

(No Model.)

D. P. WOLHAUPTER.
TYPE WRITING MACHINE KEY CAP.

No. 530,611.

Patented Dec. 11, 1894.

FIG. 1.

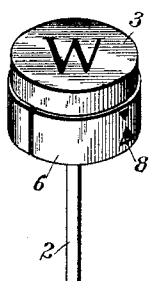


FIG. 2.

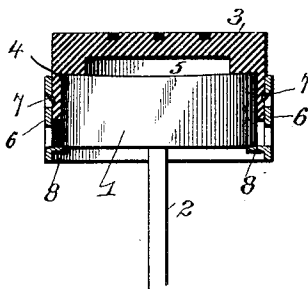


FIG. 9.

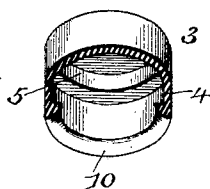


FIG. 3.

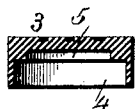


FIG. 4.

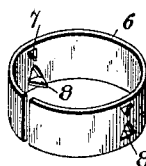


FIG. 5.

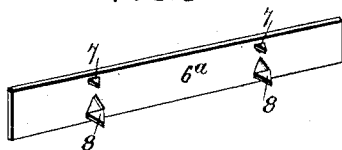


FIG. 6.

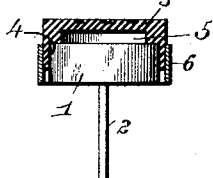


FIG. 7.

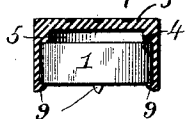
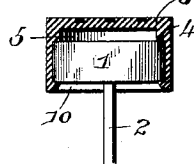


FIG. 8.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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TYPE-WRITING-MACHINE KEY-CAP.

SPECIFICATION forming part of Letters Patent No. 530,611, dated December 11, 1894.

Application filed June 9, 1894. Serial No. 513,995. (No model.)

To all whom it may concern:

Beit known that I, DAVID P. WOLHAUPTER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Cushion Attachment for Type-Writer Keys, of which the following is a specification.

This invention relates to keys for typewriters and other key-operated machines.

10 The main and primary object of the present invention is to provide a new and useful cushion attachment for keys of typewriters and other key-operated machines, such as cash registers and the like.

15 To this end the invention therefore contemplates a readily attachable and detachable cushion attachment that shall be simple and inexpensive in construction, and one that can be easily attached rigidly to the keys of 20 ordinary typewriters and the like, to provide efficient means for relieving the finger tips from injury due to continued firm striking of the ordinary hard keys, by forming a yielding soft cushion for the fingers, while at the 25 same time not detracting from the general appearance or affecting the operation of the machine.

With these and many other objects in view, which will readily appear as the nature of the 30 invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings:—Figure 1 35 is a perspective view of the herein described cushion-attachment fitted to an ordinary typewriter key. Fig. 2 is a central vertical sectional view thereof. Fig. 3 is a detail sectional view of the removable cushion-cap. Fig. 4 is 40 a detail in perspective of the split spring metal clamp band or ring. Fig. 5 is a detail plan view of the metal blank or plate from which the clamp ring is bent. Figs. 6, 7, and 8, are sectional views showing modified forms 45 of fastening means for securing the cap on the key. Fig. 9 is a perspective view, partly in section, of the modified form of cap shown in Fig. 8.

Referring to the accompanying drawings, 50 the numeral 1, designates an ordinary typewriter or similar key secured to the key rod or arm 2, as usual, and in the present inven-

tion the said key is adapted to have removably fitted thereon the cushion attachment cap 3.

55 The cushion cap 3 is made of a suitable quality of soft rubber in any preferred manner, and is provided in its under side with the key-socket 4, that is of a sufficient width to accommodate therein the ordinary sizes of 60 typewriter or similar keys so that the cap may be readily slipped over the top of the keys in fitting the attachment thereto. In fitting a cushion cap 4 upon a key, the same is pressed down tight thereon until the solid 65 integral top portion or base of the socket rests on top of the upper surface of the key, so that in striking the cap there will be no further slipping thereof after having been placed in position. The said cap is further 70 provided in the under side thereof or in the bottom or base of its socket 4, with a cushion recess or pocket 5, that leads off from said socket and is disposed above the top of the key to which the cap is fitted, so as to leave 75 an air cushion or space that will not only accommodate the downward central yield of the top of the cap when struck with the fingers, but will also contribute to the cushion effect of the cap by easing the sharp contact of the 80 finger tips therewith.

It is to be noted that the cushion recess or pocket 5 formed in the top under side of cap is somewhat smaller than the socket 4, so that the cap may be fitted tight onto the key up 85 to the bottom of the said socket, while at the same time leaving a space directly above the top of the key to accommodate the flexible bend or yield of the cap when struck, and also to cushion the blow and to cause the top 90 of the cap to quickly resume its normal condition by reason of the slight compression of air caused in the said recess or pocket 5 by the striking of the cap.

From the above it is to be understood that 95 both the natural softness and flexibility of the rubber of which the cap is formed, and also the specific construction of the cap are depended upon to secure the full cushion effect desired.

100 The socket 4 of the cap is preferably of a size to snugly fit a typewriter key when slipped thereon, but I preferably employ supplemental fastening means for securing the

cap on the key to absolutely prevent its working off or being accidentally displaced, and in certain figures of the drawings is shown a split spring-metal clamp band or ring, 6, that is adapted to be sprung around the outside of the cushion cap after the cap is fitted in position on the key. The split clamp band or ring 6, is circular in shape and is bent from a suitable length blank 6^a, of thin spring metal, as shown in Fig. 5 of the drawings, and the said band is bent to a size substantially equaling or less than the diameter or transverse width of the ordinary sizes of typewriter keys, so that after being spread open and slipped over a cushion cap fitted on a key, the band or ring will contract under its own natural spring or resiliency, and will compress the sides of the cap tightly upon the sides of the key so that the cap will be firmly attached.

To effectually obviate any possibility of the cap slipping upward and loosening, the thin blank of spring-metal, 6^a, from which the spring clamp band or ring is formed, has stamped or cut out therefrom the integral upper and lower catch prongs 7, and 8, respectively, said upper catch prongs 7, being projected from the inner side of the band or ring and disposed downwardly at an angle to engage in the sides of the soft rubber cushion cap to hold the same firmly positioned and to prevent upward slipping thereof. The lower catch prongs 8, which may be arranged in a series of two or more, are also projected from the inner side of the split band or ring and are bent to a position standing at substantially right angles to the width of the band or ring so as to engage under or beneath the lower edges of the key to which the cap is fitted, thereby preventing the slipping of the clamp band or ring upwardly together with the cap. It will therefore be seen that the engagement of the prongs 7, prevent downward slipping of the clamp band or ring, and the engagement of the prongs 8, prevent upward slipping of either the band or the cap, thereby completing a very firm yet readily detachable cushion attachment for typewriter keys.

While the specific construction of split spring clamp band as detailed may be found desirable to positively and securely clamp the cushion cap onto the key, still the cap may be clamped upon the key by the same split spring band or ring 6, without the prongs 7 and 8, as illustrated in Fig. 6 of the drawings, it being apparent that the contraction of the split metal band upon the soft rubber sides of the cap will compress the same tightly upon the key and will hold the cap firmly on the key, and this plain clamp band may be used instead of the pronged band where the cap itself very snugly fits the key, or occasion may require.

A very important feature of the present invention is the modifications shown in Figs.

7 and 8. In these figures of the drawings I have shown the cap securely fastened to the key without the use of the spring clamp band or ring or any supplemental fastening device, and for the general equipment of keys of typewriters and similar machines already in use, these forms of the cap will be invariably employed, the other forms described being made available to adapt the cap to any form of key whatever, and in the original equipment of key-operated machines.

Referring particularly to Fig. 7, the cushion cap 3, is of the same general construction as already described, but is made somewhat larger to fit over the entire key, and at its lower edge is provided with a series of integral intumed rubber catch lugs 9, that are adapted to become automatically sprung into engagement with the under or lower edges of the key when the cap is slipped thereon, thereby providing simple and efficient means for fastening the cap on the key without supplemental fastening means, and at the same time completing an integral construction of cushion cap having its own fastening means. The catch lugs 9 of Fig. 7 may be substituted by a continuous annular intumed catch flange 10, also formed integrally with the cap at its lower edge, and adapted to engage under the outer lower edges of the key to secure the cap in position.

A designating symbol or letter is of course carried by each cushion cap, and this symbol or letter may be molded or vulcanized into the top of the cap during manufacture, in substantially the same manner as contemplated by my former patent, numbered 497,483, dated May 16, 1893, but this may be accomplished in any manner that will not interfere with the cushion character of the cap.

From the above it will be seen that the herein described cap will provide a simple, inexpensive and highly desirable attachment for the keys of typewriters and the like to cushion the fingers, and it will be understood that any changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. A soft rubber cushion cap provided in its under side with a socket to accommodate therein a typewriter or a similar key, and with an integral solid top portion adapted to rest directly on top of the key and having centrally therein an air cushion recess or pocket leading off from said socket, substantially as set forth.

2. A soft rubber cushion cap adapted to fit over a typewriter or similar key and provided with an integral solid top portion adapted to rest on the top of the key and having in its under side an air cushion recess or pocket,

and fastening means for the cap adapted to detachably engage beneath the key, substantially as set forth.

3. In an attachment of the class described, 5 the combination of a soft rubber cushion cap adapted to fit a typewriter or similar key, and a split spring metal clamp band or ring, substantially as set forth.

4. In an attachment of the class described, 10 the combination of a soft rubber cushion cap adapted to be fitted over a typewriter or similar key, and a split spring metal clamp band or ring adapted to embrace said cap and having prongs adapted to engage beneath the 15 key to which the cap is fitted, substantially as set forth.

5. In an attachment of the class described,

a soft rubber cushion cap adapted to fit over a typewriter or similar key, and a split spring metal clamp band or ring adapted to embrace 20 the cap and key to which it is fitted and provided with integral inwardly extending upper and lower catch prongs, the upper prongs being adapted to engage in the sides of the soft rubber cap, and the lower prongs being 25 adapted to engage beneath the key, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DAVID P. WOLHAUPTER.

Witnesses:

J. H. SIGGERS,

GEO. C. SHOEMAKER.