D. S. KENNEDY.

TYPOGRAPHICAL MACHINE.

APPLICATION FILED JUNE 16, 1913.

1,099,503.

Patented June 9, 1914.

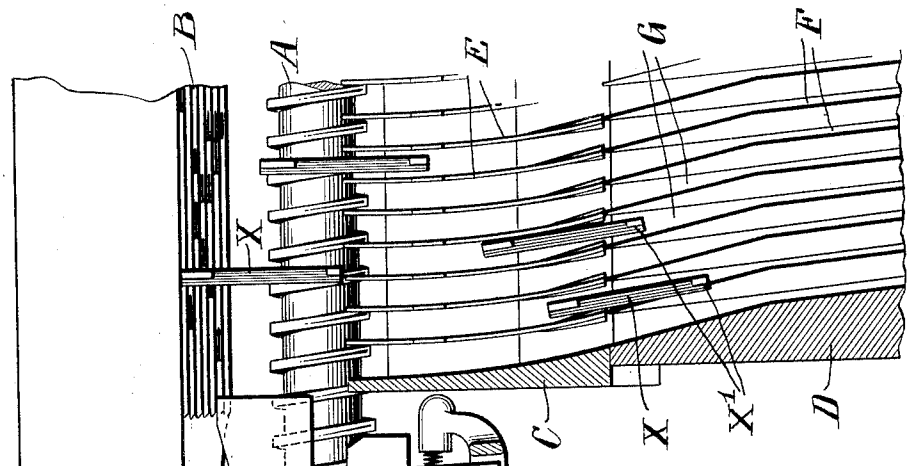

Fig. 2.

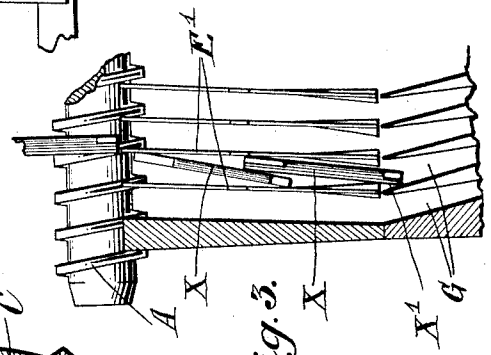

Fig. 3.

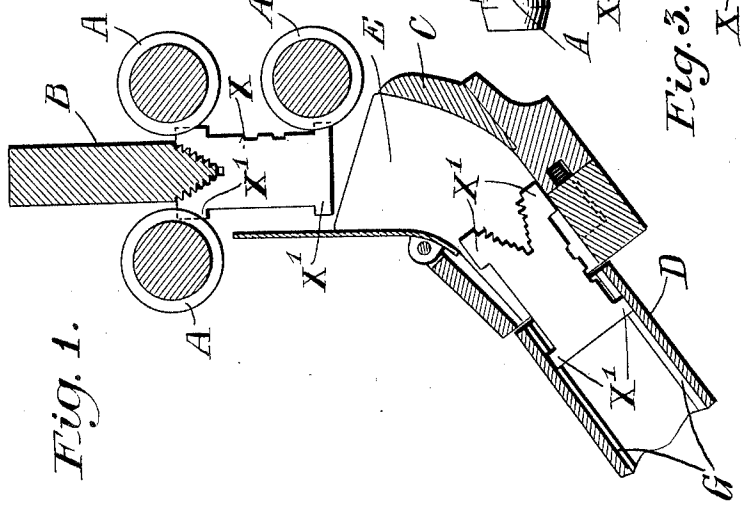

Fig. 1.

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UNITED STATES PATENT OFFICE.

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TYPOGRAPHICAL MACHINE.

1,099,503. Specification of Letters Patent. Patented June 9, 1914.

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To all whom it may concern:

Be it known that I, DAVID S. KENNEDY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Typographical Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to typographical composing machines, such as linotype machines of the general organization represented in Letters Patent of the United States, No. 436,532, to O. Mergenthaler, wherein circulating matrices are released from a magazine in the order in which their characters are to appear in print and then assembled in line, the composed line transferred to the face of a mold, the mold filled with molten metal to form a slug or linotype against the matrices which produce the type characters thereon, and the matrices thereafter returned through a distributing mechanism to the magazine from which they started.

More particularly, it relates to the devices through which the matrices pass from the distributing mechanism into the magazine, and is designed to reduce to a minimum the liability of their being arrested and lodged therein.

In the ordinary commercial linotype machine, the magazine comprises two parallel plates formed with oppositely located laterally inclined grooves designed to receive and engage the ears of the matrices delivered thereto, the upper portions of these grooves being widened or flared to insure the reception of the matrix ears therein. Between the distributing mechanism and the upper portion of the magazine, is located the delivery entrance, which is provided with partitions so as to divide it into channels corresponding to those in the magazine. These partitions, or in some instances other elements, serve to guide the matrices into the magazine channels, either by contact directly with the bodies of the matrices, or with their ears, as the case may be. It is essentially important that the matrices pass through the channel entrance speedily, in order to prevent their being caught therein, which contingency may result in injury or bending of the parts, or at the best, in the arrest of the distributing mechanism and the consequent loss of time thus involved.

As previously pointed out, the magazine channels, and particularly their flared mouths, are angularly or laterally inclined, while the entrance channels have ordinarily been located in vertical position, or even at a more pronounced angle to the mouths of the magazine channels. This arrangement has had the effect of slowing the passage of the matrices into the magazine, due to the change in direction of their path, or in other words to the necessity for turning a corner. This slowing or hesitation of the matrix frequently results in its being overtaken and lapped by a second matrix, and particularly in cases where the same characters have been successively employed in composition. As the entrance channel is ordinarily of insufficient width to permit the passage of two matrices side by side, they become lodged therein, and the distributing mechanism is arrested, through the automatic stop or otherwise, to permit the operator to clear the parts. In order to obviate this difficulty, and to permit the matrix to pass through the channel entrance in the briefest possible time, I bend or incline its partitions laterally in such manner that they correspond substantially in direction to the flared mouths of the magazine channels, and so that the matrix pursues a continuous and uninterrupted path into the magazine.

In the accompanying drawing, I have shown my invention in preferred form and by way of example, and as applied to the particular style of machine already mentioned. However, many variations and modifications may be made therein, and in its mode of adaptation, which will still be comprised within its spirit. Also, it may similarly be applied to typesetting machines, type casting machines, etc., which handle type or dies instead of matrices.

Generally speaking, I desire it to be understood that I do not limit myself to any specific form or embodiment, except in so far as such limitations are specified in the claims.

Referring to the drawing: Figure 1 is a transverse vertical section through the distributing mechanism, the upper portion of the magazine, and the channel entrance, with my invention applied thereto; Fig. 2

is a longitudinal, vertical section through the same parts; and Fig. 3 is a fragmentary detail, illustrating the manner in which the matrices clog in the ordinary construction.

Referring to Figs. 1 and 2, the matrices X are as usual conveyed by the screws A along the distributer rail B, from which they drop at the proper points and pass through the channel entrance C into the magazine D. The magazine is formed in its walls with the oppositely-located grooves F to receive the ears X′ of the matrices, the grooves F being inclined laterally and widened or flared at their upper portions, as at G, to insure the reception of the matrix ears in different relative positions. Except as hereinafter set forth, the parts so far described are or may be of any approved construction, which in itself constitutes no part of the present invention.

The entrance C is divided into channels by the transverse partitions E, which according to my invention are curved or inclined laterally at their lower portions, so that the channels are caused to correspond in location and slope to the upper flared mouths G of the magazine channels F. Due to this arrangement and construction, the matrices pass directly through the entrance C and into the magazine in substantially the same direction, without being forced to turn a corner, and therefore without hesitation and in the briefest possible time. As a result, the liabilty of a matrix to being overtaken by a succeeding one and of their being lodged in the entrance is reduced to a minimum.

Referring to Fig. 3, which illustrates the construction now in general use, it will be noted that the entrance partitions E′ do not slope in the general direction of the mouths of the magazine channels, but are located at an angle thereto. As previously pointed out, a matrix is therefore apt to be temporarily arrested in its passage into the magazine, and sometimes to an extent sufficient to permit the next matrix to overtake and lap it, so that both become jammed in the entrance.

As already stated, I have shown my invention only in preferred form and by way of example, and as applied to a linotype machine, but many modifications and changes in its construction and mode of adaptation will suggest themselves to those skilled in the art without departure from its scope.

Having thus described my invention, its construction and mode of operation, what I claim and desire to secure by Letters Patent of the United States, is as follows:

1. In a typographical machine, the combination of a magazine for the type or matrices, formed with laterally inclined channels, and a delivery entrance therefor including a series of corresponding inclined channels constructed to deliver the type or matrices to the magazine always at the same lateral inclination throughout said series as that of their respective magazine channels.

2. In a typographical machine, the combination of a magazine for the type or matrices, formed with laterally inclined channels, and a delivery entrance therefor formed with a series of channels located and laterally inclined to correspond to the magazine channels and normally fixed relatively to their respective magazine channels, so that the type or matrices will always pass from one to the other throughout the series in a substantially continuous path.

3. In a typographical machine, the combination of a magazine for the type or matrices, formed with laterally inclined channels, and a delivery entrance therefor formed with a series of channels registering therewith and similarly inclined and normally fixed relatively to the magazine channels, so that the type or matrices will always pass from one to the other throughout the series in a substantially continuous path.

4. In a typographical machine, the combination of a magazine for the type or matrices, formed with laterally inclined channels, and a delivery entrance therefor provided with partitions dividing it into a series of channels normally stationary relatively to their respective magazine channels, the said partitions being laterally inclined, the channels of all of the series at all times corresponding with the lateral inclination of the respective magazine channels, so as always to deliver the matrices to the magazine throughout the series at such inclination.

In testimony whereof I have affixed my signature in presence of two witnesses.

DAVID S. KENNEDY.

Witnesses:
HAROLD A. BURT,
MARY BRANDT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."