G. W. SCRITSMIER.

MECHANICALLY PRODUCED NEGATIVE.

APPLICATION FILED NOV. 14, 1912.

1,090,240. Patented Mar. 17, 1914.

Fig. 1

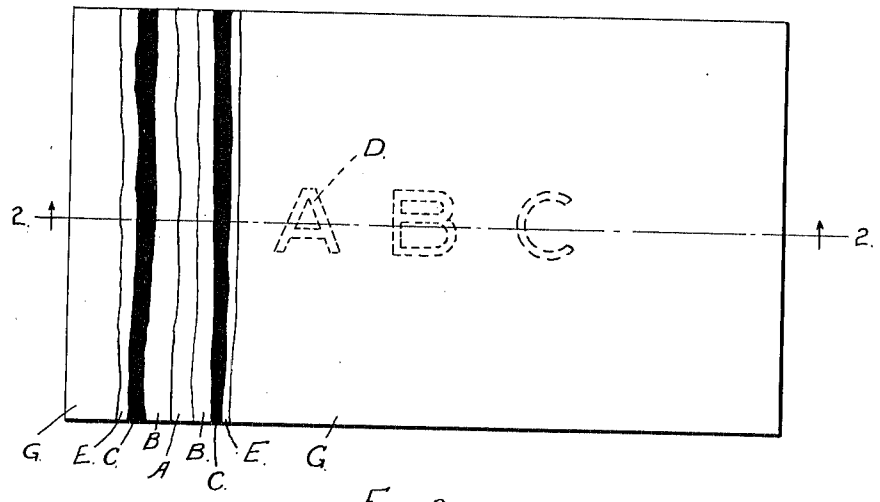
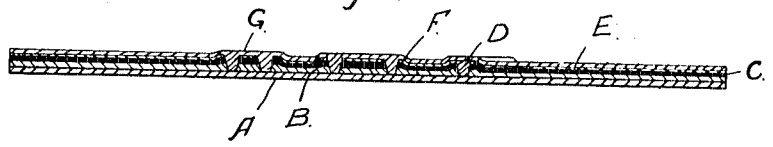


Fig. 2.



WITNESSES:
H. M. Gillespie
J. B. Lagorio

INVENTOR.
George W. Scritsmier
BY Barnett & Zuman
ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE W. SCRITSMIER, OF CHICAGO, ILLINOIS.

MECHANICALLY-PRODUCED NEGATIVE.

1,090,240. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed November 14, 1912. Serial No. 731,243.

To all whom it may concern:

Be it known that I, GEORGE W. SCRITSMIER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mechanically-Produced Negatives, of which the following is a specification.

Myinvention relates to negatives or light stencils, and particularly to negatives of the type described in my copending applications Serial No. 715,360, filed August 16, 1912, and Serial No. 725,355 filed October 12, 1912. In these applications I described and claimed a method of reproducing on metal plates, which by subsequent treatment are converted into electrotypes or printing plates, written or printed matter and particularly typewritten matter, by means of mechanically produced negatives or light stencils, and also the negative or stencil, and the process of making the same, employed by said method. The stencil in the then preferred form consisted of a backing of celluloid, or other tough transparent or translucent material, and a coating of waxy substance, for example, a mixture of bees-wax and paraffin, covered with printers' ink preferably also containing some wax. The composite sheet of material thus produced, after being dried, was put into a typewriter with the ribbon removed and the matter to be reproduced cut or imprinted in the waxy stratum by direct contact of the typewriter type therewith. The type cut through the thin layer of printers' ink and through the layer of waxy material, (these two materials being more or less amalgamated) the waxy substance being pressed back by the type. The negative or light stencil thus formed was then placed upon a sensitized metal plate and the plate exposed to light with the result that the typewritten matter was photographically reproduced on the plate. The plate was then developed and by subsequent familiar treatment converted into an electrotype or printing plate. This method has been successfully practised but experience developed the need or advisability of devising some means for preventing the incisions in the waxy stratum from being partially refilled if the best results were to be obtained. A negative of this sort is subjected to very considerable pressure during the printing operation. This pressure tends to force the wax back into the incisions or indentations made by the type, with the result that the outlines of the characters are not as sharp and clean-cut as they should be. Hot weather or the heat resulting from the use of an arc lamp, for example, in printing, tends to increase this difficulty by softening the waxy stratum. Also with the negatives constructed in accordance with my previous applications above mentioned there is a tendency to stick to the plate.

These defects are cured by my present invention which, broadly speaking, consists in filling the incisions in the plastic coating of the negative with a gelatinous substance which is put on as a thin water solution and afterward dries and hardens. When a negative has been so treated it may be subjected to any pressure and to any reasonable amount of heat without danger of obliterating the incised characters or destroying the sharpness and clearness of their outlines.

My invention is illustrated in the accompanying drawing, in which similar characters of reference designate corresponding parts, and in which—

Figure 1 is a plan view of a preferred embodiment of my invention; and Fig. 2 is a sectional view taken on line 2—2 of Fig. 1, looking in the direction indicated by the arrows. For the purpose of clearness the details are shown greatly exaggerated in the drawing.

Referring to the drawing, A designates the translucent and preferably flexible backing on which a coat of wax B is superposed. On the wax is a superposed opaque coating C which is preferably a thin layer of printers' ink. After the application of the opaque coating and before the composite sheet is formed with light passages D, the sheet is washed in a solution, the solvents of which will readily evaporate so as to leave a thin skin or deposit on the opaque waxy stratum, as shown at E. To form this thin skin or deposit the solution used is preferably ordinary collodion, the ether and alcohol constituents of which will evaporate, leaving a deposit of pyroxylin. The characters or light passages D are then cut through the strata B, C and E by means of a typewriter, or in some other suitable manner. When a typewriter is used for cutting the light passages by the type face being forced into the waxy coatings, a shoulder such as shown at

F is formed around the upper edge of said passages. After the desired light passages have been formed the negative is coated with a dilute gelatinous substance G, for example, ordinary commercial gelatin thinned out with water. This operation fills the incisions in the waxy stratum with gelatinous matter which, when dry, becomes quite hard so that it prevents the filling up of the incisions. This treatment also gives a glaze to the negative which prevents its sticking.

The washing of the sheet or film with pyroxylin is not absolutely essential but it is preferable where the opaque stratum is waxy or greasy in its character because in such case the gelatin does not take as firm a hold on the negative as is desirable. It is likely to peel off with use. By washing the sheet with collodion, or other similar substance, the adhesion of the subsequently applied gelatin is insured.

A negative made in accordance with my present invention is very durable, can be used many times, and will stand any required amount of pressure and heat.

I claim:

1. A negative comprising a translucent backing, a coating formed with a layer of waxy material covered with printers' ink having light passages through said waxy material and said ink, and a translucent filling in said passages.

2. A negative comprising a translucent backing, an opaque stratum of waxy material glazed over with a thin skin of pyroxylin and provided with light passages through said stratum and skin, and a translucent filling in said passages.

3. A negative comprising a translucent celluloid backing provided with a layer of waxy material covered with printers' ink and with a thin skin of pyroxylin over the printers' ink and having light passages impressed through said coatings, and a translucent, hard filling in said passages.

4. A negative comprising a translucent backing having an opaque waxy coating through which coating light passages have been impressed, said waxy coating being provided with a relatively hard translucent coating extending into said light passages.

GEORGE W. SCRITSMIER.

Witnesses:
L. A. FALKENBERG,
G. Y. SKINNER.