Feb. 15, 1927. 1,617,774

S. J. SMITH

TYPEWRITER WORD COUNTER

Filed March 1, 1926

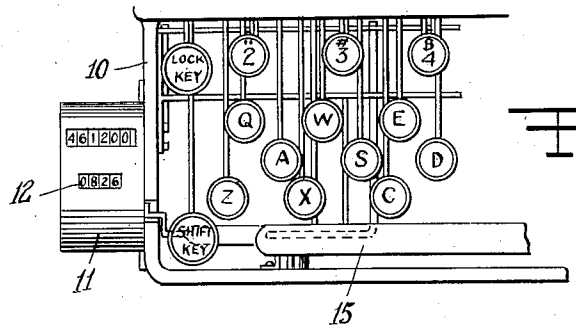


FIG. 1

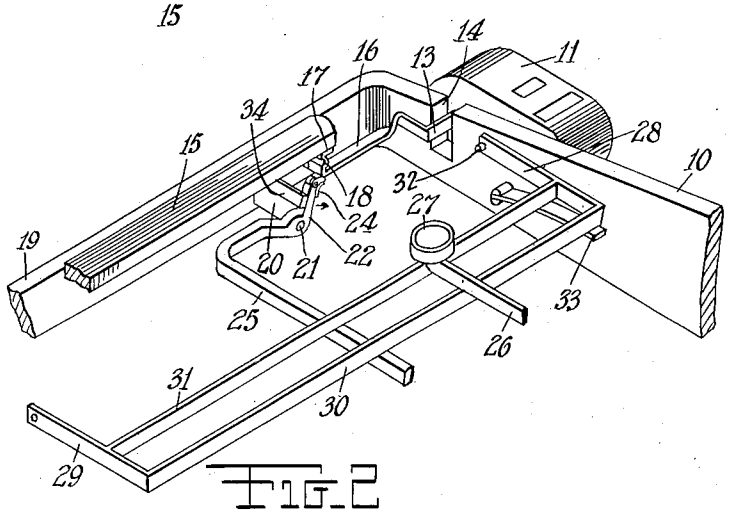


FIG. 2

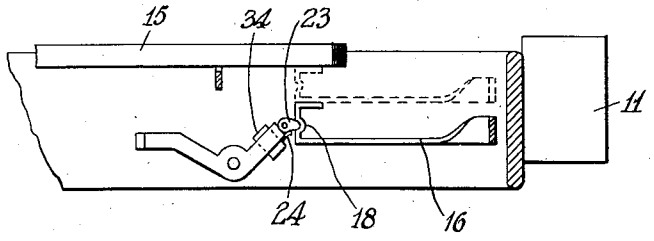


FIG. 3

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TYPEWRITER WORD COUNTER.

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The main object of this invention is to provide a word counting mechanism which is applicable to typewriters and may be readily mounted thereon. The counting mechanism cooperates with the keys and the space bar of a typewriter by the provision of a counting unit having a pivoted lever projecting beneath the space bar which is adapted to be engaged by a bell crank operable by depression of the keys of the typewriter. The counting unit lever is adapted to be depressed by the space bar and is retained in such depressed position by the bell crank until it is released by depression of one of the keys. This construction provides a mechanism which registers every word, and prevents the depression of the space bar from registering a word unless said depression of the space bar immediately follows the depression of a key.

The above and other objects will become apparent in the description below, in which characters of reference refer to like-named parts in the drawing.

Referring briefly to the drawing, Figure 1 is a top plan view of a corner of the typewriter key board, showing the counting mechanism mounted in place thereon.

Figure 2 is a perspective view of the counting mechanism as mounted on the key frame of the typewriter.

Figure 3 is a front elevational view of the bell crank mechanism, showing the method of engaging the counting unit lever.

Referring in detail to the drawing, the numeral 10 indicates the side bar of a frame which bounds the key board of a typewriter on the outside and attached to this bar is a counting unit consisting of a casing 11 having longitudinal openings 12 thru which the numeral disks are visible. A lever 13 is pivoted to the side of the counting mechanism and one end enters the casing 11 and cooperates with the mechanism therein actuating the numeral disks, or whatever organization of structure is used. This lever passes across the thickness of the bar 10 in a slot 14 and then is bent to extend parallel to said bar until it is aligned with the space bar 15 of the typewriter. In the aligned position, the lever projects toward the space bar as a flat arm 16 which is bent into a U-shaped member 17 at the end projecting beneath said space bar. This U-shaped member has a depression 18, the purpose of which will be more fully hereinafter described.

The usual space bar 15 of the typewriter is pivoted at the front of the machine. Said space bar is positioned adjacent to and extends parallel to the front bar 19 of the frame, and when being depressed, is adapted to lower the arm 16 about its pivot from the position shown in dotted lines in Figure 3 to the position shown in full lines in the same figure.

Beneath the space bar 15, a lug 20 extends horizontally outward toward the body of the typewriter and attached to this lug is a pin 21 and a bushing on said pin which pivotally supports a bell crank 22. One of the arms is provided with a pawl 23 which is pivoted on the said arm of the bell crank, and said pawl is so constructed that it cannot rotate upwardly beyond the position shown in Figure 3, but can be rotated downwardly, being normally retained in its lifted position by a resilient spring element 24. This pawl is adapted to engage in the depression 18 of the U-shaped member 17 lying at the extreme end of the arm 16, and when engaged in that depression, renders the counting mechanism inactive. The opposite arm of the bell crank has a right angled extending leg 25 integral therewith which projects inwardly and away from the front bar 19 of the typewriter frame. Beneath the arms 26 of the keys 27, is a U-shaped frame consisting of side bars 28 and 29 which are connected by a pair of parellel extending integral ribs 30 and 31. The bars 28 and 29 are pivotally mounted on studs 32 at their outer ends and the arms 26 on the typewriter keys 27 are adapted to lower rotatively the U-shaped frame by engaging either one of the connecting ribs 30 or 31 when the arms of the typewriter keys are depressed. The U-shaped frame actuated by the typewriter keys is adapted to be normally lifted by a pair of flat springs 33 which are mounted on the opposing side bars of the key board frame, one of which springs is shown mounted on the side bar 10 in Figure 2.

The counting unit which has its disks or registering mechanism actuated by the pivoted lever 13, is mounted on the outside of the bar 10 and is adapted to register every time the space bar is depressed following the completion of a word. The counting of the words is accomplished by the registering mechanism in the casing 11 by a rotational movement of the lever 13 from the position

shown in broken lines in Figure 3 to the position shown in full lines in the same figure. The end of the flat arm 16, which is an integral part of the lever 13, terminates in a U-shaped member 17 beneath one end of the space bar 15 of the typewriter. Ordinarily when a word consisting of a series of letters has been completed on the typewriter, the space bar is depressed so that a distance is left between the ending of the first word and the beginning of the second. When the first word has been completed, the space bar is depressed, registering a word in the counting unit thru depression of the flat arm 16 which rotates the lever 13, the latter actuating the counting unit. To prevent registering of additional spaces which are successively made by movements of the space bar, the additional mechanism is provided. This additional mechanism consists of the bell crank which interlocks in the depression 18 of the U-shaped member 17 when the latter is depressed by lowering of the space bar 15, thus rendering the counting mechanism inactive. This position is illustrated by full lines in Figure 3 and were the space bar to be successively depressed by the operator of the machine for any one of a number of reasons, the counting unit would not register and therefore, any number of spaces on the work can be provided without rendering inaccurate registering by adding the number of spaces to the number of words actually typed. When a space is made by depressing the space bar 15, the flat arm 16 is interlocked with the bell crank in its lowered position by being engaged with the pawl 23, as illustrated in Figure 3. This renders the counting mechanism inactive until one of the keys 27 is depressed. The arms 26 of the keys 27 when depressed, engage either one of the connecting bars 30 or 31 and rotate these bars downwardly about the pivots 32. In rotating downwardly, they engage the leg 25 of the bell crank 22, rotating the bell crank away from the U-shaped member 17 against the tension of a flat spring 34. When this occurs, the pawl 23 is lifted out of the depression 18, releasing the arm 16 and permitting the usually self-raising actuator lever 13 of the counting unit to resume its normal position indicated by broken lines in Figure 3 directly beneath the end of the space bar 15. As the space bar is again lowered to form a space between two adjacent words, the counting mechanism again registers by depression of the flat arm 16 and U-shaped member 17, both of which are attached and integral with the lever 13. With this mechanism, it is not possible for a counting unit to register a single number every time the space bar is depressed once, since it is necessary that the keys be used to return the counting unit lever to its active position.

I claim:—

1. In a word counter for a typewriter, an arm extending from the registering mechanism of the counter and adapted to be depressed by the space bar of the typewriter, and means pivotally mounted adjacent said arm for releasably retaining said arm in depressed position.

2. In a word counter for a typewriter, an arm extending from the registering mechanism of the counter and adapted to be depressed by the space bar of the typewriter, a pivoted bell crank mounted adjacent said arm, and means rotatable downward on said bell crank for releasably retaining said arm in depressed position when said means engages said arm.

3. In a word counter for a typewriter, an arm extending from the registering mechanism of the counter and adapted to be depressed by the space bar of the typewriter, an angular pivoted bell crank mounted adjacent said arm, a pawl pivoted on said bell crank being normally retained in horizontal position to engage said arm, and a depression on said arm for receiving the free end of the pawl.

4. In a word counter for a typewriter, an arm extending from the registering mechanism of the counter and adapted to be depressed by the space bar of the typewriter, an angular pivoted bell crank mounted adjacent said arm, a pawl pivoted on the bell crank so as to rotate from the horizontal downwardly, a depression formed at the free end of said arm adapted to receive the nose of said pawl, a spring normally urging said bell crank into engaging position with the arm, said bell crank retaining said arm in depressed position until the initial letter of a succeeding word is typed.

In testimony whereof I affix my signature.

STEVEN J. SMITH.