MODULAR OBJECT DISPLAY, SECURITY AND STORAGE SYSTEM

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Appl. No.: 11/361,380
Filed: Feb. 23, 2006

Related U.S. Application Data

Provisional application No. 60/654,912, filed on Feb. 23, 2005.

Publication Classification

Int. Cl. B65D 73/00 (2006.01)

U.S. Cl. 206/461

ABSTRACT

A modular object display, security and storage system is provided for retail and storage of relatively small, high-value objects such as portable memory devices. The system includes a clamshell style case with specific security measures built in to protect the object from pilferage, while providing visual access. A view window is provided in the front cover while a transparent window fit cover protects the object. The window fit cover and the object are not removable while the case is closed. Additional security features include a pivoting lock panel, a removable tear strip, a dual planar closure cover and a keyed teeth interlock system. A reinforced interlocking hanging aperture is provided in the case to facilitate retail display.
MODULAR OBJECT DISPLAY, SECURITY AND STORAGE SYSTEM

[0001] The following claims priority from a provisional patent application, Ser. No. 60/654,912, filed 23 Feb. 2005 to the same inventor.

TECHNICAL FIELD

[0002] The present invention relates generally to storage and retail packaging and more specifically to packaging for small, relatively high value items, particularly in the digital communications, electronic music, educational, computer and electronic memory fields.

BACKGROUND ART

[0003] One of the most popular forms of recording information today is on various storage media, which can be roughly classified into two general shapes: disc-shaped and box-shaped. Storage and retail marketing of such products are a significant issue and support a relatively major industry. Presentation of the products for retail, particularly in theft-minimization packaging, is a significant concern.

[0004] The term disc media and the abbreviation “DM” are used in a generic sense herein to include, without limitation, media such as music compact discs (CD), CD ROM computer media, digital versatile disks (DVD), digital video discs, laser discs, disk-shaped floptical discs (i.e., not those housed in box-shaped cartridges), and other relatively flat yet disk shaped data storage.

[0005] Similarly, the term cartridge media and the abbreviation “CM” are used in a generic sense herein to include, again without limitation, 5½” and 3½” computer storage formats (e.g., ZIP disks, T/M of IOMEGA, Inc.) CD ROM’s in the carriers required by some CD drive playback units, digital audio tapes (DAT), video tapes, floptical discs in cartridges, and other relatively flat yet box-shaped date storage media. Admittedly, the actual media within such CM may be a disk, a bank of disks, tape on reels, or still some other mechanism, but since it is the overall exterior shape which effectively dictates physical handling needs for storage the CM vs. DM distinction is useful for the following discussion.

[0006] In addition, in recent years another form of media storage namely “Flash Media” has become a popular storage media for digital cameras, MP3 players and small electronic devices such as cell phones and PDAs. The majority of Flash media (FM) are sold at retail in bulky exterior packaging sometimes up to 10 or 20 times the size of the actual FM component. One reason for this is the extent of pilferage at retail outlets of these particular components. As stated, FM by nature is a small footprint media, generally no larger than 2" x 2" area, with minimum planar depth. Retail purchase costs are relatively high using the common dollar/MB formula, making the product an attractive item for thieves, hence the oversized “security” packaging.

[0007] It is noted that most often the FM storage device is retained without any additional packaging for the FM device, if anything a hinged clamshell is offered that conforms closely to the overall size of the FM component. Some FM devices also have protective sleeves or the like, but these also do not change the overall size and shape significantly.

[0008] As the FM becomes more prevalent in mainstream usage, one concern is loss prevention of individual FM components. The size of the FM device, although very much an advantage for the user in its ability to be used within small electronic devices, is a detriment in so much as it is very easy to misplace. Another user concern is that most FM devices provide minimal (if any) identification area for the FM device contents. Those that are provided are not easily readable by the user.

[0009] Further, particularly with DM such as CD’s, DVD’s and CD ROM’s, it has become common to include small printed pamphlets or booklets which describe the contents, instruct on the use and preservation of the media (particularly if used to store computer data), or to provide content related information (e.g., a limited biography of the band whose music is recorded on a music CD, or installation instructions for the computer software stored on a CD ROM). It therefore follows that attendant with the proliferation of DM, CM, and FM there has also developed a need for storage of such related media literature (hereinafter “ML”), preferably along with the associated DM, CM, and FM units themselves, and even more preferably in a manner which denoted specific individual associations.

[0010] In the case of all of these potential objects for storage DM, CM, FM and ML (collectively “storage media”), there is usually one particular side bearing key identification as it is desirable that user be able to easily read this information even during storage. For example DM, such as CD’s, usually have a user informative side and a data storage side, and it is desirable that the user informative side be easily read without removing individual the CD’s from the storage system, which may actually contain a large number of CD’s.

[0011] As implied above, with the proliferation of storage media, a need has come for storing a multitude of units, and it has become a typical practice for users to maintain large libraries, sometimes of hundreds of units. Thus as, libraries of storage media grow, many users are impressed with a need for reducing space requirements, and there have accordingly been various attempts to alternate storage systems.

[0012] Unfortunately, these systems have suffered from a number of limitations, which have limited their acceptance. As with any library storage system, users seek improved accessibility, index ability, aesthetics, and reduced cost. Comprehensive library storage is also increasingly important. For example, most outside-of-the-original-container storage systems have not included provision for storage of ML, and particularly lacking has been systems which store ML in a readily accessible manner associated with the particular the DM, CM, and FM units with which the ML was originally delivered.

[0013] Further, as society become increasingly mobile and as data information retrieval equipment has grown smaller and more portable, transportability and robustness of library systems for storage media have become increasingly important.

[0014] Pilferage from display units at retailers is a major concern and is a motivation for many improvements in packaging. Devising ways to deter, or at least slow down, the ability of thieves to open packages and remove the easily-
concealed contents. Keeping products behind counters or in locked cabinets deters sales volume, and most packages are too easily removed, even from “locked” hangers. Retailers demand ways of delaying access to the interior of packages, while providing maximal visibility.

[0015] While some prior art systems have addressed some of the above noted concerns, none have suitably addressed them all, and today there remains a need for storage media storage systems. Accordingly, a need remains for new approaches to store, package, and display various media units.

DISCLOSURE OF INVENTION

[0016] Accordingly, it is an object of the present invention to provide a system for displaying and storing various media in a way which is protective, compact and provides display of the surface of the item to enable identification.

[0017] Another object of the invention of the present invention is to provide a secure system for storing an intermediate number of storage media, which may be, disk media (DM), cartridge media (CM), flash media (FM) and associated media related literature.

[0018] A further object of the present invention is to provide visual display of the product itself during marketing and sale, while providing several layers of security in the packaging to minimize pilferage.

[0019] Still another object of the invention is to provide that object removal may only be accomplished when the case is opened, except in cases of obvious major damage to the unit.

[0020] Yet another object of the present invention is to provide multiple transparent barriers between the object and the observer, prior to purchase.

[0021] Still another object of the invention is to provide a buttressed hanger aperture for sturdy support and to inhibit removal of the container for restricted rods or hangers.

[0022] Briefly, one preferred embodiment of the present invention is a display, storage and retail packaging unit for enclosing a small high-value object, such as a memory card or cartridge. The packaging unit is in many ways a conventional clamshell case such as is normally used with DVDs, but with several new features. A secure view window is provided which permits visual examination and identification of the object, while preventing removal without opening the entire shell of damaging several layers of transparent material. Transparent retention in the form of covers which are interlocked into a securing frame within the shell prevent removal of the covers unless the shell is completely opened. Reinforced, interlocking hanger apertures are built into the shell.

[0023] Additional embodiments incorporate further enhancements to make it difficult and time consuming to open the shell except by authorized purchasers. One embodiment incorporates a snap lock door plate which must be physically broken off by the purchaser in order to access the interior. Another embodiment incorporates a security locking tear strip placed in the grasping indent to hold the front and back plates together until removed by the purchaser. A third alternate embodiment utilizes overlapping scallop edges on the adjacent walls to make it difficult to quickly “slit” along the edge to remove wrapping.

[0024] An advantage of the present invention is that the object is clearly visible to the purchaser while on display, thus enhancing consumer confidence that the right object is being purchased.

[0025] Another advantage of the present invention is to provide a display unit which is compatible with standard retail hardware configurations.

[0026] Still another advantage of the present invention is that the interlocking ridges of the display aperture create a significant barrier to slitting the case and removing it from a locking display rod.

[0027] A further advantage of the present invention is that numerous barriers are provided against removal of the object except under legitimate (post purchase) conditions, thus severely inhibiting pilferage.

[0028] Yet another advantage of the present invention is that it provides a secure yet aesthetically palatable display case, both pre and post purchase, for the valuable contents.

[0029] These and other objects and advantages of the present invention will become clear to those skilled in the art in view of the description of the best presently known modes of carrying out the invention and the industrial applicability of the preferred embodiments as described herein and as illustrated in the several figures of the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0030] The purposes and advantages of the present invention will be apparent from the following detailed description in conjunction with the appended drawings in which:

[0031] FIG. 1 is an exploded perspective view of the modular object security and storage system of the present invention, shown with a placement of an object within the system;

[0032] FIG. 2 is a plan view of the interior of the preferred case component of the present invention;

[0033] FIG. 3 is a plan view of the preferred case component of the present invention;

[0034] FIG. 4 is an edge perspective view of a first alternate case of the present invention, showing an optional pivoting security panel feature;

[0035] FIG. 5 is an edge perspective view of a second alternate case of the present invention, showing an optional molded security tear strip feature;

[0036] FIG. 6 is an exploded perspective view of a third alternate case of the present invention, showing an optional removable hinged dual planar closure feature; and

[0037] FIG. 7 is an edge perspective view of a fourth alternate case of the present invention, showing an optional keyed teeth (scalloped edge) security feature.

BEST MODE FOR CARRYING OUT THE INVENTION

[0038] A preferred embodiment of the present invention is a modular object display, security and storage system. As illustrated in the various drawings herein, a form of this
preferred embodiment of the inventive device is a security/storage system designated by the general reference character 10. The invention is intended for use with small high-value objects, particular compact memory and storage media.

[0039] Referring now to FIG. 1, a preferred embodiment of a case 12 according to the security/storage system 10 is shown in an exploded perspective view. The preferred case 12 is similar in many ways to a conventional clamshell case such as is used to contain and retail CDs, DVDs, Video Games, iPod® units and other popular consumer goods. In the present situation, the preferred case 12 is adapted to display, contain and retail a small high-value object 14, such as a Flash Media unit (FM) as described above in the Background Art section. In this case a rectangular memory unit (a Lexar Media™ Memory Stick™) is utilized.

[0040] As shown in FIGS. 1-3, the preferred case 12 may be considered to include a relatively conventional outer shell subsystem 16 and an interior object restraint subsystem 18. The outer shell 16 provides a first layer of defense and protection to the object 14 as well as providing a method of displaying information and retaining the object 14. The inner object restraint subsystem 18 provides a second layer of security which protects and holds the object 14 in place, while still allowing visual access.

[0041] The outer shell 16 includes a planar front plate 20, a corresponding planar back plate 22, and an elongated rectangular planar spine plate 24. The front plate 20 is connected to the spine plate 24 by a first living hinge 26 while the back plate 22 is connected to the spine plate 24 by a second living hinge 28 in traditional clamshell fashion. The overall case 12, in this instance, is an elongated rectangular shape.

[0042] As illustrated particularly in FIGS. 1 and 2, the front and back plates 20 and 22 are each provided with a corresponding top edge wall 30 and a bottom edge wall 32 while a front snap wall 34 and a back snap wall 36 are respectively provided opposite the spine plate 24. A grasping indent 38 is provided in the center portion of each of the snap walls 34, 36 to allow the user to obtain a purchase to open the case 12.

[0043] The front plate 20, at a location just inside the front edge wall 34 and to the sides of the grasping indent 38, is provided with a pair of first snap protrusions 40. Similarly, the back wall 22 has a pair of second snap protrusions 42 adapted to mate with the first snap protrusions 40 in order to provide a mechanism for snapping the case 12 in a closed position. The friction snap fit produced is relatively easily overcome by outward force on the respective grasping indents 38 when the user desires to open the case 12.

[0044] Each of the front plate and the back plate 22 is provided with a corresponding hanging aperture 43 (centered near the top edge wall 30). The hanging aperture 43 is formed by an interlocking front aperture ridge 44 and a rear aperture ridge 45 respectively formed on the interior of the front plate 20 and the rear plate 22. The front aperture ridge 44 is tapered to have a "tongue" so as to fit within the corresponding "groove" in the rear aperture ridge 45 so there is a double layer of plastic material at the intersection. The two opposed ridges align and provide a pass through to allow the case 12 to be placed on a display rod or the like for retail or storage purposes. The double thickness provides strength to prevent "ripping" the case 12 from a locking hanger rod and also helps to prevent slitting through the aperture 43 by miscreants.

[0045] The front plate 20 is further provided with a view window 46. The view window 46 is shaped to allow visual access into the case 12 to the object 14. In the illustration of FIG. 1 a circular view window 46 is provided, but other shapes, such as oval or rectangles, are also envisioned. A window rim 48 extends around the periphery of the view window 46 into the interior of the case 12.

[0046] In the view of the outside of the case 12, shown in FIG. 3, it may be seen that the case 12 will ordinarily be provided with a label panel 50, which may be defined by a border ridge 52. The label panel 50 extends over the outside surface of most of the longitudinal length of the front plate 20, the rear plate 22 and the spine plate 24. The top portions of the plates are separated from the label panel 50 by the border ridge 52 to allow access to the hanging apertures 43. A label 54 is placed within the label panel 50. A hole is provided in the label 54 to correspond with the view window 46. The label 54 will be specific to the particular object 14 and will ordinarily contain branding and information on the type of product, divided however the producer/marketer desires, but typically have identifying information on the section covering the spine plate 24. A transparent sheet 56 (not shown) then is placed in the same pattern, covering the label 50 and also extending across the view window 46. At least the transparent sheet 56, and frequently the label 54 as well, are secured to the case 12 by adhesive or thermal bonding.

[0047] When the case 12 is closed and sealed for retail, an ID label 58 (not shown) will be adhered over the snap walls 34 and 36 to prevent the case 12 from being opened until after purchase. A transparent wrapper 60 (not shown) will then envelope the entire case, to be removed by the user after purchase. Both the ID panel 58 and the wrapper 60 are typically discarded after opening.

[0048] Referring now again primarily to FIG. 1, the object restraint subsystem 18 is discussed. Part of this subsystem is integral to the case 12 itself while portions are separate and removable.

[0049] Integral with the back plate 22 is a securing frame 62 which is situated so as to be centered opposite the view window 46 on the front plate 20. The securing frame 62 includes a first wall 64, a second wall 66, a third wall 68 and a fourth wall 70 which form an enclosing rectangle. Each of the walls within the securing frame 62 is provided with a pair, in the preferred case 12, of restraining protrusions 72 which extend inwardly from an upper portion of the associated wall. A tab aperture 74 is situated in the fourth wall 70.

[0050] The removable portions of the object restraint subsystem 18 are somewhat specific to the object 14. Some objects are provided with a manual 76 which will nest within the securing frame 62. A form-fit cover 78 nestsles the object 14 and holds it in place, centered within the view window 46 when the case 12 is closed. The form-fit cover 78 will typically be a transparent plastic member having a rectangular and planar peripheral portion adapted to fit within the securing frame 62 underneath the restraining protrusions 72. The central portion of the form-fit cover 78 is adapted to
frictionally restrain the object 14 therewithin, on the underside, toward the rear plate 22, such that the object 14 will be removed from the case 12 along with the form-fit cover and may be manually dislodged therefrom only after the edges of the form-fit cover 78 are freed from the lateral pressure provided by the restraining protrusions 72 and the walls of the securing frame 62.

[0051] A second cover member, a window-fit cover 80, is also provided to fit over the form-fit cover 78. The window-fit cover 80 includes a central dome 82 which is adapted to fit within the window rim 48, while the outer periphery of the window-fit cover 80, similarly to that of the form-fit cover 78, is adapted to slidably fit under the restraining protrusions 72. Both the form-fit cover 78 and the window-fit cover 80 are provided with a lift tab 84. The lift tab 84 acts to register the position of the covers and each lift tab 84 fits within the tab aperture 74 of securing frame 62.

[0052] In the preferred embodiments illustrated in FIGS. 1-3, the view window 46 is round and the dome 82 and corresponding components are similarly round. However this shape is a matter of choice and of fitting to the dimensions and configuration of the particular object, and other shapes are equally preferred.

[0053] The function and operation of the preferred case 12 are discussed below in the industrial applicability section.

[0054] Referring now to FIG. 4, a first alternate embodiment case 410 of the present invention 10 is illustrated in a perspective view.

[0055] The first alternate embodiment 410 is also referred to as a “locked door” version of the invention 10. A first alternate case 412 substantially resembles the case 12 except in the vicinity of the view window 446 (a rounded rectangle in this embodiment) and the snap walls. The first alternate front snap wall 434 is inset slightly from the edge so as to fit relatively flushly against the interior of a first alternate rear snap wall 436 which is formed at the edge. A set of corresponding snap lock apertures 486 are formed in each alternate snap wall so to be mutually aligned with the case 412 is closed. In the embodiment illustrated three matching snap lock apertures are formed in each wall.

[0056] The additional security feature is provided by a pivoting lock panel 488 which is attached in a living hinge manner to the back plate 422 (although it could be alternately attached to the front plate 420). The pivoting locking panel 488 is provided with a set of interior facing snap lock tables 490 which are adapted to align with and pass through the corresponding snap lock apertures 486 in the snap walls. These are left in a disengaged position until after the contents are loaded and the case 412 is closed. When all is ready, the pivoting locking panel 488 is pivoted into position and the snap lock tabs 490 are inserted through the snap lock apertures 486 in both the adjacent rear snap wall 426 and the front snap wall 434. The snap lock tabs 490 will snap into position on the closed case 412 in such a manner that the case 412 cannot be opened without completely removing the panel 488 (since there is no way to access the interior ends of the tabs 490 and to cause them to disengage). Thus, the only way to open the case 412 is to remove all of the wrapping and destroy the locking panel 488 (physically prying it open, usually destroying the snap lock tabs 490 in the process). This is a time consuming process to be performed after purchase and acts as a substantial inhibitor to pilferage.

[0057] Although the first alternate embodiment 410 is illustrated with the lock panel 488 being pivotally attached to the case 412, it is noted that it could be a separate element applied after closure of the case 412 and discarded after removal.

[0058] A second alternate embodiment 510, referred to as a “security tear strip version”, is illustrated in FIG. 5. The second alternate embodiment incorporates a removable tear strip 592 adapted to be inserted in the grasping indent 538 of the second alternate case 512. The tear strip 592 is an elongated plastic strip which is perforated to reduce weight and increase flexibility. It essentially fills the grasping indent (space left at each end). Four snap protrusions 574 extend from the interior surface and mate with slots 596 formed in the front snap wall 534 and the rear snap wall 536. The snap protrusions have snap tabs 598 on one side which extend sideways to mate with tab apertures 5100 formed in the front plate 520, when the case 512 is closed. The interaction between the snap tabs 598 with the tab apertures 5100 prevents removal of the tear strip 592 when the case 512 is closed, while the tear strip 592 prevents flex and opening of the case 512 when it is in place. To remove the tear strip 592 and open the case 512, the purchaser depresses the four snap tabs 598 from the outside of the case (having first removed the wrapper) and then lifts the tear strip out of the grasping indent 538. Once the tear strip 592 is removed, the case 512 functions like the preferred embodiment 10, except for ventilation provided by the tab apertures 5100.

[0059] Referring now to FIG. 6, a third alternate embodiment 610 of the invention is shown, this having removable closure component overlapping the hanging aperture 643. A portion of the top edge wall 630 of both the front plate 620 and the back plate 622 is modified and inset from the remainder and a corner 6102 abutting the snap walls is removed to provide a front inset portion 6104 and a rear inset portion 6106. These corresponding portions of the case 612 each include a pair of insertion apertures 6108 at spaced apart locations near the lower edge of the corresponding inset portions. The hanger apertures 643 are provided at opposing central locations in the front inset portion 6104 and the rear inset portion 6106.

[0060] A dual planar closure 6110 is provided to fit over and mate with the inset portions when assembled. The dual planar closure 6110 has a front flap 6112, a rear flap 6114 and a top panel 6116, with a pair of living hinges 6118 connecting these elements together such that the flaps pivot about the top panel 6116. Flap hanger apertures 6120 are formed in each of the front flap 6112 and the rear flap 6114 to mate with those on the inset portions. The interior of the front flap 6112 is provided with a lock protrusion 6122 and the interior surface of the rear flap 6114 is provided with a lock catch 6124. Both flaps are provided with a pair insert tabs 6126 which are adapted to mate with the insert apertures 6108 in the inset portions 6104 and 6106.

[0061] The dual planar cover embodiment 610 functions to lock the case 612 with the object 12 inside until removed and discarded by the purchaser. Once the object 12 has been placed in the case 612, the appropriate object restraint components 18 are in place has been placed, and the case is closed in the manner of case 10, the dual planar closure cover 6110 is applied to lock the case 612 closed until after purchase. The top panel 6116 is placed along the top edge of
the inset portions 6104 and 6106. The rear flap 6114 and the front flap 6116 are then folded down such that the insertion tabs 6126 extend through the corresponding insertion apertures 6108 and the flap hanger apertures 6120 engage the corresponding hanger apertures 643. The lock protrusion 6122 extends through the vacant corner 6102 and engages the lock catch 6124, locking the dual planar closure cover 6110 onto the case 612. The engagement of the lock protrusion 6122 and the lock catch 6124 prevents the dual planar closure cover 6110 from being opened up and the engagement of the insertions tabs 6126 with the insertion apertures 6108 prevents the cover 6110 from being vertically disengaged from the case 612. Thus, once engaged, the case 612 and the dual planar closure cover cannot be separated or opened without significant damage (and time expended). The purchase may only remove the cover 6110 by destroying it, by slicing or tearing it open. At this point it is discarded while the case 612 remains usable for storage.

[0062] Referring now to FIG. 7, a fourth alternate embodiment 710 of the present invention is illustrated, and referred to as a keyed teeth or scalloped edge security feature. The security feature 710 is adapted to be used on either the top edge walls 730 or the bottom edge walls 732, or both of any of the other embodiments and provides a further barrier against easy removal of the wrapper and opening of the case 712.

[0063] In the embodiment of system 710, the top edge walls 730 (by way of example, with the understanding that the bottom edge walls 732 could be utilized instead of or in addition) of the front plate 720 and the back plate 722 are provided with opposing keyed teeth 7128. One wall is formed to have protruding teeth 7130 which are adapted to mate with and into tooth recesses 7132 formed in the opposing wall. Each tooth recess 7132 includes a floor 7134 upon which the corresponding protruding tooth rests when engaged. The result is, when closed, an irregular abutment is formed. The irregular abutment frustrates the practice of using a blade to slice through shrink wrap wrappers 60 or security tape in a rapid manner, thus slowing down the process of opening the case 712 and reducing pilferage.

[0064] While various embodiments have been described above, it should be understood that they have been presented by way of example only, and not as limitation.

INDUSTRIAL APPLICABILITY

[0065] The modular flat object security and storage system 10 of the present invention is adapted first for applicability in display in retail situations and second for long term personal storage use by the user. The preferred case 12 is especially intended to provide layers of security without off-putting barriers to legitimate users. It is intended to minimize and slow down pilferage of the high-value objects 14 contained therewithin, while permitting visual access to the user.

[0066] The preferred case 12 is adapted to be a primary initial packaging option for high-value, small scale objects 14 such as flash media (FM). The case 12 is intended for use particularly in high volume retail circumstances where the objects 14 are displayed for inspection by customers.

[0067] Assuming that a manual 76 is associated with the object, this is first laid flat within the securing frame 62. The object is then press fit into the form-fit cover 78 which is particularly adapted for that object 14. The form fit cover 78 is placed into the securing frame with the edges held in place under the restraining protrusions 72 and the lift tab 84 nested within the tab aperture 74. This results in the object 14 being centered within the securing frame 62. Next, the window-fit cover 80 is applied in the same way, with the lift tab 84 lying on top of the other one.

[0068] When the clam shell case 12 is closed, the window rim 48 further presses down on the covers 78 and 80 and holds them firmly in position. It is noted that the window rim 48 fits entirely within the interior of the securing frame 62, such that the walls and particularly the lift tabs 84 are outside the window rim 48 and thereby not visible or accessible from the outside of the case 12. To complete the packaging, the ID label 58 and the wrapper 60 are placed over the closed case 12. Thus, when the case 12 is hung on a retail display rack, the object 14 is visible to the user, but four layers of transparent material physically separate them (wrapper 60, transparent sheet 56, window-fit cover 80 and form-fit cover 78). Therefore, in order to remove the object 14 from the package, a would be thief would need to cut through four layers to get access and leave an obviously badly damaged package behind. Especially since the covers 78 and 80 are formed of higher impact plastic, this is a formidable task. Since the pilferage is more difficult and time consuming, as well as leaving obvious evidence, perjury of this sort is discouraged and retailer losses are curtailed.

[0069] When a sale is completed and the legitimate user desires to open the package, the usual process of removing the wrapper 60 and the ID label 58 occurs. Once these are removed and discarded, the grasping indents 38 are used to overcome the snap fit of the first snap protrusion and the second snap protrusion 42 and the case 12 is opened (see FIG. 1). This allows the user to lift upward and outward on the lift tabs 84 and remove the window-fit cover 80 and the form-fit cover 78 in order to physically access the object 14. At least the form-fit cover 78 will be retained by the user if the case 12 is desired for future storage of the object (such as for library storage). The case 12 is a convenient shape and size for storage in devices adapted to store DVDs and the like, so that the user may maintain an organized set of memory devices in a compact and convenient manner.

[0070] The function and use of the alternate embodiments are described above in connection with the respective figures and further enhance the utility of the invention in reducing theft of the contents.

[0071] For the above, and other, reasons, it is expected that the security/storage system of the present invention will have widespread industrial applicability. Therefore, it is expected that the commercial utility of the present invention will be extensive and long lasting.

I claim:

1. A display, security and storage system for a small object, comprising:

   a clamshell case having a front plate and a back plate, said front plate including a view window;

   at least one transparent object restraint cover adapted to retain the object therewithin, said object restraint cover nesting within said view window such that the object is
visible therethrough, said object restraint cover extending laterally beyond the edges of said view window such that it is removable only when said clamshell case is open.

2. The display, security and storage system of claim 1, wherein

said back plate includes a securing frame formed on the interior surface opposite to and surrounding said view window when said case is closed, said securing frame adapted to fit around said object restraint cover.

3. The display, security and storage system of claim 2, wherein

said object restraint cover includes a tab extending form an edge; and

said securing frame includes a tab aperture for receiving said tab.

4. The display, security and storage system of claim 1, and further including

a transparent form fit cover to enclose the object within said object restraint cover.

5. The display, security and storage system of claim 2, wherein

said securing frame includes restraining protrusions and said object restraint cover is adapted to be restrained under said restraining protrusions and within said securing frame.

6. The display, security and storage system of claim 1, wherein

a window is formed on said front plate around said view window, said window rim extending inwardly to abut against and hold said object restraint cover in place against said back plate.

7. A secure display case for objects, comprising:

a clamshell case including a front plate and a rear plate; and

a hanging aperture being formed in opposing locations of said front plate and said back plate, by forming a front aperture ridge in said front plate and a rear aperture ridge in said back plate, wherein

said front aperture ridge and said rear aperture ridge are adapted to overlappingly abut when said case is closed such that said hanging aperture is reinforced.

8. A secure display case for objects, comprising:

a clamshell case including a front plate, a back plate surrounding a spine plate with living hinges connect said front plate and said back plate to said spine plate, each of said front plate and back plate including a top edge wall and a bottom edge wall;

a front snap wall formed near the opposing edge of said front plate from said spine plate to extend perpendicularly therefrom toward the interior of said case, said front snap wall including a plurality of snap lock apertures formed therethrough;

a rear snap wall formed near the opposing edge of said back plate from said spine plate to extend perpendicularly therefrom toward the interior of said case, said rear snap wall including a plurality of snap lock apertures, corresponding to and aligned with said snap lock apertures of said front plate, formed therethrough; and

a lock panel including a plurality of snap lock tabs corresponding to and aligned with said snap lock apertures, such that said lock panel may be placed such that said snap lock tabs extend through and mate with said snap lock apertures when said case is closed in order to lock said case in a closed position so long as said lock panel is in place.

9. The secure display case for objects of claim 8, wherein:

said lock panel extends from one of said front plate or said back plate by way of a living hinge, such that said lock panel may be pivoted into engagement with said front snap wall and said rear snap wall.

10. A secure display case for objects, comprising:

a clamshell case including a front plate and a back plate surrounding a spine plate with living hinges connect said front plate and said back plate to said spine plate, each of said front plate and back plate including a top edge wall and a bottom edge wall, said front plate including a front snap wall having a grappling indent formed therein, and said back wall including a rear snap wall having a grappling indent formed therein, each of said front snap wall and said rear snap wall having a plurality of slots formed therein; and

tear strip for fitting into said grappling indent of both said front snap wall and said rear snap wall, said tear strip including a plurality of snap protrusions extending from an interior surface thereof so as to extend through said plurality of slots when said tear strip is placed in said grappling indent of said case when it is closed, such that said tear strip prevents the opening of said case when said tear strip is in place.

11. The secure display case for objects of claim 10, wherein:

each said snap protrusion is provided with a snap tab extending laterally to engage with said clamshell case such that said tear strip may not be removed easily, once engaged.

12. The secure display case for objects of claim 11, wherein:

said snap tabs fit into tab apertures formed in said front plate and said back plate.

13. The secure display case for objects of claim 11, wherein:

said snap tabs engage the rear surface of said front snap wall and said rear snap wall.

14. A secure display case for objects, comprising:

a clamshell case including a front plate, a back plate surrounding a spine plate with living hinges connect said front plate and said back plate to said spine plate, each of said front plate and back plate including a top edge wall and a bottom edge wall;

dual planar closure cover adapted to fit over said clamshell case and hold it closed, wherein

a portion of said front plate, adjacent to said top edge wall, is recessed to form a front inset portion, and a corner of said front plate, at the intersection of said top edge wall and said front snap wall, is removed;
a portion of said back plate, adjacent to said top edge wall, is recessed to form a rear inset portion, and a corner of said back plate, at the intersection of said top edge wall and said rear snap wall, is removed; and

said dual planar cover includes a front flap, a rear flap and a top panel, said front flap adapted to abut against said front inset and extend over said corner, and said rear flap adapted to abut against said rear inset and extend over said corner, a lock protrusion formed on the interior surfaces of one of said flaps at the portion overlapping said corner, and a mating lock catch formed on the inner surface of the opposing one of said flaps such that said lock protrusion and lock catch engage to secure said dual planar closure together such that said clamshell case cannot be opened when such engagement is maintained.

15. The secure display case of claim 14, wherein

said dual planar cover is adapted to fit against said clamshell case, when closed, to provide the same overall shape and thickness therewith as is present in the vicinity of the bottom edge wall, so as to provide symmetry therewith.

16. The secure display case of claim 14, wherein

a hanging aperture is formed through each of said front plate and said back plate; and

said dual planar cover includes hanger apertures in each of said front flap and said rear flap corresponding to said hanging aperture.

17. A display case, comprising:

a clamshell case including a front plate, a back plate surrounding a spine plate with living hinges connect said front plate and said back plate to said spine plate, each of said front plate and back plate including a top edge wall and a bottom edge wall; wherein

at least on of said top edge wall and said bottom edge wall portions of said front plate and said back plate are provided with opposing and mating keyed teeth so as to form an irregular abutment when said clamshell case is closed, said irregular abutment inhibiting easy slicing through said abutment for the purposes of pilferage.

18. The display case of claim 17, wherein

said keyed teeth are in the form of protruding teeth on one of said front plate or said back plate and tooth recesses on the opposing plate.

19. The display case of claim 18, wherein

said tooth recesses are provided with a floor.

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