APPARATUS FOR STORAGE OF OBJECTS SUCH AS TAPE CASSETTES ENABLING EASY REMOVAL THEREOF
1 Claim, 5 Drawing Figs.

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ABSTRACT: Disclosed is a storage apparatus adapted for easy mounting in a position for use such as under the dashboard of an automobile. The storage apparatus includes a support or housing member adapted for mounting as above indicated and disposed therewithin is an object-containing member in the form of an open top box which is slidable from a closed position in the housing (for temporary storage) to an open and secured position with the open side of the box exposed so the contents retained therein may be readily removed therefrom. The contents in the box are stored in enclosures which are slidably mounted within the box and may be individually partially removed therefrom.
APPARATUS FOR STORAGE OF OBJECTS SUCH AS TAPE CASSETTES ENABLING EASY REMOVAL THEREOF

FIELD OF THE INVENTION

The field of this invention relates to the art of temporary storage of objects requiring frequent and easy access.

BACKGROUND OF THE INVENTION

In the prior art relating to the storage of small devices such as magnetic tape recorded cassettes, or the like, particularly in moving vehicles such as an automobile, it has been the practice to place such articles in loose boxes or the like. However, users typically either leave such cassettes lying about in the seat of the automobile or alternatively place them loose in the glove compartment of the automobile. In any of these events, the cassettes become hopelessly intermixed so that the user cannot readily identify one cassette from the remaining ones thus necessitating great rummaging through all the cassettes to find the desired one containing that recording wanted for playback purposes. Furthermore, once the desired cassette has been found normally it requires both hands to open the box in which the cassette has been stored so that it may be placed into position in the recording apparatus for playback. Obviously, if such is done it must necessitate stopping of the vehicle so that both hands may be utilized to accomplish the desired purpose.

SUMMARY OF THE INVENTION

The present invention is a storage apparatus which includes a support member and an object-containing member. The object-containing member and support member are cooperatively inter-connected in such a way that relative movement thereof is obtained so that the object-containing member may be moved from a closed to an open position and can be secured in a stable open position rendering the container thereof accessible.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1, is a side elevation, partially broken away, of the storage apparatus in closed position;
FIG. 2, is a perspective view of the storage apparatus of the present invention in an open but unsecured position;
FIG. 2a is a fragmentary view illustrating an alternative structure of a portion of the apparatus of the present invention;
FIG. 3 illustrates the storage apparatus of the present invention in an open and secured position with the contents thereof exposed, and;
FIG. 4 is an elevational view of the storage apparatus of the present invention in an open and secured position with a portion of the contents being removed therefrom.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings and more particularly to FIGS. 1 and 2, there is generally illustrated a storage apparatus in accordance with the present invention. As is shown, a housing or support member illustrated generally at 11 is affixed to a mounting means or bracket 12 which in turn is affixed to the underside of a dashboard of an automobile, or the like, shown schematically at 13. The manner in which the mounting means 12 is interconnected to the housing 11 and the bracket 12 may be any means desired such as screws, bolts, nuts, an adhesive or the like, as is well known to the prior art. It should also be noted that the housing 11 is mounted in such manner that the rear portion thereof is lower than the front portion to assist in retaining the apparatus in a closed position. Such may also be accomplished by proper alignment of track means as described more fully below. The housing 11 includes 13 may be any means desired such as screws, housing members 14 and 15. Elongated aligned openings 16 and 17 are provided in the sidewall members 14 and 15 respectively, and function as track-defining means as will be more fully described herein below. As is further illustrated, the housing 11 includes a rear wall member 18 and a top wall member 19. The top wall member 19 is mounted to the mounting member 12. From the foregoing general description of the housing member 11, it can be seen that it basically appears as a box having the front and bottom thereof open.

An object-containing member shown generally at 21 is slidably disposed for positioning between a closed and open position within the housing 11. The object-containing member 21 is adapted to receive various objects to be stored temporarily therein such as the tape cassettes referred to above. As is illustrated, the object-containing member 21 generally appears as an open topped box structure. The object-containing member 21 includes spaced apart opposite sidewalls 22 and 23 with an end wall 24 positioned at the rear of the box, a bottom wall 25 and a front wall 26. As illustrated, the sidewalls 22 and 23 are spaced apart by a distance slightly less than the sidewalls 14 and 15 of the housing 11 so as to permit the object containing member 21 to slide into the housing 11. Positioned within the open top box, or object-containing member 21, are a plurality of enclosure members 27 within which the objects to be stored, such as the tape cassettes, may be positioned. A track-engaging member 28 extends from the sidewalls 22 and 23 of the object-containing member 21 into the elongated openings 16 and 17 of the sidewalls 14 and 15.

As is illustrated, the track-defining means such as the elongated openings 16 and 17 can define a first portion 29 which is adapted to permit the pin 28 to slide substantially horizontally as shown in the drawings, so as to position the object-containing member 21 from a closed position as shown in FIG. 1, to an open position as shown in FIG. 2, or, obviously, the relative positions can be reversed going from the open to the closed position. The elongated openings 16 and 17 also include a second portion 31 in which the pin 28 also slides as to move the object-containing member 21 from the open position as shown in FIG. 2, to a secured position as shown in FIG. 3. The object-containing member is removably secured in place in the second portion 31 by causing the pin 28 to pass into a securing means such as the inverted hook terminal portion 33 of the second portion 31 of the elongated openings 16 and 17. It should be noted that the first and second portions 29 and 31 of the elongated openings have a common point illustrated at 32. Positioned adjacent the common point 32 is a rod means 34 which is attached to the sidewalls 14 and 15 and may, for example, be either a pair of inwardly directed stub shafts or alternatively a continuous shaft extended between the sidewalls 14 and 15 or a partial wall extending toward the rear. The rod means 34 functions to retain the object-containing member 21 in position when it is closed as shown in FIG. 1, by supporting the weight thereof and also functions, as is shown in FIGS. 3 and 4, to prevent backward swinging motion of the object-containing member 21 when it is in its secured position with the pin 28 resting in the inverted hook section 33 of the elongated openings.

Although the track-defining means has been shown as a slot and the track-engaging means a pin, it should be recognized that the track may take any form, such as a rail means illustrated schematically at 20 in FIG. 2a as being attached to the sidewall 14a of the housing. The track engaging means may then take the form of roller means 30, 30a straddling the rail 20. The roller means 30, 30a are affixed to the appropriate side wall of the member 21 which has been deleted from FIG. 2a for clarity of illustration. Obviously, one may utilize a single roller and two rails if desired.

In order to move the object-containing member 21 from the position illustrated in FIG. 1 to that shown in FIG. 2, one merely grasps the handle 42 affixed to (or a lower lip on) the front wall 25 opposite the object-containing member 21 and pulls outwardly causing the pin 28 to slide in the portion 29 of the elongated openings 16 and 17 until the pin 28 approaches the
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common point 32. At this point in time the object-containing member pivots upon the pin 28 into a position similar to that shown in FIG. 2. The user may then, in order to secure the object-containing member 21 in place, merely push upwardly and forwardly (toward the user) upon the front wall 26 of the object-containing member 21. As this occurs the pin 28 is caused to slide upwardly in the second portion 31 of the openings 16 and 17. When the pin 28 reaches the top part of the second portion 31, the end wall 24 of the object-containing member 21 may be pushed rearwardly (away from the user) and then allowed to drop slightly so that the pin rests at the bottom of the hook portion 33 as shown in FIG. 3. In this position the weight of the object-containing member 21 and its contents rests against the rod means 34. When in this position, a tab 43 affixed to the front portion of the enclosure members 27 may be grasped by the user and the enclosure member 27 removed from the object-containing member 21 sufficiently so that the contents of the enclosure member may be removed for use as desired. Obviously, the enclosure members may be slidably received in compartments and be adapted for complete removal if desired.

Preferably, as illustrated in the drawings, the sidewalls 22 and 23 of the object-containing member 21 along with each enclosure member 27 define cooperating guide means providing relative movement between the members 21 and 27. Such guide means may, for example, take the form of pairs of aligned opposed slots 35 in the sidewalls 22 and 23 with outwardly directed studs 37 affixed to each of the enclosure members 27 extending into the slots 35 and being slidable therein to guide and maintain each of the enclosure members 27 in position with the object containing member 21. Positioned adjacent one terminal portion of each of the slot means is a pair of inwardly directed shaft means 36 adapted to slidably engage the bottom portion of one of the enclosure members 27. Obviously, shaft means 36 and studs 37 may be continuous members.

As illustrated more clearly in FIG. 4, a user may grasp one of the tabs 43 and by pulling outwardly as illustrated by the arrow 38, may move the studs 37 along the slots 35 while permitting the bottom portion 39 of the enclosure 27 to ride upon the shaft 36. When the enclosure 27 is pulled completely forwardly to its totally open position (that is as far as it can be moved in the direction of the arrow 38), it may then be permitted to drop downwardly as illustrated by the enclosure member 27a in FIG. 4. In this position, it will be noted that the shaft 36 is effectively supporting the weight of the enclosure member 27a. When in this position as shown at 27a, the lid 41 of the enclosure member may be opened up by utilizing only one hand of the user and the contents of the enclosure member 27a, for example, a recorded tape cassette, may then be allowed to slide downwardly and into the hand of the user. The user may then close the lid 41 and return the enclosure member 27a to its original position as shown, for example, in FIG. 3 by merely reversing the steps above referred to.

If desired, the user may then return the object-containing member 21 to its storage position as illustrated in FIG. 1. This is accomplished by lifting upwardly on the member 21 and pushing rearwardly on the handle 43 to clear the hook portion 33 of the track means. The member 21 is then allowed to drop into the position shown in FIG. 2 and thereafter by rotating the member 21 forwardly and then pushing it backwardly into the housing 11 the apparatus 10 is again closed. All of the foregoing operation, including removal of the cassette, may be accomplished by using only one hand thus enabling the user to select a cassette and position it for playback while maintaining complete control of a moving vehicle.

I claim:

1. A storage apparatus for removably containing a plurality of objects comprising:
   a housing means including a boxlike structure for mounting in a horizontal position and having a first pair of opposed sidewalls;
   container means disposed within said housing and including:
   an open top boxlike structure having a second pair of spaced apart opposed sidewalls, a plurality of enclosure members each of which is individually slidable positioned between said second pair of sidewalls, a plurality of pairs of aligned slots, one pair for each said enclosure member;
   stud means extending from each said enclosure member into each said slot; and
   shaft means extending inwardly from said second pair of sidewalls adjacent one terminus of each said slot to slidably engage and retain each said enclosure member in first and second limit positions, whereby each said enclosure member may be partially removed from said container means for removal of the contents of said enclosure member;
   track means including:
   1. track defining means disposed on one of said housing and container means, and having an inverted hook portion terminal end thereof, and
   2. track engaging means disposed on the other of said housing and container means in engagement with said track defining means; and
   said housing and container means being relatively movable along said track means from a first closed horizontal position to a second open vertical position wherein said track engaging means rests in said inverted hook portion.

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