March 21, 1939. R. BACK 2,151,548

DECORATIVE TUBULAR ARTICLE OF PYROXYLIN OR THE LIKE

Filed Dec. 9, 1935

Fig. 1

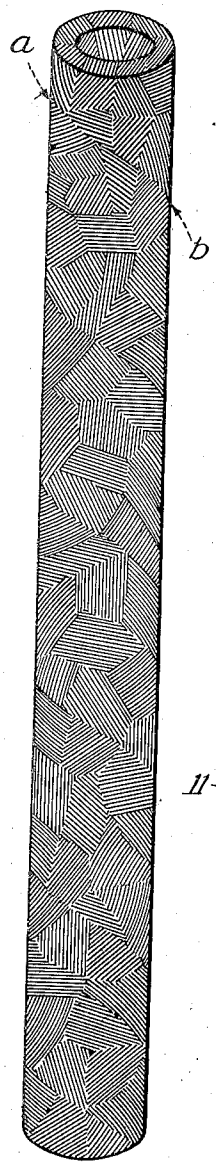


Fig. 2

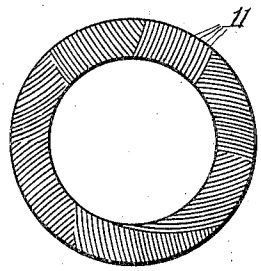


Fig. 4

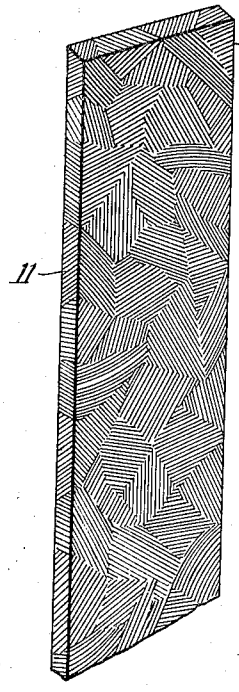
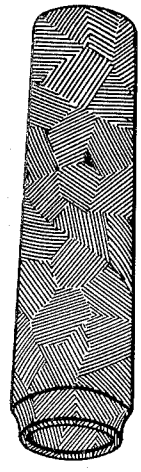


Fig. 3



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DECORATIVE TUBULAR ARTICLE OF PYROXYLIN OR THE LIKE

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2 Claims. (Cl. 18—51)

This invention relates to tubular articles, such as barrel portions for fountain pens and mechanical pencils, made of suitable hard setting plastics such as pyroxylin, or similar material, and to a method of forming same.

Various tubular articles, such as the barrels for fountain pens and mechanical pencils, heretofore have been made of pyroxylin by first forming the material as a solid rod, and then boring the rod longitudinally. This obviously was wasteful, as the very considerable proportion of the material which was bored out was reduced to chips or scrap. Attempts also have been made to form such articles by providing the material in the form of a flat strip and winding this strip helically on a mandrel and uniting the margins of the helices by means of a suitable solvent, to form a tube. Tubes made in this fashion have been subject to the drawback or objection that the joints where the helices are united have remained more or less obvious, thus detracting from the appearance of the tube when finished as a barrel for a writing instrument of the character above mentioned.

It is an object of the present invention to provide a tubular article, such as the barrel of a fountain pen, mechanical pencil, or the like, formed of such spirally or helically laid tubing, and in which the joints will not be obvious or readily apparent to the sight.

For the purpose of aiding in an explanation of the invention there are shown in the drawing forming a part of this specification, and hereinafter described, certain articles embodying the construction and serving to illustrate the procedure.

In said drawing

Fig. 1 is a perspective elevational view of a tube embodying the invention;

Fig. 2 is an end view of same on an enlarged scale;

Fig. 3 is a perspective elevational view of the cap portion of a fountain pen barrel in which the invention is embodied; and

Fig. 4 is a perspective view of a flat strip of pyroxylin or similar material such as employed in the fabrication of a tube such as illustrated in the foregoing figures.

The nature of the invention will be most readily ascertained from a description of the articles shown in the drawing and an explanation of the procedure whereby they are formed.

A flat strip 10 of pyroxylin or the like, of a thickness representing approximately the desired thickness of the tube, is provided, said strip being of composite character in that it is made up of a plurality of differently colored integrally united laminations 11. These laminations are arranged in groups and extend in various different directions in the strip, the laminations in respective groups bearing a more or less parallel relationship to one another. The strip is thus laminated throughout its thickness. The margins of the laminations at the surface of the strip consequently present groups of striations, those in one group extending in various angular directions relative to those in adjacent groups. Some of these striations may run more or less parallel to margins of the strip, and others run in various angular directions relative thereto. As a result, the surface of the strip presents a mottled appearance, with different areas showing striations running in different directions.

A strip of this character, while in plastic condition, is wound into helical form on a mandrel, the margins of adjacent helices being laid in contact with one another and being integrally and continuously joined to one another, throughout their thickness, in suitable manner, as by means of an appropriate solvent, thus forming a tube. This tube is suitably cured or hardened so that it becomes comparatively rigid. Such a tube is illustrated in Fig. 1.

By virtue of the character of the construction, particularly on account of the nature and arrangement of the striations as above described, the lines of fusion or junction, along which the helices of the strip are united, are quite effectively concealed or rendered indistinct to such a degree as not to be predominant or obtrusive under visual observation. The trace of a portion of such fusion line is indicated at *a*—*b* in Fig. 1. Accordingly, instead of having a spiral appearance, the tube has a mottled appearance, the striations producing somewhat of an iridescent, changeable, or shimmering effect, and the striated areas giving an aspect somewhat as though the material contained fragments of sea shells.

In the forming of various tubular articles, barrels for fountain pens and mechanical pencils, for example, it may be necessary or desirable to re-form the cylindrical tube in various respects, as by turning portions of it down, as in a lathe, re-shaping it by molding pressure, or otherwise.

For example, in Fig. 3 is shown a barrel cap for a fountain pen in which the lower end portion has been turned down and the other portion has been press-molded to give it a tapering form. Moreover, in the finishing of such articles it fre-

quently is desirable to give the surface a high polish.

By virtue of the character and structure of the above described tubing, such turning, molding and polishing of the articles may be accomplished without detriment to its decorative or ornamental features, due to the fact that the laminations which contribute to the striated surface appearance extend through the thickness of the material, and hence are not removed by the polishing or the cutting away of more or less of the superficial material.

It will be appreciated from the foregoing that the present invention provides a tubing or tubular article and a method of making same which enables substantial savings in cost to be effected, as compared with the forming of such articles from solid rod materials, and at the same time obtains a desired ornamental or decorative effect and overcomes certain undesirable characteristics in the appearance of decorated pyroxylin tubes of spirally laid construction.

It is to be understood that various changes may be made, from the illustrative embodiment herein illustrated, in the character of the decorative effect obtained, in the arrangement of striations, and in other details and particulars, without departing from the scope of the invention.

What I claim is:

1. A tubular article of pyroxylin or the like, consisting of a strip wound helically into a tube and having the margins of adjacent helices integrally and continuously united along a helical line, said strip being formed of integrally united laminations of different colors, each of which laminations has a line-like edge lying at the surface of the strip and a wider face extending into the strip, surface edges of the laminations in different surface areas of the tube extending in different directions relative to the helical line, whereby the surface of the tube presents a mottled appearance due to the fact that different areas show line-like striations running in directions differing from those of adjacent striate areas.

2. A barrel portion for a writing instrument formed of a strip of pyroxylin or the like wound helically and having the edges of adjacent helices connected continuously with one another along a helical line to form a tube, said strip being formed of integrally connected thin laminations of contrasting colors, respective laminations having narrow line-like edges lying at the surface of the strip and wider faces extending into the strip, the arrangement of the laminations being such that the surface edges of those in one area run in directions differing from those of adjacent areas, whereby the surface of the article presents a motley striate appearance effective to subordinate the junction line of the helices.

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