

M. S. Beach. Sheet 1 of 2 Sheets.

Stereotype Plates.

N^o 35986.

Patented Jul. 29. 1862.

Fig. 1.

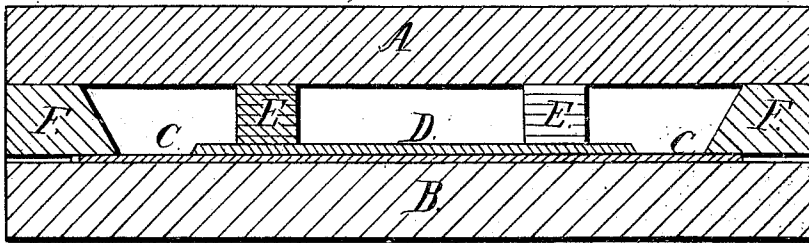
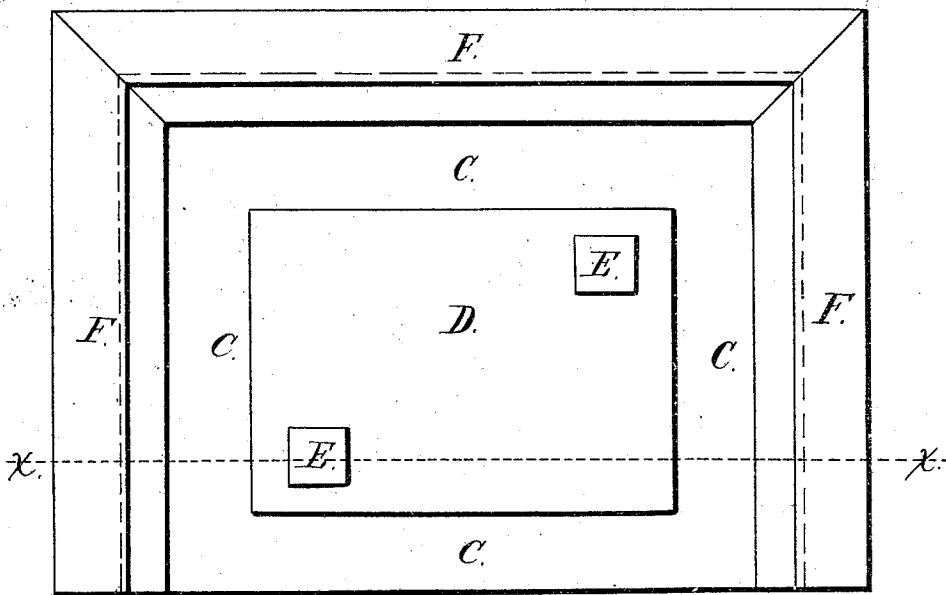


Fig. 2.



Witnesses.

*James H. Milledge
Wm. H. Harrison*

Inventor.

*M. S. Beach
By A. E. Beach
Atty.*

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Fig. 3.

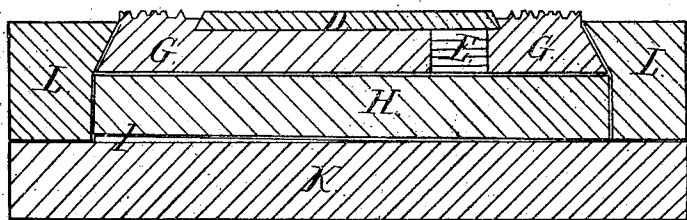
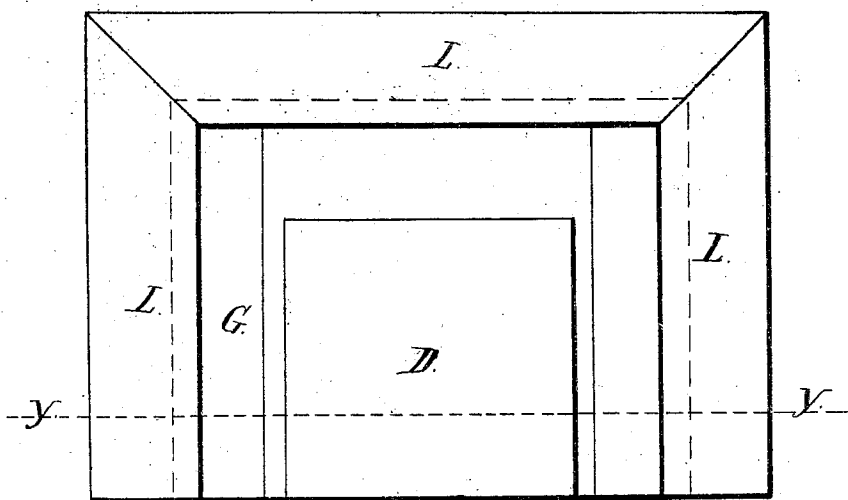


Fig. 4.



Witnesses.

James H. Muddley

Wm. H. Harrison

Inventor.

M.S. Beach

By A.E. Beach

Atty.

UNITED STATES PATENT OFFICE.

MOSES S. BEACH, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN STEREOTYPE-PLATES.

Specification forming part of Letters Patent No. 35,986, dated July 29, 1862.

To all whom it may concern:

Be it known that I, MOSES S. BEACH, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Making and Using Stereotype-Plates; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts.

In using papier-maché and some other preparations for matrices from which to make stereotype-plates it is found difficult, if not impossible, to obtain a perfect matrix of the portion or portions which contain fine engravings; and hence those processes fail to be of service in many cases where otherwise it is most desirable to adopt them. Again, when it is desirable or necessary to print from a series of stereotype-plates which have been prepared for use in the same mold, it is often a matter of difficulty and delay to adjust the "underlays" (which are necessary to secure an even impression in printing) for each one of the series.

My invention avoids the first difficulty by introducing into the stereotype-plate a separate stereotype or electrotype, or any metallic reproduction of the portion or portions which contain engravings, or, in other words, by making a composite stereotype of which one part is a stereotype or electrotype of the finer portions, made by any approved process, and the other part is made from the papier-maché or other matrix, and it receives and embodies in itself the first part; and, further, my invention avoids the second difficulty by the use of a movable and adjustable bed or block made of type-metal or any similar substantial, and yet yielding, material upon which the stereotype is placed and under which (instead of under the stereotype itself) the underlays are adjusted.

In the accompanying drawings, Figures 1 and 2 represent the mode of preparing the matrix and mold for producing my composite stereotype, and Figs. 3 and 4 represent a composite stereotype as it appears when completed, and also the yielding bed or block with underlays under it, upon which I place stereotype-plates for use in printing.

A is the upper and B the lower side of the mold in which the composite stereotype is to be cast, Fig. 1 being a section and Fig. 2 a plan with the upper plate, A, removed.

C is the matrix from which the face of the composite stereotype is formed.

D is a common stereotype, electrotype, or other metallic reproduction of the finer portions of the matrix.

E E are thicknesses of blanketing or any elastic substance to retain the metallic reproduction in its place until the cast is taken.

F F are gages which regulate the thickness of the composite stereotype.

Fig. 3 is a section, and Fig. 4 a plan, of the composite stereotype and the bed or block with its underlays as prepared for use.

G is the composite stereotype, inclosing and including with it the common stereotype, D, while H is the yielding bed or block upon which it is placed and beneath which are placed the underlays I.

K represents the bed of the printing-press, and L the clamps or other means of securing stereotype-plates to the press-bed.

The operation of my invention is as follows: The form of type and engravings being "made up" and the matrix taken in the usual way, the matrix C is placed on the lower side, B, of the mold, and the gages F F are so placed thereon as to cover the edges of the matrix. A common stereotype, electrotype, or other metallic reproduction of the engraving D (which may be either the original from which the matrix is produced, or a reproduction from that by any of the usual processes) is then placed face downward upon the portion of the matrix corresponding to it; and upon that, in as many places as may be desirable in order to secure it in position, are placed any requisite number of bits of blanket or other elastic substance or springs E E. The upper side of the mold, A, is then put on and secured to the lower side, B, by screws or clamps or any convenient contrivances. The plate A, as will be seen, presses upon the elastic substance E E, which retains the metal D in position. The melted type-metal is then poured into the space between the matrix C, the mold-plate A, and the gages F F, producing the composite stereotype G. The composite stereotype G, (or any other stereotype-plate represented by

G,) being now ready for the press, it is placed upon the yielding bed or block H, and that upon the press-bed K. One or more impressions are taken to ascertain which parts of the stereotype G require "underlaying," the unequal shrinking of the metal in casting necessarily producing variations in its thickness. The yielding bed or block H is then removed and the necessary underlays I are placed under it, after which it is secured by screws or other means to the bed of the press K, the stereotype G is replaced, and the clamps L put in position to hold it securely during the process of printing. The pressure required in printing causes the bed or block H to assume such shape as will counteract the inequalities in thickness of the stereotype G. This being effected, subsequent stereotypes cast in the same mold may be used, with rare exceptions, without adjusting or changing the underlays I, the inequalities in thickness of the different

plates being the same or nearly the same in each one of the entire series.

I am aware that springs have been used to prevent the warping of the copper shell of electrotypes while being backed with molten metal, and this I do not claim.

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

1. The composite stereotype G, produced in the manner substantially as described.

2. The use of an elastic substance, E, in connection with the stereotype-plate D and the matrix C, substantially as and for the purpose herein shown and described.

3. The yielding block or bed H, constructed and used substantially as described.

M. S. BEACH.

Witnesses:

S. F. COHEN,
PETER COOKE.