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METHOD OF PATTERNING ARTIFICIAL LEATHER OR OIL CLOTH AND SIMILAR BAND-FORMING FIBROUS MATERIAL

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The method of forming patterns on leather, artificial leather and similar fibrous materials, by the use of printing methods is known. It has been discovered that the formation of light-sensitive layers on fibrous strips presents special advantages in the copying of patterns on the same as compared to printing methods, and brings with a great technical advance.

A light-sensitive layer may be formed on the material with the greatest ease, while at the same time the material may be prepared with a light-sensitive lacquer. Also, the copying of the pattern is essentially simpler than by the known printing methods. By means of known pneumatic mechanism, an internal bond is produced between the fibrous material and the photographic negative. The effect of the pattern is essentially better than it can be produced by printing methods. When the printing method is used the ink disappears into the pores of the leather, unless a special and expensive preparation of the surface of the fibrous material is provided; besides, in printing numerous halftones are lost, which, in the single print, may otherwise become detrimental to a good result. This advantageous feature shows up especially in the imitation of marble grains, wood grains, inlay work and expensive fabric patterns.

The leather or fibrous material can be soaked in a light-sensitive liquid, so that the silver bromide is soaked completely into the pores of the fibrous material. After the solution dries, the fibrous material may then be placed in a projecting machine, carrying a negative of the design to be reproduced. The design is preferably projected with a small diaphragm, that is, with light-restricting annulus, such as exists in a camera, in order to obtain the desired sharp lines of the design. The proper distance of the surface of the light-sensitized fibrous material from the projecting machine can then be carefully determined, in order to obtain the desired scale of the original design. After the exposure, the fibrous material can then be developed as an ordinary plate or photographic paper print. By reason of the silver precipitate the developed color of the design is not on the surface of the fibrous material, as in the usual printed imitation, but is deep in the fibers of the leather and the optical effect is one which portrays a design with widely varied tonal effects. If desired, a photographic picture can be copied onto the light-sensitive fibrous material without the use of a projecting machine by the use of a negative, and, of course, the colors of the design may be dark or light as desired, and this can be effected by using corresponding light-sensitive layers and then by using developers which will bring out the desired colors.

If desired, a light-sensitive nitro-protecting lacquer may be used. Generally, silver bromide, gelatine emulsion will normally dry out in a temperature of 40 to 50° (centigrade) and it may then be ground into powder. This light-sensitive powder is mechanically mixed with nitro-lacquer and then sprayed by generally used spraying methods onto the leather, (for example, on the metal plates or wood.) The development and the fixation of the light exposed exterior may be carried out with the usual developing solutions and fixing bath, with which, to make the result of the process stronger and quicker, aether, alcohol, spirits, amylazetet, azeton or other nitrocellulose ingredients are used in various proportions.

In place of copying in pneumatic frames, known copying cylinders may also be used. The copying method may easily be mechanized, thereby achieving an essential advantage of the printing method, with simple and cheap means. The latent picture after copying is passed through a water bath or developing bath and developed, washed and dried. Subsequently, the material may be lacquered, polished or otherwise treated.

The light-sensitive layers may be variously colored; besides, it is possible, after a first pattern is transferred and developed, to give a subsequent treatment, with a light-sensitive substance, and a second copy transferred, so that superimposed double patterns are produced, whereby natural or fantastic multicolor effects are formed.

I claim:

1. The methods of decorating leather or other fibrous surfaced materials, comprising drying a light sensitive emulsion, reducing the dried emulsion to a powder, mechanically mixing said powder with a nitrocellulose lacquer, applying the mixture to the fibrous material, exposing the material to light rays, photographically developing and fixing the material in the presence of a nitrocellulose lacquer solvent, drying the material, and subsequently applying a lacquer wearing coat.

2. The method of decorating a fibrous surfaced material, comprising drying the light sensitive emulsion, reducing the dried emulsion to a powder, mechanically mixing said powder with a varnish, applying the mixture to the fibrous material, exposing the material to light rays, pho-

tographically developing and fixing the material in the presence of a varnish solvent and subsequently drying the material.

3. The method of decorating a surface comprising drying the light sensitive emulsion, reducing the dried emulsion to a powder, mechanically mixing said powder with a varnish, applying the mixture to the surface, exposing the surface to light, photographically developing and fixing the surface in the presence of a varnish solvent and subsequently drying the material.

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