

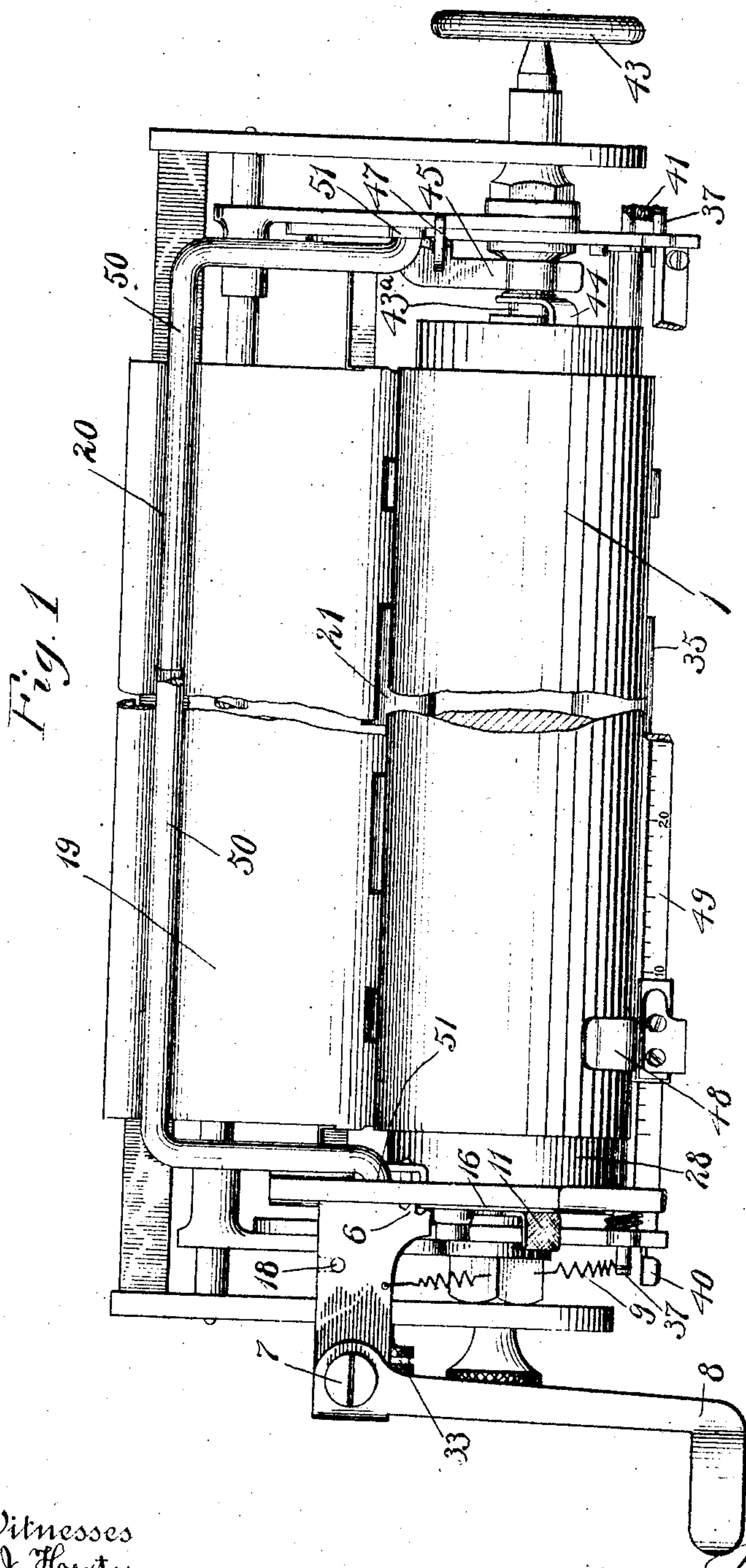
No. 827,040.

PATENTED JULY 24, 1906.

J. B. SECOR.
CARRIAGE FOR TYPE WRITING MACHINES.

APPLICATION FILED SEPT. 7, 1904.

3 SHEETS—SHEET 1.



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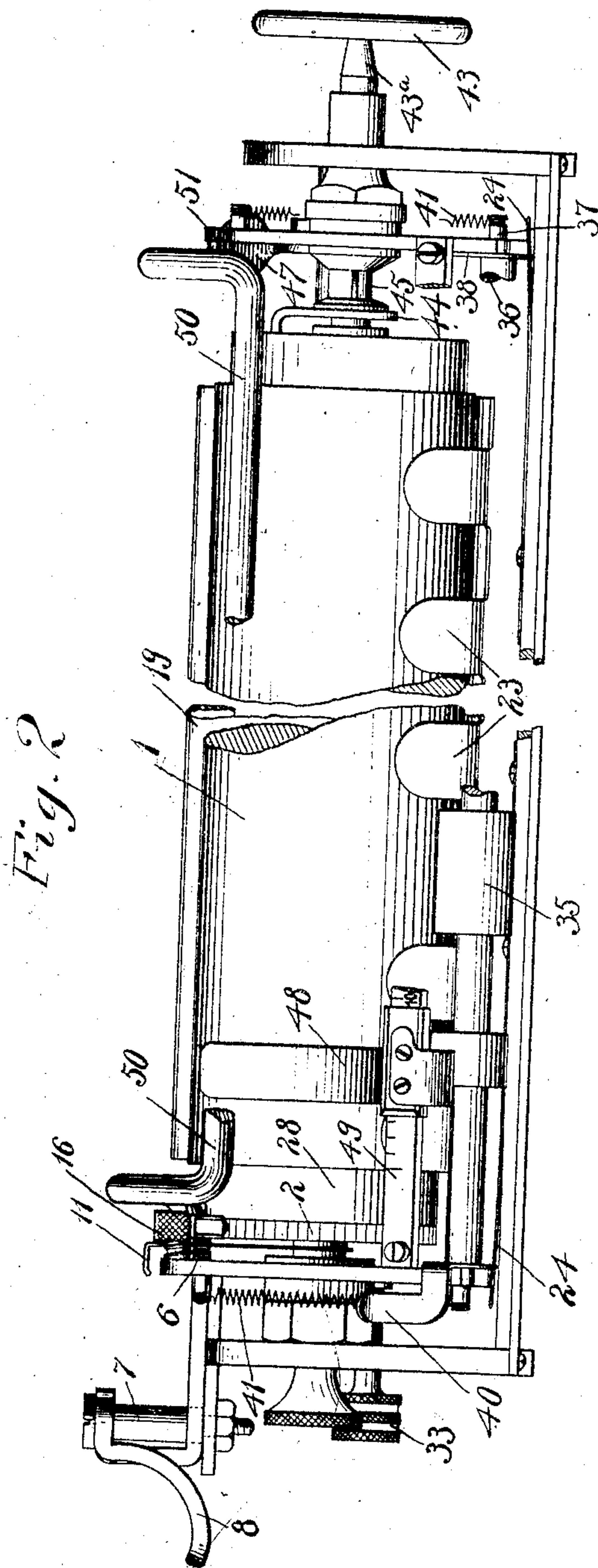
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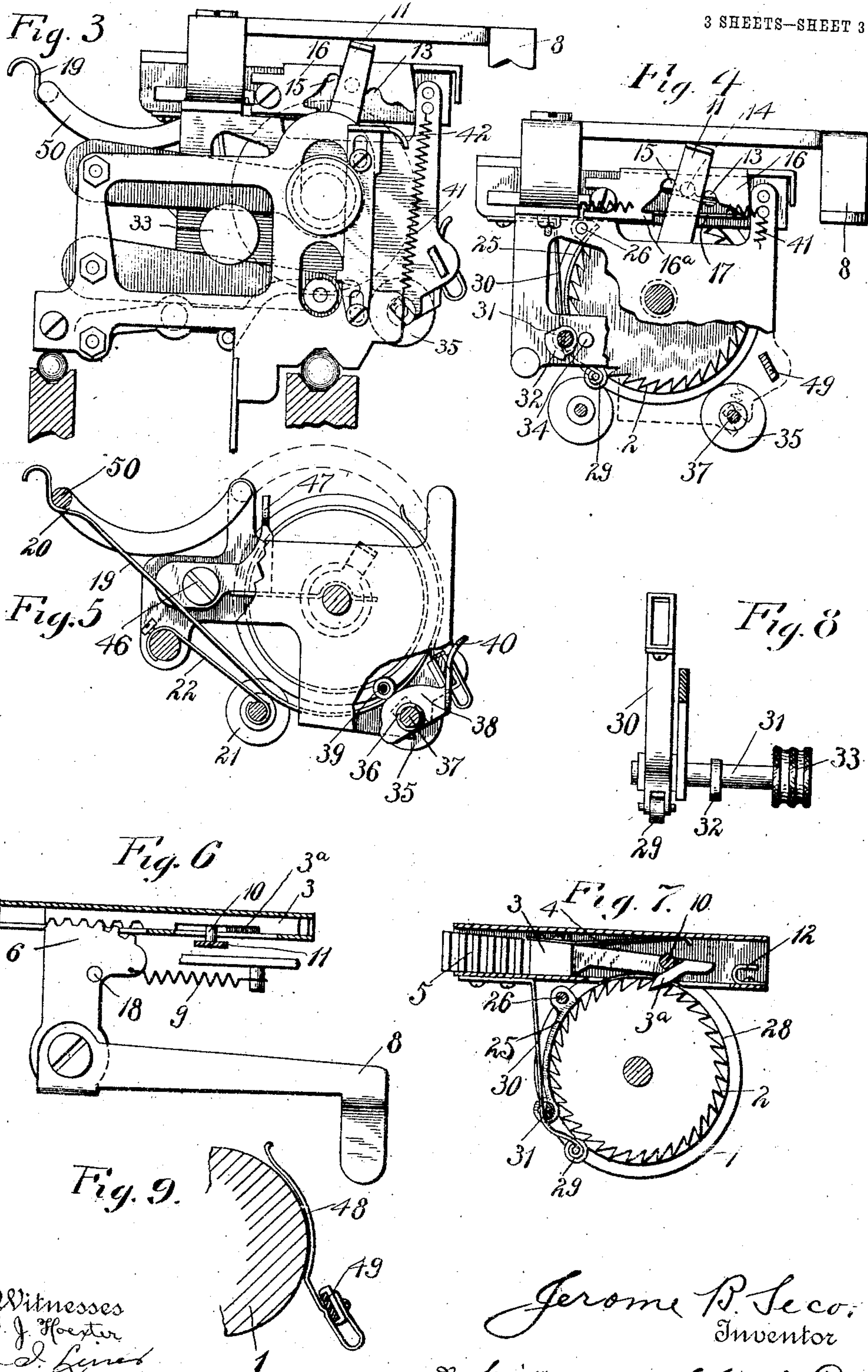
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UNITED STATES PATENT OFFICE.

JEROME B. SECOR, OF DERBY, CONNECTICUT, ASSIGNOR TO THE
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A CORPORATION OF IOWA.

CARRIAGE FOR TYPE-WRITING MACHINES.

No. 827,040.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed September 7, 1904. Serial No. 223,578.

To all whom it may concern:

Be it known that I, JEROME B. SECOR, a citizen of the United States, residing at Derby, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Carriages for Type-Writing Machines, of which the following is a specification.

This invention relates to mechanism for imparting variable rotation to the platen for line-spacing and brake and stop mechanism for controlling the rotation of the platen and accurately regulating its position for line adjustment.

In the accompanying drawings, Figure 1 is a plan view of a type-writer carriage illustrating my invention, showing a paper-holding bail, hereinafter described, thrown back for the introduction of a new sheet. Fig. 2 is a front view of the same, showing the paper-holding bail in position for operation. Fig. 3 is an end view of the carriage. Fig. 4 is a detail end view, partly in section and with some parts omitted, showing the line-spacing devices. Fig. 5 is an end view, partly in section, showing the paper-holding bail and omitting the line-spacing devices. Fig. 6 is a detail plan of part of the line-spacing device. Fig. 7 is a transverse section showing another part of the same. Fig. 8 is a detail rear view of a device for retracting the platen-detent and brake, respectively. Fig. 9 is a detail end view of an elastic margin-guide, showing in section the horizontal bar on which it slides.

1 represents the cylindrical platen, and 2 a ratchet gear-wheel mounted on its end as a medium for communicating step-by-step rotation to the platen for line-spacing. This rotation is imparted by a sliding pawl 3, pressed by a spring 4 into engagement with the successive teeth of the ratchet-wheel 2. The shank of the pawl is formed as a rack 5, engaged by the teeth of a segment-gear 6, pivoted at 7, actuated by a horizontal thumb-lever 8, and retracted to normal position by a spring 9.

The feed movement of the pawl 3 is limited by an adjustable stop-pin 10, with which the inclined back of the pawl-tooth contacts. This stop-pin is carried by a finger-lever 11,

which may be fulcrumed on the axis of the platen and is movable into either of three (more or less) positions to shift the position of the stop-pin 10, and thereby determine the extent of rotation imparted to the platen at each active forward or feed movement of the pawl 3. The setting-lever 11 is held in adjusted position by engagement of the stop-pin 10 in any one of the notches 13 14 15 in a spring-latch 16. The latch 16 being lifted, the finger-lever 11 is moved forward or back, as desired, to set the stop-pin 10 in the selected notch, and the latch being released is drawn down by a spring 17, bearing on the shoulder 16* of the latch 16. If the stop-pin 10 be thus set and held in the foremost notch 13, it will stop the feed movement of the pawl when it has rotated the platen to the extent of one tooth, effecting single-line spacing. If the stop-pin 10 be set in the second notch 14, it will permit the pawl 3 to rotate the platen to the extent of two teeth, effecting double-line spacing, and if set in the third notch 15 triple spacing will result. The normal position of the pawl to which it is drawn by the spring 9 is determined by a suitable stop 18, which may be arranged for contact of either the pawl itself or the segment-lever 6. A fixed stud 12 lifts the pawl out of contact with the teeth 2 as it is withdrawn to normal position.

19 represents the paper-guide table, which is formed with a longitudinal recess 20 for a purpose hereinafter described.

21 represents rollers mounted on springs 22, pressing the paper against the platen to effect the feed of the paper by rotation of the platen.

On the front edge of the table are paper-guide clips 23.

The platen and guide-table are mounted in a vertically-movable frame to effect the shift of the platen, as customary with front-strike machines, so as to print either one of two types carried by each type-bar. In order to reduce the power required to thus raise the platen and its accessories, the weight of the vertically-shifting frame and parts carried thereby is partially counterbalanced by springs 24. The vertically-shifting frame also carries a retractable segment-faced

brake-shoe 25, pivoted at 26 and pressed by a spring 30 into contact with the rigid cylindrical end 28 of the platen, which projects endwise beyond the yielding platen-surface.

5 The platen-frame also carries a detent-roller 29, mounted on the spring-arm 30, which presses it into engagement with the ratchet feed-wheel 2, so as to accurately locate the platen in its rotation as to line-spacing.

10 To enable adjustment of the platen by hand in interdental position for the purpose of printing between the lines when required, provision is made for retracting the detent-roller 29 without retracting the brake-shoe

15 25, and in order to facilitate removal and replacing of the platen provision is made for retracting the brake and roller simultaneously. This retracting device is partly shown in Fig. 2 and is best shown in Figs. 4, 7, and

20 8. A short shaft 31 is mounted to turn in the bracket of the brake-shoe 25 and carries a cam 32 and a milled head or button 33 for turning it. The shaft 31 passes through a horizontal slot in the platen-frame to permit the to-

25 and-fro movement of the brake, and the backward movement is imparted in opposition to pressure of the spring 30 by engagement of the cam 32 with a rigid stud 34 on the platen-frame. The shaft 31 is formed with a flat

30 face or cut-away portion, (shown in Fig. 7 and indicated by dotted lines in Fig. 4,) which permits the spring-arm 30 to rest normally in the position there shown, with the detent-roller 29 in engagement with the ratchet-gear

35 2 in the ordinary operation of the platen, so as to automatically set and hold the platen accurately in position for printing on the required line. Now if it be desired to set the platen in an intermediate position for print-

40 ing between lines or above the line or so as to conform the printing to date-lines, &c., on the paper the knob 33 is turned to the right, so as to remove the flat face of the shaft from the spring-arm 30 of the detent-

45 roller and bring the round surface of the shaft or an eccentric surface thereon against the said spring-arm, thereby retracting the detent-roller 29 from engagement with the ratchet-gear 2, but leaving the brake-shoe 25

50 in contact with the platen, so as to hold it by friction in any position in which it may be set. When the knob 33 is turned to the left, the pressure of the cam 32 on the stud 34 retracts both detent-roller and brake-shoe from

55 the platen, so as to facilitate the removal or replacing of the latter when necessary.

35 represents pressure-rollers at front of the platen carried by hollow shaft 36, turning on an inner shaft 37, on the ends of which

60 are keyed cams 38, bearing against friction-rollers 39, turning on fixed studs. One of the cams 38 is provided with a projecting finger-piece 40, the depression of which turns the inner shaft 37 and its end cams 38, so as to

retract the rollers 35 from the platen, against 65 which they are normally held by springs 41.

42 represents push-rods for manual operation of the carriage-release. (Not shown.)

43 is a knob on shaft 43^a for turning the platen by hand.

44 represents a clutch device carried by the knob-shaft 43^a for disengaging the platen and permitting its removal, and 45 a yoke or stop arm pivoted at 46 and operated by a vertical 70 arm 47 for locking the knob-shaft 43^a and its clutch in engagement with the platen or releasing it when the platen is to be taken out.

48 represents elastic margin or column guides fitted to slide longitudinally of the platen on the horizontal scale-bar 49. 80

50 represents a bail pivoted by the ends of its arms at 51 in the platen-frame and resting within the recess 20 in the paper-feed table when turned back out of use, as shown in Fig. 1 and Fig. 3 and in full lines in Fig. 5. 85 Its use is to hold very stiff paper to the platen, for which purpose it is turned forward over the paper to the position shown in Fig. 2 and in dotted lines in Fig. 5. In ordinary cases and with common flexible paper the paper-guides 23 alone suffice for this function. 90

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a type-writing machine, a variable- 95 line-spacing device comprising a rotatable platen, a ratchet-wheel on the platen-shaft through which the platen is rotated, a reciprocating sliding pawl engaging with the ratchet-wheel to impart step-by-step rota- 100 tion thereto and a pivoted lever having a stop-pin engaging with the back of the pawl to lock it in engagement with a tooth of the ratchet-wheel and limit the rotation of the platen, as described. 105

2. In a type-writing machine, a variable- line-spacing device comprising a rotatable platen, a ratchet-wheel on the platen-shaft through which the platen is rotated, a re- 110 ciprocating sliding pawl engaging with the ratchet-wheel to impart step-by-step rotation thereto, a pivoted stop-lever having a pin engaging with the back of the pawl to arrest its movement in one direction and a spring-pressed latch having a series of notches 115 by which the stop-lever is held in variable position of angular adjustment so as to control the extent of movement of the pawl and consequent rotation of the platen, as described. 120

3. The combination of a rotatable platen, a ratchet-gear thereon, a sliding pawl engaging said ratchet-gear to impart step-by-step rotation thereto and provided with a rack, a 125 segment-gear meshing with said rack, a finger-lever operating said segment-rack to impart reciprocating movement to the pawl, and a shiftable device automatically deter-

mining the extent of movement imparted to the pawl and the platen by each movement of the finger-lever, substantially as set forth.

4. In a type-writing machine, the combination of a rotatable platen, a ratchet-wheel on the shaft of said platen through which step-by-step rotation is imparted thereto, a spring-detent engaging with the teeth of the ratchet-wheel to hold the platen in accurate position of line adjustment, a brake-shoe pivoted to the carriage independently of the detent and a rotatable cam-bearing between the detent-spring and the brake-shoe adapted by its rotary adjustment to press the brake-shoe against a suitable brake-surface on the platen by the force of the detent-spring while retracting the detent from the ratchet-wheel, substantially as described.

5. In a type-writing machine, the combination of a rotatable platen having a ratchet-wheel through which step-by-step rotation is imparted thereto and a brake-surface adjacent to said ratchet-wheel, a spring-detent holding the platen in accurate position of line adjustment, a friction-brake pivoted on the carriage-frame and an eccentric shaft forming a bearing mechanism between the detent-spring and brake-shoe and also having a bearing on the carriage-frame whereby under different rotary adjustment of the shaft the brake-shoe may be pressed against the platen-surface by the detent-spring or both detent and brake-shoe held out of contact with the platen, substantially as set forth.

6. A line-spacing device for type-writing machines, comprising a spring-detent engaging with the ratchet-wheel through which the platen receives its step-by-step rotation, a

brake-shoe held in contact with a brake-surface on the platen by pressure of the detent-spring and a cam-shaft operating to lock both the spring-detent and the brake-shoe out of contact with the platen, substantially as set forth.

7. A line-spacing device for type-writing machines, comprising a spring-detent engaging with the ratchet-wheel through which the platen receives its step-by-step rotation, a brake-shoe adapted to be pressed by the detent-spring into contact with a brake-surface on the platen and an eccentric shaft capable of different positions of rotary adjustment in one of which it forms a medium of pressure between the detent-spring and the brake-shoe and in another of which it locks both detent and brake-shoe out of contact with the platen, substantially as set forth.

8. A line-spacing device for type-writing machines, comprising a spring-detent engaging with the ratchet-wheel through which the platen receives its step-by-step rotation, a brake-shoe adapted to engage with a brake-surface on the platen and an interposed cam-shaft capable of three positions of rotary adjustment in one of which it permits engagement of the detent with the ratchet-wheel in another of which it retracts the spring-detent and communicates pressure from the detent-spring to the brake-shoe and in the third of which it locks both detent and brake-shoe out of reach of the platen, leaving the latter free, substantially as described.

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Witnesses:

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