

J. ALEXANDER.
 TYPE WRITING MACHINE RIBBON FEEDING AND OPERATING MECHANISM.
 APPLICATION FILED MAY 7, 1912.

1,041,559.

Patented Oct. 15, 1912.

3 SHEETS-SHEET 1.

Fig- 1 -

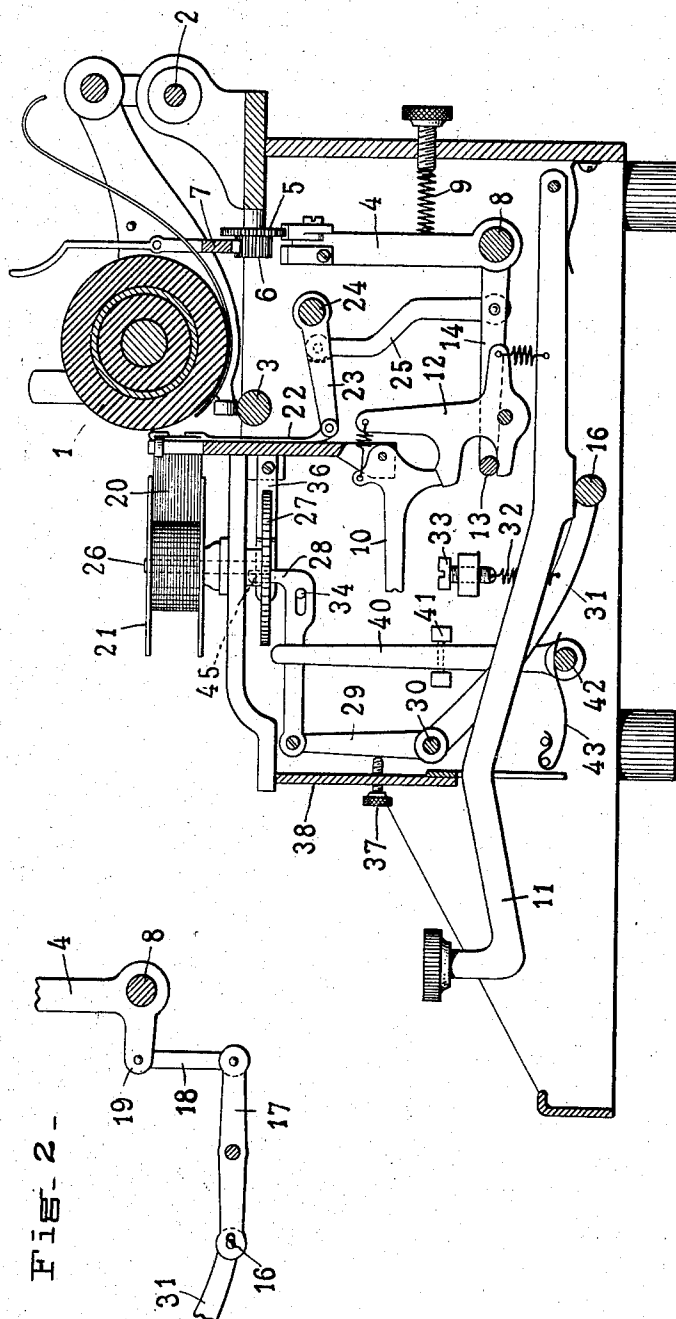


Fig- 2 -

WITNESSES

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3 SHEETS—SHEET 2.

Fig. 3.

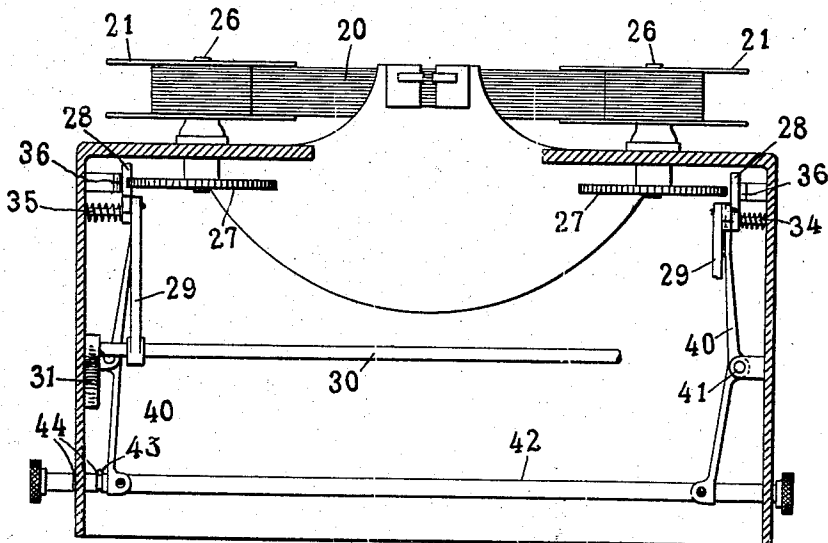
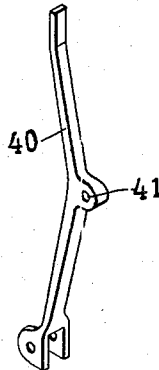


Fig. 4.



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3 SHEETS-SHEET 3.

Fig. 5.

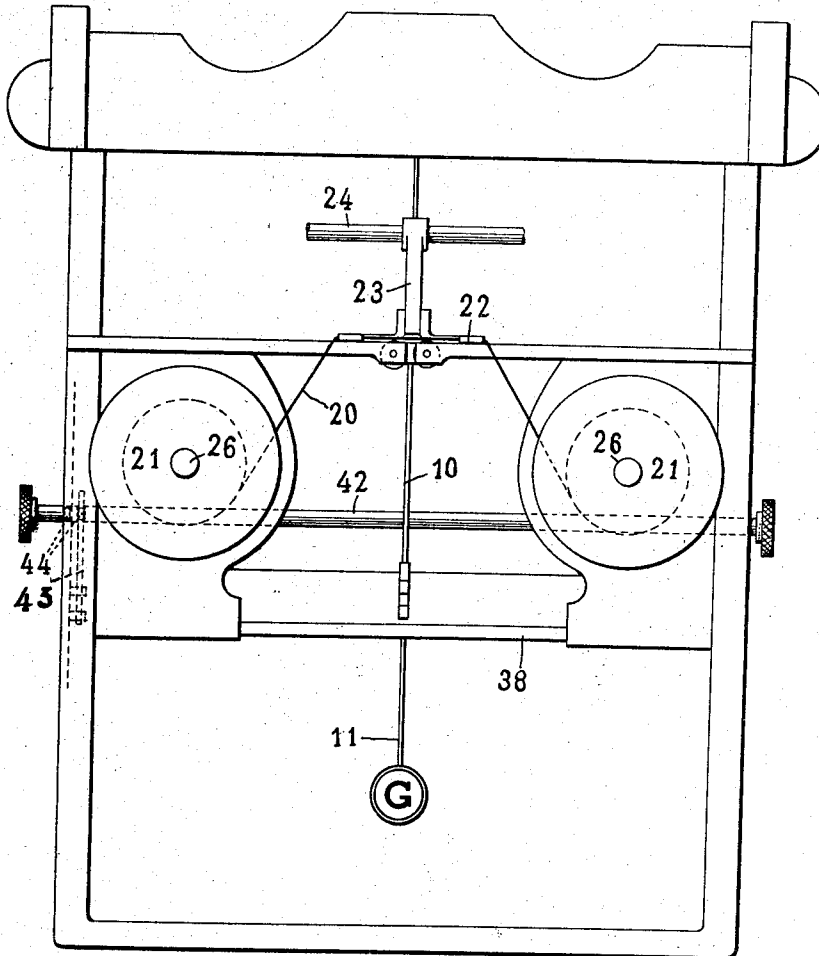
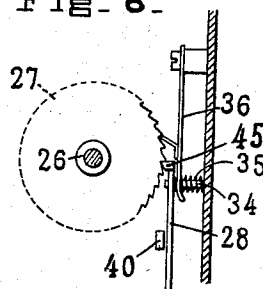


Fig. 6.



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UNITED STATES PATENT OFFICE.

JESSE ALEXANDER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO WILLIAM H. KEATING, OF NEW YORK, N. Y.

TYPE-WRITING-MACHINE RIBBON FEEDING AND OPERATING MECHANISM.

1,041,559.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed May 7, 1912. Serial No. 695,599.

To all whom it may concern:

Be it known that I, JESSE ALEXANDER, a citizen of the United States, and resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing-Machine Ribbon Feeding and Operating Mechanism, of which the following is a specification.

My invention relates particularly to the ribbon mechanism for a front stroke or visible writing machine.

The object is to provide mechanism for guiding and vibrating the ribbon in front of the printing point, feeding the ribbon step by step and reversing the direction of feed when desired.

The invention consists in the improvements shown in the accompanying three sheets of drawings and described and claimed hereinafter.

Figure 1, is a longitudinal vertical sectional view showing the mechanism embodying the improvements of my invention. Fig. 2, is a detail view of a modification of part of the action. Fig. 3, is a vertical projection and front elevation showing the ribbon spools and the feeding mechanism. Fig. 4, is a detail view of a disengaging lever. Fig. 5, is a plan view of part of the machine showing my invention. Fig. 6, is a detail horizontal sectional view showing the feeding mechanism for the right hand spool.

The platen 1 is supported in a suitable carriage construction guided on the tracks 2 and 3 and controlled by a suitable tension drum (not shown) and the escapement mechanism consisting of a rocker 4 carrying suitable pawls at its upper end for engaging the ratchet wheel 5 connected to which is a pinion 6 engaging the toothed rack 7 on the carriage. The rocker is pivoted to a shaft 8 and is normally pressed forward by a spring 9.

The key and type bar action consists of the pivoted type bar 10 and pivoted key lever 11 and the pivoted intermediate lever 12. Details of this mechanism are more fully shown and described and claimed in my accompanying application. Serial #695,600, filed May 7th, 1912. A universal bar 13 carried by arms 14 projecting forward from the shaft 8 is adapted to be operated by the intermediate levers. The rocker shaft 8 may however, be operated from a universal bar

16 beneath the key levers as shown in Fig. 2 where the lever 17 connected to the universal bar 16 is connected by a link 18 to an arm 19 projecting upward from the rocker shaft 8, so that the depression of a key lever will operate the rocker shaft and rocker arm in the same way that the intermediate levers operate the universal bar 13 and shaft 8 as previously described.

The ribbon 20 is wound on two spools 21, 21 and is guided adjacent the printing point by a vibrator 22 supported by the arm 23 pivoted on shaft 24. A link 25 connects arms projecting forwardly from the shafts 8 and 24 so that the vibrator guide 22 is raised and lowered as the rocker arm 4 and the rocker shaft 8 are operated.

Each ribbon spool is supported on a shaft 26 having a ratchet wheel 27 on its lower end. The feed pawl 28 is supported at its front end by an arm 29 on the end of a shaft 30 which has an arm 31 at each side of the machine connected to an end of the universal bar 16. The spring 32 with adjustment screw 33 is provided for holding the arm 31, shaft 30, arm 29 and pawl 28 yieldingly in the normal position as shown. The rear end of each pawl 28 is guided by a pin 34 and pressed toward the corresponding ratchet by a spring 35. A spring arm pawl 36 is provided for each ratchet to prevent it from turning backwardly. A screw 37 is provided in the front plate 38 for adjusting the position of the arm 29 and consequently varying the feeding stroke of the pawl 28.

At each side of the machine a lever 40 is pivoted at 41 and connected to a transversely movable rod 42. The upper end of this lever stands adjacent the pawl 28. A spring 43 is provided adapted to snap into either one of two notches 44 in the rod 42. The two levers on opposite sides of the machine are so constructed and arranged that when the rod 42 for instance, is in its left hand position the upper end of the right hand lever presses the right hand pawl 28 away from its ratchet 27. The upper end of the pawl 28 is located adjacent the end of the spring brake pawl 36 so that when the upper end of the right hand lever 40 holds the pawl away from the ratchet the pawl holds the brake away from the ratchet. On the opposite side of the machine the lever 40 is out of engagement with the left hand pawl 28 so that the left hand spring

35 holds the corresponding pawl into feeding engagement with the left hand ratchet 27. Whenever a key lever is depressed the universal bar 16 is depressed and oscillates the shaft 30 and arm 29 and pawl 28 so as to intermittently feed the corresponding ratchet 27. The direction of feed can be readily reversed by simply shifting the rod 42 from one side to the other so as to retract one feeding pawl and allow the other feeding pawl to come into operative position.

What I claim is:—

1. Ribbon mechanism comprising horizontal feeding ratchets, horizontally movable pawls therefor, a horizontal shaft having arms connected to the front ends of said pawls, arms projecting downwardly and rearwardly from said shaft, a universal bar connected to the rear end of the latter arms and key levers extending over said universal bar and adapted to operate the same.

2. Ribbon mechanism comprising horizontal feeding ratchets, horizontally movable pawls therefor, a transverse rocker shaft, vertical arms carried thereby and connected at their upper ends to the forward ends of said pawls, a stationary front plate immediately in front of said arms and an adjusting stop screw passing through said front plate for adjusting one of said arms.

3. Ribbon mechanism comprising horizontal ratchets, horizontally movable pawls therefor, means for vibrating said pawls, a releasing lever at each side of the machine pivoted on a horizontal axis having its upper end located adjacent one of said pawls and a reversing rod connected to the lower

ends of said levers and transversely movable for operating said levers and yielding means for holding said rod.

4. Ribbon mechanism comprising horizontal ratchets, horizontally movable pawls therefor, a transverse shaft, arms projecting upwardly therefrom and connected to the front ends of said pawls, vertical levers pivoted on horizontal axes for forcing said pawls out of operative position and a transversely movable rod for operating said levers.

5. Ribbon mechanism comprising horizontal ratchets, horizontally movable pawls therefor, a transverse shaft, arms projecting upwardly therefrom and connected to the front ends of said pawls, vertical levers pivoted on horizontal axes for forcing said pawls out of operative position, a transversely movable rod for operating said levers and screws passing through the front plate of the machine for adjusting the movement of said arms.

6. Ribbon mechanism comprising horizontal ratchets, horizontally movable pawls therefor, a transverse shaft, arms projecting upwardly therefrom and connected to the front ends of said pawls, vertical levers pivoted on horizontal axes for forcing said pawls out of operative position, transversely movable rod for operating said levers and yielding brake pawls for said ratchets adapted to be disengaged by said pawls.

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