(No Model.)

O. MERGENTHALER.

LINOTYPE MACHINE.

No. 563,865. Patented July 14, 1896.

Fig. 1.

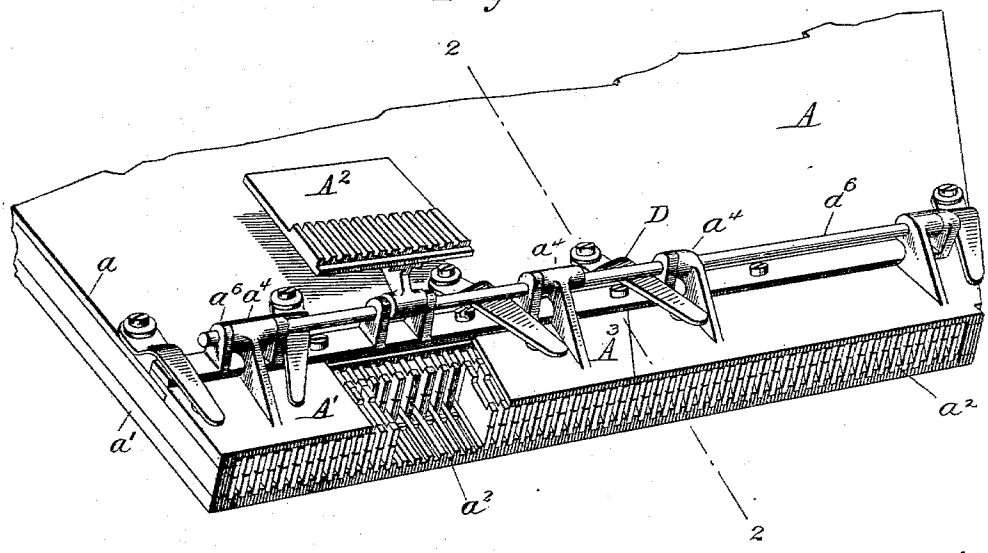
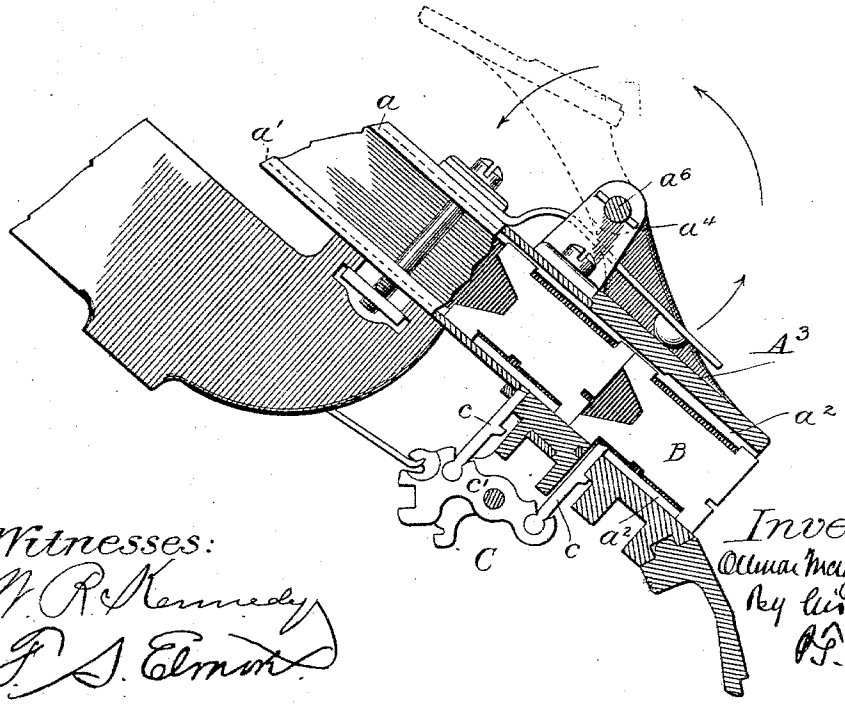


Fig. 2.
on line 2-2



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UNITED STATES PATENT OFFICE.

OTTMAR MERGENTHALER, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE MERGENTHALER LINOTYPE COMPANY, OF NEW JERSEY.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 563,865, dated July 14, 1896.

Application filed September 3, 1895. Serial No. 561,302. (No model.)

To all whom it may concern:

Be it known that I, OTTMAR MERGENTHALER, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

This invention has reference to machines in which type-matrices, or type-dies, are stored in a channeled magazine, and discharged from its lower end, one at a time, by means of escapement or delivery devices.

The invention is intended more particularly for application to linotype-machines such as represented in Letters Patent of Ottmar Mergenthaler dated September 16, 1890, No. 436,532.

The object of the improvement is to give ready access to the interior of the mouth of the magazine and to the escapement device therein; and to this end it consists of a magazine having its terminal grooved portion, forming a part of the magazine proper, hinged to swing out of operative position, to give access to the internal matrices and escapements; and also in constructing this hinged portion in sections, and in combining therewith fastening devices, substantially as hereinafter described.

I prefer to hinge the mouth and divide the same into sections which are capable of being turned backward independently of each other from their operative positions, as hereinafter explained, but any equivalent arrangement which will permit or allow of a portion of the mouth to be opened at will opposite the escapement devices and without discharging the matrices falls within the scope of my invention.

Referring to the drawings, Figure 1 represents in perspective the mouth of the linotype-magazine provided with my improvement, one section of the mouth being shown in an open position. Fig. 2 is a vertical section of the same on the line 2 2.

A represents the body of the magazine, consisting of top and bottom plates $a\,a'$, fixed in relation to each other and provided with longitudinal grooves a^2, intended to receive and guide upper and lower edges of the matrices B.

In practice the magazine is fixed in an inclined or upright position and the matrices introduced at the upper end, so that they may slide down and escape at the lower end by gravity. Near the lower end the magazine is provided in each channel with an escapement C, consisting of two vertically-sliding pawls c, carried at opposite ends of a lever c'. These pawls, rising alternately through the bottom of the magazine and operated by finger-key connections, control the discharge of the matrices, which are permitted to escape one at a time.

The foregoing parts are all constructed and arranged to operate in the ordinary manner, except in the particulars which I will now describe.

The lower end of the top plate of the magazine instead of being fixed in position is constructed in a number of separate lengths or sections A' A^2 A^3, &c., each of these sections being provided with ears a^4, mounted on a horizontal hinge-pin a^6, fixed in studs fast to the top of the magazine. This arrangement permits the sections A' A^2, &c., to be turned upward from their operative positions independently of each other, as indicated in Figs. 1 and 2. When a section is thus turned back, access is given to the matrices lying thereunder in the mouth of the magazine and also to the escapement or discharge devices in the bottom plate. The attendant is thus enabled to readily inspect and adjust the action of the escapement devices and clean the channels.

It will be noted that the hinged upturning sections are grooved or channeled on their under sides, to assist in guiding the matrices to the point of delivery. For the purpose of holding the hinged sections down in operative positions, I pivot to the top of the magazine proper lateral-swinging fingers D, preferably made elastic. By swinging these fingers right and left they may be thrown upon or off from the various sections, as required.

While it is preferred to divide the hinged mouth into several sections, in order that access may be had to the magazine at one point without exposing or endangering the discharge of the matrices at another point, it is to be understood that this division is not necessary. It is also to be understood that the details of the hinged connections, and of

the latches for holding the hinged connections, are not the essence of my invention, and that they may be changed at will within the range of mechanical skill.

As the hinged sections are grooved to hold and guide the upper edges of the matrices, the latter are released when the sections are turned up. The advantage of dividing them into short sections is that access may be gained to the particular channels or escapements giving trouble without releasing or permitting the escapement of the matrices from the other channels, much time and trouble being thus avoided.

It will, of course, be understood that my improvement is applicable to magazines of various forms carrying type-matrices or type-dies, and to magazines having escapement or discharge devices in forms different from that shown.

Having thus described my invention, what I now claim is—

1. In a linotype-machine and in combination with the under magazine-plate grooved to guide the matrices and the escapement devices working upward through said plate, the upper grooved magazine-plate and a grooved plate forming a continuation of the lower end of said top plate, and hinged to swing out of its operative position, substantially as described, whereby access is given to the interior of the magazine, and to the escapement devices.

2. A channeled type-magazine having a channeled matrix-guiding mouth-plate hinged to swing upward, in combination with means for holding the same down in operative position.

3. A channeled type-magazine having at its mouth a series of hinged sections grooved or channeled to guide the matrices, and laterally-swinging latches to retain the same in position.

In testimony whereof I hereunto set my hand, this 19th day of August, 1895, in the presence of two attesting witnesses.

OTTMAR MERGENTHALER.

Witnesses:

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F. F. POTTER.