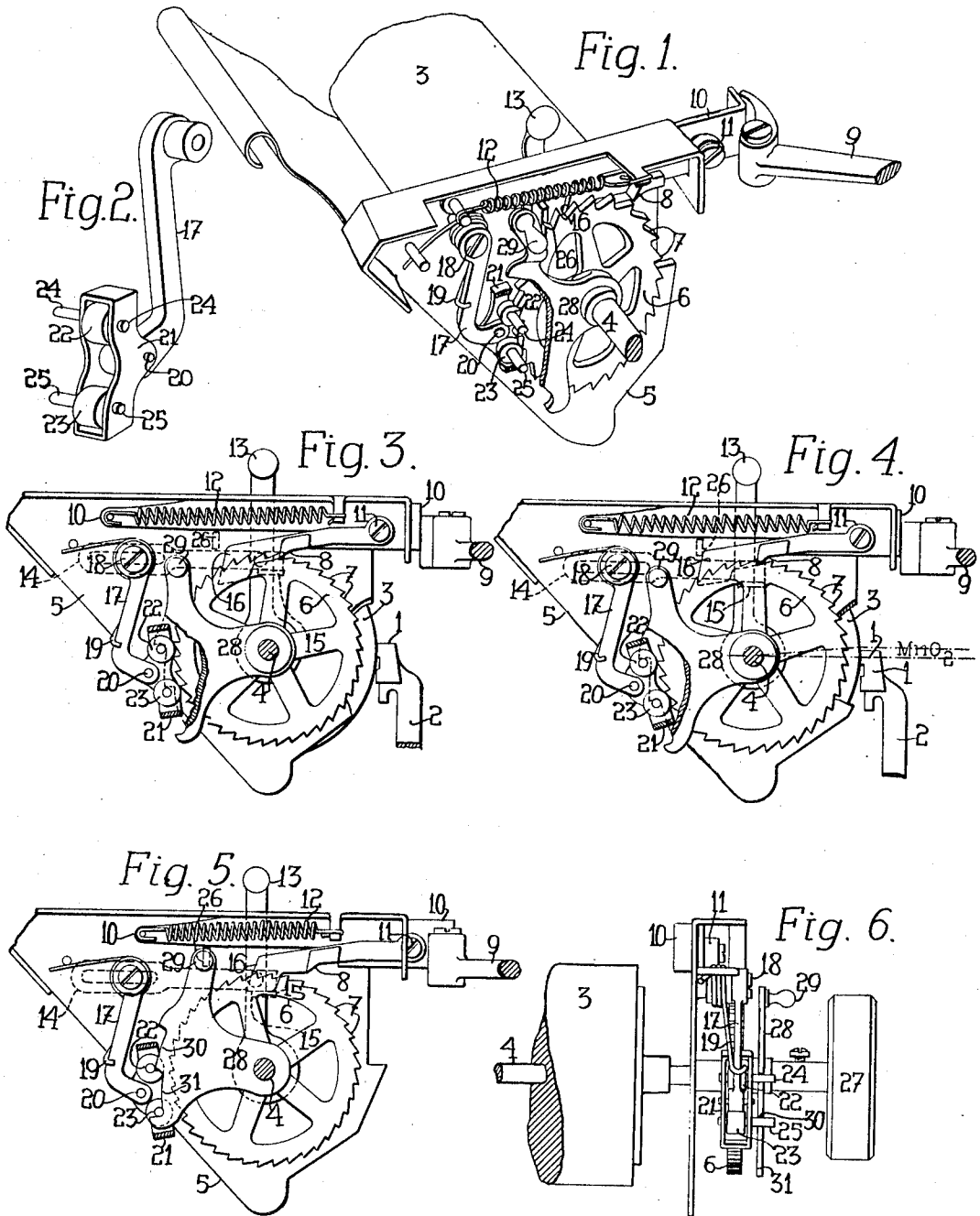


J. K. LUX.
TYPE WRITING MACHINE.
APPLICATION FILED DEC. 27, 1909.

982,684.

Patented Jan. 24, 1911.



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JULIUS K. LUX, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

982,684.

Specification of Letters Patent. Patented Jan. 24, 1911.

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To all whom it may concern:

Be it known that I, JULIUS K. LUX, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to the line-spacing devices of typewriting machines, particularly those which have revoluble platens and line-spacing wheels, and is in the nature of an improvement upon Patent No. 921,779, F. A. Young, granted May 18, 1909.

The principal object of the invention is to provide a simplified device, which may readily be applied to existing machines of various types, for rendering it convenient to write one or more characters just above or just below the main line of writing.

In carrying out my invention, I employ the usual single line-spacing wheel, having the usual number of notches, each notch corresponding to the usual line-spacing movement of the platen; said wheel being operated by the line-spacing lever and pawl in the usual manner.

In place of the spring check or detent however, which usually runs upon said wheel and falls into the notches, whereby the number of possible positions in which the platen may be held, by said check, is limited by the number of notches in the wheel, I employ a double check having two anti-friction rolls to engage said wheel, said rolls however being situated at an interval not agreeing with the interval between any two notches of the line-space wheel. The construction is such that during ordinary line-spacing one of the check rolls is constantly effective to hold the platen in position for writing the line, the other roll being idle; while at any time the platen may be turned about half a space in either direction to permit the idle check roll to come into use by seating itself in a notch of the line-space wheel, for the purpose of locating the platen and holding it steady while one or more characters are written either above or below the main line of writing. Said check rolls are preferably mounted upon an equalizing bar or carrier, which, at a point about midway between the rolls, is pivoted or swiveled to the end of a spring-pressed arm, which takes the place of the spring-pressed

arm heretofore employed to carry a single check on its free end. The platen may be used freely for line-spacing in the ordinary manner, or for writing either above or below the line, or for writing lines at one-half the usual intervals. I also provide means for throwing both platen checks out of use together, when it is desired to relieve the platen from their control, as in writing upon irregular forms, etc. The double detent may also be used for other purposes.

In the accompanying drawings, Figure 1 is a perspective view of one end of the platen frame of an Underwood front strike writing machine, showing the present improvements applied thereto; a part of the check-releasing lever being broken away. Fig. 2 is a perspective view of the lever with the roll-carrier swiveled thereto. Fig. 3 is an elevation of the end of the platen frame, showing the upper roll of the pair in effective position. Fig. 4 is a view similar to Fig. 3, but showing the lower roll of the pair in effective position. Fig. 5 illustrates the manner of releasing the platen from the control of both check rolls. Fig. 6 is a rear elevation of the platen check mechanism.

Types 1 are mounted on type bars 2 to swing against the front side of a platen 3, which is fixed upon an axle 4 journaled in the ends of a platen frame 5. The line-space wheel 6 is fixed upon said axle, and has the usual notches 7 to be engaged by a driving pawl 8. The latter is operated by the usual lever 9, which engages a slide 10, to throw the same backwardly; said driving pawl being pivoted at 11 upon said slide; and a spring 12 returning the slide and lever to normal position after actuation.

As usual, the length of the line-spacing movement of the platen is regulated by a lever 13, to equal one, two or three of the notches 7 of the line-space wheel; said lever being connected to the usual regulator 14 having a trip 15, to engage a nose 16 provided upon the pawl 8, to lift said pawl clear of the line-space wheel after it has rotated the same. The position of the trip 15 determines at what point the pawl 8 shall reengage the line-space wheel at the succeeding stroke of the lever 9, and hence regulates the length of said stroke in the manner already described and usually practiced in said Underwood machine.

A check arm 17 is pivoted at 18 upon the

platen frame, and urged by a spring 19 forwardly or toward the line-space wheel. Upon its lower end there is pivoted at 20 to said check arm a bar or carrier 21, in which are journaled upper and lower check rolls 22, 23, by means of pins 24, 25 fixed to said bar at points about equi-distant from the pivot 20 of the carrier, so that the rolls may be pressed with equal force against the teeth of the line-space wheel. The distance between the rolls 22 and 23 is such that when one roll is seated in a notch 7 of the line-space wheel, and is hence effective to hold the platen, the other roll is pressing idly against the tip of a neighboring tooth of the wheel, and serves only as a fulcrum to enable said lever 17 to swing the other end of the carrier 21 to carry the other roll into a notch of the wheel.

In operation, the lever 9 is reciprocated and effects line-spacing in the usual manner through the slide 11 and the pawl 8; and the parts may be so constructed and arranged that the upper roll 22 for instance may be the one that normally checks the platen during the usual operation of the machine; or in other words, it may be the one that is seated in the notch of the wheel when the rotation of the latter is arrested by the engagement of the nose 16 with the stop 26 usually provided upon the platen frame, to limit the stroke of the line-spacing devices; and in that case the lower roll 23 will usually come to rest upon the tip of a wheel tooth, as at Fig. 3. When it is desired to write a character below the line of writing, the platen is advanced by one of the usual knobs 27, Fig. 6, until the lower wheel 23 falls into the adjoining notch of the wheel, at which time the upper check roll 22 will be pressing idly against the tip of a tooth, as at Fig. 4. While the parts are in these positions one or more characters may be written below the main line, as seen diagrammatically at the right hand of Fig. 4.

If it is desired to write above the main line, the platen is turned half a line-space in the other direction, as will be understood. In any case the member 21 acts as an equalizing lever, to enable the pressure of the spring-pressed check bar 17 to force either one or the other of the check rolls into a notch of the line-space wheel; the pressure of the spring 19 being increased somewhat beyond that of the usual spring, in order to get the required control over the platen.

For releasing the platen from the control of the platen check device, I provide a cam lever 28 pivoted upon the platen axle 4 and having a finger-piece 29, and also having two cams 30 and 31, the upper to engage the projecting pin 24 of the check roll 22, and the lower to engage simultaneously the projecting pin 25 of the check roll 23. By grasping the finger-piece 29 and swinging it

up, the cams 30 and 31 force the platen check device backwardly to release the line-space wheel entirely from its control, as at Fig. 5, so that the platen may be rotated freely in either direction to any extent by the platen knob 27.

Variations may be resorted to within the scope of the invention and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. The combination with a platen and a ratchet wheel therefor, of a pair of checks, and a spring-device to press said checks simultaneously against the ratchet wheel, said checks being mounted at such an interval that when either is in a notch of the ratchet wheel the other rests upon the point of a tooth of said wheel.

2. The combination with a platen and a ratchet wheel therefor, of a pair of checks, and a device to press said checks against the ratchet wheel, said checks being mounted upon a spring-pressed equalizing bar at such an interval that when either is in a notch of the ratchet wheel the other rests upon the point of a tooth of said wheel.

3. The combination with a platen and a ratchet wheel therefor, of a pair of checks, an equalizing bar upon which said checks are mounted, and a spring-pressed arm pivoted to said equalizing bar between said checks, the latter being mounted so that when either is in a notch of the ratchet wheel the other rests upon the point of a tooth of said wheel.

4. The combination with a platen and a ratchet wheel therefor, of a pair of checks, an equalizing bar upon which said checks are mounted, and a spring-pressed arm pivoted to said equalizing bar between said checks, the latter being mounted so that when either is in a notch of the ratchet wheel the other rests upon the point of a tooth of said wheel; said checks consisting of rolls pivoted upon the equalizing bar.

5. The combination with a platen and a ratchet wheel, of a device carrying two checks and swiveled between said checks to a suitable support, said checks mounted at such an interval that when either is effective the other is in idle position.

6. The combination with a platen and a ratchet wheel having a single set of teeth, of a spring-check device therefor comprising a pair of checks mounted upon a spring-pressed arm at such an interval that when either is effective the other is in idle position, and a releasing lever having cams to throw both of said checks out of use.

7. The combination with a platen and a ratchet wheel therefor, of a pair of checks, an equalizing bar upon which said checks are mounted, a spring-pressed arm pivoted to said equalizing bar between said checks,

the latter being mounted so that when either is in a notch of the ratchet wheel the other rests upon the point of a tooth of said wheel, and a releasing lever having cams to throw
5 both of said checks out of use.

8. The combination with a platen and a ratchet wheel having a single set of teeth, of a spring-check device therefor comprising a pair of checks mounted upon a spring-
10 pressed arm, one check in advance of the other at such an interval that when either is effective the other is in idle position, and a releasing lever having cams to throw both of said checks out of use; said checks hav-
13 ing projecting pins engageable by said cams.

9. The combination with a platen and a ratchet wheel having a single set of teeth, of a spring-check device therefor comprising a pair of spring-pressed checks mounted

one in advance of the other at such an inter- 20
val that when either is effective the other is in idle position, and a releasing lever having cams to throw both of said checks out of use; said lever pivoted upon an axle
25 upon which the platen turns.

10. The combination with a platen and a ratchet wheel, of a device carrying two checks and swiveled between said checks to a suitable support, said checks mounted at
such an interval that when either is effec- 30
tive the other is in idle position, and means for relieving the platen from the control of said checks simultaneously.

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