

No. 685,036.

Patented Oct. 22, 1901.

P. T. DODGE.
LINOTYPE MACHINE.

(Application filed June 19, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Witnesses

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Fig. 5.

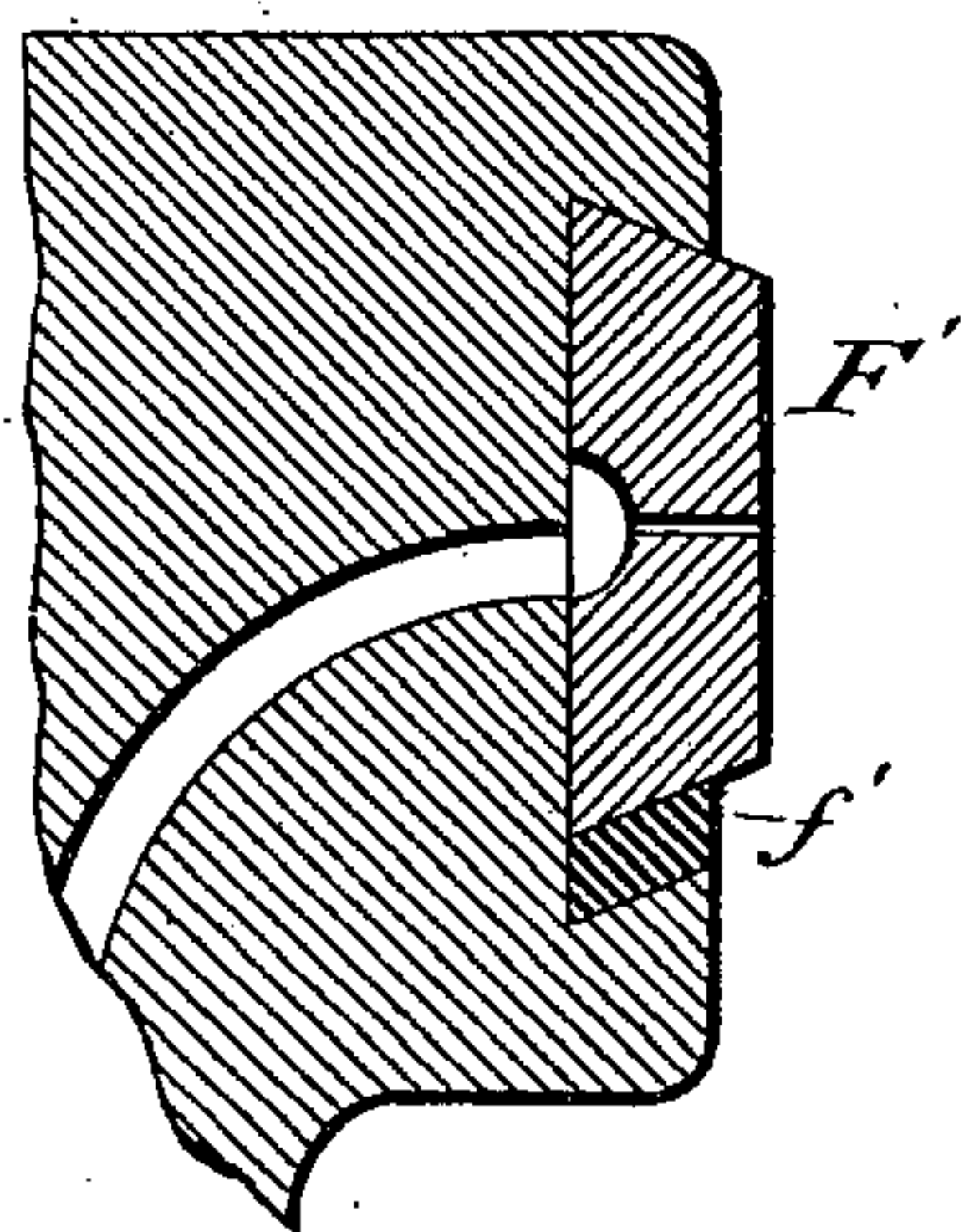
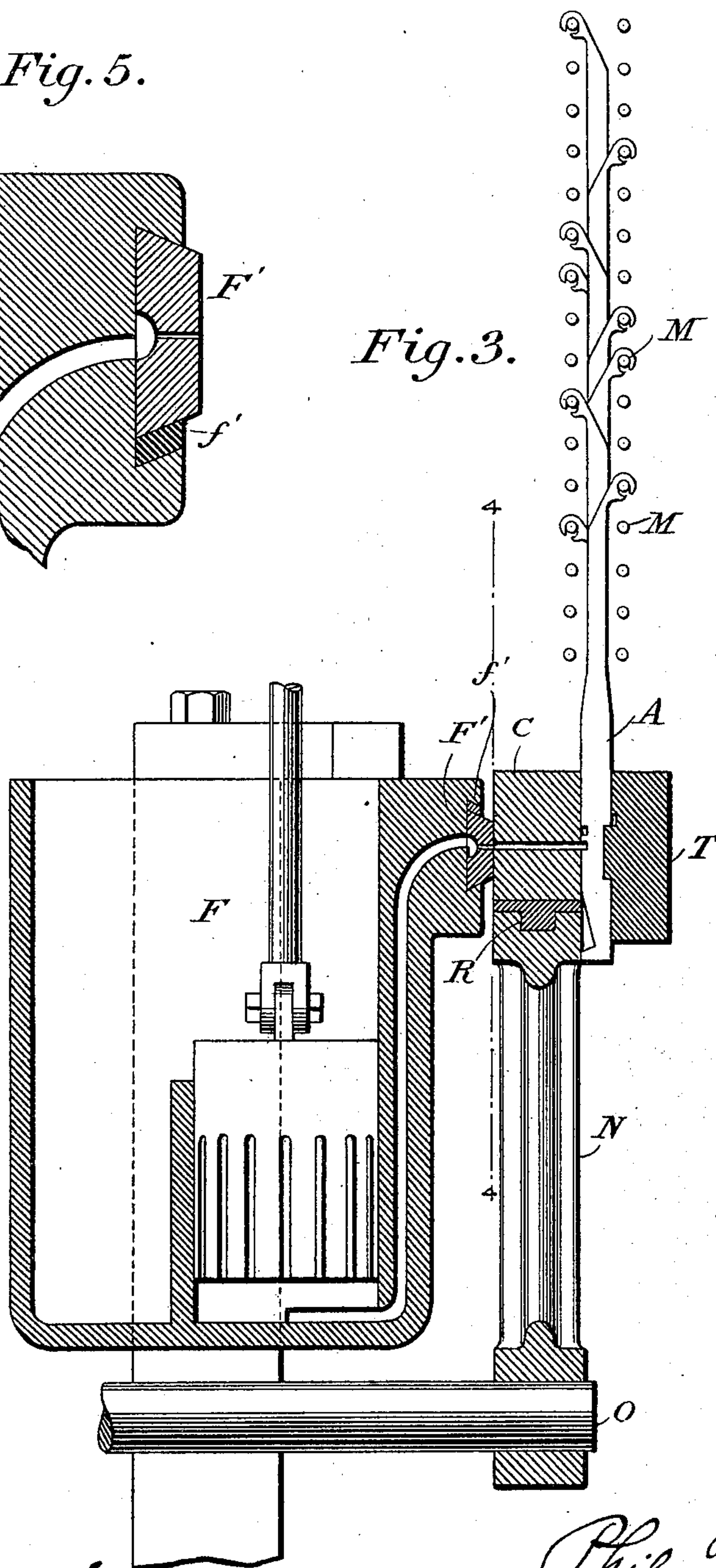


Fig. 3.



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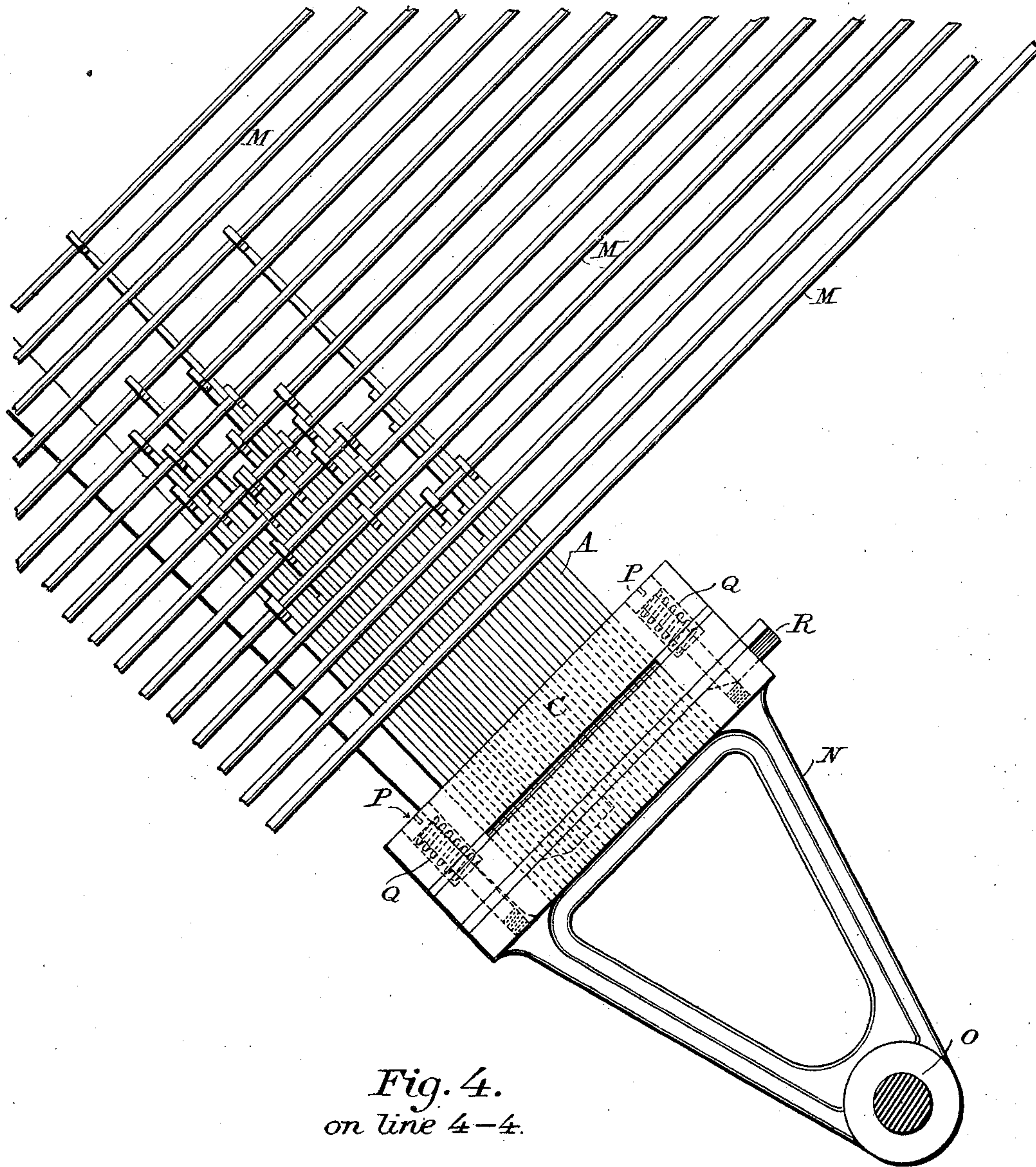
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UNITED STATES PATENT OFFICE.

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. 685,036, dated October 22, 1901.

Application filed June 19, 1901. Serial No. 65,127. (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.

The object of my invention is to adapt a linotype-machine to produce type matter in either of several faces at will.

10 To this end it consists in combining a series or font of matrices, each of which has two or more characters differing in style and separately usable, with means for sustaining the line of assembled matrices in a definite position and means for adjusting the mold length-
15 wise of the matrices, so that it may be presented in position to cooperate with either style of matrices, as demanded.

Linotype-machines have been heretofore
20 constructed with matrices bearing a plurality of characters, combined with means for setting the matrices in line at a higher or a lower level in order that one or another of the characters may be presented in operative relation
25 to the mold, which was presented always at one and the same height. This adjustment of the matrices involved a modification of the machine in many respects and the employment of numerous parts which are rendered
30 unnecessary by my construction.

My invention is applicable to the Mergenthaler linotype, the Rogers typograph, the Scudder monoline, and generally to all machines in which a mold is arranged to cooperate with an assembled line of matrices, and
35 it is to be understood that the details of construction may be varied at will to meet the peculiarities of the different machines without departing from the limits of my invention.

40 In the accompanying drawings I have represented only such parts as are necessary to an understanding of the invention.

Figure 1 is a vertical section through the casting mechanism of a linotype such as
45 shown in application for Letters Patent of the United States Serial No. 57,561, of the year 1901. Fig. 2 is a horizontal section on the line 22 of the preceding figure. Fig. 3 is a vertical section through the casting mechanism of a linotype-machine such as shown in

application for Letters Patent of the United States Serial No. 47,992, of 1901. Fig. 4 is a section of the same on the line 4 4 looking in the direction of the arrows. Fig. 5 is a vertical section through the mouth of the melting-pot. 55

Referring to Figs. 1 and 2, A represents a line of matrices, each having in one edge, as shown, two matrices or characters, one above the other, intended for separate use. B is a support or elevator by which these matrices are sustained always at the same level in front of the mold. C is the mold, having, as usual, a slot or mold proper therethrough from front to back of the dimensions of the required slug
60 or linotype. This mold is mounted in the present instance to slide endwise in the top of a supporting-frame D, which swings on a horizontal shaft E at its lower end, this in order to permit the mold to swing to and
65 from the mouth of the pot and the matrices. F represents the mouth of the melting-pot, which in the present instance is fixed in position or, in other words, is without a forward and backward movement. The pot is intended to close tightly against the back of the mold, which in turn closes tightly at its front against the alined matrices, as usual in this class of machines, so that the molten metal delivered into the mold and forming the slug
70 or linotype therein will have raised type produced on its edge by those characters of the matrices which are for the moment in line with the mold. If the mold alines with the upper characters in the matrices, the type
75 will be of one form or design. If it alines with the lower characters in the matrices, the type will be of a different design. In order to permit this change, the mouth of the mold is of such form that it may be presented to
80 cooperate with either the upper or the lower characters, and the frame D, in which the mold is supported, is mounted for vertical adjustment, so that the mold may be operated at one level or the other, as demanded. The
85 means for thus adjusting the mold-support may be of any appropriate character. A simple arrangement for the purpose, as shown in the drawings, consists of eccentrics G, keyed to the shaft E and serving as the direct bear- 100

ings or supports for the frame D, in which they are seated. By the rotation of the shaft the eccentrics may be turned and caused to raise and lower the frame D and the mold therein. As a convenient means of turning the shaft and eccentrics I propose to form on one of the latter a worm-wheel H and to operate the same by means of a worm I, seated between bearings on the frame and carried by a spindle J, having a hand-wheel or other means for turning. When the eccentrics are turned to their uppermost position, as shown in Fig. 1, the mold will stand at a suitable elevation to cooperate with the upper characters in the matrices, and when the eccentrics are reversed or turned downward the mold will stand in a lower position to cooperate with the lower characters of the matrices. The pot may remain stationary, in which case the orifices in its mouth will be widened vertically to such an extent that they will deliver metal to the mold in either of its positions, or the pot may be adjustable vertically in order that small orifices in its mouth may aline with the mold in either position. The vertical adjustment may be effected by means of set-screws K, located beneath the pot and seated in the frame or by any equivalent means.

Referring to Figs. 3 and 4, the matrices A, of different lengths, each having two different characters, are suspended on a series of fixed inclined guides M, as in the well-known Rogers typograph. The selected matrices descend the converging guides until they reach their lower parallel ends, where they are assembled in line in front of the mold, as shown in Fig. 4 and as fully explained in application Serial No. 47,992, above referred to. Although the matrices are of various lengths, their lower ends, each of which is provided with two or more characters or matrices proper, terminate at a common level, so that the characters in the assembled matrices stand in two parallel lines, one above the other. The matrices are held in alinement and against longitudinal motion by a fixed anvil T, having a rib which enters a notch in the reared edges of the matrices. The mold C is in this case mounted on the upper end of a vibrating arm N, pivoted at O, so that the mold can swing after the casting operation into position to permit the ejection of the slug. The mold is in this case connected to the upper end of the carrying-arm by two vertical guide-screws P, each having beneath its head a spring Q, serving to press the mold downward. Between the mold and the upper end of the support N there is a sliding double-ended wedge-plate R. When in the position shown, it permits the mold to stand at its lower level, so that it will cooperate with the lower characters in the matrices. If it is required to reproduce the upper characters, it is only necessary to drive the wedge endwise, the effect of which will be to raise the mold to the level of the upper characters. In this case the melting-pot F

may be fixed in height or adjustable vertically, as desired.

Instead of adjusting the entire pot vertically I may, if preferred, adjust only the mouth or portion which cooperates with the mold. One construction to this end is plainly shown at Fig. 5, in which the perforated mouthpiece F' is seated in a horizontal dovetail groove in the pot and secured by a key f'. When the mold is used in the elevated position, the key is driven beneath the mouthpiece, which is held at its highest level, as shown in the drawings. If the mouthpiece is to cooperate with the mold in the lower position of the latter, the key is removed from beneath the mouthpiece and inserted above the same, the effect being to lower the mouthpiece in relation to the body of the pot and the mold.

It will be observed that in each of the constructions herein shown the matrices are presented at a constant or fixed position and that they remain in this position whether the upper or the lower characters are to be used, while the mold, on the other hand, is raised or lowered to cooperate with the upper or lower characters, as demanded.

It will of course be understood that each matrix may have three or even four variant characters and that in such case the adjustment of the mold will be modified to correspond.

What I claim as my invention is—

1. In a linotype-machine and in combination with matrices, each having a plurality of characters, means for sustaining the assembled matrices at a fixed level, a mold to cooperate therewith, and means for adjusting the mold to aline with the respective characters in the matrices.

2. In a linotype-machine, a series of fixed guides M, a series of matrices pendent therefrom and each having two or more characters at different heights, a cooperating mold and means for adjusting the mold to aline with the upper or the lower characters at will.

3. In a linotype-machine in combination with matrices each having a plurality of characters at different heights, means for holding the assembled matrices in line, a cooperating mold, means for presenting the mold in alinement with the upper or the lower characters as required, and a cooperating pot with means for adjusting its mouth to cooperate with the mold in the different positions of the latter.

4. In a linotype-machine, the combination of a mold, a mold-carrier swinging about a center, and means for changing the distance between the mold-slot and said center.

In testimony whereof I hereunto set my hand, this 5th day of June, 1901, in the presence of two attesting witnesses.

PHILIP T. DODGE.

Witnesses:

JOHN F. GEORGE,
ROBT. D. NEILL.