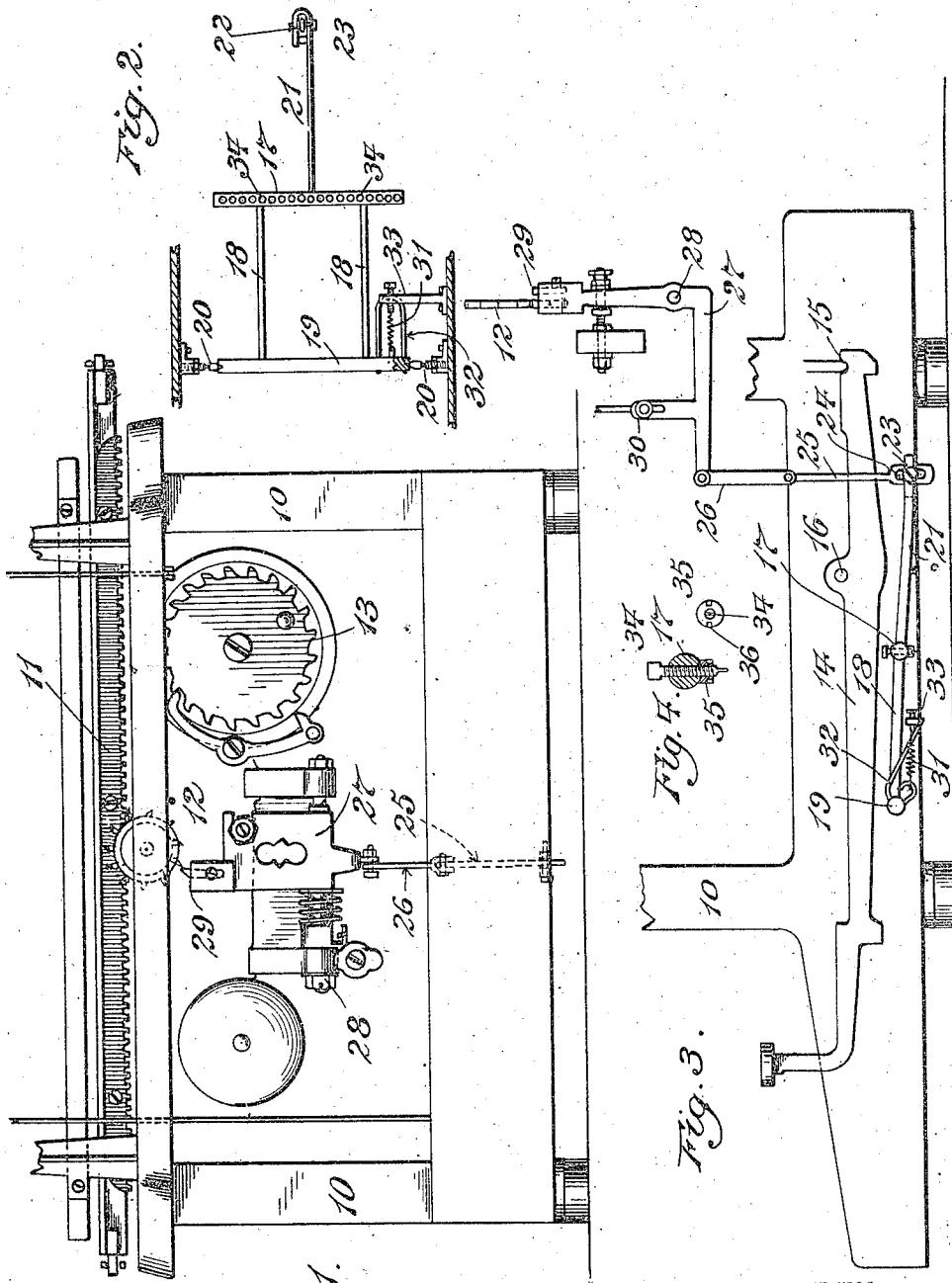


Z. G. SHOLES.
SPACING MECHANISM FOR TYPE WRITERS.
APPLICATION FILED JULY 12, 1915.

1,179,464.

Patented Apr. 18, 1916.



WITNESS
Edward D. Howland

Fig. 1.

INVENTOR
Zalmon G. Sholes

BY *William G. Minter and Mackay*
ATTORNEYS

UNITED STATES PATENT OFFICE.

ZALMON G. SHOLES, OF WILMINGTON, DELAWARE, ASSIGNOR TO SHOLES STANDARD TYPEWRITER COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

SPACING MECHANISM FOR TYPE-WRITERS.

1,179,464.

Specification of Letters Patent.

Patented Apr. 18, 1916.

Application filed July 12, 1915. Serial No. 39,476.

To all whom it may concern:

Be it known that I, ZALMON G. SHOLES, a citizen of the United States, residing at Wilmington, in the State of Delaware, have invented certain new and useful Improvements in Spacing Mechanism for Type-Writers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention refers to means whereby the letter and word spacing mechanism of a typewriter may be accurately, quickly and conveniently adjusted at any time, with respect to each individual finger key and its appropriate type bar.

It is well known that, by reason of differences in wear among themselves, the various key and type-bar groups develop differences in effectiveness under uniform finger strokes, however carefully they may have been adjusted originally. This becomes evident in different degrees of clearness among the characters produced. The means hitherto proposed whereby readjustment may be accomplished for correction of these defects have involved considerable mechanical difficulty, making necessary a correspondingly high degree of skill in making such corrections.

It is the object of the present invention to provide means whereby such adjustments may be conveniently and rapidly effected by any typist, without calling upon expert mechanical aid.

The invention is also useful, of course, in facilitating the original adjustments at the factory.

This invention is illustrated in its preferred form in the accompanying drawings, wherein—

Figure 1 is a rear view of certain portions of the complete typewriter, Fig. 2 is a horizontal view on a small scale of the improved universal bar and associated parts, Fig. 3 is a side elevation of the spacing mechanism as related to the universal bar and an individual key bar, and Fig. 4 shows one of the adjustable abutments in section and lower end view.

The frame of the machine is indicated at 10 and this frame carries the usual carriage controlled as to spacing by the horizontal rack 11 and the escapement wheel 12. The

spring drum for feeding the carriage is indicated at 13. Each key lever 14 of the machine has a fulcrum, as at 15, and the connection with the type bar is attached at 16 in any well known manner, this not forming a part of the present invention. The universal spacing bar is shown at 17 and the same is attached by rods 18 to a revoluble bar 19 having suitable bearings 20 at the two sides of the machine. Extending rearward from the universal bar 17 is a bar 21 preferably bent backward as at 22 in Fig. 2, so as to form a loop across which the screw pin 23 is placed. This pin plays in a slot 24 in the connecting bar 25 which is connected through the bar 26 to the bell crank lever 27 pivoted at 28 and carrying the usual escapement 29 coöperating in a well known manner with the wheel 12. The mechanism for operating the ribbon shift is connected at 30 in any well known manner.

Attached at one end of the bar 19 is a restoring spring 31 which lifts the universal bar after each downward stroke and the upper position of the universal bar is determined by the bail 32 or its equivalent which is attached to the bar 19 and whose end comes up against the stop 33.

Each key lever, instead of coming down upon the top of the universal bar when a stroke is made, strikes an individual abutment which is afforded by the head of a screw 34, as clearly shown in Fig. 4. This screw is threaded into the bar 17 and is provided underneath with a lock nut 35 having suitable cavities 36 to receive an appropriate tool for turning such nut on the screw 34. It will be seen that by this means, the distance through which the key lever must move before it affects the universal bar is determined by the position of the screw 34 in said key lever. In consequence, it follows that the exact length of stroke of each key lever can be accurately determined by turning the screw 34 in the bar 17 having tightened the lock nut and when the proper position has been ascertained, the screw can be fixed in that position by tightening the lock nut 35. Inasmuch as a separate screw 34 is provided for each key lever, it is clear that the individual adjustment of the length of stroke of all the bars is readily accomplished. By this means any wear in the key levers or type bars or their bearings may be compensated and proper adjustment made to pre-

serve uniform clearness or weight in the characters produced.

What I claim is—

1. In a typewriter, and in combination with the key levers and type bars thereof, a spacing mechanism comprising a universal bar under said key levers, a parallel bar mounted in front thereof upon suitable bearings and connected with said universal bar, a lifting spring attached to said parallel bar, a stop on the frame of the machine, and means on said parallel bar adapted to strike said stop to limit the upward movement of said universal bar, substantially as described.

2. In a typewriter, and in combination

with the key levers and type bars thereof, a spacing mechanism comprising a universal bar under said key levers, a second bar mounted parallel therewith and in front thereof, a stop projecting inward from the frame of the machine near one end of said second bar, an arm on said second bar, a spring connecting the same with said stop so as to tend to lift said universal bar, and a bail fixed to said second bar and adapted to come in contact with said stop to limit movement of said second bar, substantially as described.

In testimony whereof, I affix my signature.

ZALMON G. SHOLES.