

No. 818,243.

PATENTED APR. 17, 1906.

C. L. GROHMANN.
LINOTYPE MACHINE.
APPLICATION FILED OCT. 21, 1905.

Fig. 1.

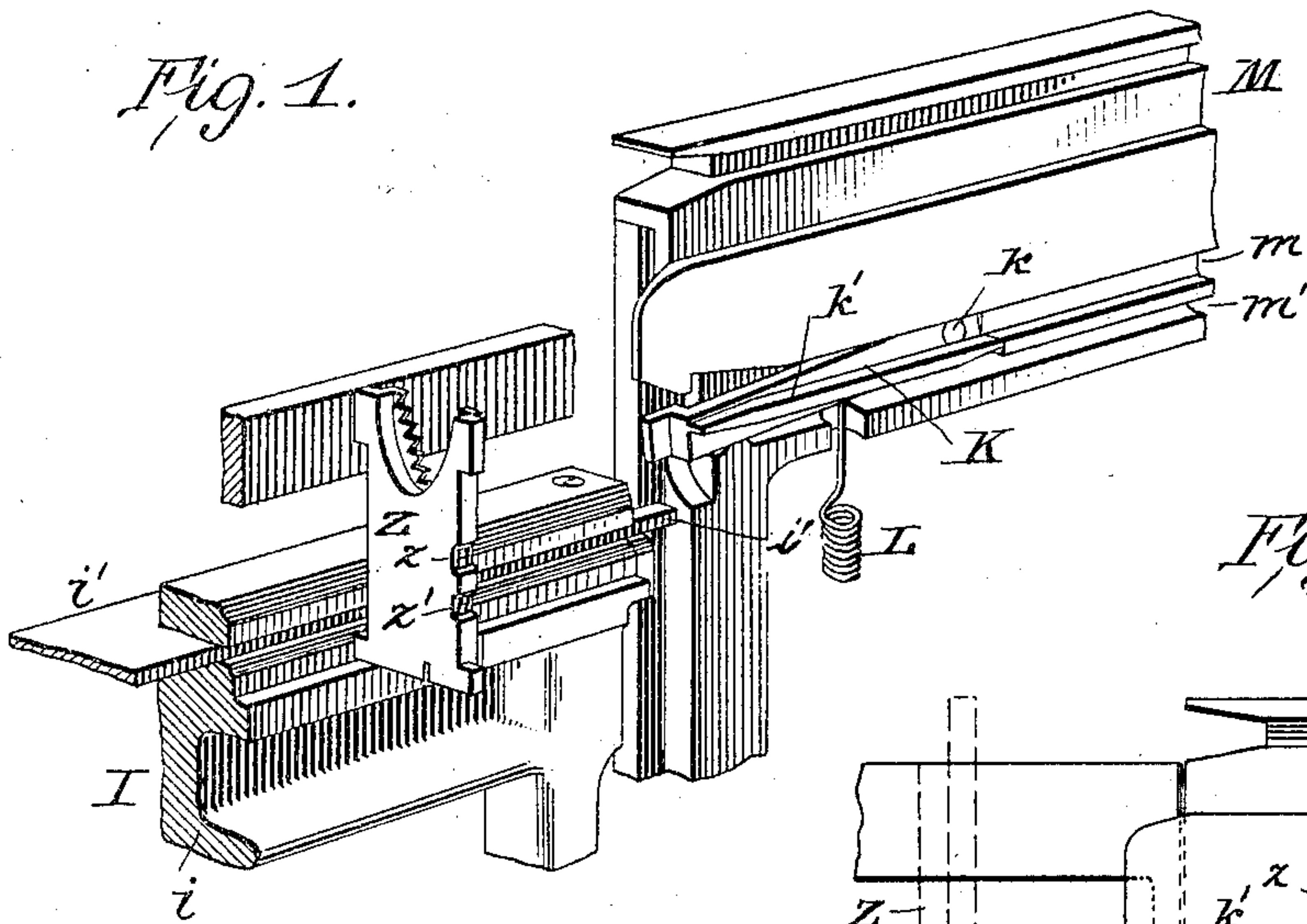


Fig. 2.

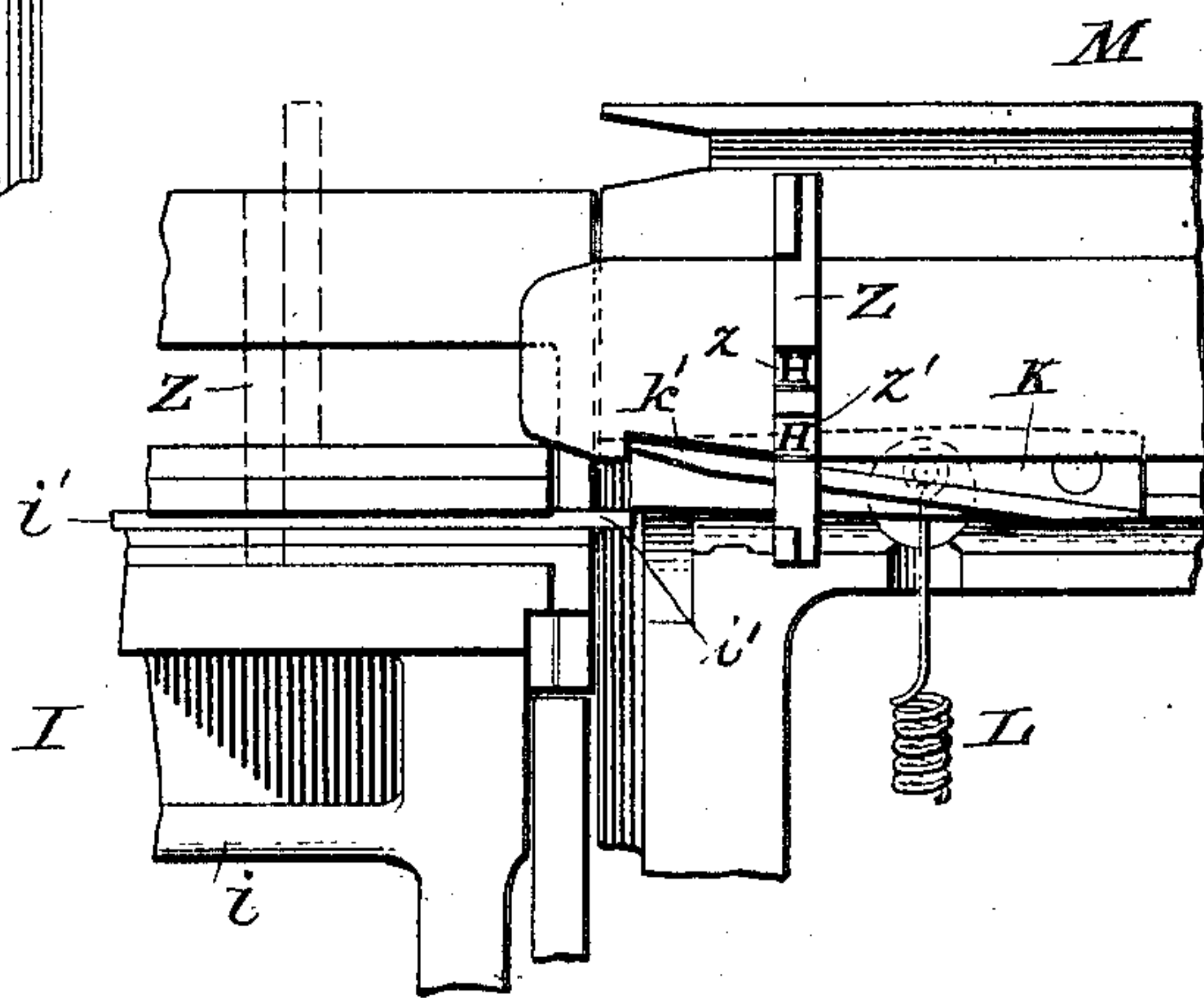
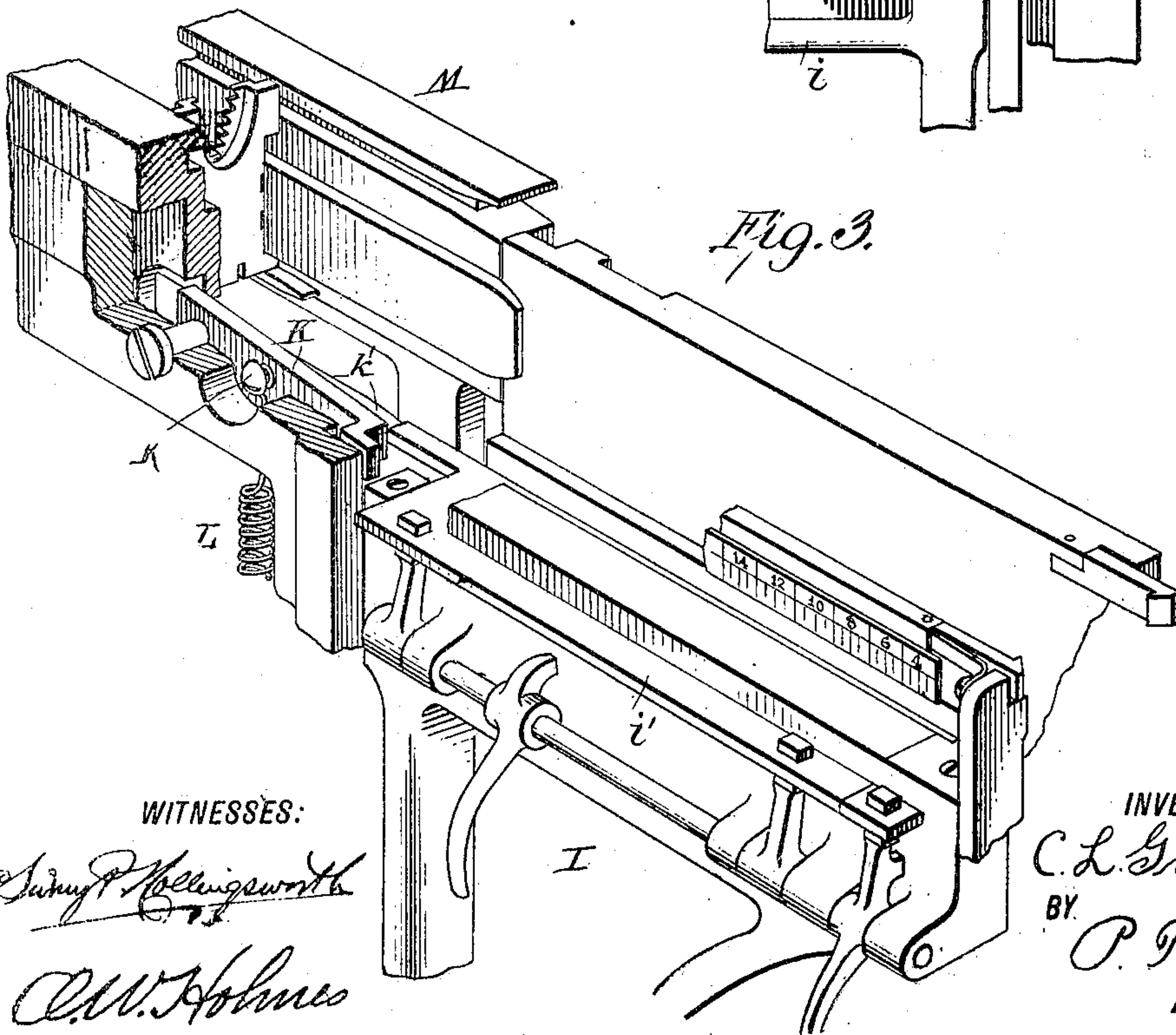


Fig. 3.



WITNESSES:

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LINOTYPE-MACHINE.

No. 818,243.

Specification of Letters Patent.

Patented April 17, 1908

Application filed October 21, 1906. Serial No. 283,823.

To all whom it may concern:

Be it known that I, CARL L. GROHMANN, a resident of Brooklyn, New York city, 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.

This invention has reference to Mergenthaler linotype-machines of the form represented in Letters Patent of the United States No. 615,909, wherein circulating matrices each containing two distinct characters are employed. These matrices have one character placed above the other. In assembling the matrices in line they are adjusted individually at a higher or lower level, according as one character or the other is to be brought into action, or, in other words, they are so adjusted that the character to be used will stand at the alining or casting level.

The line is composed in the assembling-elevator and transferred laterally through a stationary intermediate channel to the first elevator, by which the line is lowered to a casting position at the mold. The intermediate channel, like the assembling-elevator, is provided with two horizontal guides or shoulders lying one above the other to engage the ears of the matrices and maintain them at the proper height. The assembling-elevator is raised when the composition of the line is completed to the level of the intermediate channel, through which the matrices are to be transferred. It sometimes happens that the matrices are thrown upward from their lower position in the elevator if the operator lifts the same with excessive speed, and in such case the ears of the matrices will fail to pass properly into the guiding channels or grooves in the intermediate channel. The object of my invention is to avoid this difficulty by insuring proper seating of the matrices in position for their ears to pass through the guides in the intermediate channel. To this end I make use of a movable switch in any form adapted to engage the ears of the matrices if they are out of position and carry them downward to their proper places.

In the drawings I have shown my device adapted for application to commercial linotype-machines, the drawings being limited to those parts of the machine with which I am directly associated.

Figure 1 is a perspective view looking from

the rear and showing the front wall of the assembling-elevator and the front wall of the intermediate channel with my switch therein. Fig. 2 is a face view of the same parts. Fig. 3 is a perspective view of the assembler-elevator and intermediate channel looking from the front with portions broken away.

Referring to the drawings, I represents the vertically-movable assembling-elevator having the usual channel in the top to receive the matrices Z, which are composed or assembled in line therein.

M is the stationary intermediate channel into and through which the line of matrices is passed horizontally from the assembler I. It will be observed that each matrix is provided with an upper character *z* and a lower character *z'*. The assembling-elevator is provided with a lower horizontal shoulder *i*, on which the ears of the matrices are sustained when they are to be used at the lower level, so as to bring their upper characters into action. It is also provided with a second horizontal shoulder *i'*, which may be retracted, upon which the matrices are seated when they are to be used at the higher level to bring their lower characters into action. The intermediate channel is provided with two horizontal grooves with shoulders *m* and *m'* to receive and guide the ears of the matrices when assembled in the upper and lower positions, respectively.

The parts so far described may be of the same construction and arranged to operate in the same manner as the parts indicated by corresponding letters in Patent No. 615,909.

My improvement has reference to the means for guiding the ears properly into the lower groove in the event of the matrices being accidentally lifted above their proper positions on the lower shoulder of the assembler I at the time of their being transferred. For this purpose I provide the vertically-movable switch K, such as shown in the several figures, consisting of a plate seated in a recess of the side of the channel M and mounted on a horizontal pivot *k*, so that the end next to the elevator I may be moved upward and downward to a limited extent. On the side face of this plate there is a rib *k'*, constituting the switch proper and forming a continuation of the rib between the grooves *m* and *m'*. When the free end of this switch is in its lower position, as indicated in Fig. 1,

the ears of the matrices being transferred pass over it into the upper groove *m*. When the elevator is raised to its uppermost position, the end of shoulder or blade *i'* will act beneath the end of the switch and lift the same to the position shown in Fig. 2, so that if the matrices being transferred rise above the lower supporting-shoulder in the elevator their ears will underride the switch, which will act to draw or force them down so that the ears will pass properly into the lower groove *m'*. It will be observed that the end of the blade *i'* is extended somewhat beyond the side of the assembling-elevator *I* into the intermediate channel *M*, as shown in Figs. 1 and 3, so that those matrix-ears which ride beneath the blade are held down thereby until they have left the assembling-elevator and entered the intermediate channel.

The spring *L* is extended from the switch to the main frame and serves to hold the switch in the lower position except when supported by the elevator *I*. When the shoulder or blade *i'* is advanced to its inner operative position, so as to sustain matrices at the upper level, it will act beneath the switch as the assembler completes its upward movement and raise the switch to a horizontal position, so that matrices in the upper position may pass over the switch into the upper groove and matrices in the lower position may pass under the switch into the lower groove. It will be understood that when the shoulder or blade *i'* is in its inner position it will overlie the ears of the matrices in the lower position and prevent them from being thrown upward out of place. The switch is of value mainly when the blade *i'* is retracted, so that it does not serve to hold down the matrices.

The only essential requirement of the mechanism for my purpose is that the switch or guiding device shall override the ears of the matrices and draw them down or hold them down in their lower position, so that they may be advanced properly through the lower guide or groove in the intermediate channel.

It will be manifest to the skilled mechanic that the device may be widely varied in form and arrangement without passing beyond the scope of my invention.

Having described my invention, what I claim is—

1. In a linotype-machine containing "two-letter" matrices, a switch beyond the assembling-elevator to control the elevation of the matrices as they are delivered laterally from said elevator.

2. In a linotype-machine, and in combination with the assembling-elevator *I*, and the intermediate channel *M* provided with two grooves, a movable switch to control the course of the matrix-ears into one groove or the other.

3. In combination with the assembling-elevator and the channel *M*, the intermediate switch controlled by the elevator to hold the advancing matrices down to their proper level.

4. In a linotype-machine having a horizontal channel for the passage of the composed matrix-lines in an endwise direction, a device located in the path of the matrix-line and adjustable to hold the matrices at a low level or permit their passage at a high level.

5. In a linotype-machine, a switch to control the course of the matrix-line, arranged to be actuated by the assembling-elevator.

6. In a linotype-machine, the combination of the assembling-elevator, the intermediate channel and vertically-movable automatic device to hold down the matrices advancing from the assembler to the channel at a low level.

7. In a linotype-machine, an assembling-elevator provided with means for maintaining the matrices of a composed line at a high or a low level as required, a channel through which the matrix-lines are horizontally delivered from the assembling-elevator, and an adjustable device in said channel to maintain the level of the matrices as they are transferred.

8. A linotype-machine having a grooved guiding-rail, and a preliminary guide-block adjustable to direct the course of the matrices during their passage toward the body of the guide-rail.

9. A linotype-machine having a guide-rail, and a preliminary guide-block adjustable with respect to the rail and serving to govern the course of the matrices from the assembler to said rail.

10. A linotype-machine having a guide-rail provided with a lower rib, the upper and lower faces of which are arranged to engage with the matrices of a two-letter machine either in normal or raised position, and a preliminary guide-block for directing the matrix lugs to positions above or below said rib.

11. In a linotype-machine, a guide-rail having a rib arranged to engage with the lower lugs of normal or raised matrices, and a preliminary guide-block adjustable to direct all of the lugs beneath the rib during ordinary work, and to direct normal and raised matrices below and above said rib respectively, when different faces are used in the same line.

12. In a linotype-machine, the adjustable matrix-guide extending beyond the assembler into the intermediate channel.

In testimony whereof I hereunto set my hand, this 18th day of October, 1905; in the presence of two attesting witnesses.

CARL L. GROHMANN.

Witnesses:

LOUIS A. JAEGER,
HERMAN F. VOSS.