

A. L. SALTZMAN.

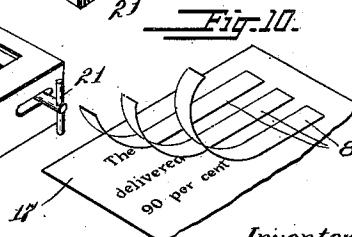
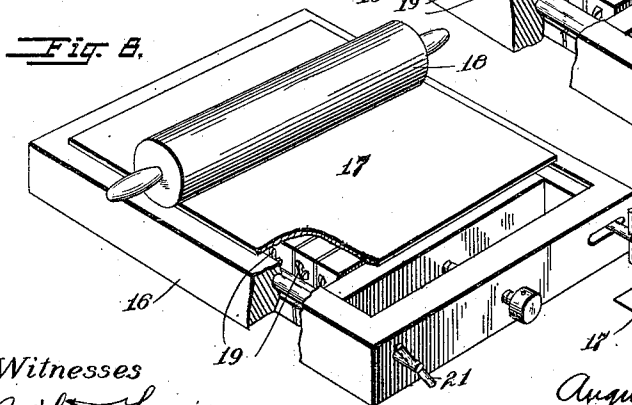
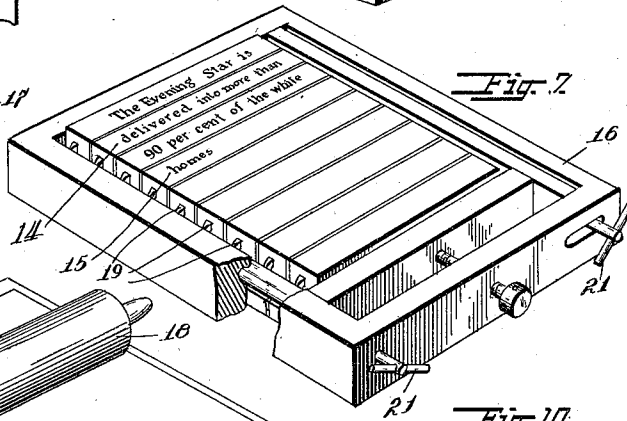
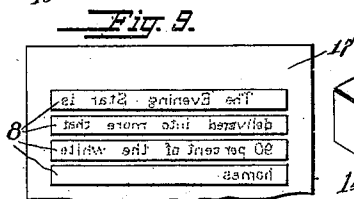
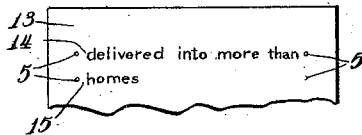
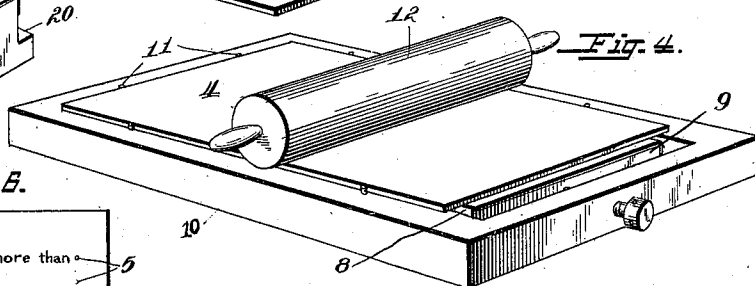
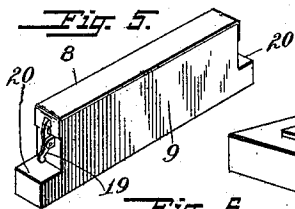
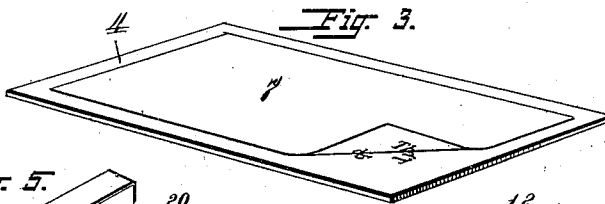
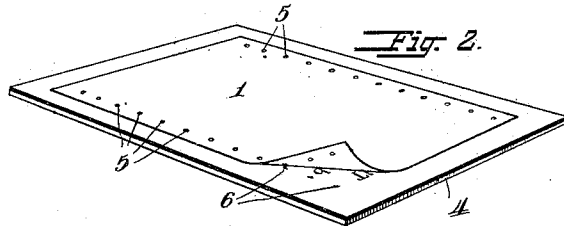
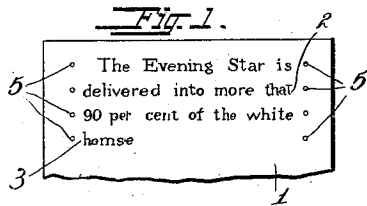
METHOD OF PRODUCING LETTERPRESS PLANOGRAPHIC PRINTING PLATES.

APPLICATION FILED FEB. 10, 1908. RENEWED APR. 30, 1910.

979,890.

Patented Dec. 27, 1910.

2 SHEETS—SHEET 1.



Witnesses
Milton Lenoir,
Clara Phillips

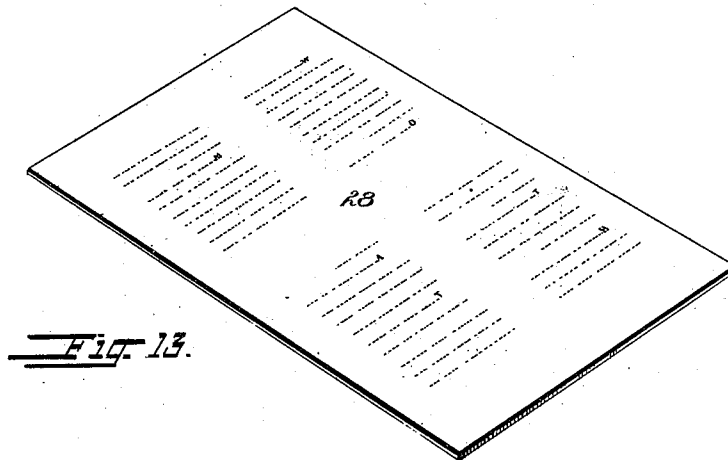
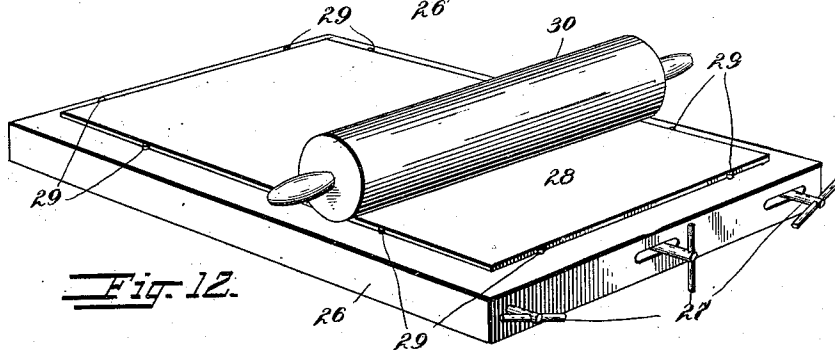
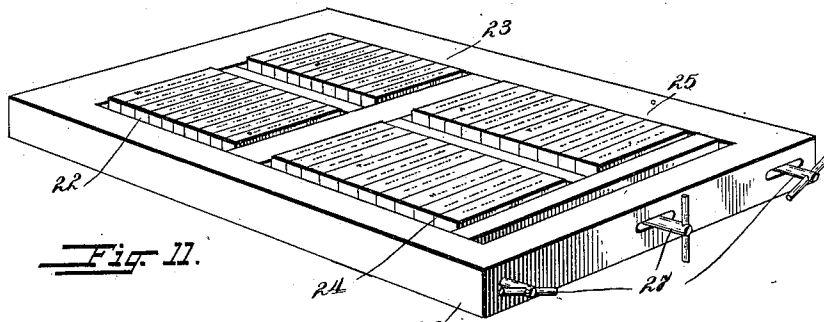
Inventor
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A. L. SALTZMAN.
 METHOD OF PRODUCING LETTERPRESS PLANOGRAPHIC PRINTING PLATES.
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2 SHEETS—SHEET 2.



Witnesses
 Milton Lenoir
 Clara Phillips

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 By John D. Morgan
 Attorney

UNITED STATES PATENT OFFICE.

AUGUSTE L. SALTZMAN, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO AMERICAN
PLANOGRAPH COMPANY, A CORPORATION OF WEST VIRGINIA.

METHOD OF PRODUCING LETTERPRESS PLANOGRAPHIC-PRINTING PLATES.

979,890.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed February 10, 1906, Serial No. 300,382. Renewed April 30, 1910. Serial No. 558,654.

To all whom it may concern:

Be it known that I, AUGUSTE L. SALTZMAN, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Methods of Producing Letterpress Planographic-Printing Plates, of which the following is a specification.

10 The invention relates to printing plates and more especially to letter-press planographic printing plates.

15 Objects of the invention are to provide a method for producing a printing plate of the character indicated of excellent quality, said method also providing the desirable latitude and flexibility in the making of desired changes and corrections without manipulating or marring the surface of the finished plate.

20 These and other objects of invention will in part be obvious and will in part more fully appear hereinafter.

25 The invention consists in the novel steps, methods and improvements herein set forth.

The accompanying drawings, referred to herein and forming a part hereof, illustrate one manner of carrying out certain steps in the method comprised in the invention.

30 Of the drawings: Figure 1 represents a transfer surface upon which letter-press matter has been placed in line series in a suitable transfer medium; Fig. 2 represents the transfer surface as having been brought into definite relation with a planographic printing plate and the letter-press matter having been transferred to the surface of said plate; Fig. 3 represents the taking of impressions from the said planographic printing plate; Fig. 4 represents a series of transfer line bars which have been brought into definite relation with the said plate and the impressing of a line of characters upon each of the said bars from the plate; Fig. 5 shows a line strip transfer surface detachably attached to a line support; Fig. 6 represents a transfer surface upon which lines of characters in which changes have been made have been placed; Fig. 7 represents a series of transfer surface line bars assembled into a form and held in a chase; Fig. 8 represents a unitary planographic plate receiving a transfer impression from the said series of line bars; Fig. 9 shows the transfer surfaces adherent upon the surface of the

plate after having been released from their line bar supports; Fig. 10 represents the letter-press matter transferred to the planographic plate and the line strips in process of removal; Fig. 11 illustrates a four-page form made up of transfer surface line bars; Fig. 12 indicates the transferring of the matter from such a form to a unitary planographic plate; and Fig. 13 represents a unitary planographic plate carrying a four-page form of letter-press matter, said plate being ready for placing on a press.

So far as the present invention is concerned, the manner in which the letter-press matter is placed upon the initial transfer surface is immaterial. It is very advantageous, however, to place composed matter in justified lines upon a suitable transfer surface in a suitable medium by means of machines, a machine well adapted for doing this being disclosed in application for United States Letters Patent No. 76,783, filed by Charles T. Moore on September 27, 1901.

It is convenient in many cases to take but a single original impression of letter-press matter from the composing or typographic machine, certain kinds of such machines requiring the use of two machines or of double the time with one machine to get two impressions and so on. The present method contemplates the securing of a plurality of proof impressions from a single original transfer impression and also the providing of the desirable latitude and elasticity in making changes so as to bring the matter into the desired final form for placing it upon the final printing plate.

The invention contemplates as one of its features the transfer of the matter from the original transfer surface to a temporary planographic plate and the making of impressions therefrom upon line strip transfer surfaces carried upon a suitable line support or line bar. By thus taking an impression of the said letter-press matter upon a series of transfer surface line bars it is possible to make all changes for placing the matter in the desired final form with rapidity and facility and without making changes in, or injuring, the surface of the final printing plate. By the use of the temporary planographic plate, as contemplated by the invention, any desired number of impressions may be taken to be used for the reading of proof, revising, or for other purposes.

The invention contemplates also as one of its features the recomposition of such lines as it is desired to make changes in and their treatment in a manner similar to the original transfer surface carrying the letter-press matter as outlined. It will thus be seen that the line bars produced from the successive transfer surfaces may be substituted for each other, combined, or transposed so as to bring the matter into the desired final form, and when in such desired final form the matter may then be transferred to a final unitary printing plate, which plate may be prepared for printing planographically. By an extension of the method it may be made to include any number of proof corrections, revises and re-revises, as may be necessary in securing the desired final form of the letter-press matter.

As one of its features the invention contemplates the bringing of the transfer surface line strips and the lines upon the temporary planographic plate into such relation that the line of characters may be received in a definite relation upon each of the transfer surface line strips and with this in view, in the manner of carrying out certain steps of the invention illustrated herein, the original transfer surface is brought into a definite relation to the temporary planographic plate before the transfer of the letter-press matter from the transfer surface to the plate and the line bars are also brought into a corresponding relation to the said plate to receive the lines of characters in the desired and predetermined relation.

Referring to the drawings herewith which, as previously stated, illustrate one method of carrying out certain steps of the method included in the invention, a transfer surface adapted to receive letter-press matter in a suitable medium is indicated by the reference numeral 1, the letter-press matter being shown thereon in line series. For the purpose of illustrating certain features of the invention, certain lines carried by the said transfer surface 1, as illustrated in this figure, are shown containing errors which will need correction before the matter is in the desired final form, one of the said lines containing an error is indicated by the reference numeral 2 and the other by the reference numeral 3.

In Fig. 2 of the drawings a planographic printing plate is indicated by the reference numeral 4, which plate will be styled herein the temporary planographic printing plate. The transfer surface 1 is shown in contact with said plate just after the transfer of the letter-press matter to the plate. The transfer operation is performed in a manner known to the art. The surfaces usually employed for this purpose comprise generally a flexible porous support carrying upon its surface a soluble, moisture-attracting coating which is well adapted to take a clear and sharp

impression of typographic matter impressed thereon in a suitable medium such as lithographic transfer ink. By subjecting the two surfaces to pressure while in contact the transfer medium in which the characters are impressed upon the transfer surface adhere strongly also to the planographic surface, and upon the application of moisture to the porous supporting member of the transfer surface, the soluble coating breaks down or melts away leaving the characters adherent upon the planographic surface. The supporting member is then stripped off the plate leaving the plate with the letter-press matter disposed upon it and the plate ready to be prepared for printing planographically.

It is convenient in carrying out the method to have the transfer surface line strips adhere to the final printing plate 17 in delivering the impression but they should not adhere to the plate 4 in receiving the impression. A suitable kind of transfer paper may be provided by which a dry transfer may be taken from the plate 4, without the transfer paper adhering to the said plate, and the said transfer surfaces may then be damped before being brought into contact with the plate 17 so that they will adhere to the said plate when released from their supports. As heretofore indicated, the bringing of the said transfer surface and the plate into a definite relation just prior to the transfer operation is contemplated with a view to the impressing of the lines of characters upon a series of transfer surface line strips at a later step in the method. A particular form of means for effecting this is shown herein as comprising registering means carried by the transfer surface 1 in a definite relation to at least one of the lines of characters upon the said surface and as also embodying registering devices carried upon the plate, the said devices being of a form suitable to cooperate for the purpose of bringing the transfer surface into the proper predetermined relation with the plate.

As herein shown the registering devices carried by the transfer surface 1 bear a definite relation to each end of the line and are shown as also bearing a definite relation to each line upon the surface. Such devices are in the form of perforations 5 located at each end of each of the lines. Suitable marks, herein shown as cross lines 6, are made upon the plate for the purpose of cooperating with the said perforations 5 in the transfer surface 1. By bringing the junction of two cross lines directly beneath the perforation at each end of the line, accurate register for the entire sheet may be obtained.

After the transfer operation is completed the plate 4 is prepared for printing planographically in a well-known manner as by etching, gumming and inking. Any desired number of impressions may then be taken

from the plate for use in the reading of proof or for any other desired purpose. In Fig. 3 of the drawings an impression-receiving surface 7 is shown as being pulled off the plate 4 after having received an impression therefrom.

The bringing of the plate 4 into a definite relation with a series of transfer surface line strips so that each line of characters upon the plate may be impressed upon a line strip transfer surface is contemplated by the invention. In Fig. 4 of the drawings the plate 4 is shown in contact with a series of transfer surface line strips carried upon suitable supports 9 to which the transfer surface line strips are detachably attached. For convenience the series of line bars are assembled and locked in a chase in order to keep them in definite position with respect to each other, such a chase being shown in the said figure and being indicated by the reference numeral 10. The plate 4 is brought into a definite relation to the line strips in the series in order that each line of characters may go down in its proper position upon the corresponding line strip. The particular means of registering the plate with the said line strip shown in the said figure comprise pins 11 located in the sides of the chase and against which the plate may be positioned during the transfer operation. Suitable pressure is applied to the surfaces by any convenient means, a form of such means being shown herein as a roller 12 passing over the surface of the plate 4 while the chase is resting upon a support.

The changes desired to be made in the letter-press matter as originally composed or placed upon the transfer surface 1 may be indicated upon proof sheet impressions taken from the temporary planographic plate 4 and such lines of matter as involve changes of any kind may then be recomposed or imprinted upon a transfer surface. In the illustrated instance the lines indicated by the reference numerals 2 and 3, respectively, would be recomposed and in Fig. 6 of the drawings they are shown as recomposed with the errors eliminated, the corrected lines being indicated by the reference numerals 14 and 15. The transfer surface 13 may then be subjected to the same steps as the transfer surface 1, as just described herein resulting in one or more impressions upon a series of line strip transfer surfaces. In the illustrated instance, to bring the letter-press matter to the desired final form, the lines 14 and 15, as carried upon the line strip transfer surfaces and their supports, would be substituted for the lines 2 and 3 in the original series of line strip transfer surfaces and their supports.

In Fig. 7 of the drawings a series of line strip transfer surfaces with their supports

are shown as assembled into a form, a suitable chase 16 being employed to retain them in their proper relative position. The letter-press matter being upon transfer surfaces and in its desired final form, it is then ready for transfer direct to the final planographic plate.

In Fig. 8 of the drawings the planographic plate 17 is shown in contact with the face of the series of transfer surface line strips. Pressure is applied to the said surfaces in a suitable manner as by the roller 18 shown in the said figure. The line strip transfer surfaces are then detached from their supports and will be left adherent upon the plate 17 as shown in Fig. 9 of the drawings. The transfer operation may then be completed by the application to the transfer surfaces of moisture, and if desired pressure also, and the said surfaces may then be removed from the plate in any suitable manner, for instance as shown in Fig. 10 of the drawings, leaving the lines of characters impressed upon the plate. The said plate may then be prepared for printing planographically in a manner known to the art, as by etching, gumming and inking. The plate is then suitable for insertion upon a rapid press and for giving impressions by successive dampings and inkings.

Suitable means for detachably attaching the line strip transfer surfaces 8 to the supports 9 are contemplated and one form thereof is illustrated herein. In Fig. 5 of the drawings spring clamps 19 are shown holding the strips 8 at each end of the support 9, the support 9 being also provided with longitudinal alining faces 20 at each end of the support. Means are also provided for conveniently and quickly actuating the clamps 19 so as to release the strips 8 from their support when adherent upon the plate. Any suitable means for doing this may be employed so far as concerns certain features of the invention, but according to other features thereof it is contemplated to provide such means carried by the chase and the form of such means herein shown comprises rotatable shafts 21 carried in the frame of the chase 16 and having eccentric or cam portions which, upon rotation of the shafts 21, will contact with the tails of the clamps 19 and swing them out of contact with the surfaces 8. The surfaces 8 are thus left adherent to the plate 17 and free to pass away from their supports when the plate is removed.

The method contemplates the making up of forms of any extent and in Figs. 11, 12 and 13 of the drawings the use of the transfer surface line strips in making up a four-page form is illustrated. The successive pages of the form, which will not necessarily be the successive pages of the composed mat-

ter, as is well understood, are indicated by the reference numerals 22 to 25 inclusive. The said form is shown as locked up in a chase 26 and means for detaching the transfer surface line strips from their supports are provided, such means being shown as of the same form hereinbefore described. In Figs. 11 and 12 the said means are indicated by the reference numeral 27. In Fig. 12 of the drawings a planographic plate 28 is shown properly registered with respect to the pages or form by means of the registering pins 29 and pressure is shown as being applied to the said surfaces by means of the roller 30. Any suitable pressure means, of course, may be used. In Fig. 13 of the drawings the plate 28 is shown with the letter-press matter transferred thereto, after which the plate may be prepared for printing planographically and placed upon a rotary or other press for the purpose of securing any desired impressions therefrom.

From all the foregoing it will be understood that a method has been provided which realizes the objects and advantages herein set forth, together with other objects and advantages.

The invention, in its broader aspects, is not limited to the particular manner of carrying out the steps of the method illustrated herein, nor to any particular manner of carrying out such steps, as changes may be made therein without departing from the principles of the invention.

What I do claim as my invention and desire to secure by Letters Patent, is:

1. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in aligned lines upon a transfer surface in a suitable medium, laying down the transfer surface upon a planographic plate, transferring the letter-press matter from the transfer surface to the plate, bringing the plate and a series of transfer surface line bars into contact, transferring the matter from the said plate to the line bars, making such substitutions, additions, subtractions, transpositions, or other changes in the line bars as may be desired to bring the matter to the desired final form, and then transferring the matter from the said transfer surface line bars to a unitary planographic plate.

2. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter upon a transfer surface in a suitable medium, transferring the matter from the said surface to a unitary planographic plate, preparing said plate for printing planographically, taking impressions from the said plate to be used in reading proof, taking an impression from the said plate upon a series of transfer surface line bars, placing upon

a transfer surface lines of characters embodying desired changes for those originally composed in which changes are to be made, transferring the matter from the said transfer surface to a unitary plate, preparing said plate for printing planographically, taking an impression from the said plate upon a series of transfer surface line bars, substituting the said line bars embodying the changes for the corresponding original bars, assembling the said bars into a form, bringing a unitary planographic plate into contact with the surface of said bars, transferring the matter from the said bars to the said plate, and preparing said plate for printing planographically.

3. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line series upon a transfer surface, bringing said transfer surface into definite relation to a planographic printing plate, transferring the letter-press matter from the said transfer surface to the printing plate, preparing the said printing plate for printing planographically, bringing a series of transfer surface line bars into definite relation to said plate so that a line of characters will be in register with each of the line bars, impressing the matter from the said plate upon the said bars in a transferable medium, transferring the letter-press matter from the said bars to a unitary planographic plate, and preparing said plate for printing planographically.

4. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line series upon a transfer surface, bringing the said transfer surface into definite relation with a planographic printing plate, transferring the letter-press matter from the said transfer surface to the planographic printing plate, preparing said plate for printing planographically, taking impressions from the said plate for use in proof reading, bringing a series of line strip transfer surfaces into definite relation to said printing plate so that each line strip may receive the impression of a line of characters from the said plate, bringing the series of line strips and a planographic printing plate into contact, applying pressure to the said surfaces so that the transfer surfaces will adhere to the plate, detaching the said surfaces from the line strips leaving them adherent upon the plate, damping the said transfer surfaces and plate, stripping the transfer strips from the plate leaving the lines of characters adherent upon the plate, and preparing said plate for printing planographically.

5. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line series upon a transfer surface, bringing the

said transfer surface into definite relation with a planographic printing plate, transferring the letter-press matter from the said transfer surface to the planographic printing plate, preparing said plate for printing planographically, taking impressions from the said plate for use in proof reading, bringing a series of line strip transfer surfaces, detachably carried upon line bars, into definite relation to said printing plate so that each line strip may receive the impression of a line of characters from the said plate, placing upon another transfer surface in their changed form the lines of letter-press matter in which changes are desired, bringing the said lines into definite relation with the planographic printing plate, transferring the said lines to the said printing plate, preparing said printing plate for printing planographically, bringing a series of line strip transfer surfaces into definite relation with said plate so that each line strip may receive a line of characters, impressing the letter-press matter from the said plate upon the said transfer surface line bars, substituting the last-mentioned line bars for the corresponding line bars in the series of line bars so that the said series will then represent the letter-press matter in the desired final form, assembling the said transfer surface line bars into a form, bringing a planographic printing plate into contact with the surfaces of the said line bars, applying pressure to the said surfaces so that the transfer surfaces may adhere to the said plate, detaching the said transfer surfaces from the supporting line bars and leaving them adherent upon the surface of the plate, moistening the transfer surfaces and the plate, stripping the said strips from the plate, and preparing the plate for printing planographically.

6. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line

series upon a transfer surface, bringing said transfer surface into contact with a metal plate, transferring the letter-press matter from the transfer surface to the plate, and preparing the said plate for printing planographically, transferring the matter from said plate to a transfer surface, transferring the matter from said transfer surface to a second plate and preparing said second plate for printing planographically.

7. The method of producing a planographic printing plate which comprises placing a line of characters upon a transfer surface, transferring the same to a line bar, and transferring said line again from the line bar direct to a unitary planographic printing surface.

8. The method of producing a planographic printing plate which comprises placing a line of characters upon a transfer surface, transferring same to a line bar having a detachable transfer surface, and transferring said line of characters from said detachable transfer surface direct to a unitary planographic plate.

9. The method of producing a planographic printing plate which comprises placing the lines of a composition upon a series of line bars having detachable transfer surfaces, making substitutions of corrected for incorrect lines, and such other changes as may be necessary to bring the composed matter into correct final form and simultaneously transferring the corrected series of lines simultaneously to a unitary planographic printing surface by means of said detachable transfer surface of the line bars.

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

AUGUSTE L. SALTZMAN.

Witnesses:

JOHN D. MORGAN,
CLARA PHILLIPS.