

No. 829,297.

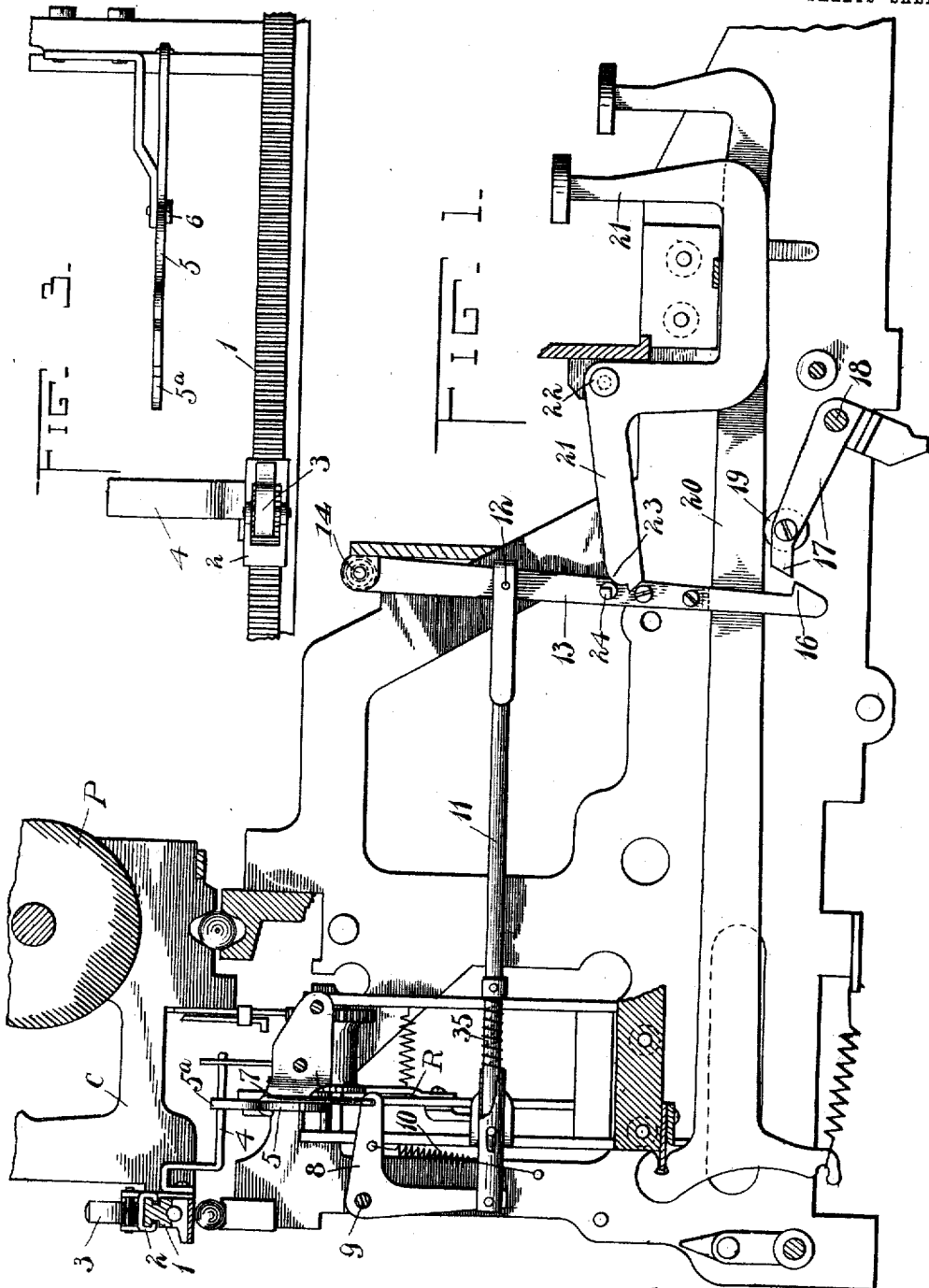
PATENTED AUG. 21, 1906.

J. B. SECOR.

LINE LOCK DEVICE FOR TYPE WRITING MACHINES.

APPLICATION FILED DEC. 1, 1904.

2 SHEETS—SHEET 1.



Witnesses
S. J. Hoyer
Frederick Jones.

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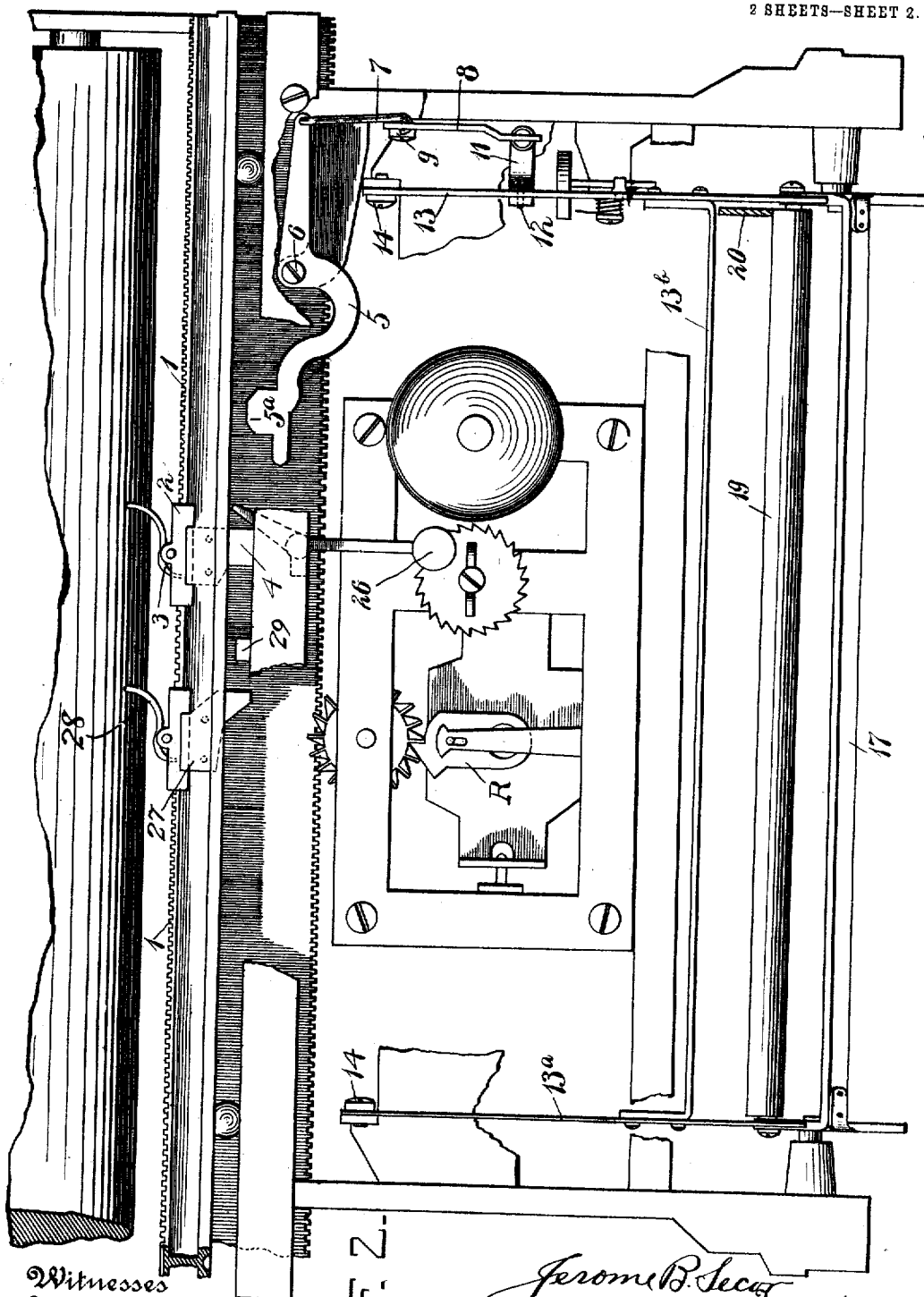
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2 SHEETS—SHEET 2.



Witnesses
Samuel J. Hooper
Frederick Jones.

FIG. 2.

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UNITED STATES PATENT OFFICE.

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

LINE-LOCK DEVICE FOR TYPE-WRITING MACHINES.

No. 829,297.

Specification of Letters Patent.

Patented Aug. 21, 1906.

Application filed December 1, 1904. Serial No. 235,085.

To all whom it may concern:

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

My improved line-lock comprises a tappet device carried by a rack-bar on the carriage and adjustable longitudinally thereof to regulate the length of the line, an operating-lever depressed by said tappet, and a bell-crank and thrust-rod operated thereby and acting on a swinging bail-frame, which is moved to engage with a stud on a rocking frame carrying a universal bar extending across the machine beneath the operating key-levers, so as to lock them against movement when the end of the line is reached, also a release-key device by which the engagement of the bail-frame with the universal-bar frame may be prevented when the operator desires to extend the printing beyond the normal limit of the line.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of parts of a type-writing machine illustrating my invention. Fig. 2 is a rear view of the same. Fig. 3 is a detail plan view.

1 represents a horizontal rack-bar forming a part of the carriage C, which carries the platen P, and 2 is a slide carried thereby and secured in any position of longitudinal adjustment by a manually-operated spring-pawl 3, pivoted in the slide 2 and engaging with the teeth of the rack-bar 1. On the slide 2 is mounted a tappet-arm 4, projecting downward and forward so as to engage when the end of the line is reached with a cam device 5^a, formed on the free end of a horizontal lever 5, so as to depress said end of the lever. The lever 5 is fulcrumed at 6 and is connected at its opposite end by a link 7 with the end of the horizontal arm of a bell-crank lever 8, fulcrumed at 9 and connected to the frame by a tension-spring 10, serving to restore the parts to normal position when the lever 5 has been depressed and is released. To the lower extremity of the bell-crank lever 8 is pivoted a thrust-rod 11, pivoted by its forward end at 12 to one of a pair of swinging arms 13 13^a, fulcrumed at 14 in the

frame of the machine. The arms 13 13^a are rigidly connected by a brace-bar 13^b, so as to compel them to move in unison. The parts 13 13^a 13^b thus constitute a unitary bail-frame, swinging back and forth in the frame of the machine on the axis or fulcrum 14. The swinging arms 13 13^a are formed at their lower ends with teeth 16 to engage corresponding teeth or projections on the rocking frame 17, fulcrumed at 18 and carrying the universal bar 19, which extends beneath the character-key levers 20 and in ordinary operation through the medium of the rocking frame 17 and suitable connections (not shown) operates a release device R of a carriage-feed mechanism of common or suitable form when either of the character-key levers 20 or the customary space-key is depressed. 26 indicates a bell-ringing hammer fulcrumed in the machine-frame in position to be actuated by the adjustable tappet device 4 in any position of the latter shortly before its contact with the cam-head 5^a of the line-lock lever 5.

27, Fig. 2, indicates a margin-stop slidable on the rack-bar 1 and secured in any position of adjustment by a pawl 28. 29 indicates a fixed lug on the frame, with which the stop 27 engages in the backward movement of the carriage to locate the beginning of the line.

From the above description it will be understood that when the carriage reaches the end of a line of any length, determined by the adjustment of the pawl-slide 2, the depression of the lever 5 effectually locks the universal-bar frame 17 against depression, thus preventing further operation of the character-keys or space-key and also preventing release or further movement of the carriage.

In order to permit the extension of the line beyond its determined limit at the will of the operator, I provide a special release-key lever 21, fulcrumed at 22 and formed at its free end with a cam-shaped shoulder 23 to engage with a pin 24 in the swinging arm 13, so as to throw the bail-frame 13 13^a out of engagement with the universal-bar frame 17 or prevent its engagement therewith if the release-key lever 21 is depressed before the normal end of the line is reached. In order to permit this release of the universal-bar frame or to permit the movement of the lever 5 and

bell-crank 8 when the locking movement of the bars 13 13^a is prevented by depression of the release-key lever 21, the thrust-rod 11 is formed in two parts sliding one within the other and held in the extended position by a compression-spring 35, which permits the necessary lost motion.

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

1. A variable line-lock mechanism for type-writing machines comprising a tappet device mounted on the platen-carriage and longitudinally adjustable thereon, a horizontal cam-lever fulcrumed by a fixed pivot on the machine-frame, having an inclined cam-shaped head adapted to be engaged and depressed by the tappet device on the carriage, a pendent rod jointed to the opposite end of said horizontal lever, a bell-crank lever fulcrumed on the frame to a horizontal arm of which bell-crank the lower end of the pendent rod is connected, a thrust-rod jointed at its rear end to the vertical arm of said bell-crank, a swinging vertical arm pivoted by its upper end in the machine-frame having a hook at its lower end and pivoted intermediately to the forward end of the horizontal thrust-rod, a set of character-key levers, a universal bar extending beneath the said key-levers so as to be depressed thereby, a rocking frame in which the universal bar is mounted and a tooth projecting from said rocking frame so as to be engaged by the hook on the swinging vertical arm in the advanced position of the latter so as to lock the universal bar and character-key levers against depression at a point in the travel of the carriage determined by the longitudinal adjustment of the tappet device thereon, substantially as described.

2. A variable line-lock mechanism for type-writing machines comprising a tappet device mounted on the platen-carriage and longitudinally adjustable thereon, a horizontal cam-lever fulcrumed by a fixed pivot on the machine-frame, having an inclined cam-shaped head adapted to be engaged and depressed by the tappet device on the carriage, a pendent rod jointed to the opposite end of said horizontal lever, a bell-crank lever fulcrumed on the frame to a horizontal arm of which bell-crank the lower end of the pendent rod is connected, a thrust-rod jointed at its rear end to the vertical arm of said bell-crank, a swinging vertical arm pivoted by its upper end in the machine-frame having a hook at its lower end and pivoted intermediately to the forward end of the horizontal thrust-rod, a set of character-key levers, a universal bar extending beneath the said key-levers so as to be depressed thereby, a rocking frame in which the universal bar is mounted, a tooth projecting from said rocking frame so as to be engaged by the hook on the swinging vertical arm in the advanced position of the lat-

ter so as to lock the universal bar and character-key levers against depression at a point in the travel of the carriage determined by the longitudinal adjustment of the tappet device thereon, and a release-lever fulcrumed in the frame and having a cam-shaped end engaging with a tappet projection on the swinging vertical arm so as to be operable in either position of the latter and prevent the engagement of the latter with the rocking frame of the universal bar or discharge it therefrom if engaged, substantially as described.

3. A variable line-lock mechanism for type-writing machines comprising a tappet device mounted on the platen-carriage and longitudinally adjustable thereon, a horizontal cam-lever fulcrumed by a fixed pivot on the machine-frame, having an inclined cam-shaped head adapted to be engaged and depressed by the tappet device in the carriage, a pendent rod jointed to the opposite end of said horizontal lever, a bell-crank lever fulcrumed on the frame to a horizontal arm of which bell-crank the lower end of the pendent rod is connected, a thrust-rod jointed at its rear end to the vertical arm of said bell-crank, a swinging vertical arm pivoted by its upper end in the machine-frame having a hook at its lower end and pivoted intermediately to the forward end of the horizontal thrust-rod, a set of character-key levers, a universal bar extending beneath the said key-levers so as to be depressed thereby, a rocking frame in which the universal bar is mounted, a tooth projecting so as to be engaged by the hook on the swinging vertical arm in the advanced position of the latter so as to lock the universal bar and character-key levers against depression at a point in the travel of the carriage determined by the longitudinal adjustment of the tappet device thereon, and a bell-hammer lever pivoted in the machine-frame in position to be actuated by the adjustable tappet device on the carriage prior to the engagement thereof with the horizontal cam-lever, substantially as described.

4. In a type-writing machine, a line-lock mechanism comprising a longitudinally-adjustable tappet device carried by the platen-carriage, a horizontal cam-lever depressed by said tappet device at a selected point in the travel of the carriage, a bell-crank lever connected to the horizontal cam-lever and actuated thereby, a thrust-rod actuated by the bell-crank lever, a spring through the medium of which the thrust is delivered, thus permitting lost motion, a swinging bail-frame actuated by the thrust-rod and carrying a locking device and a rocking frame engaged by the bail-frame lock and carrying a universal bar opposed to the character-key levers, substantially as described.

5. In a type-writing machine, a line-lock mechanism comprising a longitudinally adjustable tappet device carried by the platen-

carriage, a horizontal cam-lever depressed by
said tappet device at a selected point in the
travel of the carriage, a bell-crank lever con-
nected to the horizontal cam-lever and actu-
5 ated thereby, a thrust-rod actuated by the
bell-crank lever, a spring through the me-
dium of which the thrust is delivered, thus
permitting lost motion, a swinging bail-
frame actuated by the thrust-rod and carry-
10 ing a locking device and a rocking frame en-

gaged by the bail-frame lock and carrying a
universal bar opposed to the character-key
levers, and a release-key lever formed with a
cam-surface adapted to throw the bail-frame
out of locking engagement with the universal- 15
bar frame, substantially as described.

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Witnesses:

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