CONVERTIBLE STORAGE CONTAINER/PICTURE FRAME ASSEMBLY

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ABSTRACT

A convertible storage container for a plurality of co-operable picture framing elements, such as a plurality of slotted joinable framing members adapted to form a complete peripheral frame when removed from the container and joined together for a display of a picture mountable in the slotted framing members in a picture framing position of the elements, is adapted to be converted into a picture frame having a backing board in cooperation with the framing elements stored within the interior. In a storage container position, an outer backing board member, such as corrugated cardboard, peripherally surrounds the framing elements to form an enclosed storage container therefor. If it is desired to form a picture frame from the contents, the stored framing elements are joined together, and the backing board is converted to a substantially planar configuration and inserted in the slotted framing members to enhance the rigidity thereof while providing backing for a picture mountable in the slotted frame. The framing elements may include a transparent sheet insertable in the joined slotted framing members with the picture being inserted between the sheet and the backing board. If desired, the picture may also be stored within the interior of the storage container formed by the peripherally surrounding backing board.

10 Claims, 8 Drawing Figures
CONVERTIBLE STORAGE CONTAINER/PICTURE FRAME ASSEMBLY

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a framing system for the display of pictures in which a storage container for the picture framing elements is convertible into a picture frame in cooperation with these framing elements.

2. Description of the Prior Art

Prior art picture frames of the modular type are well known such as disclosed in U.S. Pat. No. 3,613,280. Such prior art picture frames, however, if they utilize a back board, must utilize a separate flat back board whose sole purpose is to provide backing for the picture. Thus, although the modular frame in the unassembled condition takes up considerably less space than in the assembled condition, the back board utilizes the same amount of space and no economy of packaging is realized.

The high cost of packaging products, has resulted in attempts to provide a dual purpose for the packaging container such as a drawing board as disclosed in U.S. Pat. No. 3,620,362; as a mattress support, as disclosed in U.S. Pat. No. 3,513,490; and as a book stand, as disclosed in U.S. Pat. No. 3,195,850, by way of example. However, there are presently no satisfactory framing systems, such as for large pictures, which can be produced at low cost and can be distributed in a package that is economical, and convenient to handle or ship. These disadvantages of the prior art are overcome by the present invention.

SUMMARY OF THE INVENTION

A convertible storage container for a plurality of cooperable picture framing elements adapted to be converted into a picture frame having a back board in cooperation with the framing elements stored therein is provided. When the arrangement is utilized as a storage container, the back board, such as a corrugated cardboard, peripherally surrounds the framing elements so as to form an enclosed storage container therefor. This outer back board member has a longitudinal axis in this storage position about which the back board peripherally surrounds the framing elements stored therein, the outer member being opened at opposite ends thereof along the longitudinal axis in this storage position for removably receiving the framing elements therein. Capping members are removably mountable at these opposite ends in the storage position for completely enclosing the framing elements within the interior of the peripherally surrounding outer member when they are mounted at the opposite ends so as to form the enclosed storage container.

The framing elements peripherally include a plurality of slotted joinable framing members removable from the storage enclosure interior and adapted to form a complete peripheral frame when removed and joined together for display of a picture mountable in the slotted framing members in a picture framing position of the elements as well as, if desired, a transparent sheet which is mountable in the joined slotted framing members in the picture framing position, with the picture being mountable between the back board and the transparent sheet in this picture framing position. The outer back board member is convertible to a substantially planar configuration with the capping members removed and is mountable in the joined slotted framing members in a substantially planar configuration thereof in the picture framing position to enhance the rigidity of the joined framing members while providing backing for a picture mountable in the joined framing members in the planar configuration thereof, the back board providing a protective storage enclosure for the framing elements in the peripherally surrounding configuration thereof.

If desired, the picture to be displayed may also be stored within the convertible storage container interior. Furthermore, the storage container may be any desired configuration such as cylindrical or polygonal and the corrugated member may include a plurality of substantially uniformly spaced apart parallel fold lines extending thereacross to minimize any warping of the corrugated member planar configuration while providing an axis of folding for portions of the corrugated members peripheral configuration, with the folded portions providing internal support for the folded corrugated member to enhance the sturdiness of the storage container. In addition, these folded portions may diagonally divide the storage container into at least two storage compartments for the framing elements while providing enhanced structural sturdiness for the storage container. If desired, the framing members may comprise two pairs of extruded metal or plastic frame sections which are metered to form a rectangle by either screwing together the corners or other conventional means of securing these members together.

Brief Description Of Drawing

FIG. 1 is an exploded perspective view of the convertible storage container/ picture frame assembly of the present invention illustrating a typical preferred storage configuration;

FIG. 2 is a view similar to FIG. 1 illustrating an alternative storage container configuration;

FIG. 3 is a view similar to FIG. 1 illustrating another alternative storage container configuration;

FIG. 4 is an exploded diagramatic illustration of the convertible assembly provided in FIGS. 1, 2, 3 in the picture framing position;

FIG. 5 is a sectional view of FIG. 4 taken along line 5-5;

FIG. 6 is a view similar to FIG. 4 showing a typical interconnection of framing members;

FIG. 7 is a fragmentary exploded view similar to FIG. 6 of an alternative interconnection arrangement for the framing members;

FIG. 8 is a fragmentary exploded perspective view, similar to FIG. 4, illustrating the container of FIG. 2 or 3 in a framing position thereof.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings in detail, and initially to FIG. 1 thereof, a typical convertible storage container/picture framing assembly in accordance with the preferred arrangement of the present invention is shown. In the arrangement illustrated in FIG. 1, the convertible storage container, generally referred to by the reference numeral 10, preferably comprises an outer back board member 12 which is rolled about a longitudinal axis 14 so as to form a storage enclosure in the interior thereof. The outer back board member 12 preferably consists of corrugated cardboard,
such as single-faced corrugated cardboard rolled to form a cylinder or tube. The length of this tube formed from backing board 12 along the longitudinal axis 14 is preferably of sufficient extent so as to be approximately equal to the longest dimension of the framing members stored therein. The storage container configuration preferably includes a pair of end caps 16 and 18 which are preferably mountable on the open ends 20 and 22, respectively, of the cylinder formed by the rolled backing board 12 so as to form an enclosed storage container for the contents stored within the interior 24 of the cylinder formed by the rolled backing board 12.

As illustrated in FIG. 1, the interior 24 preferably stores conventional framing members 26, 28, 30 and 32, shown in greater detail in FIGS. 4 through 8, which are preferably slotted as illustrated in FIG. 5 to receive the backing board 12 as well as the picture and which are joinable in conventional fashion to form a complete peripheral frame when removed from the interior 24 of the storage container formed by the rolled backing member 12. If desired, and as illustrated in FIG. 4, the interior of the storage container formed by the rolled backing board 12 also preferably includes a transparent plastic sheet which is mountable in the assembled framed frame and, if desired, may contain the picture to be displayed in the frame. Furthermore, if desired, if the frame members are to be joined by screws, these screws may be contained within the interior 24 of the cylindrical storage container formed by the rolled backing board 12.

Referring now to FIG. 2, an alternative configuration for the storage container 10 of FIG. 1 is shown. This configuration represents a typical polygonal configuration having a triangular polygonal cross-section, by way of example. The backing board 12, as was previously mentioned, preferably comprises a corrugated cardboard such as a single-faced corrugated board or a double-faced corrugated board. In the example illustrated in FIG. 2, the corrugated cardboard backing member 12 is preferably a double-faced corrugated board which is scored along fold lines 34, 36, 38, 40 and 42, by way of example, so as to be foldable into the prismatic tube of triangular section illustrated in FIG. 2. These fold lines, as illustrated in FIG. 8 by way of example in which the backing board 12 is unfolded, are preferably substantially uniformly spaced apart parallel fold lines which extend across the width of the backing member 12. These fold lines preferably minimize any warping of the corrugated backing board 12 when it is in a planar configuration, as illustrated in FIG. 8, in a picture framing position by diminishing the area of warp across the corrugations, the corrugations preferably running parallel to the fold lines. In addition, these fold or score lines provide axes of folding for the portions of the corrugated backing board member 12 peripheral configuration, such as illustrated in FIG. 2, in the storage container position thereof, such as folded portion 44 clearly visible in FIG. 2. In addition, these folded portions provide internal support for the folded corrugated backing board 12 to enhance the sturdiness of the storage container 10 formed thereby. As shown and preferred in FIG. 2, the open ends of the triangular storage containers formed by the folded backing board 12 are preferably closed by removable end caps 46 and 48 which are preferably mountable on the open ends to form an enclosed storage container.

As shown and preferred in FIG. 3, the storage container 10 preferably comprises a rectangular polygonal configuration formed by folding corrugated backing board 12 about scored fold lines 50, 52, 54, 56, 58 and 60. Preferably, as shown and preferred in FIG. 3, this rectangular configuration consists of two triangular portions with parallel fold portions 64 and 66 providing diagonals for the rectangular storage container configuration 10 formed by the folded corrugated backing board 12. These diagonal portions 64 and 66 preferably divide the storage container 10 into two storage compartments 68 and 70 for the framing elements. The corrugated backing board 12 illustrated in FIG. 3 is preferably a double-faced corrugated board, although, if desired, any other satisfactory material may be utilized. The open ends of the triangular storage container formed by folded corrugated backing board 12 are preferably capped by end caps 72 and 74 which are removable mountable thereon in the same manner as end caps 16 and 18 of FIG. 1 and 46 and 48 of FIG. 2. Preferably each of these end cap pairs 16-18, 46-48 and 72-74 are complementary to the configuration 10 formed by the rolled or folded corrugated backing board 12. It should be noted that the diagonal portions 64 and 66 of the rectangular configuration illustrated in FIG. 3 also provide enhanced structural sturdiness for the storage container configuration 10 as well as dividing it into storage compartments 68 and 70.

FIGS. 6 and 7 illustrate typical conventional preferred connection schemes for a modular peripheral frame construction. FIG. 6 illustrates the use of threaded screw members 80, 82, 84 and 86 which are threadably receivable in frame members 90, 92, 94 and 96 to join these members together to form a complete peripheral picture frame 98 having an aperture 100 therein for display of a picture. As previously mentioned, the frame 98 is a slotted frame (see FIG. 5). FIG. 7 illustrates another typical type of conventional interconnection scheme for the frame members, illustrating a snap-fit connection for a protruding member 102 in a slot 104 of an adjacent frame member, such as when these frame members 90, 92, 94 and 96 are formed of plastic. Thus, the connection scheme of FIG. 6 is more preferably utilized for metal or wood frame members and the connection scheme of FIG. 7 is more preferably used for plastic frame members although, if desired, any conventional interconnection scheme may be utilized.

Referring now to FIGS. 4, 5 and 8, the picture frame position of the convertible backing board 12 is illustrated. In converting from the storage container position 10 illustrated in FIG. 1 through 3 to the picture frame position illustrated in FIGS. 4, 5 and 8, the package or storage container is opened by removing the end caps 16, 18 of FIG. 1, 46-48 of FIG. 2, or 72-74 of FIG. 3. The backing board 12 is then unrolled or unfolded, depending on the configuration, and laid flat. If the container has a front plastic sheet stored therein, such as sheet 106 illustrated in FIG. 4, 5 and 8, this sheet which is preferably a flexible clear plastic sheet, is unrolled or unfolded and laid flat. If the picture 108 is preferably stored within the interior 24 of the storage container, this picture 108 is then placed face down on top of the protective plastic sheet 106. The unrolled or unfolded backing board 12 is then preferably placed on top of the picture 108 so as to sandwich the picture 108 between the transparent plastic sheet 106 and the
bucking board 12. If desired, the dimension of the plastic sheet 10 may preferably be such that it may be drawn over the backing board 12 so as to be secured thereto, such as by means of an adhesive tape 110 as illustrated in FIG. 5. As shown and preferred in FIG. 4 and 8, the frame 98 is preferably partially assembled so as to form a U-shape by joining the members 90, 96 and 94 together. The transparent sheet-picture-bucking board sandwich 106-108-12 is then preferably slid into the slotted portion 112 of the partially assembled frame 98, which slotted portion preferably forms an interior channel which will completely surround the sheet-picture backing board 106-108-12 sandwich in the completely assembled frame 98. After this sandwich 106-108-12 is in place in the partially assembled frame 90-96-94, remaining framing member section 92 is secured in place to adjoining frame members 90 and 94 so as to complete the frame. As shown and preferred in FIGS. 6 and 7, the framing members preferably are metered in conventional fashion at the extremities thereof. It should be noted that preferably the dimensions of the rollable or foldable corrugated backing board 12 are such as to completely accommodate all of the framing elements within the storage interior 24 thereof in the peripheral surrounding configuration thereof while being completely containable within the assembled frame in the unrolled or unfolded planar picture framing position thereof.

It is to be understood that the above described embodiments of the invention are merely illustrative of the principles thereof and that numerous modifications and embodiments of the invention may be derived within the spirit and scope thereof.

What is claimed is:

1. A convertible storage container for a plurality of cooperating picture framing elements adapted to be converted into a picture frame having a backing board in cooperation with said framing elements stored therein comprising an outer backing board member peripherally surrounding said framing elements in a storage position for forming an enclosed storage container therefor, said outer member having a longitudinal axis in said storage position about which said outer backing board member peripherally surrounds said framing elements stored therein, said outer member being open at opposite ends thereof along said longitudinal axis in said storage position thereof for removable receiving said framing elements therefrom; first and second backing members removably mountable at said opposite ends of said outer member in said storage position thereof for completely enclosing said framing elements within the interior of said peripheral surrounding outer member in said mounted position thereof to form said enclosed storage container; said framing elements comprising a plurality of slotted joinable framing members removable from said storage enclosure interior and adapted to form a complete peripheral frame when removed and joined together for display of a picture mountable in said slotted framing members in a picture framing position of said elements, said outer backing board member being convertible to a substantially planar configuration with said capping members removed, said outer backing board member being mountable in said removable joined slotted framing members in said substantially planar configuration thereof in said picture framing position, said outer member enhancing the rigidity of said joined framing members while providing backing for a picture mountable in said slotted joined framing members in said planar configuration thereof, while providing a protective storage enclosure for said framing elements in said peripherally surrounding configuration thereof.

2. A convertible container in accordance with claim 1 wherein said framing elements further comprises a transparent sheet mountable in said joined slotted framing members in said picture framing position, said picture being mountable in said slotted framing members between said mounted outer member and said mounted transparent sheet in said picture framing position.

3. A convertible container in accordance with claim 1 wherein said framing elements further comprises a picture.

4. A convertible container in accordance with claim 1 wherein said outer member comprises corrugated cardboard.

5. A convertible container in accordance with claim 1 wherein said outer member comprises a corrugated member.

6. A convertible container in accordance with claim 5 wherein said corrugated member includes a plurality of substantially uniformly spaced apart parallel fold lines extending thereacross, said fold lines minimizing any warping of said corrugated member planar configuration in said picture framing position while providing axes of folding for portions of said corrugated member peripheral configuration in said storage container position thereof, said folded portions providing internal support for said folded corrugated member to enhance the sturdiness of said storage container.

7. A convertible container in accordance with claim 6 wherein said folded portions diagonally divide said storage container into at least two storage compartments for said framing elements in said storage container position, said diagonals further providing enhanced structural sturdiness for said storage container configuration.

8. A convertible container in accordance with claim 6 wherein said fold lines are scored lines disposed across said corrugated member to provide a folded peripheral configuration enclosure having a polygonal cross-section.

9. A convertible container in accordance with claim 5 wherein said corrugated member is rollable about said longitudinal axis to provide a substantially cylindrical storage enclosure in said storage container position and unrollable to provide said planar configuration in said picture framing position.

10. A convertible container in accordance with claim 1 wherein said joinable framing members each include complementary mitered portions at the extremities thereof, said mitered portions each including apertures therein for receiving connecting members therein to join said framing members together to complete said peripheral frame.