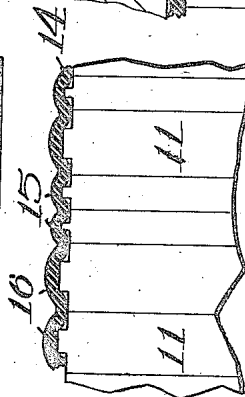
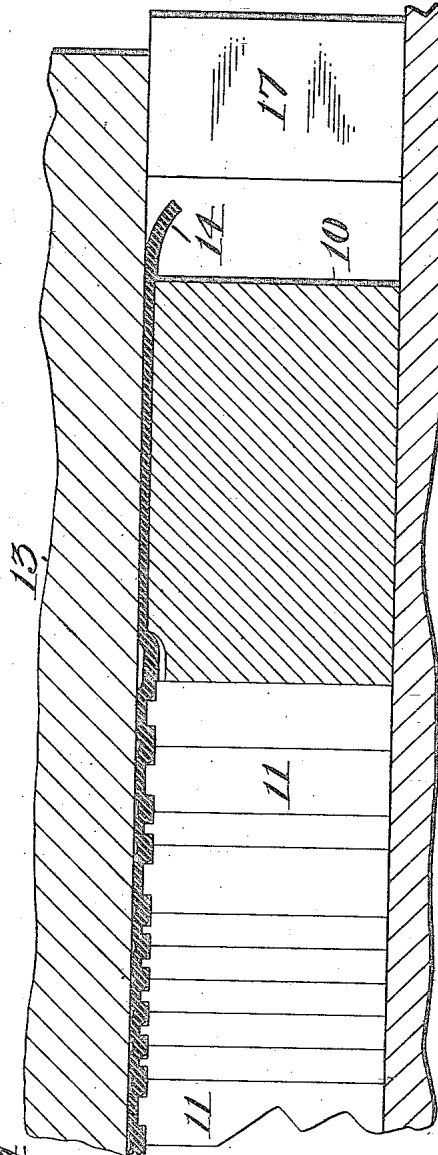
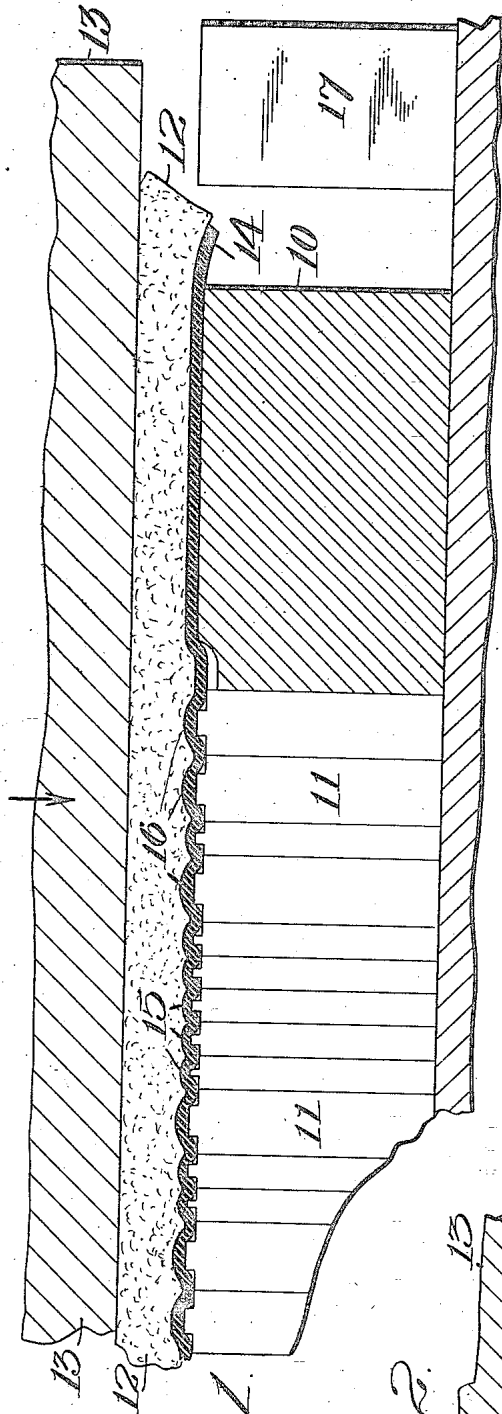


H. A. W. WOOD.
METHOD OF MAKING STEREOTYPE MATRICES.
APPLICATION FILED JULY 16, 1909.

1,127,340.

Patented Feb. 2, 1915.

2 SHEETS—SHEET 1.



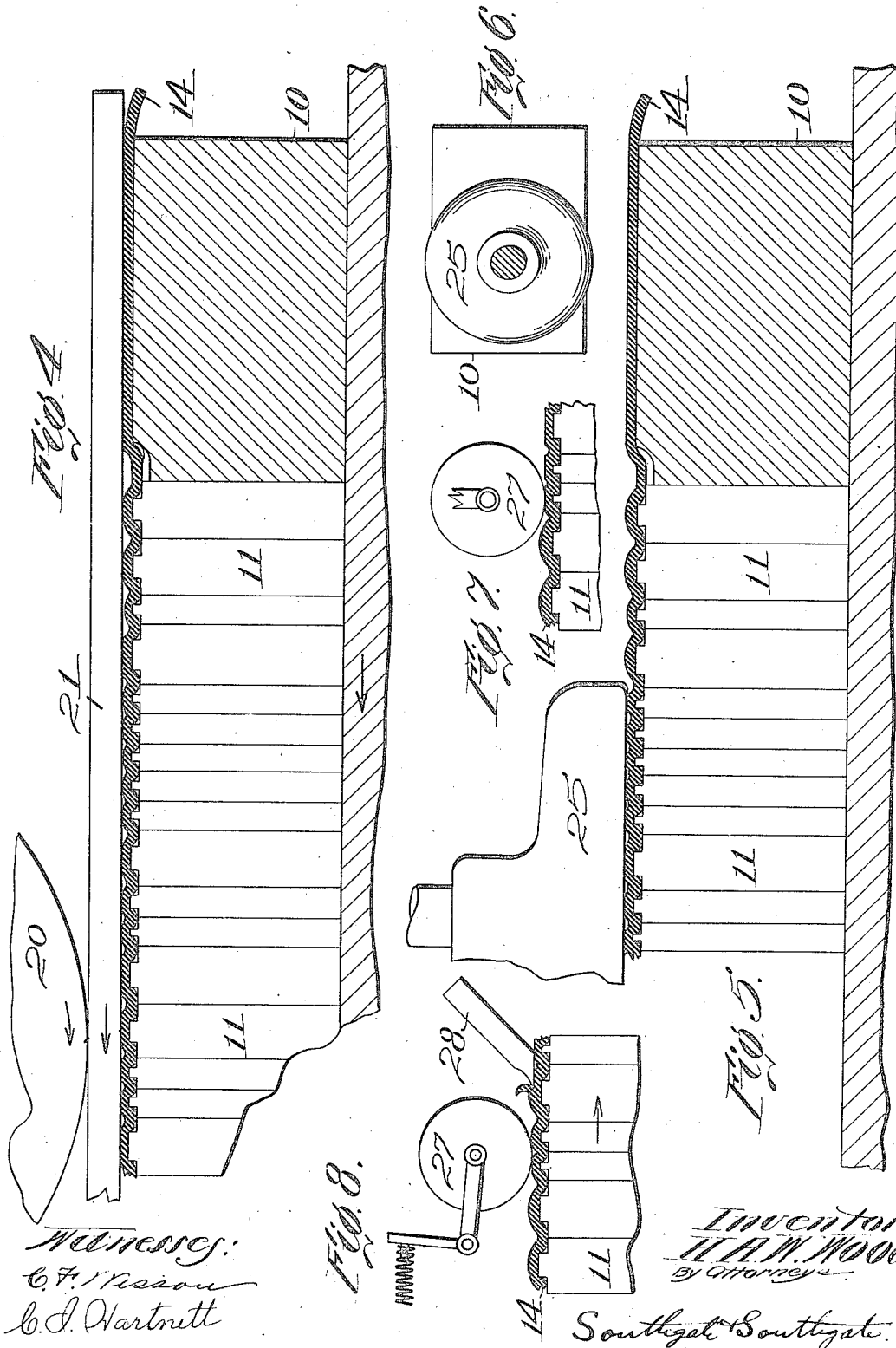
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UNITED STATES PATENT OFFICE.

HENRY A. WISE WOOD, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO
WOOD NEWSPAPER MACHINERY CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

METHOD OF MAKING STEREOTYPE-MATRICES.

1,127,340.

Specification of Letters Patent.

Patented Feb. 2, 1915.

Application filed July 16, 1909. Serial No. 507,934.

To all whom it may concern:

Be it known that I, HENRY A. WISE WOOD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Method of Making Stereotype-Matrices, of which the following is a specification.

This invention relates to a method of making stereotype matrices. As ordinarily made these matrices are molded by being pressed under a felt molding blanket, and as this is soft and elastic it will push the flong which is moist and soft further down upon the small characters of type than it will upon the large ones, so that the matrix as produced will be thinner over these small characters. Therefore while the plane of all the characters that ought to be of the same height is the same upon the face of the matrix when it is removed from the type, the thickness of the matrix at the back varies, so that when it is put into the casting box and the metal introduced the pressure tends to force the back of the matrix against the uniform surface of the box, so that the letters are cast with their printing surfaces at different heights. This is one of the reasons why stereotyping is not suitable for a high quality of printing, and the principal object of this invention is to provide a method of making a matrix which will entirely obviate this difficulty and produce a matrix which cannot be distorted in the casting box from this cause, so that the printing surface of all the letters and other characters will be in correct plane or planes, or in the case of a curved casting box in correct cylindrical plane.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a transverse sectional view showing the first step in the production of a matrix according to one way of carrying out this method; Fig. 2 is a similar view showing the next operation; Fig. 3 is a similar view showing the completion of the last named operation; Figs. 4 and 5 are similar

views showing a slight modification; Fig. 6 is a plan of part of Fig. 5 on a small scale, and Figs. 7 and 8 are illustrations of other ways in which the invention can be carried out.

Although Fig. 1 illustrates the first step of the preferred way of carrying out this improved method, yet it also shows the present way of molding stereotype matrices. In this figure is shown the usual chase 10, type 11, felt molding blanket 12, platen 13, and flong 14 which is being molded into the form of a matrix. As the felt or other molding blanket is soft and elastic the small characters as for example, periods, commas, i's, l's, t's, etc., may be considered to force themselves more deeply into the flong than the wide characters, as for example w's, m's, and capital letters, so that the flong is pushed down farther on the small characters and the matrix will be left thinner over their tops, as for example, where it protrudes at the points 15; whereas over the large characters a comparatively thick body of flong will be left to form protrusions 16. Thus while the plane of all the characters may be the same upon the face of the matrix when it is removed from the type the matrix will be of varying thickness at the back of the letter impressions. Therefore, when the matrix is put into the casting box and the metal introduced the pressure of the latter will tend to force the back of the matrix firmly against the surface of the box which is a uniform plane or semi-cylinder, and thus the surface of the various cast letters will appear in planes of different heights. In order to avoid this difficulty according to the form of the present method shown in Figs. 1, 2 and 3, the matrix is molded in the usual way by the use of a platen, roller, or other pressing means. Then the blanket is removed and the platen brought down as shown in Figs. 2 and 3 until it engages a stop, as for example, 17, which is so proportioned that it will permit the platen to be brought down on the rear surface of the matrix so as to mold the protuberances 15 and 16 all to the same height and leave the top of their surfaces in a perfect plane.

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Another way in which this can be accomplished is shown in Fig. 4, in which the flong has first been molded with a blanket beneath a molding machine roll 20, and then after the blanket is removed, a plate 21 of the same thickness as blanket is when pressed, is introduced and the plate 21 together with the type and matrix are run beneath the roll as indicated in Fig. 4. Or if desired the roll is brought to the plane of the back of the matrix, and the matrix and type are then run beneath the roll with the latter in direct contact with the back of the matrix.

In the form of the invention shown in Fig. 5 the second molding of the matrix is accomplished while the latter is still wet and in contact with the type by passing it under a smooth rotating disk 25. By rotating the disk a moving surface for smoothing the matrix is provided.

According to all these forms of the method it will be understood that the blanket, which may be of felt, is used as is ordinarily the case, and is removed after molding and then the process is completed by the addition of the step of conforming the protrusions on the back of the matrix to a perfect level or uniform surface so that all the letters, characters, and illustrations whether they be small or large, shall have the correct thickness of mat above them so that the letter plane of the face of the mat and the plane of the back will be in proper relation. After this has been done and the form removed from the platen, the matrix is dried in the usual way either in contact with the type which is preferable, or after it has been stripped from the same.

Another way in which the invention can be carried out is to do away entirely with the blanket, and mold the back of the matrix directly by the platen, roller, disk, or the like without the interposition of any soft backing. This is particularly suitable in cases where very fine and shallow letters or illustrations are used, and it does away with one operation as will be obvious.

In Fig. 7 is shown another modification of the method in which the type and flong are passed under the roller 27 which may be revolved either in the same direction and at the same surface speed as that of the matrix or faster, or in the opposite direction. If this is done while the matrix is still wet a smooth surfaced roller is employed, but if it is desired to do this after the matrix has been dried, a roller is employed having an abrading surface, and in that case it is rotated at a different speed or in a different direction from the direction of travel of the surface of the matrix. It may be stated also that in this case the disk as shown in Fig. 5 may be used having an abrading lower surface. As a substitute for the latter methods,

or in addition thereto a long straight knife 28 may be employed for the purpose of skiving down the back of the matrix to a uniform thickness when the matrix is dried, and before or after it is removed from the type, as shown in Fig. 8.

It will be seen that as the matrix has a firm uniform bearing surface on the back it will not readily become distorted in use. As all the matrices will be of the same thickness, the casts produced will be of a uniform thickness.

It will be understood that the several ways of carrying out this invention which have been described are mentioned for illustrative purposes, and that the invention can be carried out in many other ways without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the exact steps shown and described, but

What I do claim is:—

1. A method of molding stereotype matrices which comprises placing the flong on the type, placing a molding "blanket" on the flong, pressing the flong thereby into close contact with the type, removing the "blanket", and reducing the surfaces of the upwardly projecting parts of the matrix to a uniform upper plane.

2. A method of making stereotype matrices which comprises placing the flong on the type, placing a molding "blanket" on the flong, forcing the flong into close contact with the type, removing the "blanket", reducing the surfaces of the upwardly projecting parts of the matrix to a uniform upper plane while still moist, and finally removing the matrix from the type.

3. A method of making stereotype matrices which comprises placing the flong on the type, placing a molding "blanket" on the flong, forcing the flong into close contact with the type, removing the "blanket", and molding the upwardly projecting parts of the flong or matrix to a uniform level.

4. A method of making stereotype matrices which comprises molding the flong on the type by means of a molding "blanket", removing the blanket, and while the matrix is still soft or plastic compressing the upwardly protruding portions thereof to a uniform plane.

5. A method of making stereotype matrices which comprises placing the flong on the type, placing a molding "blanket" on the flong, forcing the flong into close contact with the type, removing the "blanket" and pressing the outer surface of the matrix with a flat platen to bring the upwardly protruding portions of the matrix to a uniform plane.

6. A method of making stereotype matrices which comprises placing the flong on the type, pressing it yieldingly on the type,

while still plastic, to provide a type impression on the front face and an irregular surface on the rear face having upwardly protruding portions of different heights, and
5 treating said irregular rear surface of the matrix to bring the upwardly protruding portions thereof to a uniform height on the back.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

H. A. WISE WOOD.

Witnesses:

ETHEL V. HARDER,
ANNIE B. WALTERS.