets were ineffective.

Although the invention was described in detail above with reference to only a single embodiment, it will be obvious that the invention is by no means limited to the example given. On the contrary, many variations and alternative designs are possible to those skilled in the art without departing from the scope of the invention.

Thus, for example, some other, preferably solid body may be used instead of the ball for blocking up the through hole in the first position. A round ball, however, has the advantage, as has an alternative body with a convex, cylindrical, at least curved surface, that a drill is incapable, or at least substantially incapable of attacking it, so that the through hole cannot be readily drilled open so as to force an entrance to the keyhole.

Instead of the espagnolette lock in the door 2, furthermore, alternative closing means may be used, the lock protection device 4 always protecting the keyhole so as to prevent burglary of the cabinet.

More in general, the invention offers an effective protection of a keyhole through the placement of a lock protection device in front of it, preventing the lock with which the keyhole is associated from being forced open from the outside.

20 Claims

1. A vandalproof cabinet comprising a housing which has a lockable door at at least one side, which door is for this purpose provided with locking means accessible through a keyhole, characterized in that a lock protection device is securely connected to the door at the area of the keyhole, which device comprises a robust body provided with a through hole at the area of the keyhole and further provided with a cavity which extends substantially transversely to said through hole and also in said through hole, and in that said cavity comprises blocking means which in a first position block up the through hole and in a second position clear the through hole.
2. A vandalproof cabinet as claimed in Claim 1, characterized in that the blocking means comprise a solid body which lies enclosed between the bottom of the cavity on the one hand and fixation means on the other hand, which fixation means in the first position retain the body in the through hole and in the second position release the body therefrom.
3. A vandalproof cabinet as claimed in Claim 2, characterized in that the body comprises a ball with a convex, cylindrical, at least curved surface.
4. A vandalproof cabinet as claimed in Claim 2 or 3, characterized in that the fixation means comprise a cylinder lock which is accommodated in the cavity with sliding fit, and in that the cavity extends laterally adjacent the through hole so as to receive therein a rotatable projection of the cylinder lock in said first position.
5. A lock protection device for a keyhole, comprising a robust body provided with a through hole at the area of the keyhole and further provided with a cav-

ity which extends substantially transversely to said through hole and also in said through hole, which cavity comprises blocking means which in a first position block up the through hole and in a second position clear the through hole.

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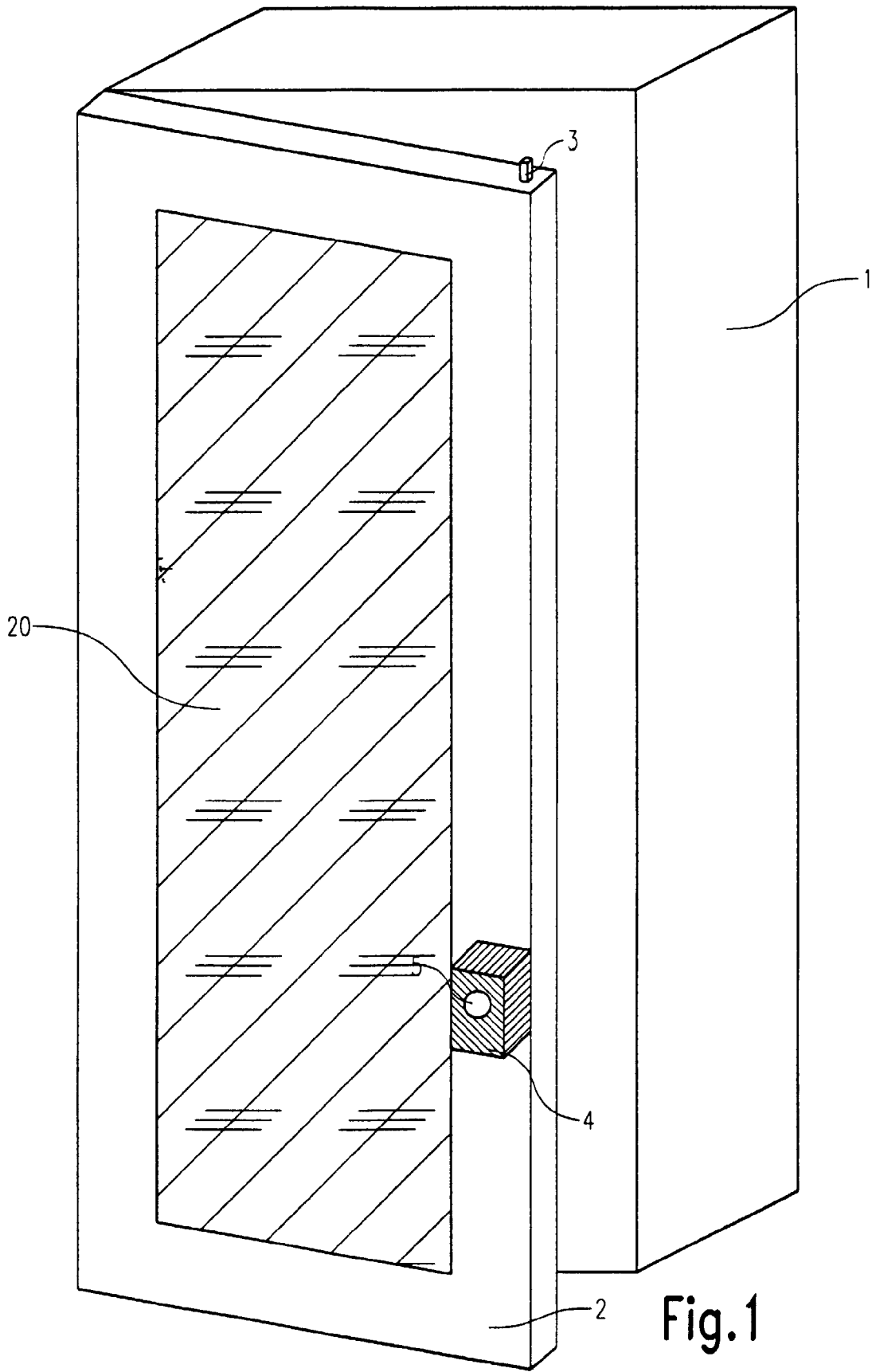
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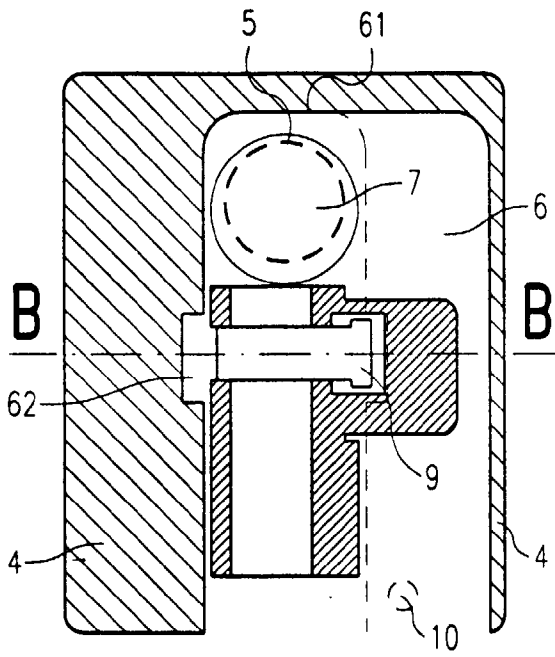


Fig. 2A

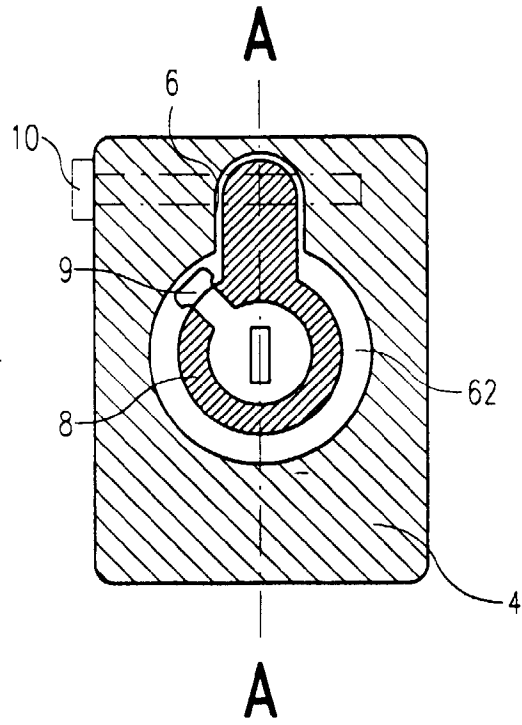


Fig. 2B

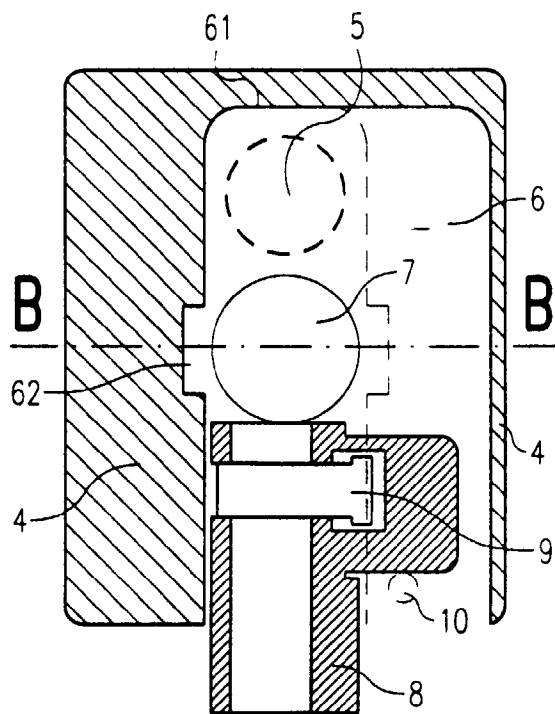


Fig. 3A

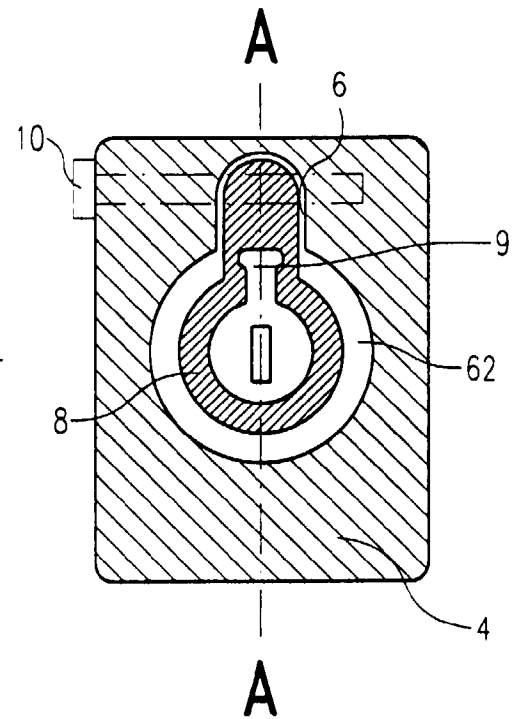


Fig. 3B