UNITED STATES PATENT OFFICE.

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PROCESS OF PRODUCING ARTIFICIAL WOODS.

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To all whom it may concern:

Be it known that I, DAVID LYNN, a citizen of the United States, residing at Athens, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in Processes of Producing Ornamental Woods, of which the following is a specification.

My invention has for its object to ornament the surface of wood by giving thereto an appearance different from that which the wood would have if finished in its natural color and as cut from the block or piece, whereby an inferior grade of wood may be given the appearance of a more valuable wood or a piece of wood cut straight and with the grain may be given the appearance of being quartered.

My invention has especially for its object to render possible a simulation of the grain of the wood sought to be imitated more nearly perfect than it has heretofore been possible to attain by any of the processes now in vogue. This and other advantages, which will be hereinafter pointed out, are secured by my invention, which consists in a novel process of wood-surface treatment and a new article of manufacture—the result of such process.

I am aware that heretofore many processes have been proposed and adopted for the purpose of giving to the dressed surface of a piece of wood the appearance, more or less perfect, of a different wood from that treated. This has been done, according to one system, by the graining process, where the wood surface is painted to represent the wood sought to be simulated, especial care and attention being given in this system to the representation of the grain of the wood by paint-marks. By this process the natural color and the grain of the wood are entirely hidden by the paint employed, and, moreover, it does not permit of the dressing or rubbing down of the surface with sandpaper and pumice-stone after the paint has been applied and as a preparatory step to the varnishing.

Another system now in vogue depends upon staining the wood surface to give to it the color of the wood sought to be imitated, leaving the natural grain of the wood to appear, no attempt being made to represent the peculiar fibration of the wood represented. This system is only satisfactory in so far as it gives a resemblance in color, and the imitation can be immediately detected by one skilled in woods, as the characteristic grain or fiber arrangement of the wood represented is lacking.

I have discovered that if to the dressed surface of a piece of wood there be applied a coating of some material which is impervious to wood-filler or to wood-stain, or to both, and which therefore acts as to these as a stopping-coat, the said stopping-coat being so applied as to more or less but not completely cover the entire wood surface, and that thereafter the wood surface be treated with wood-filler and wood-stain, one or both, in the ordinary manner followed in finishing wood, the stain or filler does not enter into the body of the wood to the same extent where the said coating has been applied as it does where the coating has not been applied, with the result that the appearance of the wood where the coating has been applied is different from what it is at other places. It will therefore be apparent that if the said stopping-coat be applied according to a design, such as the representation of a wood grain or fiber arrangement, then in the finished wood an artificial or apparent grain will appear. The change in the appearance of the wood incident to the application of such coating will depend both upon the kind of wood being treated and upon the composition of the stopping-coat used, and this I will describe somewhat in detail hereinafter.

The stopping-coat or grain-representing material which I have found best suited to the purposes of my invention is one which enters into the body of the wood as well as serves as an impervious medium to prevent the full action of the subsequently-applied filler or other material employed in finishing the surface of the wood. When such a material is used, the surface of the wood may be rubbed down after it has been applied without destroying its effect. Indeed I have found that the best results are obtained by rubbing down the wood after the stopping-coat has been applied and before the filler is used.

Among the materials which I have employed in carrying out my invention for the

stopping-coat are glue, size, varnish, and shellac. The most satisfactory results, however, are obtained by the use of shellac.

I will now describe in detail several methods of carrying my process into effect.

To make an imitation of quartered oak, I preferably use oak cut straight or with the grain. The surface of the wood is smoothed and thereupon is marked out or delineated in the stopping-coat material, which is preferably applied with a brush, a representation of the fiber or wood-grain arrangement which is characteristic of quartered oak. I preferably use shellac for this purpose, as this material quickly enters into the body of the wood and dries and is impervious to wood-filler. The wood surface thus treated is rubbed down, as would be done were the natural finish to be given to the wood, the filler is then applied, and the surface-dressing completed in the usual manner. The material used as a stopping-coating in marking the wood surface may be stained or not, as desired, and this is also true of the filler employed. If a white shellac be used as the stopping-coat, the natural color of the wood is preserved at the places where it is applied, and in that event a colored filler may be used to give an "antique" or a "golden-oak" finish. On the other hand, if the shellac be slightly darkened the filler may be left clear and white, in which event the artificial grain will show darker than the other parts of the wood.

In making an imitation of bird's-eye maple any kind of white wood may be used, preferably one in which the grain of the wood is not very distinct or marked. The surface of the wood being smoothed, the eyes are represented thereupon, the shellac used for this purpose being preferably slightly darkened with lamp-black, logwood, or other suitable material. The shellac or other stopping-coat material is also preferably quite thin, so that the solvent which is used therein runs slightly into the body of the wood around the spot or eye which has been marked on the wood. If a coloring substance be used for the shellac which does not stain the solvent thereof, the effect is that around each eye, which is slightly darker than the body of the wood, there is a lighter-shaded irregular ring, thus giving to the wood an exceedingly natural appearance. The "eyes" being thus formed, the surface is rubbed down, filled, and finished in the usual manner.

In making a representation of woods wherein the grain-markings are very distinct and of a darker shade than the body of the wood, such as mahogany or French walnut, either a light or a dark colored wood may be used. The surface of the wood is smoothed and prepared, and the shellac or other coating material employed is applied to the surface, so as to represent the grain or wood-marking sought to be imitated. The material used is colored or stained such a shade or color as will give to the wood the color of the grain or fiber of the natural wood being imitated, the substance used as a stain or coloring material being preferably one which will stain or color the solvent of the coating material, so that as the solvent spreads out into the boby of the wood from the markings which have been placed on the surface of the wood the color will be carried with it, thus giving a shaded effect to the imitation grain or fiber which is exceedingly natural in appearance. The stopping-coat having thus been applied and allowed to dry, the surface of the wood is rubbed down, which operation, as will be understood, does not remove the said coating material, but rather improves its effect, and the wood-filler is applied, this being colored to impart to the wood surface the color of the wood being imitated. This colored fiber does not act upon the wood to the same extent where the stopping-coat has been applied as it does at other parts, so that the artificial grain remains as first applied. The wood is finished and polished with varnish and oil in the usual manner.

It should be understood that wood-filler and wood-stain are the equivalents one of the other so far as my invention is concerned, the stopping-coat which is employed to represent the grain or wood fiber acting as a resist or stop to the entrance of one or both of these materials, according as they may be used.

After the wood-dressing materials have been applied, by which I refer to the stopping-coat material, the wood-filler, and the wood-stain, the wood surface may be finished in any of the many methods now well known and practiced, it being rubbed down and varnish or oil, or both, being used in such finishing operation, as may be thought most desirable.

What I claim, and desire to secure by Letters Patent, is—

1. In the art of ornamenting wood surfaces, the herein-described process which consists in applying to the smoothed surface of the wood a stopping-coat according to a desired design, thereafter rubbing down such surface, then applying a wood-filler to the entire surface of the wood being treated, and then finishing in the usual manner, substantially as set forth.

2. In the art of ornamenting wood surfaces, the herein-described process which consists in drawing or marking upon a smoothed wood surface a design in a material which enters the body of the wood and also acts as a resist or stopping-coat to subsequently-applied wood-dressings, thereafter rubbing down the entire surface of the wood, and finally dressing and polishing the wood in the usual manner, substantially as set forth.

3. The herein-described process which consists in applying to the smoothed surface of wood shellac according to a desired design, then rubbing down the wood, and then filling the wood surface, and finishing with a varnish coating covering both the coated and the filled portions of the surface in an ordinary manner, substantially as set forth.

4. The herein-described process which consists in applying to the smoothed surface of wood a stopping-coat according to a desired design, the material of such coating containing a liquid which spreads into the body of the wood around the markings which produce the said design, and thereafter applying to the entire wood surface a filler, and finishing with varnish in the usual manner, substantially as set forth.

5. The herein-described process which consists in drawing or marking upon the smoothed surface of wood a design in a material which acts as a stopping-coat to the subsequently-applied wood-dressing substances, such material containing a liquid which spreads into the body of the wood and colors it, and thereafter finishing the wood-surface treatment with filler, smoothing and polishing materials in the usual manner, substantially as set forth.

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