

# UNITED STATES PATENT OFFICE.

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METHOD OF PRODUCING AND TREATING PYROXYLINE AND THE MANUFACTURE OF ARTICLES THEREFROM.

SPECIFICATION forming part of Letters Patent No. 237,279, dated February 1, 1881.  
Application filed December 31, 1880. (No specimens.)

*To all whom it may concern:*

Be it known that we, SAMUEL J. HOGGSON and GEORGE C. PETTIS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in the Method of Producing and Treating Pyroxyline and the Manufacture of Articles therefrom; and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to an improvement in the method of producing and treating pyroxyline in the manufacture of articles which have a base of some other material, but the surface of which it is desired to coat with the treated pyroxyline, such as book-covers, printer's stereotype, and other articles which have a backing or foundation.

In the usual method of treating pyroxyline for these purposes it is prepared in a mass and rolled into sheets or pressed into molds to form the covering or veneer.

Our improved process consists in treating the pyroxyline in sheets from the fiber and applied to a foundation or backing, as more fully hereinafter described.

We first prepare a backing or foundation from any suitable material. The surface to be coated is prepared by embossing thereon the requisite shape or ornamentation, or it may be left plain; or upon the surface to be coated ornamentation may be laid on in colors; but the coloring material must be of a nature not to be affected by the subsequent treatment. We then obtain a vegetable fiber, such as wood, starch, cellulose, glucose, &c., and roll or form it into a sheet of the required size, according to the size or shape of the foundation or backing upon which it is to be placed. This sheet of fiber we suspend in a suitable vessel containing nitric acid, or a mixture of nitric and sulphuric acid, or of nitrate of potassium or soda with the above acids. This sheet may be placed directly in the acid or suspended over it until it attains the pyroxyline condition. It is then transferred from the acid-bath directly to a clear (and should be running) water bath, in which it remains until every trace of the acid is removed. Then it is taken from the water-bath and pressed, by rolling or otherwise, to remove the water. It is then placed onto the

backing or foundation and secured by any suitable adhesive material. Then the backing, with the sheet of pyroxyline upon it, is placed in a bath of acetic ether, alcohol, wood-naphtha, or any of the known pyroxyline solvents, until the sheet is converted into a gelatinous condition, but still retaining its shape. It is then removed from the bath, and if the backing is embossed for ornamentation it is then placed in the same dies and re-pressed, which brings out the embossed ornamentation on the surface of the sheet or veneering. If it be flat, with colored ornamentation on the foundation, then it is simply rolled to finish the surface, the covering or veneering being transparent.

If the transparency of the veneering is not required—that is, if it is desirable to produce a colored or opaque covering for the backing—the requisite coloring-pigments are introduced to the fibrine or pyroxyline sheet; but in such cases the coloring-matter must be of such a nature that the subsequent treatments will not deleteriously affect the colors.

In case the design on the backing or foundation is of such a nature as to be injured by the subsequent treatments, the pyroxyline sheet may be treated separately and laid over the backing and pressed or rolled thereon; but the best results are obtained by applying the sheet to the backing before the converting process is performed.

We claim—

1. The method of treating pyroxyline consisting, first, in preparing the fiber in a sheet form and subjecting it, while in such sheet form, to an acid-bath to form the pyroxyline sheet, then subjecting the pyroxyline sheet to a solvent, substantially as described.

2. The method herein described for surfacing articles with a veneering made from pyroxyline, consisting in first preparing the pyroxyline in sheets, then applying it to the surface of the article to be covered, then subjecting the coating thus applied to a pyroxyline solvent, substantially as described.

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Witnesses:

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