

TAMPER PROOF SEAL

FIELD OF INVENTION

5 The invention relates to tamper proof seals which are applied to closed containers such as card vaults, cash boxes or the like in such manner that the container may only be opened by breaking the seal, the condition of the seal thereby giving an indication of whether or not the container has been opened.

10 BACKGROUND OF THE INVENTION

A number of tamper proof seals already exist in the market place. It is known to use a container with a lid having a closure into which one of the tamper proof seals may be inserted.

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One example of such container with tamper proof seal is found in AU 648044 B2 which is discloses a container and lid arrangement comprising: a container having a goods containment region; a lid; a replaceable frangible seal passing through the container and the lid when the lid is closed, the seal having a barbed portion which breaks from the remainder of the seal when the lid is opened and falls externally of said goods containment region, the barbed portion is a barb barely attached to the one end of the seal . Known seals of this type are effective, provided that they are properly applied to the container and they have not been tampered with before being applied.

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25 However, known seals of this type are susceptible to pre-tampering in such manner that the seal may appear to be correctly closed when it is, in fact, in such a condition that it may readily be released and then reconnected. For example, it may be possible, by using a hand or tool to easily deform, reshape or remove the barbed portion before the seal is inserted. Thus the seal may give the appearance of being correctly applied, but a person who carried out or is aware of the pre-tampering can subsequently open the seal to gain access to the contents of the container and the reclose the seal.

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Therefore, the present invention sets out to provide a tamper proof seal which is less susceptible to pre-tampering of this kind.

SUMMARY OF INVENTION

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According to the invention there is provided a tamper proof seal for a casino card vault, the seal comprising a generally “W”-shaped member connected to a grip member by a frangible portion, wherein a middle leg of the “W”-shaped member is extended outwardly close to the grip member such that the middle leg can resiliently deflect and return to its original position upon insertion into a seal receiving slot of the card vault to engage the underside of the slot.

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Thus, the arrangement of the middle leg makes it difficult to deform, reshape or remove the middle leg before the seal is applied to a container.

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The tamper proof seal of the invention also has the advantage that there is less friction upon insertion into the seal receiving slot on a container to reduce wear and damage to the slot on the container.

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Preferably, each of the side legs of the “W”-shaped member carries a wedge which also engages the underside of the slot. The middle leg is preferably thicker than the wedges and is preferably at least the same length as the wedges. Preferably, the wedges taper away from the grip member. The middle leg and the wedges are preferably lying on a same plane at rest.

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The grip member is preferably detachable from the “W”-shaped member by breaking the frangible portion so that the card vault can be opened. Preferably, the grip member has a surface for carrying information about a content of the card vault.

The present invention consists of features and a combination of parts hereinafter fully described and illustrated in the accompanying drawings, it being understood that various changes in the details may be made without departing from the scope of the invention or sacrificing any of the advantages of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

To further clarify various aspects of some embodiments of the present invention, a more particular description of the invention will be rendered by references to specific embodiments thereof, which are illustrated in the appended drawings. It is appreciated that these drawings depict only typical embodiments of the invention and are therefore not to be considered limiting of its scope. The invention will be described and explained with additional specificity and detail through the accompanying drawings in which:

Figure 1a is a front perspective view of a first embodiment of a tamper proof seal according to the present invention;

Figure 1b is a front perspective view of a second embodiment of the tamper proof seal;

Figure 2a is a back perspective view of the first embodiment;

Figure 2b is a back perspective view of the second embodiment;

Figure 3a is a side view of the first embodiment; and

Figure 3b is a side view of the second embodiment.

DETAILED DESCRIPTION OF THE INVENTION

The invention relates to tamper proof seals which are applied to closed containers in such manner that the container may only be opened by breaking the seal, the condition thereby giving an indication of whether or not the container has been opened.

The present invention is primarily intended for use with a casino card vault which can be used to contain goods such as playing cards. The card vault includes a container with a hinged or sliding lid having a seal receiving portion into which may inserted the seal. The seal receiving portion include a first slot in a flange or lip of the container, the first

slot overlying a second slot in a flange or a lip of the container when the lid is closing the container. When the seal is inserted through the both slots, part of the seal is associated with an underside of the second slot to prevent withdrawal of the seal. However, the construction of the card vault is not restricted to only this case. It is possible to employ various constructions of the card vault other than the construction as described.

Figure 1a, 1b, 2a, 2b, 3a and 3b shows two embodiments of the seal according to the present invention. The embodiment shown in Figure 1b, 2b and 3b differs from that shown in Figure 1a, 1b and 1c by the configuration and shape of a grip member (1) for a practical purpose. The grip member (1) may take several of shape, in a preferred form it has a general rectangular shape, thus providing a large printable surface for carrying information about a content of the card vault by using a serial number, barcode, or similar unique identification.

The seal is moulded from plastics material and has the grip member (1) and a “W”-shaped member (2). The “W”-shaped (2) is separated from the grip member by a frangible portion (3) such as a scored line to assist breaking of the seal into grip member (1) and “W”-shaped member (2).

Referring to Figure 2a and 2b, the “W”-shaped member (2) has a pair of wedges (6), in which each protrudes from one of its side leg (5). The wedges (6) are tapered towards the lower end of the “W”-shaped member (2) to increase a spring movement for the middle leg (4). The middle leg (4) extends outwardly in between the wedges (6). The middle leg (4) and the wedges (6) are projected out of the same plane in which the grip member (1) lied. The middle leg (4) is at least the same length as the wedges (6). As shown in Figure 3a and 3b, the middle leg (4) is thicker than the wedges (6) and longer than the wedges in length.

To operate the seal and the container and lid, after playing cards or other goods are placed in the container, the lid is slid into a position in which the first slot of the lid lines up with the second slot of the container. The seal can be inserted from the first slot to the second slot. The middle leg (4) is extending wider than the width of the

apertures, upon insertion, passing through the slot will deflect the middle leg (4) to enable the “W”-shaped member (2) to pass through the slot. After insertion of the seal into the slots, the middle leg (4) return its position before insertion to engage the underside of the slot together with the wedges (6). The middle leg (4) cooperate with the wedges (6) to retain the “W”-shaped member (2) inside the slot and hold the container and lid in a closed configuration. In order to open the container by sliding the lid, it is necessary to bend the seal for breaking the “W”-shaped member (2) from the grip member (1) along the frangible portion (3). The “W”-shaped member (2) can be designed to fall free of the seal receiving portion and their absence upon authorised opening of container is an indication of unauthorised tampering.

The seal is designed to reduce the risk of pre-tampering. As mentioned above, each of the side legs of the “W”-shaped member (2) carries the wedge (5). The middle leg (4) extends integrally in between the wedges (6). The wedge (6) strengthen support for the middle leg (4) and prevents a hand or tool to easily deform, reshape or remove the middle leg (4). Besides that, the middle leg (4) is in a surrounded configuration as shown in Figure 2 to make such pre-tampering difficult to make.

The seal is also designed to reduce the damage on the slot of the card vault. As the middle leg (4) is only the part that act as a barb extending wider than the slot to engage the underside of the slot, the seal of the invention produce less friction when insert into the slot compared with other seals having more than one barb that allowing compressive flexure upon insertion into the slot. Moreover, the middle barb is resiliently flexible so that the seal can provide a firm engagement with the slot and minimize the friction to reduce damage on the slot for the card vault.

The herein described seal is particularly made of plastics because of the unique ability of the material to easily mould in one piece, have hardness and flexibility characteristics as the seal to function as described above and cost advantages. However, it is to be understood that the seal can be made of other types of suitable material.

Overall, the present invention advances the art of container by providing one tamper proof seal, as can be seen, thus considerably improves the security of a container having

a lid of the kind described. Such an improvement is particular desirable for container carrying playing cards handled by casino personnel which are often subject to opportunity for collusion between dealers and players and inadvertent mishandling of the cards. The tamper proof seal can be universal to fit variety of commonly sized and shaped of container, and provides no interference with normal operation of the container.

The present invention may be embodied in other specific forms without departing from its essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore indicated by the appended claims rather than by the foregoing description. All changes, which come within the meaning and range of equivalency of the claims, are to be embraced within their scope.

CLAIMS

- 1) A tamper proof seal for a casino card vault, the seal comprising
a generally continuous “W”-shaped member (2) connected to a grip member (1) by
a frangible portion (3),
5 wherein the continuous “W”-shaped member (2) is formed by a pair of side legs (5)
connected to a middle leg (4);
whereby the middle leg (4) extends outwardly close to the grip member (1) such
that the middle leg (4) can resiliently deflect and return to its original position upon
insertion into a seal receiving slot of the card vault to engage the underside of the
10 slot and a each of the side leg (5) carries a wedge (6) which also engages the
underside of the slot so as to provide tamper proof locking.
- 2) A tamper proof seal according to claim 1, wherein the middle leg (4) is thicker than
the wedges (6).
- 15 3) A tamper proof seal according to claims 1 or 2, wherein the wedges (6) taper away
from the grip member (1).
- 4) A tamper proof seal according to any one of claims 1 to 3, wherein the middle leg
20 (4) and the wedges (6) are lying on a same plane at rest.
- 5) A tamper proof seal according to any one of claims 1 to 4, wherein the middle leg
(4) is at least the same length as the wedges (6).
- 25 6) A tamper proof seal according to any one of claims 1 to 5, wherein the grip member
(1) is detachable from the “W”-shaped member (2) by breaking the frangible
portion (3) so that the card vault can be opened.
- 7) A tamper proof seal according to any one of claims 1 to 6, wherein the grip member
30 (1) has a surface for carrying information about a content of the card vault.