

(No Model.)

D. P. WOLHAUPTER & W. N. CROMWELL.
KEY FOR TYPE WRITING MACHINES.

No. 552,311.

Patented Dec. 31, 1895.

Fig. 1.

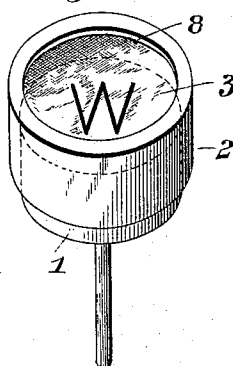


Fig. 2.

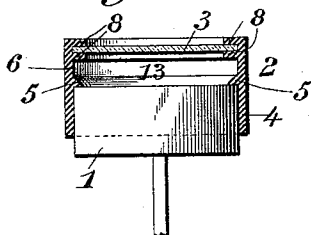


Fig. 3.

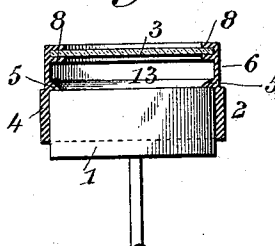


Fig. 4.

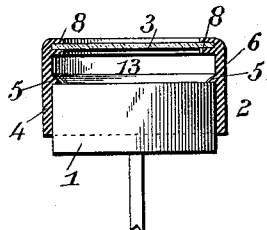


Fig. 5.

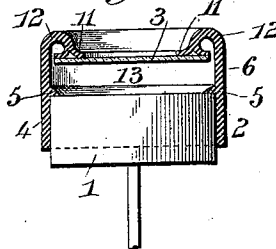


Fig. 6.

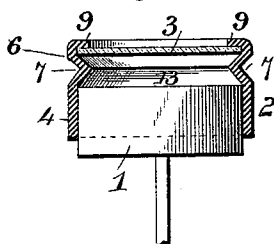
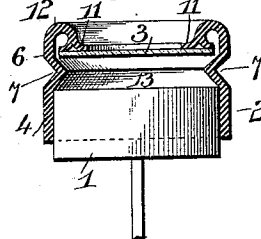


Fig. 7.



WITNESSES:

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DAVID P. WOLHAUPTER AND WILLIAM N. CROMWELL, OF WASHINGTON,
DISTRICT OF COLUMBIA.

KEY FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 552,311, dated December 31, 1895.

Application filed September 14, 1895. Serial No. 562,570. (No model.)

To all whom it may concern:

Be it known that we, DAVID P. WOLHAUPTER and WILLIAM N. CROMWELL, citizens 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 cushion attachments for type-writer and similar keys, and it has for its object to provide an attachment of this character that shall be both simple and inexpensive.

The invention primarily contemplates a cushion-cap that can be easily and firmly fitted on a type-writer or similar key, and also easily detached for replacement, while at the same time providing positive means for effectually cushioning the finger-tips in manipulating the keyboard.

Another important object of the invention is to leave exposed the letter or character of the key on which the attachment or cap is fitted, thereby obviating the necessity and expense of providing the attachment with the same character as the key.

Heretofore in cushion-caps for type-writer keys one of the great objections thereto was not only the expense and difficulty of providing the cushion-cap with a character, but also the fact that the usefulness of the key was practically destroyed, whereas the present invention provides expressly for the utilization of the character on the key, which is a matter of considerable importance.

With these and other objects in view, which will readily appear as the nature of the 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 drawings, Figure 1 is a perspective view of the attachment fitted to an ordinary type-writer key. Fig. 2 is a central vertical sectional view thereof. Figs. 3, 4, 5, 6, and 7 are similar views of modifications.

Referring to the accompanying drawings, the numeral 1 designates an ordinary type-writer key on which is adapted to be removably fitted the cushion-cap 2. In the present invention the cap 2 essentially consists of a

glass plate or disk 3, and an elastic band 4, which provides means for attaching the cap to the key, and for yieldingly supporting the glass plate or disk in a plane above and parallel with the top of the key, so as to form a yielding contact for the finger and to plainly expose the character on the key.

The elastic band 4 is made of a suitable quality of soft rubber and of such a diameter that the same can be sprung tightly over all sizes of type-writer keys. In fitting the attachment on a type-writer or similar key the band 4 is stretched over the key and allowed to contract by reason of its own elasticity, and it is intended that the said band shall embrace the sides of the key in an air-tight joint, and sufficiently tight to entirely obviate the possibility of slipping after having been fitted on the key. In some of the forms of the caps the band 4 is provided on its inner side at a point intermediate of its upper and lower ends with an inwardly-projecting stop-flange 5, which is adapted to rest directly on the top edges of the key, and subserves the function of properly adjusting the position of the band 4 on the key, and, in the construction illustrated in Fig. 5, of positively preventing the contact of the glass plate or disk 3 with the top of the key when forced downward.

The band 4 is provided with an elastic collapsible portion 6, which projects above the plane of the top of the key, and whose walls are sufficiently thin so as to easily collapse or fold down when the glass plate or disk 3 is struck by the finger, and to positively insure this result the walls of the collapsible portion 6 may be made slightly thinner than the clamping portion of the band, as clearly illustrated in Fig. 3 of the drawings. The most effective way to provide for a uniform even collapsing or folding down of the walls of the extension 6 is to provide the latter at a point directly above the key with an inwardly-extending normally-open fold 7, which is preferably of a substantial V shape, as illustrated in Figs. 6 and 7 of the drawings. The normally-open fold 7 evenly closes down on the key when the plate 3 is struck, and not only serves to gently cushion the blow of the finger, but also forms a stop-flange against which the edges of the plate 3 bear, thereby

preventing contact of the plate with the key, or the loosening of the plate from its connection with the band 4.

To provide for firmly and hermetically connecting the plate or disk 3 with the band 4 the latter may be provided at its inner upper edge with a pair of parallel inwardly-projected attaching-flanges 8, which receive therebetween the edges of the glass plate or disk 3.

The edges of the plate that fit between the flanges 8 are preferably secured or fastened in place by cement or the like; but in the form illustrated in Fig. 6 a pair of the flanges 8 is unnecessary on account of the fold 7, and the hermetical connection of the plate with the band is made by simply bending the upper end of the band over the top edges of the plate and cementing the same thereto, as indicated at 9. In Figs. 2 and 3 the flanges 8 are illustrated as projected straight from the inner sides of the band 4; but a slight modification of this construction is illustrated in Fig. 4, in which the two flanges 8 may be formed by simply splitting the upper edge of the band 4 and spreading the split portions apart, thereby forming the flanges 8, which have cemented therebetween the edges of the plate or disk 4.

A very desirable manner, from a cushion standpoint, of connecting the plate with the band is shown in Figs. 5 and 7. In these figures of the drawings the band 4 is represented as having a split upper edge forming the separate attaching-flaps 11. The flaps 11 are bent in opposite directions and cemented at their edges directly on top of the plate or disk 3, adjacent to its edges, thereby causing the upper end portion of the band to curve around the edges of the plate or disk, forming a cushion-roll 12, which partly receives the impact of the finger and acts as a pneumatic cushion therefor.

When the cushion-cap herein described is fitted on the key, an air-cushion space 13 is confined between the top of the key and the plate 3, said space accommodating the downward yield or movement of the plate and serving not only to cushion the blow, but also to cause the cap to quickly resume its normal condition by reason of the slight compression of air produced in the space 13 by the striking of the cap.

In the use of this invention it is to be observed that while the glass plate or disk 3 subserves the very important function of exposing the character on the key, the same does not detract in any degree from the cushion action of cap, because when the top of the cap is struck the walls of the extension 6 readily fold down or collapse and give all the cushion to the blow that could possibly be attained in a complete rubber cap such as heretofore patented.

While the present invention has been described in the nature of a separate attachment for type-writer keys, it is to be noted at

this point that the essential feature of the invention resides in the employment of a transparent medium or glass plate yieldingly supported above the character of the key; so therefore the novel principle of the invention is not affected by the use of said transparent medium or glass plate, either as a separate attachment or as a part of the key structure itself.

The many advantages other than those stated, of the construction herein described, will readily suggest themselves to those skilled in the art, and it will be understood that 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 as new, and desired to be secured by Letters Patent, is—

1. A cushion attachment for typewriter and similar keys consisting of a transparent medium yieldingly supported above the plane of the top of the key to form a yielding contact for the finger and to expose the character on the key, substantially as set forth.

2. A cushion attachment for typewriter and similar keys consisting of a glass plate or disk yieldingly supported above the plane of the top of the key to form a yielding contact for the finger and to expose the character on the key, substantially as set forth.

3. A cushion cap for typewriter and similar keys consisting of a band fitting over the key and having an elastic portion extended above the plane of the top of the key, and a glass plate or disk attached to said elastic extension and lying directly above the key, substantially as set forth.

4. A cushion cap for typewriter and similar keys consisting of a band detachably fitting over the key and having a collapsible portion extended above the plane of the top of the key, and a glass plate or disk attached to said collapsible extension and lying directly above the key, substantially as set forth.

5. A cushion cap for typewriter and similar keys consisting of a band detachably fitting over the key and having an elastic collapsible portion extended above the plane of the top of the key, and a glass plate or disk attached to said elastic collapsible extension and lying directly above the key, substantially as set forth.

6. A cushion cap for typewriter and similar keys consisting of an elastic band adapted to be tightly sprung over the key and having an integral collapsible portion extended above the plane of the top of the key, and a glass plate or disk hermetically fitted within the open upper end of said collapsible portion, substantially as set forth.

7. A cushion cap for typewriter and similar keys consisting of a rubber band adapted to be sprung over the key and to extend above the top of the same, and a glass plate or disk

hermetically fitted within the open upper end of the band and lying directly above the top of the key, substantially as set forth.

5 8. A cushion cap for typewriter keys consisting of a glass plate, and a soft rubber band depending from said plate and adapted to be sprung over the key to hold the plate elevated above the top of the key, whereby an air cushion space is confined between the
10 top of the key and said plate, substantially as set forth.

9. A cushion cap for typewriter keys consisting of a band adapted to fit over the key and having a collapsible portion extended
15 above the plane of the top of the key, the walls of said collapsible portion being provided with an inwardly extending normally open fold, and a glass plate secured within the open upper end of the band, above said
20 fold, substantially as set forth.

10. A cushion cap for typewriter keys consisting of an elastic band adapted to fit over the key and having an elastic collapsible portion extended above the plane of the top of
25 the key, the walls of said elastic collapsible portion being provided with an inwardly extending normally open fold, and a glass plate secured within the open upper end of the elastic band, above said fold, substantially
30 as set forth.

11. A cushion cap for typewriter keys consisting of an elastic band adapted to fit over the key and having an elastic collapsible portion extended above the plane of the top of
35 the key, the walls of said elastic collapsible portion being provided with an inwardly extending normally open V-shaped fold, and a glass plate secured within the open upper end of the elastic band above said V-shaped fold,
40 substantially as set forth.

12. A cushion cap for typewriter keys adapted to be fitted over the key and having

in its walls above the key an inwardly extending normally open collapsible fold, substantially as set forth.

13. An elastic cushion cap for typewriter keys adapted to be fitted over the key and having in its walls above the key an inwardly extending normally open collapsible V-shaped
45 fold, substantially as set forth.

14. A cushion cap for typewriter keys consisting of a glass plate adapted to lie above the plane of the top of the key and an elastic band adapted to be sprung over the key and having its upper end curved around and secured to the top edges of the glass plate to
55 form a cushion roll, substantially as set forth.

15. A cushion cap for typewriter keys consisting of a glass plate adapted to lie above the plane of the top of the key, and an elastic band adapted to be sprung over the key and having its upper edge split to form attaching flaps bent in opposite directions and secured to the top edges of the plate, said
60 band being curved around the edges of the plate to form a cushion roll, substantially as set forth.

16. The combination of a typewriter or similar key having a character thereon, and a transparent medium yielding supported
70 above said character, substantially as set forth.

17. A cushion for typewriter and similar keys comprising a yielding supported transparent contact plate arranged over the key
75 character, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

DAVID P. WOLHAUPTER.
WILLIAM N. CROMWELL.

Witnesses:

G. C. SHOEMAKER,
JOHN H. SIGGERS.