

W. E. BIRGFELD.
TYPE WRITER ATTACHMENT.

APPLICATION FILED NOV. 5, 1906, RENEWED SEPT. 30, 1907.

907,119.

Patented Dec. 22, 1908.

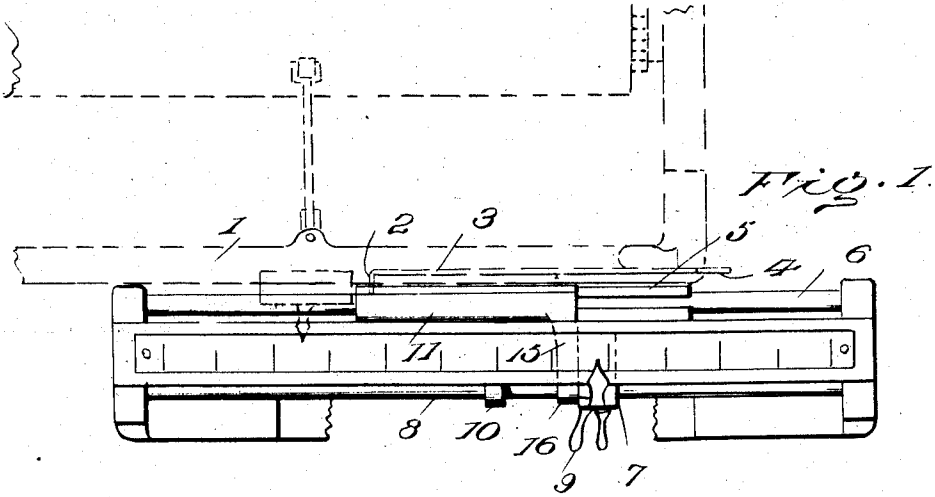


Fig. 2

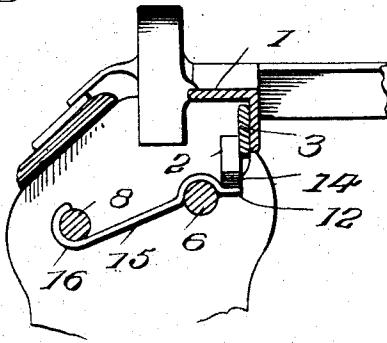


Fig. 3

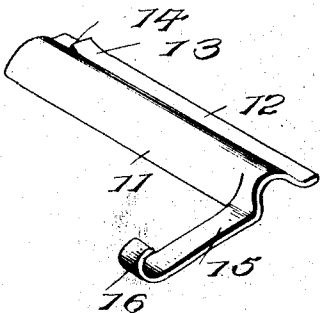


Fig. 5

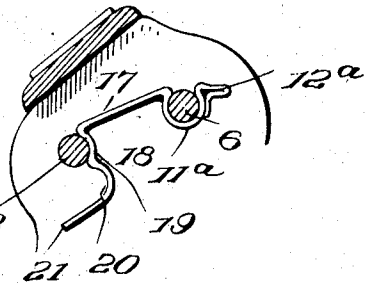
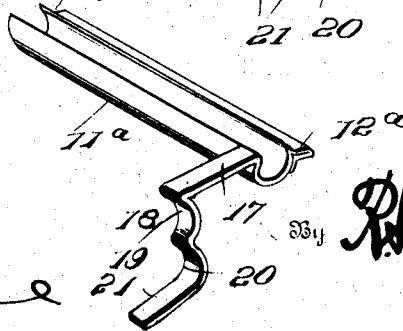


Fig. 4



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM EDWARD BIRGFELD, OF KENSINGTON, MARYLAND, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITER ATTACHMENT.

No. 907,119.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed November 5, 1906, Serial No. 342,102. Renewed September 30, 1907. Serial No. 395,182.

To all whom it may concern:

Be it known that I, WILLIAM E. BIRGFELD, citizen of the United States, residing at Kensington, in the county of Montgomery and State of Maryland, have invented certain new and useful Improvements in Type-Writer Attachments, of which the following is a specification.

This invention contemplates certain new and useful improvements in attachments for typewriting machines, and it comprehends particularly an improved device that may be readily attached to and detached from a typewriting machine and in position serve as a stop, particularly a supplemental stop, designed for limiting the movement of the platen supporting carriage at different points along its travel.

The invention also comprehends an improved article of manufacture of this nature, which in its operation will be found advantageous in stopping or limiting the movement of the platen supporting carriage of a typewriting machine of the peculiar character illustrated in the accompanying drawings and hereinafter generally described, as I believe it supplies certain deficiencies in such machine, or at least renders the machine more useful and capable of a greater range of adjustment, and it will also be found that the invention is useful in typewriting work where it is desired to stop the carriage when moved in a direction opposite to that in which it moves when printing, at points near the left hand end of the machine, so that a series of figures or the like may be placed in a column at the left hand margin of a sheet.

With this and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of parts of my improved typewriter attachment hereinafter specified and claimed.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a top plan view of so much of a certain design of typewriting machine as is necessary to obtain a proper understanding of my invention, one form of the invention being shown applied thereto. Fig. 2 is

a transverse sectional view thereof. Fig. 3 is a detail perspective view of one form of the invention shown detached. Fig. 4 is a similar view of another form in which the invention may be embodied. Fig. 5 is a transverse sectional view showing applied that form of the invention that is illustrated in Fig. 4.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

That design or form of typewriting machine to which my improved attachment is shown applied in the present instance embodies a platen supporting carriage the front portion 1 of which supports a latch 2 which may be constructed or formed as the laterally projecting end of the latch bar 3 pivoted intermediate of its ends to rock in a vertical plane along the front edge of the front bar 1, said latch bar being provided at its other end with an upwardly projecting finger-piece 4 by which it may be rocked so as to move the latch 2 upwardly. As the carriage moves forwardly, or towards the right of the machine, (in the direction opposite to that in which it moves when printing) this latch 2 is designed to abut against a block 5 which is mounted to slide upon a rod 6 extending in the plane of movement of the carriage and secured at its ends in any desired manner to the framework of the machine.

The block 5 is provided with a forward projection 7 which is mounted to slide upon a rod 8 similar to the rod 6 and in front of said rod 6, but in a slightly lower plane. The extension 7 of the block 5 is provided with a catch 9 designed to automatically clamp the block to the rod 8 so as to hold the said block 5 at points along the said rods 6 and 8 and therefore cause the abutting of the latch 2 against said block at different points in the travel of the carriage so as to limit the forward traverse of said carriage at different points, according as it is desired to discontinue the printing of characters at different vertical planes on the sheet that is being written upon. On the machine herein illustrated, the front rod 8 is provided with a stationary or immovable collar 10, which is so positioned along said rod as to limit the sliding movement of the

block 5 and its extension 7. This limit occurs ordinarily with this machine when the indicator on the carriage at the front thereof points to the designation "40" along the front indicating scale. It is very often necessary and desirable to limit the forward movement of the carriage to the "30" point or "20" point, or to other intermediate points, but it is impossible to move the block 5 over far enough along the rods to accomplish the stopping of the carriage at these intermediate points. It is to overcome this difficulty that I have conceived the present invention.

My invention consists of a stopping device for limiting the forward movement of the carriage, that is, in the direction opposite to that in which it moves when printing, and in the present instance this stopping device is illustrated as of two forms or embodiments. I shall first describe that form illustrated in Figs. 1, 2 and 3. As shown particularly in Fig. 3, this form of the invention embodies a plate 11, which is transversely curved throughout its length, and which is provided with an edge flange 12 gradually thickened or sloping on its upper side as indicated at 13, said slope terminating abruptly or producing the lug or shoulder 14. At its opposite edge the curved plate 11 is provided at one corner with a laterally extending arm 15, which is returned upon itself in a gradual curve to provide the hook extremity 16. In the practical operation of this form of the invention, the plate 11 is merely positioned over the rod 6 and rests loosely thereon with its hook extremity 16 extending partially around the front rod 8 and with its edge flange 12 projecting in line with the latch 2, and with its shoulder 14 projecting into the path of said latch. One end of the plate 11 abuts against the block 5, while the side edge of the arm 15 and its hook extension 16 abuts against the extension 7 of said block. Hence, it will be seen that the carriage will be stopped before its latch 2 comes in direct contact with the block 5. In other words, it will be stopped by engagement with the lug or shoulder 14, which is in advance of the block 5 and accordingly the forward traverse of the carriage will be limited at the point "30" or some other intermediate point as the block 5 and its extension 7 are moved to the right or the left along the rods 6 and 8 so as to bring the plate 11 and its shoulder 14 acting in a supplementary capacity into the proper position for contact with the latch 2 at the desired point. The plate 11 merely rests removably upon the rod 6, and can be readily attached to or detached from the two rods 6 and 8 as is clear from the foregoing description in connection with the accompanying drawings.

In that form of the invention illustrated in

Figs. 4 and 5 the same generic principles are involved but the plate, here designated 11^a, is in the form of a longitudinally split tube designed to partially encircle the rod 6 by being sprung into engagement therewith from underneath, and the said curved plate or tube 11^a is provided with a marginal flange 12^a which preferably is bent or returned upon itself as shown and bent downwardly at its extremity along the curved plate so as to reinforce the structure. The said flange 12^a, preferably slopes from one end to the other and one of its ends is located, in applied position, in the path of movement of the latch 2 so as to constitute a shoulder, substantially similar to the shoulder 14. The said end of the flange 12^a is designated 14^a and is best seen in Fig. 4. The arm 17 which projects from one side of the curved plate or split tube 11^a preferably has spring characteristics and is bent at an intermediate point to produce two curved portions 19 and 20, each of which constitutes in effect a hook designed to partially encircle the front rod 8. Beyond the hooks the arm 17 is extended to form the finger-piece 21. In the practical use of this form of the invention the plate or tube 11^a is removably attached to the rod 6 in advance of the stop-block 5, so that the shoulder or lug 14^a constituted by the end of the flange 12^a may engage with the latch 2 at the desired point and thereby limit the forward traverse of the carriage. In the operative position of this form of the invention, the uppermost hook or socket 19 engages the front rod 8, but if it be desired to turn the device into an inoperative position without entirely removing it from the typewriting machine, it is only necessary for the operator to grasp the finger-piece 21 and turn the curved plate or tube 11^a about its longitudinal axis on the rod 6, by moving the arm 17 upwardly. This will result in so depressing the flange 12^a and its shoulder 14^a that the latter will be moved out of the path of the latch 2, while at the same time the hook or socket 19 will be disengaged from the rod 8 and be replaced by the other hook 20, and the latter, by frictional engagement with the rod 8 will manifestly hold the device in an inoperative position on the two rods.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a very simple device for the useful purposes hereinbefore specified, one that may be cheaply made, and one that may be very readily attached to and detached from the typewriting machine, so that it will interfere in no wise with the ordinary actions of the machine when not applied, and which may be instantly applied whenever desired in order to stop the carriage of the machine at a point beyond which the ordinary stop can not act.

It is obvious that any form of my improved auxiliary stop device may be substituted for the ordinary stop devices employed on the typewriting machine and be held as
 5 against movement in one direction by any desired means, and that it may remain upon the machine at all times without interfering with the proper function of the various parts, while at the same time it is arranged
 10 to be readily detached whenever desired.

Having thus described the invention, what is claimed as new is:

1. The combination with a typewriting machine embodying a carriage provided
 15 with a stop-latch and also embodying front and rear rods, and a slidable main stop device on said rods, adapted for engagement with the stop latch, of an auxiliary stop device adapted to loosely engage the rear rod
 20 in advance of said stop device and provided with a shoulder designed for location in the path of movement of said latch, as and for the purpose set forth.

2. The combination with a typewriter embodying a carriage provided with a stop-latch and front and rear rods, and a main carriage stop slidable on said rods, of a curved plate arranged for removable support by the rear rod and having a shoulder
 30 designed for engagement with said stop-latch, said plate being also provided with means for engaging the front rod, said means being arranged to engage the front rod at two different elevations whereby to
 35 hold the curved plate at different radial adjustments on the rear rod, and means for holding the plate as against longitudinal displacement at different points along the rods, as and for the purpose set forth.

3. The combination with a typewriter embodying a carriage provided with a stop-latch and front and rear rods, and a main carriage stop slidable on said rods, of a plate arranged for removable support by
 45 the rear rod and having a shoulder designed for engagement with said stop-latch, said plate being provided with a forwardly projecting arm formed with two hook portions, one in a higher plane than the other and extended beyond said hook portions to form
 50 a finger-piece, said hook portions being adapted to engage the front rod whereby the curved plate may be held at different axial adjustments on the rear rod.

4. The combination with a typewriting machine embodying a carriage provided with a stop, and also embodying front and rear rods, of a plate adapted to be removably supported by the rear rod and provided with
 60 a shoulder designed for location in the path of movement of said stop, so as to limit the movement of the carriage in one direction, said plate being provided with a forwardly projecting arm, and with means whereby
 65 said arm may engage the front rod and

hold the outer end of said arm at two different elevations, as and for the purpose set forth.

5. The combination with a typewriting machine embodying a carriage provided
 70 with a stop latch and also embodying front and rear rods, of a curved plate adapted to partially encircle the rear rod, said plate being formed at one edge with a longitudinally extending flange 12^a, sloping from
 75 one end to the other, said flange being formed at its high end with a shoulder arranged to contact with the stop latch and limit the movement of the carriage in one
 80 direction, and said plate being formed at one end with a forwardly extending arm adapted to engage the front rod with the said arm at two different inclinations, as and for the purpose set forth.

6. In a typewriting machine having a carriage provided with a stop, the combination
 85 of a rack, a stop upon the framework and having means to engage said rack and adjustable along said rack in the path of the carriage stop, to cooperate with the carriage
 90 stop to arrest the return of the carriage to begin a new line, and an auxiliary stop device adjustably mounted between said stops to cooperate with both thereof; the auxiliary
 95 stop preventing engagement of the other two stops with each other, but being removable to permit such engagement.

7. In a typewriting machine having a carriage provided with a stop, the combination
 100 of a rail on the framework, a stop mounted on said rail and adjustable therealong to cooperate with the carriage stop to arrest the return movement of the carriage to begin a
 105 new line, and an auxiliary stop device mounted upon said rail between said stops, to cooperate with both thereof, and adjustable along said rail; the auxiliary stop preventing engagement of the other two stops
 110 with each other, but being removable to permit such engagement.

8. In a typewriting machine having a carriage provided with a stop, the combination
 115 of a rail on the framework, a stop mounted on said rail and adjustable therealong to cooperate with the carriage stop to arrest the return movement of the carriage to begin a
 120 new line, and a stop device upon said rail and interposed between said stops to cooperate with both thereof, and adjustable together with said rail stop; said interposed
 125 stop preventing engagement of the other two stops with each other, and means being provided for moving the interposed stop out of the path of the carriage stop.

9. In a typewriting machine having a carriage provided with a stop, the combination
 130 of a rail on the framework, a stop mounted on said rail and adjustable therealong to cooperate with the carriage stop to arrest the return movement of the carriage to begin a
 135

new line, and a stop device upon said rail and interposed between said stops to cooperate with both thereof, and adjustable together with said rail stop; said interposed
5 stop preventing engagement of the other two stops with each other, and means being provided for moving the interposed stop out of the path of the carriage stop, and both the rail stop and the interposed stop
10 having openings on their upper sides, to leave the top of the rail exposed.

10. An auxiliary stop for attachment to a rail of a typewriting machine, comprising a body portion to fit upon said rail and having
15 a stop for engagement with the carriage stop, and also having means whereby it may be releasably held in position upon said rail, said holding means comprising a yielding arm extending from said body to engage a
20 second rail upon the machine.

11. An auxiliary stop for attachment to a rail of a typewriting machine, comprising a body portion to fit upon said rail and having
25 a stop for engagement with the carriage stop, and also having means whereby it may be releasably held in position upon said rail,

said holding means comprising a yielding arm extending from said body to engage a second rail upon the machine; said body being cylindrical and rotatable upon the rail to move its stop out of the path of the carriage stop. 30

12. An auxiliary stop for attachment to a rail of a typewriting machine, comprising a body portion to fit upon said rail and having
35 a stop for engagement with the carriage stop, and also having means whereby it may be releasably held in position upon said rail, said holding means comprising a yielding arm extending from said body to engage a
40 second rail upon the machine; said body being cylindrical and rotatable upon the rail to move its stop out of the path of the carriage stop; said arm having means engaging the second rail to detain the body in the
45 position in which its stop is inoperative.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM EDWARD BIRGFELD. [L. S.]

Witnesses:

FREDERICK S. STITT,
W. N. WOODSON.