UNITED STATES PATENT OFFICE.

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FINE ART OF PAINTING.

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To all whom it may concern:

Be it known that I, JOHN W. HASBURG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fine Art of Painting, of which the following is a specification.

My invention relates to the fine art of painting and has for its general object to provide a process of painting with colors having a soluble cellulose or pyroxylin base upon celluloid or the like foundation containing nitro-cellulose.

"Celluloid"—typically of various cellulosic or pyroxylin compounds that are marketed under different names—although it has may desirable qualities and is used in making many articles that might well be the foundation for artists' decorative efforts, does not lend itself to such work because of the difficulty in securing permanency in the ornamentation. For instance, hand painting on celluloid with ordinary painting materials, such as oil paints, varnishes, etc., is practised but little for the reason that the applied ornamentation so readily scales or chips off and becomes easily soiled that it cannot be regarded as permanent or satisfactory. Solutions of cellulosic materials have been employed as paint for decorating purposes, particularly for uniform or plain tints on various foundations as wood, metal, etc., and when so used they have the important advantage of superior permanency on the article on which it is applied. Thus pyroxylin enameling for coating extensive flat or plain surfaces of wood or metal is well known. Such cellulosic solutions are not much used, however, for artists' decorative purposes as they are really impractical because of their numerous disadvantages. Among these is the fact that the rapid drying of the solution greatly limits the artist's ability to brush-apply it for artistic decoration, as a "skin" dries on the brush before it can be applied to the foundation.

Special objects of my invention, therefore, are to provide a suitable decorating paint having a soluble cellulosic or pyroxylin base and a suitable pigmentation, in a form convenient for commercial sale and for facile application in the artist's work; and further to provide a method for fixing or rendering permanent the ornamentation applied with such paint.

First, to provide the primary paint in form convenient for application with a brush, the artistic ornamentation of suitable foundations, (and especially for the practice of my celluloid-ornamenting method) I provide a mixture or paint, preferably in a thick creamy or paste consistency, composed of a soluble cellulosic base, a suitable pigment to give the desired color or tint, and a liquid which is not a solvent for the base and preferably not a solvent for the pigment, the liquid vehicle being of a volatile character. The particular ingredients employed may be widely varied but typically pyroxylin as the soluble-cellulose base material, a mineral pigment, such as a suitable metal oxid, sulfid, chromate, or the like, and water as a volatile carrying agent inert with respect to the solid base and pigment materials may be employed. Also the preparation of the paint may be variously carried out and the primary or pigmented material marketed in different forms. For instance, the two solid ingredients may be ground dry together and sold in that form for admixture with water, benzin, or other suitable carrying agent, by the artist; or they may be ground in the carrying agent and dried for sale in powdered form, or ground in the liquid and packaged as a semi-liquid.

It will be understood that the employment of the inert carrying liquid is primarily intended merely to give a proper consistency such that the undissolved ingredients may be worked most effectively by the artists and brush-applied to the foundation with the greatest ease. Ornamentation thus applied adheres to the foundation, when the volatile carrying agent evaporates with sufficient tenacity for subsequent treatment, as hereinafter set forth, but does not have the attributes necessary to real permanency of ornamentation.

Subsequently to this "temporary" application,—so to speak—of the primary pigmented material to the foundation and the evaporation of the carrying agent therefrom, the ornamentation is fixed by the application thereto of a fixing agent which is a solvent for the soluble cellulosic base material but, preferably, is not a solvent for the pigment. Thus, pursuing the example heretofore given, the decorations applied upon celluloid with a paint composed of a pyroxylin base and a mineral pigment may be brushed or sprayed with a mixture of alcohol and ether which dissolves the soluble

cellulosic content and this fixing agent, permeating the decorative coating, also attacks the celluloid foundation, but without dissolving the pigment, and so merges the cellulosic substances of the base and the paint, homogeneously bonding the paint to the celluloid foundation and giving to the finished decoration a most satisfactory permanency of outline and color.

Where a fixing agent is employed that consists of the solvent for the cellulosic material alone, its tendency is to give what is known as a mat finish, if the cellulosic content with the pigment is low, but where a higher "gloss" finish is desired, the degree of gloss may selectively be regulated by the artist by using a solvent that has had incorporated with it more or less pyroxylin that is deposited as a surface gloss upon the evaporation of the solvent.

It will be understood that while, as herein before suggested, the use of colors having a cellulosic base is particularly desirable for the ornamentation of celluloid foundations, the same method above described may be used in applying ornamentation to foundations of other materials such, for instance, as glass, wood, metal, etc., but of course under such circumstances the fixed ornamentation, although it adheres strongly to the foundation surface, is not homogeneously bonded to the foundation as it is to celluloid.

It will further be understood that while for commercial purposes, it is generally preferable that neither of the liquids employed—the carrying agent or the fixing agent—shall be a solvent for the pigment, the principal reason for such a selection of liquid is to prevent running of differently tinted pigments together; but in some rarer instances it may be desirable to employ colors that will run together under the fixing treatment, and this may be accomplished, for one example, by using a suitable pigment, such as anilin coloring, which is soluble in the fixing solution.

While I have herein described in some detail particulars of a desired practice of my invention it will be understood that I do not limit myself to such details in the broader aspect of my invention and that many variations from the specific illustrations herein given may be made without departure from the spirit of my invention, within the scope of the appended claims.

Having described my invention, what I claim is:—

1. The art of "fine art" painting on a celluloid or the like foundations containing nitro-cellulose which consists in applying to the foundation non-dissolved soluble cellulosic material for temporary residence on the foundation and subsequently coating the decorated areas with a volatile solvent for the cellulosic material thereby to bond the solid substance of the applied cellulosic material and the foundation together.

2. The art of "fine art" painting which consists in painting on a celluloid or the like foundation containing nitro-cellulose with a paint comprising a soluble cellulosic material, a pigment, and a volatile liquid that is not a solvent for the base material, permitting said liquid to substantially evaporate and thereafter treating the deposited paint material with a volatile liquid that is a solvent for said soluble base material.

3. The art of fine-art painting upon a celluloid or the like foundation containing nitro-cellulose which consists in applying to the foundation a paint having a soluble cellulosic base in non-dissolved condition and subsequently applying a volatile solvent for the cellulosic base and celluloid foundation.

4. The art of fine-art painting upon a celluloid or the like foundation containing nitro-cellulose which consists in applying to the foundation a paint, comprising a soluble cellulosic material, a color pigment and a volatile liquid that is not a solvent for the soluble cellulosic material, subsequently applying thereover a volatile liquid that is a solvent for the cellulosic material and foundation, but not a solvent for the pigment.

5. The art of fine-art painting upon a celluloid or the like foundation containing nitro-cellulose which consists in applying to the foundation a paint comprising a soluble, cellulosic material, a color pigment and a volatile liquid that is not a solvent for the soluble cellulosic material or the pigment, permitting the paint to dry and subsequently applying thereover a volatile liquid that is a solvent for the soluble cellulosic material and the foundation.

In testimony whereof I hereunto set my hand.

JOHN W. HASBURG.