(No Model.)

E. M. HAMILTON.

KEY FOR TYPE WRITING MACHINES.

No. 430,774. Patented June 24, 1890.

Fig. 1.

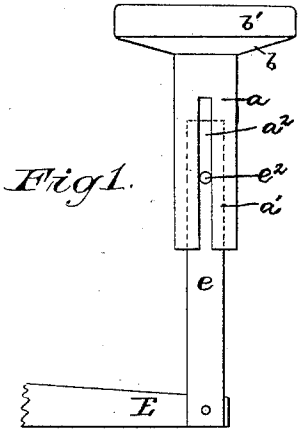


Fig. 2.

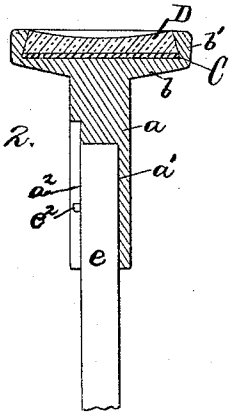


Fig. 3

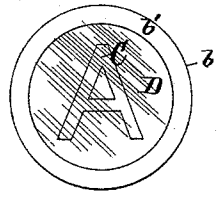


Fig. 4.

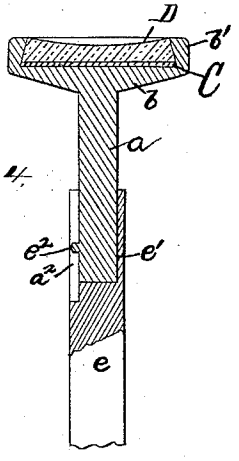


Fig. 5.

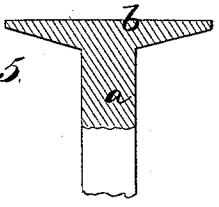
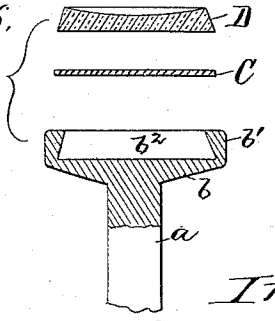


Fig. 6.



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UNITED STATES PATENT OFFICE.

EMERY M. HAMILTON, OF NEW YORK, N. Y.

KEY FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 430,774, dated June 24, 1890.

Application filed February 10, 1890. Serial No. 339,769. (No model.)

To all whom it may concern:

Be it known that I, EMERY M. HAMILTON, of the city, county, and State of New York, a citizen of the United States, have invented certain new and useful Improvements in Keys for Type-Writing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to what are known as the "finger-keys" of type-writing machines; and my invention consists in the combination, in a finger-key, of an index-letter-bearing disk provided with a stem with a stem on the key-lever, said stem being united endwise by a cylindrical end of one stem seated in a cylindrical longitudinal socket in the other stem, said socket-wall being longitudinally slotted, and said stem having a radial projection from the cylindrical part thereof fitting in said slot in the socket-wall, as hereinafter set forth.

Figure 1 is a side elevation of a finger-key containing my invention and a portion of the key-lever of a type-writing machine and the key-lever stem on which the finger-key is mounted. Fig. 2 is a vertical central section of a finger-key containing my invention. Fig. 3 is a plan of the face of the key. Fig. 4 shows a modification of the key in vertical central section. Fig. 5 illustrates, partly in section, the blank or piece from which the button and stem of my key are formed in the same piece with each other at the first step in the construction thereof; and Fig. 6 illustrates the recessed button and stem in a completed state, with the letter-bearing disk and transparent covering-disk in position to be united to the button.

In fabricating my improved finger-key I form upon one end of a metal rod or bar *a*, (shown in Fig. 5,) by means of a suitable die or dies, a disk-like head or button *b*, thus producing the "blank" illustrated in said Fig. 5, in which the disk is integral or in one and the same piece with the rod or stem *a* on which it is formed.

Upon the upper face of the disk or button *b*, I place an index letter or character, as shown in Fig. 3, and I preferably accomplish this by forming by means of a suitable die or dies an annular flange *b'* on the upper face of the button, and which flange is integral with the button, thus constituting an annular recess b^2 in the said upper face of the button, and I then place a disk C, bearing the index letter or character on its outward face, at the bottom of said recess, and a transparent covering-disk D, as of glass or celluloid, over said disk C in said recess, the said disks C and D being adapted in their diameters to fit to the said recess b^2.

I find it preferable in forming the recess b^2 to have its diameter at its bottom somewhat greater than at its top, as shown in Figs. 2, 4, and 6, and to have the thin letter-bearing disk C annular and substantially of the same diameter as the bottom of the annular recess b^2, and also to have the transparent disk D of a greater diameter at its under perimeter than at its upper perimeter, with such diameters of said disk substantially equal to or the same as the respective corresponding diameters of the recess b^2, as shown. The recess b^2 may be formed with these differing diameters by means of a suitable die or dies when the flange b' is initially formed on the button *b*, and the disk C, being thin and flexible, as of paper, may be readily introduced to and seated in the bottom of the recess, while the disk D, as described, being formed of some comparatively elastic material, as celluloid, may be sprung or forced to its seat in the annular recess b^2, or the said recess b^2 may be initially formed with the same diameter throughout, and when the described disks C and D are seated therein, as set forth, the flange b' may, by means of a suitable die or dies, be crimped inwardly at its top to make its diameter thereat less than at its bottom and to cause the inner side of said flange to fit to the described periphery of the disk D.

E represents the front end of a key-lever of a type-writing machine, and *e* a stem or vertical extension thereon and usually pivotally connected thereto.

In constructing and arranging my improved finger-key I find it desirable to make the stem *a* thereof cylindrical, as shown, and to unite said stem to the stem *e* of the key-lever, likewise preferably cylindrical, by a tubular socket in one of said stems, into which socket the other and cylindrical stem is seated endwise. I prefer to form the socket in the key-stem *a*, as shown at *a'*, extending from the

lower end longitudinally of said stem, and I prefer to form said socket of a somewhat less diameter than the diameter of the lever-stem *e*, and to slot the wall of said socket longitudinally, as shown at a^2, whereby the socket-wall may be spread a little in seating the lever-stem *e* in the socket, so that when thus seated the lever-stem will be closely hugged by the socket-wall. The socket may, however, be formed in the lever-stem *e*, as at *e'*, and the key-stem *a* fitted therein, as shown in Fig. 4. Upon the cylindrical stem, which is seated in the tubular socket, I form a radial projection e^2, adapted to pass into and project more or less through the slot a^2 in the socket-wall. The finger-key is by the means described detachably jointed to the key-lever and at the same time is prevented from turning in its socket-seat when once seated.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination, with a finger-key composed of an index-letter-bearing disk and a stem thereon, of a stem on the key-lever, said stems being united endwise by a cylindrical end on one stem seated in a cylindrical longitudinal socket in the other stem, said socket-wall being longitudinally slotted, and said stem having a radial projection from the cylindrical part thereof fitting in said slot in the socket-wall, substantially as and for the purpose set forth.

2. In a type-writing machine, the combination of a finger-key composed of an index-letter-bearing disk provided with a stem having the longitudinal tubular socket *a'* and a slot a^2 in said socket-wall with a cylindrical key-lever stem *e*, adapted to fit to said socket, and having a radial projection a^2, adapted to be seated in said slot, substantially as and for the purpose set forth.

EMERY M. HAMILTON.

Witnesses:
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