G. E. HOLMSTROM.

METHOD FOR PRODUCING PRINTS WITH COLORS ON PAPERS, LEATHER, OR SIMILAR MATERIAL.

APPLICATION FILED JAN. 19, 1914.

1,300,397. Patented Apr. 15, 1919.

Fig. 1.

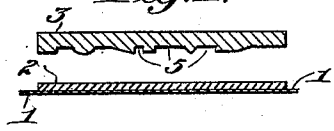


Fig. 2.

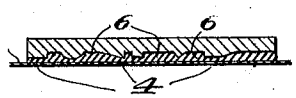


Fig. 3.



Fig. 4.

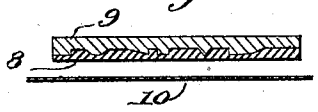


Fig. 5.



Fig. 6.

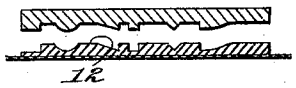


Fig. 7.

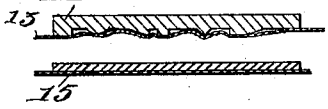


Fig. 8.



Fig. 9.

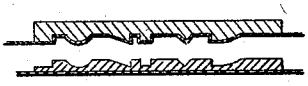


Fig. 10.

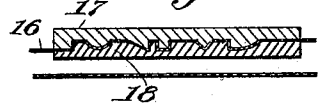


Fig. 11.

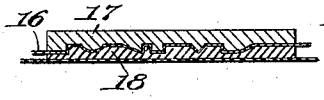


Fig. 12.



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UNITED STATES PATENT OFFICE.

GUSTAF EMIL HOLMSTRÖM, OF GEFLE, SWEDEN.

METHOD FOR PRODUCING PRINTS WITH COLORS ON PAPERS, LEATHER, OR SIMILAR MATERIAL.

1,300,397. Specification of Letters Patent. Patented Apr. 15, 1919.

Application filed January 19, 1914. Serial No. 813,059.

To all whom it may concern:

Be it known that I, GUSTAF EMIL HOLMSTRÖM, a subject of the King of Sweden, and resident of Gefle, Sweden, have invented certain new and useful Improvements in Methods for Producing Prints with Colors on Papers, Leather, or Similar Material, of which the following is a specification.

The present invention relates to a method of producing prints with colors on paper, leather, or similar material from different kinds of printing surfaces, etc., and has for its object to produce prints giving the effect of relief.

In the accompanying drawing,—

Figures 1, 2, and 3 illustrate vertical cross-sections of a printing form, paper, and color, showing one method of producing the print;

Figs. 4, 5, and 6 illustrate a modified method of producing the print;

Figs. 7, 8, and 9 illustrate a further modification; and

Figs. 10, 11, and 12 illustrate a still further modification.

In Fig. 1, a surface of paper, leather, or the like, 1, is coated with a layer of color, 2, and upon the surface thereof is pressed a printing form, 3, such as a relief-cliché, printing plate, or printing roller; the printing form on being pressed against the surface on which the print is to be produced distributes the color in such a manner that parts of the sheet 1, which because of the design on the printing form, is subjected to a greater pressure, receive only a thin layer of color, as at 4, Fig. 2; thereby permitting the paper to shine through the color; such parts of the sheet 1 which are opposite the deeper parts 5 of the printing form are provided with a greater amount of color, as at 6, and are consequently more thickly covered. The design of the printing form 3 is therefore transferred to the sheet 1 on which the print is produced, as shown at 7 in Fig. 3, the picture produced shown conventionally, and exaggerated in the drawing, having an illusory relief effect.

In Fig. 4, the ink 8 is applied directly to the surface of the printing form 9, and then pressed on the sheet 10, as shown in Fig. 5; on raising the printing form 9, the picture 12 produced, shown exaggerated, resembles that shown at 7 in Fig. 3. In Fig. 4, it will be noted that the color 8 covers the entire printing form 9, including the recesses, and not simply the raised parts of the type. For producing softer effects in the printed picture, an elastic printing form may be used.

For preventing contact between the color and the material of the printing form, as shown in Fig. 7, particularly when this consists of plants or the like, or some other material which may be damaged by the color, a sheet of ductile material 13, such as thin leaf metal, is applied to the surface of the printing form 14 before pressing on the coated sheet 15, the ductile thin leaf metal being readily pressed into the irregular surface of the printing form, see Fig. 8, and readily parting from the color after lifting the printing form, as shown in Fig. 9.

In Fig. 10, the ductile thin leaf metal 16 is pressed into the surface of the printing form 17, and then the layer of color 18 applied. Figs. 11 and 12 show the production of the picture, the operation and picture produced resembling that in Figs. 8 and 9.

In each of the above figures, the quantity of color applied, and the picture produced, are shown on an exaggerated scale for the purpose of illustration.

I claim:

1. The method of producing prints in relief from color on such materials as paper, leather, etc., with a printing form, which comprises applying a removable thin metal leaf to the face of said printing form, pressing the coöperating surfaces of said material and printing form together, a layer of color being previously applied to one of said surfaces, and producing a thin layer of said color on said material at the places subjected to pressure by the raised parts of the printing form and a thicker layer at other places.

2. The method of producing prints in relief from color on such materials as paper, leather, etc., with a printing form which comprises applying a removable thin metal leaf to the face of said printing form, ap-

plying color to said coated face, pressing said coated printing form against said material and distributing the color and producing a thin layer thereof on said material at the places subjected to pressure by the raised parts of the printing form and a thicker layer at other places.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAF EMIL HOLMSTRÖM.

Witnesses:

J. B. MARKMAN,

GRETA PRIEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."