J. R. ROGERS.

TYPOGRAPHICAL COMPOSING MACHINE.

APPLICATION FILED APR. 22, 1912.

1,067,553. Patented July 15, 1913.

Fig. 1.

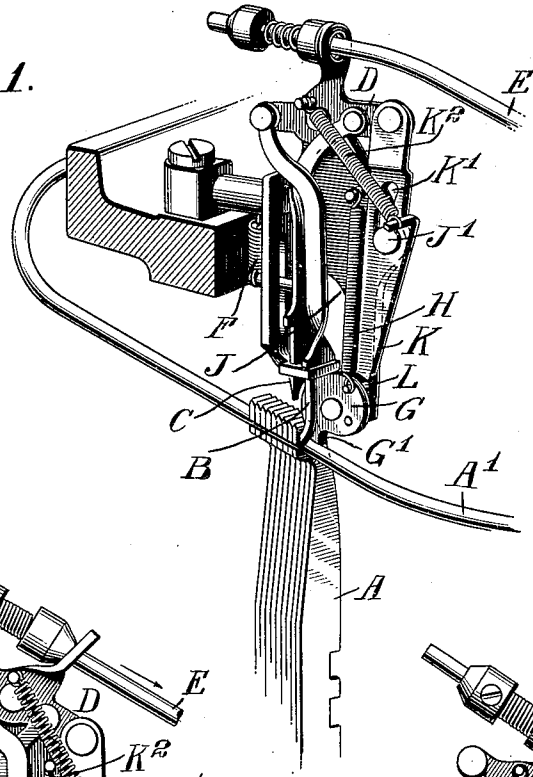


Fig. 2.

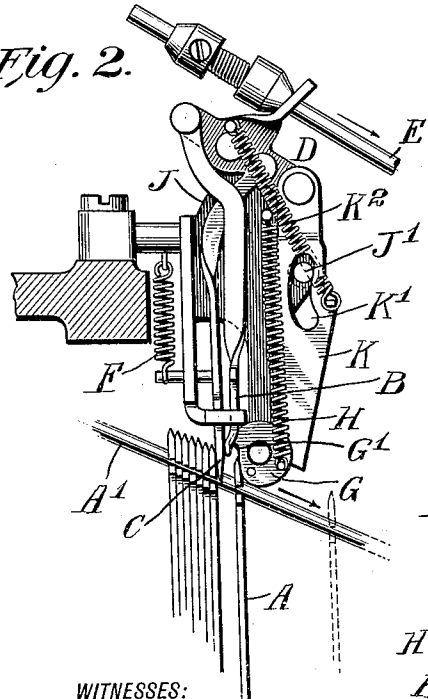


Fig. 3.

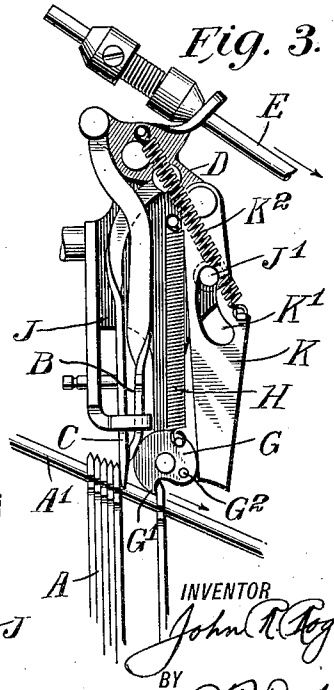
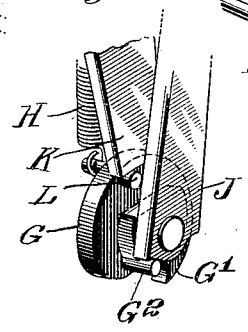


Fig. 4.



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TYPOGRAPHICAL COMPOSING-MACHINE.

1,067,553. Specification of Letters Patent. Patented July 15, 1913.

Application filed April 22, 1912. Serial No. 692,240.

To all whom it may concern:

Be it known that I, JOHN R. ROGERS, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Typographical Composing-Machines, of which the following is a specification.

My invention relates to typographical composing machines, such as line casting machines of the general organization represented in my former Letters Patent of the United States, No. 955,695 and No. 679,481, wherein circulating matrices are released from their place of storage in the order in which their characters are to appear in print and 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 to the place of storage from which they started. In the said patents, the matrices are of the "captive" or suspended variety, that is to say, they are mounted upon guides or wires, along which they pass to the place of assemblage.

It sometimes happens, and particularly in connection with matrices of the kind referred to, that when released by the escapement, they are sluggish or slow to move, which tendency is accentuated in the event that the parts are rusted or are not perfectly clean, and this hesitancy may result either in the transposition of characters in the composed line, or even in the complete arrest of the matrix before it reaches the line.

It is the purpose of my invention to overcome these and similar disadvantages, and to this end I provide means which automatically act upon the released matrix to overcome its inertia and to accelerate it in the direction of its normal travel. Preferably these accelerating means are connected to the escapement, and in the specific form shown and described, they comprise a rotary disk operatively connected to a spring, the various positions of which are automatically controlled by the actuation of the escapement.

In the accompanying drawing, I have shown my improvement by way of example and in preferred form, and as applied to the specific kind of machine already mentioned, but obviously many changes and variations may be made therein, and similarly it may be used in connection with other typographical composing machines, such as typesetters, typecasters, and the like, and in connection with "free" type or matrices, without departure from its spirit; and 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 perspective view of the escapement, with my invention applied thereto; Fig. 2 is a side view of the same, illustrating the parts in different position; Fig. 3 is a similar view, illustrating the parts in still another position; and Fig. 4 is a perspective detail, showing the other side of the accelerating disk.

Referring to the drawing, the general construction and arrangement is or may be substantially the same as in my previously mentioned Letters Patent. The matrices A are normally suspended from and stored upon the guide or wire A^1. Their individual release is governed by an escapement comprising the pawls B and C connected to the rocking lever D. A spring F connected to the pawl C holds the parts in the position shown in Fig. 1, and the escapement is operated from the keyboard by the connection E, in the customary manner. In the normal position of the parts, the pawl B stands in front of the matrices and the pawl C is elevated. When the connection E is operated, the lever D is swung about its pivot to elevate the pawl B and depress the pawl C, thereby releasing the foremost matrix and interposing the pawl C before the remaining ones, as illustrated in Fig. 2.

It sometimes occurs, and due to a variety of reasons, that the released matrix acts sluggishly and does not pass quickly along the guide or wire A^1 to its destined position in the composed line. To overcome the inertia of the matrix and to accelerate it in its normal path along the guide or wire, I employ additional means which are preferably connected to and operated in unison with the escapement. In the specific form shown and described, these means comprise the rotary disk G, formed with a projecting

lip G^1, and mounted in the frame plate J, and further provided with a pin G^2 so disposed with reference to the plate J that a certain limited amount of rotary movement of the disk is permitted. A spring H is connected to the disk G and to the stationary plate J in such manner that the disk is normally held in the relation shown in Fig. 1, with its lip G^1 in its lowermost position and in front of the line of stored matrices. When the escapement is actuated in the manner previously described, the disk G is reciprocated about its axis so that its lip G^1 will engage and accelerate the released matrix, and to this end I provide the depending arm K, which is pivotally mounted upon the escapement lever D and normally held by a spring K^2 in its innermost or active position, that is to say, with its end over and in readiness to engage a pin L projecting from the side of the disk G (see Fig. 4). The arm K is formed with the curved slot K^1 to engage a fixed stud J^1 upon the frame plate J.

The operation of the parts will now be clearly understood. When the escapement lever D is swung about its pivot by the connection E, the suspended arm K is moved downwardly, and by reason of its engagement with the pin L, the disk G is rotated about its axis against the force of the spring H, so as to bring the lip G^1 above and in position to engage the matrix released by the pawl B (see Fig. 2). The downward movement of the arm K, and due to the engagement of the slot K^1 therein with the fixed stud J^1, has also shifted it laterally with relation to the pin L on the disk G, and as the movement continues, the arm K becomes disengaged from the pin L (see Fig. 3), whereupon the spring H acts suddenly to rotate the disk G in the reverse direction, and the lip G^1 thereon engages the released matrix A and assists in overcoming its inertia and accelerates it in the direction of its normal travel along the guide or wire A^1. This action restores the disk G to its normal position, and upon the return movement of the escapement, the arm K is again moved inwardly by the spring K^2 into operative relation to the pin L. The parts are now in readiness to repeat their operation when the escapement is again actuated.

As previously stated, I have illustrated my invention by way of example and in preferred form, but obviously many modifications and variations thereof will suggest themselves to those skilled in the art and still be comprised within 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 composing machine, the combination of a suspended type or matrix, its suspending guide, an escapement therefor, and a device to overcome the inertia of the type or matrix and accelerate it along its guide.

2. In a typographical composing machine, the combination of a suspended type or matrix, its suspending guide, an escapement therefor, and a device connected to the escapement to accelerate the type or matrix along its guide.

3. In a typographical composing machine, the combination of a suspended type or matrix, its suspending guide, an escapement therefor, and a device operated by the escapement to accelerate the type or matrix along its guide.

4. In a typographical composing machine, the combination of a suspended type or matrix, its suspending guide, and a rotary device to overcome the inertia of the type or matrix and accelerate it along its guide.

5. In a typographical composing machine, the combination of a suspended type or matrix, its suspending guide, an escapement therefor and a rotary accelerating device for the type or matrices and controlled in its rotation by the operation of the escapement.

6. In a typographical composing machine, the combination of a suspended type or matrix, its suspending guide, a reciprocating escapement therefor and a rotary accelerating device for the type or matrices connected to the escapement so as to be controlled by its reciprocation.

7. In a typographical composing machine, the combination of a suspended type or matrix, its suspending guide, an escapement therefor, a rotary accelerating device formed with a lip to engage the type or matrix, and means for effecting the rotation of said device upon the operation of the escapement.

8. In a typographical composing machine comprising type or matrices, the combination of an escapement, the accelerating disk G, the spring H, and the actuating member K connected to the escapement.

9. In a typographical composing machine comprising type or matrices, the combination of an escapement, the accelerating disk G the spring H, and the actuating member K connected to the escapement and formed with the slot K^1 to engage a fixed portion of the framework.

10. In a typographical composing machine comprising type or matrices, the combination of an escapement, an accelerating member, an operating spring therefor, and connections whereby the actuation of the escapement energizes the said operating spring.

11. In a typographical composing machine comprising type or matrices, the com-

bination of an escapement, an accelerating member, an operating spring therefor, and connections whereby the actuation of the escapement energizes the said operating spring and then permits it to act.

12. In a typographical composing machine comprising type or matrices, the combination of an escapement, an accelerating member, and connections whereby the actuation of the escapement first energizes the said accelerating member and then permits it to operate.

In testimony whereof I hereunto set my hand this 17th day of April, 1912, in the presence of two attesting witnesses.

JOHN R. ROGERS.

Witnesses:
D. S. KENNEDY,
ARTHUR P. PAINE.

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