

UNITED STATES PATENT OFFICE.

HENRI BOGAERTS, OF BOIS-LE-DUC, HOLLAND.

IMPROVEMENT IN PROCESSES OF REPRODUCING OIL PAINTINGS ON PANELS AND OTHER SURFACES.

Specification forming part of Letters Patent No. **212,887**, dated March 4, 1879; application filed December 17, 1878.

To all whom it may concern:

Be it known that I, HENRI BOGAERTS, of Bois-le-Duc, in the Kingdom of Holland, printer and publisher, have invented a new and useful Process for Effecting the Reproduction of Oil Paintings on Panels, Canvas, and other Surfaces, which process is fully set forth in the following specification.

This invention consists of a process for effecting the reproduction of oil paintings on panels, canvas, and other surfaces, whereby not only the various colors, tints, shades, representations, and designs of the oil painting are faithfully reproduced, but also the reliefs and depressions produced by the painter's brush.

In carrying out the invention, first, a drawing of the subject in outline on transfer tracing-paper or gelatine is made in the ordinary way as practiced in the process of chromo-lithography. The said outline-drawing is transferred onto stone or zinc, and upon one of the proofs obtained therefrom the different flat local tints of the oil painting are indicated. Another of the said proofs or others of the said proofs is or are transferred to a thin plate or thin plates of zinc, parts of which zinc plate or plates are cut out to form holes or open spaces corresponding in shape and position with the flat local tints of the original painting. Gutta-percha, india-rubber, or any other suitable material is now pressed into the said holes or open spaces, and the material thus impressed forms plates or blocks, by means of which the said flat local tints or colors are, by means of a printing-press, printed upon the panel, canvas, or surface upon which the oil painting is to be reproduced.

In some cases the zinc plates hereinbefore referred to may be used as a "passe-partout" or single plate or block.

By the operation hereinbefore described the panel, canvas, or other surface used is covered over with the various flat local tints or colors on the oil painting.

When the reproduction of the oil painting is to be larger or smaller than the original oil painting, the outline-drawing of the subject on tracing-paper hereinbefore described is reproduced by the photographic process on a sheet of india-rubber extended upon an adjustable sliding frame—such as is used in embroidery—

and by means of the said sliding frame the said sheet of india-rubber, with the photographic representation upon it, may be enlarged or contracted, as required. A tracing is then taken from the enlarged or contracted photographic representation upon the india-rubber, and the process is continued as hereinbefore described.

Secondly, the different stones required for the reproduction of the oil painting and the gradations of lights and shades are now prepared according to the chromo-lithographic process, and an impression is taken from the said stones in transparent colors upon paper prepared for the purpose, as follows: Good unsized paper or pasteboard is taken, and, by means of a sponge or otherwise, is covered over with a coating of boiled starch of good quality in a liquid state, which is allowed to dry. The starch is then covered over with a light coating of gum, and when the gum is dried it is varnished over, and when the varnish is dried the prepared paper or pasteboard is glazed in a suitable press, and is then ready for use.

The color-printing upon the prepared paper or pasteboard is effected in the ordinary way, and not with the inner colors outward, as in the process generally known under the name of "decalcomanie," which would prevent the effect of the successive impressions being appreciated.

The proofs being terminated, they are transferred, by means of a heated roller, onto a second paper or pasteboard, prepared as hereinbefore described.

Thirdly, an impression of the oil painting is taken in a solution of gelatine, which reproduces the strokes or touches of the painter's brush and the different reliefs and depressions of the painting. From this gelatine an impression is taken in gutta-percha or india-rubber, from which, by the well-known process of electro-metallurgy, a block or plate is obtained, which block or plate faithfully reproduces all the reliefs and depressions of the painting. The said block or plate, which is coated with iron, is then heated, and, by means of a powerful press, is imprinted upon the panel or surface; or, when the reproduction of the oil painting is to be larger or smaller than the original,

a thin sheet of gutta-percha or india-rubber is extended upon an adjustable sliding frame, as hereinbefore described in reference to the process of enlargement or contraction described under the first head of this invention. An impression of the oil painting is taken in gelatine mixed with a chromic alkali and glycerine. When the said mixture is still warm, it is poured onto the oil painting, and when it has taken the impression of the said painting it is placed upon the sheet of india-rubber or gutta-percha hereinbefore described, and it adheres to it at once.

By means of the sliding frame above mentioned the india-rubber or gutta-percha sheet, with the elastic gelatine mixture upon it, is expanded or contracted to the required proportions, and is then allowed to dry. An impression is taken from it in india-rubber or gutta-percha, from which, by the process of electro-metallurgy, is obtained the iron-coated block or plate, which, being heated, is imprinted on the panel or surface, as hereinbefore described.

When a panel is used, it is incased in an adjustable iron frame of the same height as the panel and closed on three of its sides, so that the panel fits into it exactly. Two of the parallel sides of the said frame are provided each with a point, which points correspond with the points of the lithographic press or printing-press used, while the third side of the said frame is provided with two small points on its inner side, which points are made to penetrate into the side of the panel. When the required impression has been made in the panel by means of the heated plate or block hereinbefore described, the printed paper hereinbefore referred to under the second head of this invention is placed upon the points of the frame, and, by the application of heat and gentle pressure, an impression of it is taken, the colors on the panel then uniting and blending with those printed separately. The points secure exactness in the position and the correlation of all the parts. A further impression of the block or plate is now effected upon the re-

liefs and depressions already produced upon the panel by the pressure of the said block or plate. The paper is then separated from the impression by means of a current of heat produced by steam, and the picture is finished.

If it should appear that some of the tints or colors in the reproduction are not exactly similar to those on the original painting, other blocks or plates, made of gutta-percha, india-rubber, or other suitable material, or passepartouts may be impressed upon the panel before the blending of the colors has taken place.

It will be readily understood that the process hereinbefore described more particularly in connection with the reproduction of oil paintings on panels may be used for the reproduction of oil paintings on canvas and other surfaces, and that the said process is applicable to the reproduction of paintings of any size.

I claim as my invention—

1. The process for reproducing on panels or other surfaces the strokes or touches of the painter's brush and the different reliefs and depressions of oil paintings, consisting in first taking an impression of the oil painting in gelatine or a mixture of gelatine, chromic alkali, and glycerine, and taking an impression from the said gelatine or mixture of gelatine in india-rubber or gutta-percha or other suitable material, and obtaining therefrom by the process of electro-metallurgy a plate or block coated with iron, which plate or block being heated, the impression is imprinted on the panel or surface, substantially as described.

2. The process of reproducing colored impressions upon panels, which consists in first preparing a transfer-sheet with starch, gum, and varnish, and transferring thereto the impression from a lithographic stone previously placed thereon, then making a second transfer onto a sheet similarly prepared, and finally transferring the colored impression to the desired surface, substantially as described.

HENRI BOGAERTS.

Witnesses:

H. F. VANDEN ERENBEEMT,
A. C. SHUYTE.