

No. 637,347.

Patented Nov. 21, 1899.

L. C. MYERS.
RIBBON FEED MECHANISM.

(Application filed Jan. 17, 1899.)

(No Model.)

Fig. 1.

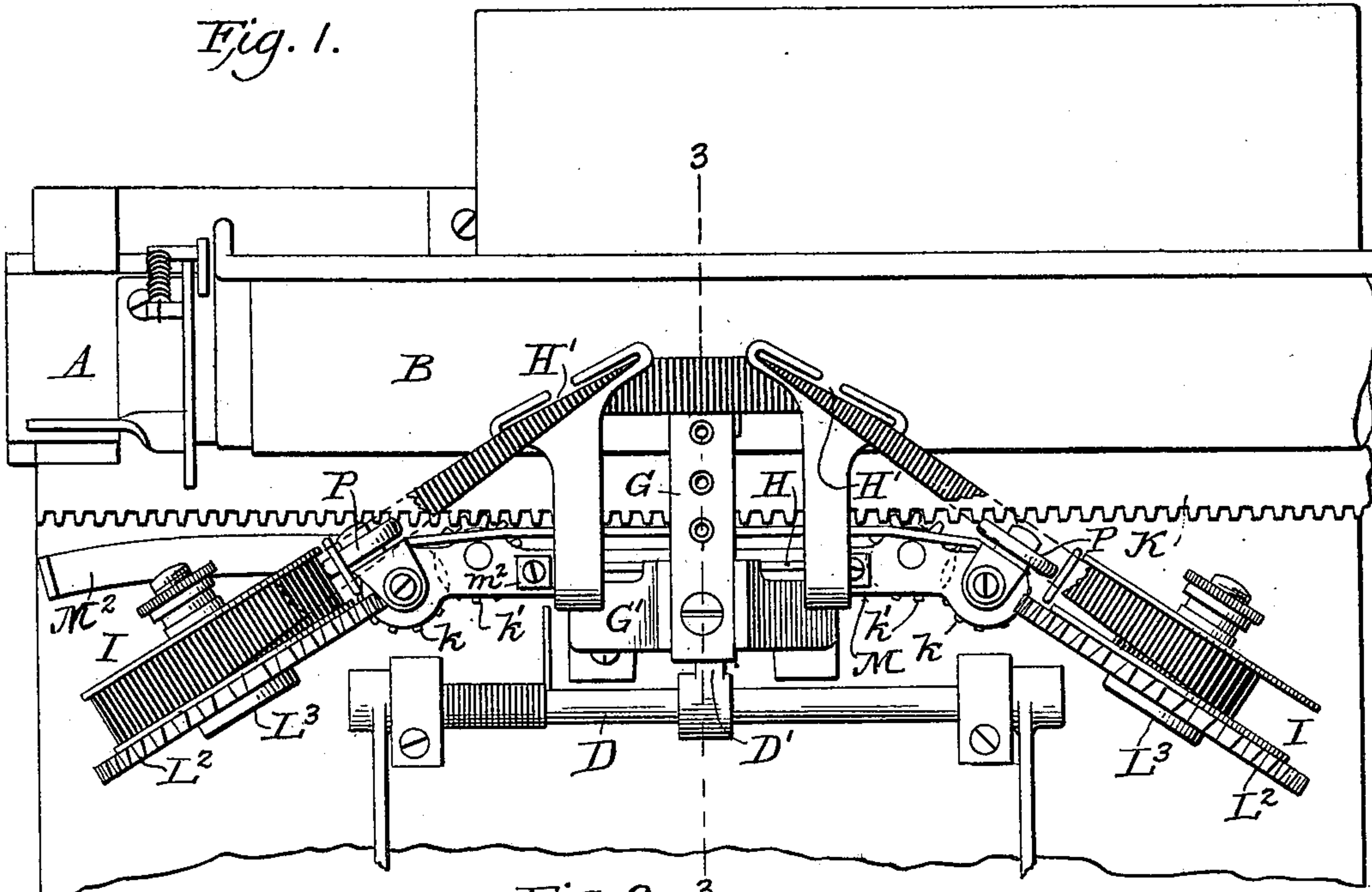


Fig. 2.

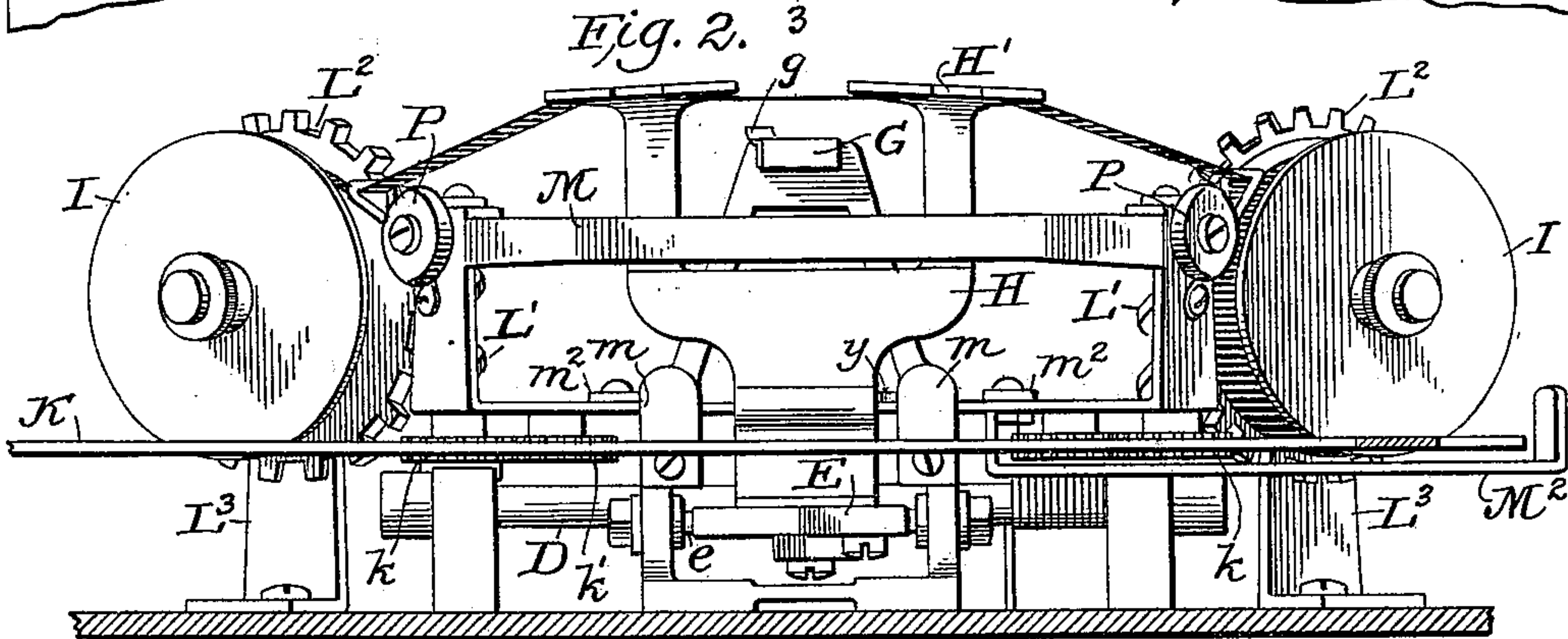


Fig. 4.

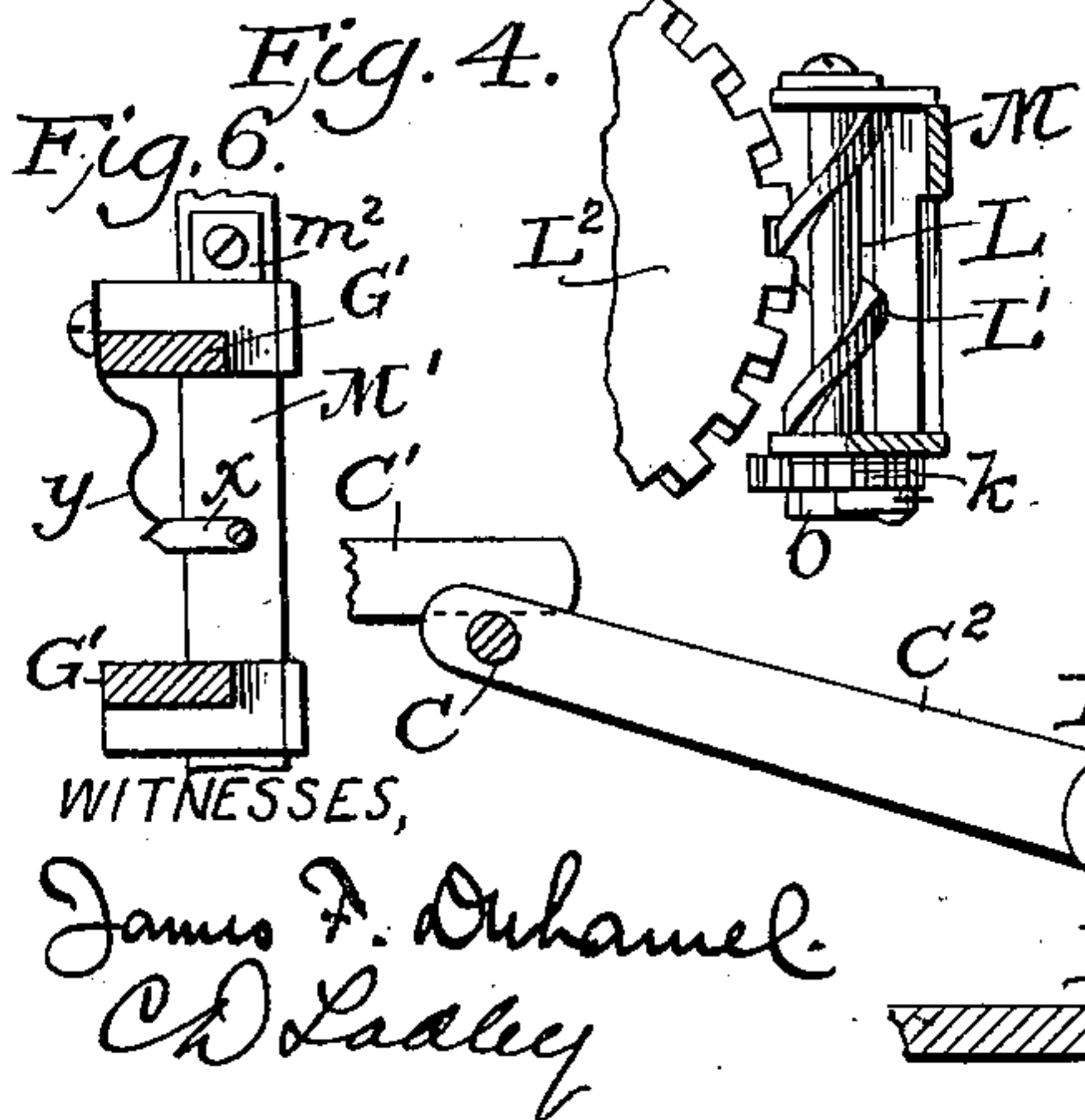


Fig. 3.

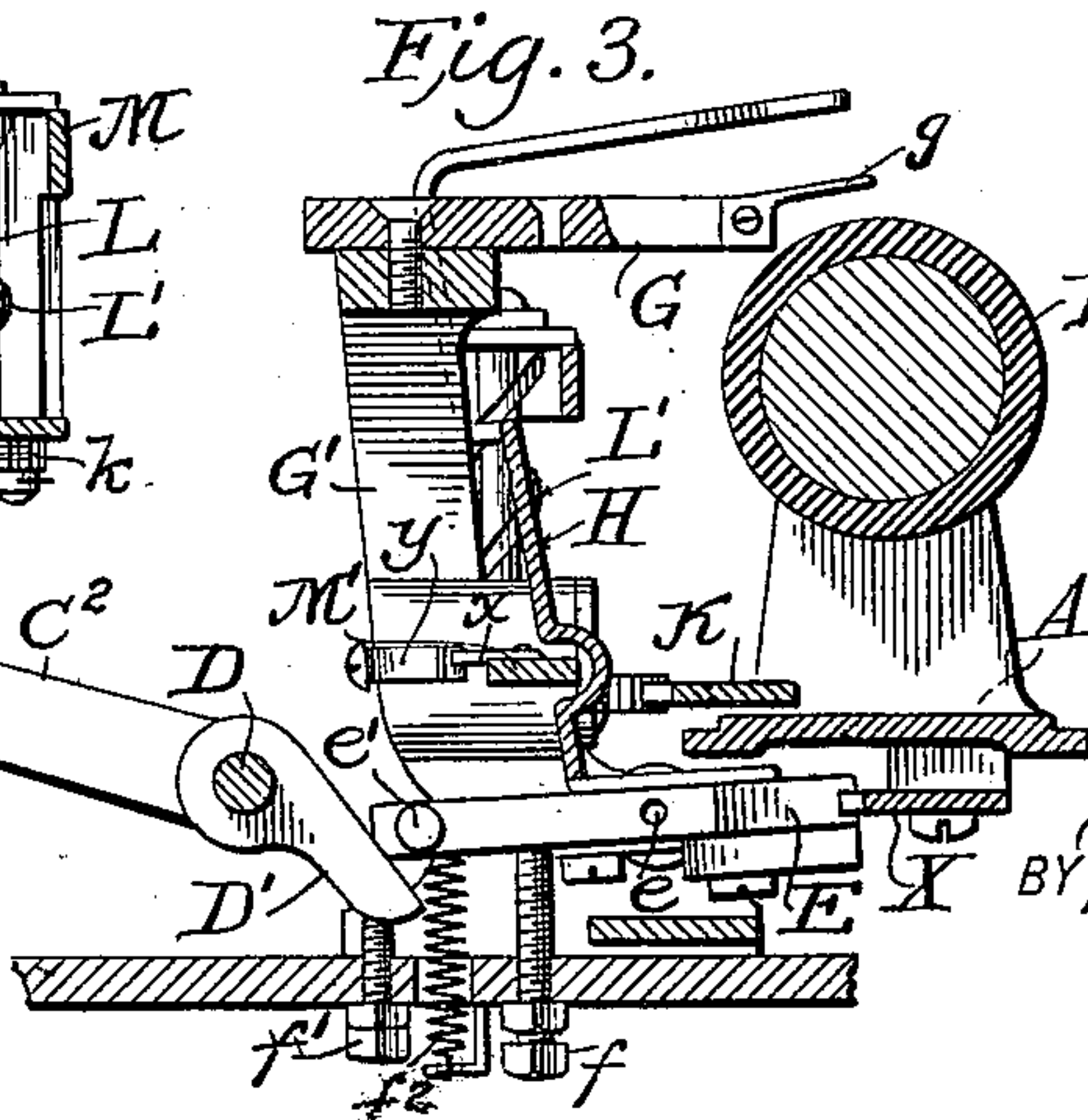
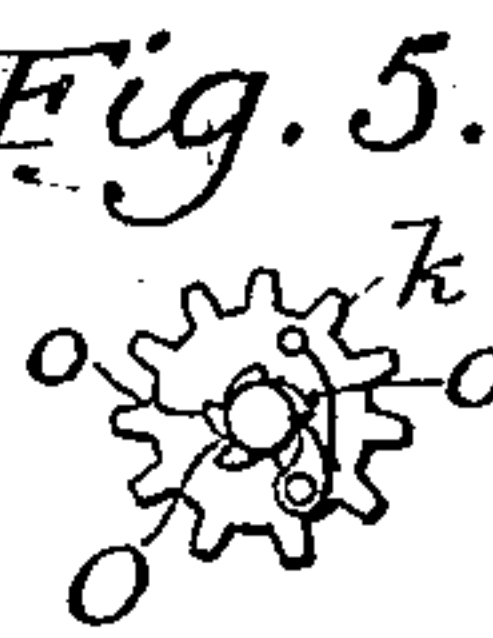


Fig. 5.



WITNESSES,

James F. Duhamel
C. D. Ladd

INVENTOR,

Lewis C. Myers,

BY *Baldern, Davidson & Wright*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEWIS C. MYERS, OF NEW YORK, N. Y., ASSIGNOR TO THE CENTURY MACHINE COMPANY, OF SAME PLACE.

RIBBON-FEED MECHANISM.

SPECIFICATION forming part of Letters Patent No. 637,347, dated November 21, 1899.

Application filed January 17, 1899. Serial No. 702,404. (No model.)

To all whom it may concern:

Be it known that I, LEWIS C. MYERS, a citizen of the United States, residing in the city of New York, county of Kings, State of New York, have invented certain new and useful Improvements in Ribbon-Feed Mechanism for Type-Writing Machines, of which the following is a specification.

This invention relates, primarily, to that class of ribbon-feed mechanism wherein the ribbon is fed by the action of the intermittently-movable carriage.

The invention consists in certain features of construction hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a plan view of a carriage and platen and the ribbon-actuating devices; Fig. 2, a side elevation thereof looking from the rear of the machine; Fig. 3, a section on the line 3 3 of Fig. 1; Fig. 4, a detail view showing part of one of the ribbon-bobbins and its driving-worm; Fig. 5, an under plan view of the gear-wheel shown at the bottom of Fig. 4; Fig. 6, a detail sectional view showing a means for holding the driving devices in either of two positions.

The carriage A, of any ordinary construction, (that shown being an ordinary spring-impelled carriage,) carries the cylindrical platen B, as usual, and may be fed forward in any way. In the organization shown a universal bar C may be actuated by the end C' of a key-lever or some lever or part actuated thereby. The frame or side pieces C² of the universal bar may be connected to a rock-shaft D, supported in suitable bearings and carrying a radially-projecting arm D', which operates a pallet or ordinary escapement-latch E. This latch is suitably pivoted at e and has an extension projecting toward the radial arm D', with a pin or lug e' thereon, against which the radial arm D' strikes when the universal bar is depressed, thereby rocking the latch upon its pivots or journals and permitting, through the intervention of the ordinary ratchet-plate, (indicated by X in Fig. 3,) the advancement of the carriage, as usual. Adjustable screw-stops f f' may be provided to respectively limit the movement of the latch and radial arm, and a spring f² may be

employed to normally draw down the escapement-latch. Of course the movements and operation described may be accomplished in any suitable way, and this invention is not limited to their employment.

Another feature of the construction illustrated is also one upon which this invention is not dependent. Thus the drawings show a machine in which immediately in front of the platen is a plate or a guide-block G, with three perforations, supported upon suitable standards G'. Upon the pivoted rocking latch E is secured a bifurcated ribbon-guard H, which extends upwardly, and the branched ends of which then project forward toward the platen. The two ends are formed with slots H', disposed in reverse directions, each at an angle of about forty-five degrees to the axis of the platen. The ribbon is fed from one bobbin I through one slot across to the other slot and thence to the other bobbin I. Each time that the latch is rocked upon its journals e this ribbon-carrier is advanced over the printing-point on the platen, and then recedes as the latch falls back against its stop. This organization is designed for use in the class of machines illustrated in the Patent of Hess and Stoughton, No. 610,400, dated September 6, 1898.

Having now described the general construction of machine which I have elected to illustrate, I will describe my invention, which I have shown associated with such organization.

The carriage carries a horizontal rack-bar K, which gears with two pinions k' k', loosely mounted upon short stud-shafts carried by the lower cross-bar of a skeleton frame M, arranged parallel with the rack and adapted to slide in bearings m in the uprights G', that support the guide block or plate G. These gears k' k' drive pinions k k', loosely mounted on the ends of vertical shafts L, having their bearings in the upper and lower cross-bars of the frame M. Each shaft L between its bearings carries or is formed with a worm L', that engages the teeth of a worm-wheel L², mounted upon the axis of the ribbon-bobbin. Each bobbin is supported upon an upright L³, with their axes reversely inclined at about an angle of forty-five degrees to the axis of the platen.

When the frame M is shifted endwise, one of the worms L' is in engagement with its worm-wheel L² of one of the ribbon-bobbins, and the other worm is then out of engagement with its corresponding worm-wheel. Stops m² on the upper cross-bar of frame M abut against the uprights G' and limit the movement of the sliding frame in either direction. On the end of each worm-shaft below the pinion k is fixed a ring O, having projecting teeth o, with which a pawl pivoted on the under face of the gear coöperates. When the pinion is moved in one direction, the pawl slips over the teeth without actuating the worm. This occurs when the carriage is being retracted to or toward its initial position; but when the gear is rotated in the opposite direction the pawl engages a tooth of the ring O and actuates the worm. It will now be apparent that if the carriage is fed forward step by step the pinions k k will be actuated, and that one whose worm is in engagement with the worm-wheel of the ribbon-bobbin will actuate the bobbin to wind up the ribbon, drawing it from one bobbin to the other. I may, in order to shift the frame M, carrying the gears and worms, and reverse the traverse of the ribbon, provide an extension therefrom, (marked M²), by which the frame may be manually shifted to cause at will either worm to actuate its bobbin. I may, however, when one bobbin has been wound full, automatically throw the worm of that bobbin out of engagement with its wheel and throw the worm of the other bobbin into engagement with its wheel. This may be done in a variety of ways. That which I have shown is as follows: A wheel P is loosely mounted upon a stud on the frame M adjacent to each worm and opposite the periphery of the bobbin. When, therefore, the ribbon has been wound upon the bobbin to a certain extent, the enlargement of the radius of the bobbin due to the accumulation of the ribbon thereon causes the ribbon to press against the wheel P, and thereby laterally shift the frame M and the worm so as to throw the worm of the other bobbin into engagement with its wheel and throw that of the full bobbin out of engagement with its wheel.

g on the end of the block G is a pointer or indicator. Its use is well understood.

The carriage is held in either of its positions by a bank-stop spring y, mounted on one of the standards G' and working against the web-shaped block x on the lower cross-bar M' of the frame M. Any other suitable arrangement may be employed. The construction that has just been described is shown in Figs. 3 and 6.

I claim as my invention—

1. The combination of the intermittently-movable platen-carriage, a rack mounted thereon, two ribbon-bobbins, two pinions gearing with the rack, one for actuating each bobbin, ribbon-bobbin-actuating mechanism interposed between each pinion and its bob-

bin, means whereby either bobbin-actuating mechanism is rendered inactive while the other is in action and mechanism actuated by one bobbin when full-wound to automatically throw that bobbin out of operation and the other bobbin into operation.

2. The combination of the intermittently-movable platen-carriage, of two ribbon-bobbins, actuating mechanism interposed between the carriage and the bobbins respectively to actuate either bobbin and mechanism actuated by one bobbin when full-wound to automatically throw that bobbin out of operation and the other bobbin into operation.

3. The combination of the intermittently-movable platen-carriage, a rack carried thereby, two ribbon-bobbins, an actuating worm-wheel and worm for each bobbin, a frame movable endwise parallel with the rack and in the ends of which the worms are mounted, two pinions, one for each worm mounted upon the worm-wheel shafts and driven by the intermittently-movable rack of the carriage, and means whereby the frame may be shifted endwise to throw either worm into engagement with its wheel and the other worm out of engagement with its wheel.

4. The combination with the intermittently-movable platen-carriage, a pivoted latch E adapted to coöperate with the ratchet-plate of the carriage, a ribbon-carrier mounted upon the latch and having reversely-inclined ribbon-slots and adapted to be projected toward the printing-point of the platen when the latch is rocked in one direction and to recede therefrom as the latch rocks in the opposite direction, two ribbon-bobbins and means for operating either bobbin by the carriage in its intermittent movement.

5. The combination with the intermittently-movable platen-carriage, two ribbon-bobbins having their axes reversely inclined to the axis of the platen and meeting at a point in front of the platen, a rocking ribbon-carrier having reversely-inclined slots through which the ribbon passes from one bobbin to the other, mechanism whereby either bobbin may be driven by the intermittent movement of the carriage and means for rocking the ribbon-carrier to carry the ribbon over the printing-point on the platen when the impression is to be taken, substantially as set forth.

6. The combination of the intermittently-movable platen-carriage, a pivoted latch adapted to coöperate with the ratchet-plate of the carriage, a ribbon-carrier mounted upon the latch and adapted to be projected toward the printing-point of the platen to bring the ribbon over or opposite the printing-point, a universal bar and means interposed between the latch and universal bar to act on the latch and rock the carrier when the universal bar is actuated.

7. The combination of the intermittently-movable spring-impelled platen-carriage, a pivoted latch adapted to coöperate with the ratchet-plate of the carriage, a ribbon-carrier

mounted upon the latch and adapted to be projected toward the printing-point of the platen to bring the ribbon over or opposite the printing-point, a universal bar and means
5 interposed between the latch and universal bar to act on the latch and rock the carrier when the universal bar is actuated.

8. The combination of the intermittently-movable platen - carriage, a pivoted latch
10 adapted to cooperate with the ratchet-plate of the carriage and a ribbon-carrier mounted

upon the latch and adapted to be projected toward the printing-point of the platen to bring the normally-withdrawn ribbon over or opposite the printing-point.

In testimony whereof I have hereunto subscribed my name.

LEWIS C. MYERS.

Witnesses:

E. S. HESS,

JOSEPH M. STOUGHTON.

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