March 15, 1938. C. C. BOLYARD 2,111,108

ORNAMENTAL MATERIAL

Filed July 20, 1936

Fig. 1.

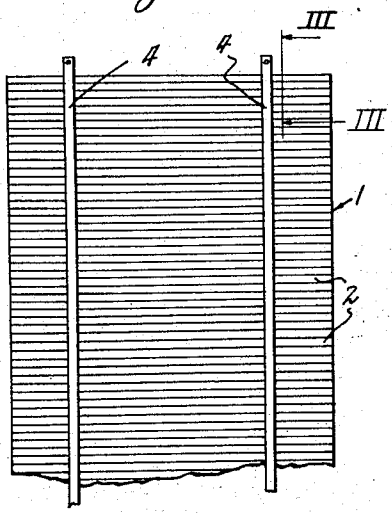


Fig. 2.



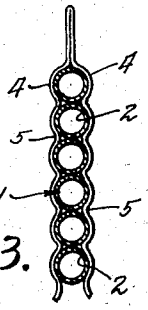


Fig. 3.

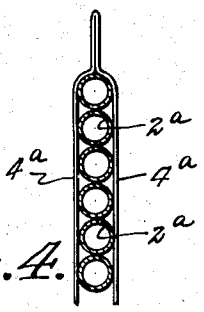


Fig. 4.

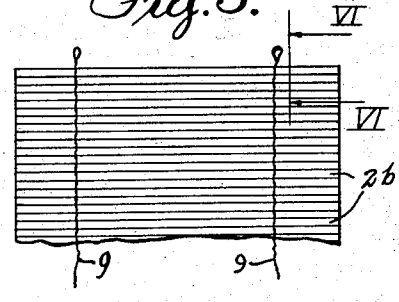


Fig. 5.

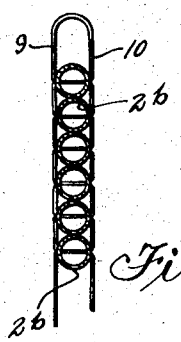


Fig. 6.

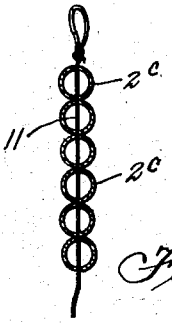


Fig. 7.

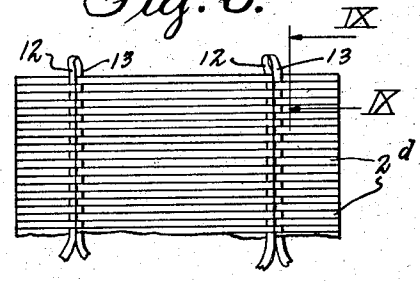


Fig. 8.

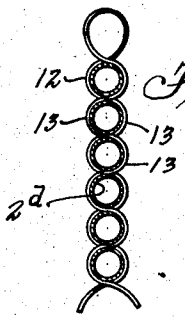


Fig. 9.

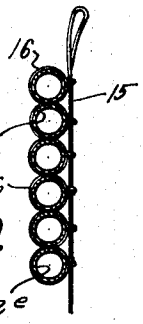


Fig. 10.

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UNITED STATES PATENT OFFICE

2,111,108

ORNAMENTAL MATERIAL

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Application July 20, 1936, Serial No. 91,558

7 Claims. (Cl. 41—10)

This invention relates to ornamental and decorative structures and particularly to decorative sheet materials for use as screens or panels, or as a wall material for forming decorative structures of various shapes such as pillars, cylinders and the like.

An object of the invention is to provide a structure of the general type described which is inexpensive to make and possesses unusual and marked decorative and ornamental characteristics.

Essentially the invention resides in a structure consisting of a layer of transparent or translucent tubes or straws, preferably positioned close together so that each tubular element contacts the two adjoining elements substantially throughout its length. The tubes may be joined together in any convenient manner and several preferred methods will be disclosed in the following detailed description which refers to the drawing. Although the ornamental characteristics of my construction may be realized with tubes or straws of various transparent materials, I prefer to employ tubes of Cellophane which are already in wide use for soda straws and for making decorations on gift packages and the like. By virtue of the curvature of the individual straws in my wall structure and the varying reflection and refraction of light from the curved surfaces, very beautiful effects are produced and at relatively low cost since the material is relatively inexpensive.

My wall structure as described has many uses, some of the most obvious of which are as screens or shades in window displays. It is also particularly adaptable for forming curvatures in only one direction (such as cylinders, as an example) since it bends readily in a direction perpendicular to the direction of the straws but resists bending in the direction of the straws. It should be recognized, however, that by collapsing the straws they can be bent at any point, thereby permitting bending of the wall structure along a line or lines not necessarily parallel to the straws.

In the drawing:

Fig. 1 is a front elevation view of a section of wall material in accordance with the invention;

Fig. 2 is a perspective view showing one of the tubular elements or straws employed in the structure shown in Fig. 1;

Fig. 3 is an enlarged, detailed, vertical sectional view in the plane III—III of Fig. 1, showing a preferred way of securing the straws together;

Fig. 4 is a detailed sectional view similar to Fig. 3 but showing a modified method of securing the straws together;

Fig. 5 is an elevation view of a portion of wall material in accordance with the invention showing the straws secured together by sewing;

Fig. 6 is a detailed sectional view in the plane VI—VI of Fig. 5;

Fig. 7 is a detailed sectional view showing an alternative form of construction to that of Fig. 6, in which the straws are threaded on strings or wires like beads;

Fig. 8 is a face view of a portion of a panel in accordance with the invention, showing still another method of attaching the straws to each other in which a pair of ribbon members are woven back and forth between the straws;

Fig. 9 is a detailed cross sectional view in the plane IX—IX of Fig. 8; and

Fig. 10 is a detailed cross section view showing still another way of securing the straws together.

Referring to Fig. 1, there is shown a panel designated generally at 1 consisting of a plurality of straws or tubes 2 laid alongside each other in a single layer to define a substantially imperforate surface. One of the straws is shown in perspective in Fig. 2 and the straws are shown in section in Fig. 3. All of the straws are connected together by a plurality of ribbon elements 4 which extend across the straws at right angles on both sides thereof. Thus as shown in Fig. 3, a pair of juxtaposed ribbon elements 4 are connected together at the upper end beyond the last straw and extend therefrom down over the layer of straws on each side thereof. I prefer to bend the ribbons inwardly between adjacent straws, as indicated at the points 5, so that the ribbons contact over a substantial area of each tube. The ribbons are also preferably joined to the tubes throughout their area of contact by a suitable adhesive.

In practice, I find it feasible to employ ribbons of Cellophane or the like which have been previously treated to render one surface adhesive. Thus the surface may be coated with a material which softens with heat and becomes sticky but hardens upon cooling. With such material the ribbons 4, after being laid across the straws, can be indented between the straws as shown at 5 and at the same time made to adhere to the straws by pressing the ribbons against the straws with a heated iron. Obviously many other particular methods may be adopted for forming the product, particularly in quantity production.

The structure shown in Fig. 3 is relatively rigid in view of the large area of joinder between the

ribbons and the tubes. Furthermore, the attachment between the ribbons and the tubes is very secure by virtue of the large contact area. However, the ribbons 4 will ordinarily be capable of yielding to a certain extent, thereby permitting a certain amount of bending of the structure 1 in the direction of the ribbons 4.

In the modified form of construction illustrated in Fig. 4 the ribbons 4a are not indented between the tubes 2a but merely extend tangentially thereacross and are joined to the tubes at the points of tangency. This construction in general is not as secure as that shown in Fig. 3 but is more simple to make and less expensive.

In the construction shown in Fig. 5 the tubes 2b are joined together by sewing. Thus as shown in Fig. 6, two threads 9 and 10 are threaded back and forth through the tubes 2b to form a double line of stitching connecting the tubes. As shown in Fig. 6, the tubes are not crushed and in general it is desirable not to crush or flatten the tubes. However, for some purposes it may be suitable to sew the tubes together with a conventional sewing machine which flattens the tubes along the line of the stitching.

In the construction shown in Fig. 7 the tubes 2c are combined by threading them on threads or wires 11 which extend through holes provided therefor in the walls of the tubes, the latter being threaded on the threads or wires exactly the same as beads. This construction is desirable whether it is desired to make the connecting members between the tubes as nearly invisible as possible.

In the construction shown in Fig. 8, instead of employing a pair of straight ribbons extending along opposite sides of the row of tubes as shown in Figs. 3 and 4, the two ribbons are woven back and forth between the tubes 2d as shown in Fig. 9. With this construction no adhesive is necessary to attach the ribbons to the tubes and the ribbons 12 and 13 are spaced slightly longitudinally of the tubes with respect to each other. This construction is brought out in the cross sectional view of Fig. 9.

In the modified structure shown in Fig. 10 the tubes 2e are joined together by filamentary or ribbon elements 15 which extend only along one side (preferably the rear side) of the layer of tubes and are joined to each tube by separate tie members 16 which extend around each tube and join at the rear to the member 15. The tie member 16 may be threads or wires or ribbons.

The constructions shown in Figs. 3, 4 and 6 are particularly desirable where it is desirable to obtain as much rigidity as possible in a direction transverse to the tubes. The constructions shown in Figs. 7 and 9 are more adaptable where maximum flexibility for bending in both directions is desired. The construction shown in Fig. 10 has the advantage that it is very flexible to bending in one direction but resists bending in the opposite direction. Thus it bends readily in such direction as to shorten the members 15 but resists bending in a direction such as tends to stretch or lengthen the members 15.

Various ornamental effects may be obtained by the use of various colors. Thus all of the tubes in a panel may be of a single color with connecting members of contrasting colors. In some instances desired effects may be obtained by using tubes of various colors in the same screen with or without contrasting colors on the connecting members.

Cellophane straws which constitute the material I prefer to use may be obtained in various lengths and sizes and therefore screens of relatively large dimensions may be easily manufactured in accordance with the invention.

Although in the description several specific methods of forming screens have been described, it will be understood that other methods of making the product will occur to those skilled in the art and the invention is to be limited only as set forth in the appended claims.

I claim:

1. As an article of manufacture, a decorative wall material consisting of a plurality of translucent tubes secured together in a continuous layer.

2. As an article of manufacture, a decorative wall material consisting of a plurality of translucent tubes positioned alongside each other in a continuous layer, and means extending transversely across said tubes and individually connected to each tube for binding said tubes together.

3. As an article of manufacture, a decorative wall material consisting of a plurality of translucent tubes positioned alongside each other in a substantially continuous layer, and means for binding said tubes together comprising a strip of material extending across and tangent to said tubes and secured to each tube at its line of tangency thereto.

4. As an article of manufacture, a decorative wall material consisting of a plurality of translucent tubes positioned alongside each other in a substantially continuous layer, and means for binding said tubes together comprising a strip of material extending across said tube and deformed to contact each tube over an area thereof and being attached to each tube over its area of contact therewith.

5. An article of manufacture as described in claim 3 in which two strips of material attached to the tubes as specified are positioned in juxtaposed relation on opposite sides of the layer of tubes.

6. As an article of manufacture as described in claim 4 in which two strips of material attached to the tubes as specified are positioned in juxtaposed relation on opposite sides of the layer of tubes.

7. As an article of manufacture, a decorative wall material consisting of a plurality of translucent tubes positioned alongside each other in a continuous layer, and means extending transversely with respect to said tubes for binding said tubes together, said tubes having transverse holes extending therethrough in registration with each other and said means consisting of a filamentary element extending through said holes in said tubes.

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