

UNITED STATES PATENT OFFICE.

SYDNEY JAMES WATERS, OF ESHER, ENGLAND.

REPRODUCING MANUSCRIPT, TYPEWRITTEN OR PRINTED MATTER, DRAWINGS,
PHOTOGRAPHS, OR THE LIKE.

1,327,931.

Specification of Letters Patent.

Patented Jan. 13, 1920.

No Drawing.

Application filed November 9, 1918. Serial No. 261,908.

To all whom it may concern:

Be it known that I, SYDNEY JAMES WATERS, aeronautical engineer, subject of the King of England, residing at "Blenheim," Chestnut Avenue, Esher, in the county of Surrey, England, have invented new and useful Improvements in Reproducing Manuscript, Typewritten or Printed Matter, Drawings, Photographs, or the like, of which the following is a specification.

This invention relates to an improved method of producing several copies of manuscript, typewritten or printed matter, drawings, photographs or the like and relates more particularly to the method of producing a photographic stencil for use in the reproduction, the object being to enable sharply defined copies to be obtained, either full size or to any desired scale, without the necessity of producing the original matter to be copied on specially prepared material, such as wax sheets, as in the ordinary stencil processes.

According to the present invention, the matter to be copied (which is produced in the usual manner upon any suitable material), or a photographic negative taken therefrom, is exposed in front of a thin film of sensitized gelatin or equivalent sensitized material having a backing of thin paper or other suitable material. For this purpose the ordinary suitable carbon tissue may be employed.

After exposure, the sensitized film is transferred to a temporary support comprising a waxed sheet preferably prepared by pouring a solution of paraffin wax over a sheet of paper which has been previously coated with gelatin, and the backing is stripped from the film. This is carried out preferably by immersing the waxed sheet and film, in contact with one another, in lukewarm water and then subjecting them to gentle and even pressure to cause the film to adhere firmly and evenly to the waxed sheet. They are then immersed in warm water (at a temperature of about 80 degrees Fahrenheit), thus softening the film and allowing its primary backing to be stripped off, leaving the film adhering to the temporary support.

The film is then developed in the usual manner in warm water, to dissolve the unexposed parts of the film until a clear photographic negative is produced on the waxed

sheet. The negative can then be fixed or treated to harden the gelatin by immersing it in an alum or other suitable fixing or hardening solution.

The sensitized film should be sufficiently thin to form a stencil after the developing process, that is to say, the unexposed parts should be entirely washed away so as to leave through spaces between the exposed parts of the film, the exposed parts being held together by the temporary support. The period of exposure of the film should of course be controlled so as to obtain a clear and sharply defined negative.

After the developing and the fixing or hardening process if such is used, the stencil film is transferred from its temporary support to a final backing of thin tissue or Yoshino paper, lawn, silk or similar material of fine texture, by laying the final backing upon the temporary support over the stencil film and causing the latter to adhere to the final backing. After being allowed to dry, the final backing, with the stencil adhering thereto, may be stripped off, leaving the temporary support clean and ready for further use.

The stencil is then ready for use and any number of copies may be taken therefrom by any of the usual copying processes.

When a rotary or similar copying apparatus is employed, the stencil is placed with its final backing in contact with the inked surface of the absorbent inked roller or platen so that the ink will penetrate through the backing and through the spaces in the stencil, copies being taken in the usual manner by applying the blank sheets to the face of the stencil.

The foregoing process is particularly adapted for reproducing manuscript or drawings, as the latter do not require to be produced on specially prepared material.

The improved process also enables enlarged or reduced reproductions of the original to be obtained by the use of the usual enlarging or photographic cameras, the thin sensitized film being either substituted for the ordinary photographic plate or film, or exposed behind a negative obtained by ordinary photography.

Colored reproductions may be produced by the use of color screens when obtaining photographic negatives of the matter to be reproduced, the different stencils thereby

obtained being used successively for printing the reproductions in the various colors required.

I claim:

- 5 1. The method of obtaining a stencil for the reproduction of manuscript, typewritten or printed matter, drawings, photographs or the like, which consists in exposing the matter to be reproduced (or a photographic
10 negative taken therefrom) in front of a thin sensitized film having a suitable backing subsequently transferring the exposed film to a temporary support and removing the backing, then developing the film while adher-
15 ing to the temporary support, thereupon transferring the film to a final backing of fine texture and finally stripping the temporary support from the film, leaving the latter adhering to the final backing, sub-
20 stantially as hereinbefore set forth.

2. In the method according to claim 1, the use of a final backing of Yoshino paper,

lawn, silk or similar material of fine texture, substantially as described.

3. In the method according to claim 1, the use of a temporary support comprising a
25 waxed sheet, substantially as described.

4. In the method according to claim 1, transferring the exposed film from its pri-
30 mary backing to the temporary support by immersing them in warm water with the film in contact with the temporary support, subjecting them to gentle and even pres-
35 sure, then immersing them again in warm water and finally stripping the backing from the film, substantially as described.

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

SYDNEY JAMES WATERS.

Witnesses:

S. BURGESS,
C. G. OVERTON.