H. DEGENER.

LINOTYPE MACHINE.

APPLICATION FILED OCT. 6, 1909.

1,017,387.

Patented Feb. 13, 1912.

Fig. 1.

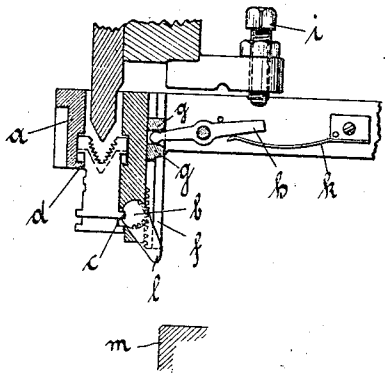


Fig. 3.

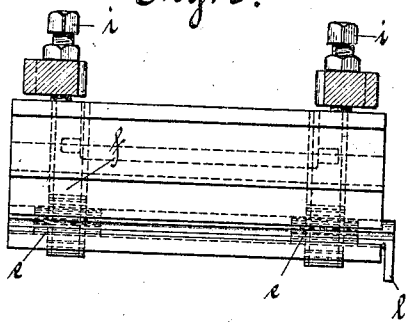


Fig. 2.

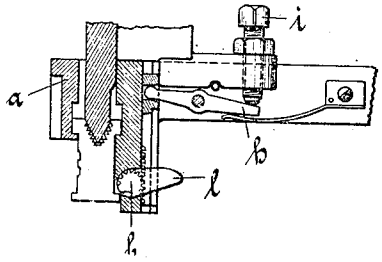
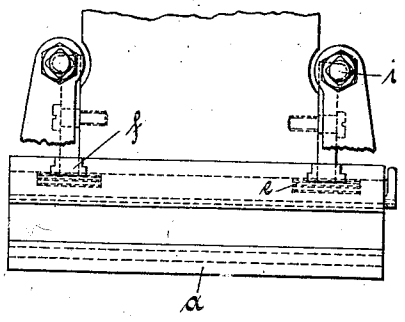


Fig. 4.



Witnesses:

Inventor:

UNITED STATES PATENT OFFICE.

HEINRICH DEGENER, OF BERLIN, GERMANY, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

LINOTYPE-MACHINE.

1,017,387. Specification of Letters Patent. Patented Feb. 13, 1912.

Application filed October 6, 1909. Serial No. 521,386.

To all whom it may concern:

Be it known that I, HEINRICH DEGENER, of 26 Hollmannstrasse, Berlin, German Empire, manager, having invented certain new and useful Improvements in Linotype-Machines, do hereby declare that the following is an exact specification of the same.

In matrix setting and line casting machines of known construction, for the purpose of producing mixed matter or copy, the matrices are caught at different levels. During the casting the matrices then stand with their lower edge on bars which, after the casting is completed, are withdrawn, in order to bring the matrices with their lower edges into one plane. The devices hitherto known have however the disadvantage that the said bars which must be made adjustable, cannot be supported in a sufficiently firm manner, and consequently the matrices are not properly adjusted in line. Moreover, it can easily occur more particularly when the levers withdrawing the bars are not exactly straight, that the bars are withdrawn at one side only or at the two sides to a different extent, so that the matrices are only partially released.

This invention remedies the disadvantage in question by substituting a rotary movement in place of the sliding movement of the bar. This causes those matrices which remain standing in the upper position owing to dirt or to metal projected between the matrices to be positively brought down into the proper position.

In the accompanying drawing: Figure 1 shows a construction according to my invention in the position before the release of the bar has taken place, Fig. 2 after the release, Fig. 3 being a side elevation of Fig. 1 and Fig. 4 a corresponding plan.

In the elevator or hoist *a* is mounted, in place of the bar that can be withdrawn, a spindle *b* provided with a groove *c*, extending throughout the whole of its length, with which can engage the lower lugs of the matrices which are to be caught in the upper position. The matrices caught in the lower position, become suspended as in known constructions, by their upper lug on the projections *d* of the hoist itself. A portion of the said spindle *b* is provided with teeth *e* with which engage tooth racks *f* guided in the elevator as shown in the drawings. Between each two projections *g* of the said tooth racks engages one end of a double lever *h*. When the hoist is moving upward, one end of the lever *h* strikes an adjustable stop screw *i* secured to the frame of the machine, and thus lifts the tooth rack, whereby the spindle *b* is rotated. This position of the device is shown in Fig. 2. The matrices which were before in the groove *c* of the spindle *b* are thus released. At the same time, this arrangement results in the upper lip of the groove *c* in the spindle *b* pressing on the upper edge of the lower lugs of the matrices, engaged by the groove, and pulling the said matrices downward. Even, therefore, in those cases in which the matrices for some reason stick to each other, a reliable lowering of all the matrices into one plane must take place. A spring *k* as soon as the hoist has left its upper position, brings the spindle *b* back again to its original position.

The spindle *b* is provided with a lateral cam *l* intended to prevent the said spindle from rotating when, in the casting position, the matrices are raised by the hoist and pressed against the projections of the casting mold. At that point the machine is provided with a stop *m* secured to the machine frame with which the cam *l* engages, so that no rotation of the spindle *b* can be caused by the pressure of the matrices.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is:

1. In a linotype machine in combination, an elevator or hoist conveying the matrix line to the distributing point a member in said elevator keeping the matrices on the upper level, said member being a rotatable spindle mounted in the hoist and means for turning the said spindle for the purpose of moving it out of engagement with the matrices.

2. In a linotype machine in combination, an elevator or hoist conveying the matrix line to the distributing point a member in said elevator keeping the matrices on the upper level, said member being a rotatable spindle mounted in the hoist and having a recess adapted to engage with the lower matrix lugs, and means for turning the said spindle for the purpose of moving it out of engagement with the matrices.

3. In a linotype machine in combination, an elevator or hoist conveying the matrix

line to the distributing point and a member in said elevator keeping the matrices on the upper level said member consisting of a spindle mounted in the hoist and having a recess adapted to receive the lower matrix lugs and forming two lips, the lower of which keeps the matrices in the upper position, while the upper is utilized for depressing the matrices into the lower position after the line has been cast.

4. In a linotype machine in combination, an elevator conveying the matrix line to the distributing point, a spindle in the elevator for keeping the matrices in the upper level and mounted to turn and means for preventing the accidental turning of the spindle in the casting position.

5. In a linotype machine in combination, an elevator conveying the matrix line to the distributing point, a spindle in the elevator for keeping the matrices in the upper level and mounted to turn, a cam arranged on said spindle and a fixed stop engaging with said cam and preventing the accidental turning of the spindle in the casting position.

6. In a linotype machine in combination, an elevator conveying the matrix line to the distributing point, a spindle in the elevator for keeping the matrices in the upper level, gears on said spindle, tooth racks engaging with said gears and rocking levers mounted on the hoist and operating the tooth racks when striking fixed stops secured in the machine frame, substantially as described.

7. In a line casting machine, the combination of matrices and a movable device for supporting them, with a single means for shifting the matrices to a different level and for moving the supporting device out of its normal position.

8. In a line casting machine, the combination of matrices and a movable device for supporting them, with means for positively shifting the matrices to a different level and moving the supporting device out of their path.

9. In a line casting machine, the combination of matrices and a movable device for supporting them, with matrix leveling means which also cause the movement of the supporting device out of the path of the matrices.

10. In a line casting machine, the combination of matrices and a movable device for supporting them, with matrix shifting means, whereby said matrices are shifted from one level to another and the supporting device is moved out of their path.

11. In a line casting machine, the combination with a movable supporting ledge adapted to support a series of matrices, of means adapted to move the matrices from one level to another and simultaneously to move the supporting ledge out of their path.

In witness whereof I have hereunder set my hand in presence of two witnesses.

HEINRICH DEGENER.

Witnesses:

WOLDEMAR HAUPT,

HENRY HASPER.