(No Model.)

L. QUANCHI.

ART OF MAKING MATRICES FOR STEREOTYPING PURPOSES.

No. 436,379. Patented Sept. 16, 1890.

Fig. 2.

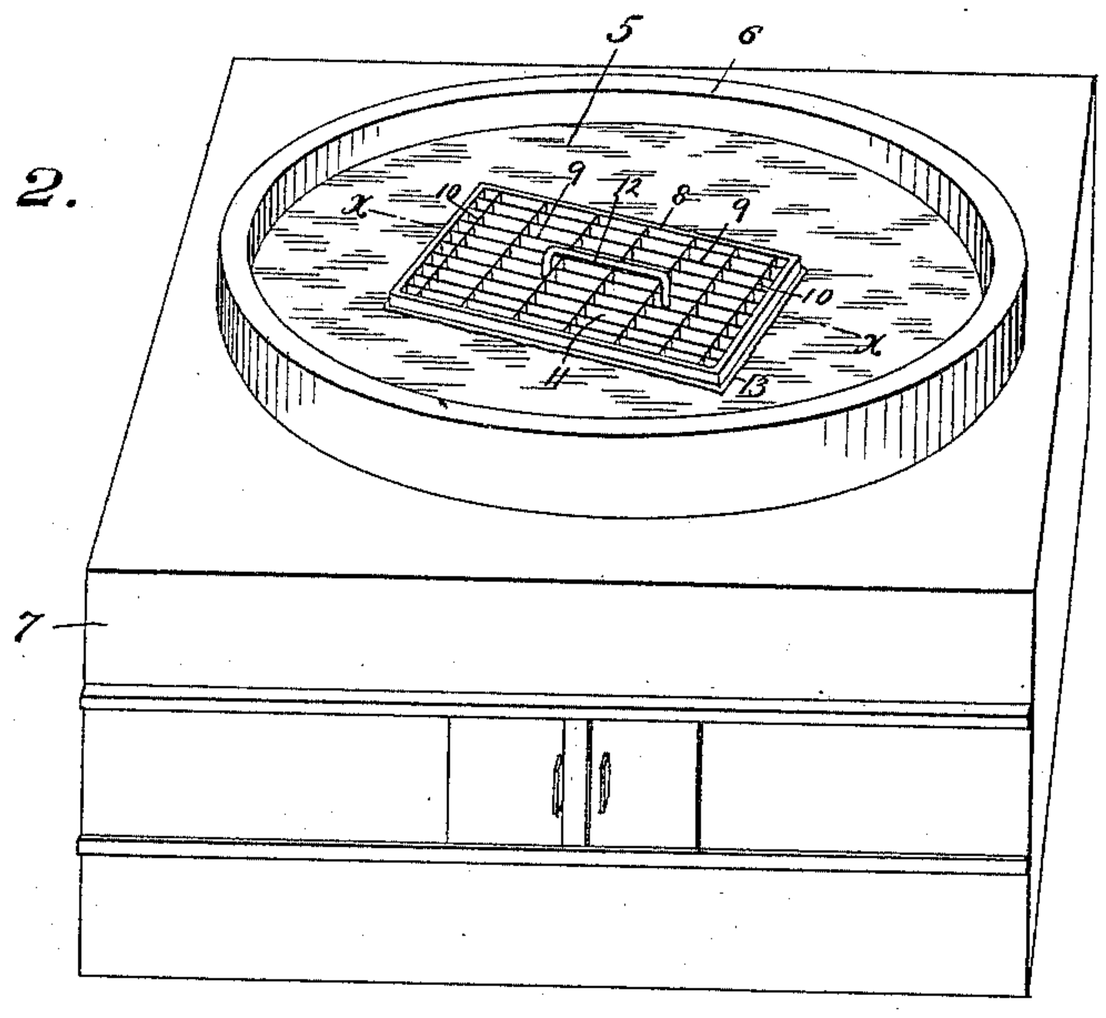


Fig. 3.

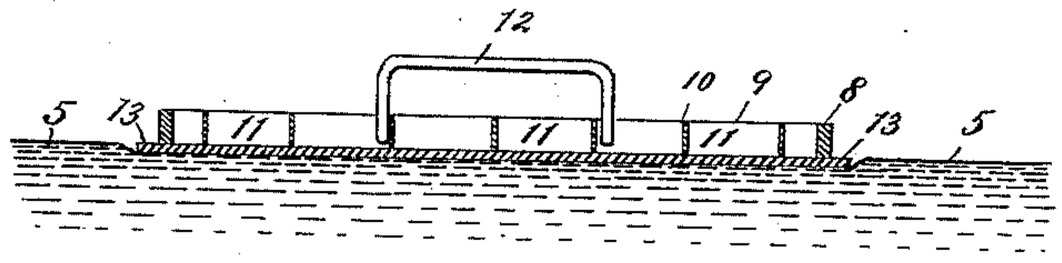
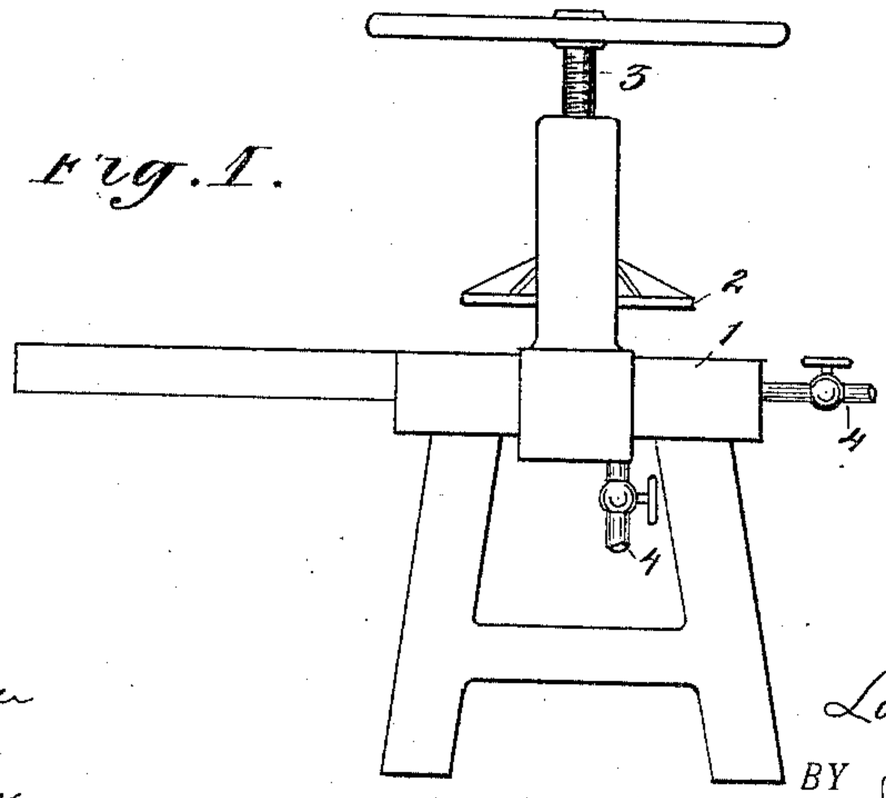


Fig. 1.



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ART OF MAKING MATRICES FOR STEREOTYPING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 436,379, dated September 16, 1890.

Application filed June 10, 1890. Serial No. 354,903. (No model.)

To all whom it may concern:

Be it known that I, LOUIS QUANCHI, a citizen of the United States, and a resident of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in the Art of Making Matrices for Stereotyping Purposes, of which the following is a specification.

My invention relates to a process or method of preparing or making paper matrices from which to cast stereotype-plates. In nearly all newspaper establishments the matrices are made in the following manner: The matrix-paper, thoroughly damp, is laid upon the page of type which has been set up by the compositor and a blanket placed upon the matrix-paper. These are then subjected to the action of a molding-machine. Then additional layers of blanket are laid on and the whole placed under the platen of a steam-heated press. The platen is then screwed down hard and the pile held upon the bed of the press. The steam entering from below first heats the type and then the matrix-paper through the type. As the matrix-paper receives heat its moisture is driven out and absorbed by the overlying blankets. In this method of making the matrix the paper and type must be left in the steam-heated press from seven to eight minutes, in order to dry the paper sufficiently to enable a casting to be obtained therefrom. To this mode of making a matrix there are several serious objections: first, the loss of time which occurs while the matrix is drying in the steam-press; secondly, the impossibility of always obtaining a uniformly-dried matrix, and hence a perfect cast, and, thirdly, the destructive influence of the heat upon the type.

My invention has for its objects to overcome in a great measure the objections heretofore contended with; and it consists, primarily, in drying the matrix upon a body of molten metal, and in other features, all as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view of a steam-press. Fig. 2 is a perspective view of a furnace and bath or vessel of molten metal, and showing my improved process of drying the matrix. Fig. 3 is a vertical longitudinal section enlarged, taken at the line *x x* of Fig. 2.

In the several views the same part will be found designated by the same numeral of reference.

In carrying out my invention I prefer to follow the old process of forming the matrix up to the time of placing the same with the type into the steam or other heated press; but I do not limit myself to so doing. After the matrix and type have been left in the steam-press for about two and one-half minutes to effect the setting of the impression or the completion of the matrix I remove the type and the matrix, separate them, and place the matrix face down upon a bath or body of molten stereotype metal. An open or reticulated frame or holder is then laid upon the matrix for the purpose of maintaining the same in a uniformly-flat condition. The matrix is allowed to remain in the bath of metal about one-half minute, (generally less.) Upon removal it will be found to have been perfectly dried at all portions and to be in proper condition to be cast from.

The press may be of any desired construction, and may be heated by gas or otherwise than by steam; but I prefer the latter.

1 represents the bed of the press; 2, the platen; 3, the screw for operating the platen, and 4 the steam-pipes, one the inlet and the other the outlet pipe.

The metallic bath or body of fluid metal I prefer to have consist of the stereotype metal, which is subsequently used in making the cast from the matrix, because it is more convenient and economical.

5 represents the molten metal in a pot or vessel 6 upon a heater or furnace 7, which may be of any approved construction.

The frame or holder is designated by the numeral 8, and is formed, preferably, of thin longitudinal and transverse bars 9 and 10, respectively, so as to provide a number of openings 11, through which the evaporated moisture from the matrix may escape.

In lieu of the construction of frame or holder shown some other may be employed—as, for instance, a perforated plate or wire screen.

The frame or holder is provided with a handle 12, by which it may be conveniently

placed upon and removed from the matrix, which is designated by the numeral 13.

The weight of the frame or holder is preferably just sufficient to sink the matrix slightly, so that its top surface or back lies about on a level with the surface of the molten metal, as shown at Fig. 2. By sinking the matrix slightly the fluid metal is caused to enter all of the depressions made therein by the type, and hence to more quickly and uniformly expel the moisture from the matrix.

In the old process of drying the matrix, owing to the fact that one portion of the press is often hotter than another, a uniformly-dried matrix will not be produced, and if a casting be made from such a matrix it will be imperfect and cannot be used upon the printing-press. This frequently happens, and as a result several casts have to be made before a plate sufficiently good to print from can be obtained. By my molten-bath process, the metal being of the same temperature throughout on its surface, the matrix is uniformly dried, and consequently a perfect cast may be made always at the first operation.

My improved process of drying the matrix is now being successfully carried on daily at the establishment of the *New York Herald* newspaper with a saving in time of about five minutes, which, as will be understood, is a great desideratum. Besides this, the type are preserved for a much longer time, owing to the fact that they are subjected to heat and pressure for about only two and one-half minutes, instead of seven minutes, as heretofore.

What I claim as new, and desire to secure by Letters Patent, is—

1. That improvement in the art of making matrices for stereotyping purposes, which consists in drying the matrix by laying the same upon a body of molten metal, substantially as set forth.

2. That improvement in the art of making matrices for stereotyping purposes which consists in drying the matrix by laying the same upon a body of molten metal and superposing thereon a means for maintaining the matrix in a uniformly-flat condition, substantially as set forth.

3. That improvement in the art of making matrices for stereotyping purposes which consists in drying the matrix by laying the same upon a body of molten metal and beneath an open or perforated frame or holder, substantially as set forth.

4. That improvement in the art of making matrices for stereotyping purposes which consists in first subjecting the type and matrix to heat and pressure to set or perfect the impression and in then laying the matrix alone upon a body of molten metal, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 9th day of June, A. D. 1890.

LOUIS QUANCHI.

Witnesses:
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