C. T. MOORE.

Method of Preparing Transfer Sheets or Matrices for Printing.

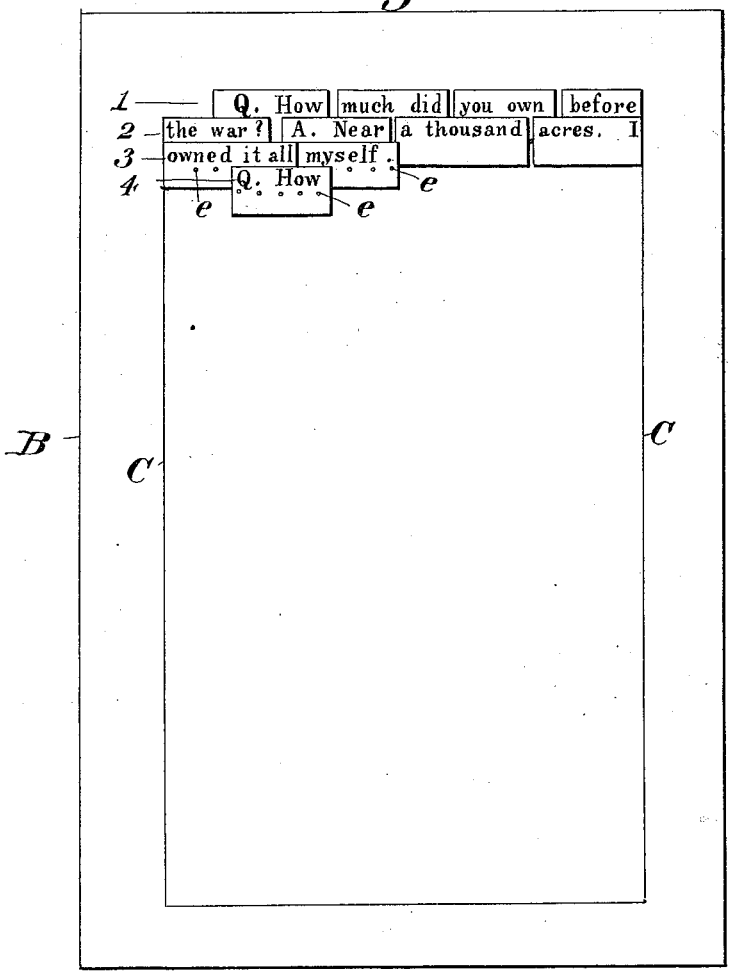
No. 201,436. Patented March 19, 1878.

Fig. 1.

Q. How much did you own before the war? A. Near a thousand acres. I owned it all my

A

Fig. 2.



Witnesses:

Donn P. Twitchell

W. E. Chaffee

Inventor:

Charles T. Moore

by Dodger & Son

Attys.

UNITED STATES PATENT OFFICE.

CHARLES T. MOORE, OF WHITE SULPHUR SPRINGS, WEST VIRGINIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO LEWIS CLEPHANE AND J. H. CROSSMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN METHODS OF PREPARING TRANSFER-SHEETS OR MATRICES FOR PRINTING.

Specification forming part of Letters Patent No. **201,436,** dated March 19, 1878; application filed November 12, 1877.

To all whom it may concern:

Be it known that I, CHARLES T. MOORE, of White Sulphur Springs, in the county of Greenbrier and State of West Virginia, have invented certain Improvements in Justifying Matter and Spacing Words on Transfer-Sheets and Matrices for Stereotypes, of which the following is a specification:

My invention consists in the justifying of printed or other characters and arranging them on sheets or other supports, preparatory to making a transfer of said characters to stone or metallic plates for lithographing or printing purposes, or for preparing matrices for stereotyping, as hereinafter more fully explained.

In the drawings, Figure 1 represents a strip having characters printed thereon, preparatory to justifying the matter and arranging it in the proper form for printing. Fig. 2 shows the method of justifying or arranging the matter on a transfer-sheet.

This invention relates to a system of printing in which the labor of setting up the matter by the use of movable types is dispensed with, a type-writing machine being used in the first instance to print the characters on paper, from which they are transferred to a lithographic stone or to a metal plate, from which the printing is then done.

It is possible to print a page or sheet by means of these type-writers; but as printed the lines are of unequal lengths, or, to use the term ordinarily employed by printers, the matter is not "justified," and hence a transfer cannot be made from such sheets in a manner suitable for use.

The method which I have invented to overcome this difficulty is as follows: I preferably use a type-writer which prints the characters in a continuous line on a narrow strip of paper, as shown in Fig. 1, in which A represents a piece of such a strip with the characters printed thereon by a type-writer of the kind referred to. It is, however, obvious that the ordinary type-writer may be used and the characters printed in page form, and then be cut into strips; but I prefer to print it on strips, as it is more convenient and the matter is far less liable to become disarranged.

Having thus printed on the strip or strips A, I then take a sheet of paper, B, and arrange the matter of the printed strip thereon, as shown in Fig. 2. This is done by cutting the strips into pieces, more or less long, and arranging them in lines the proper distance apart on the sheet B. In order to justify the lines, so as to give an even and uniform edge to the matter when arranged, I cut the strip between the words and arrange them in the line in such a manner as to bring the end of the lines to the lines C on opposite sides of the sheet, care being taken at the same time to make the spaces between the words in a line as nearly equal as possible, as shown in lines 1 and 2 of Fig. 2.

In case it is necessary to divide a word, it is cut between syllables, and a hyphen is placed at the end of the line, the same as in ordinary type-setting, a strip with the hyphens printed on it being kept at hand for the purpose.

In making up the form on the sheet B, all the usual rules of type-setting will be observed, such for instance, as indenting the lines which commence paragraphs, as shown in lines 1 and 4 of Fig. 2, and by leaving a space at the end of all break-lines, as shown in line 3 of Fig. 2.

In this manner I continue until the form is completed, of the required size for the page or column, as the case may be; and when completed it will be, so far as the arrangement of the characters is concerned, a facsimile of the page or column to be printed.

Any suitable means may be used to secure the strips of matter to the sheet B, such, for instance, as pasting them thereon, or perforating the strips and sheet with pins or points of any suitable kind, as shown at *e e*, Fig. 2. I find it practicable to do either; but the simplest way is to prepare the surface of the sheet B with paste or other adhesive material, so that when the strips are arranged they are made to adhere by simply pressing them on the sheet.

In order to insure the lines being straight and regular, the sheet B may have lines ruled or marked on its surface, to serve as a guide, though I contemplate and prefer to use a machine having a stationary guide for the strip or line, and a mechanism for feeding along the sheet B and compressing or fastening the strip to the sheet, all of which may be done very rapidly. As, however, said machine will form the subject of a subsequent and separate application, it will not be described herein.

It is obvious that, instead of a sheet of paper, any other suitable material may be used on which to arrange or justify the matter; but as it is necessary, in making the transfer, to moisten the printed strips, paper is best adapted to the purpose, as it can be moistened from the back without liability of disarranging the justified matter on its face.

It is also obvious that when the strip A is printed with a wide blank margin, the pieces, when cut to form lines, may be fastened to each other, and thus dispense with the supporting-sheet B; but this plan is not so convenient, especially when there are numerous break-lines in the form.

It is obvious that any style of type may be used, the same as in ordinary printing, and also that written matter may be thus justified and arranged, it only being necessary to use an ink that will transfer.

When the form for the page or column has been thus justified and made up, it can be at once transferred to a lithographic stone, from which sheets may be printed in the usual manner; or the transfer may be made upon metal plates, zinc or type metal being preferable, and by submitting these plates subsequently to the action of suitable acids the metal between the characters and the lines, or all that portion not covered by the transfer, will be eaten out or etched away, thus leaving the letters or characters projecting above the body of the metal, the same as in ordinary stereotype-plates, and the plates thus prepared can be used to print from the same as ordinary stereotype-plates are now used.

The process of etching plates, being well known, need not be described.

This method of justifying is also applicable to those cases of preparing the matrix for casting stereotypes in which the letters or characters are formed in a yielding or plastic material by means of a type-writing or similar machine, the material, after having the letters or characters impressed therein, being cut and arranged in the same manner as are the printed strips above described, the spaces between the words, when they are separated or spaced to justify the lines, being properly filled in before casting the stereotype, or the metal being cut out after it is cast, as may be found most convenient in practice. This method of preparing the matrix for stereotypes forming no part of this invention, which relates entirely to the justifying after the matrix has been formed, will not be described herein, as it will form the subject of a separate application for a patent.

In preparing transfer-sheets from printed strips, as before described, the strips may be of the width of the line, or they may be wider, so that when arranged their edges will overlap, as shown in Fig. 2. The latter plan is desirable when it is intended to secure the strips to the sheet or to each other by punctures, as in that case the punctures can be made entirely on the marginal or unprinted portions, either above or below the characters, or both above and below, according as the characters are printed on the strip.

By properly arranging the strips the lines may be brought close together to represent "solid matter," or they may be separated so as to become or represent "leaded matter," to any extent desired.

By means of this method of justifying, it will be seen that printing is rendered practicable without the use of movable types to be set by hand, the only types used at all being those in the machine which prints the strips or indents the characters in a matrix; and as the work is done mostly by machinery, printing by this system may be done very rapidly and cheaply.

The great advantage of this plan is that matter prepared by machinery can be as perfectly justified as it can be when set by hand with movable types, and thus any style of book, newspaper, or job printing can be done in this way with as much accuracy as when done by hand in the ordinary manner.

Having thus described my invention, what I claim is—

The herein-described method or process of preparing transfer sheets or matrices for producing printed sheets—that is to say, by first printing or indenting the characters on strips, then severing said strips so as to separate the words or syllables and spacing or justifying them, so as to form lines of uniform length, and securing the words and syllables thus arranged to a supporting-sheet or to each other, substantially as shown and described.

CHAS. T. MOORE.

Witnesses:
EDW. MCCAFFRAY,
JAS. O. CLEPHANE.