

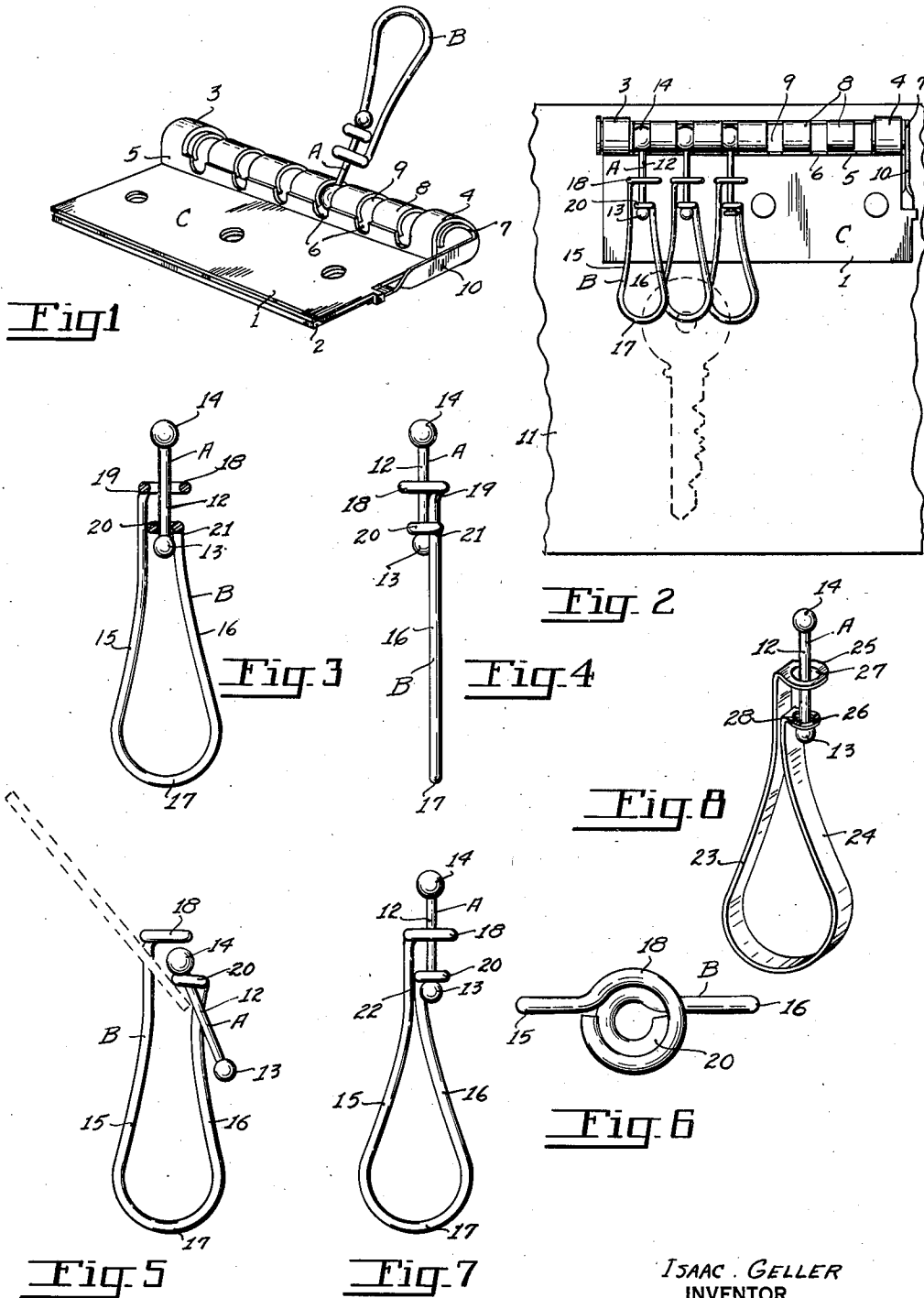
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KEY-RETAINING AND SUPPORTING MEMBER

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KEY-RETAINING AND SUPPORTING
MEMBER

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Broadly, this invention relates to key-retaining and supporting members which are removably or otherwise associated with metal plates secured to a flexible folder; and specifically, the invention is directed to key-retaining and supporting members which are capable of pivotal and swivel connection to key plates removable at will and provided with means for not only performing this function but also the additional function of preventing the accidental removal of keys once they have been strung on said key-retaining and supporting members.

A key-retaining and supporting member embodying the structural features of improvement defined by my invention is adapted for use in key cases which provide mountings or key plates possessing facilities for allowing the removal or replacement of the key-retaining and supporting members, whenever desired. For example, the key-retaining and supporting members embodying my invention may be used in association with mountings or key plates possessing the characteristics described and shown in United States Patent No. 2,145,477 granted to me January 31, 1939, or mountings or key plates as described and shown in my pending United States application, Serial No. 233,020, filed October 3, 1938. It is, of course, possible to use the holders embodying the invention with any other type of mountings or key plates which are provided with properly sized slots for receiving the key-retaining and holding members and which permit their removal and replacement, when desired.

One of the objects of the invention is to provide a key-retaining and supporting member adapted for use in conjunction with a key case provided with means for allowing a swingable and swivel connection between the key-retaining and supporting member and the key case.

As a corollary to the above object, still another object of the invention is to provide a key-retaining and supporting member directed to such structural features of improvement as will permit it to be readily removed from the key case with which it is associated and yet insure against the accidental removal of the key therefrom.

Another important object of the invention is to provide a key-retaining and supporting member which, when once it is confined within the key plates, positively prevents the key supported thereby from being removed therefrom without first removing said member from the key plates.

Still another object of the invention is to provide an article of manufacture of retaining and

supporting keys that is especially adapted for being pivotally and swivelly connected to key plates having slots therein.

Another object of the invention is to provide means for securely locking a key upon the retaining and supporting member against removal from any cause when the supporting and retaining member is anchored in swivelable and swingable connection to key plates.

A further object of the invention is to provide a key-retaining and supporting member which, though intended primarily for use as a retainer-supporter for a single key and in combination with a key case, possesses, to a limited degree, the characteristics of a key ring and thus may be used independently from the key case for the purpose of supporting and retaining more than one key.

Still another object of the invention is to provide a key-retaining and supporting member which is capable of retaining one or more keys and which permits the removal of one or more of said keys from said member with a minimum of manual manipulation of the locking means provided therefor.

A further object of the invention is to provide a key-supporting and retaining member which is neat, strong and durable, and inexpensive to manufacture and which is comparatively simple to operate.

Other objects and advantages will become apparent from the description which follows in which reference to the features of novelty inherent in the invention with relation to their utility will be made and which must be read in connection with the accompanying drawing showing a preferred form and several modified forms of the key-retaining and supporting member embodying the principles of my invention, each of which is exemplary of the principles of my invention and in which:

Figure 1 is a perspective, front view of the key plate portion of a key case, showing mounted thereon for swivelled movement, one key-retaining and supporting member embodying the principles of my invention;

Figure 2 is a front view of a fragment of a key case with a number of key-retaining and supporting members embodying the principles of my invention confined within the key plate thereof, indicating graphically their relation to each other when in an assembled position in a key case;

Figure 3 is a front elevation, partly in section, of a key-retaining and supporting member em-

bodying the principles of my invention, the same shown enlarged from the substantially normal size shown in Figures 1 and 2;

Figure 4 is a side elevation of the key-retaining and supporting member shown in Figure 3;

Figure 5 is a front elevation of the key-retaining and supporting member shown in Figures 3 and 4, graphically illustrating the position of a key, shown in dotted line, as it is being strung on the member and further showing the position of the swivel means, when the retaining and supporting member is not in swivel connection with the key plates of a key case;

Figure 6 is a top view of the key-retaining and supporting member, shown in Figure 3 to 5 inclusive, with the swivel means removed;

Figure 7 is a front elevation of a slightly modified form of the key-retaining and supporting members, shown in Figures 3 to 6 inclusive, showing the leg portions in direct contact with each other, and

Figure 8 is a perspective elevation of still another modified form of a key-retaining and supporting member embodying the principles of my invention.

For purposes of clarity and brevity the key-retaining and supporting members will be hereafter referred to as key hangers; and in the drawing, parts having the same structural characteristics will be identified by the same reference characters.

The key hanger is made of two separate members, namely, a pivotal and swivel anchor and guard and a key-retaining loop secured to said anchor and guard. In the drawing the anchor and guard is designated generally by reference character A and the key-retaining loop by reference character B. To assist in pointing out the utility and functions of the invention and to point out its relation to a key case, there is shown in Figures 1 and 2 a key plate assembly, generally designated by reference character C and embodying the principles of my invention disclosed in my pending United States application Serial No. 233,020, filed October 3, 1938. Described generally, the key plate assembly C consists of a top plate 1 and a bottom plate 2 which are joined together by arcuately shaped end members 3 and 4. Plate 1 is provided with a wall 5 extending upwardly at right angles thereto which has a number of cutouts 6 therein. An arcuately shaped member 7, having a plurality of spaced fingers 8 formed therein also arcuate in contour, is revolvably confined within the area circumscribed by the arcuately shaped end members 3 and 4 and wall 5 so that the spaces formed between the fingers, as shown at 9, coincide with the cutouts 6 in wall 5 and form curved slots into which a portion of the anchor and guard member A fits as will shortly be pointed out. An arm 10 is formed at one end of member 7 which, when locked against plate 1, as shown in Figure 1, prevents the exposure of the ends of fingers 8 and consequently maintains the open ends of slots 9 covered. Key plate C may be attached in any desirable manner to a flexible leather or fabric cover 11, a fragment of which is shown in Figure 2. The position assumed by the key hangers when confined within the slots 9 of the key plate C is best shown in Figure 2.

Other key-hanger supporting means may be provided for obtaining the same result. Consequently, the invention is not limited to a key plate such as described, but may be employed in any other type of key plate which will permit the

removal of the key hanger assemblies hereinafter to be described in detail.

The key hanger embodying the preferred form of the invention has its anchor and guard member A formed of a shank or cylindrical bar 12. A bead or spherical head 13 is formed at or is secured to one end of the bar and another bead or spherical head 14 is formed at or is secured to the other end of the bar. The anchor and guard A thus formed suggests the shape of the well-known gymnastic dumb-bell. However, spherical head 13 is smaller than spherical head 14 and the function and utility of each is different as will shortly appear. While in the drawing there is shown a spherical head 13, it is possible to employ a cylindrical flat top member to perform the same function.

The key-retaining loop member B is made of a single piece of metal, flat, circular or semi-circular in cross section, bent to form an elongated loop which is bounded by two sides or legs 15 and 16 converging toward each other to form a restricted passage through which a key must pass and which merge to form a curved bottom 17. While the drawing shows the loop B formed into a tear drop shape, it may be stirrup shaped or formed into any shape which fashion or the whim of the manufacturer may dictate without any loss of utility. The metal employed possesses springlike qualities so that the legs are urged at all times toward each other and require some force to pull them apart in order to permit passage of a key therebetween as shown in Figure 5.

An eyelet 18 is formed at substantially right angles to and at the terminus of leg 15, as shown at 19, and an eyelet 20 is formed at substantially right angles to and at the terminus of leg 16, as shown at 21, by bending the terminals of the respective legs into closed loops. These eyelets are normally maintained in direct parallel alignment with each other so that the eyelet 18 and eyelet 20 are parallel to each other but in different planes and are in substantial registry but spaced apart a distance slightly greater than the thickness of the average key head to give clearance thereto. The relationship of the eyelets to each other is best shown in Figure 6.

The anchor and guard member A is slidably positioned and rotatably secured to the key-retaining loop member B. This is accomplished by making the diameter of eyelet 20 slightly greater than the diameter of the bar 12 but slightly less than the diameter of spherical heads 13 and 14. On the other hand, the diameter of eyelet 18 is not only greater than the diameter of bar 12, but also greater than the diameter of spherical head 14, therefore permitting the spherical head 14 and bar to enter and pass beyond the eyelet 18 while the eyelet 20 restricts the movement of the anchor and guard member A to the length of the bar. The length of the bar 12 is such that when inserted into the eyelet 18 the spherical head 14 extends only a short distance beyond the eyelet.

It at once becomes obvious that, unless the spherical head 14 is supported by some means in the positions shown in Figures 3, 4, 7 and 8, as by a key plate assembly in the manner shown in Figure 2, it will be forced by gravity to assume the position shown in Figure 5. In constructing the key hanger assembly embodying the invention, the spherical head 14 will be made so that its diameter will be greater than the width of the slots provided in the key plate C such as slots 9, 76

and the bar 12 will be made so that its thickness will be less than the width of these slots. It will then be possible to place the key hanger assembly into the pendant position shown in Figure 2.

5 When it is desired to string a key upon the key-retaining loop B, the anchor and guard member A is positioned as shown in Figure 5 and the eyelet 18 is inserted into the opening in the key head and the leg 16 is slightly sprung so that the key assumes the position shown in Figure 5. 10 When the key is thus strung and the leg 16 is allowed to assume the position shown in Figures 3 and 4, not only does the normal urge of the legs toward each other prevent the key from being accidentally removed from the loop member B, but the position of eyelet 20 is an added 15 barricade to such removal. Furthermore, once the bar 12 is inserted into eyelet 18, a positive guard against removal is provided.

20 By constructing the anchor and guard A as described, it will be possible for the key hanger assembly to hang loosely in a key case with the spherical head positioned in slot 9 to form a ball and socket joint for unrestricted manipulation of the key hung thereon, and for the spherical head 14 to revolve on its own axis while the key-retaining loop B may rotate at will with bar 25 12 as its axis.

Such construction provides extreme freedom 30 of movement for each key hanger without any loss of security for the keys themselves. When a key is selected it is swung outwardly on its pivotal connection with the key plate and the key may be revolved in a lock without any manipulation of the case. It should be noted that 35 not only is it possible to pivot and revolve the assembly with respect to the case, but also that the loop is capable of turning. Thus a very flexible working connection is provided for the loop and also for the key on the loop, affording 40 convenience and natural use and manipulation of the key in practically any direction and manner desired. In addition to the above, the removal of the hanger from its respective slot 9 does not 45 lessen the security of the key which is retained on the key-supporting loop B.

By a slight twist of the eyelet 20 so that it will not contact the leg 15, it is possible to place leg 16 in direct contact with leg 15 as shown at 22 in 50 Figure 7 thereby increasing the degree of convergency of the legs. Except for this slight rearrangement of the position of eyelet 20 without, of course, changing its alignment and registry with eyelet 18, the key hanger shown in Figure 7 55 possesses the same structural characteristics and functions in substantially the same manner as the key hangers shown in Figures 1 to 6 inclusive.

Should it be found expedient to employ a flat 60 springlike metal as illustrated in Figure 8 for the manufacture of key hangers embodying the invention, this metal could be formed to assume the same general contours of the key-retaining loop B. However, its legs 23 and 24 are slightly 65 enlarged at their extremities and are bent at right angles to form a pair of ears 25 and 26 respectively, spaced apart but in parallel relation to each other. An opening 27 is formed in ear 25 and an opening 28 is formed in ear 26. While 70 these openings are in direct alignment with each other, they possess different diameters, and their respective diameters conform substantially to the diameters of eyelets 18 and 20 of the key hangers shown in Figures 1 to 7 inclusive. The 75 anchor and guard member A is similarly secured

to the modified key-supporting loop B shown in Figure 8 and operates in a manner in every respect identical to its operation when secured to the key-supporting loop B shown in Figures 1 to 7 inclusive.

The invention has been described in connection with a number of illustrative embodiments possessing definite form and referring to definite materials, methods of preparation thereof and use. To these details of disclosure, the invention, 10 of course, is not limited, since what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims.

I claim:

1. A key-retaining and supporting member to 15 be used with a well-known type of key plate comprising a member made of a metal possessing inherent spring qualities bent upon itself to form an elongated, substantially over-shaped loop defined by a curved bottom and a pair of legs extending from said bottom in coinciding relation, 20 said legs gradually approaching each other substantially to convergence adjacent their termini, and an anchor and guard member slidably associated with the termini of said legs. 25

2. A key-retaining and supporting member to be used with any well-known type of key plate comprising a member made of a metal possessing inherent spring qualities bent upon itself to form 30 an elongated, substantially oval-shaped loop defined by a curved bottom and a pair of legs extending from said bottom in coinciding relation and gradually approaching each other substantially to convergence adjacent their termini, an anchor and guard member slidably associated 35 with said legs and means formed at the termini of said legs with which the anchor and guard member is slidably associated.

3. A key-retaining and supporting member to be used with any well-known type of key plate 40 comprising a metallic member possessing inherent spring qualities forming a substantially elongated oval loop fabricated to normally urge by its inherent spring qualities its sides toward each other at all times and to thus maintain a closed connection 45 therebetween, a dumb-bell shaped shank associated with said loop, and means formed at the terminals of the sides of the loop to permit the shank to move with respect thereto.

4. A key-retaining and supporting member 50 adapted to be pivotally and swivelly suspended in a key plate of the class described, forming a part of a key case, comprising a metallic spring member bent to form a curved bottom, leg portions formed as a continuation of said curved 55 bottom to produce an elongated, substantially oval-shaped loop, said legs gradually converging toward each other, said elongated loop, as a result of the inherent springiness of the metallic member, adapted to hold said two legs in close 60 proximity to each other, means secured to the ends of said legs to form a pair of eyelets in spaced parallel relation to each other and possessing diameters of different lengths, and means slidably 65 positioned within said eyelets.

5. A device as claimed in claim 4 wherein the means slidably positioned within the eyelets comprises a cylindrical bar and a pair of spherical heads disposed at its ends whereby the movement of the bar with respect to said eyelets is limited. 70

6. A key-retaining and supporting member adapted to be pivotally and swivelly suspended in a key plate of the class described, forming a part of a key case, comprising a metallic spring member bent to form leg portions joined to a curved 75

bottom to produce an elongated substantially oval-shaped loop, said legs gradually approaching toward each other, and means secured to the ends of said legs to form a pair of eyelets possessing different diameters but in coinciding alignment with each other, and a dumb-bell shaped member slidable within said eyelets but limited in its movement by the smaller of the two eyelets, said member adapted to lock the two legs together, when confined in the larger of the two eyelets.

7. A key-retaining and supporting member comprising a member made from a metal possessing inherent springlike qualities bent upon itself to form an elongated substantially oval-shaped loop formed with an arcuately shaped bottom and a pair of legs extending from said bottom in coinciding converging relation, a pair of eyelets formed in the terminals of said legs and means slidably confined within one eyelet and adapted to enter the other eyelet at will, said means capable for operation in a ball and socket joint.

8. A key-retaining and supporting member comprising a closed loop made of spring metal defined by substantially converging legs, an eyelet formed at the terminus of one of the legs, another eyelet formed at the terminus of the other leg but having a smaller diameter, both of said eyelets being disposed at right angles to their respective legs and in parallel spaced relation to each other, and an anchor and guard member slidably disposed within said eyelets, said anchor and guard comprising a bar and a pair of spherical heads secured to each end of said bar both of said heads being longer in diameter than the diameter of the smaller of the two eyelets and the larger of the two spherical heads adapted for work in a ball and socket joint.

9. A key-retaining and supporting member comprising, in combination, a cylindrical bar, a pair of heads integrally formed at each end of said bar, one of said heads possessing a larger

diameter, and a pair of eyelets, one larger than the other, a leg diverging from each of said eyelets and joined together by a curved bottom portion all made of a single piece of metallic spring wire bent to form an elongated loop, said cylindrical bar operatively confined within the smaller of the eyelets but adapted to be inserted into the larger of the eyelets when desired with the larger of the heads adapted to act as a ball for a ball and socket joint.

10. In a key case of the type wherein key-retaining and supporting members are mounted independently of each other and which are removable at will from the key case, the combination of a key-retaining and supporting member made of a spring-like metal formed into a loop defined by a curved bottom and substantially converging legs extending therefrom, an eyelet formed at the terminus of and at right angles to each of the legs, said eyelets being in spaced parallel alignment with each other and the bottom one of the two having a smaller diameter, and the space between the two eyelets being of a height slightly greater than the thickness of the regular type of key to permit sufficient freedom for stringing the key on the loop, an anchor and guard member associated with the loop member and defined by a cylindrical bar and a pair of spherical heads secured to its ends, one of said heads being larger than the other, said larger head adapted to enter and leave the larger of the two eyelets at will when not acting as a ball in a ball and socket joint but otherwise acting together with the smaller of the two spherical heads to limit the vertical movement of the cylindrical bar with respect to said loop member, said bar, when inserted into the larger of the two eyelets, locking the two legs together and barricading the space between said eyelets when the larger of the two heads is connected to the key case and forms a ball and socket joint therewith.

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