No. 666,817. Patented Jan. 29, 1901.

C. C. PUGH.

LINOTYPE MACHINE.

(Application filed Nov. 10, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

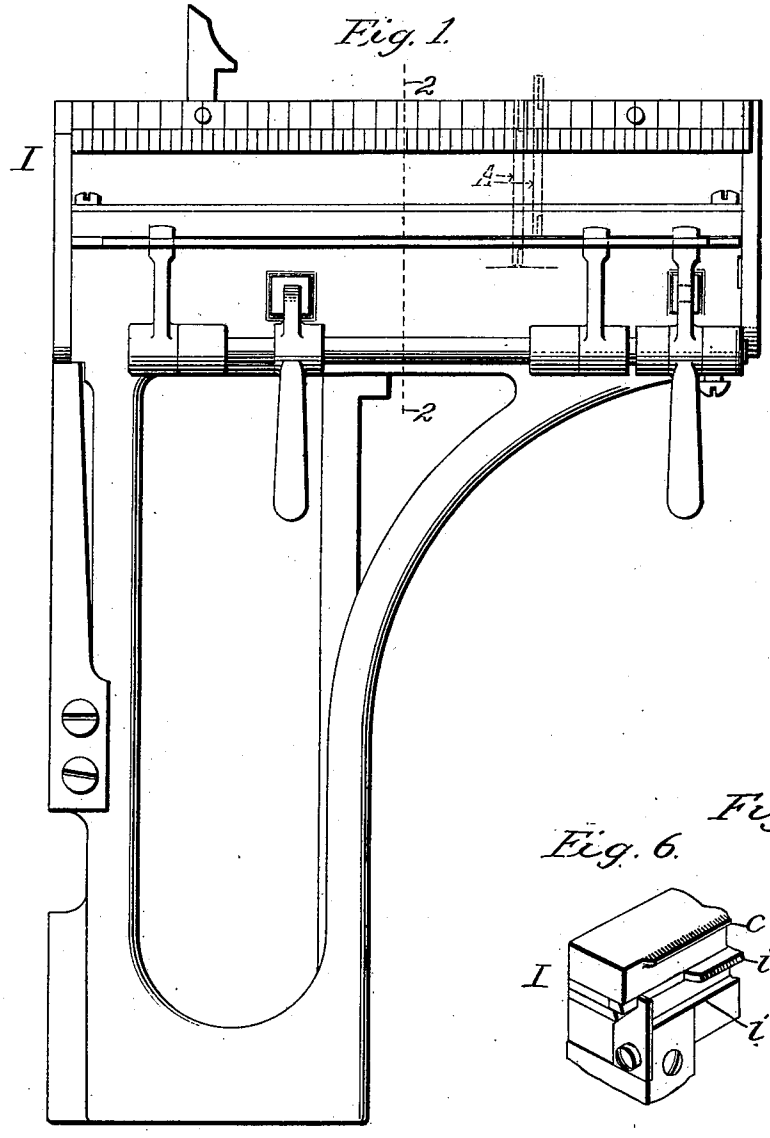

Fig. 7.

Fig. 6.

Witnesses:
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Fig. 2.

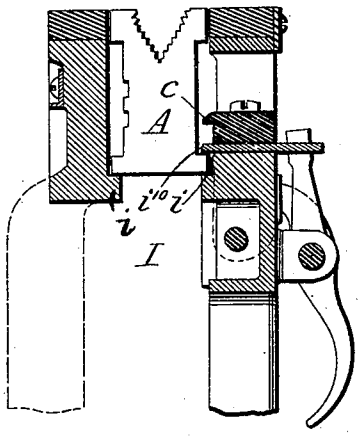


Fig. 3.

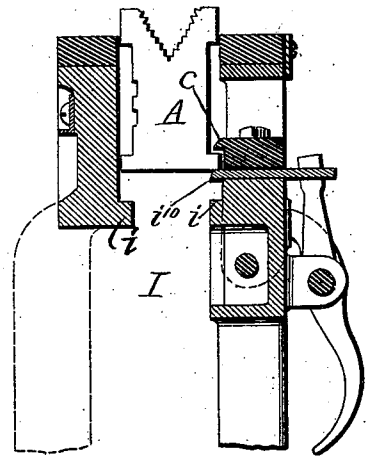


Fig. 4.

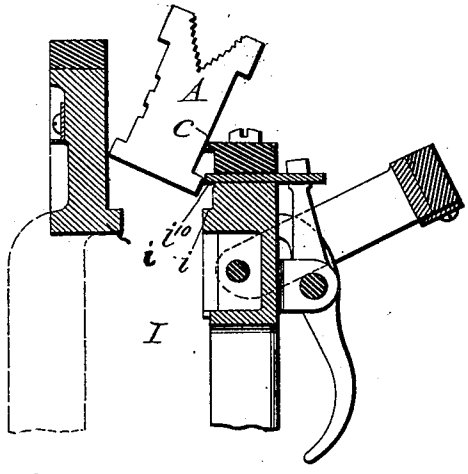
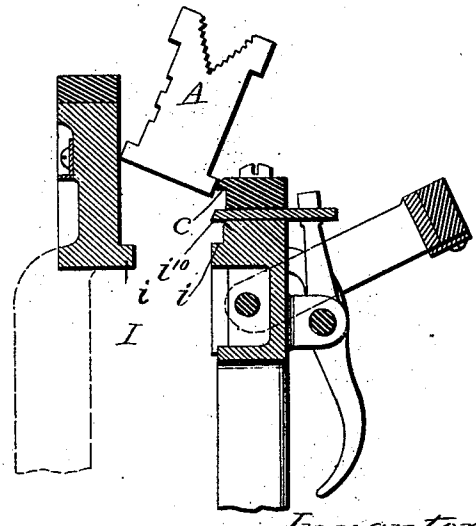


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES C. PUGH, OF NEW YORK, N. Y., ASSIGNOR TO THE MERGENTHALER LINOTYPE COMPANY, OF NEW YORK.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 666,817, dated January 29, 1901.

Application filed November 10, 1900. Serial No. 36,073. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. PUGH, of New York, county of New York, 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 more especially to linotype-machines employing matrices containing each two separately-usable characters, as shown, for instance, in United States Patent No. 547,633 to P. T. Dodge and No. 615,909 to J. R. Rogers. In these machines each matrix is set into the composed line at a higher or a lower level, according to the character which is required to appear on the slug or linotype. In the Mergenthaler machine the matrices descending from the magazine one after another are composed or assembled in line in a so-called "assembling-elevator," which is raised by a hand-lever after the composition of the line is completed preparatory to the transfer of the line to the casting mechanism. In practice it is found that rapid and careless operators will frequently throw the elevator up with great rapidity, causing it to be suddenly and violently arrested. The result of this action is to cause the elevated matrices to jump upward out of their proper positions in the elevator.

The object of the invention is to prevent this jumping of the matrices out of place, while at the same time permitting the matrices to be conveniently removed from and inserted into the line in the elevator during the course of composition, as is required in making corrections, adjusting tabular matter, &c.

To this end the invention consists, essentially, in providing the assembling-elevator at the front with a horizontal lip or rib to overlie the forward ears of the elevated matrices, the assembler being left plain on the rear surface, so that when the gate or front wall of the assembler is open the matrices may be tipped forward edgewise and removed from the line, as hereinafter more fully explained.

Figure 1 is a front elevation of the usual assembling-elevator provided with my improvement. Figs. 2 and 3 are cross-sections of the same on correspondingly-numbered lines, showing the matrices, respectively, in the lower and upper positions. Figs. 4 and 5 are cross-sections on the same lines as Figs. 2 and 3 with the front of the elevator open to permit the removal of the matrices in the manner indicated. Fig. 6 is a perspective view looking against the receiving-wall of the assembler from the rear. Fig. 7 is a perspective view of the rear wall of the receiver at the receiving end as viewed from the front.

Referring to the drawings, I represents an assembling-elevator of the same general construction, arrangement, and mode of operation as that shown in the Rogers patent, No. 615,909. As shown in the drawings, this elevator is constructed with a vertical slot or groove through its upper part from right to left to permit the assemblage of the matrices A therein. These matrices, having shoulders projected edgewise from their upper and lower ends, as usual, are each provided with two characters or letters *a* and *b*. When the matrices are delivered at their lower working level into the assembler, they are sustained by horizontal shoulders *i*, formed on the inner walls of the elevator and extending across the same from one side to the other—that is, from right to left. When, however, the matrices are introduced at the higher level into the elevator, they are sustained by a horizontal blade or shoulder i^{10}, formed integral with or seated in the front wall of the elevator, as in the Patent No. 615,909. In order to prevent the matrices from jumping upward above this sustaining belt or shoulder i^{10}, I provide the front wall of the assembler with a horizontal rib or lip *c*, which overlaps the lower front ears of the matrices, as shown in Fig. 3, thus keeping them down in place. The upper edge of this lip is preferably rounded or beveled, as shown. The upper forward wall of the elevator is constructed, as usual, in the form of a hinged gate, so that it may be turned downward and forward, as shown in Figs. 4 and 5, to permit the removal of the matrices from the line or the introduction of special matrices by hand. It will be observed that when the gate is in its closed position the lip *c* positively prevents any of the matrices

from being removed; but when the gate is open it is possible to remove or insert matrices by turning them cornerwise or edgewise, as shown in Figs. 4 and 5. As there is no interlocking action between the rear wall of the assembler and the matrices, this edgewise or forward tipping motion admits of the forward ears being carried out from under the retaining-lip in the front wall of the elevator.

The essence of the invention lies in providing the assembler with a horizontal groove or shoulder to engage the matrix and prevent the latter from rising out of its proper position and in providing such assembler with a movable gate or portion which in its normal position holds the matrix in engagement with the shoulder before mentioned, but which on being moved to another position permits the disengagement of the matrix, and it is manifest that the form and arrangement of the parts may be modified at will, provided they operate as above described.

What I claim as my invention is—

1. In a linotype-machine employing two-letter matrices, the assembling-elevator having the hinged front gate and the lip *c* to engage over the ears of the elevated matrices.

2. In a linotype-machine using two-letter matrices, the assembling-elevator having the hinged gate, the shoulders *i i* to maintain the matrices in their lower position, a front blade or shoulder i^{10} to sustain them in the upper position, and a lip *c* to engage the front ears of the elevated matrices.

3. In a linotype-machine using two-letter matrices, an assembler having in one side two horizontal grooves to engage the matrix-ears and hold them at the respective levels required, and the hinged gate serving when closed to keep the matrices in position, and permitting them to be removed edgewise when it is opened.

In testimony whereof I hereunto set my hand, this 27th day of October, 1900, in the presence of two attesting witnesses.

CHARLES C. PUGH.

Witnesses:
P. T. DODGE,
ROBT. D. NEILL.