Oct. 12, 1926. 1,603,215

G. M. SCHERER

TYPEWRITING MACHINE

Filed March 18, 1926 2 Sheets-Sheet 1

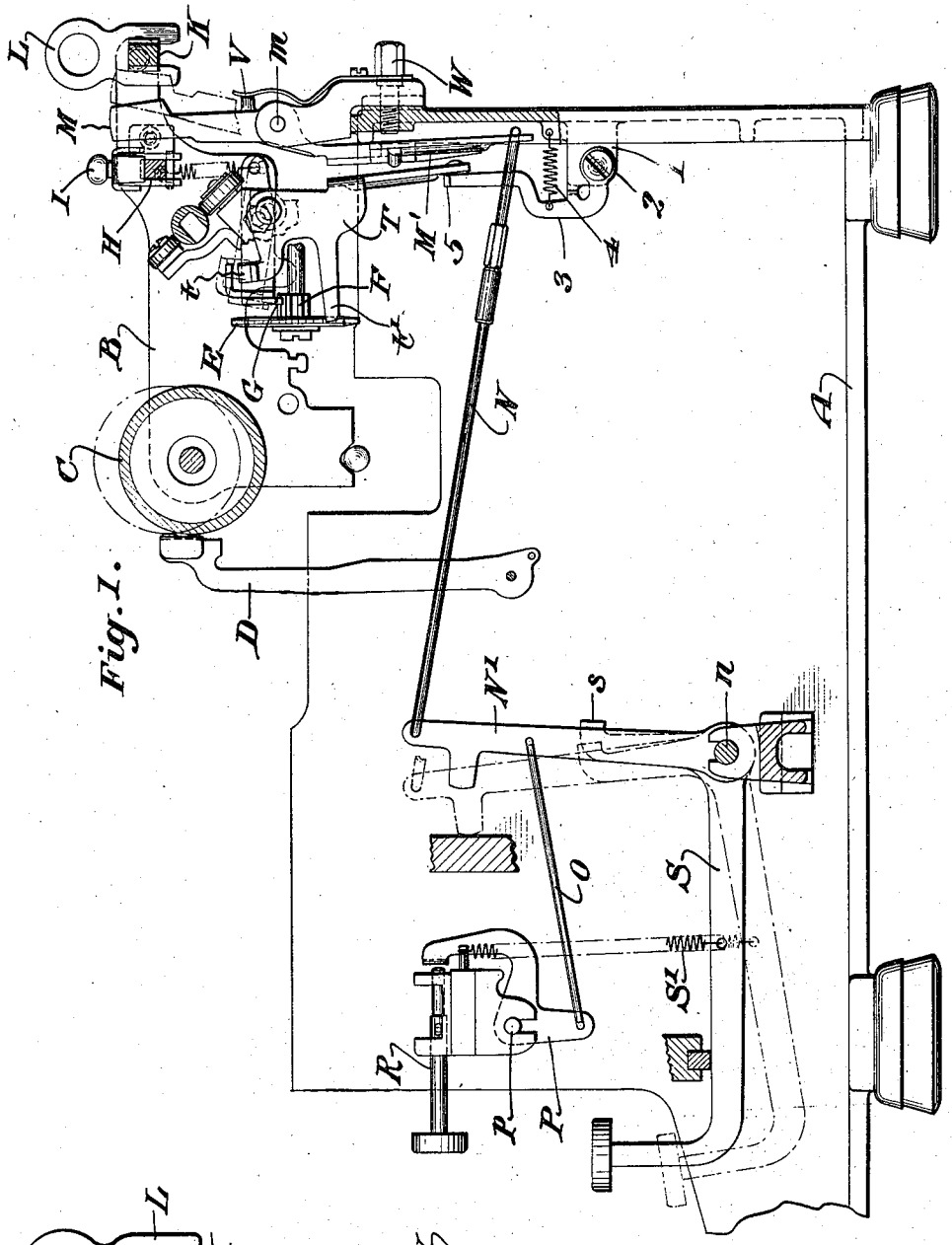


Fig. 1.

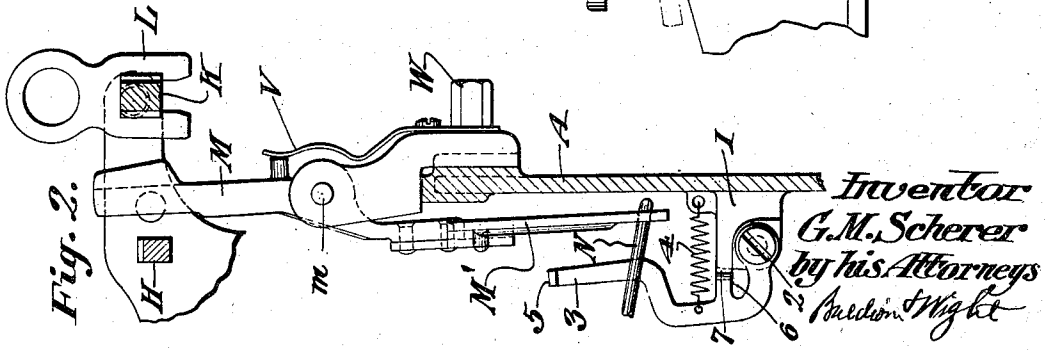


Fig. 2.

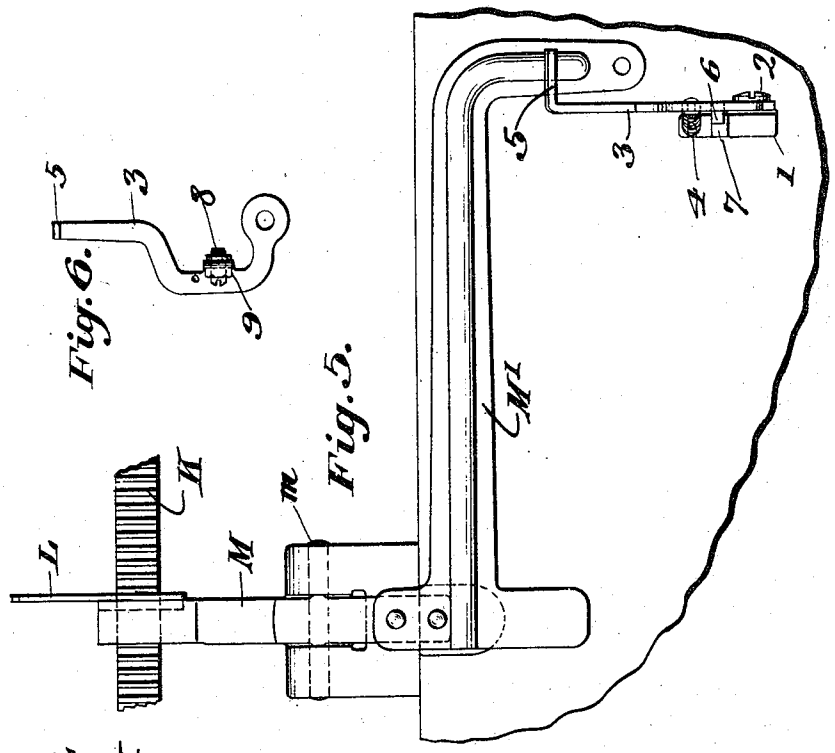
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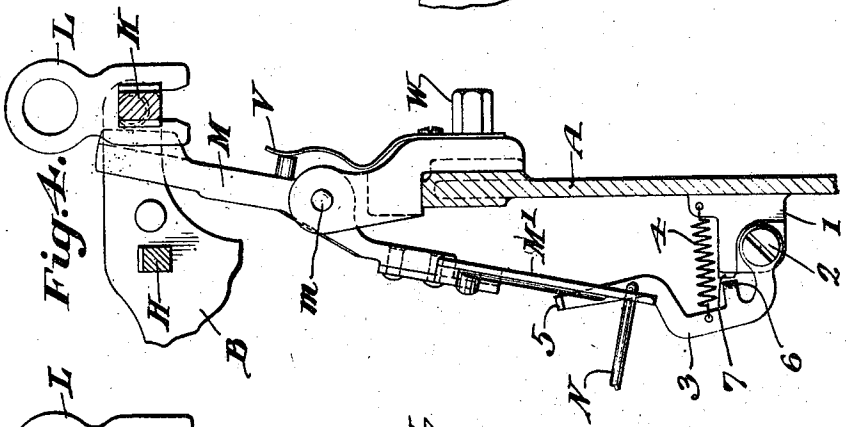
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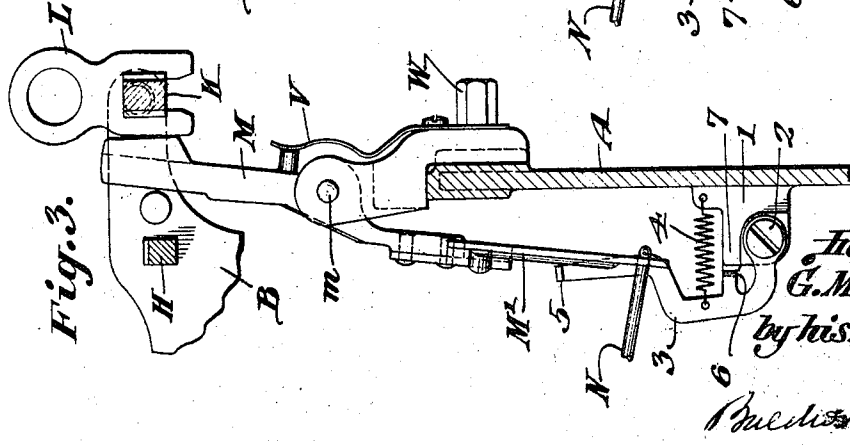
G. M. SCHERER

TYPEWRITING MACHINE

Filed March 18, 1926 2 Sheets-Sheet 2







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Patented Oct. 12, 1926. 1,603,215

UNITED STATES PATENT OFFICE.

GILBERT M. SCHERER, OF NEW YORK, N. Y., ASSIGNOR TO ROYAL TYPEWRITER COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TYPEWRITING MACHINE.

Application filed March 18, 1926. Serial No. 95,759.

This invention relates to that type of margin stop and tabulating mechanism in which a single cooperating stop takes up three positions relative to the margin and tabulating stops. In one of these positions it cooperates with the margin stops. In the second position it is clear of both the margin and tabulating stops, and in the third position it cooperates with the tabulating stops. In the specific form illustrated, the invention is disclosed as applied to mechanism such as used upon the Royal typewriter machine, particularly such as is shown in patent to Myers, 1,479,924, of January 8, 1924. The invention, however, is applicable to other types of machine. It is furthermore not limited to a construction in which the cooperating stop is movable but it may be applied to constructions in which the tabulating and margin stops are moved relative to the cooperating stop.

In such constructions it is found that when the single stop is moved to its position furthest from normal in which it cooperates with the tabulating stops, that the return spring may be insufficient to return the stop promptly owing to the frictional engagement between the two stops due to the carriage driving spring or to a rusty or worn condition of the stop faces. This is particularly true where long carriages are employed and wherein driving springs of greater strength are used.

It is the purpose of this invention to provide a simple and efficient construction providing an additional return means for the movable stop which comes into operation only at the close of the movement of this stop to the position to engage the tabulating stops.

In the drawings:

Figure 1 is a side elevation with parts in section of the typewriting machine to which the invention has been applied.

Figure 2 is a section of a part of the machine showing the invention with the parts in normal position.

Figure 3 is a similar view showing the center stop moved to its intermediate position.

Figure 4 is a similar view showing the center stop moved to a third position in which it engages the tabulator stops.

Figure 5 is a front view of a portion of the mechanism.

Figure 6 is a detailed view of a modification.

Although as stated above, the invention may be embodied in typewriting machines of various types, it is herein shown as applied to the well known Royal standard machine and the drawings disclose the main frame A, a travelling carriage B which is also shiftable to bring the platen C to upper and lower case position to properly cooperate with the type carried by the type bar D. This carriage is controlled in its endwise movement by escapement mechanism which includes a ratchet wheel E, a pinion F moving therewith, and a rack bar G pivotally supported on the carriage and normally meshing with said pinion. The carriage is provided with a margin stop bar H on which are adjustably mounted margin stops I and with a tabular stop bar K upon which are adjustably mounted tabular stops L. Normally positioned intermediate the stops I and L and constituting a movable stop is the upper end of a lever M which is pivoted at *m* to a bracket attached to the frame of the machine and has an extension M′ at its lower end which is connected by a link N to a vertical arm N′ mounted on a pivot rod *n*. This vertical arm is connected by a link O to a bell crank lever P pivoted at *p* near the front of the machine and operated by sliding finger piece R. The bell crank key lever S is also mounted on the pivot rod *n* and has an off set upper end *s* which lies behind the lever N′ and is adapted to operate the same when the lever S is operated to permit independent operation of the lever N′ by the sliding rod R when the same is operated. A spiral spring S′ is connected at one end to the key lever S and at the other end to a fixed point and tends merely to return the key lever to normal position. This spring of course exerts no effect upon the vertical lever N′ or the connected parts.

When the stop lever M is moved to its rearmost position its lower extension engages an arm of a pivot member T which has a shoe *t* adapted to lift the rack bar G out of engagement with the pinion F and permit the carriage to run freely under the influence of its usual driving spring. At the same time the arm *t′* engages the ratchet wheel E to prevent accidental displacement thereof. The center stop lever M is re-

turned to its normal position by a spring V which is fastened to the frame by the same screw W which is employed to hold the bell post and center stop bracket to the frame of the machine. All of the above parts are similar to those shown in the patent to Myers, 1,479,924, above referred to. They may, however, be varied without in any way departing from the spirit of the invention.

As above stated, it has been found that when the engaging faces of the center stop M and the stops L become worn or rusty or when a long carriage is employed with the usual strong driving spring, there is a tendency for the stops to be slow in disengaging and this sometimes results in an objectionable operation of these parts. It is not desirable to overcome this defect by increasing the strength of the spring V, since this would impose too much burden upon the train of connections and render it necessary to exert an undue amount of force in the operation of the tabulator or margin release keys. There is, accordingly, provided an auxiliary returning means which comes into operation only when the center stops is moved to a position to engage with the stops L and is tensioned only during the latter part of said movement of the center stop.

A bracket or ear 1 on the rear portion of the machine frame has pivoted thereto at 2 an irregularly shaped lever 3 which is normally drawn rearwardly by a spring 4 attached at one end to said lever and at the other end to a fixed member of the machine. The upper end of this lever 3 is offset outwardly at 5 so that it overlies the lower end of the extension M′ of the center stop operating member. Near the lower portion of the lever 3 is an inward offset 6 which cooperates with a lug 7 on the bracket 1 to limit the rearward movement of the lever 3 under the influence of the spring 4. It is obvious from a comparison of Figures 2, 3 and 4 that when the parts are moved from the normal Figure 2 position to that of Figure 3 in which the stop M has cleared the margin stops but is not moved into the path of the tabulator stops, the lower portion M′ has just engaged the offset 5 or substantially engaged the same but has not tensioned the spring 4. When, however, by means of the tabulator lever S, the stop M is moved to the Figure 4 position wherein it is positioned to engage the tabulator stops L, it is obvious that the spring 4 has been tensioned and therefore will exert its power to return the center stop immediately upon release of the operated key. This additional tension is produced by the latter part of the depression of the key actuated lever after said lever has acquired a certain momentum and its effect is not noticeable by the operator.

In the modification shown in Figure 6, the offset 6 of the lever 3 is provided with an adjustable stop screw 8 which may be held in adjusted position by a lock nut 9 which construction permits an accurate adjustment of the normal position of the stop 3 relative to the other parts of the mechanism.

It will be obvious that the invention provides an auxiliary returning mechanism which is simple and efficient and which places substantially no noticeable load upon the return of the tabulator key and adds no resistance whatever to the operation of the usual margin release key. It will be apparent that the invention may be applied to mechanisms which differ widely in their specific construction and that the auxiliary returning means itself may be varied widely in its specific details. It is, therefore, to be understood that the invention is to be regarded as limited only by the scope of the appended claims.

I claim:

1. In a typewriting machine, tabular stops, a cooperating pivoted stop member, means for moving said stop member to bring the same into cooperative relation with said stops, returning means which engages said stop member on one side of its pivot to oppose such movement, and auxiliary returning means which engages the stop member on the other side of its pivot and becomes operative only during the latter part of the movement of the stop member to operative position.

2. In a typewriting machine, tabular stops, a cooperating pivoted stop member, means for moving said stop member into the path of said stops, spring means for returning said stop member, and an auxiliary spring means which is tensioned only during the latter part of the movement of the stop member to operative position, the two spring means exerting influence on opposite sides of the pivot of the stop member.

3. In a typewriting machine, tabular stops, a cooperating stop member movable into the path thereof, an extension on said stop member, and returning means for said stop member comprising a pivoted lever, a spring drawing the same in one direction, and means for moving the lever by said extension in the opposite direction and tensioning said spring only during the latter portion of the operative movement of said stop member.

4. In a typewriting machine, a movable stop member, a plurality of keys for giving said member movements of different extent, and return means which become operative only when the stop member is given its greatest movement.

5. In a typewriting machine, a movable stop member, a plurality of keys for giving said member movements of different extent,

means for returning said member when operated by either of said keys, and additional return means which becomes operative only when the stop member is given its greatest movement.

6. In a typewriting machine, margin stops, tabular stops, a cooperating stop normally in the path of the margin stops, a key for moving said stop out of the path of the margin stops, another key for thus moving the stop and into the path of the tabular stops, and returning means for said stop which become operative only when the second key is operated.

7. In a typewriting machine, margin stops, tabular stops, a cooperating stop normally in the path of the margin stops, a means for moving said stop out of the path of the margin stops, another means for thus moving the stop and into the path of the tabular stops, and returning means for said stop which becomes operative only when the second means is operated.

8. In a typewriting machine, margin stops, tabular stops, a cooperating stop normally in the path of the margin stops, a key for moving said stop out of the path of the margin stops, another key for thus moving the stop and into the path of the tabular stops, returning means for the stop when operated by either key, and an auxiliary returning means which becomes operative only when the second key is operated.

In testimony whereof, I have hereunto subscribed my name.

GILBERT M. SCHERER.