F. A. YOUNG.

TYPE WRITING MACHINE.

APPLICATION FILED JAN. 18, 1911.

1,054,328. Patented Feb. 25, 1913.

Fig. 1.

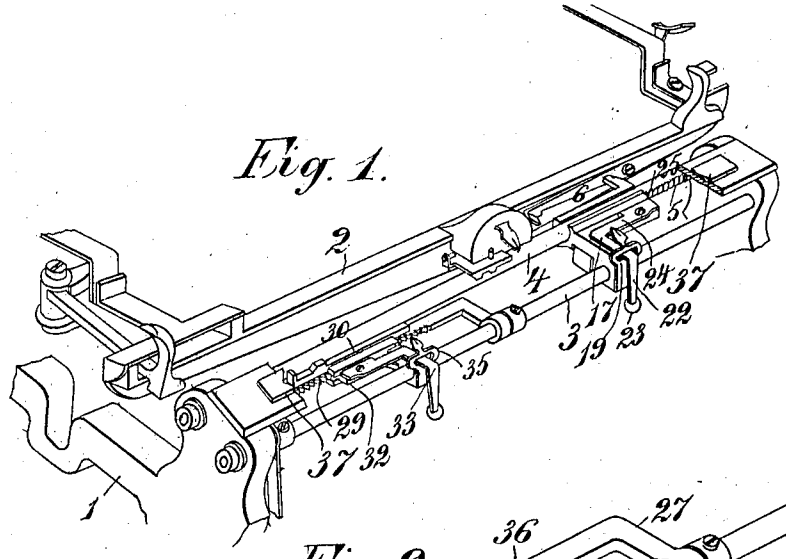


Fig. 2.

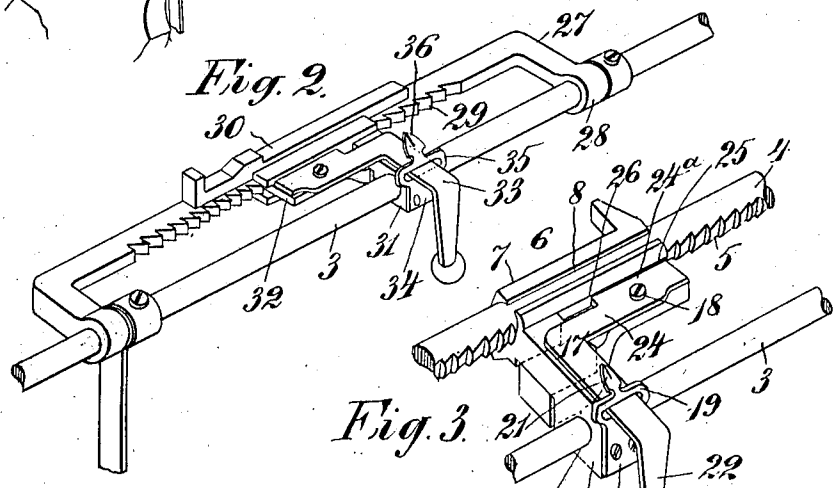


Fig. 3.

Fig. 4.

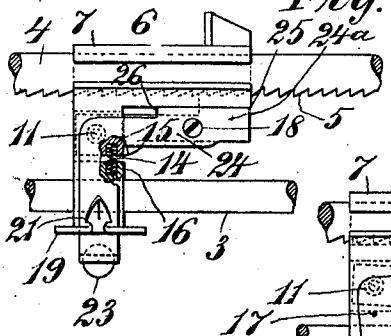


Fig. 5.

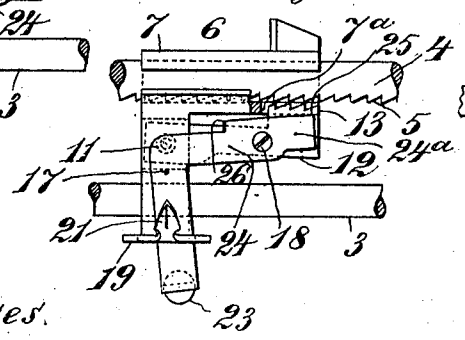
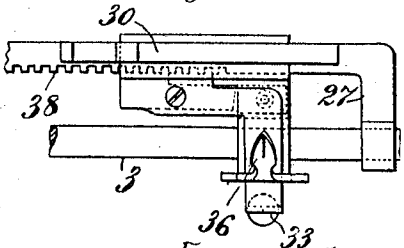


Fig. 6.



Witnesses.

F. W. Wiman

John A. Rennie

Inventor

Frank A. Young

by D. B. Stickney

Attorney

UNITED STATES PATENT OFFICE.

FRANK A. YOUNG, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

1,054,328. Specification of Letters Patent. Patented Feb. 25, 1913.

Application filed January 18, 1911. Serial No. 603,262.

To all whom it may concern:

Be it known that I, FRANK A. YOUNG, a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to margin stops, such as are used on typewriting machines for limiting the movement of the carriage to form the side margins on a page. As usually constructed, these stops are mounted at the forward part of the machine, so that they may slide transversely, and they are arranged so that they can be adjusted to any point desired, to determine the limit of travel of the carriage.

In the Underwood type of machine, the stop comprises a pointer formed of a plate, and this plate is provided with a laterally projecting ear adjacent to which a lever is placed, and this lever is arranged so as to unlock the stop. In so releasing the stop, the lever and the ear are pressed between the finger and thumb of the operator. The ear operates as a fixed finger-piece projecting near the lever.

In carrying out this invention I have produced a margin stop for the purpose described, which is devoid of the fixed projecting finger-piece or ear, and which presents an improved single operating member or lever, pressure upon which in either direction will release the stop and enable it to be slid readily to the desired point. I have illustrated the device as applied to said Underwood typewriter, in which the margin stops are mounted upon transverse guide rods at the forward part of the machine and adjacent to the scale.

In the accompanying drawings, Figure 1 is a perspective, showing a portion of the forward part of the frame of an Underwood typewriter, the scale being broken away, and the forward portion of the carriage being also illustrated to show its relation to my invention. Fig. 2 is a perspective, showing the construction and manner of mounting the left hand margin stop. Fig. 3 is also a perspective, showing the right hand margin stop, and illustrating the means for mounting it on the guide rails. Fig. 4 is a plan of the right hand margin stop, showing portions of the guide rails along which the stop may move, and this view shows a portion of the stop broken away; and certain parts are shown in cross section to illustrate further the device for holding the stop normally locked to the rail. This view shows the stop locked upon the guide rod or rack. Fig. 5 is a view similar to Fig. 4, partly broken away and showing the same stop in a released condition, enabling it to be slid toward the right. Fig. 6 is a plan, showing the left hand margin stop and a portion of the swing-bar to which it is attached. This view shows a construction similar to that shown in Fig. 2, but it illustrates a modified form of teeth for the rack and the swing-bar.

1 represents a frame upon which there is mounted a suitable carriage 2, adapted to travel back and forth in the usual manner. In the forward portion of this frame there is provided the usual forward guide rail 3 and a guide rack or rail 4 adjacent thereto, and usually slightly behind the rail 3. Near the right hand end of the rack 4, its forward side is formed with ratchet teeth 5, in the usual manner, which may be inclined as shown, so as to project toward the middle portion of the bar. On this rail 4, there is provided a right hand margin stop 6, the body of which is in the form of a split-sleeve 7 having a longitudinal slot 8 extending from end to end thereof on its upper side. At or near one end of this sleeve 7 is a forwardly projecting arm 9, and this arm has a guide bore 10 to fit on the forward guide rod 3, enabling the stop to slide freely along the rail.

On the under side of the arm 9 adjacent to the sleeve 7, a pivot screw 11 is provided, upon which turns a dog 12. The body of this dog extends alongside the rack bar 4, the free end of said dog being provided with teeth 13, as illustrated in Fig. 5, which project through a slot 7^a in the side of the sleeve to engage with the teeth 5 to lock the stop on the rack bar. Fig. 5 shows this dog released from the rack bar as though the stop were to be adjusted toward the right, but Fig. 4 shows the dog in its closed or gripping position. In order to cause the dog to engage with the teeth of the rack bar, the outer side of the dog near the pivot screw 11 is provided with a coiled spring 14,

the ends of which are received in pockets 15, 16 formed respectively in the adjacent faces of the dog and the arm 9.

In applying my invention, near the free end of the dog a lever 17 is attached on a pivot screw 18 on the upper side of the dog. The body of this lever extends along the upper side of the arm and passes through a horizontal slot or elongated eye 19 formed in the upper portion of a pointer-plate 20, said plate being attached to the forward end of the arm, as indicated. Above this eye 19, an upwardly inclined finger 21 is formed. The forward end of the lever at the point where it passes through the slot 19, may be bent downwardly, so as to form a handle or finger piece 22, terminating in a ball or knob 23. The inner portion of the lever extends at right angles to the body thereof, so as to form a laterally projecting tongue 24 lying upon the upper side of the dog and secured thereto by the aforesaid pivot screw 18. Near the pivot screw 18, the tongue 24 projects toward the sleeve 7, so that it forms a plate 24^a presenting an extension or toe 25 at one end adapted to engage the side of the sleeve, and a similar extension or toe 26 at its other end for the same purpose. Said toes may be about equidistant from pivot 18, and any movement of the lever about its pivot screw 18 will also cause the lever to rotate about the toe 25 or the toe 26 as a sliding fulcrum, thereby moving the pivot screw 18 and dog 12 outward. Thus the lever may be termed a floating-lever. If for example the handle 22 is moved toward the right, the lever will swing on the pivot pin 18, and the toe 25 will press the side of the sleeve 7 and force the free end of the dog 12 away from the rack 4, so as to release it from the rack and permit the stop to be slid toward the right. If, on the other hand, the handle 22 is moved toward the left, the lever will rock on the pin 18, in the other direction, and the toe 26 will press against the side of the sleeve and disengage the dog in the same manner. In this connection, it should be understood that the eye 19 permits a sufficient swinging movement of the lever to accomplish this result. The construction of the left hand margin stop or gage is fundamentally the same as the right hand stop which has just been described, but it embodies such changes in detail as are necessary to adapt it to the swing bar which is mounted at the left side in Underwood machines of this type.

Referring especially to Fig. 2, on the left part of the guide bar 3, the usual swing-bar 27 is mounted, the body of said bar being offset rearwardly from the guide-bar 3, and being attached to the bar 3 by hubs 28 so as to swing on the bar in the usual manner. On the forward side of this swing-bar 27 rack teeth 29 are provided, and these teeth may be inclined, as shown, so that they project toward the middle of the guide bar 3. On the bar 27 the left hand margin stop is mounted, comprising a body or sliding shoe 30 corresponding to the sleeve 7. This shoe 30 has a forwardly projecting arm 31 which receives and slides freely on the guide bar 3. This margin stop is provided with a dog 32 which is pivoted on the arm 31 in the same manner as illustrated in Fig. 5, and is adapted to be operated by a lever 33 similar to the lever 22, and similarly mounted. The shoe 30 is simply a special construction or adaptation of the sleeve 7 of the right hand stop. On the end of the arm 31 a plate 34 is mounted which is similar to the plate 20, having a horizontal slot 35 through which the lever 33 passes before being bent down as shown. The upper end of the plate is formed into a pointer or finger 36. The fingers 21 and 36 lie adjacent to the upper face of a scale which extends transversely of the frame at the forward side thereof, the ends of said scale being indicated at 37.

While I have illustrated the teeth 5 and the teeth 29 as inclined in form, it should be understood that this form of tooth is not essential, and if desired, I may adopt a square tooth 38 of the form shown in Fig. 6 for either or both racks. And attention is called to the fact that the use of two lifting toes 25 and 26 on the levers enables the dog to be disengaged from the rack when the rack has square teeth. When inclined teeth are used, the stop may slip freely toward the middle of the bar; the dog then slips over the teeth like a ratchet pawl. It should be noted that a single movement of the operator's hand will disengage the stop and move it over to the desired position. As soon as the handle of the lever moves sufficiently to release the stop, then a further movement of the lever in the same direction adjusts the stop.

Having thus described my invention, I claim:

1. In a typewriting machine, in combination, a guide rail, a stop mounted to slide thereupon, a dog pivotally mounted on the body of said stop and coöperating with said rail to lock said stop thereto, and a lever pivotally mounted on said dog adapted to swing one end against another member to release said dog and constituting the sole handle to slide the stop along said rail.

2. In a typewriting machine, in combination, a guide bar, a stop mounted to slide thereon, a dog mounted on the body of said stop and adapted to lock said stop to said bar and a lever mounted on said dog having an extension adapted to bear against the body of said stop and force said dog out of engagement with said bar, said dog being arranged so as to tend normally to engage said guide bar.

3. In a typewriting machine, in combination, a guide rack, a guide rail disposed adjacent thereto, a stop having a body sliding on said rack and having an extension sliding on said rail, a pivoted dog normally engaging said rack to lock said stop thereto, and a lever pivotally mounted on said dog having an extension bearing against another member for disengaging said dog from said rack when said lever is actuated.

4. In a typewriting machine, in combination, a guide rack, a guide rail disposed adjacent thereto, a stop having a body sliding on said rack and having an extension sliding on said rail, a pivoted dog normally engaging said rack to lock said stop thereto, and a lever having extensions bearing against said stop for disengaging said dog from said rack when said lever is actuated; said lever pivoted on said dog between said extensions.

5. In a typewriting machine, in combination, a guide bar, a guide rail disposed forwardly thereof, a stop having a body sliding on said guide bar and having an extension sliding on said guide rail, a plate attached to the forward end of said extension and having a slot therein, said stop being normally locked to said guide bar, and a lever attached to said stop for releasing the same and extending forwardly through said slot.

6. In a typewriting machine, in combination, a guide, a margin stop movable along said guide, and including a lever having a limited movement for releasing said stop, a pointer carried by the stop, a member between the stop and the pointer comprising a slot through which said lever projects, said lever forming the sole handle for shifting said stop, the lever extending from its pivot on the dog and moving in either direction to simultaneously release the dog and slide the margin stop the same way.

7. In a typewriting machine, the combination with a rack bar, of a sleeve on said bar, a dog pivoted on said sleeve, and a lever pivoted on said dog comprising an extension to bear against said sleeve to move said dog on its pivot out of engagement with said rack bar.

8. A stop carrying a pointer, a lever controlling said stop, a plate between the stop and pointer comprising a slot through which projects said lever.

9. In a typewriting machine, the combination with a rack bar, of a stop comprising a sleeve slidable on said rack bar, a toothed member for engaging said rack bar, a handle pivoted on said toothed member, and an extension on said handle having a face bearing against said sleeve and arranged to move said toothed member clear of said rack.

10. In a typewriting machine, the combination with a rack bar, of a stop comprising a sleeve slidable on said rack bar, a toothed member pivoted on said sleeve for engaging said rack bar, a spring pressing said toothed member against said rack bar, a handle pivoted on said toothed member, and an extension on said handle having a face bearing against said sleeve and arranged to move said toothed member clear of said rack.

11. A margin-regulating device comprising a rack, a slide adjustable along said rack, a dog mounted on the slide and movable into and out of the teeth of the rack, a cross arm pivoted between its ends on said dog, and each end thereof adapted to bear against the slide to force the dog out of the rack, and an operating arm extending from said cross arm to rock the same, and thereby release the dog and at the same time slide the margin-regulating device along the rack.

12. In a typewriting machine, the combination of a rack-bar, a stop comprising a member slidable on the rack-bar, a tooth-lever pivoted to the said member, and movable into and out of interlocking engagement with the rack-bar, and a floating-lever pivoted to the tooth-lever, and having a fulcrum slidable on the said slidable member.

13. In a typewriting machine the combination of a rack-bar, a stop comprising a member slidable on the rack-bar, a dog movable into and out of interlocking engagement with the rack-bar, and a floating-lever to operate the dog, and adapted to fulcrum on said slidable member.

FRANK A. YOUNG.

Witnesses:
C. RIPLEY,
B. GOLDBERG.