This invention relates to a carrying case, more particularly for keys, such as are commonly in use for the ignition locks and doors of automobiles and for doors generally in houses, apartments and office buildings.

A further object of the invention is to provide a strong, rugged, and durable key holder of the character described which shall comprise a minimum of simple parts, which will have the advantages of easy manipulation, yet practical and efficient use.

Other objects and advantages of the present invention will be readily apparent from the following description, taken together with the accompanying drawings in which:

Figure 1 is a top plan view of the key-carrying case, the present invention, parts being broken away for clearness of description;

Figure 2 is a cross section taken on the line 2—2 of Fig. 1 looking in the direction of the arrows and showing one key in extended position and one key in retracted position;

Figure 3 is a fragmentary cross section taken on the line 3—3 of Fig. 1 looking in the direction of the arrows;

Figure 4 is a plan view, somewhat reduced, of the key-carrying clip of the present invention showing the clip blank in the flat;

Figure 5 is a perspective view of the key-carrying clip of the present invention, illustrating the bending of the clip to secure the key;

Figure 6 is a cross-section of a modified form of a portion of the partition plate and cover members of the present invention;

Figure 7 is a fragmentary cross sectional view taken on the line 7—7 of Fig. 1 looking in the direction of the arrows, and showing the manner in which the pin of the release mechanism is secured to the cover members; and

Figure 8 is an enlarged view of the right hand portion of Figure 2.

Referring in detail to the illustrative embodiment shown in the drawings, the numeral 10 indicates the key-carrying case proper which may be made of molded metal, plastic, leather or any other suitable rigid material, which case comprises identical cover members 11 and 12, which cover members are made of equal size. Each end of each cover member is preferably offset as at 13 to provide a pair of shoulders for a purpose presently described. The transverse end of the edges of the cover members are longitudinally shouldered or dovetailed as shown at 14, which shoulders are angled acutely with respect to the adjacent edge of the cover member from the point 15 to the offset 13. An elongated slide clamp 16, having one closed end is then slid over the shoulders 14 so that the open end of said clamp will then snugly abut the offset 13 and the exterior surface of the closed end thereof will be flush with the edge of the case through which the keys are ejected. The inside abutting section 17 of the clamp 16 is thicker at its closed end as at 15 than it is at its open end which abuts the offset 13, so that when the clamp 16 is slid into position as shown in Fig. 1, it will fit snugly therein, and a wedging action will be applied at the point 15.

Interiorly, the cover members are evenly divided longitudinally by means of a partition plate 18 which is disposed parallel with the sides of the case having the greatest surface area, and is firmly held between the two cover members with a force fit into a slot 19 which is cut in the interior of the cover members. The interior of the case is divided into compartments formed by integral partitions 20 carried by the cover members. It will be understood that these compartments are formed by the juncture of the integral partitions 20 with the partition member 18.

A key-carrying clip is then formed from a flat stamping of metal such as 21 in the form shown in Fig. 4. The clip 21 is cut away in the form shown at 22 to provide an opening for the shank of a key. In the stamping operation above referred to, depressions 23 are stamped into the clip blank 21 for a purpose presently described. The blank is also scored for easy bending, as shown in dotted lines 24, 25, 26, and 27. Further openings 28 and 29 are also stamped therein, also for a purpose presently described. The key carrying clip blank 21 is then bent (dotted lines 24, 28, 26, and 27) to the position shown in Fig. 5. A strip of rubber 30 or some other resilient material is then snugly applied and adhered to the interior of the key-carrying blank as thus formed, one end of the strip abutting the upturned shoulders 31 and the other end 32 thereof ending at the depressed portions 23. The rubber strip is then cut away as at 32a to coincide with the opening 22 of the clip. A shank of a key 33 is then inserted through the opening 22 of the clip so that the head 34 of the key will be firmly held between the folded over portions of the rubber strip 30. The key clip 21 is then further bent upon itself until the ears 35 pass through the slots 29 and the shoulders 36 of the ears 35 abut the under sides of the depressed portions 23. The ears 35 are then bent at right angles to the upturned shoulders 31 in a plane parallel to the plane of the key. The tabs 37 are then bent downwardly until they firmly abut the exterior surface of the upturned shoulders 31. In order to remove the key from the clip it is necessary to repeat the above operation in reverse. It will thus be seen that the key is firmly clamped rigidly into position by means of the pressure applied by the bending action and the insertion of the resilient rubber strip 30 as hereinabove described.

The clip is thus adapted to slide freely transversely of the case in one of the compartments.
or housings formed by the junction of the partition plate 18 and the integral partitions 20. In addition to the integral partitions 20, the cover members also advantageously carry integral members 35 parallel to the integral partitions 20. A flat leaf spring 39 suitably made of S.S. or other material of high tensile strength is folded upon itself in zig-zag form and placed adjacent the integral partition 20 as shown in Fig. 1. One end of the spring 39 is bent around one side of the member 38 and is then snubly grommeted into the member 38 as shown at 40. The other end 41 of the spring 39 abuts the tab 37 of the key clip but is not fastened thereto.

It is contemplated that each key clip 21 in the case will have two springs 39 therefor as shown in Fig. 1. It will thus be seen that the key clip 21 carrying its key will be urged by means of the uninhibited action of the springs 39 away from the longitudinal side 42 of the case 10.

Above each individual compartment or housing formed by the juncture of the partition member 18 and the integral partition member 20 the partition member 10 is traversely cut away as at 43 to accommodate the pivot bar 44. The under side of the pivot bar 44 slopes decreasingly from its center as at 45 as shown in Fig. 2 to provide a fulcrum. The bar 44 is secured to the cover members 10 and 11 by means of the pin 46, which pin is tightly forced through the bar 44 at its fulcrum. The protruding ends of the pin 46 are initially laid in a depression 47 in the cover member. After the pin, carrying the bar 44 has been inserted in the depression 47, a sufficient amount of plastic or other material is flowed, swaged or upset, depending upon the type of material used for the case, over the pin into the depression to entirely fill the depression 47. Thus the pin carrying the bar 44 is firmly, permanently, and loosely secured in its proper position.

One end of the bar 44 in this instance, the end 43 thereof nearest the edge 42 of the case 10 is continued at right angles upon itself and then again turned at right angles in the direction of the edge of the case opposite the edge 43 terminating in an upstanding dog 49. The dog 49 is angularly beveled as at 50. The under face 51 of the other end of the bar 44 is desirably notched or toothed as clearly shown at 52, Fig. 2. A leaf spring 53 is passed entirely around the partition member 10 so that each end 54 thereof rests beneath the angular lower face of the end 45 of the bar 44.

As already hereinbefore stated, a modification of the partition members and cover portions are shown in Fig. 6. In this instance, however, the partition member 18 is divided into partition members 18a and 18b, each partition member carrying the integral upstanding members 29a, which desirably may be in the form of replicate folds. In this exemplification, the cover members 11 and 12 are hollowed as at 100 to afford a snug fit. It has been found in practice that partition members formed in this manner will permit the removal of the movable parts from one side of the case when it is desired to carry not more than three keys therein for example.

So constructed and arranged, a plurality of keys may be securely held and carried within a case as here exemplified, such case affording ready selectivity of the keys. In practice, all of the keys are normally in retracted position as shown at 55 in Fig. 1 and 56 in Fig. 2. In retracted position the dog 49 of the bar 44 extends through the slot 28 of the key-carrying clip 21 and is there held by pressure of the spring 53. To release a key to extended position, the operator presses the end 48 of the bar 44 which will force the dog 49 out of the slot 28. As soon as the dog 49 has passed out of the slot 28, the pressure exerted by the springs 39 against the clip 21 will force the clip and with it its key to the position shown at 57 (Figs. 1 and 2) thrusting the shank of the key through the opening 58.

When the pressure is released on the end 48 of the bar 44, the spring 53 will again urge the end 48 of the bar 44 upwardly from the partition member 10 as shown dotted lines in Fig. 2, and by means of the fulcrum action already described, the end 51 of the bar 44 will again move toward the partition member 10 until the notches 52 come into contact with the clip 21. The clip 21 is advantageously knurled or beveled as at 59 to enhance the frictional gripping action. While in this position the key may be used for the purpose intended.

When it is desired to retract a key, manual longitudinal pressure may be exerted upon its end 48 until the end 49 is free of the edge 42 of the case. Since keys for different uses are necessarily of different lengths, the opening 58 of the case is further enlarged as at 51 to permit entry of a finger thereinto. The pressure exerted by the finger on the end 46 of the key in the retracting action will bring the edge 42 of the clip into contact with the bevelled edge 50 of the dog 49 and will thus again automatically bring the dog upwardly into the slot 28 into locking position.

It will be understood that a key case of this type may be constructed for any given number of keys and the present invention is not limited to the specific number of keys and key compartments or housings here shown.

Such changes may be made as fall within the scope of the following claim without departing from the invention.

Having described the invention, what is claimed is:

A key case comprising top and bottom cover portions secured together forming an enclosure, the cover portions having an aperture through which the shank of a key may extend, a clip for gripping the head of a key slidably in said enclosure to projected and retracted positions, the exterior of said clip having a knurled portion, spring means for biasing said clip toward projected position, a bar pivotally intermediate its ends in an aperture of one of the cover portions, said bar having a hooked end to engage in an aperture in said clip to hold the clip in retracted position, the opposite end of said bar having a knurled portion for engagement with the knurled portion of said clip when in projected position, and a spring biasing said pivotal bar urging the hooked end toward latching position and said knurled portion on the opposite end into engagement with the knurled portion on said clip when said clip is projected.

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