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MATRIX SUSPENDING BAR FOR LINOTYPE MACHINES.

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Fig. 1.

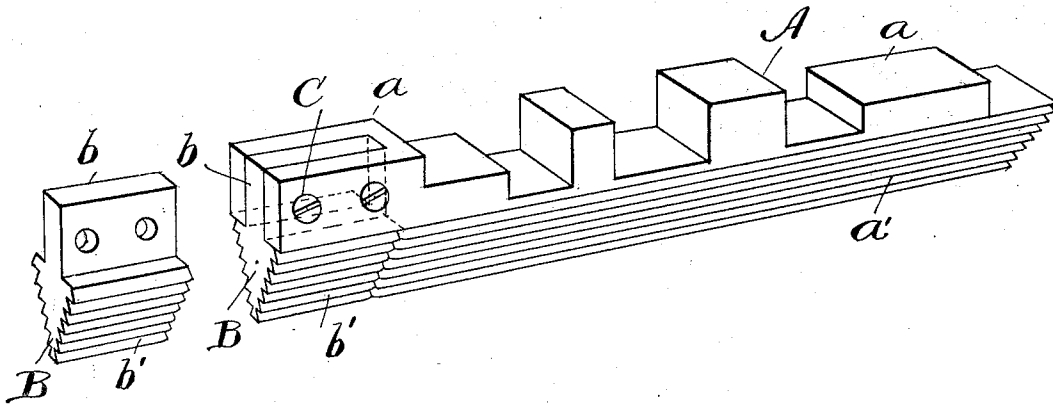


Fig. 2.

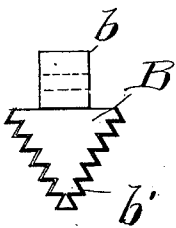


Fig. 3.

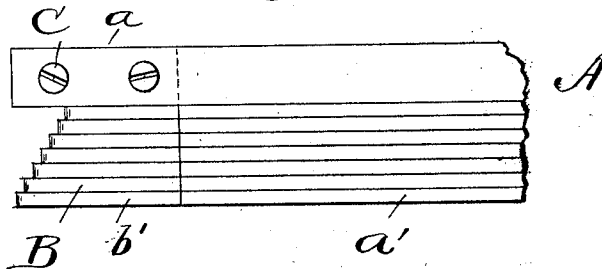


Fig. 4.

Witnesses.

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MATRIX-SUSPENDING BAR FOR LINOTYPE-MACHINES.

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To all whom it may concern:

Be it known that I, GEORGE E. LEE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Matrix-Suspending Bars for Linotype-Machines, of which the following is a full, clear, and exact description.

10 This invention comprises certain improvements in the construction of matrix suspending bars such as are to be found in the commercial linotype machines. There are two of such bars in a linotype machine, viz., the
15 second elevator bar, and the distributor box bar. These bars are formed with an approximately rectangular top portion, and with a lower portion which is V-shaped in cross section, and is longitudinally grooved from
20 end to end. At different points in the path traveled by an assembled line of matrices from a point of assemblage to the distributing mechanism at the top of the machine said line is threaded endwise, first, onto the
25 second elevator bar, and afterward, onto the distributor box bar.

In order that the matrix line shall pass onto either of these bars it is necessary that all of the matrices in the line shall be accurately alined, and that the receiving end of the bar onto which they are to be threaded shall be accurately alined with the longitudinally ribbed V-shaped channel in the top of the matrix line,—said channel being
35 formed by the alined V-shaped notches in the several matrices. It is also necessary that the ribs forming the V-shaped channels or grooves in either bar shall be properly shaped and unbroken, and shall not be
40 worn, bent, crushed or damaged in any way—otherwise the V-shaped teeth in the matrices which fit into the grooves or channels in either bar will be bent, crushed or broken as pressure is applied to the matrix
45 line to force it onto said bar. If the teeth of a matrix are crushed, bent or broken, that will prevent the matrix again being used, or will prevent or interfere with its proper distribution from the combination distributor bar. Injured, damaged or worn receiving ends of the second elevator bar prevent the lifting or raising of the matrices by the second elevator bar to the distributor box bar and easy and smooth transference
55 from one to the other.

In the commercial linotype machine very

carefully planned and constructed mechanism is provided for producing this required accurate alinement; but nevertheless it frequently happens that matrix lines, as they are being moved, in order that they may be threaded onto one or the other of these bars, instead of passing smoothly onto the bars, will strike the delicate ribs thereon. This, of course, injures the matrices, and frequently (which is more serious) it bends or upsets the ends of the delicate ribs on the bar. Moreover, the distributor box bars are frequently injured by the failure of the second elevator bar to aline itself properly with the distributor box bar, the second elevator bar plate striking the receiving end of the distributor box bar and bending, breaking, crushing and upsetting the ribs of the distributor box bar, thus preventing the transference of matrices from one bar to the other or injuring the combination teeth of the matrices by bending, spreading or breaking them. These bars are so frequently and so seriously injured in the ordinary operation of a linotype machine that the expense of providing new bars to replace the injured one is very great.

The present invention is not intended to prevent injury of these bars in the manner stated, but is designed in order that the bars may be easily repaired when injured, and thereby the expense incident to their injury greatly reduced.

The invention consists of a matrix suspending bar for use in linotype machines, such, for example, as the second elevator bar and the distributor box bar, comprising two pieces, one being a short removable section of the longitudinally grooved V-shaped part of the bar located at the receiving end of said bar. The invention, broadly defined, is such a bar as is above described. Less broadly defined, the invention includes certain peculiarities of construction intended to facilitate the removal and replacement of this receiving end section, and to facilitate also the passage of the matrix from this section onto the main portion of the V-shaped and longitudinally grooved part of said bar; and to permit the matrix to be moved back and forth freely on the bar whenever necessary; all of which is set forth clearly in the claims.

In the drawing, Figure 1 is a perspective view of a second elevator bar constructed in accordance with my invention. Fig. 2 is

a perspective view of the removable receiving-end section of said bar. Fig. 3 is a side elevation of the distributor box bar at the receiving end thereof. Fig. 4 is an end view of the removable end section of said bar looking at the same from the right side thereof, as shown in Fig. 3.

Referring to the parts by letters, A represents the bar which has a top member *a* and a longitudinally grooved V-shaped lower portion *a'*. B represents a removable part of said bar. Its lower portion is V-shaped and longitudinally grooved, and corresponds in shape and size with the V-shaped part *a'*. This section B has also a portion *b* by means of which it may be accurately secured in proper relation to the main part of the bar. In the particular construction shown this portion *b* is a tongue which fits nicely in a groove extending inward from the overhanging top part *a* of the bar A. These two interlocking parts are to be nicely fitted in each other so that when the removable part B is in the position shown its longitudinal ribs and grooves are accurately aligned with the ribs and grooves on the part *a'*. Screws C may be employed to secure this removable part B in the position shown.

The line of matrices as it is threaded onto a bar so constructed, will pass, first, onto the removable section B, and thence onto the section A. In order to facilitate the passage of the matrices from one section to the other, as stated, without danger that they shall catch on the receiving ends of the ribs of the section *a'*, the grooves and ribs on said section are drawn inward,—that is, narrowed transversely very slightly, but sufficient to secure the stated results. The ends of the grooves and ribs of the removable section B which are adjacent to those of section A are also narrowed transversely very slightly so that they will not interfere with the free passage of the matrices in the opposite direction to which they usually travel, or damage or bend the V-shaped combination teeth of the matrices, whenever it becomes necessary to so move them, which frequently occurs.

If one of the bars constructed as stated is injured by the passage of a line of matrices thereon, it is the small removable section B which suffers this injury. To repair the bar it is only necessary to take out this piece and substitute another, which leaves

the main portion of this very expensive bar in useful condition for a long time and until it actually wears out from use.

Having described my invention, I claim:

1. A matrix suspending bar for a linotype machine, comprising one section which has a top portion and a longitudinally grooved V-shaped lower portion, and a removable and replaceable end section which has a V-shaped and longitudinally grooved lower portion which corresponds in shape with the longitudinally grooved V-shaped part of the main body of the bar, the V-shaped portion of the main section of the bar being slightly narrowed at the receiving end thereof adjacent to its juncture with the removable section, and the V-shaped portion of the delivering end of the removable and replaceable end section being also slightly narrowed at the end adjacent to its juncture with the main section of the bar.

2. A matrix suspending bar for linotype machines comprising one section having a V-shaped and longitudinally grooved lower portion and a top portion which extends beyond and overhangs the receiving end of said V-shaped portion, combined with a removable section having a longitudinally grooved V-shaped portion which corresponds in shape and size with the V-shaped part of the main bar, said removable section having an attaching piece by means of which it may be fixed to the upper overhanging part of the main bar.

3. A matrix suspending bar for linotype machines comprising one section having a V-shaped and longitudinally grooved lower portion and a top portion which extends beyond and overhangs the receiving end of said V-shaped portion, combined with a removable section having a longitudinally grooved V-shaped portion which corresponds in shape and size with the V-shaped part of the main bar, said removable section having a tongue and the top overhanging part of the main section having a groove to which said tongue is fitted, and means for securing the tongue to said grooved part of the main bar.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

GEORGE E. LEE.

Witnesses:

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