July 1, 1958 H. V. CANTONWINE 2,841,268

SPEED SHIFT

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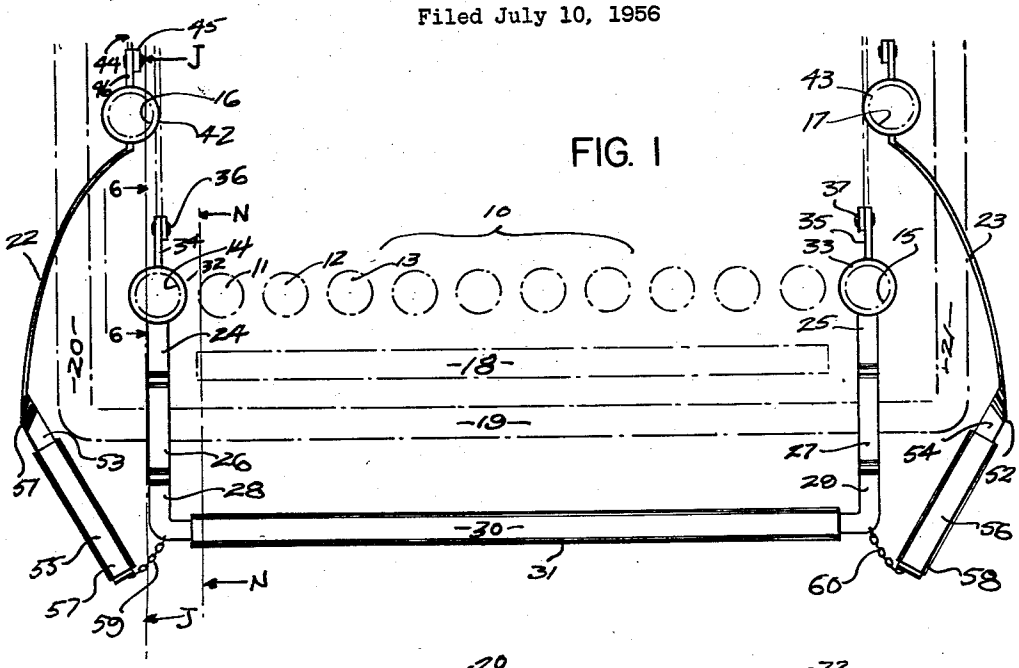


FIG. 1

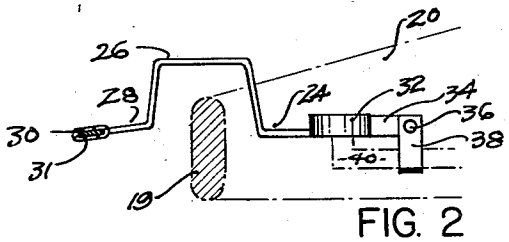


FIG. 2

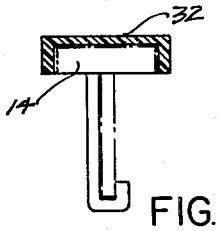


FIG. 5

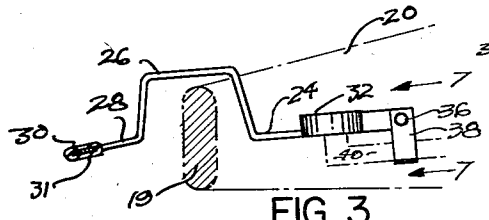


FIG. 3

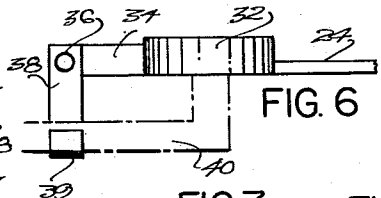


FIG. 6

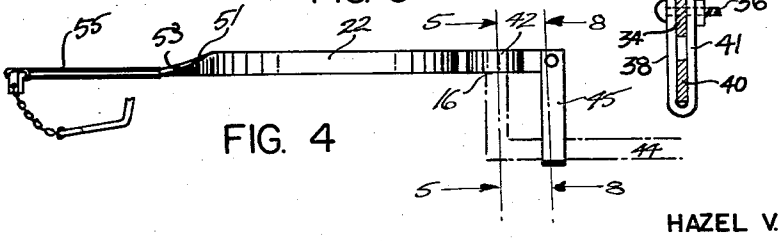


FIG. 4

FIG. 7

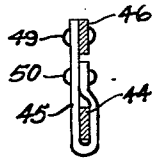


FIG. 8

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SPEED SHIFT

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6 Claims. (Cl. 197—180)

This invention relates to typewriters and typewriting equipment, and more particularly to an extension device adapted for attachment to the spacing keys of a typewriter making them readily operable without removing the hands from the normal position relative to the keyboard used in touch typing.

As is well known to persons familiar with the touch typing method and its use in the attainment of relatively high typing speed, it is necessary for the typist to keep the hands positioned relative to the keys during pauses in actual typing and during the entire typing operation. It is also readily understood by persons familiar with touch typing that it is frequently necessary to move the hands from their normal position relative to the keyboard in order to apply enough force to certain spacing keys.

As will be readily understood, if the hands are moved out of their normal position relative to the keyboard, it is usually necessary for the typist to glance down at the keyboard to be certain that the hands have been returned to the proper positions. Obviously, this as well as any other diversion of the typist's attention to the copy being typed tends to reduce typing efficiency and speed.

My invention has been made with the foregoing considerations in mind and can be said to have a plurality of important objectives.

One important object of my invention is the provision of key extension devices for attachment to conventional typewriters which may be rigidly attached to the particular keys to be operated without making any change in the parts or structure of the typewriter.

Another important object of the invention is the provision of a device of the character described which may be removed from a typewriter leaving it undamaged and unchanged, and just as well suited as ever for use in the conventional manner.

A further important object of my present invention is the provision of a device of the character described which is adapted with pressure areas located at points relative to the keyboard and to the normal position of the hands in which they may be depressed by the heel or ball of the hand instead of by the fingers of the typist.

An additional important object of my invention is the provision of a device of the character described being pivotally adapted to swing upwardly across the front of the typewriter when not in use so that the machine will fit within its usual storage space or can be protected with the same dustproof cover previously used.

In brief, the extension devices of my invention consist of arms having outwardly extended pressure areas thereon adapted to be depressed by portions of the hand other than the fingertips, thus eliminating the necessity of moving the hands from the conventional position relative to the keyboard in order to depress certain spacing keys.

The extension members consist of longitudinally extended band-like bars having rubberized pressure areas adjacent their outer ends and being adapted with caps which fit over the keys to be operated and are pivotally

attachable inwardly thereof to the operating arm associated with the key by means of linkage hooks.

Generally, the extensions are attached to the margin release, the back spacer and the non-locking capital letter shift keys of any conventional typewriter, but by suitable bending of the extension arms they can be adapted to operate any outside key along either side of the keyboard.

Further additional objects of my invention will be recognized by persons familiar with the general art when reading the following specification of one preferred embodiment of my invention, and by reference to the accompanying drawings, of which:

Figure 1 is a diagrammatic schematic plan view showing the keyboard of a typewriter and the position thereon of the device of my invention;

Figure 2 is a side elevational view of one of the elements of my invention taken along the line and in the direction indicated by the arrows 2—2 in Figure 1;

Figure 3 is a view similar to that of Figure 2 but showing the extension element in the depressed position;

Figure 4 is a similar side elevational view of a second element of my invention taken along the line and in the direction indicated by the arrows and numerals 4—4 in Figure 1;

Figure 5 is a vertical section taken along the line and in the direction indicated by the arrows 5—5 in Figure 4;

Figure 6 is a fragmentary view of the opposite side of the element shown in Figures 2 and 3 and is taken along the line and in the direction of the arrows indicated by the numerals 6—6 in Figure 1;

Figure 7 is a vertical sectional view of the attachment linkage shown in Figures 1–3 as it would appear along the line and in the direction indicated by the arrows 7—7 in Figure 3; and

Figure 8 is a similar sectional view, as seen along the line and in the direction indicated by the arrows 8—8 in Figure 4, of an alternate type of attachment linkage.

Reference is again made to Figure 1 in which the numeral 10 designates generally the keyboard of a conventional typewriter which is shown schematically in broken lines and includes the front row of keys 11, 12, 13, et cetera, the capital letter shift keys 14 and 15, the back spacer key 16, margin release key 17, the transverse spacing bar 18 and the structural frame of the typewriter 19 with side members 20 and 21 which are angled inwardly and upwardly as shown at 20 in Figures 2 and 3.

Actually there are four extension members in the complete speed shift assembly of my invention, all of which are similar in the manner in which they are attached to the keys of the typewriter but are different in the conformation of the extension arm and the pressure area in which they are terminated.

The longer arms include a pair consisting of a right and left member designated by the numerals 22 and 23 respectively which are seen in plan view in Figure 1 and in side elevation in Figure 4. A pair of shorter extension members, also including a right and left member, designated by the numerals 24 and 25 respectively are shown in side elevation in Figures 2, 3, 6 and 7.

As is clearly shown in Figure 1 the extension members 24 and 25 extend over the capital letter shift keys 14 and 15 and forwardly thereof they are bent upwardly as at 26 and 27, as is also seen in Figures 2 and 3, then downwardly and forwardly therefrom as at 28 and 29 and inwardly at right angles to the parallel lines of extension to form the transverse pressure bar 30 which is disposed in substantially the same horizontal plane as the space bar 18.

As is indicated in the sectional portions of Figures 2 and 3 the transverse bar 30 is covered with a generally

flexible material such as rubber tubing seen at 31 to cushion the impact of pressure from balls of the hands of the typist.

At their inward termination, the arms 24 and 25 are fixedly attached to cup members 32 and 33 which are hollow interiorly and open at the bottom, and adapted to fit snugly over the associated key member such as 14, as is clearly shown in the sectional diagram of Figure 5. Short linkage members, seen at 34 and 35, are extended rearwardly from the cups 32 and 33 are pivotally attached at 36 and 37 to vertically disposed hook members best seen in Figures 2, 3 and 6 and designated by the numeral 38. The hooks, such as 39, are shown in Figure 6 from the opposite side as in the view in Figure 3, and can be seen to extend around the typewriter key operating arm 40. Since the pressure imposed upon the extension arm 24 is always downwardly, it is impossible for the extension to become disengaged when attached in this manner.

However, an alternate method of attachment is seen in Figure 7 in which the vertical band 38 is looped downwardly around the operating arm 40 and upwardly on the other side thereof as shown at 41, and is pivotally secured at 36 by the same fastening means by which the vertical portion 38 is pivotally attached to the linkage section 34.

Similarly the pair of longer extension members 22 and 23 which are clearly shown in Figures 1 and 4, are adapted with cup members 42 and 43 which fit tightly around the keys as shown at 16 in Figure 4, and are affixed to the operating arms such as 44 in Figure 4 by means of hook members such as 45 which engage the operating arms as shown at 39 and 40 in Figure 6.

An alternate arrangement for the attachment of the hook members such as 45 is shown in Figure 8 in which the link section 46 extending rearwardly from the cup member 42 is pivotally attached at 49 to the hook member 45 which is extended downwardly then upwardly around the operating arm 44 and is fixedly attached thereabove by means such as the rivet 50.

To provide adequate longitudinal rigidity, the arms 22 and 23 are extended outwardly from the cup members 42 and 43 in vertical arcuate planes then are twisted as at 51 and 52 into a generally horizontal plane as seen at 53 and 54 and are continued outwardly therefrom and terminated in the horizontally disposed pressure portions 55 and 56 which are covered with flexible padding as at 57 and 58 and are movably attached at their outward terminations by means of flexible chain sections 59 and 60 which are attached to opposite ends of the transverse bar 30 and serve to permit vertical movement of the arms when pressure is applied at 55 and 56, but prevent them from being displaced laterally under repeated diagonally downward pressure of the heels of the typist's hands.

Numerous modifications and variations of the present invention will occur to those skilled in the art after a careful study hereof. All such, properly within the basic spirit and scope of the present invention are intended to be included and comprehended herein as fully as if specifically described, illustrated and claimed herein.

The exact compositions, configurations, constructions, relative positionings, and cooperative relationships of the various component parts of the present invention are not critical, and can be modified substantially within the spirit of the present invention.

The embodiments of the present invention specifically described and illustrated herein are exemplary only, and are not intended to limit the scope of the present invention, which is to be interpreted in the light of the prior art and the appended claims only, with due consideration for the doctrine of equivalents.

I claim:

1. Lever means by which a typist may operate a predetermined key of a typewriter without displacing the fingertips from their normal position relative to the keyboard thereof, comprising: a longitudinally extended rigid band having a generally horizontal surface portion at one end thereof and including an inverted cup member adjacent the other end, said cup member being adapted to fit tightly over said predetermined typewriter key; said band being extended beyond said cup member and pivotally attached to a vertically disposed hook member adapted to fit under and engage the operating arm extending from said typewriter and supporting said key.

2. Lever means for operating the capital letter shift keys of a typewriter without displacing the fingertips from their normal position relative to the keyboard thereof, comprising: a pair of longitudinally extended rigid bands having U-shaped upbent portions at one end thereof and including inverted cup members adjacent their other end, said cup members being adapted to fit tightly over said shift keys of said typewriter, said bands being extended beyond said cup members and pivotally attached to vertically disposed hook members adapted to fit under and engage the operating arms supporting said keys, and a longitudinally extended transverse bar connecting the ends of said bands outwardly of the upbent portions thereof.

3. Means for facilitating the operation of the spacing keys of a conventional typewriter, comprising: four extension levers each including a longitudinally extended rigid band having a flat generally horizontal pressure portion at one end and an inverted cup member adjacent the other end, said cup member being adapted to fit over the typewriter key to be operated by said lever, said band being extended beyond said cup member and pivotally attached to a vertically disposed hook member adapted to fit under and engage the operating arm supporting said key; two of said levers being longer than the other two arcuately curved oppositely between said cup members and pressure portions thereof, one of said longer levers being adapted to fit over the back spacer key of a typewriter, the other being adapted to fit the margin release key; said other two levers being adapted to fit over the shift keys of a typewriter and extend outwardly therefrom beyond the frontal frame of said typewriter, and a transverse rigid band disposed substantially parallel to said frame member and in the same horizontal plane therewith being fixedly attached to said other two levers at the outward ends thereof.

4. The invention in accordance with claim 3 in which said two longer levers are arcuately conformed in a manner whereby their arcuate sections extend outwardly laterally of the sides of the keyboard of said typewriter to avoid contact with other keys and portions thereof when sufficiently depressed to operate their respective keys.

5. The invention in accordance with claim 4 in which said two levers extended outwardly from said shift keys of said typewriter are adapted with upwardly extended U-shaped bends between said cup members thereof and the transverse bar fixedly attached to the outward ends, whereby they are movable vertically without interference with said frontal frame of said typewriter.

6. The invention in accordance with claim 5 and being further characterized by short lengths of flexible chain movably connecting the outwardly extended ends of said longer levers to the ends of said other levers.

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