

L. A. ORANS.
SENSITIZED FILM FOR PROCESS PRINTING.
APPLICATION FILED MAY 20, 1914.

1,166,540.

Patented Jan. 4, 1916.

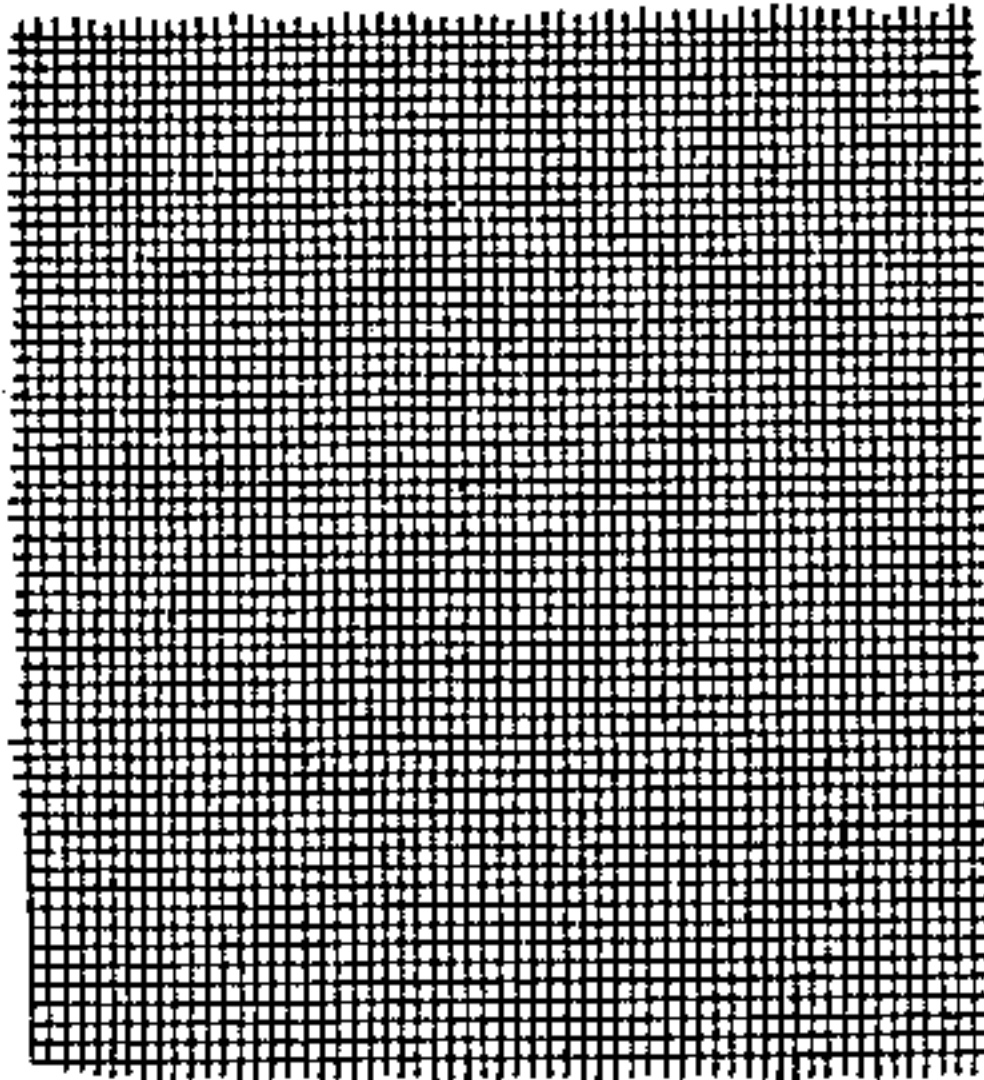


Fig. 1.

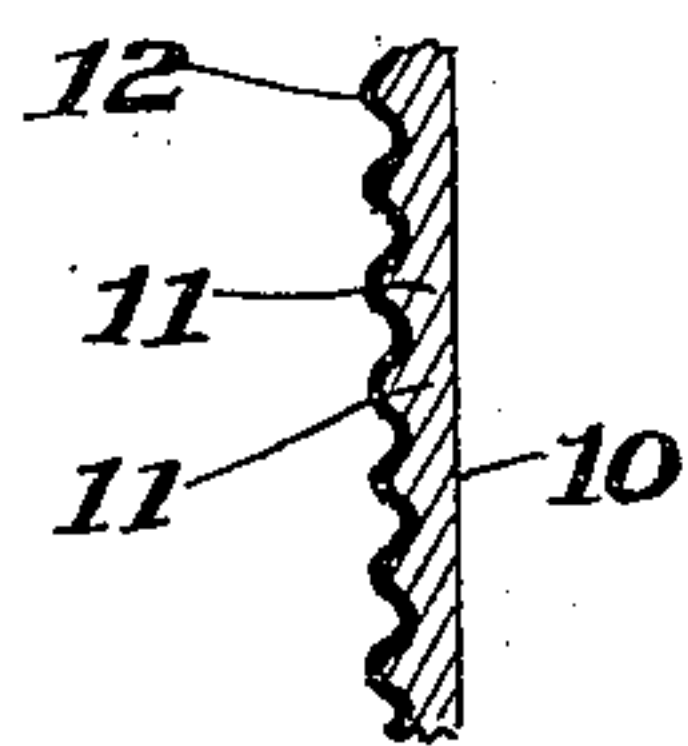


Fig. 2.

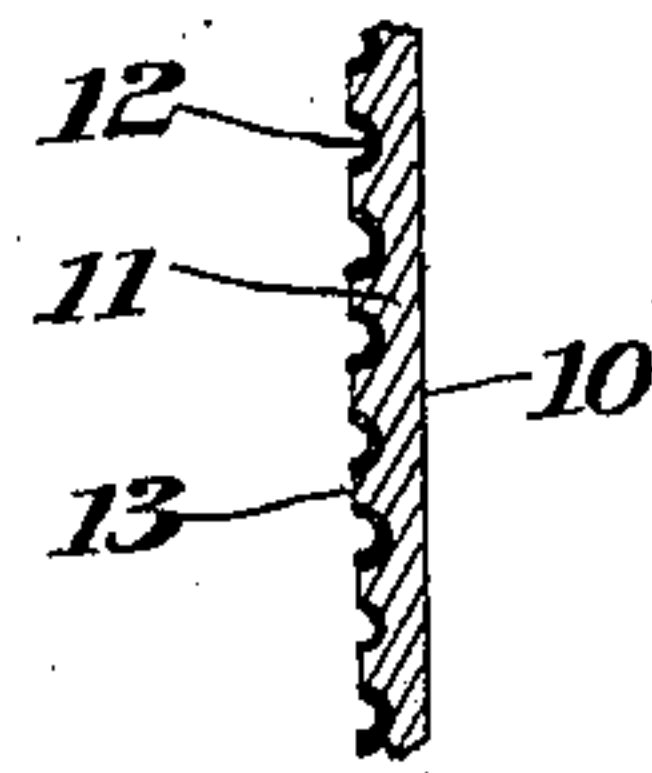


Fig. 3.

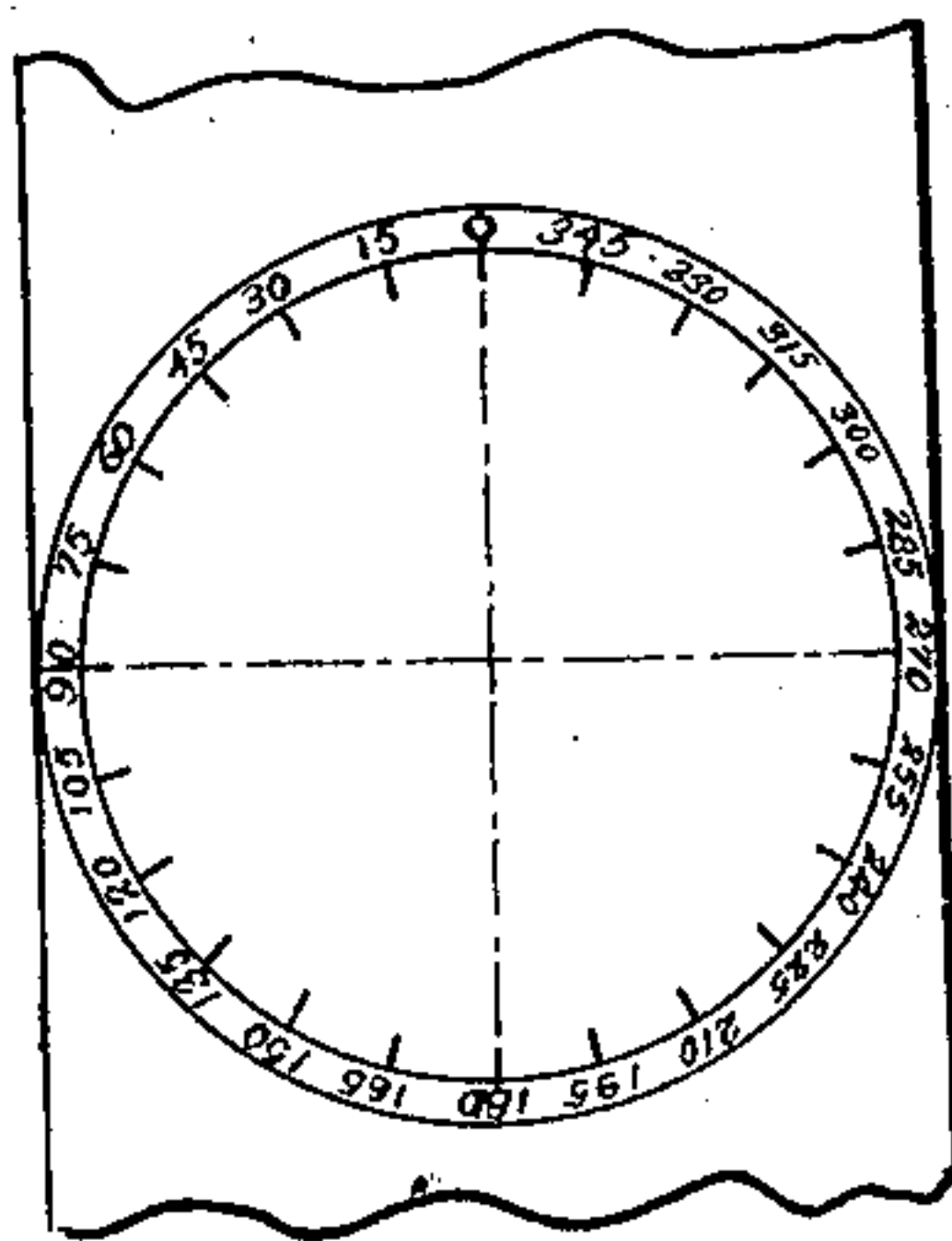


Fig. 4.

WITNESSES:

J. H. Stallman
Wm. J. Cohen

INVENTOR

Louis A. Orans
BY
Nathan Cohen
ATTORNEY

UNITED STATES PATENT OFFICE.

LOUIS A. ORANS, OF NEW YORK, N. Y.

SENSITIZED FILM FOR PROCESS PRINTING.

1,166,540.

Specification of Letters Patent.

Patented Jan. 4, 1916.

Application filed May 20, 1914. Serial No. 839,855.

To all whom it may concern:

Be it known that I, LOUIS A. ORANS, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Sensitized Films for Process Printing, of which the following is a specification.

- 10 This invention relates to the sensitized medium used in process printing to obtain the photographic negative which is used for making the photographic reproduction upon the printing plate.
- 15 In photo-mechanical process printing, whether relief, litho or intaglio, the usual procedure has been to make a screened negative of the subject to be reproduced, from which a positive is made directly upon the
- 20 printing plate. In case of color reproduction, several positives must be made upon as many plates according to the number of colors desired, either from the same negative or from a number of negatives taken
- 25 through color filters. In any event, whether the printing plate is for black and white only, or whether it be for color printing from an ordinary screen negative or from a negative through a color filter, considerable work has to be done upon the printing
- 30 plate itself in order to get proper tone values. Thus, in case of a relief printing plate, the artist has to go over every part of the plate to correct the tonal qualities by
- 35 etching deeper, or routing away the lighter tones and the high lights and burnishing the shadow portions. This process is laborious and requires the work of specially skilled etch artists who are compelled to
- 40 work with a hard substance forming the material of the printing plate. Thus, after a job is proved up, it goes back to the artist and he has to criticise the plates for corrections in the tonal qualities and the plate
- 45 then has to be again gone over by the etcher.

The present invention has for its object to obviate the necessity of making the corrections directly upon the printing plate and to enable the artist to make the necessary changes directly upon the screen negative, much more expeditiously and easily than can be done upon the printing plate.

In carrying out the invention, I employ a photographic film having a base consisting

55 of a soft but tough body such as celluloid

or the like, upon the surface of which are formed projecting ridges, such as dots, grains, mechanical stipple, or the like. This undulatory or serrated surface is sensitized by a suitable sensitizer and treated as an ordinary dry plate to prepare the same for use in photographic exposure, through the usual screen. After the plate has been exposed and the negative developed, the tonal qualities of the latter may be strengthened

60 wherever desired by abrading the crests of the projections.

In the accompanying drawing illustrating the improved film, Figure 1 is a plan view of the film, and Fig. 2 is an enlarged sectional view illustrating the projections

70 formed on the surface of the film. Fig. 3 is an enlarged sectional view illustrating the profile of the corrected negative obtained from the improved film. Fig. 4 is a view

75 of the back of the film showing a scale according to which the film may be shifted angularly.

Referring in detail to the drawing, the film consists of a base 10 having embossed,

80 cut, cast, etched, or otherwise produced upon the surface thereof, projections 11. This film or plate is exposed through a Levy screen or any other form of screen or mezzotint to reproduce the subject in

85 a series of dots, stipple work, grains or the like.

After the negative is developed and the artist desires to make parts of the same print darker, all he has to do is to scrape

90 away the crests of the projections, together with the opaque coating formed by the fixed sensitizer, by means of a sharpened instrument or other abrading means such as emery cloth or the like. Thus, in Fig. 3, it will be

95 noted that the crests 13 of the projections 11 have been scraped away, leaving a translucent surface on the top of each projection, which, of course, will print black upon the positive. If it is desired to make the

100 negative still darker, the projections can be cut down farther to the point of removing them entirely and causing that portion of the negative to print solid. On the other

105 hand, should it be desired to make the negative print lighter, the same may be painted with some opaque adhesive paint, as will be readily understood.

I prefer to use with the negative in cases where the film has projections on it in the

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mechanical stipple or half tone, a screen such as a Levy screen or the like of a gage corresponding to the gage of the projections or dots on the film. This is for the purpose of avoiding a pattern upon the print, as will be readily understood. In such case also it will be seen that the film itself should be shifted for each color as well as the Levy screen. The film may have therefore impressed or otherwise indicated thereon, (Fig. 4) a circle or arc bearing division marks in degrees from which the angle of shift of the film may be determined.

It will be clear that my improved film not only can be used in the ordinary process camera, but a reproduction can be made upon it by photographically printing thereon from a positive made from a negative upon which the image has been printed through a Levy or other screen.

I have described the negative plate as being in the form of a film. It may be understood, however, that instead of a film, a glass plate may be used upon which a soft, tough coating with suitable surface projections is provided.

It will thus be seen that I have provided a new photographic film or plate for screened negatives upon which the necessary corrections may be directly made with a minimum of labor and expense. It will be noted also that I have devised a new process of correcting printing plates whereby all corrections may be made directly upon the negative instead of upon the printing plate. Thus, one or more large departments with a special corps of trained men in a printing establishment may be dispensed with and their work accomplished as effectually by the artist.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. A dry photographic film consisting of a base of substantially transparent material having projections upon the surface thereof and a sensitizing coating on said surface.

2. A dry photographic film having a base of soft comparatively tough material which is sufficiently transparent for purposes of printing, said base having projections on the surface thereof, the crests of which projections are abradable to form a grain of varying density and a sensitized coating on said surface.

3. A photographic film comprising a base of material which is sufficiently transparent for purposes of printing, said base having projections on the surface thereof corresponding to the dots on a Levy screen, and a sensitized coating on said surface.

4. A dry photographic film consisting of a base of translucent material having projections upon the surface thereof and a sensitizing coating on said surface, and an arc with angular divisions on it impressed thereon.

5. A dry photographic film consisting of a base of abradable material sufficiently transparent for purposes of printing, said base having projections formed on the surface thereof to form a grain suitable for photo mechanical printing, and a sensitized coating on said surface.

Signed at New York city, in the county of New York and State of New York, this 18th day of May A. D. 1914.

LOUIS A. ORANS.

Witnesses:

LAZARUS REIT,
DAVID ORANS.

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