



W. J. BARRON.  
TYPE WRITING MACHINE.  
APPLICATION FILED NOV. 12, 1901.

NO MODEL.

2 SHEETS—SHEET 2.

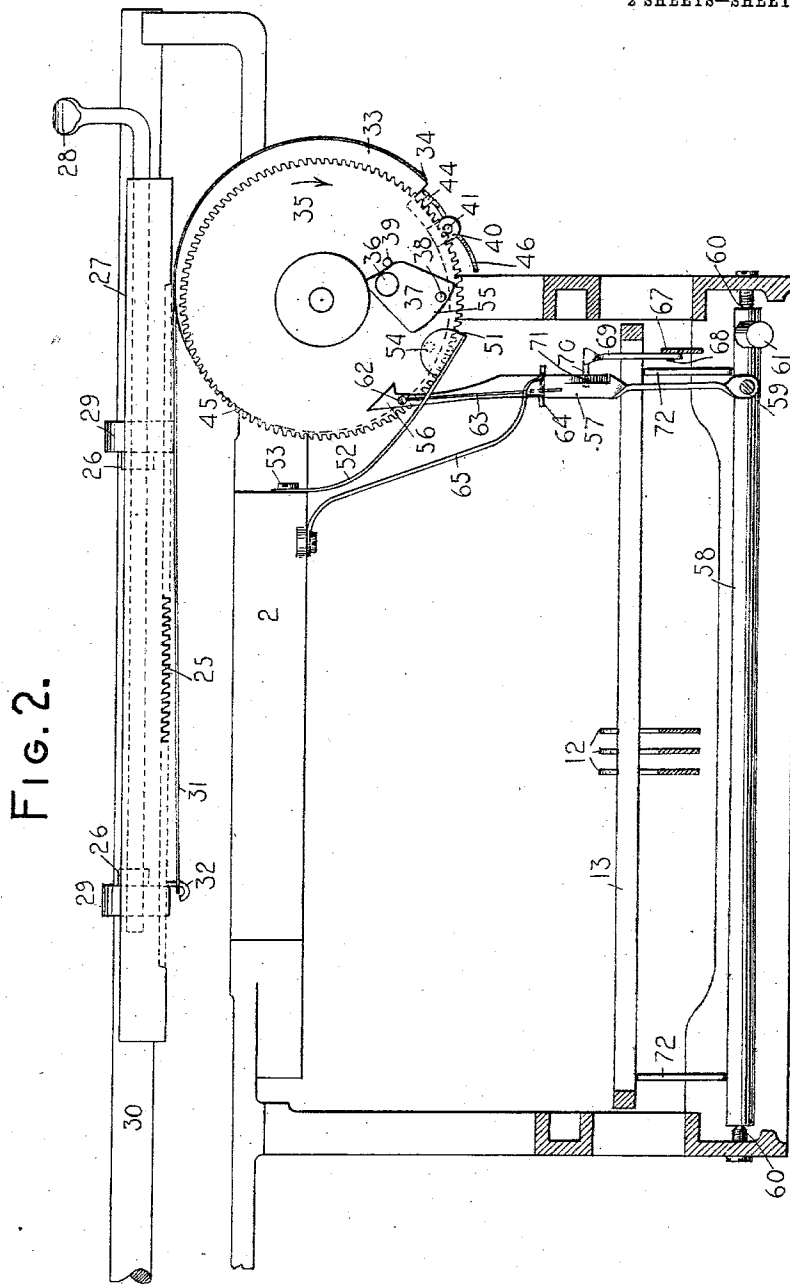


Fig. 2.

WITNESSES,

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# UNITED STATES PATENT OFFICE.

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## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 748,912, dated January 5, 1904.

Application filed November 12, 1901. Serial No. 81,974. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER J. BARRON, a citizen of the United States, and a resident of the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to type-writing machines, and is directed more particularly to the line-locking mechanism thereof, the object being to simplify the construction of the adjustable trip mechanism and to provide an efficient and compact structure of the character described.

To the ends above specified and others which will appear from the following specification my invention consists in the novel features of construction and arrangements and combinations of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, wherein like reference characters represent corresponding parts in the various views, Figure 1 is a vertical sectional view of one form of type-writing machine embodying my invention, the section being taken from front to rear of the machine. Fig. 2 is a rear sectional elevation of the machine with parts omitted and others broken away to more clearly illustrate other parts of the mechanism. Fig. 3 is a detail perspective view of the locking-pawl. Figs. 4 and 5 are detail perspective views of parts of the mechanism which will be hereinafter described.

I have illustrated my invention in connection with a Densmore type-writing machine, though the drawings do not represent in detail certain features of said machine. Thus, for instance, the carriage is not of the Densmore machine, but is a conventional carriage which may suffice to illustrate my invention.

1 is the main framing of the machine, and 2 the top plate. Pivoted at 3 are key-levers 4, having keys or heads 5. Each key-lever is connected by a link 6 to a lever 7, pivoted at 8 to a hanger 9, that is secured to the top plate 2. The lever 7 is operatively connected to a type bar or carrier 10, which is likewise pivoted to the hanger at 11. The key-levers

4 are each provided with a hook 12, which is adapted to cooperate with a universal bar 13, that is pivoted to the frame 1 at 14. This universal bar 12 has a laterally-extending arm 15, to which is connected a link 16, depending from an arm 17, secured to the rock-shaft 18 of a dog-carrier 19. The dog-carrier may be provided, as usual, with feed-dogs 20 and 21, which cooperate with a feed-wheel 22, that is secured to a shaft which extends through a bearing 23, secured to the top plate of the machine. This shaft, which carries the feed-wheel 22, has secured to its inner end a feed-pinion 24, which meshes with a feed-rack 25, that is supported by arms 26, which are rigidly secured to a rock-shaft 27, to one end of which the carriage-release key 28 is connected. The rock-shaft 27 is mounted to turn in the carriage 29, so that a depression of the release-key 28 will impart a rocking movement to the shaft 27, thus elevating the feed-rack 25 to disengage it from its cooperating feed-pinion, when the carriage 29 is free to be moved upon its traverse-rod 30. The carriage 29 is spring-impelled in the direction of its feed through a band 31, which is connected at one end to the carriage, as at 32, and is connected at its opposite end to a revolving spring-drum 33, as indicated at 34. The spring-drum 33 is mounted to revolve upon a suitable support secured to the framing of the machine, and in the present instance this spring-drum 33 is illustrated as a snail-drum. A ratchet-wheel 35 is mounted to revolve upon the same spindle which carries the spring-drum and is located adjacent to one side of the drum. Pivoted to the ratchet-wheel at 36 is a gravity-trip 37, which is provided with a trip-pin 38, that extends laterally therefrom, and the movement of the trip 37 is limited by a pin 39, which is secured to the ratchet-wheel 35. Secured to the face of the spring-drum 33 is a small bracket having outwardly-projecting ears 40, which constitute bearings for supporting the pivot 41 of a locking pawl or catch 42. This locking-pawl 42 is provided with a laterally-projecting arm 43, (see Fig. 3,) which carries an engaging finger 44, that is adapted to cooperate with the

teeth 45 on the ratchet-wheel 35. The pawl 42 is likewise provided with a finger-piece 46, by means of which the finger 44 may be thrown out of engagement with the teeth on its cooperating ratchet-wheel 35. The finger 44 of this pawl is normally maintained in engagement with the teeth of the ratchet-wheel 35 by a coiled spring 47, which surrounds the pivot 41 and bears at one end upon the pawl, as indicated at 48, and at its opposite end it bears upon the piece which carries the ears 40. It will thus be understood that normally the ratchet-wheel and spring-drum are by means of the pawl or catch locked to rotate together in the direction of the arrow in Fig. 2 of the drawings when the drum is rotated, but that the ratchet-wheel may be turned in the same direction independently of the spring-drum. When the ratchet-wheel is turned by hand in the direction of the arrow, the pawl rides over the teeth and permits an independent movement of the ratchet-wheel in order to bring about the desired adjustment of the trip 37 with relation to the drum 33. The pawl may, however, be disengaged by depressing the finger-piece 46, when the ratchet-wheel may be turned independently of the drum in either direction. This adjustment of the ratchet-wheel with its trip determines the point in the travel of the carriage when the trip cooperates with the bell and with the locking mechanism to sound the alarm and then to lock or maintain the type-carriers against printing movement, as will now be more fully described.

Secured to a suitable spindle 49 is a bell 50, which is arranged adjacent to the trip-carrying ratchet-wheel 35, and cooperating with this bell is a bell-hammer 51, which is secured to a spring-stem 52, that is supported upon the top plate 2 of the machine, as indicated at 53. The bell-hammer 51 is provided with a pin 54, which extends laterally therefrom toward the ratchet-wheel 35 and into the path of the cam-face 55 on the trip 37, so that as the ratchet-wheel 35 revolves with the spring-drum in the direction of the arrow the cam-face 55 on the trip will contact with the pin 54 on the bell-hammer and vibrate or move it outwardly, so that it will spring back and strike the bell 50 to sound the alarm when the trip has parted company with the pin 54. Further movement in this direction of the ratchet-wheel 35 will bring the trip-pin 38 into engagement with a hook 56 and automatically lock the type-carriers against movement. This hook 56 is formed at the upper end of a rod 57, which is loosely connected at its lower end to a pin or screw 59 on a rock-shaft 58. This rock-shaft 58 is pivoted at 60 in the framing of the machine and is provided with a weighted arm 61, which normally maintains the parts in the position indicated in Figs. 1 and 2 of the drawings. Secured to the rod 57 at 62 is a spring 63, which, like the rod itself, passes through an

opening 64 in a depending arm 65, which is rigidly secured to the top plate 2 of the machine. The said opening 64 is of sufficient size to permit a lateral movement of the rod 57 in the direction of the double-headed arrow in Fig. 1 of the drawings. The rod 57 is, however, normally maintained by its spring 63 in the position indicated in Fig. 1 of the drawings, wherein the hook 56 thereof will be maintained in the path of the trip-pin 38, so as to be engaged thereby to provide a locking movement of the printing and feeding mechanism. A release-key lever 67, pivoted on the transverse fulcrum-rod 3, has secured thereto at 68 an upwardly-projecting arm 69, which is provided with a hook 70. This hook 70 is adapted to cooperate with an inclined arm or cam 71, carried by the rod 57, so that a depression of the release-key 66 will cause the lever 67 thereof to move around its pivotal center 3, thus causing the hook or actuator 70, connected thereto, to be depressed or swing down around the same center. This depression of the hook 70 will cause it to ride against the inclined arm 71 on the rod 57, thus forcing the upper end of said rod with its hook 56 toward the rear of the machine, where the hook will be out of the path of movement of the short trip-pin 38. The rock-shaft 58, hereinbefore referred to, is provided with two upwardly-extending arms 72, which are normally maintained in the position indicated in Figs. 1 and 2 of the drawings, but which are adapted to move under the transversely-extending universal bar 13, thus locking the key-levers, type-carriers, and feed mechanism against movement. It will be understood that when the carriage is moved to a position where the trip-pin 38 engages the hook 56 a slight further movement of the trip in the direction of the arrow in Fig. 2 of the drawings will cause the hook and its rod 57 to be elevated, the rock-shaft 58 to be turned, and the arms 72 to swing beneath the universal bar 13 to lock or block the printing and feeding mechanisms against movement. Should the operator desire to write one or more letters or words on the same line after the parts have been locked in the manner described, it is merely necessary to depress the release-key 66, when the hook 56 will be moved laterally against the tension of its spring 63 in the manner hereinbefore described and the weighted arm 61 on the rock-shaft 58 will rock the shaft to move the arms 72 from beneath the universal bar 13, thus restoring the parts to normal position and freeing the key-levers for further operation.

Various changes in detail construction and arrangement may be made without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected thereto, and line-locking

mechanism, including a trip-carrying wheel and a catch for releasably connecting said wheel to said drum.

2. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected thereto, and line-locking mechanism, including an adjustable trip-carrying wheel, a catch attached to the drum and engaging with said wheel, and a finger-piece for releasing said catch to permit the trip-carrying wheel to be adjusted in either direction.

3. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected thereto, and line-lock mechanism, including a ratchet-wheel, a line-lock trip mounted thereon, and a catch attached to the drum and releasably engaging with said ratchet-wheel.

4. In a type-writing machine, the combination of type-bars, key-levers therefor, a carriage, a spring-drum, a ratchet-wheel mounted to turn on the pivotal axis of the drum and independently of the drum, a catch releasably connecting said ratchet-wheel to said drum, a line-lock trip mounted on said ratchet-wheel, and means for preventing the operation of said key-levers and type-bars, including a rod having a projection adapted to be engaged by the trip on said ratchet-wheel.

5. In a type-writing machine, the combination of type-bars, key-levers therefor, a carriage, a spring-drum, a rotary line-lock trip, means for preventing the operation of said key-levers and type-bars, said means including a rod having a projection adapted to be engaged by said trip and adapted to move fore and aft of the machine, a release-key lever, and means connected thereto and to said rod for moving the rod fore and aft of the machine and the projection on the rod into and out of the path of rotation of said trip.

6. In a type-writing machine, the combination of a carriage, a rotary trip operatively connected thereto, line-locking mechanism which is moved to the locking position by said rotary trip, a finger-key at the keyboard of the machine for releasing said line-locking mechanism from the locked position, an actuator controlled by said key, and a cam with which said actuator cooperates.

7. In a type-writing machine, the combination of a carriage, a rotary trip operatively connected thereto, line-locking mechanism which includes a hooked rod that is adapted to be engaged by said trip, a finger-key at the keyboard of the machine, a cam and actuator between said hooked rod and finger-key, to move the hook portion of the rod away from said trip and thus release the line-locking mechanism.

8. In a type-writing machine, the combination of a carriage, a rotary trip operatively connected thereto, line-locking mechanism which includes a spring-pressed hooked rod that is adapted to be engaged by said trip, a

cam on said rod, a finger-key at the keyboard of the machine, and means connected to said key which cooperates with the cam on said rod to move the hook portion thereof away from said rotary trip to disconnect the rod from the trip and thus release the line-locking mechanism.

9. In a type-writing machine, the combination of a carriage, type-bars, key-levers therefor, a universal bar operated by said key-levers, a locking device which cooperates with said universal bar, an adjustable rotary trip, a spring-restored hook-carrying rod which cooperates therewith and which is operatively connected to said locking device, a key-lever, that extends to the front of the machine, and means attached to the key-lever and cooperating with means on the hooked rod for moving the rod against the tension of its spring for moving said hook-carrying rod away from the trip to release the locking device.

10. In a type-writing machine, the combination of a carriage, type-bars, key-levers therefor, a universal bar operated by said key-levers, a locking-arm which cooperates with said universal bar, an adjustable rotary trip, a spring-pressed hook-carrying rod which cooperates therewith and which is operatively connected to said locking-arm, a key-lever extending from the keyboard to the rear of the machine and carrying an actuator for moving said hook-carrying rod away from the trip to release the locking-arm from engagement with the universal bar, and a cam with which said actuator cooperates.

11. In a type-writing machine, the combination of a carriage, type-bars, key-levers therefor, a universal bar operatively connected to said key-levers, a rock-shaft, a locking-arm connected to said rock-shaft and adapted to cooperate with the universal bar, a weight for restoring the rock-shaft and the parts connected thereto to the normal position, an adjustable rotary trip, a spring-restored hook-carrying rod which cooperates therewith and which is operatively connected to said rock-shaft, and a key-lever that extends to the keyboard of the machine and which is operatively connected to a swinging hook that engages the said rod and moves the hook portion thereof away from the trip to release the locking-arm from engagement with the universal bar.

12. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected to said carriage, and line-locking mechanism, said line-locking mechanism comprising a trip-carrying wheel and releasable means for effecting an interlocking engagement between and positively locking the wheel to rotate with said drum.

13. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected to said carriage and line-locking mechanism, said line-locking mechanism comprising a trip-carrying ratchet-wheel and a pawl for locking the wheel to ro-

tate with said drum in one direction and for permitting the wheel to be rotated independently of the drum in the opposite direction.

5 14. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected to said carriage and line-locking mechanism, said line-lock mechanism comprising a ratchet-wheel, a gravity-trip which is pivoted to said ratchet-wheel, 10 and a pawl carried by said drum for locking the wheel to rotate with said drum in one direction and for permitting the wheel to be rotated independently of the drum in the opposite direction. 15

15 15. In a type-writing machine, the combination of a carriage, a rotatable drum operatively connected to said carriage and line-locking mechanism, said line-lock mechanism comprising a ratchet-wheel, a gravity-trip which is pivoted to said ratchet-wheel, 20 a spring-pressed pawl carried by said drum for locking the wheel to rotate with said drum in one direction and for permitting the wheel to be rotated independently of the drum in an opposite direction and a finger-piece connected to said pawl and by means of which 25 the pawl can be disengaged from the ratchet-wheel to permit it to be rotated in either direction. 30

30 16. In a type-writing machine, the combination of a carriage, a rotatable spring-drum carried by the framing of the machine, a bell adjacent to the drum, a bell-hammer, a trip-carrying wheel adjacent to the drum, releasable means for positively locking said wheel 35

to move with the drum, for permitting its adjustment to vary the position of the trip, which trip coöperates with the bell-hammer to sound the alarm, line-locking mechanism 40 which is adapted to be engaged by the trip in the rotation of its wheel in one direction and which is undisturbed thereby when the wheel rotates in an opposite direction and means that extend to the front of the machine for 45 releasing the line-locking mechanism.

17. In a type-writing machine, the combination of a carriage, a rotatable spring-drum carried by the framing of the machine, a bell adjacent to the drum, a bell-hammer, a trip-carrying ratchet-wheel adjacent to drum, a 50 pawl carried by said drum and adapted to engage the teeth of the ratchet-wheel to lock said wheel to move with the drum in one direction and to permit a free movement of 55 the wheel in an opposite direction to vary the position of the trip, which trip coöperates with the bell-hammer to sound the alarm, a line-locking hook which is adapted to be engaged by the trip in the rotation of 60 its wheel in one direction and which is undisturbed thereby when the wheel rotates in an opposite direction, and line-locking mechanism controlled by said hook.

Signed at the borough of Manhattan, city 65 of New York, in the county of New York and State of New York, this 11th day of November, A. D. 1901.

WALTER J. BARRON.

Witnesses:

K. V. DONOVAN,  
E. M. WELLS.