No. 694,789. Patented Mar. 4, 1902.

J. R. ROGERS.

MATRIX FOR LINOTYPE MACHINES.

(Application filed Nov. 26, 1901.)

(No Model.)

Fig. 1.

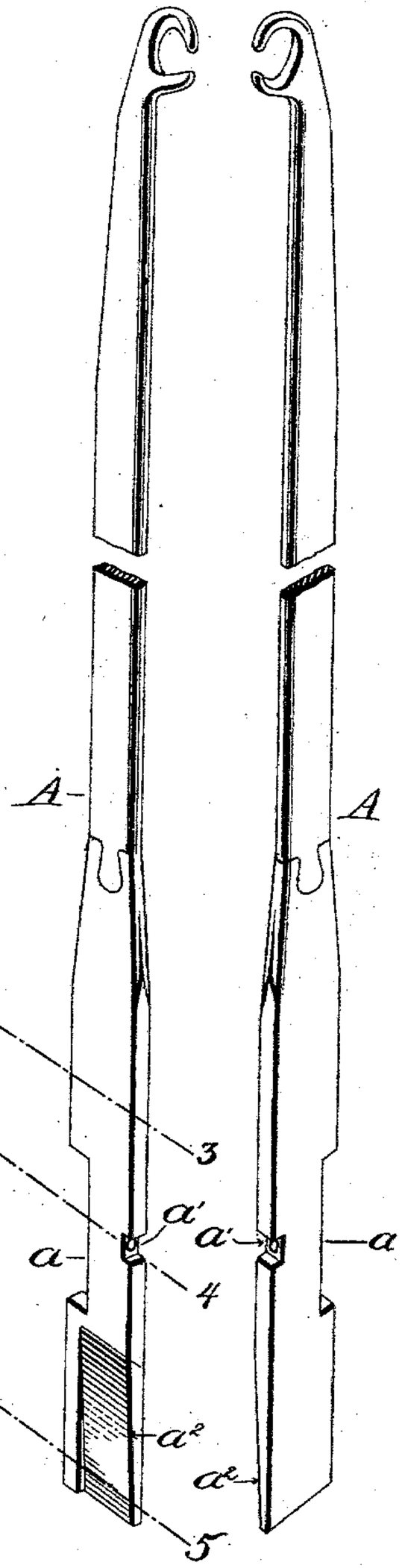


Fig. 2.

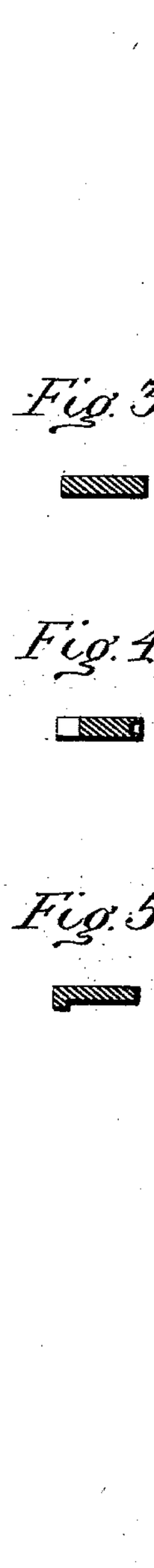
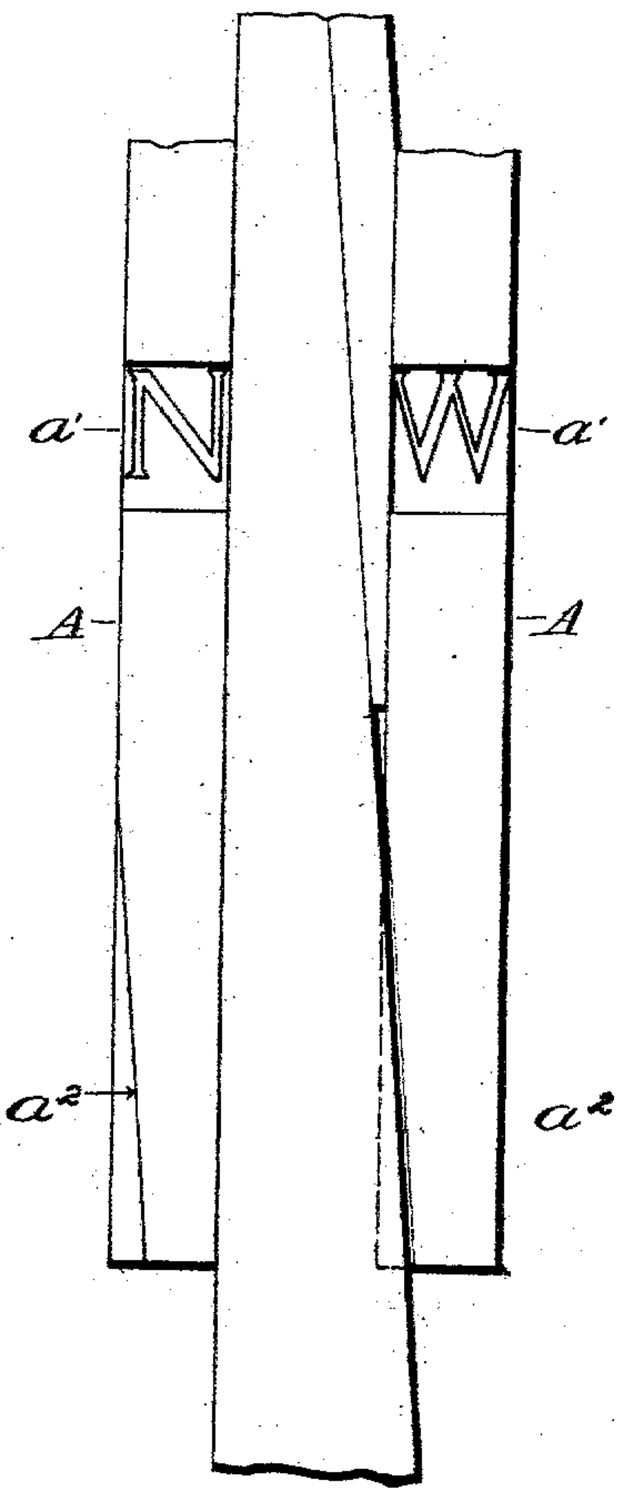


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.



WITNESSES:

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JOHN R. ROGERS, OF BROOKLYN, NEW YORK, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

MATRIX FOR LINOTYPE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 694,789, dated March 4, 1902.

Application filed November 26, 1901. Serial No. 83,767. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. ROGERS, of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Matrices for Linotype-Machines, of which the following is a specification.

My invention has reference to that class of matrices which are suspended from and arranged to travel on wires or guides to and from the point of assemblage or composition. It has reference more especially to matrices for use in machines such as represented in United States Letters Patent No. 679,481 and machines of similar organization.

The aim of the invention is to provide a matrix the lower end of which may be given suitable shape to admit of its being alined and securely locked against the mold and which at the same time will permit the employment of wedge spacers or justifiers having a wide range of expansion.

To this end it consists of a matrix having its lower end provided with the character or matrix proper and beveled or inclined on the side below this character, as hereinafter explained.

Figure 1 represents a perspective view of my matrix looking from the front and toward the beveled side. Fig. 2 is a similar view looking from the opposite side. Figs. 3, 4, and 5 are cross-sections on the correspondingly-numbered lines. Figs. 6 is a diagram illustrating the purpose of the inclined side.

A represents the matrix, having at the upper end a long slender shank or blade with a hook or eye at the top for the purpose of suspending the matrix from the wires or guides in the machine. This shank is commonly made of flexible steel or similar material. The lower end of the matrix, which is rigidly welded or otherwise attached to the upper portion, is of rectangular form in cross-section and of uniform width, except that it is provided with an alining notch a in the rear edge directly opposite the character or matrix proper, a', which is located in the forward edge.

The lower end of the matrix, beginning at a point below the character a', is beveled or cut away, as shown at a^2, in such manner as to reduce the thickness toward the lower end, or, in other words, to give the lower end the wedge form. This cutting away is preferably carried only partly across the side of the matrix, the rear edge being left of the same thickness as the body portion above, so that the lower end presents in cross-section the form shown in Fig. 5.

In using these matrices they are assembled in line side by side, as usual, with the characters arranged in the order in which they are to appear in print, and at suitable points in the line expanding-spacers or justifiers are introduced for the purpose of elongating the line subsequent to composition to the predetermined length, as usual in this class of machines. This expansion is effected by spacers having wedge-shaped members which are thrust upward through the line between the lower ends of the matrices. The body of the matrix must extend a considerable distance below the character in order to admit of its being properly clamped and locked up in the casting mechanism. This fact would prevent the justifying-wedge from being forced up into the line between the matrices a sufficient distance to tightly fill the space between the characters. By cutting away the side of the matrix at the lower end, as described above, I afford a space or clearance which permits the justifying-wedge to be driven upward through the line the required distance without binding upon or disturbing the proper position of the matrices below the characters. At the same time I leave the lower end of the matrix of full width from front to rear, which is important, considering the purposes in view. The reduced surface of the matrix is not designed to coöperate with or contact with the justifying-wedge under ordinary circumstances. In fact, the cutting away is for the purpose of preventing such contact at the lower end and permitting the two parts of the justifier to bear firmly between the matrices at a higher point.

One of the advantages attending my construction of the matrix is that it permits the body to be extended or prolonged much farther than usual below the characters or matrices proper without interfering with the use of long spacing-wedges adapted to effect the

most extreme expansion of the line demanded in practice. When the matrices are locked up in line, the lower ends of the matrices firmly supported serve as guides for the long slender wedge, so that it is prevented from springing or buckling out of shape, as it is liable to do when subjected to the end pressure of their operating devices.

It will be observed that the beveled surface extends rearward from the front edge of the matrix and terminates in a vertical rear wall or shoulder, which is in line vertically with the inner wall of the notch *a*. This shoulder assists in guiding the justifying-wedge in its vertical movement and preventing it from binding against the alining-rib of the machine which enters the notch *a*.

The position of the two justifying-wedges is clearly shown in Fig. 6, in which B represents the short wedge lying against the vertical face of the right-hand matrix and C the movable wedge lying on one side against the left-hand matrix and on the opposite side against the wedge B. It will be noted that the wedge C continues downward beyond the fixed wedge and beyond its outer face parallel with and in close proximity to the inclined surface of the matrix. The lower part of the wedge is, it will be observed, thicker than the space between the matrices at the point where the characters are located therein.

What I claim as my invention is—

1. The elongated linotype-matrix, having at one end the suspending eye or hook and at the opposite end the body portion with parallel sides and edges, with the matrix proper in one edge and with the beveled or inclined portion on one side below the character and extending rearward from the front edge a portion only of the width.

2. In a linotype-matrix, the body portion having the parallel edges and sides with the matrix *a'* in one edge, the alining notch *a* in the opposite edge and the beveled surface on one side extending from the front edge backward to aline with the inner wall of the notch *a*.

3. The combination of the two matrices having opposing vertical faces with the matrix characters therein, one of said matrices having its side face beveled or inclined vertically away from the other matrix, the fixed justifying-wedge lying against the vertical surface of the second matrix, and the long justifying-wedge having one side seated against the vertical face of the first-named matrix and its other side seated against the first-named wedge and continued downward adjacent to the beveled surface of the matrix, substantially as described and shown.

In testimony whereof I hereunto set my hand, this 22d day of November, 1901, in the presence of two attesting witnesses.

JOHN R. ROGERS.

Witnesses:

JOHN R. ANDERSON, Jr.,

WM. A. YERZLEY.