

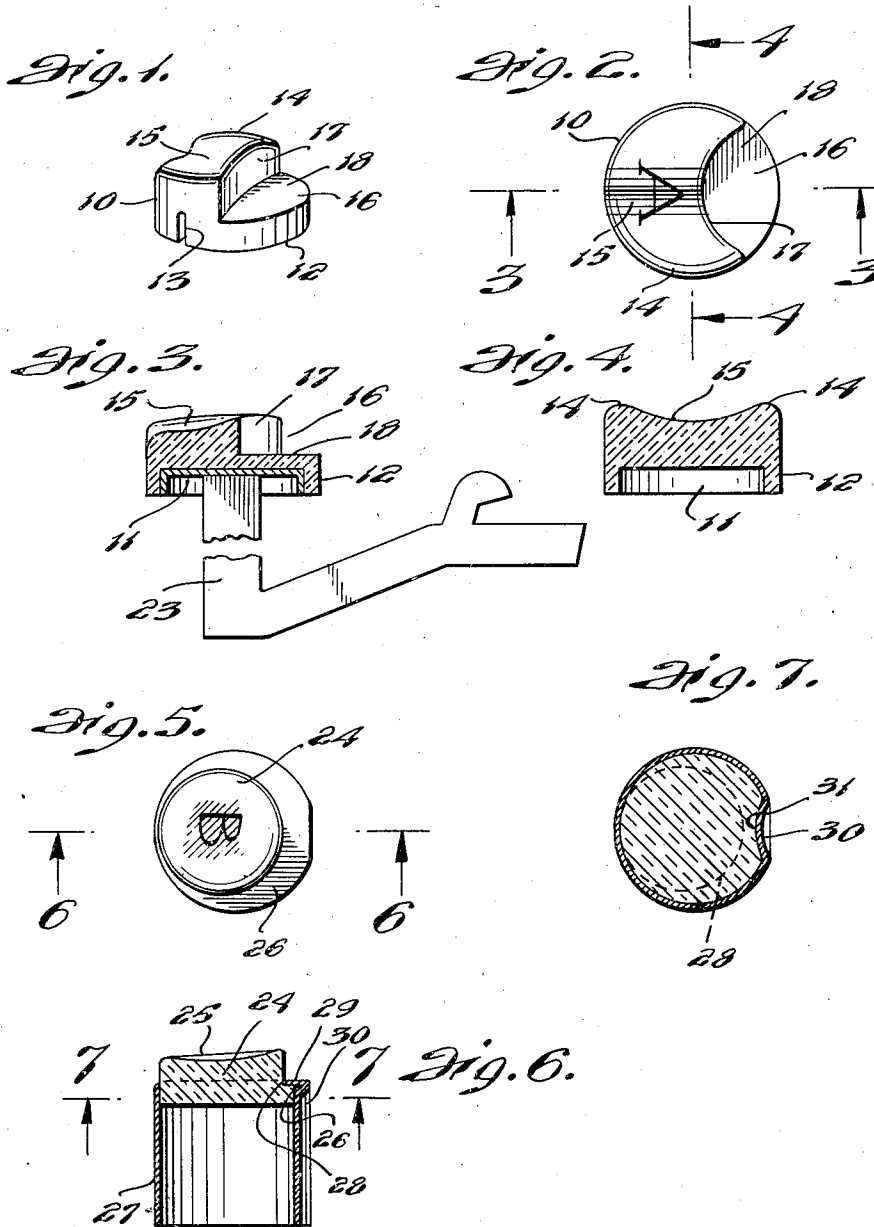
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KEY FOR KEY OPERATED MACHINES

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KEY FOR KEY OPERATED MACHINES

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1

This invention relates to keys for typewriters and the like and the same has particular reference to an improved key which is so constructed and arranged that in the normal manner of typing the same is struck by the tip of the finger with the fingernail protruding therebeyond to thereby avoid engagement of the fingernail therewith, the present application being a continuation in part of the copending application Serial No. 647,124, filed February 12, 1946.

The shape of the keys employed in key operated machines such as typewriters and the like is such that the upper surfaces of the keys are struck by the fingernails as well as the tips of the fingers even though the fingernails are maintained extremely short. In order to take up the shock or jar incident to repeated striking of the keys, resilient keys have been resorted to but such keys do not avoid the constant wear on the fingernails. The present invention, therefore, has in view the provision of a key which is shaped so that in the normal manner of striking the keys the tips of the fingers only engage the tips of the keys while the fingernails protrude beyond the keys thus avoiding contact of the same with the upper surface thereof and eliminating the constant wear on the fingernails and the necessity of maintaining the nails in a relatively short condition.

Another object of the invention is to provide a cap of said character having an upwardly extending finger tip engaging portion of lesser area in plan than the area of the cap to thereby provide a portion of reduced height rearwardly of the finger tip engaging portion.

Another object of the invention is the provision of a key cap in which the finger tip engaging portion is of reduced area and is located with its vertical axis offset forwardly with reference to the vertical axis of the cap so that when striking the top of the finger tip engaging portion the fingernail of the operator protrudes therebeyond.

Still another object of the invention is to provide a mounting for fastening the finger tip engaging portion on the keys of a typewriter and the like whereby the said portion is held against rotation and is disposed with the center thereof located forwardly of the center of the keys.

The invention further comprehends a key of the indicated character which is constructed to provide a transversely concave and forwardly inclined upper face conforming to the shape of the tip or end of the finger striking the same in the usual manner of typing.

2

With the foregoing and other objects in view reference is now made to the following specification and accompanying drawings in which the preferred embodiments of the invention are illustrated.

In the drawings:

Fig. 1 is a perspective view of a key constructed in accordance with the invention, showing the same on an enlarged scale.

Fig. 2 is a top plan view thereof.

Fig. 3 is a transverse sectional view taken approximately on line 3—3 of Fig. 2.

Fig. 4 is a transverse sectional view taken approximately on line 4—4 of Fig. 2.

Fig. 5 is a top plan view of a key illustrating a modified form of the invention, showing the same on an enlarged scale.

Fig. 6 is a vertical sectional view taken approximately on line 6—6 of Fig. 5.

Fig. 7 is a horizontal sectional view taken approximately on line 7—7 of Fig. 6.

Referring to the drawings by characters of reference, the key consists of a generally cylindrical body 10 formed with a circular recess 11 opening axially through the lower face thereof and defining an annular rim 12 which is split as at 13 to permit of radial expansion or flexing of the rim. The key is adapted to be secured on a standard key of a typewriter and the like by engagement of the standard key in the recess 11 with the split rim 12 frictionally fitting about the standard key for preventing accidental or unintentional displacement of the key therefrom.

The upper portion of the key is formed to receive the curved tip of the finger so that a broad or maximum area of the tip contacts with the upper surface thereof when striking the key in the normal manner of typing. By this construction the pressure against the key is distributed over the entire tip of the finger. For this purpose the upper surface of the key slopes forwardly and is convexly curved as at 14 adjacent the opposite lateral edges thereof and centrally of the key the said convex portions 14 merge into a concave portion 15 therebetween which extends to the rear of the key.

The key is also formed with a recess 16 which opens through the upper face and rearward peripheral portion thereof to thereby define a transversely extending arcuately recessed vertical wall 17 and a transversely extending bottom wall 18 disposed parallel with and spaced from the inner wall of the recess 11. Constructed in this manner the upper portion of the key is formed with a laterally extending wall whereby

3

the distance of the center line from the forward edge thereof to the rear of the key is relatively shorter than the distance from one side of the key to the other through the center thereof. This provides an upper surface which is relatively wider than the distance from the rear to the forward edge. By this construction the tip of the finger in the normal manner of typing will strike the key adjacent the rearward edge thereof substantially centrally between the opposite side edges so that the fingernail will project beyond the rim defined by the vertical wall 17 to thereby avoid engagement of the fingernail with the upper surface of the key and eliminating the wear and tear on the fingernail and rendering it possible to maintain the same relatively longer than is possible by the form of keys now employed. Furthermore, the upper surface of the key conforms to the general curvature of the end of the finger so that a broad portion of the finger engages the key when striking the same.

It will be understood that the said upper portion of the key provides a finger tip engaging portion which has its vertical axis located forwardly of the vertical axis of the rim 12 and which is also located forwardly of the vertical axis of a standard key of a typewriter or the like such as the key 23 shown in Fig. 3 of the drawings.

In the form of the invention illustrated in Figs. 5 to 7 inclusive of the drawings, the key similarly includes an upper portion 24 which constitutes a finger tip engaging portion and which has its vertical axis located forwardly of the vertical axis of a typewriter key or the like to which it is to be secured. In the embodiment illustrated the finger tip engaging portion 24 is of circular formation in plan and is formed with a concave upper face 25 which slopes forwardly or toward the operator. The finger tip engaging portion 24 is provided with an eccentric flange 26 extending outwardly about the bottom thereof, the flange having its greatest width rearwardly of the finger tip engaging portion 24 and decreasing in width circumferentially about the said portion toward the front.

The cap also includes a tubular metallic shell 27 which is of circular formation in horizontal sectional configuration and is provided with a circular opening 28 in the top wall 29 thereof. The opening 28 is of a size to snugly receive the finger engaging portion 24 in upwardly protruding relation therethrough and with the eccentric flange positioned against the under face of the top wall 29. The circular opening 28 is located in offset relation with reference to the vertical axis of the shell 27 so as to dispose the finger tip engaging portion 24 in offset relation with reference to the key of a typewriter on which the same is to be mounted. In order to provide means for retaining the finger tip engaging portion 24 against rotation in the shell 27, the eccentric flange 26 is provided with a vertical recess 31 in the rear vertical edge thereof while the shell is inwardly bent to provide a correspondingly shaped inwardly extending arcuate wall portion 30. The shell 27 is of a size to receive the key of a typewriter and the like which is disposed against the under side of the upper portion 24. The inwardly extending arcuate wall portion 30 of the shell functions to frictionally engage against the edge of the key of the typewriter for retaining the shell together with the upper portion 24 in position thereon.

Constructed in this manner the finger tip engaging portion 24 is so positioned with ref-

4

erence to the shell 27 that the tip of the finger of the operator will strike the upper face 25 thereof so that the fingernail of the finger engaging the key will project beyond the rearward edge thereof to thereby avoid striking engagement of the fingernail with the upper surface of the key.

It will be understood that the finger tip engaging portion of the keys may be fashioned of any desired material such as synthetic plastic and the like and may bear indicia such as indicated by the letters A and B in Figs. 2 and 5 of the drawings designating letters of the alphabet, while the shell 27 in the form shown in Figs. 5 to 7 inclusive of the drawings being formed of metal is of sufficient resiliency to retain the arcuate wall portion 30 thereof in frictional engagement with the edge of the key of a typewriter and the like on which the same is secured.

What is claimed is:

1. In a key cap for key operated machines, a body having a finger-engaging portion formed with a forwardly sloping upper face and convexly curved upper face portions adjacent the opposite lateral edges thereof with a concave central portion therebetween extending from the forward edge to the rear thereof, said body being cut away rearwardly of its transverse center line to provide a portion of reduced height rearwardly of the finger-engaging portion thereof.

2. In a key cap for key operated machines, a body having a finger-engaging portion formed with convexly curved upper face portions adjacent the opposite lateral edges thereof with a concave central portion therebetween extending from the forward edge to the rear thereof, said body being cut away rearwardly of its transverse center line to provide a portion of reduced height rearwardly of the finger-engaging portion thereof.

3. In a key cap for key operated machines, a body having a finger tip engaging portion and an eccentric flange extending peripherally outward at the bottom thereof and located with its greatest width disposed rearwardly of the finger tip engaging portion so as to provide a portion of reduced height rearwardly of said finger tip engaging portion, said flange adapted for engagement with a standard key of a machine for securing the same thereon with the finger tip engaging portion having its vertical axis located forwardly of the vertical axis of the standard key and said finger tip engaging portion having a concave upper face for receiving the tip of the finger when striking the same with the finger nail protruding therebeyond.

4. In a key cap for key operated machines, a body having a finger tip engaging portion of circular formation in plan and an eccentric flange of circular formation in plan extending peripherally outward at the bottom thereof and located with its greatest width disposed rearwardly of the finger tip engaging portion so as to provide a portion of reduced height rearwardly of said finger tip engaging portion, said flange being adapted for engagement with a standard key of said machines for securing the same thereon with the axis of said flange arranged in vertical alignment with the axis of said key and with the vertical axis of said finger tip engaging portion located forwardly of the vertical axis of said key.

5. In a key cap for key operated machines, a body having a lower portion of circular formation in plan and an upstanding finger tip engaging portion which is cut away rearwardly of its transverse center line above said lower por-

5

tion whereby said lower portion extends outward rearwardly of the finger tip engaging portion and said finger tip engaging portion having a concave upper face for receiving the tip of the finger when striking the key with the finger nail protruding rearwardly beyond said finger tip engaging portion.

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