

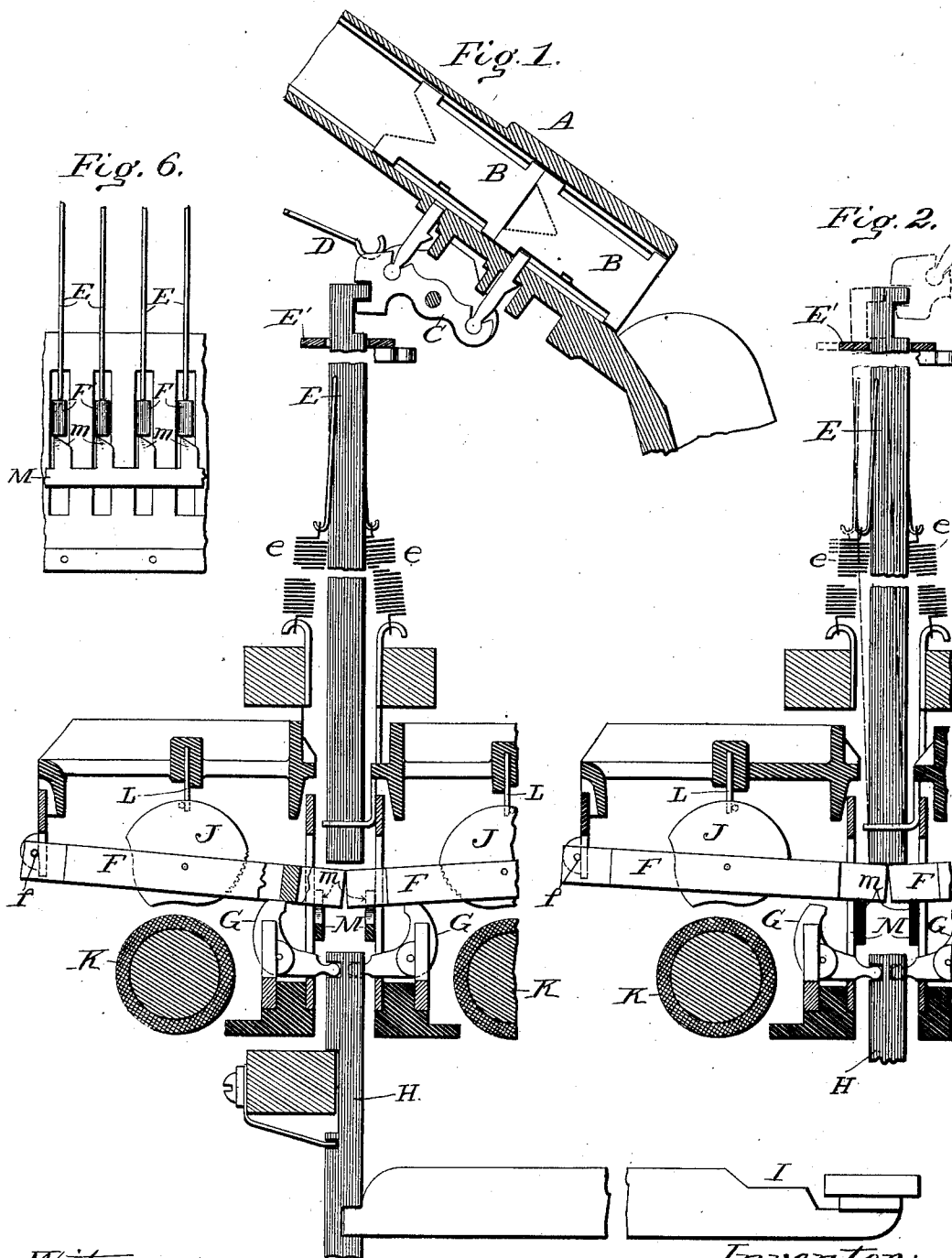
No. 756,477.

PATENTED APR. 5, 1904.

J. M. COONEY.
LINOTYPE MACHINE.
APPLICATION FILED NOV. 11, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses;
W. E. Bendine.
a. m. e. Kennedy.

Inventor;
J. M. Cooney
by P. T. Sodge
Att'y.

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2 SHEETS—SHEET 2.

Fig. 3.

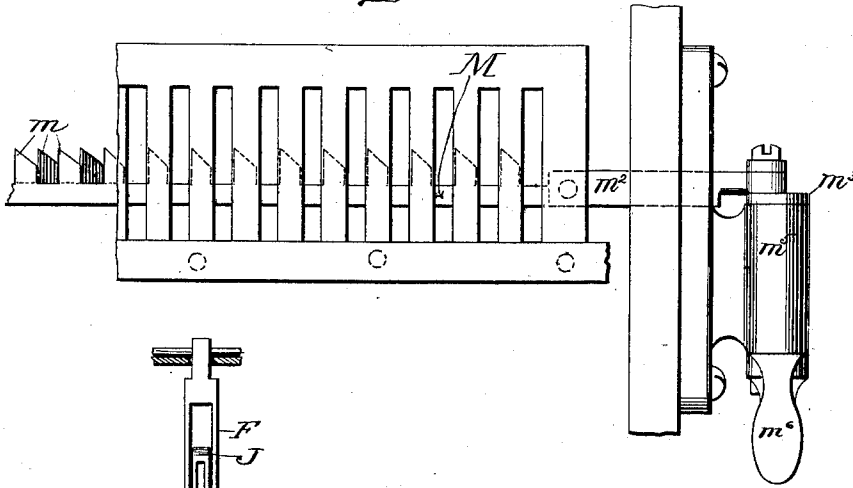


Fig. 4.

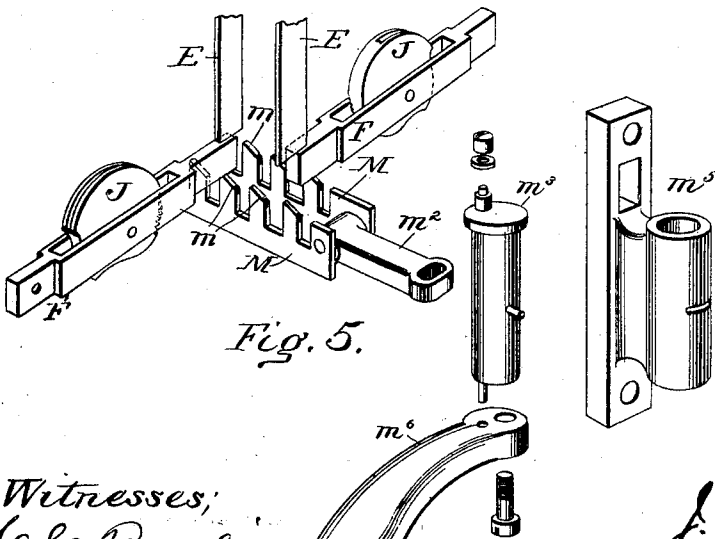
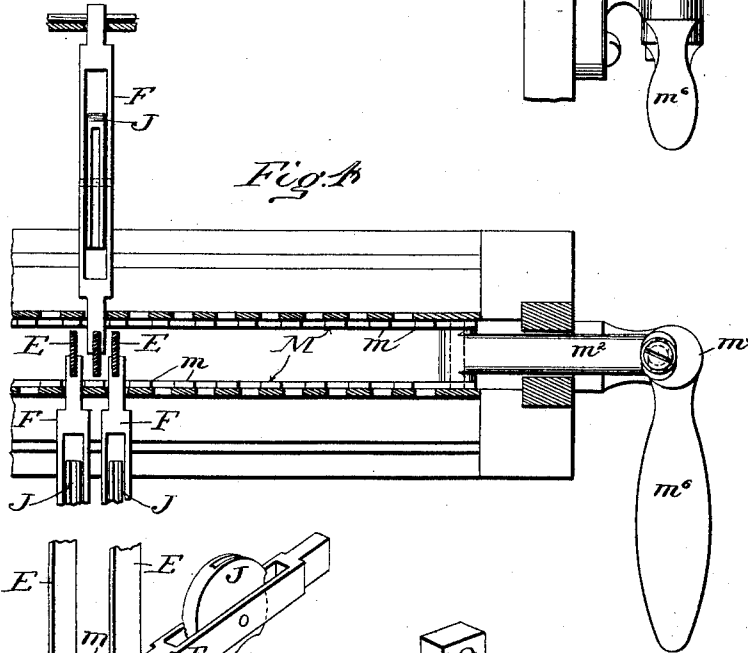


Fig. 5.

Witnesses:
 C. E. Brindley
 A. M. E. Kennedy

Inventor:
 J. M. Cooney
 By P. T. Sledge
 Atty.

UNITED STATES PATENT OFFICE.

JOHN MACAULEY COONEY, OF RACINE, WISCONSIN, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,477, dated April 5, 1904.

Application filed November 11, 1903. Serial No. 180,756. (No model.)

To all whom it may concern:

Be it known that I, JOHN MACAULEY COONEY, of Racine, county of Racine, and State of Wisconsin, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

This invention has reference more especially to mechanism used in the Mergenthaler linotype-machine for effecting the delivery of the individual matrices from the magazine in the order in which they are to be temporarily assembled.

The mechanism used in the commercial linotype-machine is of the general construction represented in United States Letters Patent, No. 530,931, to Philip T. Dodge. It includes as elements vertical escapement-actuating rods which are pulled downward by springs and individually lifted by underlying yokes carrying small cams which ride on rubber rolls beneath them. The machines are so constructed that the upper ends of the rods may be drawn backward out of engagement with the escapements in order to permit the removal of the magazine and the substitution of another carrying a different font or set of matrices. Preparatory to the disengagement of the rods it is desirable to support them and their actuating-yokes in an elevated position, so that they may be readily engaged with the escapements of the second magazine after it is placed in position.

My invention consists in means embodied in and forming part of the machine and common to the series of yokes and rods whereby they may be instantly supported and instantly released again when they are to be brought into action.

While I have represented in the accompanying drawings a construction which is found in practice to answer its purpose, it is to be understood that I believe myself to be the first to incorporate in a linotype-machine mechanism for instantly supporting or releasing the series of escapement-actuating devices and that the details may be widely modified without passing beyond the scope of my invention.

In the accompanying drawings I have shown

my improvement as applied to the commercial Mergenthaler mechanism.

Figure 1 represents a vertical cross-section through the linotype mechanism with my improvement embodied therein, the parts being in operative position. Fig. 2 is a similar view of the parts with the cam-yokes and rods locked in their elevated or inoperative position. Fig. 3 is a side view of the yoke-guides with my supporting devices incorporated therein. Fig. 4 is a horizontal section on the line 4 4 of Fig. 3 looking downward. Fig. 5 is a perspective view showing the parts separated from each other. Fig. 6 is an end elevation of a series of matrix-yokes with the supporting-plate sustaining them in elevated position.

Referring to the drawings, A represents the inclined magazine, having longitudinal channels to guide the gravitating matrices B, the escapement of which is controlled by the centrally-pivoted escapement-levers C, having at opposite ends dogs or pawls which are alternately projected upward through the bottom of the magazine. There is an escapement for each magazine-channel and its row of contained matrices. A spring D acts on each escapement and tends to retract the lower dog to permit the escape of the foremost matrix from the magazine. To each escapement there is hooked the upper end of a vertically-guided rod E, urged constantly downward by a spring of sufficient strength to overcome the spring D, and thereby hold the lower escapement-pawl normally in the elevated position, as shown. The bars E are guided in the main frame, and the upper guide E' is movable horizontally to permit the disengagement of the series of rods when the magazine is to be removed from the machine.

F F represent a series of horizontal yokes supported at their outer ends on horizontal pivots, and arranged at their inner vertically-swinging ends beneath the respective rods E. Each yoke is slotted vertically to receive the cam or eccentric J, mounted on a horizontal pivot therein.

K represents a constantly-rotating roll

covered with rubber or like material and extending transversely of the keyboard beneath the series of yokes and cams. The cams stand normally at rest with shoulders in engagement with fixed stop-pins L in the main frame. While the cams are thus held, the yokes are maintained in an elevated position with their cams clear of the roll K by angular supporting-dogs G, pivoted in the main frame and connected through vertical sliding rods H with the finger-key levers I.

When the front end of the finger-key is depressed, the dog G is caused to release the yoke F, which falls until its cam J disengages from the stop-pin L and bears upon the roll K, from which it receives rotary motion by reason of the frictional engagement between their peripheries. As the cam rotates its eccentricity causes it to push the yoke F upward above its original position until it lifts the rod E, so as to reverse the position of the escapement and release the matrix. The finger-key being instantly released, the dog G resumes its first position and arrests the descending yoke at its original height. The cam J being heavier on one side than the other continues to turn forward until it is arrested by the stop-pin in its original position and out of engagement with the roll. In order to prevent the crowding of the parts, the yokes are arranged in two series, right and left, to engage the alternate rods E. All of the foregoing parts are constructed and operate as usual and form no part of my invention.

The aim of my invention is to give support to the yokes F and rods E in their normal positions of rest or at a slightly higher level. For this purpose I propose to extend beneath the rising and falling ends of the yokes a lifting or supporting device of any suitable character adapted to sustain the series of yokes and the rods bearing thereon.

In the form shown the support consists of two horizontally-movable plates M, extended one beneath each roll or series of yokes. Each plate is seated or supported in the frame and is provided in the upper edge with a series of vertical slots in which the ends of the yokes play when they are in action and between the slots with a series of fingers *m*, the upper ends of which are beveled or inclined, so that when the plates are moved endwise from their normal position they will act beneath the series of yokes and give the latter and the rods resting upon them the requisite support, as shown in Figs. 2 and 5.

In the commercial machine and in order to avoid interference with the other parts I employ two plates M, one for the front and the other for the rear series of yokes, and I connect these plates at one end to a horizontal operating-bar *m*², the outer end of which is slotted transversely to receive a crank-pin on the upper end of a vertical rock-shaft *m*³,

which is supported in a bracket or plate *m*⁵, fixed to the main frame. The lower end of this rock-shaft is provided with an operating-handle *m*⁶. By moving this handle in one direction both supporting-plates are drawn endwise and their teeth presented beneath the yokes to give the yokes and rods the requisite support. When the handle is moved in the opposite direction, both plates M are shifted endwise and the yokes released, so that the machine may operate in the usual manner.

The employment of a plate or lifting device remaining permanently in the machine and adapted for adjustment to instantly support or release the series of escapement actuating-rods constitutes the essence of my invention.

While it is preferred to have the supports act through the yokes, the only essential requirement is that they shall give support to the escapement-rods, as these are the parts which require to be maintained in the elevated position.

It will be observed that my mechanism is adapted in and of itself and without manual assistance to sustain the rods in an elevated position. In this respect it is to be distinguished from manual devices for lifting the rods, by which the rods are sustained only so long as the parts are held in position by the attendant.

Having thus described my invention, what I claim is—

1. In a linotype-machine and in combination with a series of cam-yokes, an adjustable mechanism mounted in the machine for the purpose of sustaining said yokes in inoperative positions.

2. In a linotype-machine and in combination with a series of escapements, the bars for actuating the same, cam-yokes for actuating the bars, and an adjustable mechanism to sustain the series of yokes.

3. In a linotype-machine, a series of keyboard cam-yokes, in combination with a movable underlying bar to sustain the series of yokes in inoperative position, and means for adjusting said bar.

4. In a linotype-machine, a series of keyboard cam-yokes and a movable bar underlying said yokes and adapted to lift them in unison.

5. In a linotype-machine and in combination with a series of cam-yokes, an underlying, longitudinal, movable bar or plate, having a series of inclined surfaces to act beneath the respective yokes.

6. In a linotype-machine, the two series of cam-yokes arranged on opposite sides of the median line, in combination with the two underlying supporting bars or plates and means for operating the same.

7. In a linotype-machine, the combination of a series of cam-yokes, a plate M to sustain the same in inoperative positions, an operat-

ing-handle, and connections communicating motion from said handle to the plate.

8. In a linotype-machine and in combination with the cam-yokes, the two plates M, the actuating-bar *m*², and a vertical shaft connected to said bar and provided with an operating device.

9. In a linotype-machine and in combination with a series of escapement operating-rods, means forming a permanent part of the

machine, adapted to lock the rods in an elevated position.

In testimony whereof I hereunto set my hand, this 7th day of November, 1903, in the presence of two attesting witnesses.

JOHN MACAULEY COONEY.

Witnesses:

JAS. McCLEARY,

FRED HARTWIG.