(No Model.)

J. E. WITHROW.

WORD REGISTER FOR TYPE WRITERS.

No. 524,496. Patented Aug. 14, 1894.

Fig. 1.

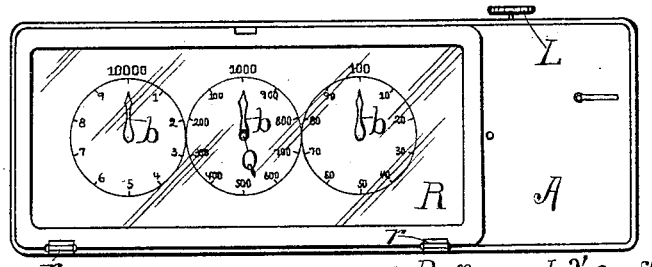
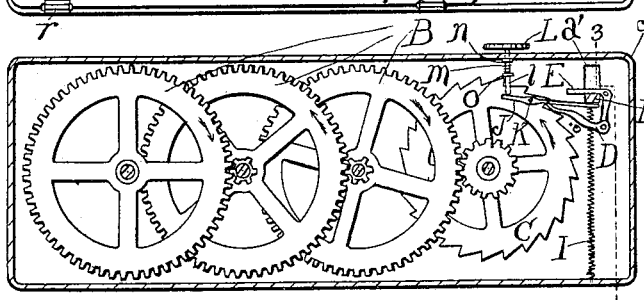


Fig. 2.



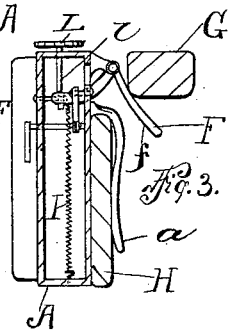


Fig. 3.

Fig. 4.

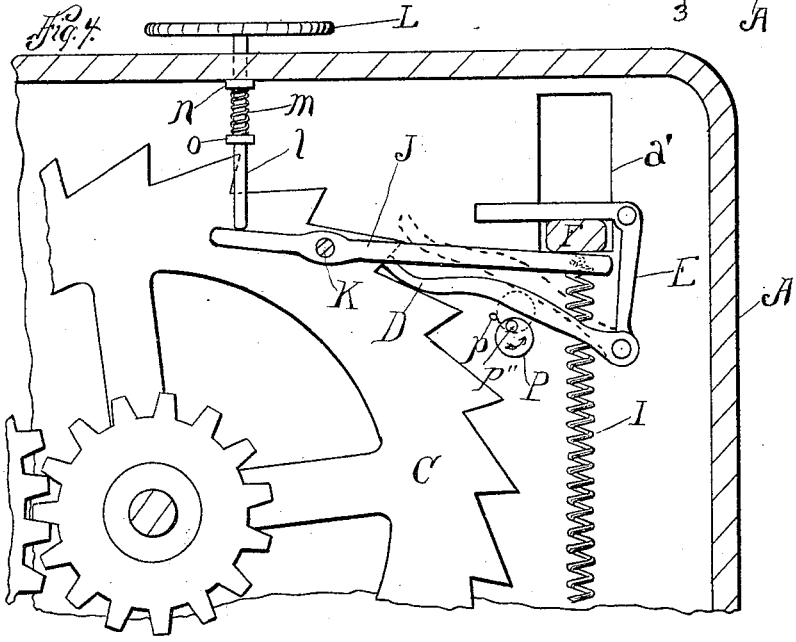
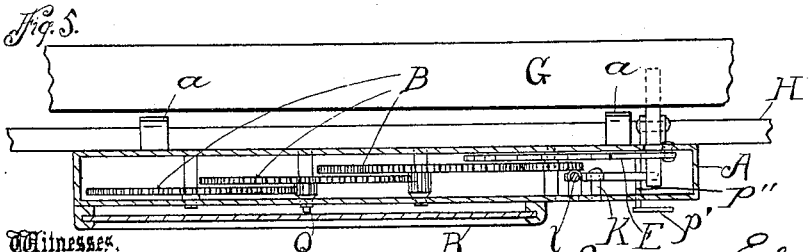


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES E. WITHROW, OF LOS ANGELES, CALIFORNIA.

WORD-REGISTER FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 524,496, dated August 14, 1894.

Application filed December 30, 1892. Serial No. 456,793. (No model.)

To all whom it may concern:

Be it known that I, JAMES EDWARD WITHROW, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Word-Registers for Type-Writers, of which the following is a specification.

The object of my invention is to provide simple and convenient mechanism applied to typewriter machines to automatically register the number of words written.

My invention comprises an attachment adapted to be attached to and removed from the frame of the typewriter and which can be applied to any typewriter machine of the make for which it is designed. Different forms of such attachment can be constructed and each adapted to fit a certain make or style of typewriter but only one form is shown in the drawings.

My invention embraces in a typewriter the peculiar construction and arrangement of registering mechanism hereinafter set forth.

The accompanying drawings illustrate my invention.

Figure 1 is a front elevation of my word register attachment. Fig. 2 is a view of the same with the front of the case removed to expose the interior. Fig. 3 is a cross section on line 3—3 Fig. 2 showing a portion of the mechanism. Fig. 4 is an enlarged view detailing part of the mechanism. Fig. 5 is a plan view, a portion of the case being removed to expose the interior.

In Figs. 3 and 5 the attachment is shown attached to a fragment of the typewriter machine and the spacing bar is shown in position for operation. It is deemed unnecessary to illustrate the typewriter machine to any greater extent, as the construction with relation to the register attachment will be readily understood without further illustration.

A indicates the register case provided with hooks *a* adapted to hook upon the frame of the typewriter machine. The case is also provided with a vertical lever receiving slot *a'*.

B indicates a train of wheels arranged within the case to operate the index hands *b*.

C is a sloping-tooth driving ratchet-wheel adapted to be driven by the swinging driving pawl D the free end of which is arranged to lie upon and engage the teeth of the driving wheel. The other end of the pawl is pivoted to the lower end of the pendent arm of the pivoted bent pawl-carrying lever E, which is pivoted to the case and is arranged with one of its arms hanging pendent and its other arm projecting horizontally across the vertical lever receiving slot or opening *a'*, and into and across the path of the index-operating lever F which is pivoted to the case outside the case and extends inward from the pivot to project through the slot and extends outward from the pivot into the path of the spacing bar G of the typewriter machine, (to the frame H of which the attachment is secured) so that when the spacing bar G is operated it will operate the lever F, and, through the medium thereof, will actuate the bent pawl-carrying lever E, the pawl B pivoted thereto, the driving ratchet wheel C; and thus turns the register wheels and the index hand. The spring I is arranged to hold the lever F in its retracted position as clearly shown in Fig. 3.

J is a supplemental spacing lever pivoted to the case by a suitable pivot K and arranged to engage the under side of the lever F which is thus interposed between the lever J and the pawl-carrying lever E, so that when the supplemental spacing lever J is operated it will cause the lever F to operate the pawl-carrying lever E to drive the driving wheel C.

L indicates the supplemental spacing key, the shank *l* of which is arranged to engage the short arm of the supplemental spacing lever J to operate such lever. The shank *l* of the key is arranged to reciprocate vertically and is held in its elevated position by the spring *m* pressing against the shoulder *n* upon the key and against the guide lug *o* fixed to the case A.

P indicates a pawl-lifting and sustaining cam adapted and arranged to engage the pawl D and throw it out of its engagement with its ratchet driving wheel C and to allow the pawl to slide back and forth on the cam when the pawl is operated by the pawl-carrying lever. Dotted lines in Fig. 4 indicate the position of the cam when it is turned to throw the pawl out of engagement.

p indicates a stop arranged to sustain the cam P in its elevated position.

In practice the device is attached to the

frame of the type writer by the hooks *a*, thus bringing the lever F under the spacing bar G of the type-writer so that when the spacing bar is forced downward the lever F will be operated to throw the pawl D to drive the wheel C. Since the spacing bar is ordinarily operated at the close of each word the registry will be approximately accurate and the supplemental key will be used only after a word which ends a line.

The lever F has its outer arm *f* arranged sloping downward toward and beneath the spacing bar G so that the action of the spacing bar upon such arm *f* will be to slide along such arm and thus press the arm toward the case and operate the lever without such impact as will cause rattling.

The cam P is fixed to a shaft *p''* journaled in the case A and provided at its outer end with the handle or lever *p'* shown in Fig. 5 so that the cam can be operated by moving such lever. The cam P is not shown in Fig. 5 because it is hidden by the upper portion of the lever E.

When it is desired to use the spacer bar to space a number of times without writing words to correspond to such spaces the cam P is turned by means of the lever *p'* into the position shown in dotted lines in Fig. 4, thus throwing the pawl D out of engagement and allowing the spacer bar to be operated without driving the driving wheel C. Dotted lines in Fig. 4 indicate the position of the pawl when thus thrown out of engagement.

Q indicates a stem upon one of the wheels to which the key, not shown, may be fitted to rotate the wheels to bring the index hands back to the starting point.

R indicates a door provided with a sheet of glass. By opening the door access is gained to the stem Q to turn the wheels.

r r indicate the hinges of the door.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a typewriter the combination set forth of the register case provided with the vertical lever slot *a'*; the register operating lever F pivoted to the outside of the case and arranged with one arm extending into the case through the lever slot and with the other arm extending into the path of the spacing bar; the sloping toothed driving ratchet wheel within the case; the bent pawl-carrying lever E pivoted within the case and arranged with one of its arms pendent and its other arm projecting horizontally across the path of the register-operating lever; and the driving pawl hinged to the lower end of the pendent arm of the pawl lever and arranged sloping upward therefrom to lie upon and engage the teeth of the driving ratchet pawl.

2. The combination of the pivoted pawl-lever having the pendent arm; the driving ratchet wheel having sloping teeth; the swinging driving pawl pivoted to the pendent arm of the pawl lever and arranged sloping upward therefrom to lie upon and to engage the teeth of the ratchet wheel; and the pawl lifting and sustaining cam arranged beneath the pawl to lift the pawl out of engagement with the ratchet wheel, and to allow the pawl to slide back and forth on the cam.

3. In a word register for type writers the combination of the ratchet wheel, the pivoted pawl-carrying lever, the swinging pawl hinged to such lever and arranged to engage the ratchet, the pivoted supplemental lever, and the key arranged to operate such lever, and suitable means interposed between the key and the pivoted pawl-carrying lever to connect them with each other.

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Witnesses:
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