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R. GUYER ETAL
PAPERBOARD ARCHES

3,260,022

Filed Sept. 24, 1962

2 Sheets-Sheet 1

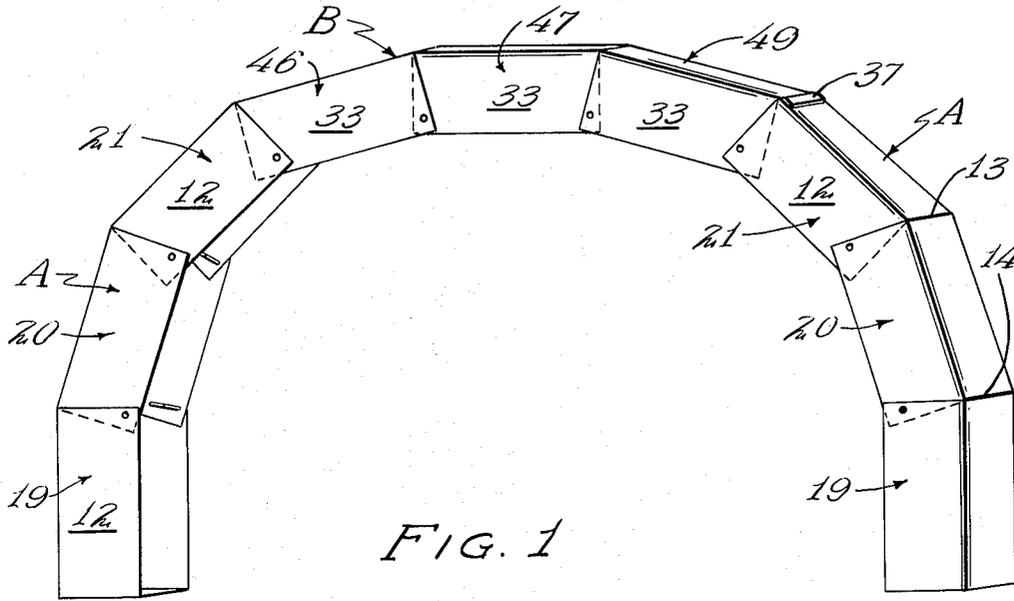


FIG. 1

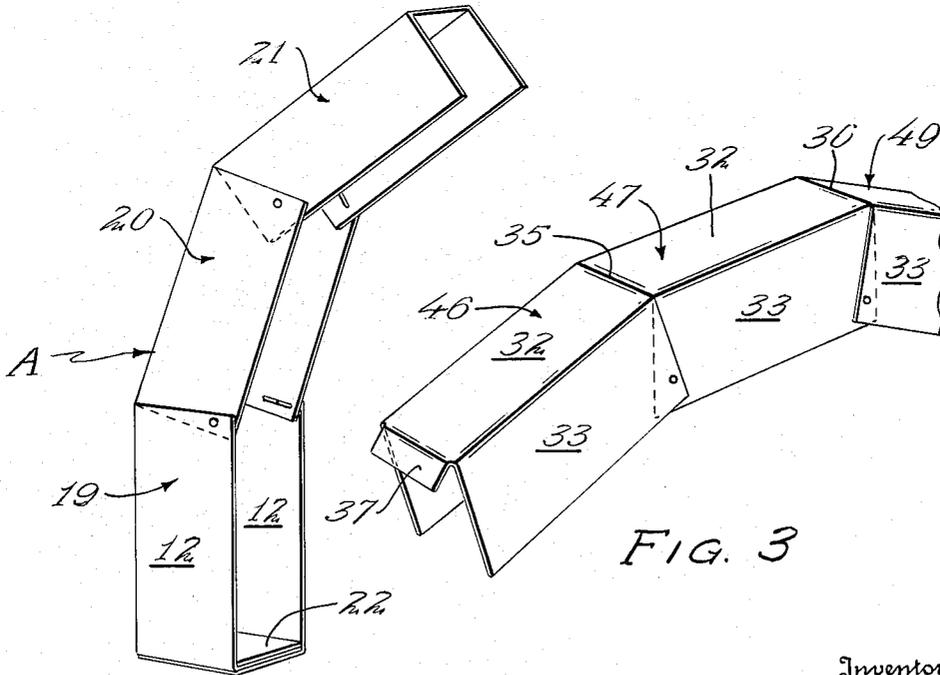


FIG. 2

FIG. 3

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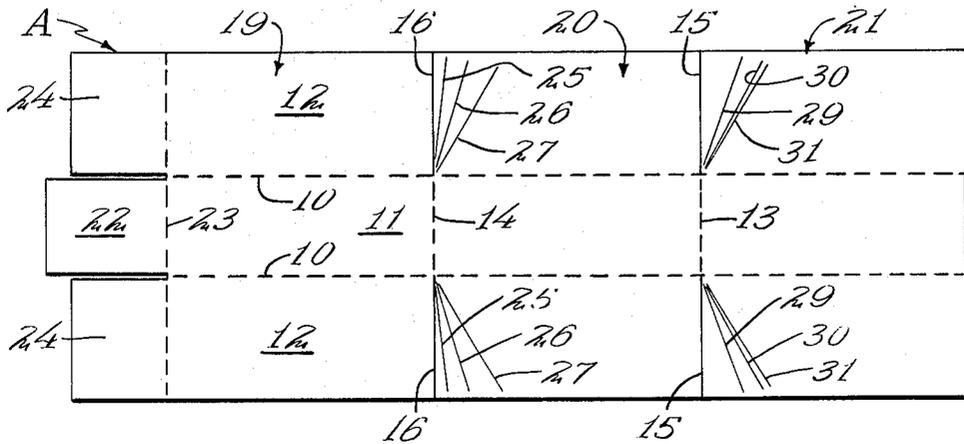


FIG. 4

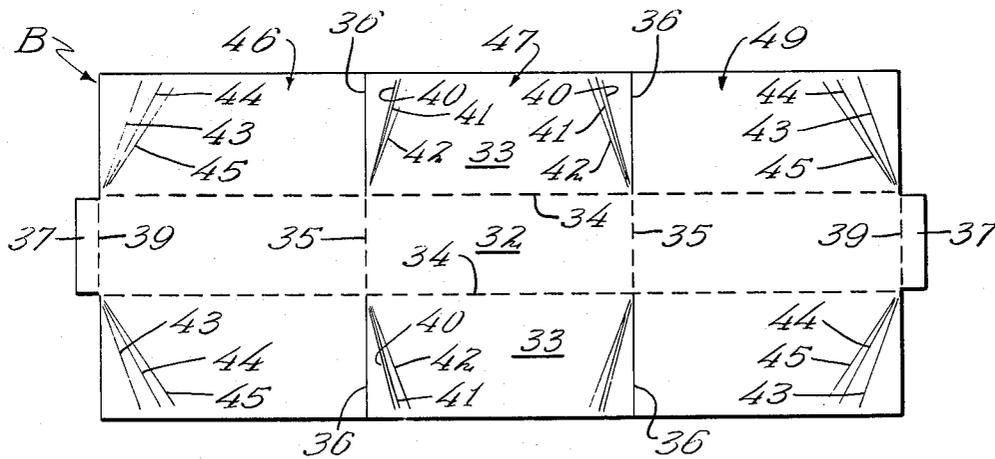


FIG. 5

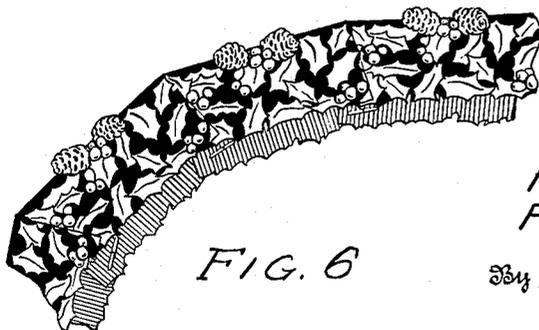


FIG. 6

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PAPERBOARD ARCHES

Reynolds Guyer, Peninsula Road, White Bear Lake, Minn., and Peter A. Palony, St. Paul, Minn.; said Palony assignor to said Reynolds Guyer, doing business as Reynolds Guyer Agency of Design, St. Paul, Minn.
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6 Claims. (Cl. 52—86)

This invention relates to an improvement in paperboard arches and deals particularly with a simple and inexpensive paperboard member which may serve as an archway over the aisle between spaced gondolas in a supermarket or the like.

As the competition between various chains of the supermarkets, has increased, the decoration of the stores to make them attractive during various seasons of the year, has materially increased. In view of the fact that these decorations must be changed at regular intervals in order to change the appearance of the store, they must be relatively inexpensive to produce. In some instances it has been proposed to build archways extending between spaced gondolas and over the aisles through which the customers walk. However, in most instances these arches have been built of wood or similar building material, and are not only expensive but are somewhat cumbersome to erect and remove and are also difficult to store between periods of use. Furthermore, such arches must be covered with decorating material in order to produce the desired effect and the resultant construction is thus expensive and costly to install and remove.

An object of the present invention resides in the provision of an arch made up of a relatively inexpensive material such as corrugated paperboard. The arch is made up of a series of sections of a generally similar nature which may be printed in their flat form on the usual printing apparatus readily available and which may be readily made in any practical length to fit the installation. As an example, during the Christmas season the sections of the arch may be printed and die-cut to simulate holly leaves and the assembled arch looks like a section of a holly wreath. During other seasons of the year, the sections may be appropriately printed and assembled.

A feature of the present invention resides in the fact that the arch may be produced at an extremely low cost so that, if desired, it may be discarded after use. Each section comprises merely a generally rectangular sheet of paperboard which has been cut and creased to provide a series of sections which may be angularly related. The sections of the arches may be furnished in flat form and thus require little space for storage. The arrangement is such that the entire arch may be assembled and erected in a manner of minutes, and can be taken down and disassembled in a similar period of time. As a result, a store or a section of a store may be effectively decorated in a single evening.

A feature of the present invention resides in the provision of an arch of the type described which in preferred form comprises an elongated strip of corrugated board which is divided by a pair of spaced parallel fold lines into a longitudinal center section and a pair of side sections. The side portions of the sections are divided by transverse cut lines which are opposed and which are connected by a fold line extending across the center portion. With this arrangement, the side portions of the sections may be folded into right angular relation to the center portion to form a structure which is channel-shaped in cross section. By folding the sections along the transverse fold lines so that the ends of the side-portsions overlap, and fastening the overlapping portions in overlapping relation, the sections are maintained in their channel-shaped form and are thus sturdy and stable.

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A further feature of the present invention resides in the provision of an arch of the type described in which the ends of the side portions are printed to provide a gauge mark emanating radially from the end of the transverse fold line extending across the center portion of the sections to the edges of the side portions thereof. These gauge marks are lightly printed so that they are not readily distinguishable when the arch is assembled and serve as a guide in determining the proper overlap between the joining side wall portions. By following these gauge marks, an arch of a desired radius can be obtained so as to fit the desired installation.

These and other objects are novel features of the present invention and will be more fully and clearly set forth in the following specifications and claims.

In the drawings forming a part of the specifications:

FIGURE 1 is a perspective view of an assembled arch showing the general construction thereof.

FIGURE 2 is a perspective view of an end section of the arch in its assembled form.

FIGURE 3 is a perspective view of a portion of an intermediate section of the arch in its assembled form.

FIGURE 4 is a diagrammatic view of the end section of the arch in flat form.

FIGURE 5 is a diagrammatic view of the blank from which the intermediate sections are formed.

FIGURE 6 is a detailed view showing the manner in which the arch sections may be printed with a decorative design.

The arches which are indicated in general in FIGURE 1 of the drawings are preferably formed of two slightly different forms of sections indicated in FIGURES 4 and 5 of the drawings by the letters A and B respectively. The sections A and B are generally similar and are different only in detail. The sections A are designed to form the end sections of the arch, while the sections B form the intermediate section or sections. Usually the arch comprises a single intermediate section B between a pair of end sections, as this combination is capable of forming an arch approximately ten feet wide which is usually as long as is necessary to span the distance between the spaced gondolas.

As indicated in FIGURE 4 of the drawings, the end sections A comprise a generally rectangular sheet of corrugated paperboard or similar material. The sheet is preferably divided into three portions by parallel fold lines 10 which are usually equally spaced on opposite sides of the longitudinal center line of the blank. The fold lines 10 thus divide the sheet into a center portion 10 which forms the base of the channel-shaped member and side portions 12 which form the parallel side flanges of the channel members.

While the number of individual channel members in each section may be varied, the length of a blank is divided into three members of substantially equal length by fold lines 13 and 14. The fold lines 13 and 14 extend across the center portion 11 of the sheet. Cut lines 15 which are aligned with fold line 13, and similar cut lines 16 which are aligned with the fold line 14 extend across the side portions 12, thus forming three connected channel members which may be identified in general by the numerals 19, 20 and 21 and which remain connected along the fold lines 13 and 14.

A flap 22 is foldably connected to the end of the center portion 11 of channel member 19 along a fold line 23 extending transversely of the length of the sheet. Flaps 24 are foldably connected to the ends of the side portions 12 of the channel member 10 along extensions of fold line 23. The purpose of these flaps will be later described.

A series of gauge lines 25, 26, and 27 extend radially from junctures between the fold line 14 and the parallel fold lines 10, these gauge lines extending toward the free

edges of the sheet. These gauge lines are designed to show the extent to which the side panels 12 of the channel member 19 should overlap the corresponding side panels of the channel member 20 in order to produce an arch of a desired width. In setting up the arches, fastening means such as staples or similar means are employed, these staples being inserted through overlapped edges to hold the two members in the desired angular relation. The channel member 21 is likewise provided with a series of radially extending lines 29, 30 and 31 which emanate from the junctures between the fold line 10 and the fold line 13. If it is desired, all of the angles may be the same so that the widening of the arch would merely increase the radius. In actual practice, the angles vary, as in making the wider arch the end portions extend upward almost vertically and the upper portion of the arch is flattened out so as to gain the necessary height. However, in any event, the gauge marks are printed upon the side portions 12 at each juncture between two adjoining channel members so as to indicate the amount of overlap between the adjoining members for each size of arch.

The center arch sections B are very similar to the sections A and comprise elongated generally rectangular blanks of corrugated board or similar material, which are divided into a center portion 32 and side portions 33 by parallel fold lines 34. The fold lines 34 are spaced apart a distance substantially equal to the spacing of the fold lines 10, and the side portions 33 are also substantially similar in width to the side portions 12. The center portion 32 is transversely divided by a pair of fold lines 35 and a cut line 36 extended across the side portions 33 in alignment with the fold lines 35. Short end flaps 37 are foldably connected to the ends of the center portion 32 along transverse fold lines 39.

Gauge lines 40, 41 and 42 emanate from the junctures between the fold lines 34 and the fold lines 35, extending toward the free edges of the side portions 33. Gauge marks 43, 44 and 45 radiate across the side portions 33 from the junctures between the fold lines 34 and the fold lines 39.

The fold lines 35 divide the blank into three channel members 46, 47 and 49, and the gauge marks 40, 41 and 42 in the side portions of the central channel member 47 are designed to indicate the amount the edges of the side portions 33 of the sections 46 and 49 should overlap the corresponding portions of the center member 47 in order to form arches of predetermined width. The flaps 37 at the ends of the blank overlap the ends of the center portions 11 of the blanks A when the arch is erected, and the gauge lines 43, 44 and 45 indicate the amount the edges of the end sections 21 of the sections A should overlap the sides 33 of the center section B to form an arch of predetermined size.

In actual practice, the various gauge lines which have been described are printed in such a manner as to blend into the artwork, and are sufficiently indistinct so that they are not noticeable except to the person erecting the arch. The design is preferably such that the overlapping of the ends of the various channel members are not noticeable except upon close inspection.

In assembling the arch, the desired width of arch is first determined, and the proper gauge marks are used to indicate the extent to which the side wall portions of each channel member should overlap the next. The sections A are folded along the fold lines 10 into channel shaped form, and the flaps 22 and 24 are folded into superimposed relation and secured together to provide a square end on which the arch may rest. The side portions 12 of the channel member 19 are overlapped with the corresponding side portions of the channel member 20, the edge of the side portion 12 of channel member 19 extending along the desired gauge lines 25, 26, or 27. The side portions are then held in this overlapped relation by inserting pronged staples through the two layers, or by any other suitable means. Headed staples having

a pair of flat prongs serve very well for this purpose, particularly if the arch is to be disassembled and reused.

After the three sections have been set up, the flaps 37 of the center section B may be secured in overlapping relation with the ends of the channel members 21 of the sections, and the side portions 12 of the channel members 21 secured in overlapping relation with the side portions 30 of channel members 46 and 49 respectively.

The side portions 12 of the third channel member 21 are then placed in end overlapping relation with the side portions of the central channel member 20, and the overlapped edges secured in this relation. The proper amount of overlap is determined by one of the gauge marks 29, 30 or 31. The section then appears as illustrated in FIGURE 2 of the drawings, and is firm and rigid.

The central section is formed in a similar manner, the end edges of the side portions 33 of the channel members 46 and 49 being anchored in overlapping relation with the central channel member 47 to register with the gauge line 40, 41 or 42. When secured in the shape shown in FIGURE 3, the structure is rigid and may be easily handled.

The end flaps 37 of the central section B are then secured in overlapping relation to the central portions 11 of the channel members 21 of the two end sections A. The side portions 33 of the channel members 46 and 49 are then overlapped with the side portions 12 of the channel members 21 of the end sections A to the extent indicated by the gauge lines 43, 44 or 45, and the arch is complete.

To simplify the drawing, the arch has been shown as formed of rectangular panels. As indicated in FIGURE 6, the sides of the arch may be printed with a design such as holly leaves, pine cones and the like to simulate a portion of a Christmas wreath. The edges may be die cut to fit the design, as illustrated in this figure.

While the arch is illustrated as formed of channel shaped members, it is possible to form the arch with one side portion of each panel removed if the arch is to be viewed from one side only. In other words, the sections may be formed of two right angularly arranged panels on each member, and will stand up. However, for most purposes, the angular form is preferred.

In accordance with the patent statutes, an attempt has been made to describe the principles of the present invention. However, it should be understood that this description is only illustrative of a way of carrying out the invention and that obvious changes may be made within the scope of the following claims without departing from the spirit of the invention.

We claim:

1. A decorative arch including, a plurality of arch portions of relatively rigid sheet material, said arch portions being of angular form and each including a base panel and a side panel at substantially right angles to said base panel, means extending through, and connecting the ends of said side panels of adjacent arch portions in overlapping relation and said base panels of adjoining arch portions being foldably connected along parallel fold lines, and separate flaps hinged to the base panel and side panel at the ends of said arch.
2. The structure of claim 1 and including gauge marks on certain of said side panels indicating the extent of overlap of said ends of said side portions.
3. A decorative arch including, an elongated strip of relatively rigid paperboard creased along parallel fold lines to provide a center portion and side portions on opposite sides thereof, said strip being divided into a series of arch portions by transverse fold lines extending across the center portion and by aligned cut lines extending from the ends of the fold line across said side portions, the

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side portions of each arch portions being folded into generally parallel relation and secured in end overlapping relation, means extending through said overlapped portions of said side portions to form a generally curved structure,

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and separate flaps hinged to said central portion and to said side portions at one end of said strip.

4. The structure of claim 3 and including gauge marks on certain of said side portions indicating the extent of overlap of the ends of said side portions.

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5. A decorative arch including, a pair of elongated end sections and an elongated intermediate section,

each section being divided into a central portion and two side portions by parallel longitudinally extending lines of fold,

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each section being divided into a plurality of channel shaped arch portions by spaced transversely extending fold lines extending across said central portion and by aligned cut lines extending across said side portions from the ends of said transverse fold lines, the side portions of each channel shaped arch portions being folded into substantially right angle relation to said central portion thereof,

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means connecting said sections in end to end relation, means extending through, and connecting the side portions of said channel shaped arch portions in overlapping relation to the side portions of the next adjacent arch portion,

and flaps hinged to said central portion and said side portions at the ends of said end sections.

6. The structure of claim 5 and including gauge marks on side side portions of said members indicating the extent of overlap thereof.

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