No. 839,484. PATENTED DEC. 25, 1906.

L. L. KENNEDY.

LINOTYPE MACHINE.

APPLICATION FILED OCT. 23, 1906.

FIG. 1

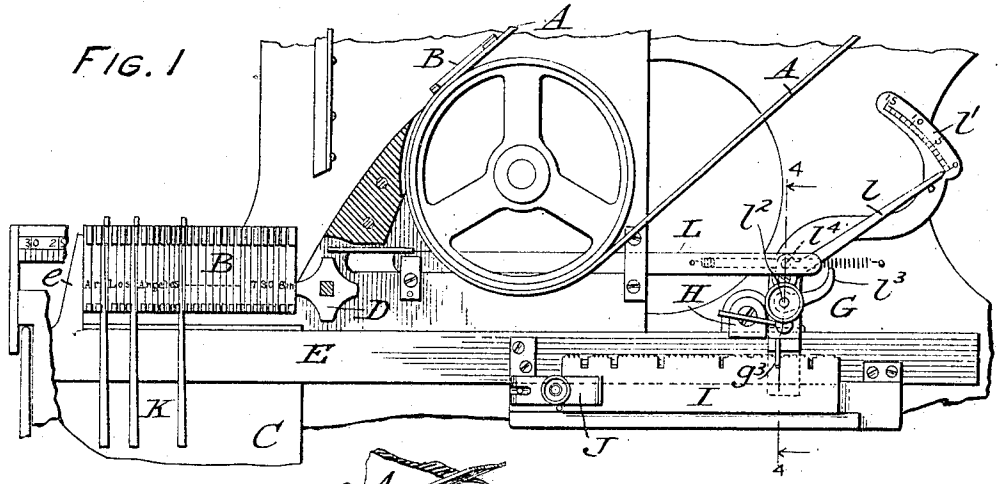


FIG. 2

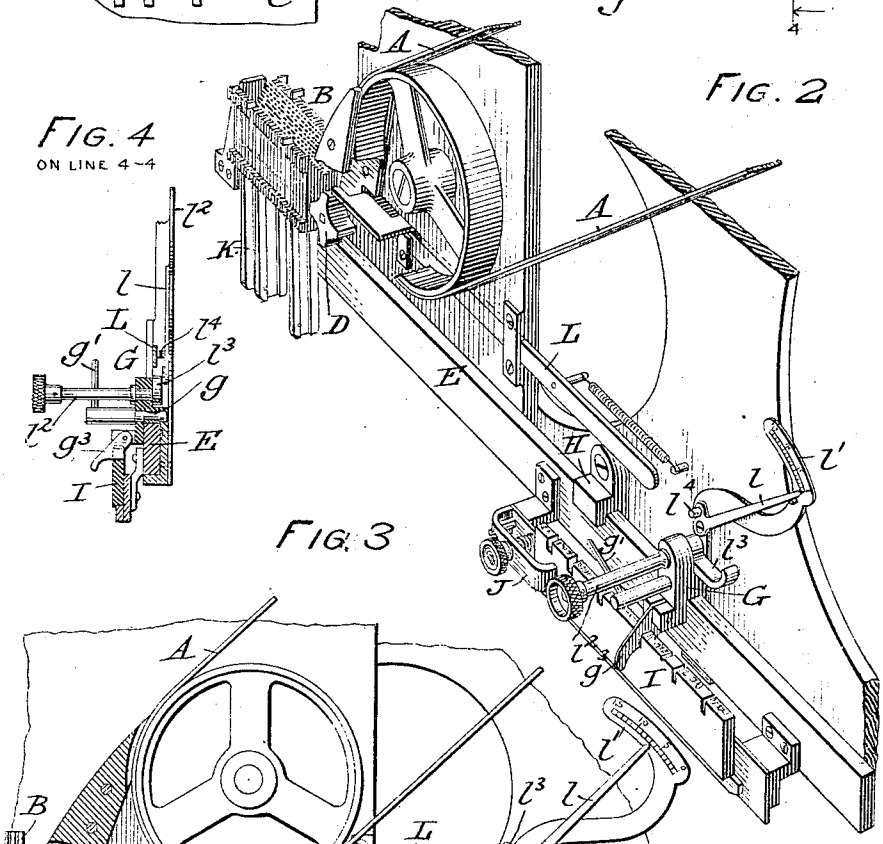
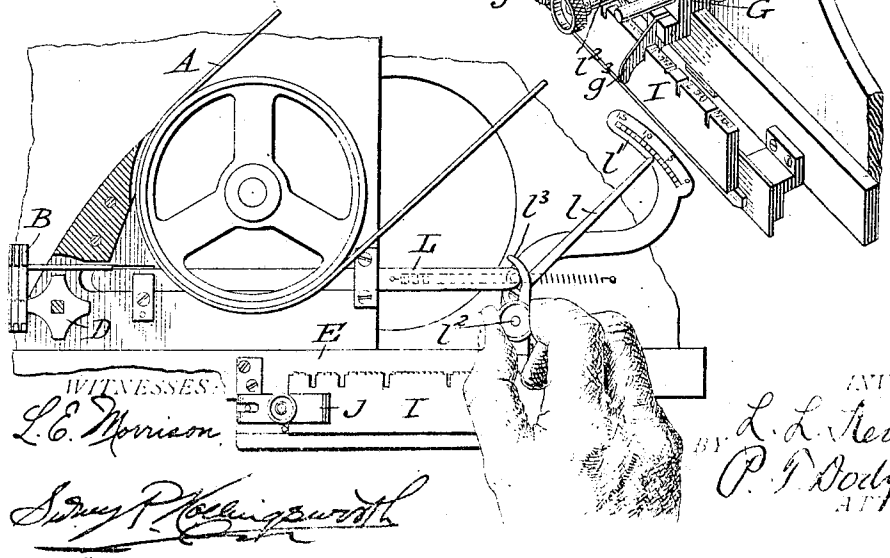


FIG. 4

ON LINE 4-4

FIG. 3



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UNITED STATES PATENT OFFICE.

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LINOTYPE-MACHINE.

No. 839,484. Specification of Letters Patent. Patented Dec. 25, 1906.

Application filed October 23, 1906. Serial No. 340,126.

To all whom it may concern:

Be it known that I, LUTHER L. KENNEDY, 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 has reference more particularly to machines of the character represented in Letters Patent of the United States No. 436,532 and generally known under the trade-mark "Linotype," wherein matrices are assembled temporarily in line and presented to the face of a slotted mold to form type characters in relief on the edge of a slug or linotype cast in said mold.

For the printing of tabular matter in which figures are arranged in vertical columns, with blank spaces or vertical rules between the columns, it is of course necessary that the successive slugs shall have the rules or spaces in like positions, so that they will aline or register when assembled side by side in the form. To this end it is necessary that the successive lines of matrices shall be composed with the blank spaces or the rule-receiving notches in like positions.

The aim of my invention is to facilitate this class of composition and enable the operator at the keyboard to determine the exact time and place at which each space is to be inserted in the line.

To this end it consists in the combination, with line assembling or composing devices, of a gage or indicator by which the location of the different spaces in the line may be determined and also in means whereby the operator may at any instant determine the exact amount which must be added to the composed line before the introduction of the next succeeding space.

In the drawings, Figure 1 is a front elevation of the composing mechanism of an ordinary linotype-machine with my improvement applied thereto, the front plates being removed to expose the parts to view. Fig. 2 is a perspective view of the same parts. Fig. 3 is a front elevation illustrating the manner of operating the measuring device. Fig. 4 is a vertical cross-section on the line 4 4, Fig. 1.

Referring to the drawings, A represents an inclined belt, upon which the matrices B are successively delivered from a magazine by means of a finger-key mechanism.

C is the "assembling-elevator," so called, having in its top a horizontal channel to receive the matrices B and sustain them in line side by side.

D is a vertically-revolving star-wheel, which acts upon the descending matrices to deliver them sidewise against the end of the composed line, this wheel serving also to advance the line bodily step by step that the successive matrices may enter at the rear end.

E represents a horizontal slide, known as the "assembler-slide," mounted in the main frame and provided at one end with the upturned finger *e*, which serves as a support and a yielding resistant for the forward end of the matrix-line. This bar is urged constantly to the right by a spring and is held by a locking-dog as it advances step by step to the left.

The foregoing parts may all be constructed and arranged to operate in the ordinary manner.

As the composition of the matrix-line progresses it is necessary for the operator to include therein at predetermined points blank matrices or spaces or spaces adapted to form notches in the slugs, as described in the United States patent to Rogers, No. 791,165.

It is the aim of my invention to indicate to the operator accurately the proper time and points for introducing the spaces. To this end I provide the assembler-slide E with a stop device G, adjustable longitudinally thereon and adapted to encounter a stationary stop H on the main frame for the purpose of arresting the advance of the assembler-bar and indicating the points at which the spaces are to be inserted in the line.

The stop device, as shown, consists of a slide movable along the bar E and containing an eccentric *g*, having a handle *g'*, by means of which the stop-slide can be instantly released and moved along the bar and resecured in any desired position thereon.

For the purpose of speedily determining the adjustments of the stop-slide G, I provide for each job or form a scale or indicator plate I, of a length corresponding to the required slugs and having in the upper edge notches spaced according to the width of the columns in the required table. In other words, these notches bear in relation to each other and to the slug positions corresponding to the vertical spaces or rules in the table to be printed.

I preferably employ as a gage-plate a

slug or linotype produced in the usual way by "casting up" or laying out the form in the manner commonly practiced by printers. Having thus produced the slug or gage with the notches or blanks in the locations in which they are to appear on subsequent slugs, I secure it firmly to the assembler-slide E by means of a clamp J thereon or by any equivalent means, so that its upper edge will lie adjacent to the stop G. The stop is provided with a vertically-swinging finger or latch g^3, pivoted thereto and adapted to fall into one or another of the notches in the gage-plate I.

In composing a line the operator proceeds as follows: The assembler-slide is returned to its normal position adjacent to the star-wheel D, the stop-slide G is moved along the bar E, and the finger g^3 is seated in the first notch at the left of the gage-plate and secured in position on the bar by turning the eccentric. Composition now proceeds until the stop G encounters the stationary stop H, the space or rule matrix being inserted in the line at this point. The operator now unlocks the stop G, lifts the latch from the notch, and moves the stop along the bar to the right until the latch enters the second notch and until the stop is again locked to the bar and composition continued until the stops are again brought together. This action is repeated until the line is completed, the stop devices being adjusted for each notch in the gage I. In this manner the operator is enabled to place the spaces in the exact positions required in the composed line and is also enabled to set the line so that the different "measures" therein will justify exactly at any required points.

It frequently happens that there is at the left side of the table a reading-line or line of reading characters leading inward toward the figures. By means of the mechanism herein shown the operator is enabled to select the spaces according to width in such manner that these reading characters will exactly justify or aline in the required positions, and he can when required use in the reading-line expansible wedge spacers or justifiers K of the ordinary form present in all Mergenthaler machines.

In certain classes of work requiring extreme precision it is desirable that the operator shall be able to determine at any instant the exact space remaining to be filled before the next rule is reached, or, in other words, the exact number of units which must be added to the line before introducing the next space. For this purpose I provide a sensitive indicator (shown in Figs. 1, 2, and 3) and consisting of a horizontally-sliding bar or feeler L, mounted on the main frame, with its forward end shaped and arranged for projection against the last matrix in the line.

To the stop-slide is pivoted an indicator-finger l, arranged to travel over a plate l', also carried by the stop and graduated to indicate points or other units employed in the printing art.

In the stop-slide G is mounted a horizontal spindle l^2, adapted to be turned by hand and provided with a finger l^3, which may be turned against the slide L and at the same time against a stud l^4 on the pointer. The effect of this action is to advance the slide L against the end of the line and also to move the pointer l so that it will indicate the distance through which the slide L is advanced. The backward movement of the slide L is limited. When brought to rest against the line, its rear end serves as a stationary stop for the finger l^3 and limits the distance to which the finger and the pointer l can be moved. This distance will correspond with the distance existing for the moment between the stops G and H, or, in other words, with the total width of the matrices required to fill the line out to the position of the next rule or space. As a consequence the pointer l will indicate on the scale at any instant the number of units required or the number of matrices to be inserted before the next space is introduced.

While I prefer to retain the details of construction herein shown, it will be understood by the skilled mechanic that the parts may be widely varied in form and arrangement without changing the general mode of action or passing beyond the limits of my invention.

I believe myself to be the first to combine with the assembler-slide or equivalent member controlled by the expanding line stop devices and a gage or index plate to control the adjustment of these stop devices and also the first to combine with the assembler-slide or its equivalent a detachable gage or index plate, so that one plate may be substituted for another to control the stop devices. I also believe myself to be the first to combine with the assembling mechanism an indicator by which at any instant the operator may determine the number of units required to fill the existing line to a predetermined point.

Having described my invention, what I claim is—

1. In a linotype-machine, an assembling mechanism comprising a member controlled by the line in course of composition, adjustable stop devices to control the advance of said member, and a gage or index plate movable with said member as a means of setting the stop devices.

2. In a linotype-machine, the assembler-slide actuated by the matrix-line, in combination with an adjustable stop to repeatedly arrest said slide, and a gage or index plate carried by the slide to coöperate with the stop devices.

3. In a linotype-machine, an assembler-slide E actuated by the line in course of composition, in combination with a stop adjust-

able lengthwise thereon, a stationary stop, and a detachable gage-plate I carried by the slide.

4. In combination with the assembler-slide E, a notched plate I carried thereby, a fixed stop H, and a stop G adjustable lengthwise upon the slide and provided with a member to enter the plate I.

5. In a linotype-machine, the combination of an assembler-slide, means for arresting the same repeatedly in predetermined positions during the composition of a line, and an indicator controlled by the line to show the distance between the end of the line and the next stop.

6. In a linotype-machine, the combination of the assembler-slide, a feeler to act on the end of the matrix-line, and an indicator carried by the matrix-slide and controlled by the feeler.

7. In combination with the assembler-slide E and feeler L, the indicator *l* carried by the slide and controlled by the feeler.

8. In a linotype-machine, and in combination with the assembler-slide E, a feeler L to act on the matrix-line, an indicator *l* carried by the slide, and a manual device actuating the feeler and indicator.

9. In combination with the assembler-slide E, a feeler-slide L, the indicator *l*, and an indicator-actuating device controlled by the feeler.

In testimony whereof I hereunto set my hand, this 15th day of October, 1906, in the presence of two attesting witnesses.

LUTHER L. KENNEDY.

Witnesses:
JOHN R. ROGERS,
DAVID S. KENNEDY.