

(No Model.)

G. EASTWOOD.
MATRIX FOR STEREOTYPE PLATES.

No. 401,738.

Patented Apr. 23, 1889.

Fig. 1.

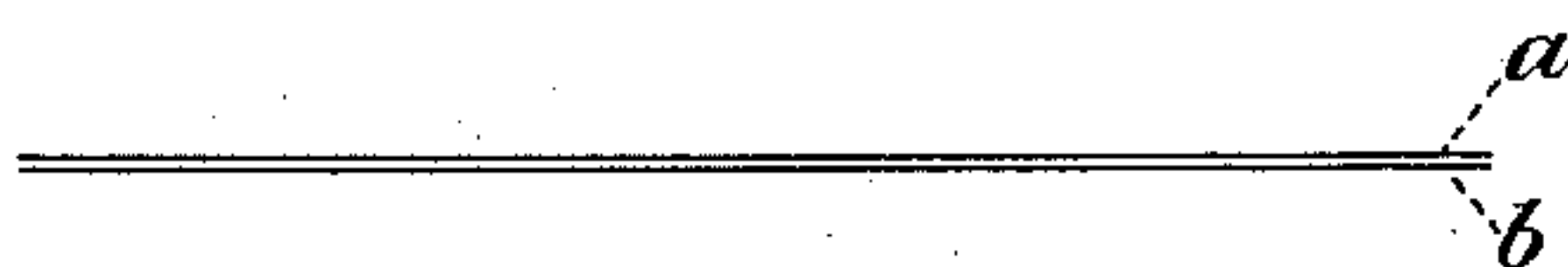


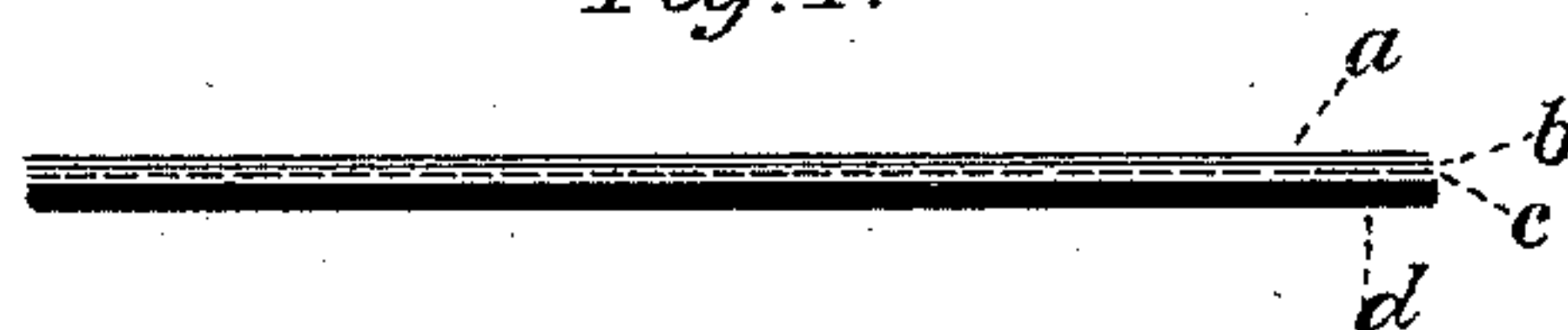
Fig. 2.



Fig. 3.



Fig. 4.



Witnesses:

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MATRIX FOR STEREOTYPE-PLATES.

SPECIFICATION forming part of Letters Patent No. 401,738, dated April 23, 1889.

Application filed January 5, 1888. Serial No. 259,887. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EASTWOOD, of Kingston-upon-Hull, county of York, England, have invented certain new and useful
5 Improvements in Matrices for Stereotype-Plates, of which the following is a specification.

In the ordinary method of manufacturing molds or taking matrices for stereotype-plates
10 the molds are made of a pulpy combination of adhesive substances with blotting or other papers which absorb a large quantity of moisture. These molds are beaten or rolled into the type so as to make a matrix thereof. The
15 type is then heated in order to dry the mold. Much time is lost in the drying operation, but this cannot be avoided when this method is followed, because if the mold is not sufficiently wet the face is liable to crack or break and
20 the impression of the type is in such case unfit to take a casting from. Further, in the case of molds or matrices having large blanks—that is to say, portions without impression of the type—these blank portions are liable to be-
25 come flattened by the pressure of the molten metal used in taking the castings, and in order to prevent this flattening it is usual to pack or back up the blanks with paper, and this again occupies time.

30 Now, according to my invention I follow what is practically a dry process in the manufacture of the matrices, so that the heating of the type can be dispensed with, and I back up the blanks with sand during the ordinary
35 process of warming and drying the matrices, and I thereby obviate the liability of the blanks to become flattened by the pressure of the molten metal used in taking the castings.

For the purpose of my invention I make a
40 mold of two parts—namely, a facing and a backing. The facing is composed of two or more sheets of tissue-paper or other like material pasted together with a composition containing glycerine and a suitable starchy ma-
45 terial, which composition keeps them in a flexible and elastic state, prevents the paper from becoming too hard before use, renders it sensitive to moisture, greatly reduces the contraction on application of heat and hard-

ens the matrix or mold when heated. The
50 composition which I preferably use for this purpose is formed of glycerine, starch, and gum-arabic or other gum, suitable proportions of which are one pound of starch, two ounces of glycerine, and two or three ounces of gum.
55 The object of the gum is to give increased stiffness to the mold. Its use, although desirable, is not of great importance, and it may therefore be omitted from the composition. The backing consists of a dry thick sheet of
60 soft paper, blotting-paper, felt, or other like suitable substance capable of receiving and retaining an impression, and one side of which, when used, is covered with a thin sheet of soft paper which is thinly coated on
65 both sides with an adhesive material, preferably of the nature and possessing the properties of the composition hereinbefore described. The facing of paper should be dried cold under a light pressure, or this facing of paper
70 can be dispensed with and the composition be applied direct to the face of the backing. The composition serves to unite the backing to the facing when pressed together, as hereinafter described.

75 In taking the matrix the facing is placed upon the type and the back of the facing is then covered first with a piece of muslin or other suitable thin textile material and next with a
80 woolen or india-rubber blanketing, which (except when of india-rubber) is preferably used warm. The whole is then rolled or pressed. This having been done, the blanketing and the muslin are removed and then the backing
85 is placed upon the back of the tissue-paper that forms the facing. That face of the backing which bears the composition being put in contact with the tissue-paper, the composition on the backing should be nearly dry.
90 The blanketing is placed upon the backing and the whole is again rolled or pressed. The matrix is at once formed and when removed from the type has simply to be warmed through to harden the composition.

95 Instead of the two rollings or pressings above described one rolling or pressing will suffice if the backing be placed upon the facing, in the first instance, with the blanketing over

them, the use of the muslin in this case being dispensed with; but a good result is not so certain.

5 The invention is illustrated in the accompanying drawings.

Figure 1 represents the facing composed of two sheets, *a b*, of tissue-paper or other thin paper united by means of a composition containing glycerine and a starchy material.
10 For the sake of clearness the two sheets are shown somewhat apart, but they are of course adherent. Fig. 2 represents the piece of muslin *c*, which is placed upon the back of the facing before the matrix is taken. Fig. 3 represents the backing *d*, consisting of a dry
15 thick sheet of soft paper, blotting-paper, felt, or other suitable substance capable of receiving and retaining an impression. Fig. 4 represents the facing *a b*, muslin *c*, and backing
20 *d* in their relative positions after the matrix has been formed. They are of course all adherent together, but for the sake of clearness they are shown somewhat apart, and of course

the face bears the impress of the type; but I have not attempted to show this.

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

A mold or matrix for stereotype-plates, having a facing and a backing, the facing being composed of sheets of tissue-paper or other
30 like thin paper united together by means of a mixture of glycerine, a starchy material, and gum, the said facing containing at the time of use only sufficient moisture to render the paper slightly soft, and the backing being
35 composed of one or more dry sheets of soft paper capable of receiving and retaining an impression, all substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing
40 witnesses.

GEORGE EASTWOOD.

Witnesses:

WILLIAM HUNT,
HAROLD LESTER.