

[54] **ARTICLE STORAGE AND DISPLAY APPARATUS**

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[52] **U.S. Cl.** ..... 312/13, 312/183, 312/327,  
211/40, 211/169, 211/4

[51] **Int. Cl.** ..... **A47b 81/06**

[58] **Field of Search** ..... 312/10, 13, 20, 183,  
312/187, 193, 327, 350, 117; 211/4, 40, 41,  
169

[56] **References Cited**

**UNITED STATES PATENTS**

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[57] **ABSTRACT**

An apparatus for storing containers with tape cartridges or the like comprising at least one substantially quadrangular, for instance rectangular, trough equipped internally thereof with protruding boundary and support means for a number of rows of tape cartridge containers. A cover member is hingedly connected at one edge of the trough. A locking mechanism enables fixing the cover member in its closed position. At least the base surfaces of the trough and cover member are formed of transparent material.

**5 Claims, 5 Drawing Figures**

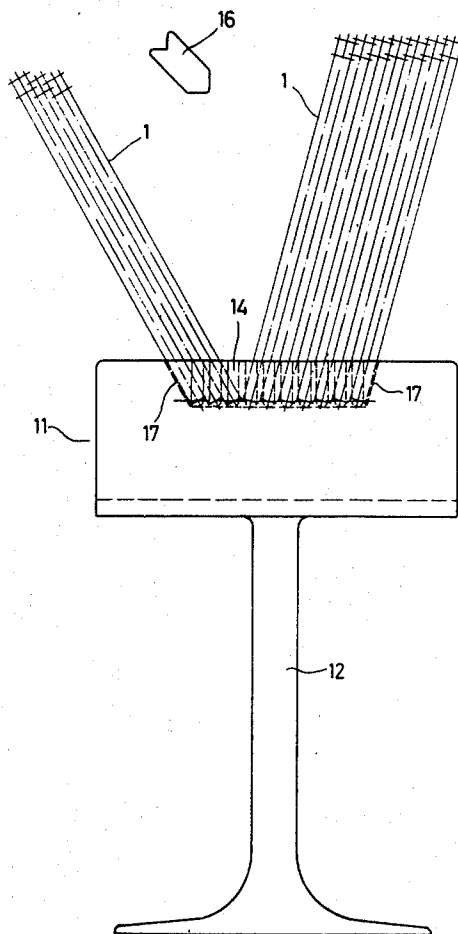


FIG. 1

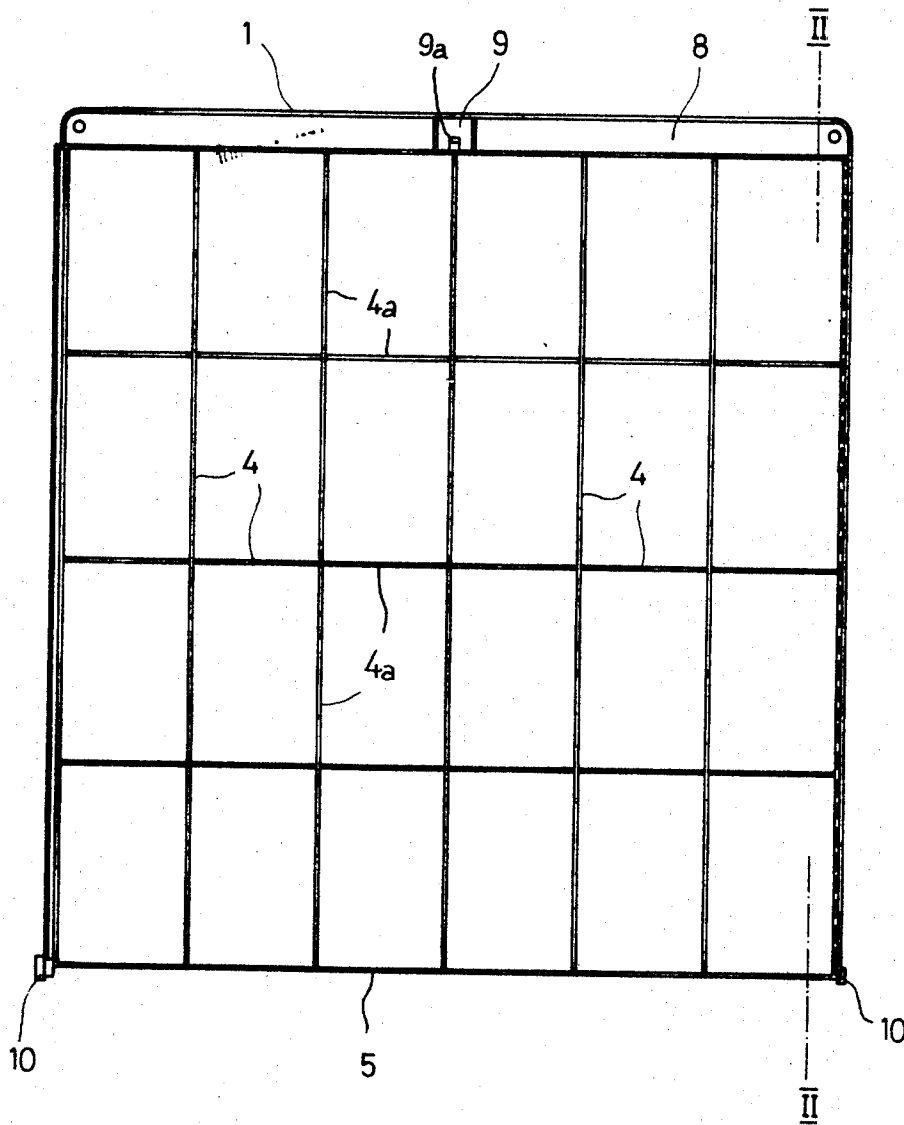


FIG. 2

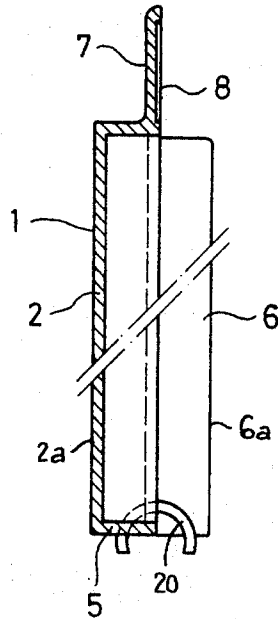
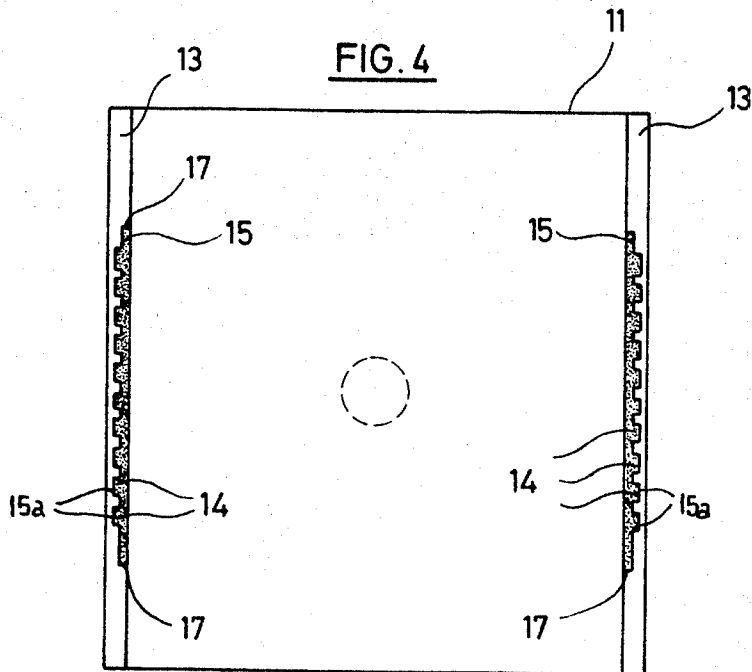


FIG. 4



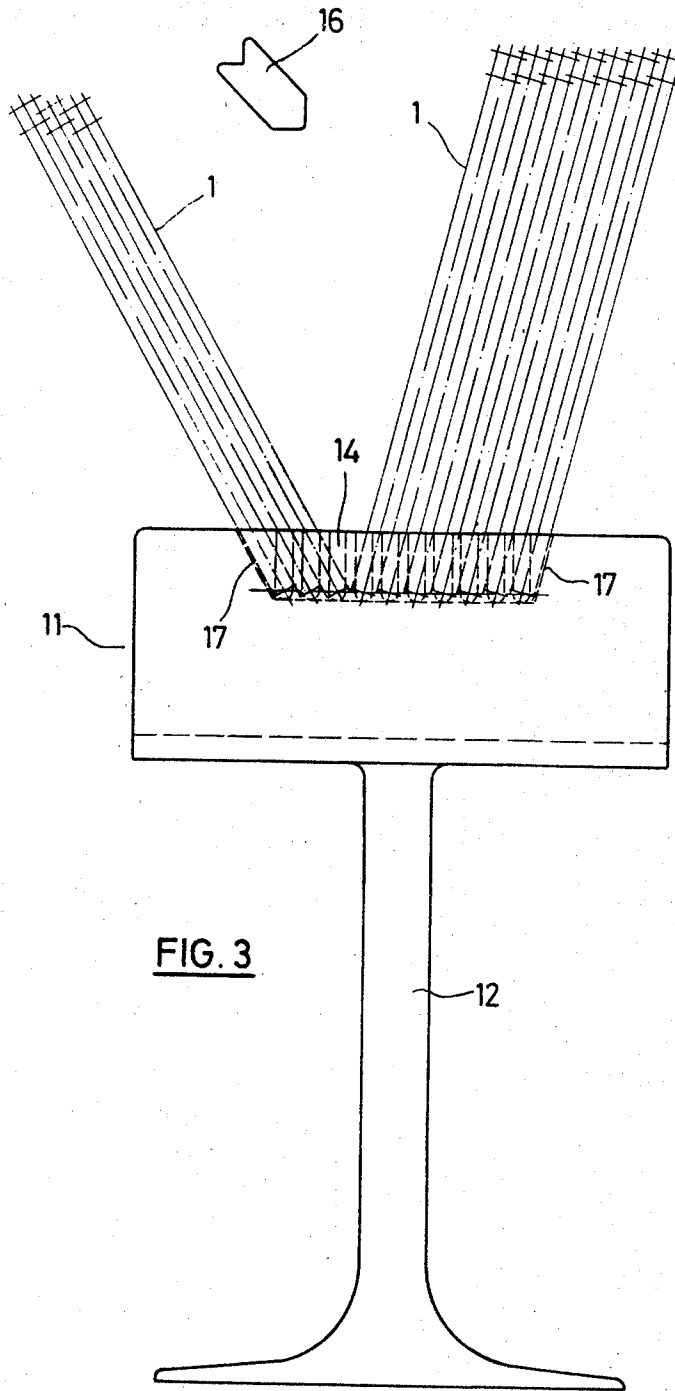
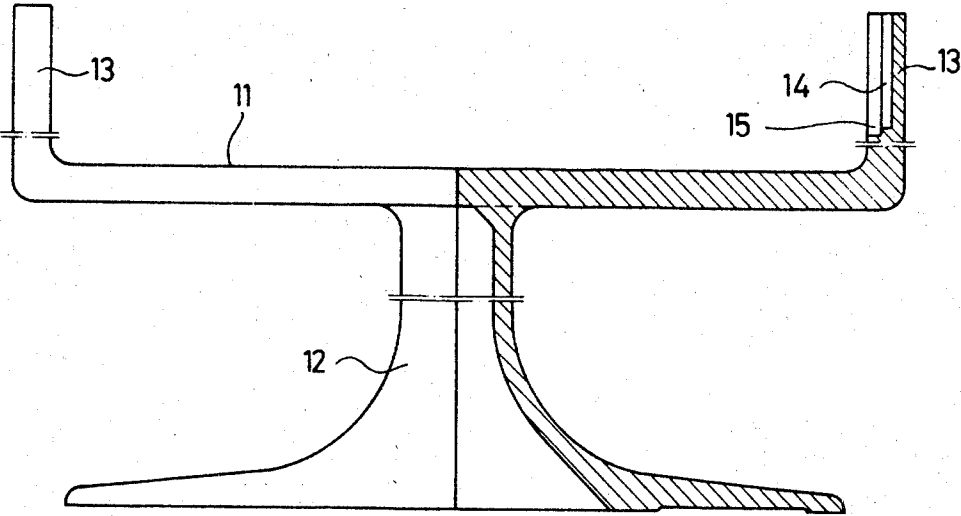


FIG. 5



**ARTICLE STORAGE AND DISPLAY APPARATUS****BACKGROUND OF THE INVENTION**

The present invention relates to a new and improved apparatus for storing and also, if desired, displaying articles, especially containers of tape cartridges or the like.

The storage of recorded tape cartridges in their containers in commercial establishments, typically stores, both for the purpose of displaying same as well as for the sale thereof, is associated with a number of problems. In order to encourage potential customers to purchase the tapes, the different tape cartridge containers should have the information or writing concerning the contents thereof visible from both sides. However, openly or loosely displaying these cartridges is not desired because owing to their rather small size, there is a great temptation towards theft.

Hence, up to now commercial establishments concerned with the sale of such tape cartridges have placed the cartridges in stands similar to the display stands used for the display and sale of pocketbooks. However, the use of such type stands for the storage and display of tape cartridges renders more difficult removing same because it is usually necessary to manipulate a retaining rod or bar. When using such stands generally only one surface of the tape cartridge and mostly three non-written side edges are visible. Hence, if the customer desires to inspect the complete writing on the cartridge, he must either request the sales person to remove the container with the cartridge from the stand, or else must do so himself. Some stores frown upon removal of the container and tape cartridges from the stands by the customers since they fear possible theft or damage thereto.

**SUMMARY OF THE INVENTION**

Hence, there is still a real need for a storage and display device for containers of tape cartridges which overcomes the aforementioned drawbacks and limitations of the prior art proposals. It is therefore a primary object of the present invention to provide a new and improved construction of storage and display device for articles, especially tape cartridges, which effectively and reliably fulfills the existing need in the art and is not associated with the aforementioned drawbacks and limitations of the state-of-the-art proposals.

Another and more specific object of the present invention relates to an improved apparatus for the storage of containers of tape cartridges, by means of which the tape cartridges can be displayed in their containers in a space-saving manner, safeguarded against theft and yet still visible at both sides, so that pertinent information regarding the contents of the cartridge is easily and readily available to the party wishing to inspect same, typically a customer.

Yet a further significant object of the present invention concerns the provision of a new and improved construction of storage and display device for articles, especially tape cartridges, which is extremely attractive and pleasing in appearance, highly functional in that it firstly permits storage and display of the cartridge containers in an eye pleasing and safe manner, both against damage and theft, while still rendering accessible both sides of the tape cartridge containers which may be provided with information usually printed thereon.

Now in order to implement these and still further objects of the invention, which will become more readily apparent as the description proceeds, the inventive article storage device comprises at least one quadrangular, typically rectangular trough having protruding boundaries and support means for a number of rows of tape cartridge containers. A cover member is hingedly connected to one of the edges of the trough and this cover member can be fixed by a lock mechanism in its closed position. At least the base surfaces of the trough and cover member are formed of a transparent material.

According to one constructional manifestation of the invention, the unit formed by the trough and the cover member together with further similar units are mounted so as to be tiltable within a receptacle.

When such receptacle is used in a sales establishment or store, it simultaneously offers a number of customers the possibility of inspecting a large number of tape cartridges at both faces or sides thereof without having to or being able to remove the individual tape cartridge containers.

**BRIEF DESCRIPTION OF THE DRAWINGS**

The invention will be better understood and objects other than those set forth above, will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein :

FIG. 1 is a front view of a holder unit incorporating the trough with the cover member for storing for instance 24 tape cartridge containers :

FIG. 2 is a cross-sectional view of the arrangement of FIG. 1, taken substantially along the line II—II thereof:

FIG. 3 is a view of the receptacle for tiltable receiving a number of phantom-line illustrated units of the type depicted in FIGS. 1 and 2:

FIG. 4 is a top plan view of the receptacle depicted in FIG. 3; and

FIG. 5 is a vertical sectional view of a variant construction of receptacle from that shown in FIG. 3, viewed in a position turned 90° from the showing of FIG. 3.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Describing now the drawings, a holder unit 1 for the theft-proof storage of containers with tape cartridges as illustrated in FIGS. 1 and 2 will be seen to embody a quadrangular, for instance rectangular trough member or frame 2 formed of transparent material, preferably plastic, which offers space in four rows for 24 closely juxtapositioned standardized containers having tape cartridges of the so-called "compact cartridges," i.e., wherein a second container houses the tape cartridge container for instance the so-called Philips type cartridges. A quadratic base shape of the trough 2 can be realized for so-called standard "cartridge"-tapes i.e., tapes housed in a single container, if such is dimensioned to receive three rows of each four such cartridge tapes.

Through the provision of intersecting ribs or struts 4 internally of the trough 2 there are formed boundaries and support means 4a for the individual cartridge containers, so that upon removal of an individual container by inclining the trough 2, the remaining tape cartridge containers cannot undesirably positionally shift. At the

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lower edge 5 of the trough 2 of the showing of FIG. 2, there is hingedly connected by means of any suitable hinge-type member 20, a cover member 6 which likewise is formed of a transparent material, preferably plastic. The height of the free space between the floor 2a of the trough 2 and the cover 6 when such cover is closed is dimensioned such that it corresponds approximately to the thickness of a container for a compact cartridge. It is contemplated that at least the respective base surfaces 2a and 6a of the trough 2 and cover member 6 are formed of transparent material to expose the sides or front faces of the cartridge containers for the reasons heretofore explained. To preserve clarity in illustration the containers with the tape cartridges have not been shown, but are the standard commercially available types.

Continuing, at the edge opposite to the edge 5 equipped with the hinge 20, there is formed at the trough 2 a flange 7. Hence, when the cover member 6 is closed, a flange 8 of this cover member bears against the flange 7, as best seen by referring to FIG. 2. Both of these flanges 7 and 8 support a respective locking element intended to cooperate with one another and collectively forming the locking mechanism 9 depicted in FIG. 1. By means of this locking mechanism 9 the trough 2 and the cover member 6 can be fixed in the illustrated closed position of FIGS. 1 and 2. It is of advantage to design the locking mechanism 9 such that it forms a lock 9a which can be actuated by a suitable key. Any type of appropriate locking mechanism suitable for these purposes can be utilized and the invention is not limited to any specific type of locking mechanism.

Now as best seen by referring to FIG. 1, the edge 5 of the unit 1, which edge carries the hinge 20 between the cover member 6 and the trough 2, is extended past the trough 2 and thus forms two pin members or pivots 10. By means of these pin members 10 it is possible to support the holder unit 1 along with other similarly constructed units within a receptacle 11, for instance of the type depicted in FIGS. 3 to 5. Receptacle 11 is secured to a base support or column 12 and possesses a substantially U-shaped cross-section, the opening of which is slightly less than the side length of a unit 1. Two oppositely disposed walls 13 of receptacle 11 are provided with a number of oppositely situated pairs of grooves 14 which are open towards the top. These grooves 14 are arranged in a flat recess 15 of the associated receptacle wall 13. The spacing between the base surface 15a of oppositely disposed recesses 15 corresponds to the side length of the holder units 1. Therefore it is possible to insert one or a number of such units, as indicated in FIG. 3, from above into the confines of the receptacle 11, and in a manner that the pins or pivots 10 slide in the opposite pairs of grooves 14 until reaching the bottom or floor of the relevant grooves 14. Within the confines of the boundaries 17 of the recesses 15 in the receptacle walls 13, it is thus possible for the holder units 1 to be easily and conveniently tilted or pivoted through the agency of their pin members 10 serving as pivot axes. Hence, a person

standing in front of the receptacle 11 can readily view, in the direction of the line of sight indicated by the arrow 16 of FIG. 3 and by tilting or flipping over the individual units, both the front as well as the rear of all of the tape cartridge containers which are stored in the units 1 through the transparent trough 2 and the cover member 3 of the individual units 1. If the customer desires to buy a specific tape cartridge, then he or she informs the sales personnel of such fact, so that the latter by opening the locking mechanism 9 enables the unit containing the relevant tape cartridge to be opened and the cartridge container to be thus removed.

While there is shown and described present preferred embodiments of the invention, it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied and practiced within the scope of the following claims. Accordingly,

What is claimed is :

1. An apparatus for storing and displaying containers with tape cartridges, comprising in combination: a receptacle, a plurality of substantially quadrangular holder units for the tape cartridge containers releasably supported by said receptacle, each of said holder units comprising a trough internally provided with boundary and support means for forming a plurality of compartments for receiving and displaying the tape cartridge containers in rows, each holder unit further incorporating a cover member hingedly connected with an edge of its associated trough, a separate locking means for locking the cover member of each holder unit in its closed position, at least the base surface of the trough and cover member of each holder unit being formed of transparent material, cooperating means provided at the receptacle and each holder unit for allowing each holder unit to be tiltably arranged at said receptacle to permit easy visual inspection of both the front and back of the tape cartridge containers displayed in each holder unit and allowing for removal of any holder unit independently of the remaining holder units.

2. The apparatus as defined in claim 1, wherein said locking means for each cover member and trough includes a lock which can be actuated by a key.

3. The apparatus as defined in claim 1, wherein the edge carrying the hinge connection between the cover member and trough is extended at both ends past the trough for forming two pin members constituting part of said cooperating means and by means of which each holder unit formed by the trough and cover member can be tiltably mounted in the receptacle.

4. The apparatus as defined in claim 3, wherein two oppositely situated side walls of the receptacle are provided with grooves open at the top and directed towards the floor of the receptacle, and constituting part of said cooperating means, and further wherein oppositely disposed pairs of such grooves permit each such holder unit to be tiltably mounted at the receptacle via the pin members thereof.

5. The apparatus as defined in claim 4, wherein said grooves are all arranged at a recessed portion of the associated receptacle wall.

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