

UNITED STATES PATENT OFFICE

ALEXANDER MURRAY, OF ROCHESTER, NEW YORK, ASSIGNOR TO EASTMAN KODAK COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK

METHOD OF DRYING PHOTOGRAPHIC PLATES OR FILMS

No Drawing.

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This invention relates to a method of drying photographic plates or films, and more particularly plates or films used in certain photo-mechanical operations.

5 In certain such photo-mechanical processes it is particularly advantageous to have a photographic plate which can be dried quickly and must be so dried before the next operation can be performed upon it. This is particularly true for such a method as that disclosed in my co-pending application Serial Number 374,238, filed June 27, 1929. The application in question discloses a method for controlled reduction of photographic images. 10 With this process, and others similar to it, it is necessary to dry the plate, which at this point has been developed and fixed, at various stages before it is possible to carry out the next operation, which consists of painting upon it with a so-called staging paint. The only other feasible methods of rapidly drying plates are by immersing them in alcohol and then drying before a fan, immersing them in sodium carbonate solutions or in formaldehyde and drying by heat in front of a fan. 15 For various reasons these three methods cannot be used in the process described in said application. For example, sodium carbonate, if used, saponifies the paint and is entirely unsatisfactory. Likewise, alcohol and formaldehyde may not be used with the staging paint required. 20

I have found that the difficulties of rapid drying for processes of the kind mentioned may be overcome by applying to the plate a strong solution of sodium thiosulfate. The drying action depends, of course, on the very strong affinity which sodium thiosulfate has for water, which property is well known. 25

My invention is carried out as follows: Between the stages of treatment, where drying is required, I immerse the plate in a solution of sodium thiosulfate which is preferably a quite concentrated solution of about 43 degrees Baumé, or about 65%, at 80 degrees Fahrenheit. The plate is taken out of this solution, and the excess solution is removed with an absorbent cloth. The plate can then be immediately painted upon with staging paint. The operation as described has great 30

advantages with respect to the time required for operations like controlled reduction. Air drying a plate in front of a fan takes on the average 40 minutes. The operation as described above takes but 3 minutes. Referring 35 again to the process disclosed in the prior application referred to, pre-hydration, in preparation for the next etch, requires 5 minutes immersion of an air dried plate, but only 1 minute for a plate dried as above. It is easily seen that the saving in elapsed time is considerable. 40

In my use of the term "plate" it is to be understood that I include a developed sensitized support of any kind, such as glass, film, etc., which may have previously been submitted to any kind of chemical treatment. 45

While my invention is particularly applicable to an operation like the controlled reduction of my previous application, it is to be understood that I do not limit myself to its use in that way. It can be applied in any method where rapid drying is required but where the presence of sodium thiosulfate in the photographic image will do no harm. 50

I consider as included in my invention all variations and equivalents coming within the scope of the appended claims. 55

What I claim is:

1. The method of drying an insensitive photographic plate to render it susceptible of taking a paint which comprises applying to it a solution of sodium thiosulfate of the order of 65% concentration. 60

2. The method of drying a developed and fixed photographic plate to render it susceptible of taking a paint which comprises applying to it a solution of sodium thiosulfate of the order of 65% concentration and then removing the excess solution with an absorbent material. 65

3. The method of drying a developed and fixed photographic plate to render it susceptible of taking a paint which comprises applying to it a solution of sodium thiosulfate of the order of 65% concentration at a temperature of about 80° F. and then removing the excess solution with an absorbent material. 70

4. In the process of controlled reduction of photographic images the steps of drying a 75

photographic plate by applying to it a solution of sodium thiosulfate of the order of 65% concentration, removing the excess solution, and then painting upon the plate.

5. In the process of controlled reduction of photographic images the steps of drying a photographic plate by applying to it a solution of sodium thiosulfate of the order of 65% concentration at a temperature of about 80° F., removing the excess solution with an absorbent material and then painting upon the plate.

Signed at Rochester, New York, this 17th day of May, 1930.

ALEXANDER MURRAY.