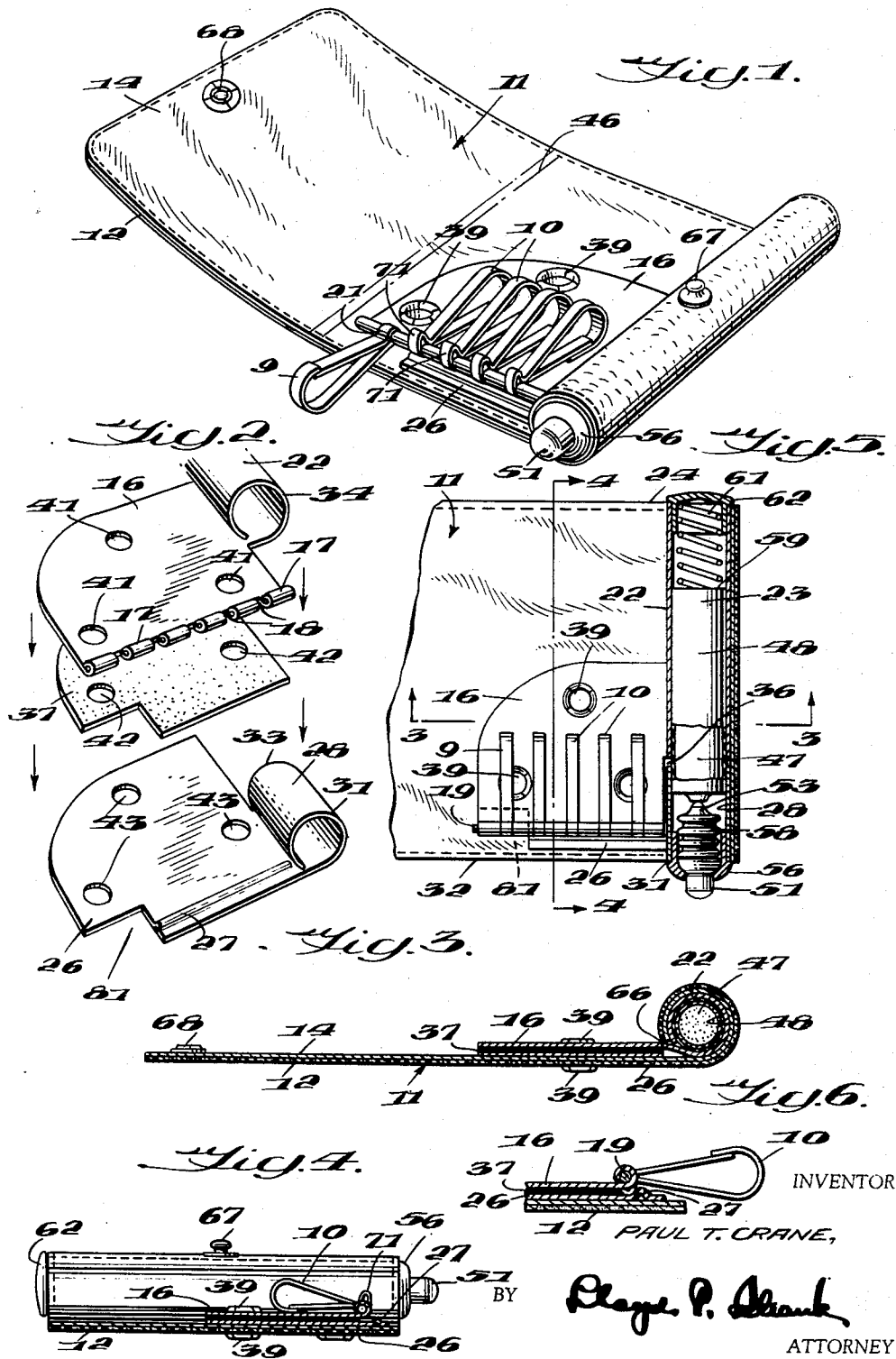


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P. T. CRANE  
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## UNITED STATES PATENT OFFICE

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## ILLUMINATED KEY CASE

Paul T. Crane, New York, N. Y.

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The present invention relates to a device for holding a plurality of keys in a loosely assembled relationship so that any one of the keys may be selected and moved to a position outside the case for operating a lock. The invention further pertains to an electric lamp mounted on the key case with the lamp bulb being adapted to be energized when one of the key holding clasps is moved to a position outside the case.

An object of the invention is to provide a battery and lamp bulb in association with a key case so that when one of the clasps holding one key is moved to a position outside the case with the key in a position to operate a lock an electric circuit is completed to energize the lamp bulb which may then be used to illuminate the key hole in which the key is to be inserted.

Another object of the invention is to mount a battery supplied lamp on a key case which includes two electrical conducting elements insulated from each other with one element supporting key clasps which serve as switch members for completing an electrical circuit between the conducting elements with portions of the conducting elements forming aligned tubular elements which provide a housing for the battery.

A more specific object of the invention resides in providing a resilient lug on a key clasp which is adapted to engage a rib carried by another part of the key case structure so that the key clasp will be maintained in an extended position bridging an electric circuit for supplying current to the lamp bulb.

Other objects and features of the invention will be apparent as the present disclosure proceeds and upon consideration of the accompanying drawing and the following detailed description wherein an exemplary embodiment of the invention is disclosed.

In the drawing:

Fig. 1 is a perspective view of a key case and electric lamp organization exhibiting the invention and showing a flap of the key case in the open position.

Fig. 2 is a fragmentary exploded perspective view of the parts for mounting the key clasps which also form a housing for the battery.

Fig. 3 is a sectional view taken on the line 3-3 of Fig. 5.

Fig. 4 is a sectional view taken on the line 4-4 of Fig. 5.

Fig. 5 is a fragmentary plan view of a portion of the key case with the battery housing shown in section.

Fig. 6 is a fragmentary sectional view showing one of the key clasps in the extended position.

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The present invention is directed to a device for automatically energizing a lamp bulb when a clasp holding one or more keys is moved to position a key outside the key case. The clasp serves as a switch and the lamp bulb is lighted when the key clasp is in the extended position. The lamp is so arranged as to direct its rays in the same general direction as the selected key and may be used to illuminate a key hole in which the key is to be inserted. The general organization and structural elements of a device embodying such features is illustrated in the drawing wherein 11 represents a key case which includes a plurality of key holding clasps 9 and 10. A flexible sheet is provided which is adapted to be folded over and cover the clasps 9 and 10. The flexible sheet is generally rectangular shaped and a flap portion thereof is of such length as to overlie the key clasps in a closed position and to maintain the key clasps within the case. The flexible sheet may be formed of a two-ply construction having an outer layer 12 of leather or the like and a fabric liner 14 is stitched to the facing sheet 12 around the perimeter thereof, as shown in dotted lines in Fig. 1. A portion of the flexible sheet material is adapted to embrace the flashlight housing for the battery as hereinafter described and to secure the case to the lamp structure and at the same time to provide a pleasing external appearance for the assembly.

A conducting member in the form of a metal plate 16 is provided within the key case. The plate 16 is provided at one edge with a plurality of loops 17 spaced from each other as shown in Fig. 2. The loops 17 provide means for mounting the key clasps 9 and 10 so that any one of the clasps may be turned from the position shown in Fig. 5 to a position outside the key case. It is for this purpose that the clasps are secured in notches 18 between the loops 17 by means of a pin 19. The plate 16 is flat throughout the portion lying in the key case proper but this plate has an integral part 22 (Fig. 2) which is bent in cylindrical form so as to form a tubular portion of a housing for a dry cell battery 23 of a conventional type. One end of the tubular part 22 extends to a position flush with an edge 24 of the flexible sheet which forms the key case.

Another plate 26 of electrically conductive material is provided which has a contour similar to the plate 16. The plate 26 is provided with a rib 27 which is raised above the upper face of the plate 26 and extends along the edge thereof. The rib 27 may be formed by upsetting the sheet material forming the plate 26. The plate 26 carries an integral extension 28 (Fig. 2) which

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is shaped in cylindrical form and provides another part of the housing for the battery of the flashlight assembly. One end 31 of the tubular portion 28 terminates flush with an edge 32 of the sheet material which forms the key case. The tubular portions 22 and 28 are in axial alignment when the plates 16 and 26 are in a juxtaposed relationship. The end 33 of the tubular portion 28 is then spaced from the end 34 of the tubular portion 22 as shown at 36 in Fig. 5 to avoid electrical contact between these two portions of the cylindrical housing.

An insulating sheet 37 is provided between the plates 16 and 26 and this insulating member may be formed of any suitable material such as fiber or cardboard having an overall shape similar to the plate 26. The insulating member 37 is interposed between the plates 16 and 26 as shown in Fig. 3 to thereby avoid electrical contact between the flat portions thereof. A plurality of rivets 39 extend through openings 41 in the plate 16 and openings 42 in the insulating member 37 and openings 43 in the plate 26. These rivets are so constructed and arranged as to avoid placing the plate 16 in electrical conducting relationship with the plate 26. The rivets 39 also extend through the flexible sheet of the key case to thereby secure the plate assembly to the flexible sheet. This structural relationship provides considerable rigidity to the flexible portion of the key case in the vicinity of the juxtaposed plates and further provide means for causing the flap to hinge along the zone indicated at 46 in Fig. 1.

A conventional type dry cell battery 47 is mounted in the housing provided by the tubular portions 22 and 28 of the plates 16 and 26. The usual cardboard type sheath 48 encases the periphery of the battery 47 and prevents electrical contact of the exposed casing electrode of the battery with the tubular housing portion 28 and the tubular housing portion 22. A lamp bulb 51 having the usual type of threaded base 58 and a center terminal 53 engages the central tip electrode of the battery 47. The other terminal of the lamp bulb 51 or the threaded portion 53 is maintained in electrical contact with the tubular portion 28 by means of an apertured cap member 55 removably secured in the tubular portion 28. Thus an electric circuit is established between the plate 26 and one terminal of the lamp as represented by the threads 58. The rear exposed end 59 of the battery 47 is engaged by a helical spring 61 and this spring is engaged by and compressed by a removable cap 62 in a conventional manner. An electric circuit is thereby established from the exposed end 59 of the battery 47 through the spring 61 and the cap 62 to the tubular portion 22 and to the plate 16.

The flexible material forming the key case proper covers the cylindrical housing of the flashlight assembly as shown in Figs. 1 and 3. The inner layer 14 is cemented to or adhesively attached to the tubular portions 22 and 28 so as to cover the space 36. The end of the flexible material terminates at 66 as shown in Fig. 3 to provide a covering for the housing of the flashlight structure. A male fastening element 67 is provided on the outside of the covering for the flashlight housing. A female element 68 is mounted on the free end of the flap which is adapted to engage the male part 67 when the flap is hinged about the zone 46 to thereby close the key case.

The clasps 9 and 10 are in electrical contact with the plate 16 and accordingly carry the potential of the rear end 59 of the battery 47. Thus

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when one of the clasps 10 is swung to an outward position a portion of the clasp adjacent the hinge thereof will engage the rib 27. The rib 27 and the plate 26 are in electrical circuit relation with one terminal of the lamp bulb 51 and accordingly a circuit is completed from the battery through the lamp bulb. Thus the bulb 51 is energized. The lighted lamp may be used for any purpose and particularly to illuminate a key hole in a dark area or at night. When the clasps 10 are in the position shown in Fig. 5 the circuit to the lamp bulb is open and the bulb remains deenergized.

Each of the clasps 10 are provided with a lug 71. This lug is formed of an integral part of the metal strip which forms the clasps and occupies the position shown in Fig. 4. The lug 71 is adapted to engage the rib 27 and complete the circuit to the lamp bulb. The lug is resilient and so constructed as to pass over the highest point of the rib 27 so that the lug 71 may occupy a position inwardly beyond the rib 27 as shown in Fig. 6. Thus the clasp remains in a releasable outer position to avoid temporary interruption of the circuit from the battery 47. A notch 81 is provided in the plate 26 so that when the clasp 9 is swung outwardly the lamp is not lighted. When the clasp 9 is moved to the outward position any one of the other clasps 10 may be utilized to bridge the circuit for energizing the lamp 51 to illuminate the key hole in which the key on the clasp 9 is to be inserted. Thereafter the key clasp 10 used to energize the lamp may be returned to the position shown in Fig. 1 after the key on the clasp 9 has been introduced into its key hole. The flap in the closed position maintains any or all of the clasps in a retracted position to avoid energization of the lamp circuit.

While the invention has been described with reference to specific structural features and with regard to one general organization it will be appreciated that the invention is directed to automatically energizing the lamp when a key clasp is moved to an extended position from the case. Various changes and modifications may be made in the details as well as the organization of the elements without departing from the spirit and scope of the invention as set forth in the appended claims.

What I claim and desire to secure by Letters Patent is:

1. In a key case and electric lamp assembly, a key case, an electrical conductive member mounted on the case, an electrically conductive key clasp mounted for pivoting movement on said member, a second electrically conductive member mounted on the case in a non-conductive relationship with respect to the first member and having a portion lying in the path of pivoting movement of the key clasp as it swings to an extended position, an electrical source mounted on the case, means connecting one side of the source to one of said members, a lamp bulb mounted on the case, electric circuit means including therein said lamp bulb connecting the other side of said source to the other of said members, and an electrically conductive lug on the key clasp for engaging the second member in a full extended position of the clasp to releasably maintain an electrical circuit from one member to the other through the clasp.

2. A key case and an electric lamp assembly comprising, a key case, an electrical source carried by the key case, an electrical conductive terminal member having an edge along one edge of

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the case, a plurality of electrically conductive key clasps mounted at spaced intervals along said edge of the terminal member to pivot thereabout to positions outside the case and maintain electrical circuit relationships with the terminal member throughout the pivoted movements thereof, a lamp bulb carried by the case, a second electrically conductive elongated terminal member carried by the key case adjacent said edge in a position to be engaged by any of said clasps in swinging to a position outside the case, said second terminal member being spaced from the first terminal member, electric circuit means including said lamp bulb connecting the other side of said source to the second terminal member, and each of said key clasps being adapted to engage the second terminal member in pivoting to a position outside the case to energize the lamp bulb.

3. A key case and an electric lamp assembly comprising, a key case, an electrical source carried by the key case, an electrical conductive terminal member having an edge along one edge of the case, a plurality of electrically conductive key clasps mounted at spaced intervals along said edge of the terminal member to pivot thereabout to positions outside the case and maintain electrical circuit relationships with the terminal member throughout pivoted movements thereof, a lamp bulb carried by the case, a second electrically conductive elongated terminal member carried by the key case adjacent said edge in a position to be engaged by any of said clasps in swinging to a position outside the case, said second terminal member being spaced from the first terminal member, electric circuit means including said lamp bulb connecting the other side of said source to the second terminal member, each of said key clasps being engageable with the second terminal member to energize the lamp bulb, and a further key clasp mounted to pivot on the first terminal member in a position to avoid engagement with the second terminal member when swung to a position outside the case.

4. A key case and an electric lamp assembly comprising, a key case formed of flexible material, an electrical source housed within a portion of the key case, an electrical conductive relatively rigid plate in electrical circuit with one side of said source secured to the flexible material and stiffening the case, a hinge structure carried by

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said plate, an electrically conductive key clasp mounted on said hinge structure to pivot thereabout to a position outside the case and maintain electrical circuit relationship with the plate throughout its pivoted movements, a lamp bulb carried by the case, an electrically conductive terminal member carried by the key case in insulated relationship with respect to said plate, electric circuit means including said lamp bulb connecting the other side of said source to said terminal member, and said key clasp being adapted to engage said terminal member in pivoting to a position outside the case to energize said lamp bulb.

5. In a key case and electric lamp combination, a key case, an electrically conductive member mounted on the case having an edge adjacent an end of said case, a key clasp mounted for pivoting movement on said member at said edge so to swing to an extended position outwardly of the case, a second electrically conductive member mounted adjacent said edge and spaced from the first member and lying in a path of pivoting movement of the key clasp as it swings to an outward extended position, an electrical source mounted on the case, means connecting one side of the source to one member, a lamp bulb mounted on the case, electric circuit means including therein said lamp bulb connecting the other side of said source to the other member, whereby the lamp bulb is energized when the key clasp swings into engagement with the second member and electrical contact therewith maintained by retaining the clasp in the extended position.

PAUL T. CRANE.

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