

[54] **PLASTIC REINFORCING EDGING FOR PICTURE-RECEIVING SCREEN**

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29/243.58; 160/264; 161/3.5, 149; 156/101, 174,
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[56] **References Cited**

UNITED STATES PATENTS

1,605,056 11/1926 Newman 161/3.5
1,882,829 10/1932 Hall 350/117 UX

3,251,264 5/1966 Jacobson 350/124

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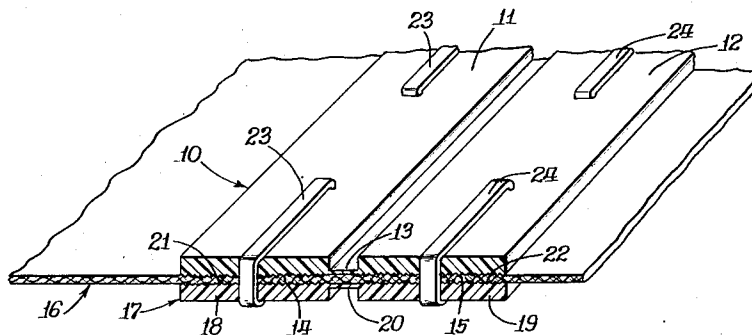
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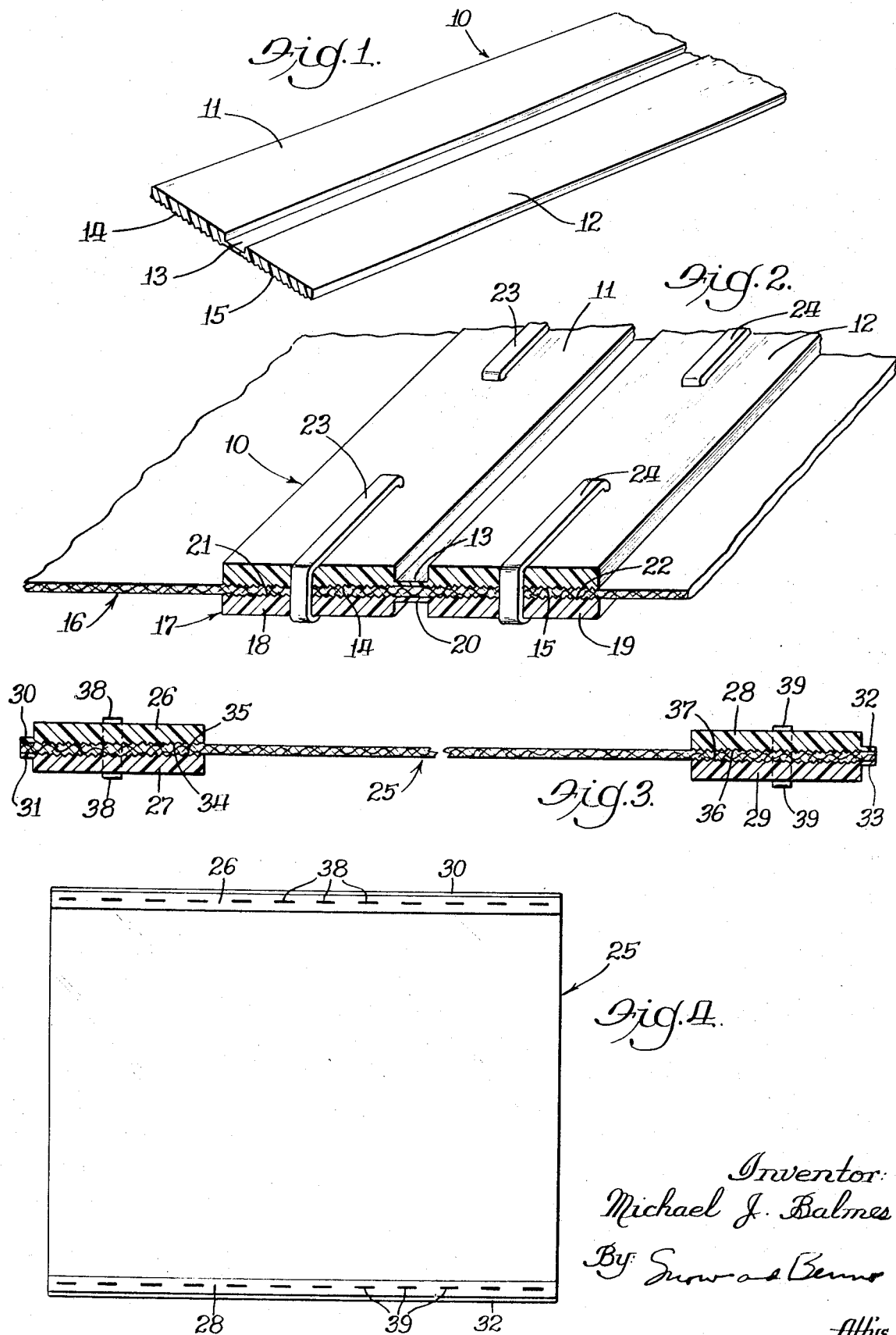
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[57] **ABSTRACT**

A reinforcing strip for application to the edges of a projected picture receiving fabric screen is provided with a pair of laterally spaced side portions. Complementary reinforcing edgings are applied to the top and underside portions of the upper and lower edging strips stapled together. The fabric and the central portions of the upper and lower reinforcing edgings are then cut so that the reinforcing strips form marginal reinforcing edgings for the lower part of one screen fabric and the upper part of a succeeding screen fabric. The inner flat surfaces of the side edges of the reinforcing strips are saw-toothed or otherwise roughened to cause a firm gripping of the intermediately disposed fabric.

5 Claims, 4 Drawing Figures





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PLASTIC REINFORCING EDGING FOR PICTURE-RECEIVING SCREEN

BACKGROUND OF THE INVENTION

1. Field of the Invention

Projected picture receiving screens usually employ a fabric which may be beaded or lenticular coated as desired. The fabric is preferably extended when used to receive projected pictures. As a rule the fabric screen is stored in a tubular housing and is extended from the housing in the manner of a window shade. The top and bottom of the fabric screen are usually provided with a stiff edge material for the purpose of holding the screen in a flat extended position. The present invention concerns the edging material for such a picture receiving screen. The edging material comprises reinforcing strips placed above and below the fabric and then fastened together by means of staples or other fastening means with the fabric sandwiched therebetween. The sandwich may then be cut down its middle to thereby provide a reinforcing edging for the lower portion of one fabric screen and the upper portion of a succeeding fabric screen.

2. Description of the Prior Art

Reinforcing edging materials have previously been applied to the margins of projected picture receiving screens. The long-expired patent to Newman U.S. Pat. No. 1,605,056 discloses a picture screen with a staple attached edge reinforcing margin, but there is no suggestion in Newman for applying a pair of edge reinforcing members simultaneously to the top and bottom surfaces of a screen fabric and slitting the reinforcing members and the included fabric to divide the screen fabric into two portions.

SUMMARY OF THE INVENTION

The present invention relates to a new and improved reinforced edging for picture-receiving screens.

An important object of the present invention is to provide reinforcing strips for fastening to the top and underside surfaces of a fabric screen and the sandwich material severable centrally thereof to thereby cause a reinforcement of the edge of a first fabric screen and the edge of a second fabric screen simultaneously.

Another important object of this invention is to provide a novel preformed edging material with thick side portions and a thin central portion.

Still another important object of this invention is to provide a novel reinforcement strip for the edges of projected picture-receiving screens in which the inside surfaces of the strip are provided with saw-toothed conformations for firm gripping of a fabric screen to be held between a pair of such strips.

Other and further important objects and advantages will become apparent from the disclosures in the following specification and accompanying drawings. In the drawings:

FIG. 1 is a perspective view of the reinforcing tape edging of this invention.

FIG. 2 is a perspective view detail partially in section of a screen fabric having the edging strips of this invention fastened thereto.

FIG. 3 is an enlarged detail sectional view of a picture receiving screen edging as taught by this invention.

FIG. 4 is a plan elevational view of a picture receiving screen edged in the manner of FIG. 3. As shown in the drawings:

The reference numeral 10 indicates generally a reinforcing binding strip which is to be used as an edging for projected picture-receiving screens. The reinforcing strip may be made from a great variety of materials including but certainly not limited to plastic, cardboard, wood, leather or synthetics. One side edge 11 of the strip 10 is shown as substantially rectangular in cross section. However, it should be understood the rectangular shape of the marginal edges of the reinforcing strip is not essential to their function. A spaced-apart side edge 12 of the strip 10 is similarly substantially rectangular in cross section. The side edgings 11 and 12 lie parallel to one

another and in a preferred embodiment are joined near their lower surfaces by a thin web or membrane 13. The web 13 is disposed centrally between the relatively thick side members 11 and 12. It should be understood the central adjoining section 13 need not be thinner than the marginal side edges 11 and 12 to practice the invention outlined herein.

The under surface of the side edge 11 is provided with longitudinally disposed saw-toothed peaks and valleys to provide for a firm gripping of the binding strip to a screen fabric when the strip is fastened to the fabric. The saw-toothed surface conformations depict one form of an acceptable roughening means to prevent sliding of the fabric to which it is ultimately attached. We will for convenience describe the undersurface as being roughened as opposed to the smooth top surface of the reinforcing strip. Similarly, the undersurface of the side edge 12 is roughened by having saw-toothed peaks and valleys formed therein.

As best shown in FIG. 2, a screen fabric 16 is adapted to have the binding strip 10 applied over the top surface. The binding strips are preferably used in pairs, one on top of the fabric and one beneath the fabric. The edging strips comprising the pair are disposed in vertical alignment with each other. The binding strip 10 of FIG. 1 is shown on the top of the fabric 16 in FIG. 2. A cooperative binding strip 17 is disposed beneath the fabric 16. The strip 17 is identical to the strip 10 having a side edge 18, a spaced apart side edge 19 and a thin web or membrane centrally disposed between the spaced apart parallel side members 18 and 19. The under surface of the side edge 18 is roughened and has saw-toothed conformations formed therein. Similarly, the side edge 19 has its lower surface roughened in the manner of a saw-toothed surface.

Staples 23 are adapted to join the vertically aligned side edges 11 and 18 of the binding strips 10 and 17 respectively. The staples 23 pass through the top of the side edge 11, through the fabric 16, and thence through the side edge 18 on the underside of the fabric. This produces an assembly of the binding strips with the fabric in the manner of a sandwich. Staples 24, similar to the staples 23, are utilized in joining the vertically aligned side edges 12 and 19 with the intermediately disposed or sandwiched fabric 16.

FIGS. 3 and 4 show a completed reinforced edge fabric screen. For clarity in disclosure FIG. 3 is a sectional view taken through the edged fabric at one side, across through the fabric, and thence through the edged fabric sandwich at the opposite side. FIG. 4 shows the picture-receiving screen 25 in a horizontal disposition with a reinforcing edging across the top and a reinforcing edging across the bottom. It is this edged fabric material that is subsequently used to receive the projection of clear undistorted pictures. Although new reference numerals have been applied to the elements comprising the screen of FIGS. 3 and 4 it should be understood that the screen is made from a device such as shown in FIG. 2 by slitting the centrally disposed connecting portions 13 and 20. A reinforcing edge 26 corresponding to the edge 12 of FIG. 2 is shown disposed on top of the fabric 25 at one end thereof. Directly beneath the edge 26 is a cooperative edge 27 located beneath the fabric 25. This edge corresponds to the edge 19 as shown in FIG. 2. On the other end of the fabric 25 there is provided a reinforcing edge 28 located on the top surface of the fabric which corresponds generally to the edge 11 as shown in FIG. 2. Cooperating with the upper edge 28 is a reinforcing edge 29 which is located directly beneath the edge 28 and cooperates to hold the fabric 25 firmly therebetween. The edge 29 corresponds generally to the edge 18 of the device as shown in FIG. 2. Extending laterally from the ends of the edgings 26, 27, 28, and 29 are generally half of the thin membranes or central portions which are slit in the process of making successive picture screens from a roll of preformed reinforcing tapes or edge materials. These half membranes are shown at 30, 31, 32, and 33 on the edges 26, 27, 28, and 29 respectively. These extensions are so small that they are unobjectionable and do not in any way impair the holding of the edged picture-receiving fabric in an outer frame.

As further shown in FIG. 3, the inner fabric engaging surfaces of each of the edges are equipped with saw-toothed conformations to insure the firm gripping of the fabric between the edges and to thereby avoid relative movement of the fabric with respect to the edgings. These roughened surfaces and particularly the peaks and valleys of the saw-toothed conformations are shown at 34 on the edge 26, at 35 on the edge 27, at 36 on the edge 28, and at 37 on the edge 29. A series of spaced apart staples 38 are shown holding the plastic edges 26 and 27 to one end of the rectangular fabric 25. Similarly, a series of spaced-apart staples 39 are arranged and constructed to hold the edgings 28 and 29 to the other end of the fabric 25. It should be understood that any fastening means may be used in the holding of the sandwiched fabric between the upper and lower plastic edgings.

In the mass production of plastic edged picture-receiving screens it is preferable that a roll of fabric be provided on a supply reel and fed across a worktable. The screen fabric on the reel is of the type having a surface capable of receiving a projected picture without distortion. As the fabric is unrolled and extended along a worktable a reinforcing edging, such as shown at 10, is moved transversely across the fabric, both above and below the fabric. Thereafter, the edging material is stitched or otherwise fastened, as by stapling, to the upper and lower edging material and the included fabric. Similar edgings are applied to the same strip of screen fabric as it is unwound from the supply reel at spaced intervals from the first application of the edgings. These edgings are also stapled or otherwise fastened to the included fabric. Following the application of spaced apart reinforcing edgings such as shown at 10 of FIG. 1 to the upper and lower surfaces of the fabric, the central portions, in this instance the thin membranes, lying above and below the fabric are slit as shown in FIGS. 3 and 4 to form completed picture-receiving screens with reinforced edgings

at both the upper and lower edges thereof.

What is claimed is:

1. A process for reinforcing the edges of a fabric picture-receiving screen comprising the steps of laying a reinforcing edging strip over the top of the fabric and directly underneath the fabric, each edging strip having in cross section laterally spaced-apart edge portions and a central portion joining said edge portions, and each of the edge portions having a rough surface for engaging the fabric, fastening the edge portions lying above and below the fabric together with the included fabric as a sandwich, and slitting the central portions and the included fabric to provide for the reinforcing of the edges of successively formed fabric picture receiving screens.

2. A process as set forth in claim 1 in which the reinforcing edging strip is a preformed plastic and the central portion is a thin plastic membrane.

3. Vertically aligned top and bottom reinforcing tapes for application across a picture-receiving fabric, each tape comprising in cross section a pair of laterally spaced-apart marginal edge portions, and a connecting central portion joining said marginal edge portions, said laterally spaced-apart marginal edge portions and the connecting central portion lying in a single plane, and fastening means passing through each of the laterally spaced-apart vertically aligned pairs of edge portions of the reinforcing tapes and the included fabric whereby when the connecting central portions and the included fabric are slit thereacross each of the severed edges of the fabric is reinforced.

4. A device as set forth in claim 3 in which the fabric engaging surface of each of the marginal edge portions is roughened for better adherence to the fabric.

5. A device as set forth in claim 4 in which the connecting central portions are thinner than the marginal edge portions.

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