

[54] **INTERCONNECTING STORAGE HOLDER
FOR TAPE CARTRIDGE**

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312/107

[51] Int. Cl. **B65d 21/02, B65d 85/00**

[58] Field of Search **206/1 R, 56 AB, DIG. 36;**
220/23.4, 23.6, 97 R; 312/107, 111, 198

[56] **References Cited**

UNITED STATES PATENTS

1,565,993	12/1925	Fitzpatrick	312/107
2,237,176	4/1941	Dorman	312/107
2,506,844	5/1950	Smith	312/107
2,695,723	11/1954	Waterman	206/56 AB
2,988,412	6/1961	Vannice	312/111
3,567,298	3/1971	Ambaum et al.	312/107
3,642,337	2/1972	Manheim	206/1 R

Primary Examiner—William T. Dixon, Jr.

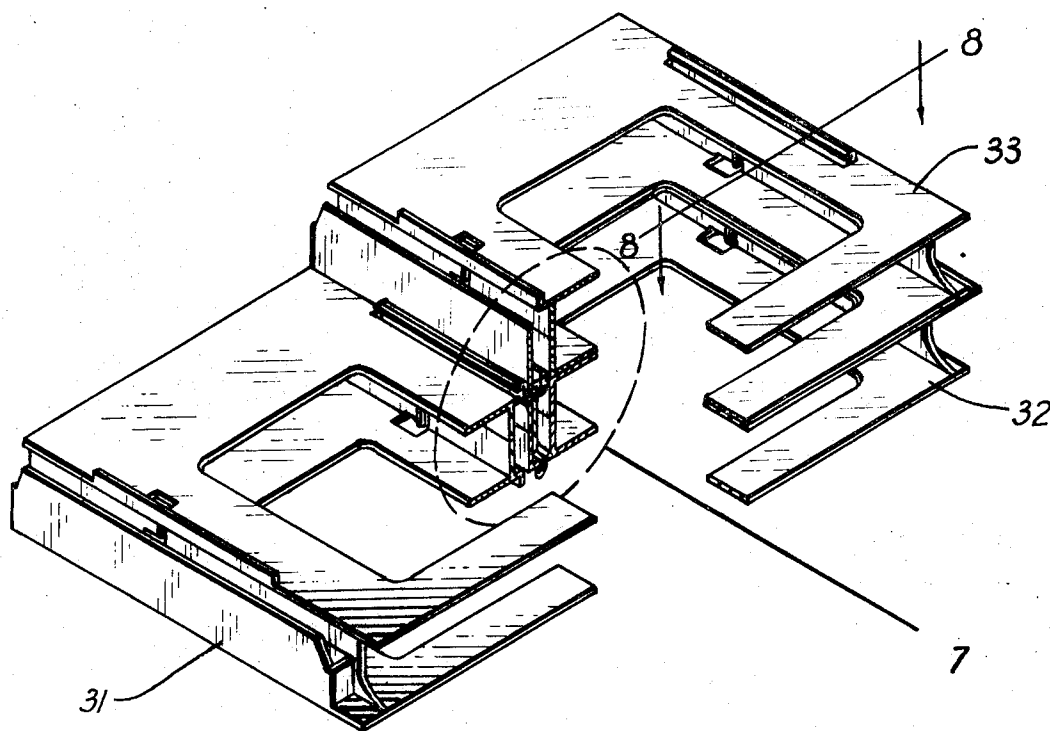
Attorney—Harold R. Woodard

[57]

ABSTRACT

A holder for storing a tape cartridge which is vertically and horizontally connectable to identical holders. The holder is a five sided enclosure with one open end for slidably receiving the cartridge. A spring finger mounted to the side wall of the holder is releasably engageable with the cartridge. A pair of hook-shaped rails are mounted to the top and bottom walls of the holder. The bottom and top wall each include a slot positioned immediately adjacent and inward of each rail. In addition, a pair of ridges are mounted to the top and bottom walls. The ridge on the top wall is lockingly engageable with a holder stacked thereatop with the rail on the top wall projecting into a slot on the holder stacked thereatop. Likewise, the ridge and rail on the bottom wall of the holder are engageable with a holder stacked therebelow. Oppositely extending flanges are mounted to the opposite sides of the holder so as to interlock with similar flanges provided on holders positioned along side.

6 Claims, 8 Drawing Figures



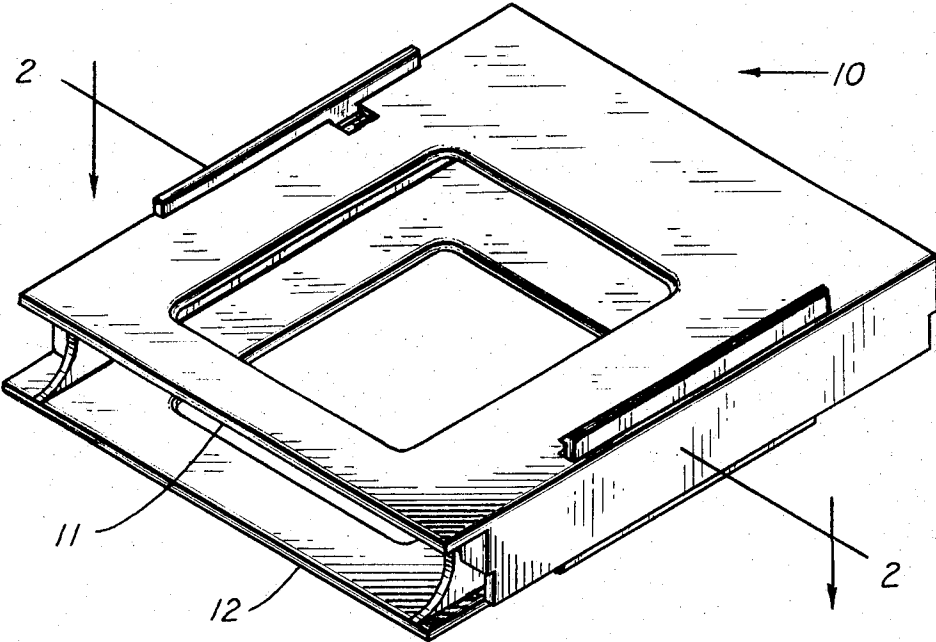


FIG. 1

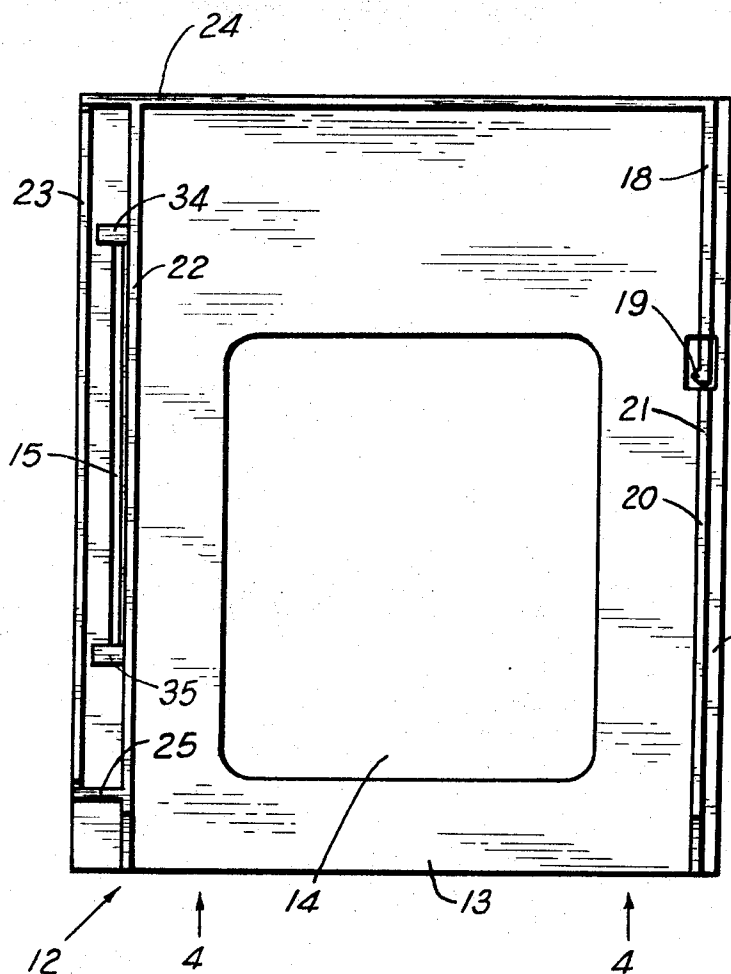


FIG. 2

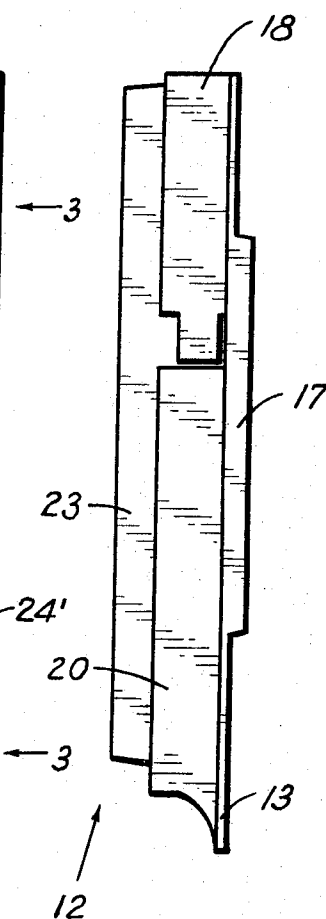


FIG. 3

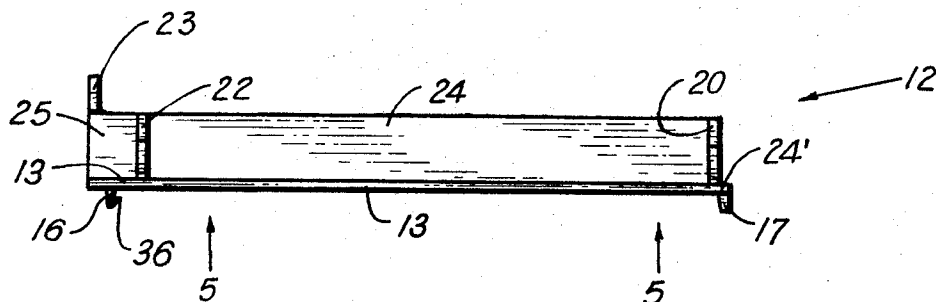


FIG. 4

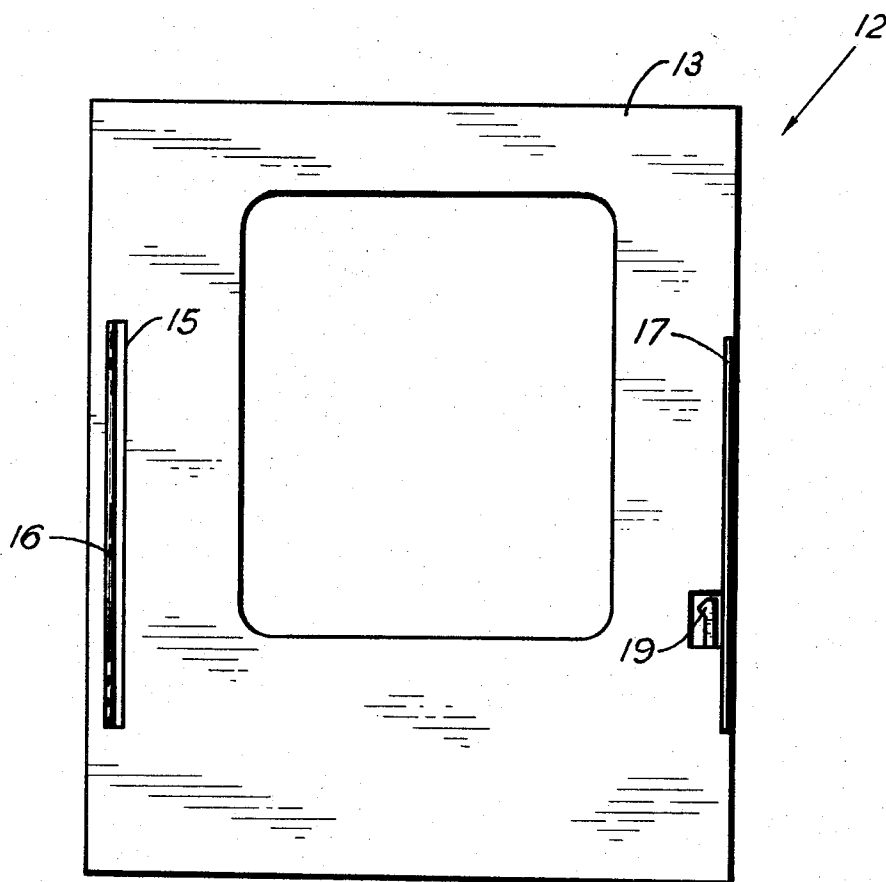


FIG. 5

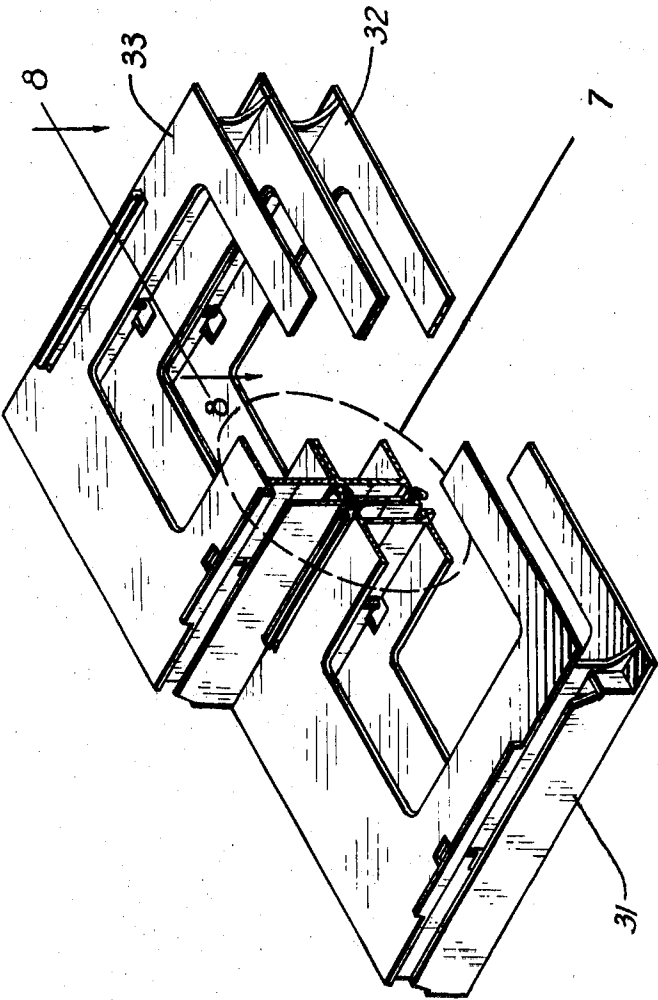


FIG. 6

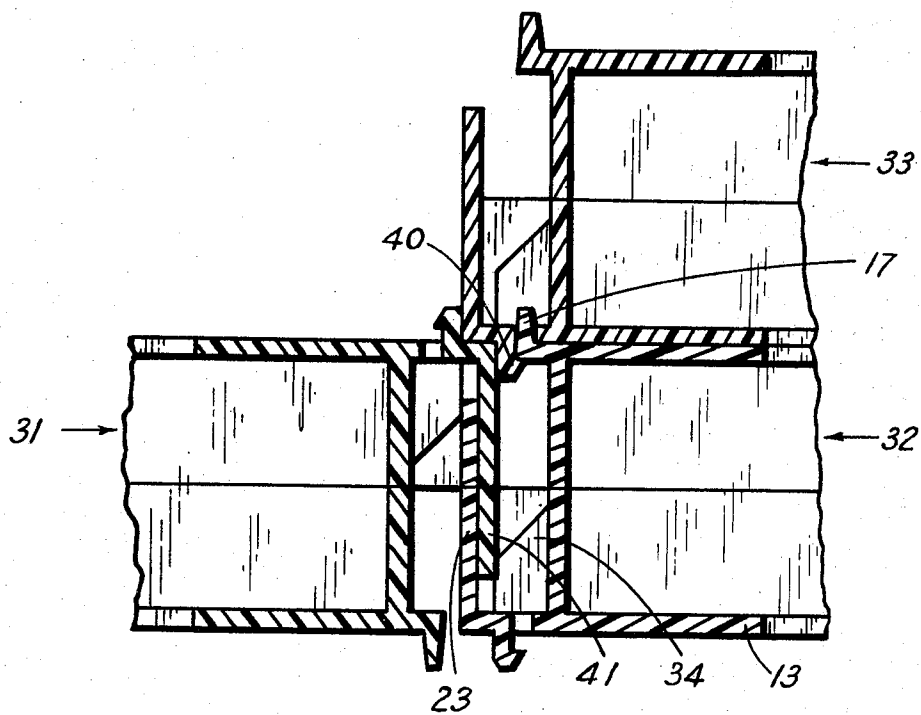


FIG. 7

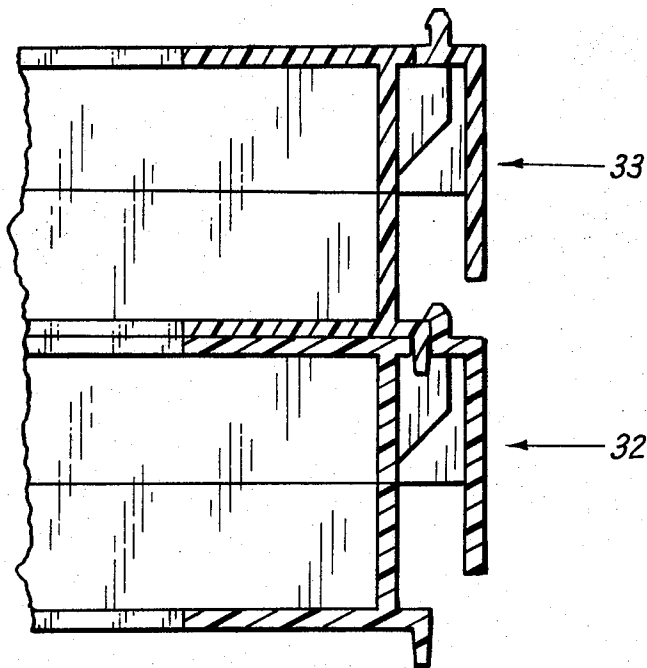


FIG. 8

INTERCONNECTING STORAGE HOLDER FOR TAPE CARTRIDGE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is in the field of packages.

2. Description of the Prior Art

A representative sample of the prior art is disclosed in the following U.S. Pats. Nos.:

3,081,897 issued to D. H. Livingston et al.;

3,123,243 issued to F. W. Roesch et al.;

3,145,870 issued to W. H. Lockwood;

3,182,856 issued to J. Goltz;

3,315,834 issued to L. S. Nemlich; and,

3,360,152 issued to R. S. Leers.

Many types of packages have heretofore been proposed which will stack in vertical columns. Such a package is disclosed in the aforementioned Lockwood patent. Another similar stackable container is disclosed in the aforementioned Goltz patent.

Audio taped cartridges are presently marketed in packages typically of a paperboard construction. Racks may be purchased which will allow the user to store the tape cartridges. It is desirable to market the tape cartridge in a package which will facilitate vertical and horizontal stacking thereby eliminating the necessity for a separate rack. Disclosed herein is a holder for a tape cartridge: such as an eight track cartridge. The holder may be used to package the cartridge for the marketing thereof and may also be subsequently used by the buyer for conveniently stacking the cartridges both vertically and horizontally.

SUMMARY OF THE INVENTION

One embodiment of the present invention is a storage holder for a tape cartridge which can be vertically stacked with a first identical holder and coupled in a horizontal row to identical holders comprising a main body having a top member and a bottom member spaced apart to receive the cartridge, the body having a first and second side wall spaced apart to receive the cartridge and connecting the top member and bottom member together, locking means mounted on the body being contactable against the cartridge to releasably hold the cartridge within the body, top projection means connected to the top member operable to lockingly abut against the bottom of the first holder, bottom projection means connected to the bottom member operable to lockingly abut against the top of an identical holder stacked therebeneath, a first flange connected to the top member next to the first side wall and extending downward, a second flange connected to the bottom member next to the second side wall and extending upwardly, the first flange is spaced from the first side wall to receive therebetween the second flange of an identical holder positioned alongside whereas the second flange of the storage holder is spaced from the second side wall to receive therebetween the first flange of another identical holder positioned alongside.

It is an object of the present invention to provide a package which may be used to market a tape cartridge and subsequently use for vertical and horizontal stacking of cartridges.

It is yet another object of the present invention to provide a new and improved storage holder for a tape cartridge.

Another object of the present invention is to provide a tape cartridge holder which is relatively inexpensive to produce.

Related objects and advantages of the present invention will be apparent from the following description.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a holder incorporating the present invention.

FIG. 2 is an enlarged cross sectional view taken along the line 2—2 of FIG. 1 and viewed in the direction of the arrows.

FIG. 3 is a side view looking in the direction of arrows 3—3 of FIG. 2.

FIG. 4 is an end view looking in the direction of arrows 4—4 of FIG. 2.

FIG. 5 is a bottom view looking in the direction of arrows 5—5 of FIG. 4.

FIG. 6 is a fragmentary perspective view of two holders in a vertical stacked position connected horizontally to a third holder.

FIG. 7 is a fragmentary enlarged view of the area enclosed by circle 7 of FIG. 6.

FIG. 8 is a fragmentary enlarged cross sectional view taken along line 8—8 of FIG. 6 and viewed in the direction of the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENT

For the purposes of promoting an understanding of the principles of the invention, reference will now be made to the embodiment illustrated in the drawings and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

Referring now more particularly to FIG. 1, there is shown a storage holder 10 for holding an eight track tape cartridge. Holder 10 can be lockingly stacked atop a bottom identical holder and below a top identical holder. In addition, the holder may be coupled in a horizontal row to identical holders. As shown in FIG. 6, holder 33 is lockingly stacked atop holder 32 which in turn is horizontally coupled to holder 31.

Holder 10 includes a top half portion 11 which is secured to an identical bottom half portion 12. Bottom half portion 12 will now be described by referring to FIGS. 2 through 5 it being understood that an identical description applies to top half portion 11. The body of the holder is comprised of the top half portion and the bottom half portion which are secured together by adhesives or other suitable fastening means. Bottom half portion 12 includes a horizontal bottom wall 13 which is spaced apart from the horizontal top wall of top half portion 11 so as to receive the cartridge therebetween. A pair of side walls 21 and 22 are integrally connected to bottom wall 13 and extend vertically upward therefrom being joined to the side walls of the top half portion which extend vertically downward from the top wall. The side walls of the main body are spaced apart to receive the cartridge and also connect the top wall and bottom wall together. Wall 21 includes two wall portions 18 and 20. A spring finger 19 is cantileveredly

mounted to and is a part of wall portion 18. The distal end of finger 18 projects inwardly to contact and engage the cartridge positioned within the holder. The main body may be made completely of a material such as plastic. As a result, when the cartridge is pulled outwardly from the holder, finger 19 will be forced away from the cartridge. It may therefore be seen that the finger releasably holds the cartridge within the main body of the holder until it is desired that the cartridge be removed. An identical spring finger is mounted to the side wall of top half portion 11 which is in line with wall 22 of the bottom half portion. As previously mentioned, top half portions 11 and 12 are identical. Thus, when the side walls of both portions are joined together, the side wall of the top half portion having a spring biased finger identical to finger 19 is aligned with side wall 22 of the bottom half portion. On the other hand, the side wall of the top half portion which is identical to side wall 22, that is which is not provided with a spring biased finger, is aligned with wall 21 of the bottom half portion which is provided with a spring biased finger. As a result, when the user inserts the cartridge into the holder, the user does not have to be concerned as to the orientation of the holder with respect to the cartridge. An eight track tape cartridge is provided with a recess along one side thereof so as to releasably engage a locking mechanism within the audio player. This recess although designed for another purpose is used to engage one of the spring biased fingers 19 to secure the cartridge within the holder. Opening 14 (FIG. 2) allows any display material, such as the name of the music recorded to show through the holder.

A rail 16 is connected to and mounted on bottom wall 13 extending downwardly therefrom. Rail 16 has a hook-shaped cross section with the tip 36 of the hook extending along the length of the rail on the side facing ridge 17 which is also connected to and mounted on wall 13. Rail 16 and ridge 17 are parallel and are of the same length. A slot 15 is provided in wall 13 being positioned immediately inward and adjacent rail 16 and extending the length of the rail. It should be noted that ridge 17 is flush with one of the longitudinally extending edges of wall 13 whereas rail 16 is positioned next to but is spaced from the opposite edge of wall 13 being positioned outwardly of wall 22. Ridge 17 is positioned outwardly with respect to wall 20. Wall 20 is spaced inwardly from ridge 17 forming ledge 24'.

A top rail identical to rail 16 is mounted to the top wall of the top half portion 11 and extends upwardly therefrom. Likewise, a top ridge identical to ridge 17 is mounted to the top wall of the top half portion and extends upwardly therefrom. The top ridge is parallel and opposite the top rail. The top ridge is flush with one of the edges of the top wall in a manner identical to ridge 17 with respect to the bottom wall whereas the top rail is positioned next to but spaced from the opposite edge in a manner similar to that described for rail 16. Likewise, the top wall is provided with a slot which is immediately adjacent and inward of the rail mounted to the top wall.

In order to vertically stack the holders the ridge 17 (FIG. 7) attached to the top wall of holder 32 is inserted into the slot located on the bottom wall of holder 33. In addition, the rail (FIG. 8) on the top wall of holder 32 is slipped against and over the ledge of the bottom wall of holder 33. In a similar manner, rail 40

of the bottom wall of holder 33 fits against and under the top wall of holder 32 whereas the ridge (FIG. 8) on the bottom wall of holder 33 fits into the slot on the top wall of holder 32. The slot on the bottom wall of holder 32 limits lateral movement of ridge 17. The rail mounted to the top wall of the holder is therefore operable to lockingly abut against a holder mounted thereatop. Likewise, the bottom rail mounted to the bottom wall of the holder is operable to lockingly abut against a holder stacked therebeneath.

Flange 23 (FIG. 4) is mounted atop and connected to wall 13 outward of and next to slot 15 and side wall 22. A cross wall 25 is integrally connected to wall 23 and wall 22 with a back wall 24 being connected to walls 22, 23 and 21. Flange 23 extends upwardly beyond the top edges of walls 21 and 22. An identical flange is mounted to the top wall of the top half portion and extends downwardly and outwardly of wall 21 of the bottom half portion.

To horizontally couple identical holders, the flanges are interlocked. For example, flange 23 is slipped between the side wall of holder 31 (FIG. 7) and flange 41 which extends downwardly from the top of holder 31 between flange 23 and the side wall of holder 32.

A pair of bosses 34 and 35 are mounted atop wall 13 (FIGS. 2 and 7) and to wall 22. The bosses extend toward wall 23 being spaced therefrom so as to provide a press fit when flange 41 extends between the bosses and flange 23. Similar elements are mounted to and beneath the top wall of holder 32 adjacent to the opposite side wall.

While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiment has been shown and described and that all changes and modifications that come within the spirit of the invention are desired to be protected.

The invention claimed is:

1. A storage holder for a tape cartridge which can be vertically stacked with a first identical holder and coupled in a horizontal row to identical holders comprising:

- a main body having a top member and a bottom member spaced apart to receive said cartridge, said body having a first and second side wall spaced apart to receive said cartridge and connecting said top member and bottom member together;
- locking means mounted on said body being contactable against said cartridge to releasably hold said cartridge within said body;
- top projection means connected to said top member operable to lockingly abut against the bottom of said first holder;
- bottom projection means connected to said bottom member operable to lockingly abut against the top of an identical holder stacked therebeneath;
- a first flange connected to said top member next to said first side wall and extending downward;
- a second flange connected to said bottom member next to said second side wall and extending upwardly;
- said first flange is spaced from said first side wall to receive therebetween the second flange of an identical holder positioned alongside whereas said second flange of said storage holder is spaced from

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said second side wall to receive therebetween the first flange of another identical holder positioned alongside.

2. The storage container of claim 1 wherein:

said locking means includes a spring finger cantileveredly mounted to said first side wall and projecting inwardly to engage said cartridge.

3. The storage holder of claim 2 wherein:

said top member and said bottom member are walls with longitudinally extending edges, said top projection means includes a top rail with a hook-shaped cross section which is positionable against and over the edge of the bottom of said first holder to lock said storage holder and said first holder together, said bottom projection means is a bottom rail with a hook-shaped cross section which is positionable against and under the edge of the top of an identical holder stacked therebeneath.

4. The storage holder of claim 3 and further comprising:

a top ridge mounted on said top member parallel to and opposite of said top rail, said top ridge being flush with one edge of said top member whereas said top rail being positioned next to an opposite edge;

a bottom ridge mounted on said bottom member parallel to and opposite said bottom rail, said bottom ridge being flush with one edge of said bottom

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member whereas said bottom rail being positioned next to an opposite edge; and wherein:

said top member has a slot immediately adjacent and inward said top rail to receive the bottom ridge of said first holder and to limit lateral movement of said first holder with respect to said storage holder; and,

said bottom member has a slot immediately adjacent and inward said bottom rail to receive the top ridge of a holder stacked therebeneath.

5. The storage holder of claim 4 and further comprising:

a first element integrally mounted to said body between said first side wall and said first flange being spaced from said first flange to press fittingly received therebetween the second flange of an identical holder positioned alongside; and,

a second element integrally mounted to said body between said second side wall and said second flange of said body being spaced from said second flange of said body to press fittingly received therebetween the first flange of an identical holder positioned alongside.

6. The storage holder of claim 5 wherein:

said body includes a top half portion and bottom half portion secured together which are identical.

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