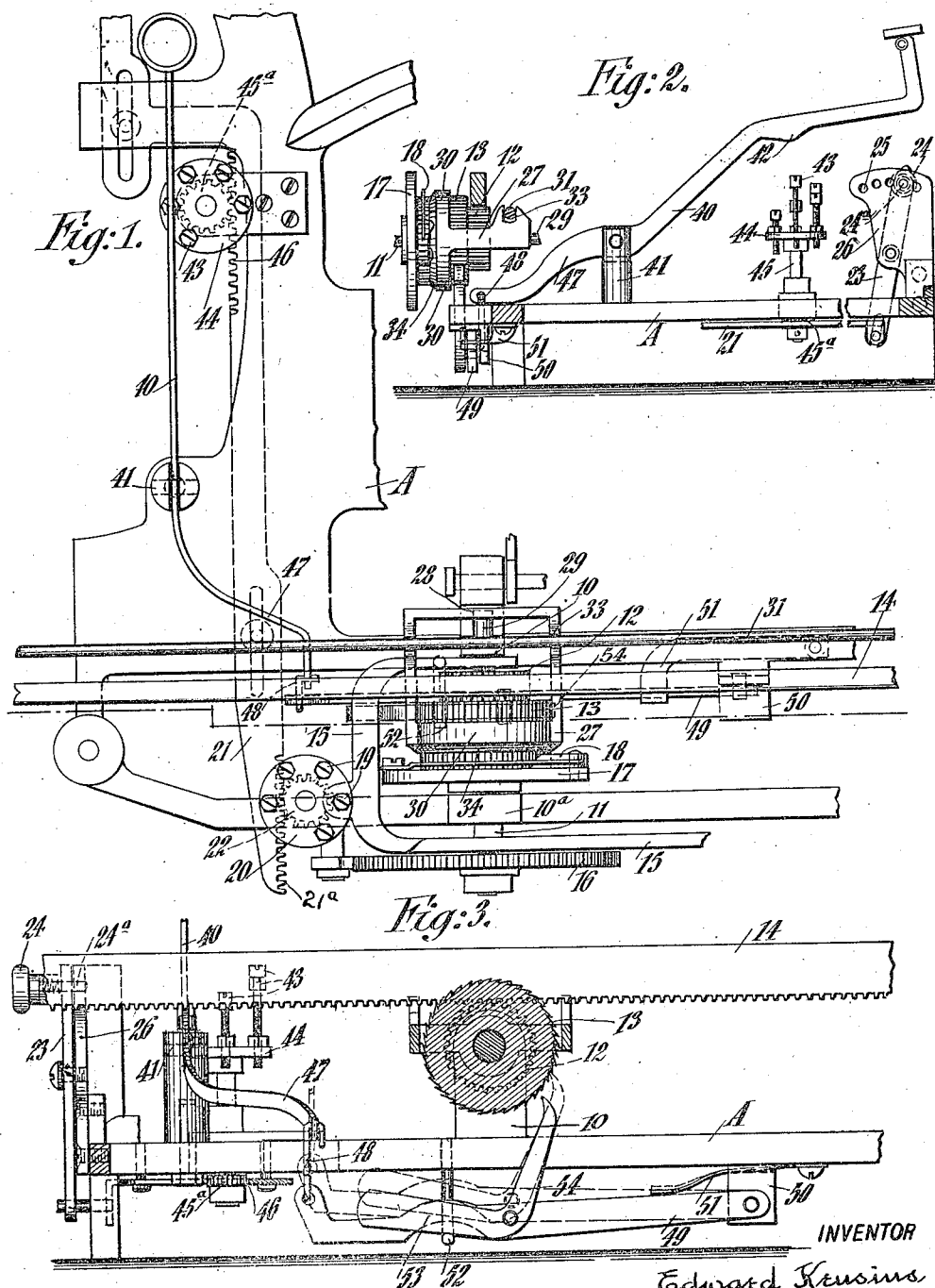


E. KRUSIUS.
TYPE WRITER.
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1,243,955.

Patented Oct. 23, 1917.



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TYPE-WRITER.

1,243,955.

Specification of Letters Patent.

Patented Oct. 23, 1917.

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To all whom it may concern:

Be it known that I, EDWARD KRUSIUS, a citizen of the United States, and resident of New York, in the borough of Manhattan, city and State of New York, have invented certain new and useful Improvements in Typewriters, of which the following is a specification.

The present invention relates to improvements in typewriters, and particularly a variable back spacing mechanism therefor, suitable for use with a variable spacing mechanism. An object of the invention is to provide such mechanism by which the back spacing means may be set positively and accurately, simultaneously with the setting of the variable spacing means, and in such manner as to permit the accurate and convenient back spacing of the carriage.

Another object is to provide such means which may be readily applied to various forms of typewriters, and will be particularly adapted for use with the typewriter known as the Hammond.

With these and other objects in view, my invention is shown in the accompanying drawings, and will be hereinafter more fully described with reference thereto, and finally pointed out in the claims.

In the accompanying drawings,

Figure 1 is a top plan view of a portion of a typewriter frame, showing my improvements embodied therein,

Fig. 2 is a side view in reduced scale, and

Fig. 3 is a longitudinal sectional view showing the rear of the back spacing mechanism.

Similar reference characters indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, and more particularly to Fig. 1 thereof, the typewriter frame A is provided at the rear with bearing supports 10 and 10^a, in which is journaled a shaft 11, upon which is loosely mounted a gear 12 and ratchet 13 having a relatively wide periphery, the said gear meshing with a rack 14.

A hammer control lever 15 is loosely and pivotally mounted at one end upon the shaft 11, the said lever being U-shaped at its end engaging the shaft. An escapement wheel 16 is mounted on the outer end of the shaft, and at the inner side of the bearing 10^a there is provided a disk 17, both the disk

and the escapement wheel being rotatable with the shaft. A pawl 18 provided on the disk 17 engages the ratchet 13, thus permitting normal movement of the rack in one direction away from its controlling spring, and movement in the other direction, or toward the force of the spring with the release of the escapement, after the hammer has struck the letter. The mechanism for releasing the escapement is shown in detail in my co-pending application Serial No. 112,015, filed July 29, 1916, but is not shown here as it forms no essential part of the present invention. Upon release of the escapement, the lever 15 rises from its lower position into engagement with one of a plurality of variable stop pins 19, provided on a rotatable disk 20. The length of these stop pins, it will be seen, determines the length of the space. The stop pins may be changed to vary the space by means of a bar 21 having teeth 21^a thereon, engaging a pinion 22 which turns the disk, the said bar being moved by a lever 23 provided at the front of the typewriter. This lever is provided with a spring pressed handle 24 having a pin 24^a therein adapted to engage holes 25 provided in a supporting plate 26. The particular hole in which the pin is placed determines the length of the space.

In order to permit free manual movement in either direction, there is provided a slidable frame 27 having at one end a bearing 28 which engages the projecting reduced end 29 of the shaft 11, which acts as a guide therefor, and at the other end is provided with a collar member 30 which surrounds the ratchet 13, leaving a portion of the same exposed at each side thereof.

A rod 31 movable with the carriage engages recesses 32 and 33 provided respectively at each side of the frame 27. The rod is controlled by thumb levers at the end of the carriage, which upon being operated, throw the rod forwardly together with the frame, the projecting end 29 of the shaft and the free space of the ratchet permitting this, whereupon the beveled edge 34 of the collar 30 raises the pawl 18 from engagement with the ratchet, allowing the carriage to be manually moved in either direction.

The back spacing mechanism, which constitutes the present invention and which need not necessarily be used with the type of construction above described, which is merely

shown by way of example, comprises a lever 40 pivotally mounted upon a supporting standard 41, and adapted to be pressed at its forward end by the finger, and intermediate the forward end and the support there is provided an enlarged portion 42 adapted to engage one of a plurality of variable stop pins 43, provided in a rotatable disk 44, mounted upon a shaft 45, at the lower end of which there is mounted a pinion 45^a meshing with a series of teeth 46 provided on the rod 21. By movement of the rod 21, it will be seen, the pins 43 will be moved correspondingly to the movements of the variable spacing pins 19, controlling the spacing mechanism. The inner end of the lever 40 is bent rearwardly as at 47, resting upon the frame A, and is connected by a link 48 with an arm 49 pivoted to a support 50 of the frame, a spring 51 pressing downwardly thereon. A wire supporting member 52 is disposed beneath a curved portion 53 of the lever 49, and a weighted pawl 54 pivotally mounted on said lever engages the inner exposed portion of the ratchet 13 and rests at its weighted portion upon the support 52 when not in motion, when it disengages the pawl 54 from the ratchet so that the carriage is permitted to run free in either direction.

When the carriage is to be back spaced, the lever is depressed, raising the arm 49 and turning the ratchet 13 by means of the pawl 54, as clearly shown in dotted lines in Fig. 3, thereby moving the carriage back over a distance corresponding to the particular spacing at which the machine is set, by means of the stop pins 19, the stop pins 43 determining the distance the said lever may be depressed. The stop pins are so constructed as to be accurately adjustable.

It will be understood that my invention may be employed with any desired type of machine, not being restricted to use with a variable spacing typewriter, as shown, but may also be used with tabulating attachments and the like.

I have illustrated and described a preferred and satisfactory form of my invention, but it is obvious that changes may be made therein within the spirit and scope thereof, as defined in the appended claims.

I claim:

1. In a typewriter, a traveling carriage, a back-spacing mechanism for said carriage, and a set of connected stops of different length, each stop being adapted to be brought into the path of said mechanism to vary the extent of back-spacing.

2. In a typewriter, a carriage rack, an escapement controlling the movement of said

rack, means engaging said escapement adapted to move the same backwardly, a back spacing lever controlling the movement of said means, a revoluble disk provided with variable stops adapted to adjustably regulate the movement of said lever to produce variable spacing, and means for turning said disk.

3. In a typewriter, a carriage rack, an escapement controlling the movement of said rack, changeable means for regulating the movement of said escapement to produce variable spacing, means engaging said escapement adapted to move the same backwardly, a back spacing lever controlling the movement of said lever, changeable means adapted to regulate the movement of said lever, to produce variable back spacing, and means for adjusting simultaneously the changeable means of the escapement, and the changeable means of the back spacer to enable uniform spacing and back spacing.

4. In a typewriter, a traveling carriage, a back-spacing mechanism for said carriage, a member mounted to turn, and a set of stops of different positions carried by said member and adapted to be brought selectively, by turning it, into the path of said mechanism to vary the extent of back-spacing.

5. In a typewriter, a carriage rack, an escapement controlling the movement of said rack, means, engaging said escapement, for moving the same backwardly, a back-spacing lever controlling the movement of said means, a member mounted to turn and provided with a plurality of stops adapted to cooperate selectively with said lever to adjustably regulate its movement, and means for turning said member.

6. In a typewriter, a traveling carriage, a back-spacing mechanism for said carriage, a member mounted to turn, and a plurality of stops carried by said member and adjustable lengthwise of its axis, said stops being adapted to be brought selectively into the path of said mechanism to vary the extent of back-spacing.

7. In a typewriter, a traveling carriage, means for the variable forward spacing of the carriage, means for the variable backward spacing of the carriage, and adjusting mechanism to alter the said forward and back-spacing means in unison and in a like manner.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

EDWARD KRUSIUS.

Witnesses:

D. LEWIS MATTERN,
MAE ULINBERG.