

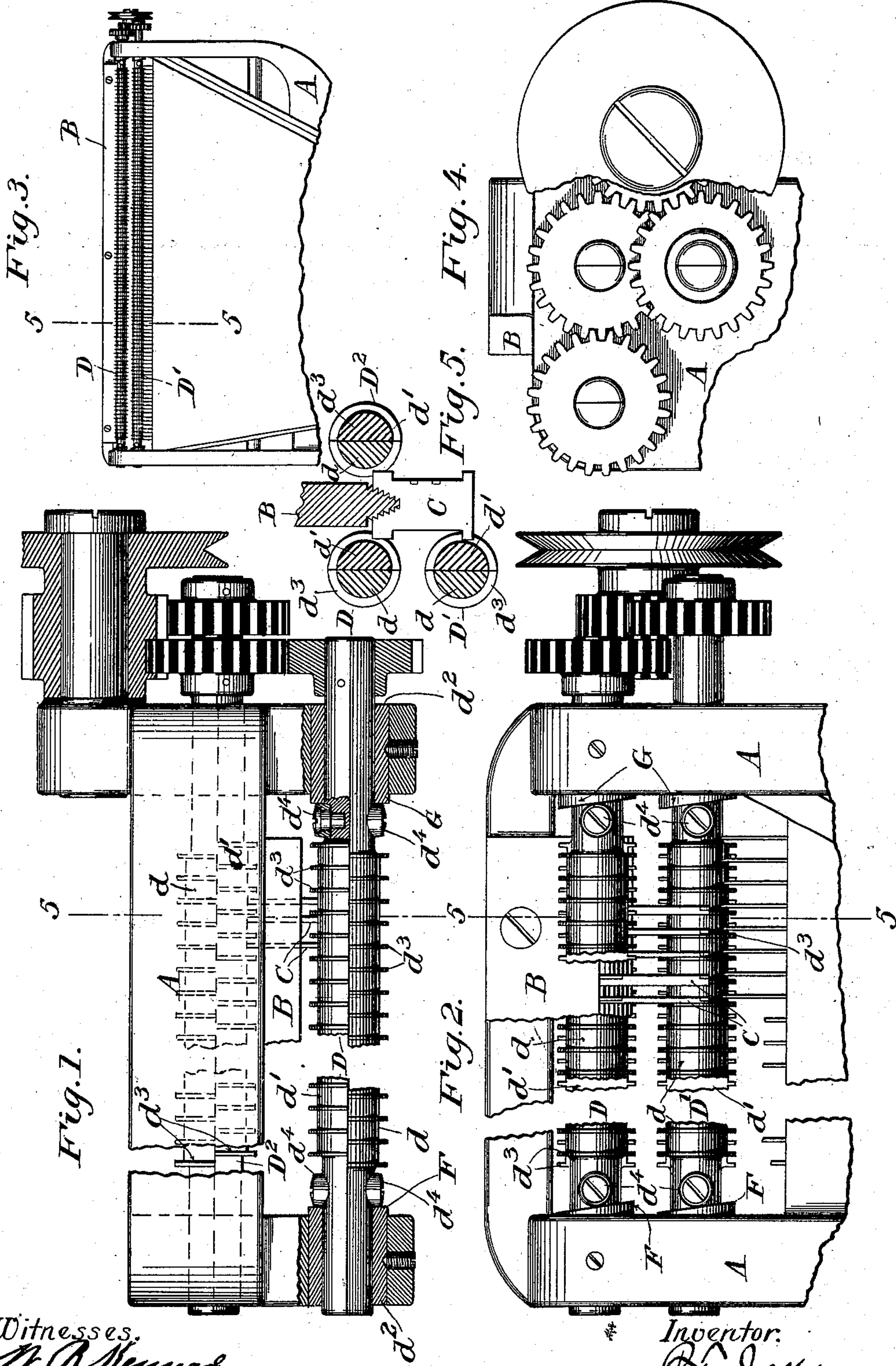
No. 702,782.

Patented June 17, 1902.

P. T. DODGE.  
LINOTYPE MACHINE.

(Application filed Feb. 17, 1902.)

(No Model.)



Witnesses.  
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# UNITED STATES PATENT OFFICE.

PHILIP T. DODGE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO  
MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

## LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 702,782, dated June 17, 1902.

Application filed February 17, 1902. Serial No. 94,457. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP T. DODGE, of Washington, District of Columbia, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

This invention has reference to distributing mechanism wherein the matrices, notched and toothed in the upper end, are suspended by their teeth from the lower edge of a horizontal toothed distributor-bar having its longitudinal teeth grouped with reference to those on the matrices in such manner that each matrix is suspended while traveling along the bar until it arrives at the point where it is to fall into the magazine below, as fully explained in the patent to Mergenthaler, No. 347,629. In practice it has been customary to carry the matrices along this bar by means of parallel feed-screws, represented, for example, in Patent No. 436,531. These screws turning continuously impart a continuous movement to the matrices without dwell or pause at the points of release, and owing to the inclination of their threads they engage the matrices only at points, so that they have a tendency to impart a swinging or vibrating movement to the matrices.

The aim of my invention is to provide a means whereby a series of matrices may be moved along the distributor-bar intermittently, with a slight pause or dwell when the matrices are at the points of delivery, so that there may be no danger of their being carried too far.

To this end the invention consists, essentially, in a carrier having a series of transverse teeth to engage the matrices, the carrier having a turning or rolling motion by which its teeth are thrown into and out of position to engage the matrices and a longitudinal motion by which its teeth are caused to advance the matrices when in engagement therewith.

In the preferred form the carrier consists of two semicylindrical bars or members laid together to form a cylinder mounted to turn about a common axis in order to bring their teeth alternately into engaging positions and arranged to reciprocate in reverse directions

that one may advance the matrices while the other is retreating.

In the accompanying drawings, Figure 1 is a top plan view of a distributor having my improvement incorporated therein. Fig. 2 is a side elevation of the same. Fig. 3 is a view, on a smaller scale, showing the upper end of the magazine and the edges of the distributor. Fig. 4 is an end view of the parts shown in Figs. 1 and 2. Fig. 5 is a cross-section on the correspondingly-numbered line of Figs. 1, 2, and 3.

Referring to the drawings, A represents the stationary main frame; B, the fixed distributor-bar secured thereto, its lower edge, of V form, having longitudinal groups of short teeth, as usual.

C C represent the matrices, having their upper ends notched and toothed to engage the teeth of the bar, as usual, the teeth of matrices bearing different characters being variously arranged that they may remain in engagement with the bar until they arrive at their respective delivery-points and there be released.

D, D', and D<sup>2</sup> represent three of my feed devices lying parallel with the distributor-bar, the two upper feeders designed to engage the upper corners of the matrices, while the third engages one of the lower corners. Each of these feeders consists of two transversely-ribbed semicylindrical parts  $d$  and  $d'$ , having their flat sides laid together, so that they constitute jointly a cylinder. Their ends form jointly round journals, which are seated in bearings  $d^2$  in the frame, so that the device as a whole may revolve freely therein after the manner of a shaft and also slide endwise to a limited extent. The ribs  $d^3$  lie, preferably, at right angles to the axis of the feeder at uniform distances apart, so that as the feeder is rotated the teeth of first one member and then the other will be brought adjacent to the distributor-bar and into position to engage the matrices depending therefrom.

Each of the members  $d$  and  $d'$  is provided at its opposite ends with rollers  $d^4$ , which ride against fixed encircling cams F and G on the main frame. These cams are so formed and arranged that as the feeder revolves the cams



act to reciprocate its two ribbed members endwise. The member which for the time being lies next to the distributor-bar and in position to engage the matrices is moved to the right in the direction in which the matrices are required to travel, while the companion part, which is for the time being on the outer side, is moved rearward to the left. As the active member completes its forward travel its continued rotation causes it to disengage from the matrices. The rotation immediately brings the second member, which has then moved rearward, into engagement with the matrices, and this second member is in turn advanced endwise like the first, so that it imparts a second forward impulse to the matrices.

It will be observed that the two parts of the feeder are rotated alternately into engagement with the matrices, that each is moved forward while in engagement, and that the other is in the meantime moved rearward.

The three feeders are constructed and operated in the same manner, and acting jointly they carry the matrices forward along the bar positively step by step, with a slight pause or dwell at the end of each forward impulse. At the time of this pause the matrices are one or more of them at points where they disengage from the distributor-bar preparatory to entering the magazine, and the cessation of their advance affords them ample time in which to fall clear of the bar and the feeders into the channel below.

It will be observed that the essence of my invention resides in the employment of toothed or ribbed feeders adapted to engage a series of matrices and mounted to engage and disengage them by a turning or rocking motion and to effect their advance by a longitudinal motion.

In the drawings I have shown the several carriers as connected by pinions on their ends to a driving-pulley in essentially the same manner that the carrier-screws of the Mergenthaler machines are driven; but this feature constitutes no part of my invention.

Having described my invention, what I claim is—

1. The distributor-bar, in combination with an adjacent toothed feed-bar and means for

imparting rotary and reciprocating movements to said bar.

2. In combination with the distributor-bar, a device for feeding the matrices along said bar, consisting of two semicylindrical transversely-toothed members, and means for rotating them and reciprocating them in reverse directions, whereby they are caused to engage and advance the matrices.

3. In a distributing mechanism, a feed device consisting of a bar or shaft extending lengthwise of the mechanism and transversely toothed on one side, means for rotating the bar to throw its teeth into and out of engagement with the matrices, and means for reciprocating the bar endwise that it may advance the matrices.

4. In a distributor, two complementary semicylindrical members, transversely toothed, in combination with means for rotating them and means for reciprocating them in reverse directions, whereby they are caused alternately to engage and advance the matrices.

5. In a distributing mechanism, a transversely-toothed rotating member, in combination with cams to cause longitudinal reciprocation of said member.

6. In a distributing mechanism, a longitudinal distributor, in combination with a plurality of parallel shafts transversely toothed, and means for rotating them and moving them endwise in unison.

7. Two semicylindrical transversely-toothed bars, mounted to turn about a common axis, in combination with rollers thereon and cams coöperating with the rollers to reciprocate the bars endwise in reverse directions.

8. In a distributing mechanism, a transversely-toothed bar, mounted to reciprocate endwise and to turn transversely; whereby it is adapted to engage and disengage the matrices by a rolling motion and to advance them by a longitudinal motion.

In testimony whereof I hereunto set my hand, this 8th day of February, 1902, in the presence of two attesting witnesses.

PHILIP T. DODGE.

Witnesses:

JOHN F. GEORGE,  
M. A. DRIFFILL.