No. 848,349. PATENTED MAR. 26, 1907.

R. G. CLARK.

LINOTYPE MACHINE.

APPLICATION FILED SEPT. 7, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

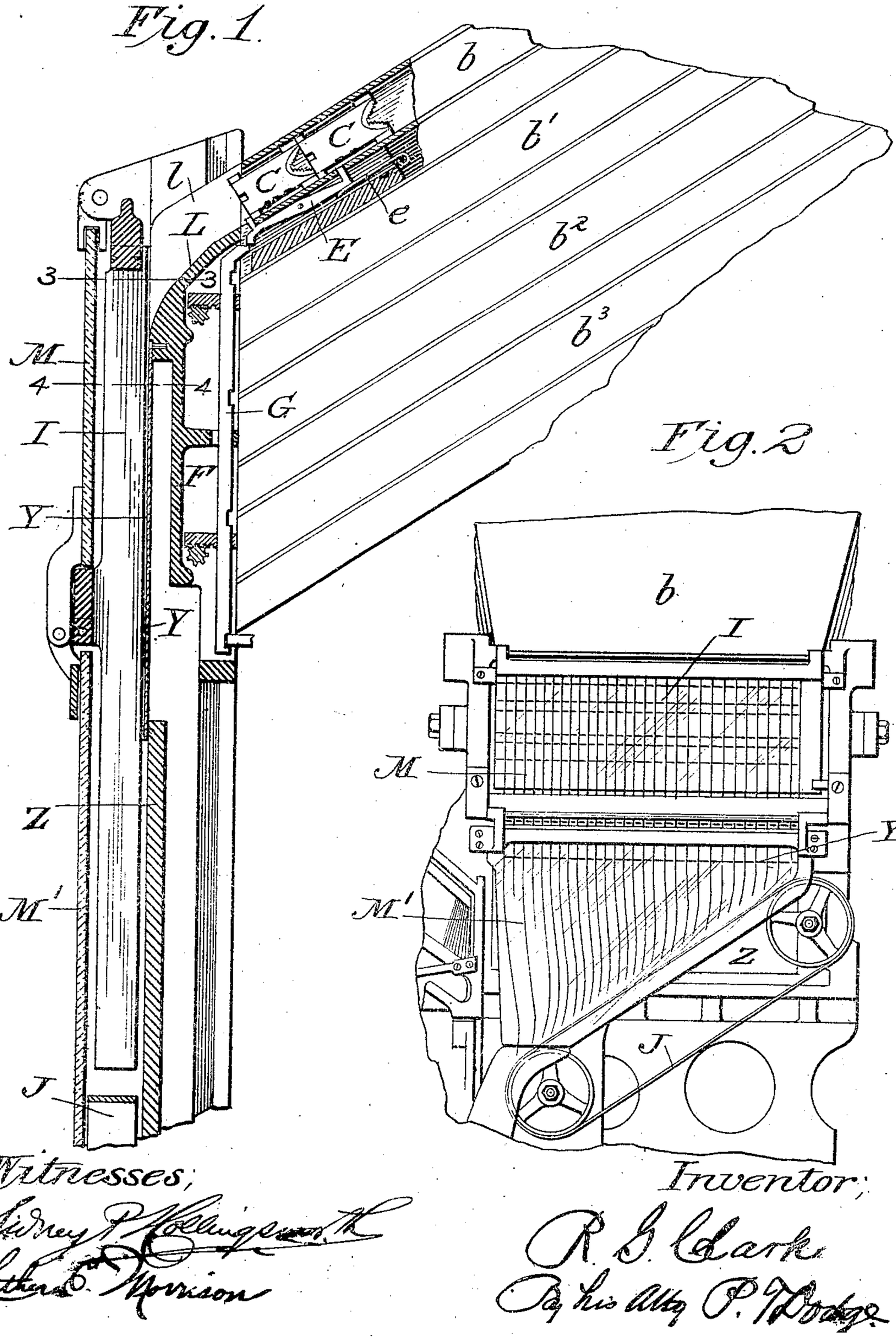

Fig. 2.

Witnesses;

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2 SHEETS—SHEET 2.

FIG. 3.
ON LINE 3–3

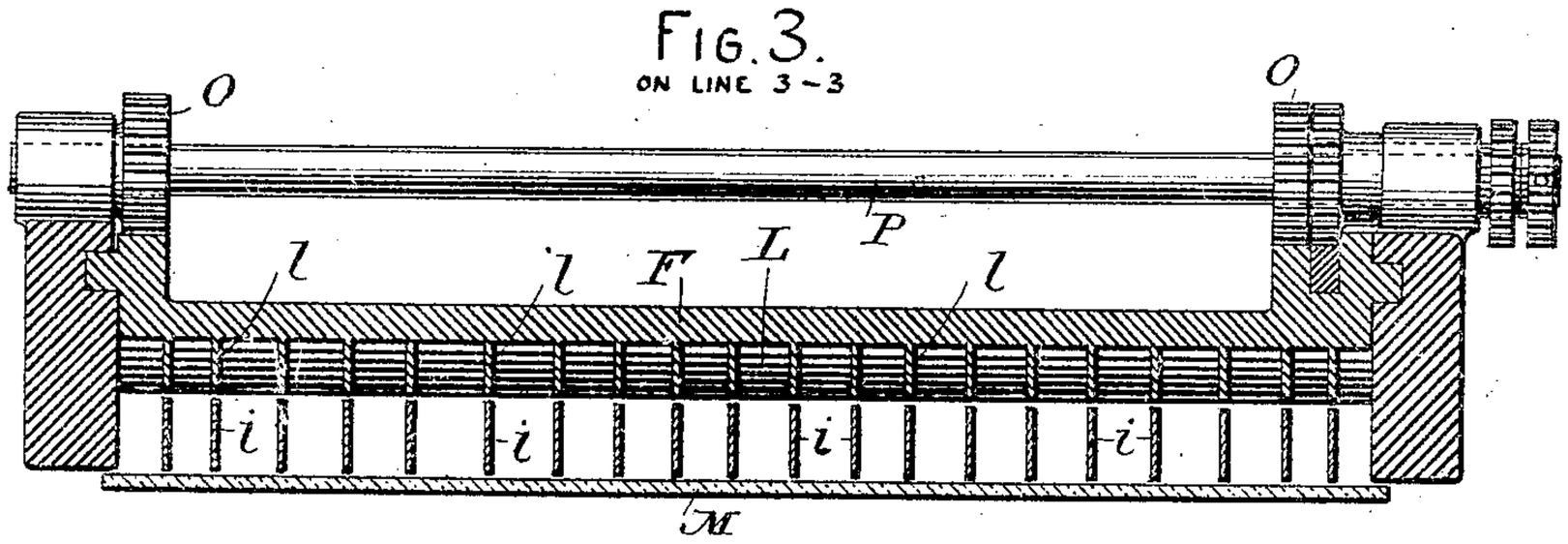


FIG. 4.
ON LINE 4–4

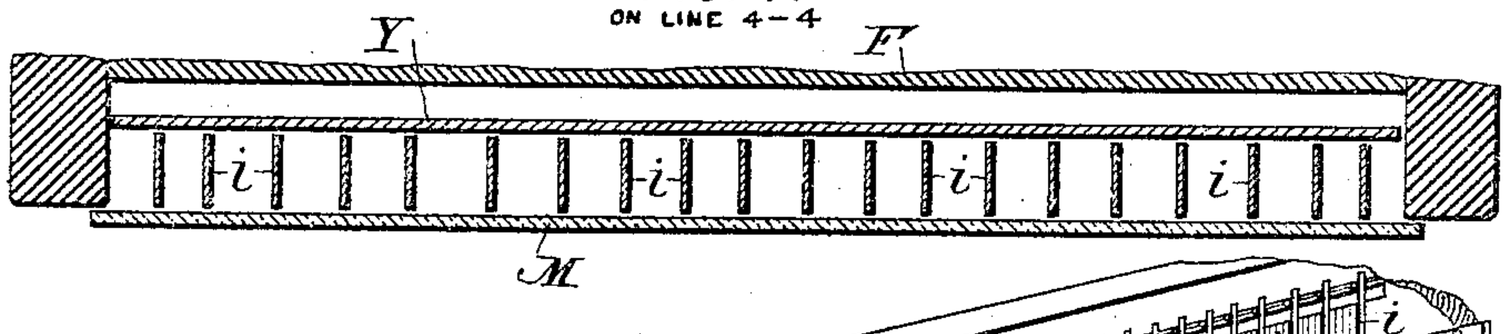
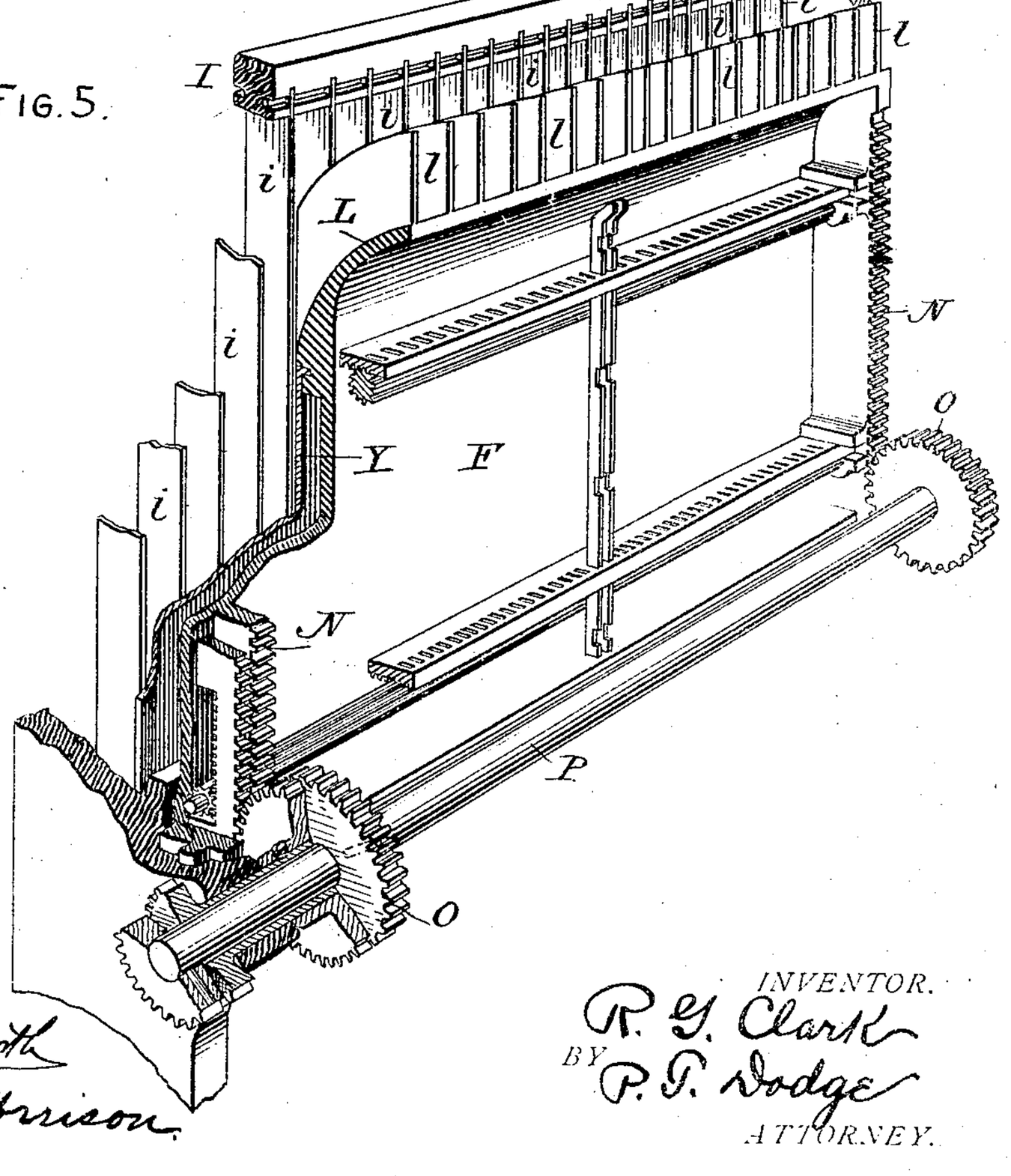


FIG. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT G. CLARK, OF BROOKLYN, NEW YORK, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

LINOTYPE-MACHINE.

No. 848,349. Specification of Letters Patent. Patented March 26, 1907.

Application filed September 7, 1906. Serial No. 333,625.

To all whom it may concern:

Be it known that I, ROBERT G. CLARK, of the borough of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

My invention relates to that class of linotype-machines wherein a series of superposed inclined magazines is arranged to deliver matrices from their lower end through vertical raceways or channels to a common assembling mechanism, as shown, for example, in the application of John R. Rogers for United States Letters Patent, Serial No. 301,665, filed February 17, 1906. In this class of machines each magazine is provided with escapement devices to deliver the matrices therefrom, and the escapement-actuating devices are adjustable vertically, so that they may be connected with the escapements of one magazine or another as demanded. This necessitates the use of a vertically-adjustable bridge or shelf overlying the escapement-actuating devices to carry the matrices across the intervening space from the ends of the matrices to the vertical channels. In the original machine, above referred to, it was also necessary to use between the vertically-movable shelf and the channels an intermediate stationary plate having a series of openings and inclined surfaces, the latter coöperating with the shelf or bridge to carry the matrices therefrom into the vertical channels.

The aim of the present invention is to do away with this stationary plate and its openings and to this end consists in the combination, with the vertically-movable bridge or shelf, of an upright plate movable vertically therewith, this plate closing the rear side of the vertical channels below the point at which the matrices enter the same, so that it aids in guiding the matrices downward to the assembler.

In the drawings, Figure 1 is a vertical section through the lower end of the series of magazines, the channeled raceway or face-plate, and the intervening parts constructed in accordance with my invention. Fig. 2 is a front elevation of the principal parts shown in the preceding figure. Figs. 3 and 4 are horizontal cross-sections on the lines 3 3 and 4 4, Fig. 1, respectively. Fig. 5 is a perspective view looking from the rear and illustrating the movable plate by which the rear sides of the matrix-channels are closed.

Referring to the drawings, *b b′ b²*, &c., represent a series of inclined normally stationary magazines channeled longitudinally and arranged to guide the contained matrices C, which are delivered one at a time from their lower ends, the release being effected by the vibrating escapement-levers E, actuated by springs *e*, and vertical slides G.

The matrices are delivered over a vertically-adjustable bridge or shelf L into the stationary vertically-channeled face-plate or raceway I, by which they are in turn delivered to the usual underlying assembling-belt J, which in turn delivers them to the line in course of composition. The front of the face-plate or raceway is closed, as usual, by the upright plates M M′, of glass or equivalent material. The shelf or bridge L is movable upward and downward with the frame F, the latter having escapement-actuating slides supported therein.

The frame F, carrying the shelf L and the plate Y, is arranged to slide vertically in the main frame and is provided at opposite sides, as shown in Fig. 5, with the rack-bars N, engaging pinions O on a cross-shaft P, mounted in the main frame, the turning of this shaft serving to raise and lower the shelf and the plate. These parts and the other parts shown in Fig. 5, except the plate Y, are similar to those in the Rogers application above referred to.

The upper side of the shelf L is provided with a series of vertical partition-plates *l*, registering with the fixed vertical partitions *i* in the face-plate I and extending thence backward to the ends of the magazines and serving to maintain the matrices on edge while passing forward from the magazine over the bridge L into the face-plate channels.

The foregoing parts are all constructed and arranged to operate in essentially the same manner as the parts bearing like letters in the Rogers application above named. In the original Rogers construction the face-plate I was set forward some distance away from the front edge of the bridge or shelf L, and the intervening space was occupied by the stationary plate provided with a series of openings and supporting-surfaces already referred

to. In carrying my invention into effect I dispense with this intervening plate and locate the rear side of the face-plate I immediately in front of the shelf L, and to the latter or to its vertically-movable supporting-frame F, I connect a vertical plate Y, extending downward and forming a rear wall or face for the channels of the face-plate I. The lower edge of this plate overlaps a stationary vertical plate Z, forming part of the main frame. It will be observed that the upper edge of this plate Y forms a downward continuation of the upper surface of the bridge L and that as the bridge is lowered the plate is also lowered. In consequence of this fact the matrices may pass freely from one of the magazines over the adjacent bridge into the face-plate I. The matrices are guided in their descent through the unobstructed channels between the plates M M′ at the front and the plate Y at the back, so that there is no danger of their being impeded in their course. This is of great importance when the machine is rapidly operated, as the slightest retardation of any matrix will cause a transposition of characters in the composed line.

The operation of the parts is as follows: When matrices are to be delivered from a particular magazine, the frame F is moved vertically until the bridge L is presented in line with the lower side of the magazine, after which the escapement-actuating rods G are connected with the escapements of said magazines. When the escapement is actuated, a matrix will pass through the magazine over the bridge L into the raceway and will be guided downward therein between the plate Y and the usual front plate Z.

Having thus described my invention, what I claim is—

1. In combination, superposed magazines, an upright raceway having channels open on the side nearest to the magazines to admit matrices therefrom, an intermediate vertically-movable shelf or bridge to carry the matrices from the magazine to the raceway, and a vertically-movable plate below the shelf to confine the descending matrices within the raceway.

2. In a linotype-machine, and in combination with superposed magazines *b*, *b′*, &c., a face-plate or raceway I having channels open at the inner side to receive the matrices, an intermediate vertically-movable bridge L, and a vertical plate Y attached thereto.

3. In a linotype-machine and in combination, the superposed magaziñes and their escapements, the vertically-movable frame containing the escapement-actuating bars G, and provided with a shelf L and plate Y, the channeled raceway I, the assembler-belt J, and the fixed plate Z; whereby the matrices may be delivered from either magazine at will through a continuous channel to the assembler-belt.

4. In a linotype-machine, a raceway having fixed vertical channels adapted to admit matrices at different points in their height, in combination with a vertically-movable plate Y; whereby the channels may be closed and the matrices guided below their points of admission.

5. In a linotype-machine, the fixed superposed magazines, the vertically-channeled face-plate containing the vertical partitions *i* and closed at the front, in combination with the intermediate vertically-movable bridge L, having partitions *l* thereon, and the vertical plate Y movable with the bridge; whereby smooth undisturbed passages are provided for guiding the matrices from the respective magazines to the assembling mechanism.

In testimony whereof I hereunto set my hand, this 20th day of August, 1906, in the presence of two attesting witnesses.

ROBERT G. CLARK.

Witnesses:
J. R. Rogers,
E. C. Moriarty.