

(No Model.)

G. J. BARRETT.
TYPE WRITING MACHINE ATTACHMENT.

No. 545,035.

Patented Aug. 20, 1895.

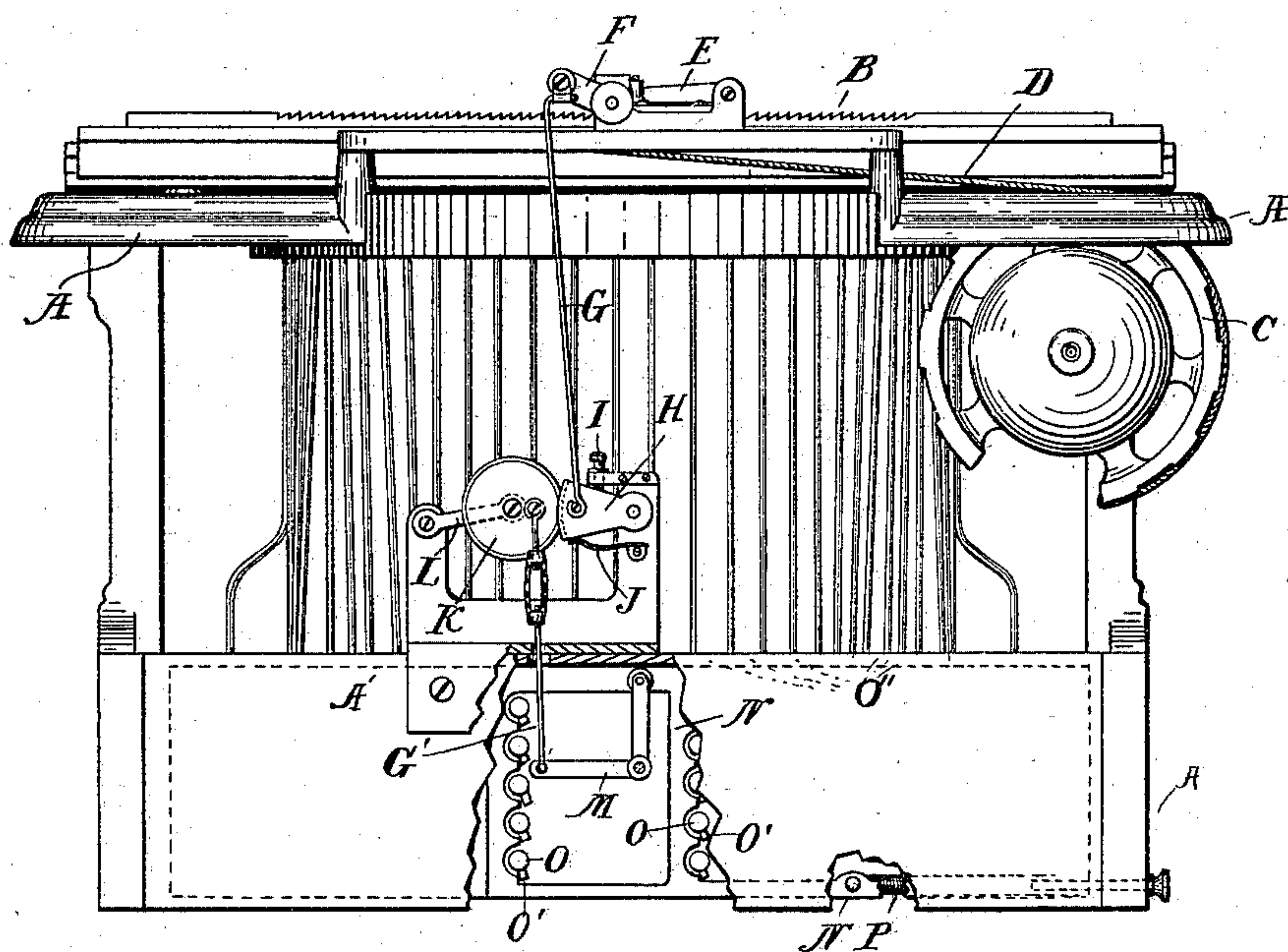


Fig. 1.

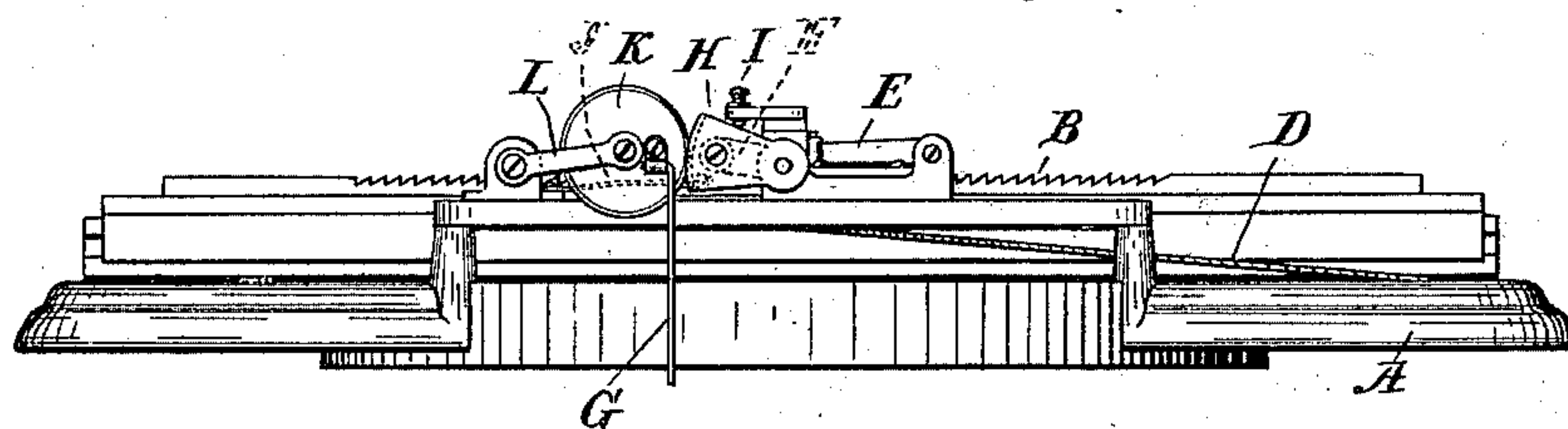


Fig. 2.

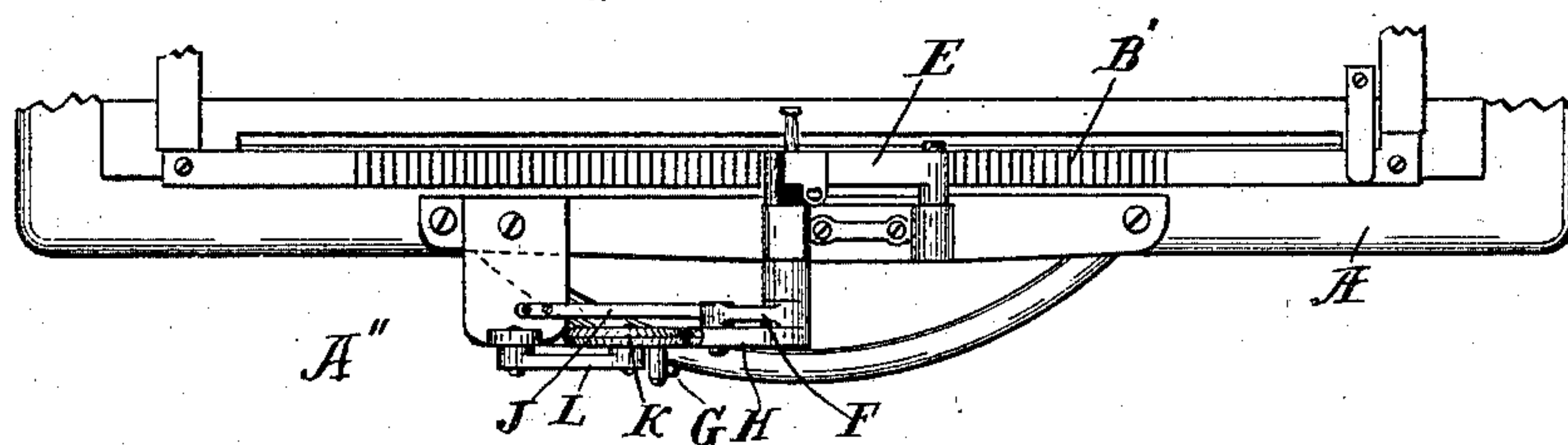


Fig. 3.

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TYPE-WRITING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 545,035, dated August 20, 1895.

Application filed September 10, 1894. Serial No. 522,620. (No model.)

To all whom it may concern:

Be it known that I, GLENN J. BARRETT, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Type-Writing-Machine Attachments for Actuating Escapements; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an attachment for a type-writing machine, more particularly to an actuating device for the escapement in that class of machines having a platen on a horizontally-movable spring-actuated carriage, an escapement governing the movement of the carriage, a spring-actuated puller-rod for the escapement connected to the finger-keys which operate the type-bars and wherein the movement of the puller-rod and the type-bar is simultaneous, the movement of both being controlled by the finger-keys. In this class of machines when the finger-key is depressed the puller-rod makes its downward movement and the type-bar its upward movement, and when the key is released the rod makes its upward movement and the type-bar its downward movement. On the downward movement of the puller-rod the carriage is held steady while the type-bar makes its upward movement and strikes upon the platen, while the upward movement of the puller-rod actuates the escapement and releases the carriage, which moves to the left one space, to be in position for the next letter to be printed. The quickness with which the finger of the operator is removed from the finger-key determines the quickness of the movement of the carriage after the type has struck upon the platen. Therefore it not infrequently happens that when the machine is being rapidly operated a key is depressed before the pressure of the finger is wholly removed from the last key struck and before the type has receded from the platen a sufficient distance to allow the movement of the carriage to take place. The result is that one letter is printed over the other. For this reason it is impossible to write beyond a certain speed. Now

the object of my invention is to prevent this piling or printing of letters on top of each other on the paper, no matter at what speed the machines may be operated. This I accomplish by providing for a rapid and independent action of the escapement immediately after the type-bar is thrown against the paper, thereby releasing the carriage, so that it will move a space before the next type can possibly reach the platen.

The mechanism of my device is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification.

Two methods of applying the attachment are shown. In Figure 1 the puller-rod is cut in two and the attachment located at the lower portion of the machine. In Figs. 2 and 3 the attachment is located on the top of the frame. Fig. 3 is a plan view of Fig. 2.

Referring now to Fig. 1, which represents a rear elevation of a type-writing machine of the class described, having the frame A, the horizontally-movable carriage B, carrying the platen (not shown) thereon, and the toothed rack B', which is engaged by the escapement E of the usual make-and-break pattern.

D is a cord or cable attached to the carriage and connected to a concealed spring C, which retracts the carriage in the usual manner.

F is the crank of the escapement-shaft and G is the puller-rod, having the lower portion G' connected to spring-actuated finger-keys in any suitable manner, preferably as herein shown, wherein a series of horizontally-arranged rods O are rotatably connected to the keys and to a series of vertically-movable rods O'', attached to the type-bars, whereby pressure upon the finger-keys causes rotation of the rods O, downstroke of rods O'', and upstroke of the type-bars, and actuating springs return movements to positions of rest. The lower end of the puller-rod is attached to the horizontal arm of the bell-crank lever M, which is pivoted to the frame of the machine and has its vertical arm pivoted to the horizontally-movable frame N, having the retracting-spring P and having a series of semicircular notches engaged by the short arms O' of the rods O. Hence it is apparent that press-

ure upon the finger-keys causing rotation of the rods O, producing upstroke of the type-bar, at the same time causes longitudinal movement of the frame N to the left; downward movement of horizontal arm of lever M, and downstroke of the puller-rod, and that when pressure on the finger-key is removed the retracting-springs return the parts to their positions of rest and make the upstroke of the puller-rod, whereby the movement of finger-key controls the movement of the type-bars and of the carriage. However, the mode or manner of making these connections, or whether the escapement is actuated on the up or the down stroke of the rod is unimportant, so long as the movements of finger-key control the movement of the type-bar and the escapement puller-rod, for the reason that my device consists, essentially, in the interposition of a frictionally-engagable clutching device between the end of the puller-rod and the crank of the escapement.

For attaching the device as in Fig. 1, I provide a plate A' with two upwardly-projecting portions. A friction-wheel K is mounted upon the end of a bar L, pivoted to the frame A', whereby said wheel has a vertical as well as a rotary movement upon its axis, or, rather, it has two rotary movements, one upon its own axis and the other upon the axis of the pivot. Opposite to this wheel, pivoted to vibrate in the same plane, is the segment H, having a set-screw I for adjusting and a spring J for actuating its movement. The rim of the wheel is beveled or rounded and the rim of the segment grooved for greater frictional surface, as shown in Fig. 3. This wheel and segment are so adjusted that their rims may be brought into frictional contact above the plane of their respective pivots, whereby downward pressure upon either will bring their rims together, so as to lock and effectually prevent rotation of the wheel until pressure is relaxed, and further pressure would have a tendency to throw the pivots farther apart. The end of the puller-rod is attached to the side of the wheel and the segment is connected to the crank of the escapement, whereby when the puller-rod makes its downward movement the wheel engages the segment and is thereby locked. The length of the puller-rod is so adjusted that its downward movement is arrested by the outward pressure of the parts upon their respective pivots just at the point or instant when the type strikes upon the platen. The instant this has taken place and the pressure upon the finger-key is slightly relaxed and the strain upon the puller-rod is also slightly relaxed; this is sufficient to cause a very slight revolution of the wheel upon its axis, thereby releasing the segment, which is instantly returned to its upper position of rest by the action of the spring J, thereby actuating the escapement and releasing the carriage, which now moves horizontally upon its ways a space.

Thus the movement of the carriage takes place before the return movement of the puller-rod has fairly begun, and the platen is in position to receive the stroke of the next type-bar before the pressure of the finger of the operator upon the key has been perceptibly removed or sufficiently removed to cause a return movement of the puller-rod sufficient to actuate the escapement if directly attached thereto. Completion of the return movement of the puller-rod returns the wheel to its upper position, ready for a new engagement.

In Fig. 2 the plate A'' is attached to the top of the frame, the bar L pivoted on, and the end of the spring J secured thereto, its free end engaging the crank of the escapement-shaft, to which the segment H is attached.

Having now described my invention and its mode of operation, I claim—

1. In a type writing machine of the class described, in combination with the escapement, a frictionally engageable clutching device having its friction surfaces peripheral, vibratable axially on fixed pivots, mounted and adjusted for intermittent contact and arranged between, and connecting the end of the puller rod and the crank of the escapement, substantially as and for the purposes set forth.

2. In a type writing machine of the class described, a clutching device, consisting of a friction wheel journaled on a pivoted arm and a segment having its periphery adapted to the periphery of said wheel, mounted and adjusted for intermittent engagement, and arranged between the end of the puller rod and the escapement, substantially as and for the purposes set forth.

3. In a type writing machine of the class described, a clutching device, consisting of a friction wheel, mounted for vertical as well as rotary movement, and a segment having its periphery adapted to the periphery of said wheel, pivoted to rotate in the same vertical plane with said wheel, adjusted for intermittent engagement therewith, and arranged between the end of the puller rod and the escapement shaft, substantially as and for the purposes herein set forth.

4. In combination with the escapement and puller rod, a friction wheel mounted for vertical as well as rotary movement, connected to the end of the puller rod, a segment having its periphery adapted to said wheel and pivoted for intermittent engagement therewith and connected to the escapement, and a spring for actuating the segment, arranged substantially as described and for the purposes set forth.

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

GLENN J. BARRETT.

Witnesses:

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