

UNITED STATES PATENT OFFICE.

WALTER LINGER, OF DESSAU, GERMANY, ASSIGNOR TO ACTIEN GESELLSCHAFT FÜR ANILIN FABRIKATION, OF BERLIN, GERMANY.

PROCESS OF CONVERTING SILVER PRINTS INTO COLOR PRINTS.

No Drawing.

Application filed January 3, 1922. Serial No. 526,815.

To all whom it may concern:

Be it known that I, WALTER LINGER, a citizen of the German Republic, and a resident of Dessau, Germany (my P. O. address being Ringstrasse 22, Dessau, Germany), have invented certain new and useful Improvements in Processes of Converting Silver Prints into Color Prints, of which the following is a specification.

Letters Patent No. 1,059,917 granted to Tauleigne and Mazo, April 22, 1913, and Letters Patent No. 1,093,503 granted to Traube, April 14, 1914, disclose the conversion of silver prints into color prints. The silver on the prints is transformed into compounds capable of being colored, such as silver iodide, silver bromide, silver chloride, silver ferrocyanide, double compounds of silver and copper or double compounds of silver and mercury, and the prints are then colored, and thereafter treated with a mixture of fixing compounds and substances for producing insoluble lakes with the dyestuffs used for coloring the prints.

The patent specification 1,093,503 indicates that silver iodide presents the greatest affinity to colors, whereas the patent specification 1,059,917 describes a particular step in the process which consists in the treatment of the positive first with cupric chlorid and subsequently with potassium iodid.

The present invention relates to an improvement giving particularly good results. By this improvement the silver print is treated with a neutral solution of a quinone, such as benzoquinone and a naphthoquinone, in the presence of an halogenide, such as an alkali metal halogenide. The brownish picture then, after having been washed for a short time, is dyed with a basic dyestuff and then if necessary cleared. The dye constituting the color picture may be transformed if desired in the known manner for example by treating with tannine into an insoluble lake. The silver picture remaining after dyeing may be eliminated if desired in a known manner by treating with dissolving agents.

It is advisable to subject weak prints to

this process as a remarkable intensifying takes place. The pictures especially adapted for being projected are distinguished by their great clearness and the deepness of color.

The following example may serve to illustrate my invention without limiting it:

A developed, fixed and washed positive film is immersed for 10 minutes into an aqueous solution containing per litre 5 g. of benzoquinone and 120 g. of potassium chloride. The film is then washed during 5 minutes, brought into a solution containing per litre of water 1 g. of tolusafranine and 5 g. of glacial acetic acid, washed again during 5 minutes, cleared for a short time in a solution of sodium bisulfite of 2 per cent strength and washed again.

In the example for 120 g. of potassium chloride for instance the same quantity of sodium chloride may be replaced. The same result is obtained with 40 g. of potassium bromide. As another efficacious bath for example 10 g. of 1.2-naphthoquinone and 120 g. of potassium chloride per liter may be employed.

Having now described my invention and the manner in which it may be performed what I claim is,—

1. In the process for converting silver prints into color pictures the herein-described improvement, which consists in dyeing with basic dyes silver prints having undergone a treatment with a neutral solution of a quinone in the presence of a halogenide.

2. In the process for converting silver prints into color pictures the herein-described improvement, which consists in dyeing with basic dyes silver prints having undergone a treatment with a neutral solution of a quinone in the presence of an alkali metal halogenide.

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

WALTER LINGER.

Witnesses:

EMORY H. LORD,

FRANK B. WILLINGHAM.