March 21, 1967 P. C. SHEPHERD 3,309,905

KEY PLATE

Filed Nov. 20, 1964

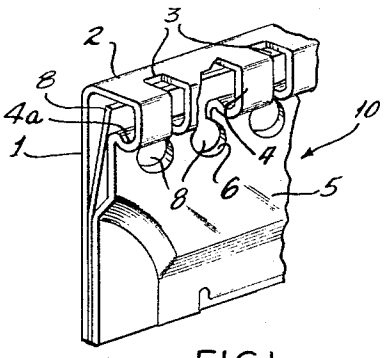


FIG. 1

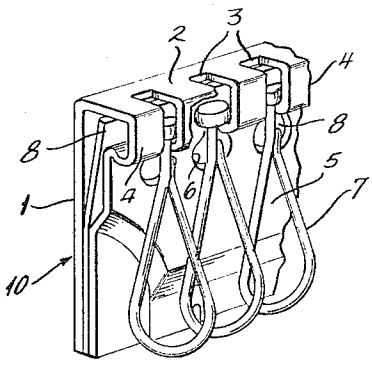


FIG. 2

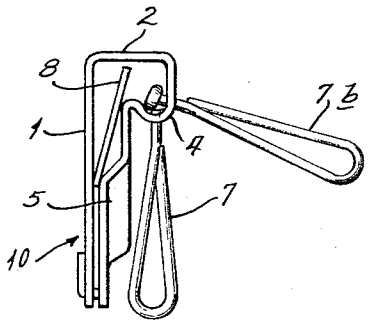


FIG. 3

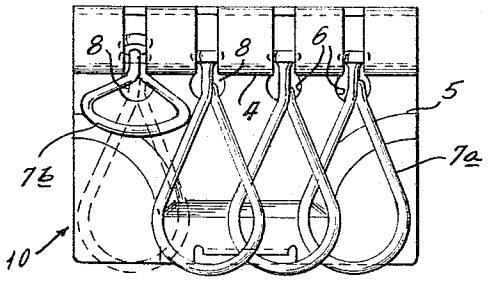


FIG. 4

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KEY PLATE

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The present invention relates to key plates and more particularly to front entry key plates in which the key loop is installed or removed by depressing a spring plate toward the rear of the key plate for access to the key loop support. More specifically, the invention relates to front entry key plates having a spring member for closing the barrel entry aperture to permit retention of the key loop unless the biasing force of the spring is overcome and having a construction to prevent the key loop and key attached thereto from exerting biasing force against the key plate and key spring when installed in the normal position.

Various retainer means have utilized spring biasing force to prevent key loops from accidentally being removed from the key plate. In these prior devices it is normally necessary to overcome some spring bias force to remove the key loop. However, such key plates have been constructed where the key loop is maintained in the key plate by force of the biasing spring alone. In such constructions the springs are subject to taking a set or becoming soft and thus permitting a key attached to a key loop to fall free from the key plate. Typically, such a construction includes a key plate or frame of a single piece of sheet metal provided with apertures which allow the head of the key hook or loop to pass into a cavity and includes spring members to restrict full access of the aperture opening. Such spring members cooperating with the apertures retain the key loops in the cavity. Thus, any time the spring member becomes weakened from fatigue or other causes, the key loops are free to fall out of the key plate cavity.

The present invention avoids problems encountered in the prior art with spring members taking a set or becoming weak. In the construction of the present invention, the key plate barrel is provided with a trough or depressed area which supports the loops and keys thereon hanging inside the key case completely free of inner aperture restricting springs. The entry opening or aperture is on the inward side of the trough and the spring member restricts full access to the aperture. In this arrangement should the spring members become set or weakened, the key loops will not fall free and out through the entry opening. Of course, whenever it is desired to remove a key loop or insert a new loop, it is only necessary to lift the loop out of the trough and inward toward the aperture while depressing the spring member and withdrawing the key loop.

It is therefore an object of the invention to provide a key plate having a novel front entry arrangement in which the keys on key loops are retained within the key plate should the aperture restricting spring member fail due to fatigue or some other cause.

It is another object of the invention to provide a front entry key plate having a spring member which restricts full access of the key loop to the entry aperture in the key plate and includes a key loop rest section from which the key loop must be withdrawn prior to removal from the key plate.

A further object of the invention is to provide a novel front entry key plate in which full access to the entry aperture is restricted by a spring member, and the key plate barrel defines a trough portion having an inner edge separating such portion from the entry apertures.

These and other objects and advantages of the invention will become apparent to those skilled in the art when taken in conjunction with the appended claims and the drawings wherein:

FIG. 1 is a fragmentary perspective view depicting the key plate with key loops removed;

FIG. 2 is a fragmentary view as in FIG. 1 with the key loop seated in the trough of the key plate;

FIG. 3 is an end view illustrating the barrel arrangement of the key plate; and

FIG. 4 depicts a front view of the key plate and key loops therein with some in a partly removed position.

Referring now to the drawings and in particular FIGS. 1 and 2, the invention includes key plate **10** having a base wall **1** and a barrel portion **2**. Barrel portion **2** defines a slot **3**, and is inwardly reverse folded along the lower wall to form support trough **4** and front plate **5**. The trough **4** includes a concave face **4***a* facing toward the barrel **2** and overlying a portion of the front plate **5**. The front plate **5** defines entry apertures **6** for placing key loops **7** within the cavity defined by barrel **2**. A spring member **8** is attached between plate **5** and base **1**, and projects into barrel **2** resiliently biasing against aperture **6** near the rearward edge of trough **5**, thus limiting access to apertures **6**. Referring to FIGS. 3 and 4 key loop **7** is shown seated in trough **4** supported by the relatively narrow slot **3**. Thus, it will be observed that normally supported in a suitable key case, key plate **10** maintains key loop **7** in trough **4** and prevents key loop **7** from falling out of aperture **6** should spring member **8** fail under fatigue or from taking a set. In FIG. 4 it can be seen that the head of key loop **7** is larger than the slot as depicted by the position of key loop **7***a* seated in trough **4**. Likewise, loop **7***b* which is positioned in aperture **6** for removal can be seen with the head smaller than entry aperture **6**.

From the foregoing it will be observed that key plate **10** affords a key loop trough which does not depend on any spring means retaining the key loops in the trough. Since the spring member is used to prevent removal of a loop through the respective entry aperture and since the key loop is seated free from the spring member, the spring member is not subjected to a force of a key and key loop being supported partly by the spring member. Hence, it will be observed that only when it is necessary to remove a key loop or insert a key loop is there any force applied to the spring member. Such construction substantially lessens fatiguing of the spring member.

Thus, the invention disclosed herein affords a unique front entry key plate which supports the key loops in slots free of the spring member, yet allows ready removal or insertion of key loops through an aperture by depressing the spring member toward the base of the key plate.

It will be appreciated that various changes and modifications to the invention will be readily apparent to those skilled in the art and such changes and modifications which employ the inventive features are deemed to be within the scope and spirit of the invention which is limited only as necessitated by the scope of the appended claim.

What is claimed is:

A key plate comprising a base portion for attachment to a support body, a barrel portion connected to the base

portion, a front plate connected to the barrel and to the base portion, a trough formed in the barrel adjacent to its connection to the front plate, said trough formed with a concave face facing the barrel and overlying a portion of the front plate, key retainer slots formed in the barrel and the trough, front entry key retainer openings formed in the front plate and communicating with the slots in the trough and barrel, said openings being greater in size than the slots to admit the head of a key retainer therethrough, said key retainer head being larger than the slots, and a latch spring positioned between the front plate and the base wall and extending into the barrel adjacent to the front entry key retainer openings, said latch spring being biased against the underside of the front plate, the trough being sized to accommodate the head of the key retainer so that the key retainer is retained in the trough and is not

lost from the key plate if the spring latch becomes inoperative.

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