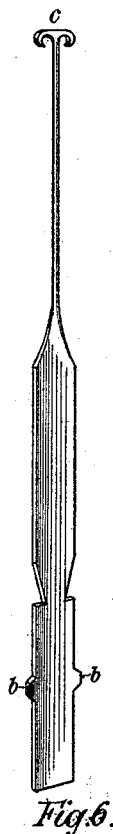
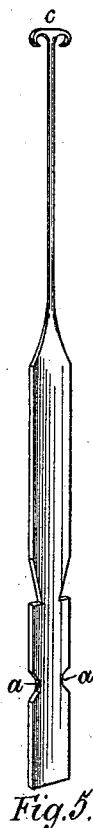
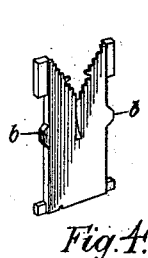
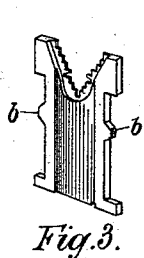
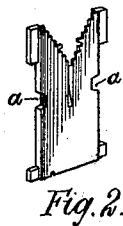
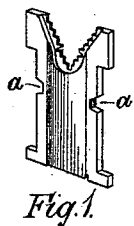


(No Model.)

J. PLACE.
SEPARABLE MATRIX.

No. 540,001,

Patented May 28, 1895.



WITNESSES.

M. R. Kennedy
M. C. Cooper

INVENTOR.

John Place
By Phil. T. Dodge
Att'y

UNITED STATES PATENT OFFICE.

JOHN PLACE, OF LONDON, ENGLAND, ASSIGNOR TO THE MERGENTHALER
LINOTYPE COMPANY, OF NEW JERSEY.

SEPARABLE MATRIX.

SPECIFICATION forming part of Letters Patent No. 540,001, dated May 28, 1895.

Application filed August 18, 1894. Serial No. 520,697. (No model.) Patented in England August 11, 1892, No. 14,548.

To all whom it may concern:

Be it known that I, JOHN PLACE, a subject of the Queen of the United Kingdom of Great Britain and Ireland, residing at No. 6 Serjeant's Inn, Fleet Street, in the city of London, England, have invented certain new and useful Improvements in the Separable Matrices of Logotype, Linotype, and Similar Machines, (for which I have obtained a patent in Great Britain and Ireland, No. 14,548, dated August 11, 1892;) and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being made to the accompanying drawings, which are to be taken as part of this specification and read therewith, and one which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in the separable or individual matrices of logotype, linotype and similar machines.

In order that my invention and the means by which it is to be carried into practical effect may be thoroughly understood, I will now describe it in detail, referring in so doing to the accompanying drawings, which are to be taken as part of this specification and read therewith.

Figures 1 and 2 are perspective elevations, from opposite sides, of a matrix made according to my invention, for use in a Mergenthaler linotype-machine, with others of the same construction, in the manufacture of a linotype. Figs. 3 and 4 are perspective elevations, from opposite sides, of a duplex die made according to my invention and adapted, with others of the same construction, to indent a line of type-impressions in a sheet or a strip of stereotype-matrix material. Fig. 5 is a perspective elevation illustrating the application of the invention to a Rogers matrix-bar, such as is described and illustrated in his British Patent No. 15,060, of 1890. Fig. 6 is a perspective elevation illustrating the application of the invention to a stereo-strip-indenting bar.

Up to the present time it has been the practice to construct a linotype machine in such a way that its magazine is capable of being charged and operated with matrices of only

"upper" and "lower case" of any given font of type. Whenever it has been necessary to introduce into a line of matrices then undergoing the process of assemblage by a linotype machine, a matrix of another font, such matrix has been taken from a font held in a special receptacle which forms no integral part of the machine but has been only attached thereto as an annex; or recourse has been had to the resources of another machine.

The above statement applies with equal force to other machines for making type bars besides the Mergenthaler linotype machine.

The object of the present invention is to minimize the inconvenience and loss of time incidental to the composing room procedure referred to above, by making each matrix duplex, *i. e.*, the impressing each edge of the body of the matrix with a formative surface, *e. g.*, Roman style on one edge and italic style on the other and opposite one. Each depression of a finger lever of the key board or actuation of the matrix releasing mechanism, as heretofore, leads up to the assembling of one matrix, and this latter if made according to the present invention, carries two type formative surfaces, one upon each of its edges.

The formative surfaces above mentioned may be either male or female, as may be required, according as to whether a linotype or a linear matrix from which a stereotype can be cast be required from it direct.

a, a are the female and *b, b*, the male formative surfaces. It is to be noted that the two surfaces on any matrix or bar are opposite to each other. This is necessarily so, inasmuch as both must conform to the requirements of the machine of which it is a part.

It will be understood that the opposite edges of the matrix or bar will carry the same character, but of different faces or styles—for example, a Roman character on one edge and the same character in a corresponding italic or bold face, at the opposite edge.

The advantage of the invention lies in the fact that by the use of the duplex or Janus faced matrices, I am enabled to double the number of characters which may be produced by the machine, without increasing the number of matrices.

I believe myself to be the first to produce matrices or dies which are provided on opposite sides with variant characters, and adapted to be reversed or turned edge for edge to bring one or the other of the variant characters into action as demanded.

It will be observed that in order to permit the turning of the matrix edge for edge, the two characters must present the top of the character upward; or in other words, they must not occupy reverse positions.

Whenever it becomes necessary to make a matrix or bar face about, it is done by hand or by any convenient means.

It must be distinctly understood that the present invention is not limited in respect of its application to either the matrix of a Mergenthaler linotype machine, nor to the matrix bar of a Rogers machine for making type bars for printing, inasmuch as it is equally applicable to the corresponding member of any logotype, linotype or similar machine, provided that that member is normally a separable member or can be made to be separable. For instance, in the Rogers patent above referred to, the bar is described as suspended from a rod which passes through a closed eye on the end of the bar. This connection between the bar and the rod will of course prevent the former being faced about. Accordingly, when the present invention is to be applied to such bars, the device by which they are held to their machine must be modified

to the extent of allowing them to be faced about. The T tops *c, c* are intended to be releasably held in grooves or by equivalent devices.

I am aware that non-reversible matrices have been provided on the rear edge with dummy or non-active characters, corresponding to those on the front edge, for the purpose of indicating to the operator what characters are in the line, the face of which is concealed from view. My invention is limited to a matrix or die which is reversible and which has operative or usable characters at both edges.

Having thus described my invention, what I claim is—

1. A reversible type matrix or its equivalent, provided at opposite edges with two variant operative characters.

2. A type matrix, or its described equivalent, provided at the top with means of suspension and at opposite edges with two upright, variant operative characters whereby it is adapted to be reversed horizontally to present one or the other of the characters in operative position.

In witness whereof I have hereunto affixed my signature, in the presence of two witnesses, this 9th day of July, 1894.

JOHN PLACE.

Witnesses:

T. F. BARNES,

CHAS. S. WOODROFFE.