Dec. 22, 1936. H. F. KEIL 2,065,468

KEY CONSTRUCTION

Filed Feb. 19, 1934

Fig. 1.

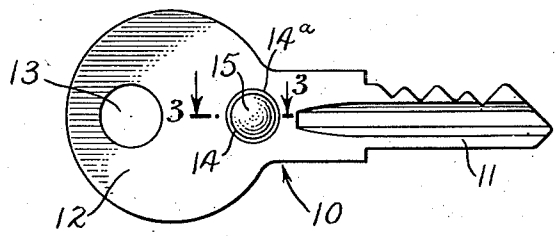


Fig. 2.

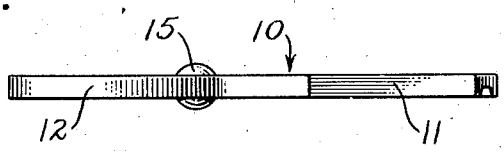


Fig. 3.

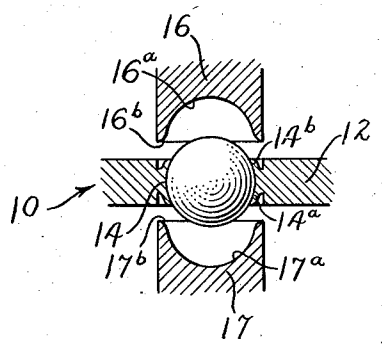
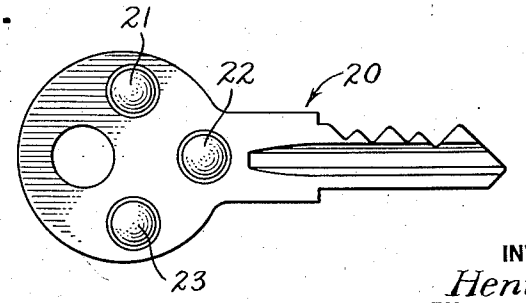


Fig. 4.



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KEY CONSTRUCTION

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3 Claims. (Cl. 40—2)

This invention relates to key construction and a method of making the same.

One of the objects of this invention is to provide a thoroughly practical key construction that will make it possible easily and quickly to identify a particular key and to provide a simple and inexpensive method of providing a distinctive or distinguishing identification of the key itself. Another object is to provide a key construction in which the identifying means may be easily varied so as to distinguish one key from another. Another object is to provide a key that makes it more convenient to handle and identify and carry a group of keys such as by a keyring, keycase, or the like. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts and in the several steps and relation and order of each of the same to one or more of the others, all as will be illustratively described herein and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is shown a preferred embodiment of my invention,

Figure 1 is a plan view of a key such as is used to control the tumblers in a barrel or cylinder type of key-controlled lock mechanism;

Figure 2 is an edge view as seen from the bottom in Figure 1;

Figure 3 is a sectional view as seen on the line 3—3 of Figure 1 but on an enlarged scale, showing also certain steps in my method, and

Figure 4 is a view like Figure 1 but showing a key having different identifying means thereon.

Similar reference characters refer to similar parts throughout the several views of the drawing.

As conducive to a clearer understanding of certain features of my invention, it may here be pointed out that it is highly inconvenient, where a plurality of keys are carried on a keyring or in a keycase, to select, particularly at night and in darkness, any one desired key and, moreover, it frequently occurs that keys, being usually flat and lying closely adjacent to one another on the keyring or in the keycase, stick together, particularly in those types of keycases where several keys are strung onto a pin or bolt-like member and the desired key is swung about the member and away from the rest of the keys, and hence out of the keycase. If the hands are soiled or sticky, foreign matter, frequently adhesive, is left on the key shanks so that when the keys are again alined back into the pocket keycase, they stick together and make it difficult to swing the desired key away from the others. Also, various expedients have been in the past attempted to make possible the ready distinguishing of one key from another, but these expedients have been crude, impractical, or expensive. One of the dominant aims of this invention is to provide a key construction and a method of making the same that will avoid such defects and deficiencies as have just been mentioned.

In Figure 1 is shown a plan view of a key generally indicated at 10 having a shank 11 which is suitably serrated, grooved, or ribbed to enter any desired lock mechanism for control of tumblers, or the like, to actuate the mechanism, and having a flat and illustratively disk-like head 12 provided with a hole 13 by which the key is strung onto a keyring, key-chain, pin, or bolt of a keycase or other key holder. The head 12 is necessarily relatively large, as is usually the case, to provide a good handle for gripping it between the thumb and finger of the hand and to rotate or move the key and lock mechanism and it thus provides a relatively large and usually smooth surface which frequently is the cause of sticking together of two or more keys.

In accordance with certain features of my invention, I stamp, punch, drill, or otherwise form any desired number of holes in the head 12, and in Figures 1, 2 and 3 I have by way of illustration shown one such hole 14. This hole, after being formed, has its side walls generally cylindrical in shape and its diameter I select to be just slightly in excess of the diameter of a ball member 15, preferably of steel and preferably hardened, so that when the ball 15 is inserted into the hole 14, it may freely rotate relative to the walls of the latter. These balls are inexpensive and are characterized by great uniformity of dimension.

Moreover, the diameter of the hole 14 and hence of the ball 15 as well is preferably materially in excess of the thickness of the head 12 of the key 10 so that, when inserted into the hole 14 (Figures 2 and 3) the ball projects beyond both planes or both faces of the head 12. As shown in Figures 2 and 3 the ball 15 projects beyond the planes of both sides or faces of the head 12.

Having inserted the ball 15 in the hole 14, I thereupon insert the assemblage between two dies 16 and 17 shaped substantially as shown in Figure 3, being recessed as at 16a and 17a, respectively, at their operative ends and thereby pro-

viding opposed or peripheral tool edges 16b and 17b of a diameter commensurate with the diameter of the hole 14, being somewhat in excess of the latter; these dies 16—17 are then forced toward one another, thereby peripherally pressing the metal of the upper and lower peripheral ends of the hole 14 inwardly toward the ball 15, forming in effect beads 14a and 14b of a diameter less than the diameter of the ball 15. The latter is thus imprisoned and preferably the pressure with which the dies 16—17 are brought together is such that the ball 15, though thus imprisoned, is, nevertheless, free to rotate.

In Figure 4 I have shown a key 20 provided with three balls 21, 22 and 23 appropriately spaced in the area of the head 12 of the key and constructed as above described in connection with Figures 1, 2 and 3. Figures 1 and 4, therefore, illustrate, how by these means, I may distinguish between two keys; putting the hand in the pocket or at night or in darkness, the fingers can readily identify the key by the number of balls and thus selection of the desired key is greatly facilitated.

Moreover, the projecting of the ball beyond the face or faces of the head 12 of the key prevents a face to face contact of adjacent keys and thus precludes the sticking together of keys in the keycase or other contrivance that is used to carry a plurality of keys. Where the ball 15 is rotatable, as in the preferred construction, the balls make possible the ready and easy sliding of one key relative to another as the selected key is swung away from the other keys and thus greater ease of handling and selection is achieved.

Moreover, the construction is thoroughly practical and as appears better from Figures 1 and 4, the ball projection or projections facilitate a more convenient and easier gripping of the key when it is actually being used. Also, the construction is inexpensive and the method may be carried out readily and inexpensively.

As many possible embodiments may be made of the mechanical features of the above invention and as the art herein described might be varied in various parts, and all without departing from the scope of the invention, it is to be understood that all matter hereinbefore set forth, or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A key or key blank having, in combination, a hole in the handle portion, said hole being of a greater diameter than the thickness of the handle portion, and a ball fitted into said hole and projecting beyond a face of the handle portion, the metal adjacent an end of the ball being burred over to prevent exit of the ball from the hole but with sufficient freedom from gripping action on the ball to rotatably support the ball in the hole.

2. A key or key blank having, in combination, a hole in the handle portion, the hole having a dimension greater than the thickness of the handle portion, a round member in said hole and projecting beyond both side faces of said handle portion, and means holding said member against exit from the hole with sufficient looseness to cause said round member to rotate and to act as an antifriction member upon relative movement between said key or key blank and an extraneous part or surface.

3. A key or key blank having, in combination, a hole in the handle portion thereof, a ball positioned in said hole and of lesser dimension than the latter so that it may rotate but of greater diameter than the thickness of the handle portion so that said ball projects to both sides of the latter, and means holding said ball in said position and relation with respect to said hole without preventing rotation of the ball relative to the key or key blank.

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