May 25, 1943. H. DREYFUSS 2,319,802

ORNAMENTAL TUBING

Filed Nov. 13, 1940

Fig. 1

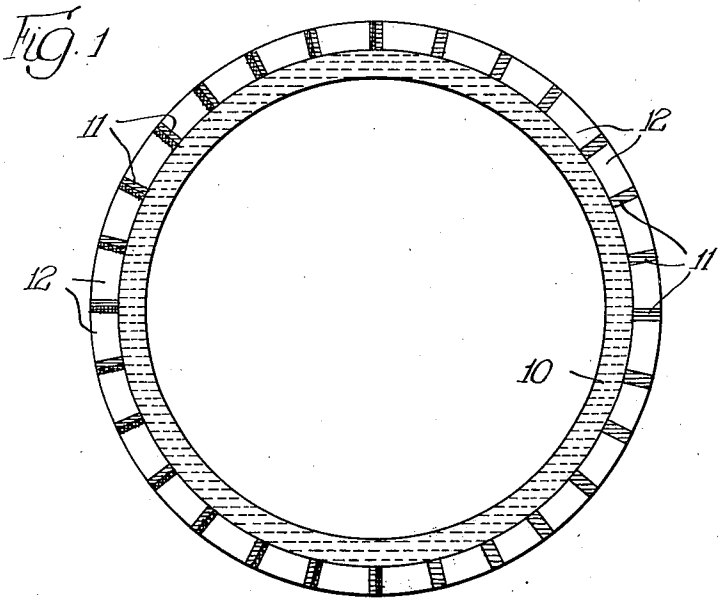
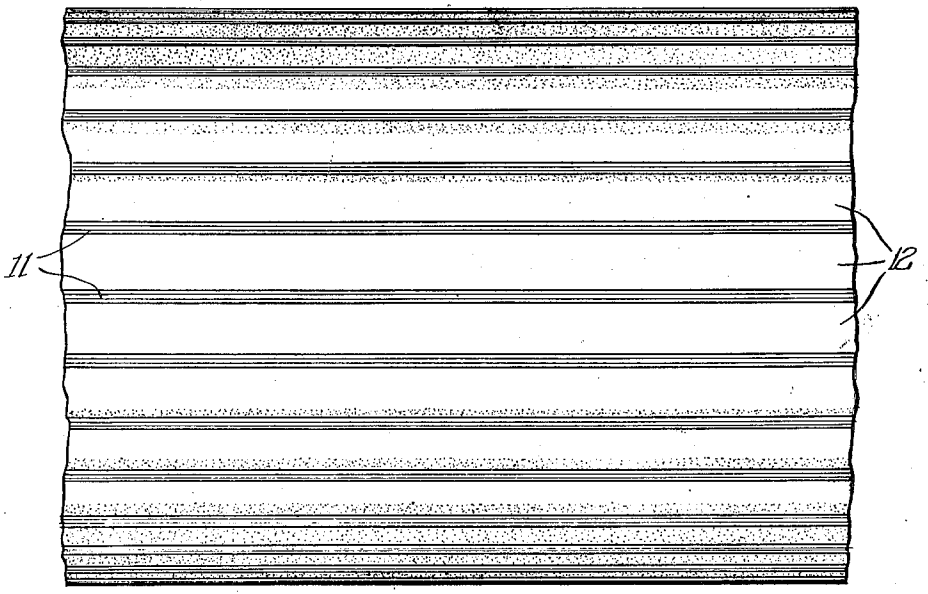


Fig. 2



INVENTOR.
Henry Dreyfuss,
BY Cromwell Greenbaum
Attys.

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ORNAMENTAL TUBING

Henry Dreyfuss, New York, N. Y., assignor to Eversharp, Inc., Chicago, Ill., a corporation of Delaware

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7 Claims. (Cl. 41—21)

This invention relates to ornamental or decorated tubing, such as may be formed of pyroxylin or other thermoplastic material and utilized for manufacture of barrels for fountain pens, mechanical pencils or other articles wherein an ornamental effect by use of different colors may be desired.

A general object of the present invention is to provide a tube structure which will have the necessary strength, which will have a desirable smooth surface finish, and which, by virtue of the character and arrangement of its component parts, will produce a novel visual effect of ornamental or decorative character.

Another object is the provision of such a tube structure by virtue of which a great variety of decorative color effects may be obtained.

Another object of the invention is the provision of a tube structure having the attributes specified above, and which is readily workable for the fabrication of tubular articles of different shapes and varying diameters without destruction or diminution of its characterizing ornamental or decorative quality.

Other and further objects of the invention will be pointed out or indicated hereinafter or will be apparent to one skilled in the art from the following explanation of it or from its employment in actual practice.

For the purpose of aiding in an explanation of the invention, I show in the accompanying drawing one form in which it may be embodied, but it is to be understood that this is presented merely for purpose of illustration and is not to be construed in any fashion for the purpose of limiting the appended claims short of the true and most comprehensive scope of the invention in the art.

In the drawing,

Fig. 1 is an end view of a piece of tubing constructed in accordance with my invention; and

Fig. 2 is a side view of same on a smaller scale, as though looking at the right hand side of Fig. 1.

In the manufacture of various articles of tubular form, such as barrels for fountain pens, it is freqently desirable to make them of different cross-sectional form or size at different points in their length. Where plastic materials are used, this may involve moulding of the original tube into different shapes or cutting or turning down of the material, as in a lathe, in various portions.

The novel tube structure constituting the subject matter of the present invention is provided primarily for the purpose of producing certain novel visual effects for purpose of ornamentation, but at the same time it is designed to provide a material which may be worked into different shapes without loss of its ornamental or decorative characteristics.

It is to be understood that while I refer to the article in which the invention is embodied as tubing, the invention is likewise susceptible of embodiment in articles of other forms, such as sheets or bars from which articles of various shapes and kinds may be made or which may be employed for providing an ornamental surface finish or covering.

The nature of the invention will be most quickly ascertained from a detailed description of the embodiment illustrated in the drawing, which is as follows.

In Fig. 1 is shown an end view of a cylindrical tube made up of an under layer 10, a plurality of narrow strip elements 11 which extend longitudinally of the tube and project upwardly or outwardly from the under layer 10 in laterally spaced relationship to one another, and interposed portions 12 which extend upwardly and outwardly from the under layer 10 between and in contact with the strip elements 11. Preferably, all of these portions are made of a material which may be integrally consolidated, such as pyroxylin. The different portions may be of different materials, however, provided they are of such nature that all may be firmly united to form a solid structure. Various means and methods are known in the art for integrally uniting such materials, as by use of a solvent cement, a thermoplastic cement, etc. Such a composite structure when formed of pyroxylin or other suitable thermoplastic material is adapted to be shaped by moulding, cutting or other working operations, and its outer surface, which is made up of the outer edges of the strips 11 and outer ends of the intermediate elements 12, is susceptible of a very smooth finish. To obtain a smooth finish, it is desirable that the outer edges of the strip elements 11 and outer ends of the contiguous intermediate elements 12 be of the same height from the under layer 10.

The lateral spacing of the strip elements 11 may be selected in accordance with the nature of the visual effect desired in any particular instance. The visual effect which is obtained by the structure is produced by the color and relationship of the component parts or elements of the structure.

In the under layer 10, I find it preferable, though not necessary, to use a light color of luminescent or good light-reflective character,

such as of polished silver or light gold or pearl; the intermediate elements 12 are of transparent character, and may be either colorless or, if desired, very lightly tinted; and the rib elements 11 are of color contrasting with that of the under layer 10, for example, red, green, blue, etc. The strongest color effects are obtained by having these elements of strong or vivid color value.

The rib elements 11 may themselves be of composite nature. As illustrated in the rib elements around the left-hand side of Fig. 1, they may be of one color, blue for example, on one side, and of another color, black for example, on the other, so that their surface margins appear as narrow collateral strips or stripes of blue and black. The strip elements 11 around the right-hand side of Fig. 1 are of the same color throughout, for example, blue. It is to be understood, of course, that the strip elements in a given tube may be all of the same color throughout, or may be composite of the same colors, or that different strips may be of different colors.

With the various elements thus arranged and consolidated to form a tube and with suitable contrast in the color of the under layer and strip elements, a unique visual effect is obtained. In an instance where the strip elements are all of the same color, as illustrated in the right-hand half of Fig. 1, the tube, when viewed from the side, displays in its longitudinal median portion a series of stripes formed by the surface margins of the strip elements, which are of a color contrasting with that of the under layer which is visible through the transparent intermediate portions 12; while in the portions of the tube surface on opposite sides of its median portion appears a shading effect which is of the color of the strip elements and which increases in intensity progressively from the median portion, as indicated in a general way by the stippling in Fig. 2. Consequently, in the median portion of the tube, that is, the portion of its curved surface nearest the observer, the color of the under layer will predominate, whereas in the portions of the curved surface which recede from the observer, the color of the strip elements becomes more and more conspicuous until it finally becomes predominant over the color of the under layer. This effect is obtained by virtue of the fact that more and more of the depth of the strip elements becomes visible through the transparent intermediate portions 12 as the surface recedes from the observer, while the light-refracting action of the transparent intermediate portions renders the color of the under layer visible on the receding surface but in gradually decreasing amount.

In like manner, in an instance where the strip elements are composite, blue on one side and black on the other, for example, the tube will display on its median portion a predominant color of the under layer with narrow blue stripes contiguous to narrow black stripes, and in the receding surface portions a gradually increasing shading of blue in one direction from the median portion, and in the other direction from the median portion a gradually increasing shading of black.

In an instance where a dark color is used in the under layer and light colors in the strip elements, a reverse shading effect will be obtained, the median portion of the tube surface appearing predominantly of the dark color of the under layer, and the color effect becoming lighter and lighter as the tube surface recedes, due to the increasing prominence or visibility of the color of the strip elements.

The structure obtains additional ornamental value in that it gives an effect of both depth and brilliance, which is probably due to the refractive action of the transparent intermediate portions and the light-reflecting action of the under layer and the portions of the strip elements which are below its surface. A characteristic of the structure which is of distinct value when it is employed in the fabrication of articles which vary in cross-sectional shape and size, is its preservation of its ornamental character. A thermoplastic tube of this construction may be moulded to different cross-sectional shapes and sizes without disturbing the effective relationship of its component elements, and, moreover, due to the fact that the strip elements and the intermediate transparent portions may be of substantial depth, the surface of the tube may be dressed down to a considerable extent, by lathe turning or the like, without destroying the characterizing visual effects described above. While I have shown the under layer of substantial thickness approximating the depth of the strip elements and the intermediate portions, it will be understood that this relationship as to thickness is not essential, and that the under layer may be of very much less, or merely film, thickness, so long as it is sufficient to carry the desired density of color.

It will be appreciated likewise that the structure may be embodied in the form of a sheet, either curved or flat, instead of in the form of a complete tube, and may be used for the fabrication of various kinds of articles, ornamental boxes or receptacles, for example, decorative backing, etc.

I claim:

1. A decorative material for fabrication of tubular articles comprising a tubular under layer, a series of strip elements disposed thereupon and extending outwardly therefrom in generally radial directions and spaced from one another circumferentially thereof, said strips being of one color on their sides which are presented in one circumferential direction and of contrasting color on their sides which are presented in the other circumferential direction, and transparent colorless intermediate elements disposed upon the under layer and filling the spaces between the strip elements, all of said parts being united with one another in the areas where they meet to form an intergral tubular structure with the outer surfaces of the strip and intermediate elements forming the outer curved surface of the tube, the colors of the strip elements being visible from said outer surface through portions of the intermediate elements.

2. A decorative material as specified in claim 1 and wherein the under layer presents a color which is visible through the intermediate elements and which contrasts with one of the colors of the strip elements.

3. A material for fabrication of articles presenting decorative curved surfaces, comprising a unitary under layer of arcuate contour, a series of strip elements disposed upon said under layer and extending angularly therefrom in generally radial directions and spaced from one another in the direction of its curvature, said strip elements having their opposite sides of contrasting colors, and transparent colorless intermediate elements disposed upon the under layer and filling the spaces between the strip

elements, all of said parts being united with one another in the areas where they meet to form an integral structure with the outer ends of the strip and intermediate elements forming an outer arcuate surface thereof, the colors of the strip elements being visible from said outer surface through portions of the intermediate elements.

4. A decorative material as specified in claim 3 and wherein the under layer presents a color which is visible through the intermediate elements and which contrasts with one of the colors of the strip elements.

5. A decorative material as specified in claim 3 and wherein the under layer presents a color visible through the intermediate elements and the strip elements present at their outer margins a color contrasting with that of the under layer.

6. A decorative material as specified in claim 3 and wherein the width of the intermediate elements at the arcuate surface is materially greater than the width of the adjacent strip elements at said surface.

7. A decorative material as specified in claim 3 and wherein the strip elements extend approximately parallel with one another in their longitudinal directions.

HENRY DREYFUSS.