

No. 647,853.

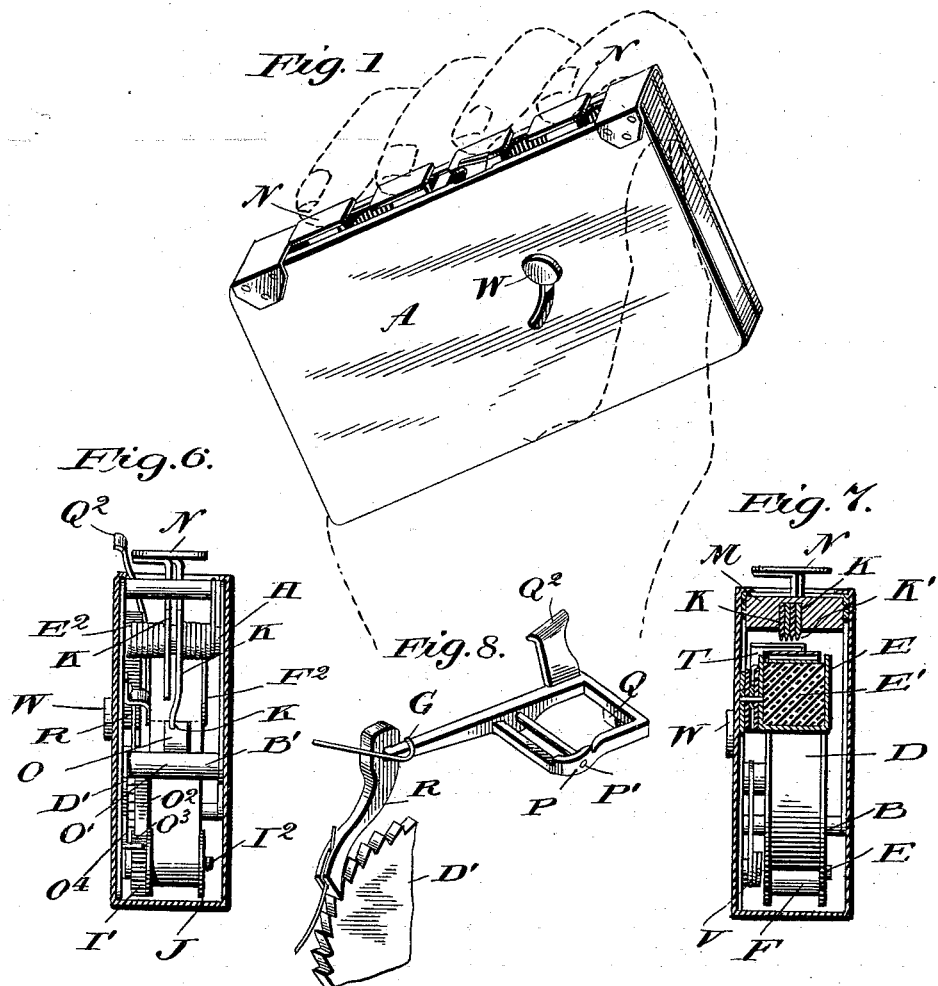
Patented Apr. 17, 1900.

E. McL. LONG.  
POCKET TYPE WRITER.

(Application filed Oct. 9, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
*L. C. Mills*  
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Inventor  
*E. McL. Long.*  
by *Franklin H. Hough*  
Attorney

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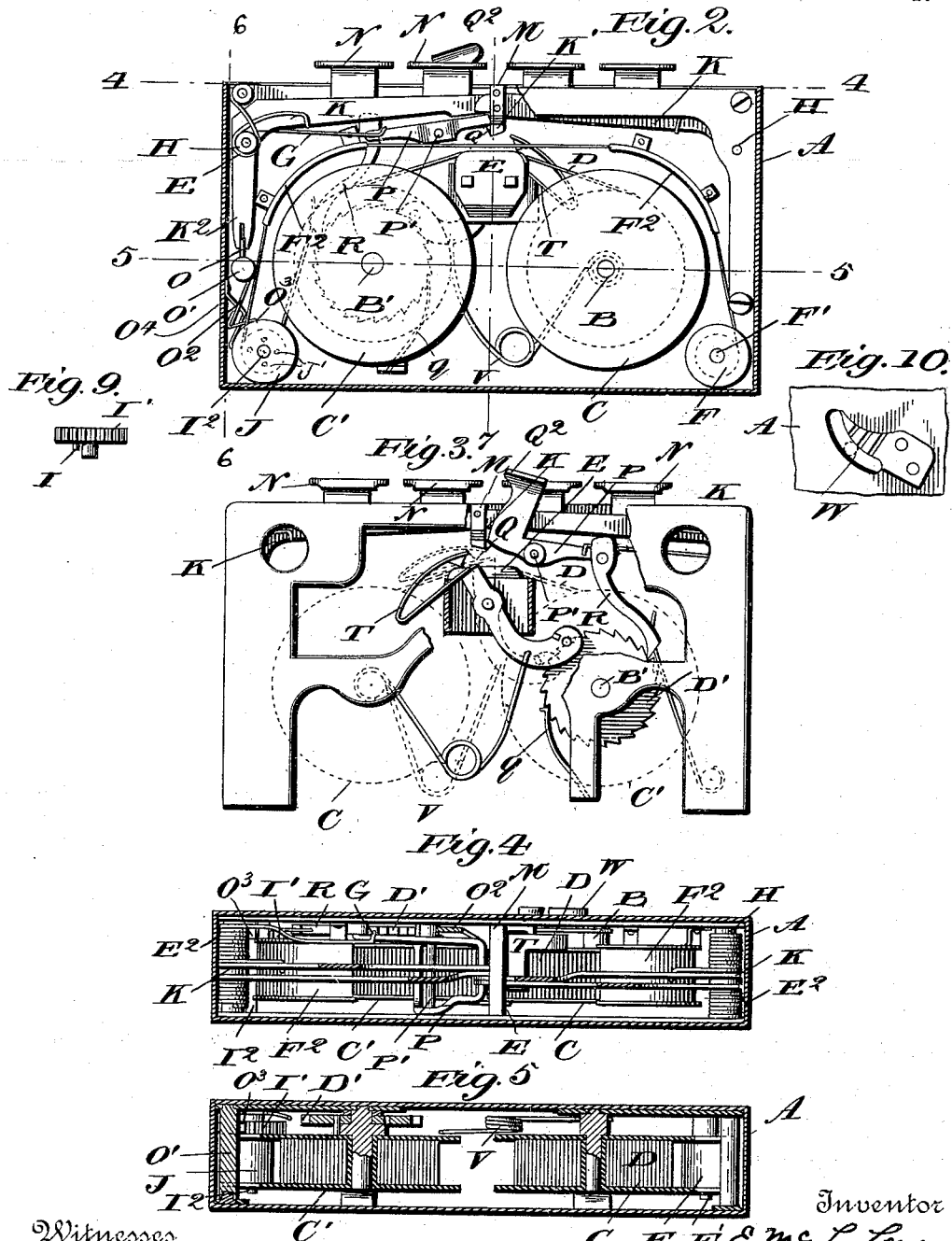
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# UNITED STATES PATENT OFFICE.

EUGENE MCLEAN LONG, OF WASHINGTON, DISTRICT OF COLUMBIA.

## POCKET TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 647,853, dated April 17, 1900.

Application filed October 9, 1899. Serial No. 733,083. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE MCLEAN LONG, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Pocket Type-Writers; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in pocket type-writers; and the object of the invention is to generally improve upon and render more efficient the invention upon which I have been granted Letters Patent in the United States, Serial No. 711,755.

The improvements forming the gist of the present invention reside in the provision, in connection with the finger-operated levers, of a thumb-operating lever which carries a type, adapted to be thrown so that said type will print in three different positions with reference to the vertical dash which is printed whenever any one of the finger-operated levers is depressed. By the addition of the thumb-key and type character carried thereby the invention is capable of short-hand work, as well as convenient for a long-hand system.

My invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form part of this application, and in which—

Figure 1 is a perspective view of my improved pocket type-writer. Fig. 2 is a side elevation of the pocket-type-writer key. Fig. 3 is a rear elevation. Fig. 4 is a section on line 4 4 of Fig. 2. Fig. 5 is a sectional view on line 5 5 of Fig. 2. Fig. 6 is a sectional view on line 6 6 of Fig. 2. Fig. 7 is a sectional view on line 7 7 of Fig. 2. Figs. 8, 9, and 10 are detail views.

Reference now being had to the details of the drawings by letter, A designates the casing of my improved pocket type-writer, which may be of any convenient shape, preferably rectangular, and mounted on horizontal stub-shafts B and B'. Supported by the framework

containing the mechanism are the reels C and C', upon one of which, as C, a spool of paper D is placed and the other end passing over the reel C', said paper being adapted to be wound from one reel to another as the characters are successively printed upon the same. Mounted on the stub-shaft carrying the reel C' is a ratchet-wheel D'.

Secured to the frame of the mechanism is a cushion-supporting bracket E, containing a rubber cushion E', against which the paper, inking-ribbon, and type are pressed in making impressions of the various characters.

Journaled in the opposite longitudinal walls of the frame are the stub-shafts H, on which are mounted the levers K, which are preferably L-shaped and carry at their free ends the type K', which are utilized in making impressions on the recording-strip D.

At each end of the frame are preferably mounted two of similarly-arranged keys, and about the shafts on which said keys are pivoted are coiled springs E<sup>2</sup>, which are provided to hold the keys normally in horizontal positions, as shown in Fig. 1 of the drawings. For limiting the upward throw of said keys a cross-piece M is provided, against which the upper edges of the keys strike when returned to their normal position after being depressed, as in the act of printing a character on the strip of paper passed over the cushion. The faces of the type on each of the levers are held in contact with one another, and their free ends are beveled for the purpose of allowing a dot to be printed when one of said type is depressed lightly against the paper and a dash printed should one of said type be depressed with more pressure, as will be readily understood. Each of these levers, which are of similar construction, have similar-shaped type, each to be depressed by a distinct finger of the operator, and by depressing one or the other of these type a dot or a dash may be printed in any one of the four positions with relation to a vertical dash which is printed at each depression of any one of the four keys.

The type which prints the vertical dash is designated in the drawings by the letter Q and is integral with the pivoted member P, which is mounted on a pivot P', held to the frame containing the mechanism. This mem-

ber has a key  $Q^2$  extending slightly above the keys  $N$ , which are secured to the levers  $K$ , and pivoted to an extension of said member is a pawl  $R$ , the free end of which normally engages with the teeth of the ratchet-wheel  $D'$  and is provided to cause a partial rotation to be imparted to the reel  $C$  each time any of the keys  $N$  have been depressed and returned to their normal positions. A spring-pawl  $q$  is secured to a portion of the frame and has its free end resting in contact with the teeth of said ratchet-wheel to prevent a backward rotation of the same, and a spring  $G$  is provided, which bears against the outer pivoted end of the extension of said member, to which the pawl is pivoted and adapted to throw the forward end, carrying the key that prints the vertical dash, to its starting position after being depressed by any one of the operating-keys. Said member is so positioned that the projecting portion  $K'$  of any one of said levers  $K$  will strike against the member and depress the latter, thus printing a vertical dash each time any character is printed.

On the reel  $F$ , mounted on the stub-shaft  $F'$ , carried by the frame, is coiled the ink-ribbon, which ribbon is passed over the guides  $F^2$  and wound upon the reel  $J$ , which reel has a series of depressions or recesses  $J'$ , in one of which a lug  $I$ , carried by the ratchet-wheel  $I'$ , which is mounted on the stub-shaft  $I^2$ , engages, said lug being provided to cause the reel engaged thereby to rotate with the same. One of said keys  $K$  has its L-shaped end extended, as shown at  $K^2$ , the end being recessed, said recess being adapted to receive an arm  $O$ , which is integral with the shaft  $O'$ , mounted in the frame. Said shaft  $O'$  has a second arm  $O^2$ , to which is connected one end of the pawl  $O^3$ , adapted to engage with the teeth of said ratchet-wheel to cause a partial rotation to the ratchet-wheel and the reel carried on the same shaft, which reel winds up the ink-ribbon, which is unwound from the reel mounted at the other end of the frame. A stationary pawl  $O^4$ , secured to the frame, engages with the teeth of the ratchet-wheel to prevent any backward rotation of the same.

Mounted on the frame of the pocket type-writer is a lever  $T$ , which has a single character near its free end. This lever is mounted between the walls of a portion of the frame, bent upon itself, said walls serving as a guide as the lever is tilted backward and forward. The portion of the lever carrying the character of any shape desired is spring-actuated, being formed out of a portion of said lever or secured thereto, and is normally held in the position shown in the drawings. Said type-carrying portion of the lever is made spring-actuated, so as to yield when any one of the levers carrying the type which are actuated by the finger-keys is depressed against the upper face of said spring portion of the lever carrying the type, and the device is so adjusted that the character will be printed upon

the strip of paper as any one of the finger-operated keys is depressed, said character being printed in any one of the three positions with relation to the dash which is printed vertically across the strip of paper. Normally the character carried by the spring portion of said lever is held out of the path of the type which are depressed by the fingers of the operator. Said character carried by the spring part of the lever described is adapted to be operated by the thumb of the operator, a suitable thumb-key  $W$  being secured to the free end of said lever and extending through the casing and in convenient position to be engaged by the thumb as the instrument is held in the palm of the hand in a natural way. In order to determine in which position the thumb character is to be printed by the actuation of the thumb-key, a series of three notches is provided in the slot through which the thumb-key passes, and the thumb-key is so constructed that the thumb of the operator, by feeling, may determine which notch said key is opposite previous to the depression of any one of the finger-keys in the act of printing the characters. A coiled spring  $V$ , secured at one end to the frame, its other end fastened to the thumb-lever, is provided to hold the character carried by the thumb-lever normally out of the paths of the type carried by the finger-operating keys.

In operation when it is desired to print any character by means of the finger-actuated keys any key is depressed, and with it the member having the type-face printing the vertical dash. When it is desired to print a character controlled by the thumb-key, said thumb-key is adjusted by pushing it down in the slot in the casing until said key is held in one of the three notches provided to determine which position the character on said lever is to be printed, and then one of the finger-operated keys is depressed, which will cause the character on the thumb-lever to be printed in one of the three positions relative to the vertical dash. At each depression of the key which is connected to the feeding mechanism on the ink-reel said reel will be given a partial rotation, causing the ribbon to wind from one reel to another, and at each depression of the finger-keys after an impression has been made the paper is wound from one paper-reel to another. If it is desired for any purpose to feed the strip of paper forward without printing, the same can be done by depressing the key which is integral with the rack carrying the vertical dash, without depressing any one of the finger-keys.

By this arrangement of type I am enabled to print three hundred and twenty-four different symbols, thus enabling me to provide a system whereby stenographic, as well as long-hand systems, may be equally well recorded.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

1. A pocket type-writer, comprising in com-

5 combination with the finger-operated type, the paper-reels, inking-ribbon, and means for operating same, an adjustable thumb-key and lever having a type character thereon, and adapted to be thrown into the path of one of the finger-actuated type as it is depressed, as set forth.

10 2. A pocket type-writer, comprising in combination with the type and levers carrying same, the operating-keys, the paper and ink-ribbon winding reels, a ratchet-wheel mounted to rotate one of said ink-ribbon reels, a shaft having two oppositely-disposed arms, one of said arms engaging in the extended  
15 and slotted end of one of said levers, and a spring-pawl secured to the end of the other arm which pawl engages with the teeth of said ratchet-wheel, as set forth.

20 3. In a pocket type-writer, the finger key-levers and type characters, the reels with inking-ribbon and recording-paper, the cushion against which the type are depressed, the pivoted member with vertical-dash type, a key for depressing one end of said member, a  
25 ratchet-wheel for rotating one of the paper-reels and a pawl pivoted to one end of said member and adapted to engage with the teeth of said ratchet-wheel, as set forth.

4. In a pocket type-writer, the combination with the reels, the finger keys and levers, a spring-actuated thumb-lever with type character thereon, said thumb-lever being designed to be depressed by any one of said finger-operated levers, as set forth.

5. In combination with the finger-levers the  
35 reels, impression-cushion, the spring-actuated thumb-operated lever, means for holding the latter in different positions, and a spring-arm secured to or forming a part of said thumb-lever, and a type character at the  
40 free end of the latter, said spring-arm designed to be depressed by any one of the finger-levers, as set forth.

6. In combination with the finger-levers mounted as described, the pivoted thumb-lever and spring type-carrying arm, the slotted casing and thumb-lever button working in said slot, and the notched plate engaged by said button, as and for the purpose set forth.

In testimony whereof I affix my signature  
50 in presence of two witnesses.

EUGENE MCLEAN LONG.

Witnesses:

FRANK ALLEN WHEELER,  
JOHN N. RADCLIFFE.