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1,510,243

G. PERRY

JOINT CONSTRUCTION AND METHOD OF FORMING THE SAME

Filed July 14, 1922

Fig. 1.

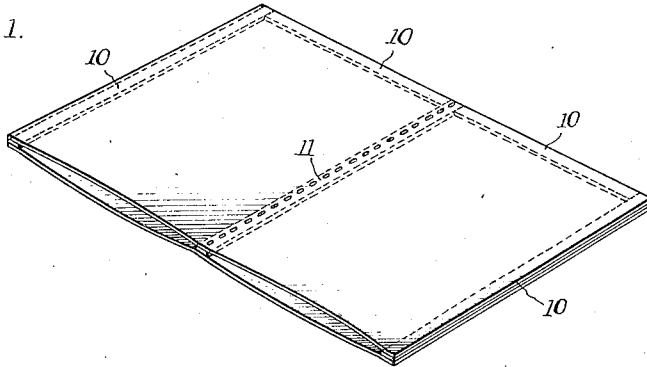


Fig. 2.

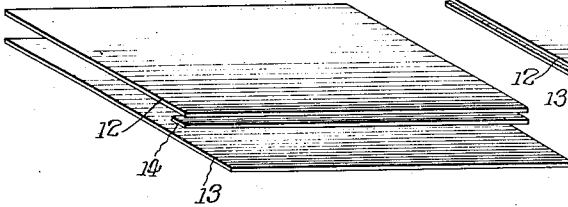


Fig. 3.

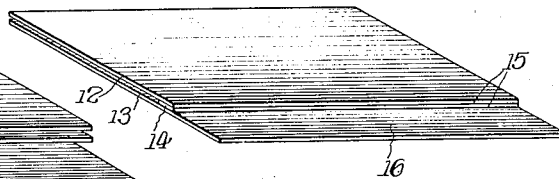


Fig. 4.

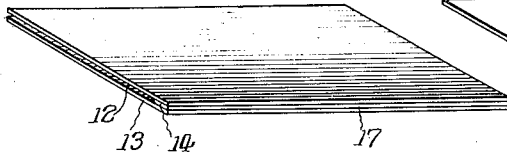


Fig. 5.

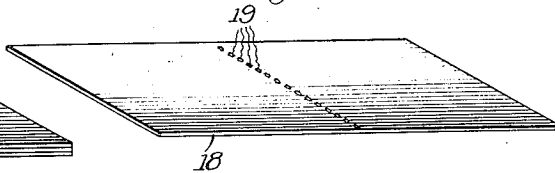


Fig. 6.

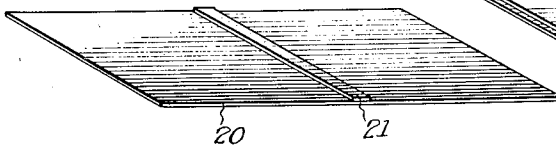
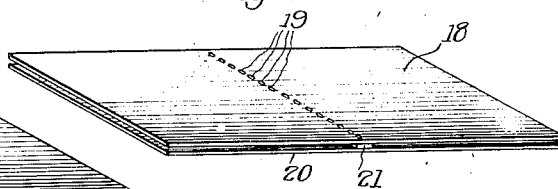


Fig. 7.



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UNITED STATES PATENT OFFICE.

GROVER PERRY, OF CHICAGO, ILLINOIS.

JOINT CONSTRUCTION AND METHOD OF FORMING THE SAME.

Application filed July 14, 1922. Serial No. 575,066.

To all whom it may concern:

Be it known that I, GROVER PERRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Joint Construction and Method of Forming the Same, of which the following is a specification.

This invention is concerned with the manufacture of divers articles from certain materials with which difficulty is experienced in attempting to form, by the joining methods commonly employed with other materials, suitable edge seams and intermediate connections between portions.

The primary object of the invention resides in the provision of a novel method of forming narrow edge seams and intermediate connections in the manufacture of envelopes, pockets, containers, holders and various other articles of a similar kind from sheet celluloid and the like. Another important object is the provision, in an article of manufacture, of a novel joint construction which may be formed by the method here presented.

While the foregoing statement is indicative in a general way of the nature of the invention, other objects and advantages not specifically referred to will be appreciated upon a full understanding of the present method and resulting joint construction as set forth in the accompanying drawing and in the detailed description based thereon.

Obviously the invention is susceptible of a wide range of use; wherefore the particular exemplifying application thereof delineated in the drawing and in the description is not to be understood as limiting the scope of the invention other than as the same is defined by the appended claims.

In the drawings—

Fig. 1 is a perspective view of a two-pocket envelope, illustrating one of the products obtained by employing the present method of forming edge seams and intermediate connections;

Figs. 2, 3 and 4 illustrate the stages of the method in forming an edge seam between portions; and

Figs. 5, 6 and 7 illustrate the stages of the method in forming an intermediate connection between portions.

In the manufacture heretofore of enve-

lopes and various other similar articles from material such as sheet celluloid and the like, difficulty has been experienced in making permanent air-tight edge seams and intermediate connections without resorting to such expedients as the forming, in the manufacture of envelopes for instance, of a major fold across the sheet of material and minor edge folds to close the edges. This difficulty arises when an attempt is made to join two surfaces of the material along a narrow area by the application of a liquid substance—such as a solvent of the material—for causing adhesion between the surfaces, and consists of an unavoidably irregular and indefinite spread of the liquid substance between the contacting surfaces due to the capillary attraction and tension of the smooth surfaces when a liquid is applied thereto. Accordingly, joining of sheet celluloid and the like in the manner above mentioned is impractical because of the resulting irregular connections.

This invention consists in the provision of a novel method for forming slightly edge seams and intermediate connections between surfaces of celluloid and the like whereby regular connections along narrow or particularly defined areas may be accurately effected.

The present method overcomes the difficulty previously outlined by the insertion, between the surfaces to be joined, of a narrow or particularly shaped strip of preferably the same material as that comprising one or both of the parts to be joined. This strip separates the surfaces and introduces a break on both sides of the area to be joined whereby the spread of the liquid is confined to the area of the strip. It is found that the solution, when applied to the strip between the surfaces, will spread in the direction of the strip only and that the areas of the two surfaces united by the strip will be consequently defined by the length and width of the strip. Fig. 1 of the drawing illustrates in perspective a celluloid envelope wherein the edge seams and the intermediate pocket forming connection 11 have been constructed in accordance with the present method.

Figs. 2, 3 and 4 of the drawing illustrate the stages in the method of forming an edge seam. In Fig. 2 is shown the two

5 sheets of celluloid to be joined, the sheets being indicated by the numerals 12 and 13, and the interposed filler strip being indicated by the numeral 14. The opposed surfaces of the sheets are brought into contact with the opposite faces of the filler strip, the edge of one sheet being placed even with the edge of the strip, and the edge of the other being placed to overlie the edge of the strip, as shown in Fig. 3. With the sheets and strip in this position the parts are held firmly together and the liquid celluloid solvent applied with a suitable brush to the upper and lower outside edges 15 of the filler strip the liquid will immediately enter between the contacting surfaces and will spread across the area of contact as defined by the shape of the strip. The overlapped portion 16 of the lower strip may then be trimmed off and as shown in Fig. 4, leaving a neat regular seam 17 which is water and air-tight and possessed of such strength that the body of either sheet will fracture under strain before any injury is caused to the seam.

Fig. 5, Fig. 6 and Fig. 7 of the drawing illustrate the stages in the method of forming an intermediate connection. In Fig. 5 is shown one of the sheets of celluloid to be joined. It will be noted that this sheet 18 is provided with a row of minute perforations 13 along the line where the connection is intended to be made. The other sheet 20 is shown in Fig. 6. The filler strip 21 is first secured to the sheet 20 along the line of the proposed connection before the two sheets 18 and 20 are assembled for joining. The sheet 18 is then placed on the sheet 20 with the perforations over the filler strip, as shown in Fig. 7, and the solvent applied to the apertures by running therealong a suitable brush filled with the solvent. The solvent immediately passes through the apertures and spreads over the surface of contact between the sheet 18 and the upper surface of the filler strip, thereby effecting adhesion between the sheet and the strip and at the same time sealing the apertures 19.

It will be appreciated that this method is not confined to the joining of sheet celluloid. Other materials having certain characteristics in common with celluloid may be joined in a like manner, and it is not essential that the two sheets being joined be of the same material.

The connections produced by practicing the method of this invention are of slightly appearance and require little work in their formation. Inasmuch as these connections do not require any bending of the material, articles incorporating these connections are materially stronger than those wherein necessarily weakening edge folds are employed. The liquid celluloid solvent

referred to may be any combination of acetones, ketones, acetates, or in fact any cutter of a spirit nature which combined or alone will dissolve celluloid. Measurably good results may be had by employing a liquid which is not a solvent of the celluloid, providing that the liquid is capable of effecting adhesion between the celluloid surfaces.

I claim:

1. A method of joining two surfaces along a narrow area which consists in integrally unionizing said surfaces with the opposite faces of a narrow interposed filler strip by the application of a substance to the faces of the strip which is a solvent both of the material composing the strip and of one of the surfaces being joined.

2. A method of joining two surfaces along a narrow area which consists in integrally unionizing said surfaces with the opposite faces of an arrow interposed filler strip by the application of a substance to the faces of the strip which is a solvent both of the material composing the strip and of the surfaces being joined.

3. A method of joining a surface of celluloid to another surface of material along a narrow area which consists in interposing between and securing to said surfaces a narrow strip of celluloid, the strip being secured to the surface of celluloid by the application of a celluloid solvent.

4. A method of joining two surfaces of celluloid along a narrow area from at least one side of which both surfaces are intended to extend in substantially contiguous relation which consists in interposing between said surfaces a narrow strip of celluloid and then applying thereto a celluloid solvent.

5. A method of joining two sheets of celluloid along a narrow area to form an edge seam which consists in interposing between said sheets a narrow filler strip of celluloid which is placed flush with the edge of one of the sheets and is spaced from the edge of the other sheet, applying a celluloid solvent to the two exposed edges of the strip, and trimming off the overlapped portion of the last mentioned sheet.

6. A method of joining two surfaces over a particular area which consists in integrally unionizing said surfaces with the opposite faces of a thin filler member having the form of the desired area by the application of a substance to the faces of the filler member which is a solvent of the material composing the filler member and of one of the surfaces being joined.

7. A method of joining two surfaces over a particular area from at least one side of which both surfaces are intended to extend in substantially contiguous relation, which consists in integrally unionizing said surface with the opposite faces of a thin

filler member having the form of the desired area by the application of a substance to the faces of the filler member which is a solvent of the material composing the filler member and of the surfaces being joined.

8. In an article of manufacture, two surfaces of material disposed in substantially contiguous relation, and a connection between the surfaces over a particular area consisting of a thin interposed filler member which has the form of the particular area and is integrally unionized at its opposite sides with the two surfaces by the action

of a solvent of the material composing the filler member and the surfaces.

9. In an article of manufacture, two sheets of celluloid disposed in substantially contiguous relation, and a narrow connection between the surfaces consisting of a correspondingly narrow thin interposed filler strip of celluloid which is integrally unionized at its opposite faces with the two sheets by the action of a celluloid solvent.

In testimony whereof I have hereunto subscribed my name.

GROVER PERRY.