J. R. ROGERS.

LINE CASTING MACHINE.

APPLICATION FILED JUNE 3, 1910.

1,067,552. Patented July 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

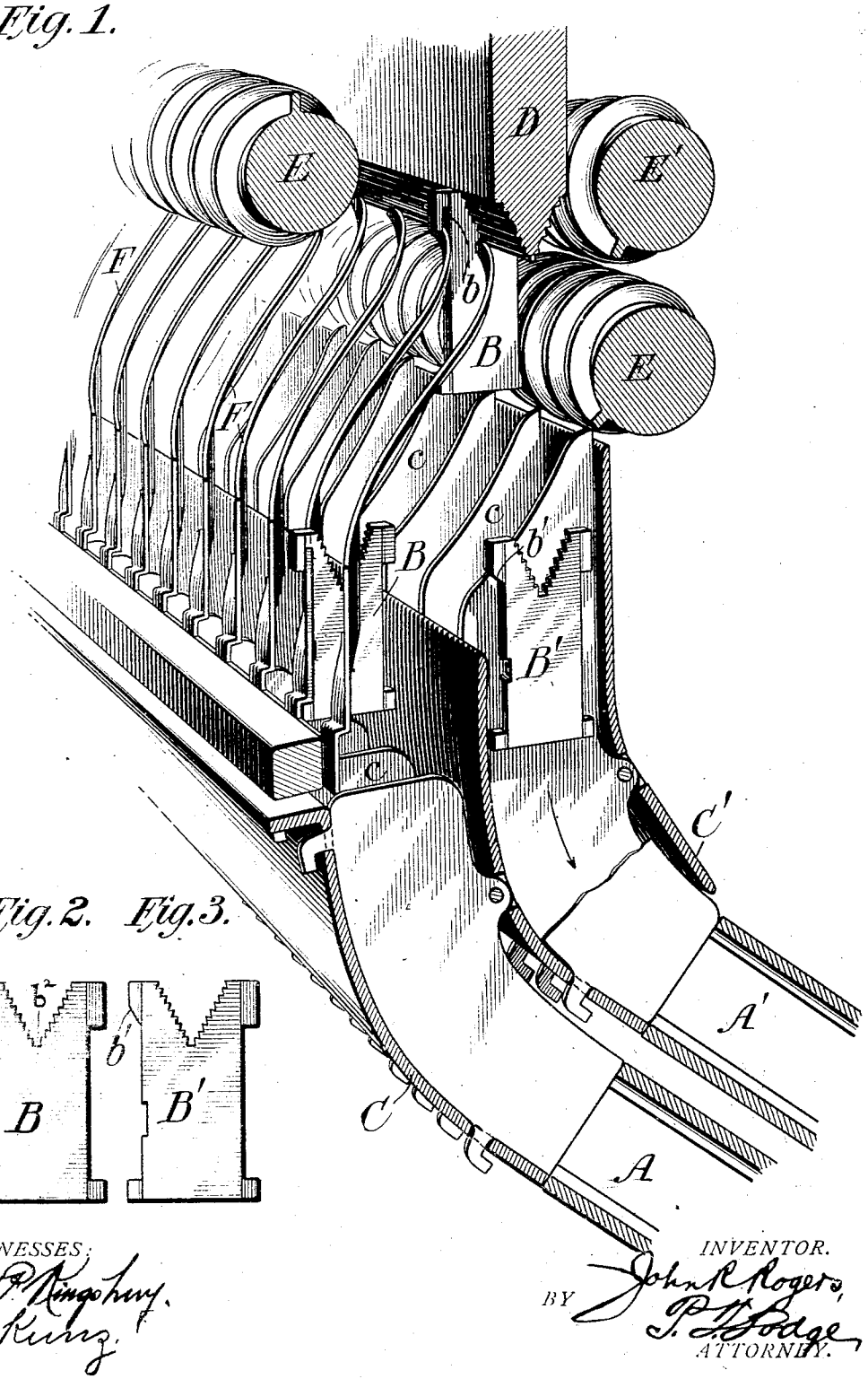


Fig. 2. *Fig. 3.*

WITNESSES:

Geo. A. Kingsbury.

A. Kunz.

INVENTOR.

BY John R. Rogers,

P. L. Hodge

ATTORNEY.

J. R. ROGERS.

LINE CASTING MACHINE.

APPLICATION FILED JUNE 3, 1910.

1,067,552.

Patented July 15, 1913.

2 SHEETS—SHEET 2.

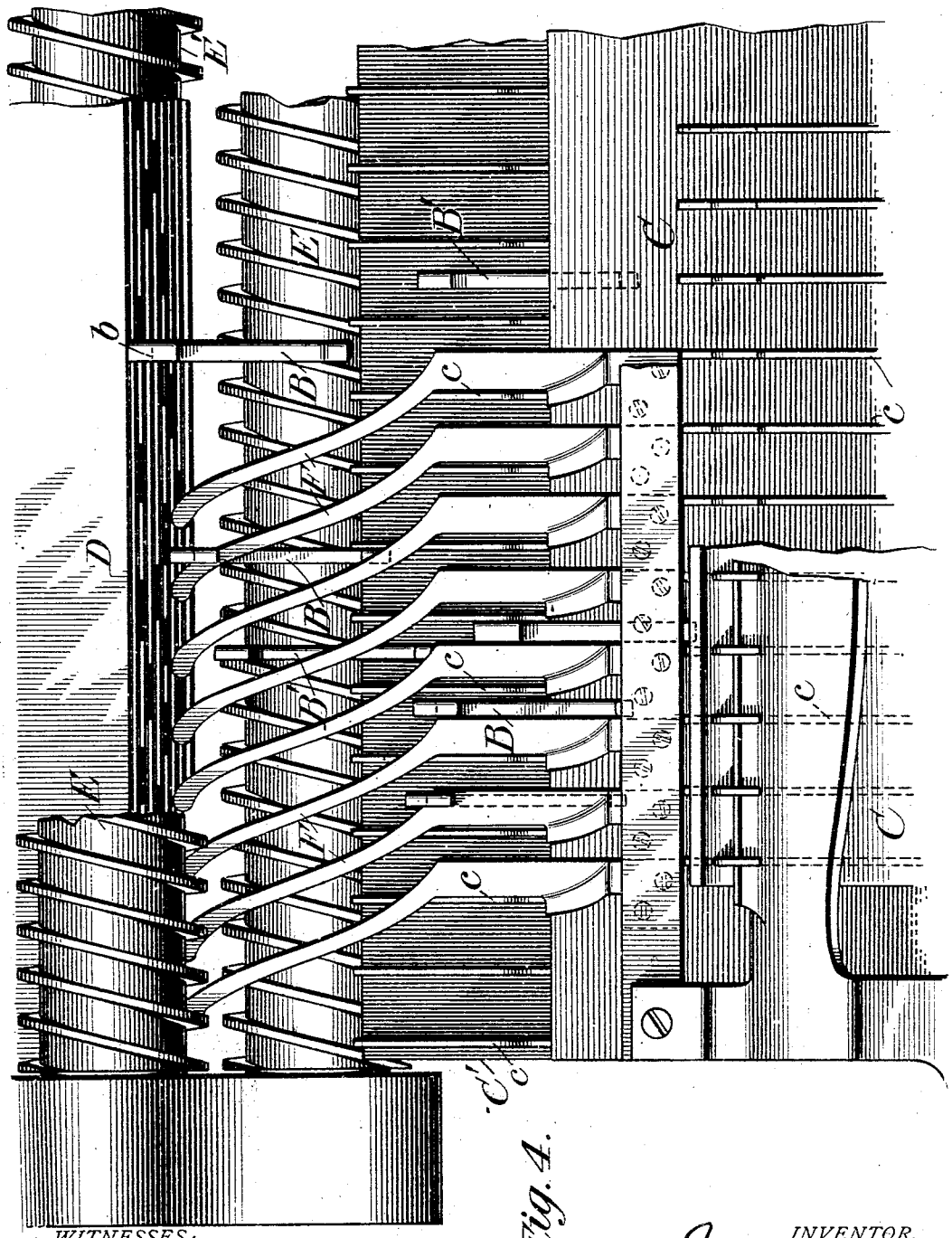


Fig. 4.

WITNESSES:

Geo. P. Longshaw.

A. Kunz.

INVENTOR.

BY John R. Rogers,

P. Hodge

ATTORNEY.

UNITED STATES PATENT OFFICE.

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

BEST AVAILABLE COPY

LINE-CASTING MACHINE.

1,067,552. Specification of Letters Patent. Patented July 15, 1913.

Application filed June 3, 1910. Serial No. 564,816.

To all whom it may concern:

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

My invention has reference to line casting machines wherein circulating matrices representing the individual letters or characters stored in the magazine are released therefrom in the order in which their characters are to appear in print, assembled temporarily in line, and the composed lines presented successively to close the front of a slotted mold in order to form type characters in relief on the face of a type metal slug cast therein, the composed line being thereafter lifted to a distributing mechanism by which the matrices are returned to the magazine channels from which they were released.

The invention has special reference to that class of machines in which two magazines containing distinct sets or fonts of matrices, either of which may be called into use at will, are employed.

The object of the invention is to provide means whereby matrices from the two magazines, whether assembled in one line or in distinct lines, may be returned to the appropriate magazine by means of a single distributer.

To this end it consists in combining with the distributer and with matrices of two fonts, those of each font having a distinctive form, guides adapted to engage the matrices of one font falling from the distributer and deflect them to one of the magazines, while those of the other font are permitted to fall without interruption thereto.

The distributing mechanism, the matrices and the magazines may be of any suitable construction, but I prefer to employ channeled magazines such as are commonly used in commercial Mergenthaler machines of the present day and represented in Letters Patent of the United States No. 436,532, in connection with a Mergenthaler distributer of the character shown in Letters Patent No. 347,629, and I have shown such parts, familiar to all those skilled in the art, in the accompanying drawings.

Figure 1 is a perspective view showing my improved mechanism in vertical cross section. Figs. 2 and 3 are side views of matrices belonging to the two fonts. Fig. 4 is a rear elevation of the distributer bar and guides.

Referring to the drawings, A and A^1 represent two inclined magazines, one overlying the other and each composed of parallel top and bottom plates having their inner faces grooved or channeled longitudinally to receive and guide the upper and lower edges of the matrices, B and B^1. The respective magazines are joined at their upper ends to the throats or entrances C and C^1, which serve to receive the matrices from the distributer and direct them downward into the magazine channels, each of these throats or entrances being curved until it assumes a vertical position at the upper end, and provided with vertical partition plates *c* between which the matrices are guided and by which they are prevented from twisting or turning endwise.

D represents a stationary distributer bar lying horizontally over the throat or entrance to the upper magazine A^1. It is of the ordinary Mergenthaler construction, of V form at the lower edge and with longitudinal permuted teeth to engage and sustain the matrices as they are carried along the same.

E, E^1 and E^2 are horizontal screws lying adjacent to the distributer, in position to engage the ears or edges of the matrices suspended therefrom and carry them individually along the bar until they arrive at the points where they are released and permitted to descend toward the magazines. The matrices have in their upper end V shaped notches with internal teeth adapted to engage the teeth of the distributer bar in order to suspend the matrices therefrom, the teeth being permuted as usual, so that each matrix is held in suspension until it arrives over the corresponding channel of a magazine. The distributer bar is arranged directly over the entrance C^1 to the upper magazine A^1, so that the matrices of the upper magazine released by the bar are permitted to fall vertically into the throat C^1, whence they pass into the magazine. The throat or entrance C of the lower magazine A stands behind and below the entrance of the other magazine. In order, therefore, that the matrices for the lower magazine

BEST AVAILABLE COPY

released from the distributer bar may be deflected or directed rearward into the throat of the lower magazine, I provide stationary twisted rails or guides, F, such as shown in Figs. 1 and 4, and I provide each of the matrices B belonging in the lower magazine with a notch *b* at the upper end in the under side of one of its protruding ears, the ear being thus given a hook form.

The guides F are so shaped and they are arranged in such position, that the notched matrices falling from the bar will engage over or hook over one of these guides, along which it will descend by gravity. The lower end of each guide is of such form and is so located, that a matrix sliding from its lower end will pass directly into the appropriate channel in the throat and thence to the corresponding channel in the magazine A. It will be observed that the guides engage and deflect from their course only those matrices which are provided with notches and which belong to the lower magazine A. The matrices are constructed as usual with the V shaped notch in the upper end, and the guides F are of such form and spaced at such distance apart that while the upper edge of one engages under the ear of and sustains a descending matrix, the under edge of the next guide will enter the central notch b^2 in the matrix as shown in Fig. 1, and assist in so guiding the matrix as to prevent it from turning out of position and direct it properly into the magazine throat or entrance.

In order to prevent the possibility of matrices which belong in the upper magazine from engaging or being retarded by the guides, I prefer to bevel or incline their ears on the rear side as shown at b^1, Fig. 3.

The matrices belonging in the two sets or fonts have like distributing teeth, so that corresponding characters belonging to the two fonts will be released from the distributer bar at one and the same point. For example, the matrices of the upper magazine, bearing the letter A, will be released from the distributer bar at the same point as matrices of the lower magazine bearing the same character or running in the corresponding channel of the lower magazine. Being thus released, they would all pass to the upper magazine but for their difference in form and the presence of the guides by which those of one form only are diverted from their natural course of descent.

The essence of the invention lies in combining with a distributer adapted to deliver matrices of two fonts at the same points, stationary guides or rails adapted to direct the matrices of the one font away from the path which they would naturally follow, in order to separate them from those of the other font.

It will be manifest to the skilled mechanic that the guides and the notches in the matrices may be widely modified in detail without departing from the principle of the invention.

Having thus described my invention, I claim and desire to secure by Letters Patent,—

1. In a line casting machine, the combination of a single distributer, a magazine entrance in position to receive matrices falling directly from the distributer, a second magazine having its entrance out of line with that of the first, and stationary inclined guides arranged to receive matrices directly from the distributer and to deflect and guide them to the entrance of the second magazine.

2. In a line casting machine, the combination of a single distributer, matrices of variant forms adapted for delivery from the distributer at the same points, a magazine in position to receive matrices of one form falling directly from the distributer, stationary guides adapted to receive matrices of the other form directly from the distributer and deflect and guide them from their natural path, and a second magazine having its entrance out of line with that of the first and arranged to receive the matrices from said guides.

3. In a line casting machine, the combination of the distributer D, the two magazines A and A^1 having the receiving ends of their throats or entrances arranged one behind the other, and the stationary inclined guides F leading to one of the entrances, said parts arranged substantially as described.

4. In combination with the distributer D, the throats or entrances for two magazines, the said throats or entrances being arranged with their receiving ends one behind the other, the stationary guides F leading to one of the entrances, and the matrices B and B^1, the former arranged to engage the said guides when falling from the distributer, and the latter arranged to pass the guides without engagement.

5. In a line casting machine, a distributer D in combination with matrices B, having the notched ears *b*, the matrices B^1 having beveled ears b^1, and the deflecting guides F, having their upper ends in position to engage the notches of the matrices B.

6. In a line casting machine, the distributer D arranged to release the matrices from its lower edge, and a magazine out of line therewith, in combination with stationary guides F adapted to receive the matrices directly from the distributer and deflect them edgewise, in such manner that they carry the matrices away from their natural course of descent and into the magazine.

7. In combination with the distributer D, matrices B having a central notch in the

BEST AVAILABLE COPY

upper end and a toothed ear on one edge, and stationary guides F formed and arranged substantially as described, so that one guide may engage the ear of a descending matrix and sustain the same while the adjacent guide enters the central notch of the matrix to assist in guiding the same.

8. The combination of a distributer and matrices co-acting therewith, with a magazine having the receiving end of its entrance out of line with the distributer and supports which receive the matrices directly from the distributer and positively guide them to the magazine.

9. The combination of a single distributer and two series of matrices co-acting therewith, with two magazines, having their entrances one in line with the distributer and the other out of line therewith, and guiding supports arranged between the distributer and the second magazine, whereby one series of matrices is permitted to pass directly into the first magazine and the other series of matrices is engaged by the supports and positively guided thereby into the second magazine.

In testimony whereof I hereunto set my hand this second day of June, 1910, in the presence of two attesting witnesses.

JOHN R. ROGERS.

Witnesses:
DAVID S. KENNEDY,
LUCY E. SMITH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."