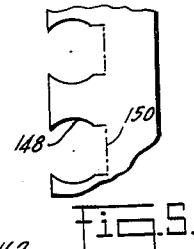
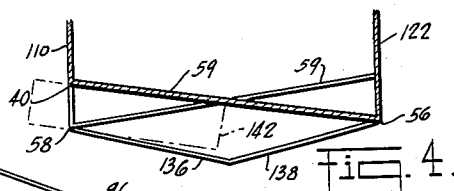
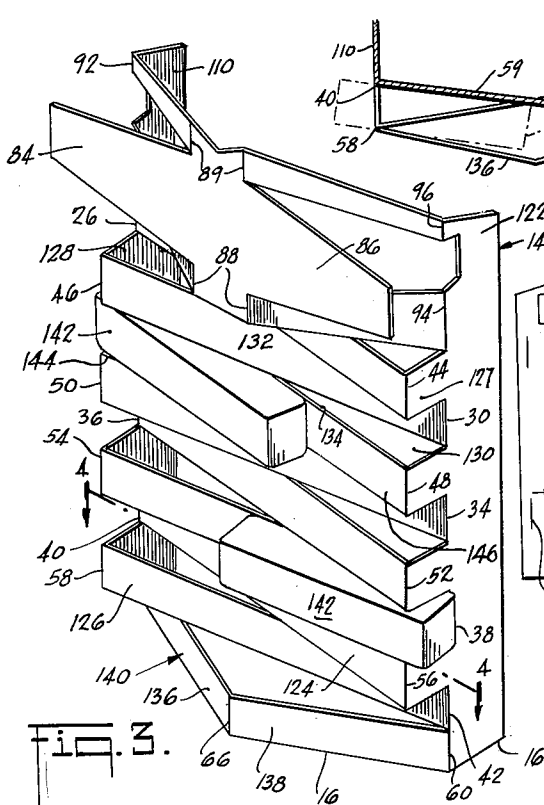
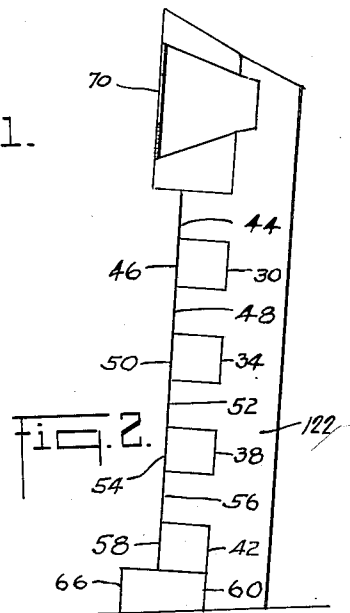
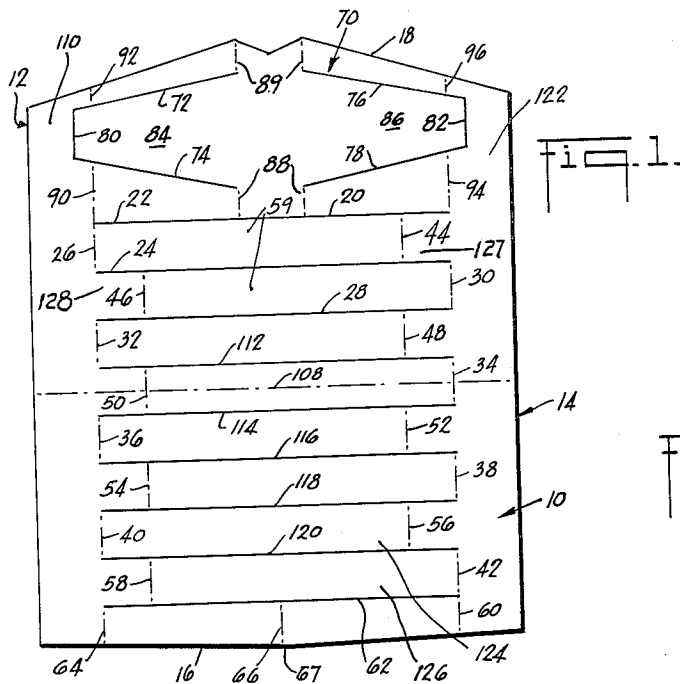


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DISPLAY STANDS

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DISPLAY STANDS

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This invention relates to display stands.

To construct various types of display stands, such as are used on counters or the like for the display of merchandise, generally requires operations of assembling, as, for instance, by pasting a plurality of parts, to provide rests or supports for the merchandise to be displayed. Generally, such stands are constructed to stand erect upon a surface, for which purpose a separate piece to produce an easel or similar footing, for sustaining the stand in a proper position, is required. In many cases, if advertising matter is to be displayed, specially attached members may be required.

It is an object of the invention to construct, from a single sheet of relatively stiff material, by a very simple operation of folding along certain score lines and by means of a plurality of slits, a multiple purpose display stand which is self sustaining, and which, upon such folding, immediately assumes its erect position upon a surface, so that it may receive merchandise for display purposes, as well as to show advertising material provided thereon.

It is an object of the invention to construct a single sheet of material with slits and score lines so that, by bending the single sheet along the score lines, a display stand structure is produced without the necessity of providing any other material, so that the structure disposes receiving platforms which may snugly retain packages for display, and at the same time provides areas upon which advertising material may be displayed, as, for instance, by imprinting the sheet before it is slitted and scored.

It is an object of the invention to provide a display stand formed by scoring, slitting and bending a single sheet of sheet material where, by means of geometrical patterns scored and slitted in the sheet, a relatively rigid, self-sustaining structure results when the sheet is bent along certain cooperating score lines and slits, and sections of the sheet are biased out of the plane of the sheet to provide ledges or other supporting structure for packaged material to be retained in association with the panel.

It is an object of the invention to provide a structure of the type specified wherein the slit lines are so disposed that edges of the sections will bear against each other when the sheet is bent to form the display stand, so that such edges, bearing against each other, frictionally retain the stand in the folded form.

Other objects of the invention will be set forth hereinafter, or will be apparent from the description and the drawings, in which are illustrated embodiments exemplifying the invention.

The invention, however, is not intended to be restricted to any particular construction, or any particular arrangement of parts, or any particular application of any such construction or arrangement of parts, or any specific method of operation or use, or any of the various details thereof, even where specifically shown and described herein, as the same may be modified in various particulars, or may be applied in many varied relations, without

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departing from the spirit and scope of the claimed invention, of which the exemplifying embodiments, herein shown and described, are intended only to be illustrative, and only for the purpose of complying with the requirements of the statutes for disclosure of an operative embodiment, but not to show all the various forms and modifications in which the invention might be embodied.

On the drawings, in which the same reference characters refer to the same parts throughout, and in which are disclosed such practical constructions,

Fig. 1 is a plan view of a sheet of material scored and slitted so that it may be formed into a display stand in accordance with the principles of the invention;

Fig. 2 is a side elevational view of a structure produced by bending the sheet material of Fig. 1 along the score lines and slits provided therein;

Fig. 3 is a perspective view of the structure shown in Fig. 2, illustrating the manner in which packages may be disposed and held in position upon the structure;

Fig. 4 is a transverse cross-sectional view, substantially on the line 4—4 of Fig. 3;

Fig. 5 is a detail elevational view of a modified form of the structure shown in Figs. 2 and 3; and

Fig. 6 is a plan view, to reduced scale, of a sheet cut and scored to produce an alternate form of the device, certain modified forms of slits being shown therein.

On the drawings, there is shown, in Fig. 1, a sheet 10 which may be of relatively stiff cardboard or similar material. The sheet is shown as having two vertical edges 12 and 14 substantially parallel to each other. However, in light of further disclosure herein, it will be obvious that these edges need not be substantially parallel. Likewise, edges 16 and 18 are shown as nonparallel, and in each case reach apices. Under certain conditions, these factors are not of critical importance.

In Fig. 1, a plurality of slits 20 are formed. In the showing in Fig. 1, the slits are shown to be parallel and all of substantially identically the same length. Each slit is shown to terminate so as to be perpendicular to an imaginary line which may be drawn to connect the ends of those slits. The imaginary lines through the opposite ends of the slits are parallel to each other.

A plurality of score lines are associated with the slits in a definite pattern. For instance, the left hand ends of slits 22 and 24 are connected by a score line 26. The right hand ends of slits 24 and 28 are connected by a score line 30. In other words, these score lines alternate at the opposite ends of the slits. This alternation of score lines is now repeated by score lines 32, 34, 36, 38, 40, and 42. Score lines 26, 32, 36 and 40 are within and form a part of the imaginary line at the left hand ends of the slits, while score lines 30, 34, 38 and 42 are disposed in the imaginary line at the right hand end of the slits.

Score lines are provided in addition to those which form parts of the imaginary lines. For instance, a score line 44 may extend from slit 22 to slit 24 at a position spaced inwardly from score line 30. The distance B (see Fig. 6) of this spacing is the same for all other similar score lines with relation to the respective imaginary lines. For instance, a score line 46, extending from slit 24 to slit 28, is spaced inwardly the same distance B from score lines 26 and 32. Additional score lines 48, 50, 52, 54, 56 and 58 are disposed in the same fashion between the successive slits, but in the alternate pattern shown. The distance A (Fig. 6) between a pair of score lines such as score lines 26 and 44 is the same in each of sections 59 defined between successive slits. Further to complete the pattern, score line 60 may be provided as an extension of score line 42 down to bottom edge 16. At the other end of slit 62, a score line 64, parallel to score line 60, extends down to bottom edge 16. Likewise, a

score line 66 is extended from apex 67 of edge 16, parallel to score lines 60 and 64, to slit 62.

At the top of the sheet, any suitable pattern 70 may be defined, as, for instance, by a pair of converging slits 72 and 74 at one side, and a pair of converging slits 76 and 78 on the other side. Those slits are shown as extending beyond the extension of imaginary lines in which are found score lines 26, 32, 36, 40 and 64, on one side, and score lines 30, 34, 38, 42 and 60, on the other side. Slits 72 and 74 terminate at a slit 80, and slits 76 and 78 terminate at a slit 82, thus defining a pair of panels 84 and 86, which, however, are anchored to the sheet material in the following fashion. Score lines 88 extend vertically from the ends of slits 74 and 78, those score lines being parallel to each other, and to all the other vertical score lines, and end at slit 22. Other score lines 89 extend in the same parallelism vertically from the ends of slits 72 and 76 to edge 18.

Score line 90 is formed as an extension of score line 26 from slit 22 to slit 74. Another score line 92 is in line with score line 90 and extends from slit 72 to edge 18. Likewise, a score line 94 extends in line with score line 30 from the end of slit 22 to slit 78; another score line 96 extends in line with score line 94 from slit 76 to edge 18. A transverse score line 108 may likewise be provided for a further purpose to be described.

It will be noted that a walled area at each side of sheet 10 is now provided. The boundary of walled area 110, at the left hand side, follows score line 92, slits 72, 80 and 74, score lines 90 and 26, slit 24, score line 46, slit 28, score line 32, slit 112, score line 50, slit 114, score line 36, slit 116, score line 54, slit 118, score line 40, slit 120, score line 58, slit 62 and score line 64. On the other side, walled area 122 finds its boundary in the line from score line 96, along slits 76, 82 and 78, score line 94, slit 22, score line 44, slit 24, score line 30, slit 28, score line 48, slit 112, score line 34, slit 114, score line 52, slit 116, score line 38, slit 118, score line 56, slit 120 and score lines 42 and 60. Each walled area thus has the toothed formation apparent in Fig. 3. Fitted between these teeth are sections 59, defining successive areas 124 and 126, each of substantially identically the same length, and each shown here as displaced laterally with relation to each other in a staggered formation.

If pressure be applied to these walled areas 110 and 122, it will be found that the walled areas will assume the shape shown in Fig. 3, with sections 59 now extending in the criss-cross fashion shown in that figure. Because sections 59 are of equal length, and since the distances defined by teeth 127 and 128 are identical, this equilateral construction will result in disposing alternate sections in oppositely disposed angular inclinations, leaving gaps 130 between spaced apart, identically biased sections 59. Edges of sections 59 bear upon each other to produce frictional resistance, once the sheet has been bent on its score lines. For instance, an edge 132 of one section 59 will bear on edge 134 of the immediately adjacent section, when slits 20 are all parallel to each other, to assure that this frictional engagement will maintain the structure in the form of Fig. 3.

At the bottom of the structure, sections 136 and 138 bend along score lines 64, 66 and 60 to form a base 140 upon which the structure may be supported. On the other hand, panels 84 and 86 bias out from the structure, as shown in Fig. 3, and provide a very effective display unit.

By reason of the angularity of the two sections of edge 16, when sections 136 and 138 bend on score lines 64, 66 and 60, base 140 provides a structure which tends to tilt the display unit thus formed slightly backwardly (Fig. 2).

Articles 142, for which the stand may be designed, may be dimensioned so as to fit snugly between a pair of biased edges 132 and 144, as shown in Fig. 3. Such

articles may be hung upon such edges, if it be so desired. Where a snug fit of the article between these edges is utilized, the article may be longer than the amount of the extension of edges 132 and 144 beyond the wall defined by section 146 at those edges. In such case, the article, so clamped, may extend far beyond the effective grip of edges 132 and 144. A very striking pattern is produced by such arrangement of goods. If the articles are properly dimensioned, as shown in Fig. 3, one article may be practically superimposed upon the other where they overlap.

In Figs. 1, 2, 3 and 4, the boundaries of teeth 127 and 128 are substantially rectilinear. As shown in Fig. 5, the ears may be shaped to provide recesses 148 conforming to the cross-section of an article to be supported upon the stand, as, for instance, flashlight batteries, pens, or the like. Recesses 148, such as shown in Fig. 5, may have any desired shaping, provided that, as shown in Figs. 5 and 6, a straight line score line 150 forms the end boundary of recess 148. Likewise, slits 152 and 154, extending from recess 148, may be non-parallel to each other and to other slits. In such case, however, the identity of the dimensions A and B must be observed for successive sections 156.

Likewise, it is not necessarily required that the single sheet structure of Fig. 1 should be utilized. It is possible to join together a plurality of these sections, as shown in Fig. 6, and then merely to provide a single common wall 158 which will suffice for each of the two separated sections 160 and 162, each of which can be independently folded on their slits and score lines to produce a structure similar to that of Fig. 3. The single wall 158, however, would bond the two structures together. In such case, the articles would be visible in two directions by reason of the two structures thus held together. Likewise, tabs 164 may be provided to catch in slots 166 to hold the structure together when it is bent along its score lines and slits.

It is possible to provide slits 168 which are not parallel to each other, for certain structural purposes, as shown in Fig. 6. Also, rectilinear slits are not absolutely required for certain purposes. For instance, when slits 170 are not parallel to each other, they may have an irregular or scalloped effect as shown. In such case, the engagement as discussed for edges 132 and 134 will be dispensed with. It is important, however, that the mean general direction of slits 168 and 170 should be substantially parallel with that at every other section 59, and that the identity of the dimensions A and B be maintained throughout.

Score line 108 (Fig. 1) provides a simple means for folding the entire structure in half, for storage purposes, without interfering with the functions of the device when it assumes the form shown in Fig. 3; score line 108 does not interfere with the bending of the sheet from the flat shape of Fig. 1 into the structure of Fig. 3. Advertising matter may be imprinted upon the device so as to be apparent at all of its areas, including panels 84 and 86, walled areas 110 and 122, and even upon the faces of sections 59.

Many other changes could be effected in the particular constructions, and in the methods of use and construction, and in specific details thereof, hereinbefore set forth, without substantially departing from the invention intended to be defined herein, the specific description being merely of embodiments capable of illustrating certain principles of the invention.

What is claimed as new and useful is:

1. A display device comprising means for forming from a foldable sheet a plurality of recesses for receiving and retaining articles of predetermined cross-section, the sheet comprising a section of relatively distortion-resistant material, the section being scored and slitted to form at least two side panels, the scoring and the slitting for each side panel defining a plurality of steps each hav-

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ing substantially the same inward extent, and a plurality of strips defined by the slitting and extending between the panels, the section being foldable on the scoring to dispose all of the strips out of the common plane of the section, the scoring and the slitting providing means to cause the strips to move out of said common plane and to define ledges by moving the panels out of said common plane, the ledges providing means for supporting said articles thereon.

2. A display device comprising means for forming from a foldable sheet a plurality of recesses for receiving and retaining articles of predetermined cross-section, the sheet comprising a section of relatively distortion-resistant material, the section being scored and slitted to form at least two side panels, the scoring and the slitting for each side panel defining a plurality of steps each having substantially the same inward extent, the steps for each panel opening oppositely to and at levels different from those of the other panel, and a plurality of strips defined by the slitting and extending between the panels, the section being foldable on the scoring to dispose all of the strips out of the common plane of the section, the scoring and the slitting providing means to cause the strips to move out of said common plane and to define ledges by moving the panels out of said common plane, the ledges providing means for supporting said articles thereon.

3. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts defining sheet sections therebetween, each sheet section having a bending position at one end only and at a position intermediate of the length of the section, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section, the cuts and the bending positions forming a pair of side walls each having an edge facing the edge of the other wall, said edges having a toothed formation.

4. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts being substantially of equal length and defining sheet sections therebetween, each sheet section having a bending position at one end and at a position intermediate of the length of the section, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section.

5. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts being substantially parallel to each other and of equal length and defining sheet sections therebetween, each sheet section having a bending position only at one end and at a position intermediate of the length of the section, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section.

6. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts defining sheet sections therebetween, each sheet section having a bending position only at one end and at a position intermediate of the length of the section, the distance between the bending positions for each section being substantially the same as that for each of the other sections, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section.

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7. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of substantially rectilinear cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts defining sheet sections therebetween, each sheet section having a bending position at one end only and at a position intermediate of the length of the section, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section.

8. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts defining sheet sections therebetween, each sheet section having a bending position at one end only and at a position intermediate of the length of the section, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section, the cuts and the bending positions forming a pair of side walls each having an edge facing the edge of the other wall, said edges having a toothed formation, certain of the teeth having material-receiving recesses defined therein.

9. A display device comprising a single sheet of relatively distortion-resistant material, the sheet having a plurality of cuts extending across the sheet, the opposite ends of each cut being disposed in points falling in a pair of substantially parallel lines, the cuts defining sheet sections therebetween, each sheet section having a bending position at one end only and at a position intermediate of the length of the section, each section having its bending positions displaced laterally from the bending positions of the immediately adjacent section, the cuts and the bending positions forming a pair of side walls each having an edge facing the edge of the other wall, said edges having a toothed formation, and a fold line defined lengthwise of one of the sections in the general direction of the cuts and continuing across said side walls.

10. A display device comprising a sheet of material of relatively normal stiffness, the sheet being scored and slitted to provide a pair of side panels and a plurality of strips extending between the panels, the panels and the strips being capable of being disposed to form a single substantially planar surface unbroken except by said slits and scoring, portions of certain of the strips having unbroken continuity with one of the panels, portions of certain of the strips having unbroken continuity with the other panel, each strip having one score line positioned between the ends of the strip and extending substantially perpendicularly to the edges of the strips, certain score lines forming a set in a line spaced a distance along certain strips from ends of those strips, certain other score lines forming a set in another line spaced a like distance along other strips from opposed ends of such other strips, the sheet being bendable on the scoring of the sheet, the strips, on bending the sheet, continuing engaged with the panels but being moved out of the plane of said single substantially planar surface and as so moved forming ledges.

11. A display device comprising a sheet of material of relatively normal stiffness, the sheet being scored and slitted, the scoring and the slitting defining a pair of substantially continuous side panels, the slitting defining a plurality of immediately contiguous strips extending between the panels, the panels and the strips, when the sheet is not bent on the scoring, being disposed as a single, substantially planar surface substantially unbroken except at said slits and scoring, the strips being continuous with and unsevered from and anchored at both ends to the panels, the scoring being substantially perpendicular to the slits, the strips being bendable on the scoring, certain scoring of certain spaced apart strips being disposed in a vertical line, all of the scoring being disposed in a

plurality of vertical lines, the strips, when the sheet is bent on the scoring, defining dihedral angles at the scoring, and the plane faces of the dihedral angle of one strip being disposed angularly to the plane faces of the dihedral angle of the immediately adjacent strip, each strip forming an angular member having edges resting upon and engaging with the immediately adjacent strips only at single points upon the edges of the angular members defined by the immediately adjacent strips and thus defining article-receiving ledges.

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References Cited in the file of this patent

UNITED STATES PATENTS

1,586,637	Myers	June 1, 1926
2,206,728	Nevins	July 2, 1940
2,267,378	Snelling	Dec. 23, 1941

FOREIGN PATENTS

313,271	Great Britain	June 13, 1929
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