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METHOD FOR PRODUCING PRINTS IN NATURAL COLORS ACCORDING TO MULTICOLOR PHOTOGRAPHY.

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This invention refers to a method for producing photographic multicolor pictures in which the color soluble in water is transmitted from gelatine reliefs produced from photographic silver pictures to paper, by the aid of a film of soft gelatine by inhibition.

Methods of this kind have been proposed by Couste and Dr. Franke. In contradistinction to the known processes this invention consists in that hardening of the gelatine on the picture portions is effected in developing according to the method of Koppmann, German Patent 309193. This has the advantage that the gelatine silver picture layer comprising hardened portions to be developed as relief is produced in the shortest possible way, and this means a saving of time in the multicolor method. It is, however, not directly possible to make use of the Koppmann method for the multicolor printing.

For carrying out multicolor printing in the way explained, two classes of color or pigment will come into question, neither of which can be used directly, and therefore it is the object of the present invention to remove the difficulties inherent therewith.

The pigments or colors of the first class are those which are adapted to color or tint the hard gelatine of the wash-relief, and which have been used in one-color printing with success. These colors have the peculiarity that they pass very quickly into the print basis. Though this peculiarity is no drawback for one-color printing, where under certain circumstances it is even desirable, in multicolor prints however it makes the adjustment of the part-printings impossible. According to this invention this defect is avoided by adding to the solution of the pigment a colloidal adhesive such as dextrin, gum-arabic and the like which reduces the speed of transmission of the color from the relief to the printing foundation.

The pigments of the second class are those which essentially color on tint only swollen up gelatine, and which also have been successively used in multicolor printing by the aid of gelatine swelling reliefs (for instance in pinatypie). These pigments, however, also cannot be used directly for multicolor printing by the aid of gelatine wash reliefs, because on the one hand, they color the hard gelatine of the wash reliefs only insufficiently, and on the other hand, the small amount of pigment of the relief is transmitted to the fundation so slowly that it is insufficient.

These drawbacks are avoided according to the present invention by adding weak organic acids, such for instance as citric acid or glycol acid; or else polybasic inorganic acids, such, for instance, as phosphorous acid, or the primary salts of the polybasic acids.

It may happen that by the addition of acids, required for a sufficient coloring of the relief the rate of transmission of the pigment on to the base will be increased to too great an extent, so that the color, in printing, will blot or blend, or a proper adjustment of the partial prints will no longer be possible.

This defect is avoided according to the present invention, by giving the pigment solution besides the addition of the acid, an addition of the above named colloidal adhesives, such as dextrin, in such a manner that the relief will be sufficiently colored, and also so that the pigment will not be transmitted too quickly while the printing is taking place.

I claim:

1. A step in the method of producing prints in natural colors in multicolor photography by the aid of gelatine wash reliefs according to the known Koppmann method by the aid of known pigments, comprising, retarding the transmission of the pigment to the paper by adding colloidal adhesives thereto.

2. A step in the method of producing prints in natural colors in multicolor photography by the aid of gelatine wash reliefs according to the known Koppmann method by the aid of known pigments comprising adding acid to the pigment and also adding colloidal adhesives to the pigment.

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