

UNITED STATES PATENT OFFICE.

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PROCESS OF MANUFACTURING REPRODUCTIONS OF PAINTINGS, MAPS, WALL-PAPERS WITH RELIEVO-PATTERNS AND THE LIKE.

1,346,807.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, HUBERT BOGAERTS, a subject of the Queen of the Netherlands, and residing at Berlin-Halensee, Germany, have invented certain new and useful Improvements in Processes of Manufacturing Reproductions of Paintings, Maps, Wall-Papers with Relievo-Patterns and the like, of which the following is a specification.

Many and different processes are known for the manufacture of any optional number of impressions of copies of paintings, pictures, maps and the like and in all these cases the paper provided with the impression is, unless the reproduction be carried out merely on paper, mounted on linen. Now this method presents different disadvantages; in the first place paper is exposed to deterioration by turning yellow and, in general, it is highly sensitive to atmospheric influences. It is also very liable to break. Furthermore, paper does not keep the strokes of the brush made on it and loses them gradually and the quality of the impression suffers by the use of paper, especially if the reproduction of oil-paintings is the question, a quite clear fact which needs no explanation.

The hitherto known processes make, besides, use of a metal plate as a matrix, wherefrom the reproduced pictures are transferred, but plates of this kind are very expensive and require also costly plants for their renewal or repair and, finally, the reproductions obtained according to the known processes make the ruled half-tone screen or glassplate, required for the production of the impression, easily discernible, if not with the naked eye, yet at least by a close inspection. As a matter of course these inconveniences will greatly impair the animation and faithfulness of the reproduction.

Now, the present invention has for its object to do away with the hereinbefore described drawbacks, a task perfectly solved by it.

The reproductions obtained according to the new process are not to be distinguished from the original, they are taken from, even not by the most experienced expert in matters of art. They are produced directly upon canvas without the use of paper or any other intermediate layer, they are in full truth to nature, agreeing in each stroke of the brush with the original, they especially

present, in the reproduction of paintings, the characteristic raisings obtained by a stronger application of color, they do not make the use of any half-tone screen discernible and the new process does not require any metal plates, which means a considerable saving when compared with the processes hitherto known. The cake employed in the new process and used instead of a metal plate costing about \$4.00 can be produced for as little as from 5 to 8 cents.

The process comprises the following operations:

A piece of canvas or any other tissue—on account of the peculiarity of the new process even the worst, coarse material, such as sack-cloth, jute and the like will do—is first of all coated with glue and thereupon with a special layer which is as white as snow and consists of a finely powdered opaque material, dissolved in a liquid which must have the property of evaporating after the application of the layer and to secure a perfectly reliable drying of the coat. A coat of this kind may, for instance, consist of kaolin or chalk in combination with white gelatin and glycerin. The coat is applied to the canvas, whereupon it is rendered quite plane, say, for instance, by laying it upside down upon a smooth layer, which layer may consist of glass, metal or any other smooth material, or by drawing it between two smooth rolls or cylinders, glazing it. Now the canvas provided with the smooth, dry coat is treated according to the polychrome process; that is to say, it is printed in multicolor whereupon it is pressed against a plate with a canvas-pattern, in such manner that the surface of the coating will bear the pattern of the canvas, for the purpose of increasing the resemblance of the picture with the original. Now the canvas is mounted upon a rigid base for enabling it to be worked on by hand, that is to say that an artist undertakes now to imitate by hand the raisings, obtained in the original to be reproduced by a repeated application of color and this result is obtained by applying at different points as required, varying thicknesses of a special mass which must have the property of becoming as hard as stone when dried in such manner that it becomes appropriate to produce impressions on a flat surface. This mass may consist of shellac. For the purpose of hastening the

drying process, the canvas may be dipped into an alum-bath. It may also be found convenient to mix the mass of shellac with white-lead. The shellac is dissolved in alcohol or methylated spirit and the white-lead intimately mixed with the same. A paste will be formed thereby, adapted to be applied with a brush upon the canvas in exact imitation of the original, even in the finest strokes of the brush. When the drying process is completed, the surface is coated with a solution of shellac, when the patrix is ready, which serves for the making of the matrix. The latter consists of a cake forming a substitute for the plates of metal, vulcanite or the like hitherto used and is, for instance, formed of a mixture of kaolin, glue, glycerin and alum. An important feature for the composition of the cake is that it must be soft and adapted to receive the embossing impressions exerted upon it, that is to say, it must be very elastic and become as hard as stone when impressed upon. Prior to applying the patrix to the matrix, both are to be oiled for the purpose of facilitating their separation later on. When the patrix is laid upon the matrix, it is given the necessary pressure, the consequence being that raisings, artificially produced on the patrix, and the canvas pattern, equally produced on the same, will now appear upon the matrix. After the pressure the same becomes as hard as stone and is now coated with a solution of pure shellac.

From this matrix, the manufacture of which costs very little a considerable number of reproductions may be obtained in the following manner:

The initial steps of the procedure are exactly the same as when making the patrix. A suitable piece of canvas is first glued, whereupon the opaque coat is applied to it, smoothed and provided with the polychrome printing in any well-known manner. Now the canvas is moistened and applied to the matrix, whereby it is embossed. When the copy has received the embossing impress, it is dried and when the copy is quite ready, it is, as usually, varnished.

The copies exactly agree with the original, even in the finest strokes of the brush and, owing to the fact that paper has in them not been used at all, they may even be confounded with it. The use of an opaque coat, as white as snow, grants also the possibility of working only with three colors, instead of with four, as usual, because the white color is already existing. If the reproduction of paintings is required, wherein the white color does not exist, an opaque coat may be made use of which contains the other auxiliary color. In such case glycerin, mixed with a suitable color, is f. i. made use of for the foundation of the coat, whereby the desired shade is obtained.

The whole process of manufacturing copies may also be carried out upon another base, such as wood, glass, china and the like.

I claim:—

1. The process of making reproductions of paintings and other articles with uneven surfaces, which consists in making a patrix by treating a suitable fabric first with glue and then with an opaque mass to produce a covering coat, smoothing this coat, printing on it, and pressing the printed article thus produced against a plate bearing the desired grain pattern, mounting the resulting article on a rigid base, applying manually to said article a hardening substance, in such distribution as to imitate the uneven surface of the original, causing or allowing this substance to become hard, and coating it with shellac; then preparing a matrix by taking a mass of a soft plastic material, oiling the surfaces of said patrix and of said mass, pressing such oiled surfaces together, separating the matrix thus obtained from the patrix, and coating said matrix with shellac; treating a suitable fabric first with glue and then with an opaque mass to produce a covering coat, smoothing this coat, printing on it the same matter as in preparing the patrix, moistening the resulting article and giving it the desired uneven surface by pressure in contact with said matrix.

2. The process of making reproductions of paintings and other articles with uneven surfaces, which consists in making a patrix by applying a covering coat to a suitable fabric, smoothing this coat, printing on it, producing a grain on such printed surface by pressure with a suitable pattern, and applying manually to the resulting article a hardening substance, in such distribution as to imitate the uneven surface of the original; then preparing a matrix by molding a mass of suitable plastic hardening material against the uneven surface of said patrix; applying a covering coat to a suitable fabric, smoothing this coat, printing on it the same matter as in preparing the patrix, and giving the resulting printed article the desired uneven surface by pressure in contact with said matrix.

3. The process of making reproductions of paintings and other articles with uneven surfaces, which consists in making a patrix by applying a covering coat to a suitable fabric, printing on this coat, and applying manually to the resulting article a hardening substance, in such distribution as to imitate the uneven surface of the original; then preparing a matrix by molding a mass of suitable plastic hardening material against the uneven surface of said patrix; applying a covering coat to a suitable fabric, smoothing this coat, printing on it the same matter as in preparing the patrix, and

giving the resulting printed article the desired uneven surface by pressure in contact with said matrix.

4. The process of making reproductions
5 of paintings and other articles with uneven surfaces, which consists in making a patrix having a surface reproducing such uneven surface; then preparing a matrix by molding against the uneven surface of the patrix,
10 a soft plastic mass which will harden gradually at a relatively low temperature; applying a covering coat to a suitable fabric, printing on said coat, and giving the resulting printed article the desired uneven sur-
15 face by pressure in contact with said matrix.

5. The process of making reproductions

of paintings or other articles having uneven surfaces, which consists in making a patrix with a surface reproducing such uneven
20 surface; then preparing a matrix by molding a suitable material against such surface of the patrix; applying to a suitable fabric a coat of kaolin (chalk), white gelatin, and glycerin, printing on said coat, and giving
25 the resulting printed article the desired uneven surface by pressure in contact with said matrix.

In testimony whereof I affix my signature in presence of two witnesses.

HUBERT BOGAERTS.

Witnesses:

HENRY HASPER,
ALLEN F. YOUNG.