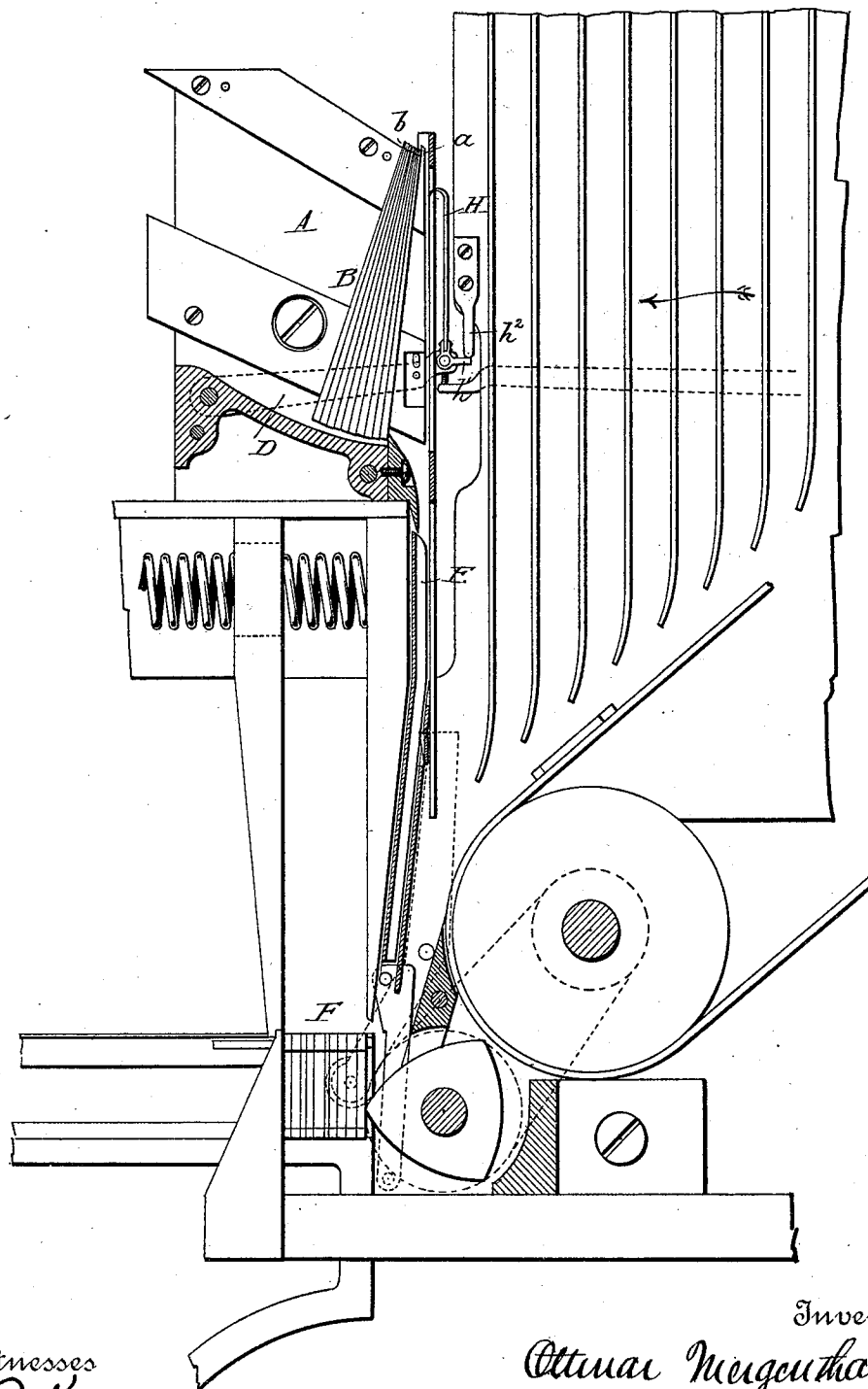


O. MERGENTHALER.
LINOTYPE MACHINE.

No. 522,073.

Patented June 26, 1894.

Fig. 1.



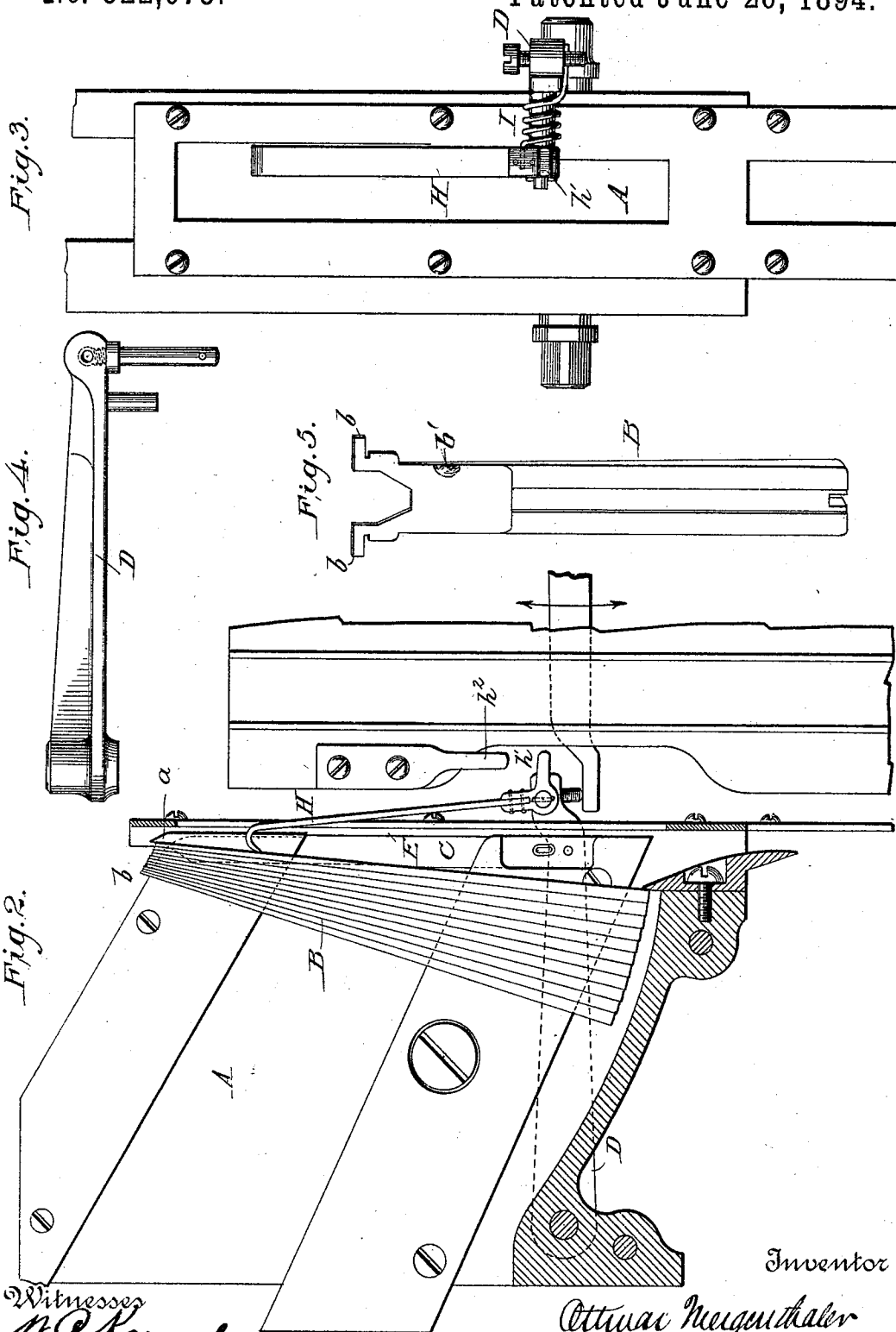
Witnesses
M. R. K...
A. J. Moore

Inventor
Ottmar Mergenthaler
By his Attorney
Philip T. Dodge

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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. 522,073, dated June 26, 1894.

Application filed April 28, 1892. Serial No. 430,998. (No model.)

To all whom it may concern:

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

My invention relates to machines in which linotypes or type-bars having a series of raised characters on one edge are cast against a series of lateral matrices, and intervening spaces, temporarily assembled in line as practiced for example in the well known Mergenthaler linotype machines. When these machines are operated very rapidly without the exercise of reasonable care in keeping the parts clean, it is found that there is a tendency of the molten type metal to adhere to the front edges of the spaces which extend beyond the matrices proper. It sometimes happens, therefore, that there is a gradual accumulation or building up of the type metal on the edges and sides of the spaces so that when they are introduced into succeeding lines they have a tendency to prevent the closing up of the line and to crush in or mutilate the side walls of the matrices. This action results in the formation of burrs or projections on the edges of the linotypes between the letters.

The present invention is designed to prevent this accumulation on the spaces. To this end it consists in a scraping or cleaning mechanism designed to act upon the spaces and remove adhering matters therefrom.

The invention consists broadly in the combination with the linotype machine of a scraping or cleaning mechanism adapted to operate automatically on the spaces or matrices, or both, its character being such as to forcibly remove the strongly adhering metal without mutilating the space.

In the accompanying drawings I have represented the device as applied to the Mergenthaler machine of the type represented in Letters-Patent Nos. 436,531 and 436,532, dated September 16, 1890. I have represented herein only those parts which are necessary to an understanding of the present invention, and as to all other parts the machine may be of the exact construction represented in either

of said patents, or of any other approved construction.

In the accompanying drawings,—Figure 1 represents a vertical section through the space box or magazine in which the wedge shaped spacing devices are held, and from which they are delivered to the line below, with the scraper in operative position. Fig. 2 is a similar view with the scraper retracted to permit the passage of the space to the line. Fig. 3 is a face view looking in the direction of the arrow, Fig. 1. Fig. 4 is a top plan view of the lever by which the scraper is actuated. Fig. 5 is a view of one of the spaces commonly known in the art as space bars or bands showing the accumulation of metal thereon.

A, represents the magazine or space box in which the spaces or wedges B, are suspended by means of lips or shoulders b, at their upper ends. The upper edges of the box are inclined downward toward the front so that the spaces feed forward by gravity. At their forward ends the upper edges of the box have retaining lips a, by which the accidental escape of the bands is prevented. The spaces are lifted over these shoulders one at a time by lifting fingers C, operated by a vertically vibrating lever D, connected with the finger key mechanism. As each band is lifted over the lips it descends by gravity through the passage E, into assembling block F, where it is added to the end of the matrix line in course of composition, to be followed in turn by other matrices.

The foregoing actions are the same, or essentially the same, as in the Mergenthaler patents above referred to.

In applying my improvement I pivot to the lever D, an uprising finger or scraper H, the upper end of which is bent toward the space box and brought to a sharp edge so formed and located that it may act on that space bar which for the moment stands at the front of the box or magazine, and at such point on the bar as to remove therefrom the adhering metal shown at b' Fig. 5. The metal will be in the first instance in the form of a thin flake or film, which, being at once attacked, is readily removed by the scraper. At its lower end the scraper is acted upon by a spring I, which

urges its edge toward the space box, and has a lateral projection h' , which, as the scraper rises, encounters a stationary stop h^2 throwing the scraper backward out of contact with the space bar, and away from the face of the magazine in order to leave an unobstructed passage for the descending space. As the lever D descends the scraper acts upon the space as before explained.

10 While I have represented a scraper having a reciprocating motion, it is to be understood that my invention will include a scraper having any other suitable movement and made in any other suitable form, provided only it operates in essentially the same manner or with essentially the same effect as that herein described.

Having thus described my invention, what I claim is—

20 1. In a linotype machine embracing matrices, spaces, and means for assembling them in line, a scraper or cleaner arranged to remove adhering matters from the surface of the spaces.

25 2. In a linotype machine and in combination with mechanism for delivering spaces to the composed line, a knife or scraper, and

mechanism whereby it is caused to act against the spaces to scrape adhering metal therefrom.

3. In a linotype machine, the combination of the space box or magazine, mechanism for delivering the spaces therefrom, and a scraper arranged in the path of the spaces to remove adhering metal therefrom.

4. In combination with the space box, and space delivering devices, the lever D, the scraper H, the spring urging the scraper toward the spaces, and means for retracting the scraper that the spaces may pass thereby.

5. In a linotype machine, in combination with the magazine to contain spacing devices, a scraper to clean said spaces and means for causing said scraper to act on a space in the magazine, and thereafter retract to permit the escape of the space.

In testimony whereof I hereunto set my hand, this 26th day of April, 1892, in the presence of two attesting witnesses.

OTTMAR MERGENTHALER.

Witnesses:

N. CLARENCE ASHCOM,
PH. H. HOFFMAN.