

No. 653,104.

Patented July 3, 1900.

E. McL. LONG.
POCKET RECORDER.

(Application filed Apr. 4, 1899. Renewed Mar. 29, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

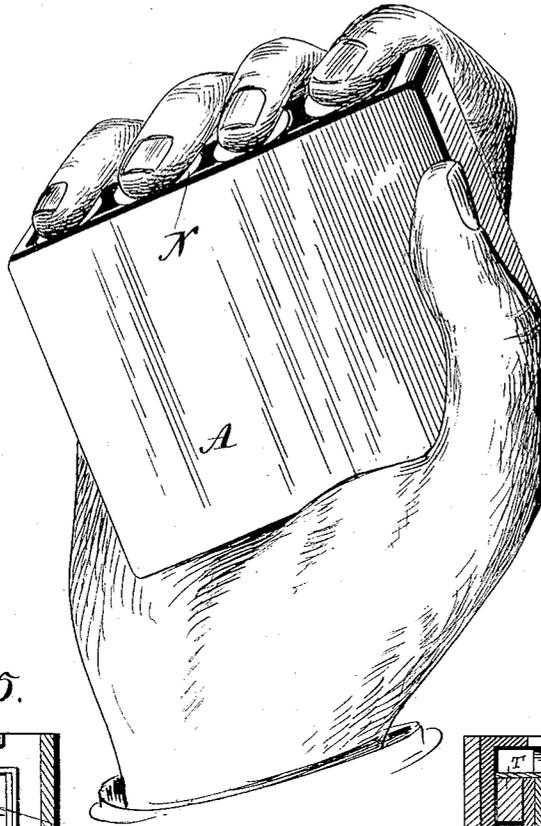


Fig. 5.

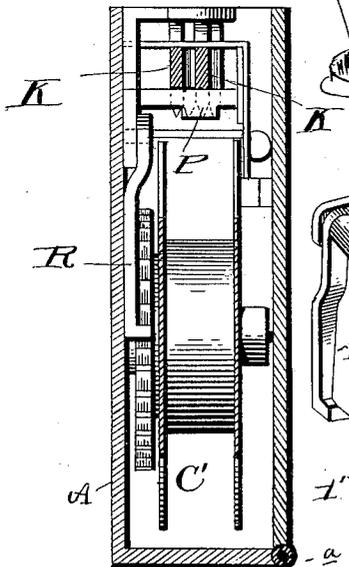


Fig. 7.

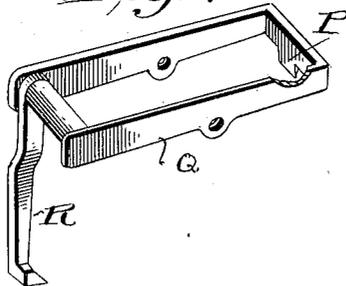
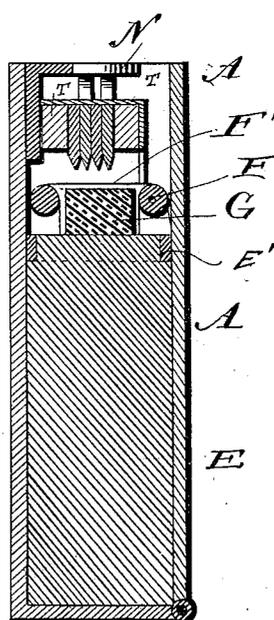


Fig. 6.



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No. 653,104.

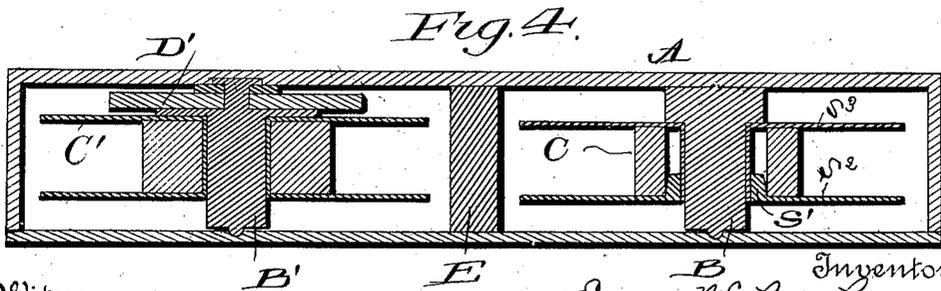
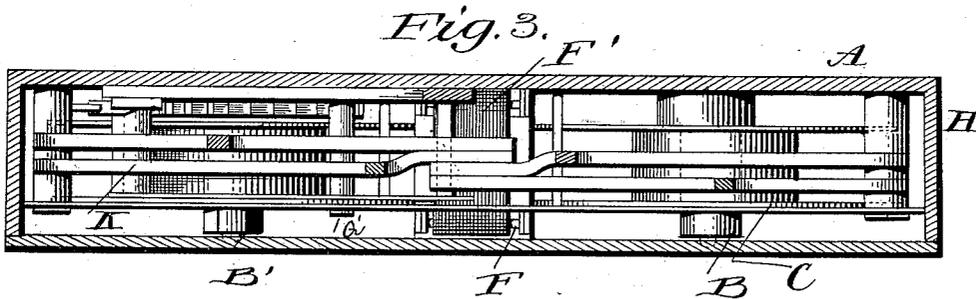
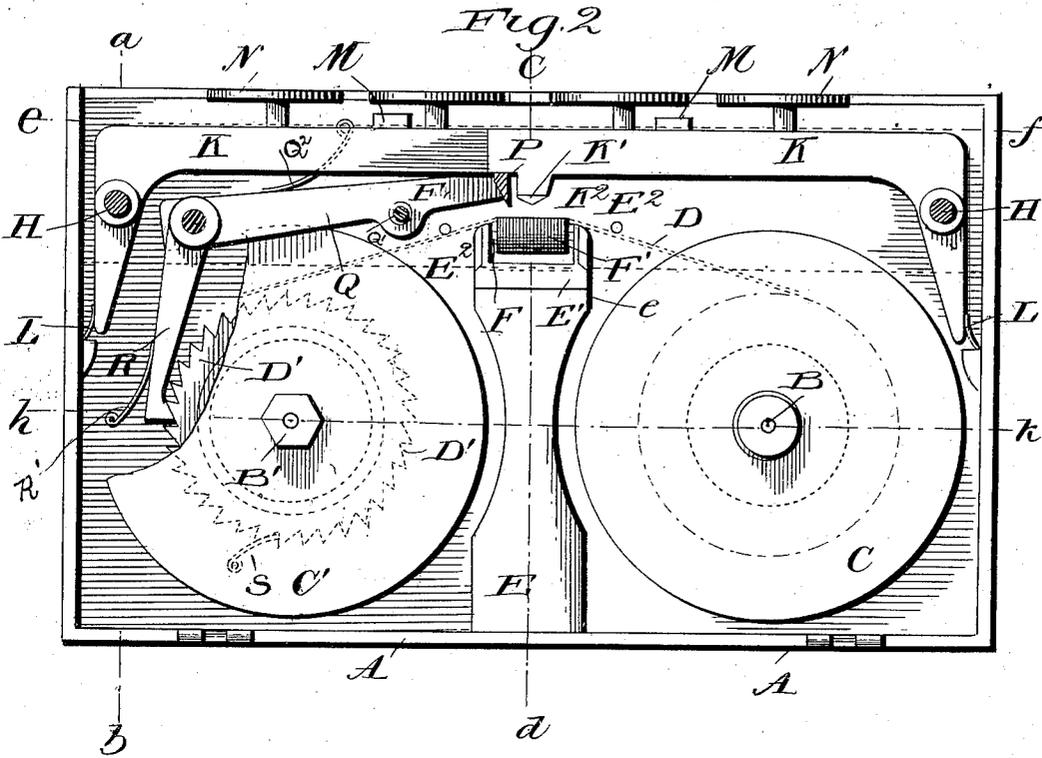
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(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

EUGENE McLEAN LONG, OF WASHINGTON, DISTRICT OF COLUMBIA.

POCKET-RECORDER.

SPECIFICATION forming part of Letters Patent No. 653,104, dated July 3, 1900.

Application filed April 4, 1899. Renewed March 29, 1900. Serial No. 10,701. (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, in the 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 recorders, and especially to a pocket recording device in which are provided a series of keys which are adapted to be operated by the fingers of one hand of a person while held in the pocket, whereby impressions are made by the type carried by said keys on a tape of paper which is automatically wound from one reel to another and adjacent to a cushion-block against which the type of the key is forced, a suitable inking-ribbon being interposed between the coil of paper and the cushion-block.

More specifically the invention resides in a series of keys which are spring-actuated and adapted at each depression of any one of the keys to cause a vertical dash to be printed on the paper and each key, according to the pressure which is applied to it, being adapted to print either a dot or a dash, as the case may require, said vertical dash being merely a guide to show the relative positions of the dots and dashes which are made by the keys. By this device it is my purpose to print by means of a code of dots and dashes sufficient characters to record any conversation.

To these ends and to such others as the invention may pertain the same consists, further, in the novel construction, combination, and adaptation of parts, as will be hereinafter more fully described and then specifically defined in the appended claims.

My invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is a perspective view of my pocket recording device, showing the same held in the hand of the operator. Fig. 2 is a vertical sectional view through the casing, showing the mechanism in side elevation therein. Fig. 3 is a sectional view on line *ef* of Fig. 2 looking down on the levers. Fig. 4 is a horizontal sectional view on line *hk* of Fig. 2. Fig. 5 is a vertical section on line *ab* of Fig. 2. Fig. 6 is a vertical section on line *cd* of Fig. 2; and Fig. 7 is an enlarged detail in perspective of the member which prints the vertical dashes, showing the ratchet-pawl pivoted thereto.

Reference now being had to the details of the drawings by letter, A designates the casing of my pocket recording device, which is preferably of rectangular shape, and mounted on horizontal stub-shafts B and B' in said casing are the reels C and C', upon one of which, as C, the strip of paper D is wound, the other end passing over the reel C'. As will be observed in the drawings, the shaft carrying the reel C' is preferably hexagonal shape and fits a similar-shaped aperture in the reel C', causing both to rotate together, and the ratchet-wheel D' is mounted on said shaft and rotates with the reel C'. Between said reels is a standard E. This standard has arms E², in which are journaled stub-shafts F, on which the inking-ribbon F' winds, and on the upper end of said standard is disposed a rubber cushion G, the upper surface of which cushion is adjacent to the inking-ribbon F', as clearly shown in Fig. 6 of the drawings.

Journaled in opposite longitudinal walls of the casing 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 casing, on its inner walls, are the springs L, the free ends of which bear yieldingly against the outer ends of said levers, as shown clearly in Fig. 2 of the drawings, these springs being provided to return the levers to their starting positions after being depressed for the purpose of causing an impression to be made on the recording-strip. In order to limit the upward throw of said levers, stops M are provided, against which the up-

per edges of the levers strike after being depressed and thrown back to their normal positions under tension of the springs L. It will be noted upon examination of Fig. 6 of the drawings that the lugs or type K' on each of said levers are in contact with one another and their free ends are tapered to a ridge with an apex, as K², which when being lightly depressed against the cushion, between which and the said type has been interposed an inking-ribbon and recording-strip, will cause a dot to be printed, but under greater pressure will cause a horizontal dash to be printed on the recording-strip. Each of these levers, which are of similar construction, have similar-shaped type, there being preferably four numbers corresponding to the four fingers of one hand of the operator, and by depressing one or the other of these type a dot or dash may be printed in any one of the four positions with relation to the vertical dash, which is printed at each depression of any one of the four keys. In order to guide the keys, the blocks T are provided, which bear against the outer faces of the outer keys, as shown plainly in Fig. 6 of the drawings. Mounted on said levers are the keys N, the upper edges of which are preferably flush with the edge of the casing containing the recording mechanism. One side of the casing A' is hinged, as at a, so as to allow of access being had to the parts within the casing.

The lever which prints the vertical dashes is designated in the drawings by letter Q and is pivoted to a shaft Q' and has the type P arranged at the free end of said lever and directly over the cushion against which the impression is made. A spring Q² bears yieldingly against the outer portion of lever Q to return same to its normal position after its inner end has been depressed, and as the lever returns to its starting or normal position the strip of paper is wound on the reel C'. Pivoted to the opposite end of said lever is a pawl R, the hooked end of which is designed to engage with the teeth on the circumference of the ratchet-wheel D', and a spring R' is secured to the casing and has its free end bearing against said pawl in order to keep the hooked end of the latter in engagement with the teeth of the ratchet. In order to allow said reel to rotate in only one direction, a pawl S is provided, which engages with the teeth of the ratchet, as shown clearly in Fig. 2 of the drawings.

To make it convenient for removing the flange S² from its shaft or axle B, I provide the wedge-shaped hub S' on the flange S², which fits snugly in the aperture in the reel C, in the space between said reel and the sleeve of the head S³, and by forcing this wedge-shaped hub portion into said space, the flanges will clamp against the edges of the reel C, as will be understood and as illustrated in Fig. 4 of the drawings.

The instrument is operated as follows: By

pressing in one of the keys a type is brought in contact with the inking-ribbon under which rests the recording-strip of paper on which the impression is to be made. This contact prints first a vertical dash when either of the four keys is depressed, and by applying a greater or less pressure to any one of said keys either a dot or a horizontal dash (with reference to said vertical dash) is printed. As the type end of the lever Q is depressed the pawl, which is always held in contact with the teeth of the ratchet-wheel, is raised one tooth, and on the return movement of said type, carried by the lever O to its normal position, a partial revolution is imparted to the reel on which the recording-strip is wound, thus making room for the next character to be printed. From the foregoing it will be noted that by bringing into combination with the vertical dash either the dot in four positions or the dash in four positions relative to the vertical dash a complete code is produced, whereby any conversation may be taken down and numerals and other signs recorded, and I am able by this arrangement of keyboard not only to make letters as described, but also to make the letters of the Morse telegraph alphabet with a slight alteration in the positions of the dots and the dashes.

It is at once evident that the use of the combination of keys herein described may, if for any reason it should be desired, be in connection with characters other than those described, or Roman type may be used.

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

1. A pocket recording device comprising in combination with the casing and reels mounted therein, the ratchet-wheel secured to one of said reels, a standard, an impression-block mounted between the reels and over which a recording-strip is designed to pass, the L-shaped type-carrying levers pivoted at their angled ends, of springs bearing yieldingly against said ends, each of said type having a pointed apex and designed when pressed lightly to make a dot and under a heavier pressure to make a dash, a vertical dash-printing lever pivoted to the casing, and a pawl pivoted to its outer end and spring designed to hold the hooked end of said pawl in engagement with the ratchet-wheel on the reel at the depression of any one of said keys.

2. In a pocket recording device, the combination with the casing, the standard, the impression-block mounted thereon, reels, and a ratchet-wheel secured to one of said reels, the pivoted keys and type carried thereby, the lever pivoted to the casing and having a vertical dash-printing type integral with one end of said lever, which is disposed underneath the series of levers adapted to be actuated whenever any one of said type-levers is operated, the pawl pivoted to said lever and designed to engage with the teeth of said ratchet-

wheel, whereby as any key is depressed the recording-strip is adapted to be actuated, as shown and described.

3. In a pocket-recorder, the combination
5 with the casing having a hinged face, the standard, the impression-block mounted thereon, the reels, ratchet-wheel secured to one of the latter, the type-keys mounted in pairs and on common pivots at the opposite
10 ends of said casing and in parallel rows, stops disposed over said keys to limit their upward throw, and guide-blocks against which the outer faces of said type engage, and the lever having a dash-printing type designed to be

actuated when any of said keys are depressed, 15
and means for operating the reels as the keys are depressed.

4. A pocket type-writer comprising a casing, printing mechanism and finger-keys, located and constructed so that the instrument 20
may be held in and operated by one hand, substantially as set forth.

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

EUGENE MCLEAN LONG.

Witnesses:

MARSHALL F. CAPRON,
MALCOLM WIKSTROM.