Sept. 23, 1941. E. E. GREENLEES 2,256,670

ILLUMINATING ATTACHMENT FOR VEHICLE DOOR LOCKS

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Fig. 1.

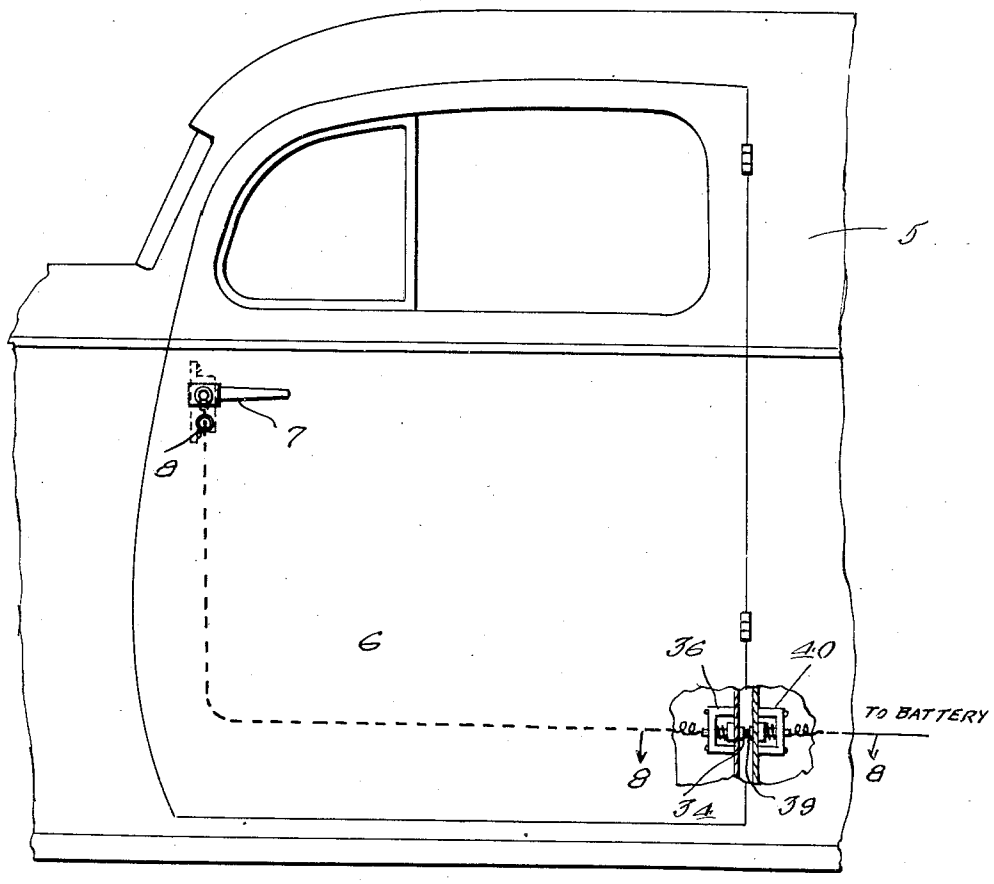


Fig. 13.

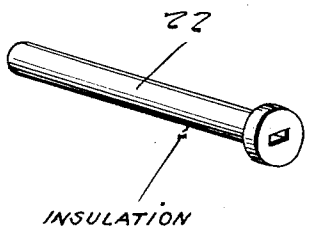
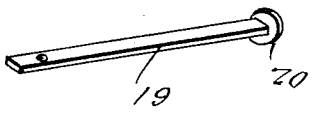


Fig. 12.



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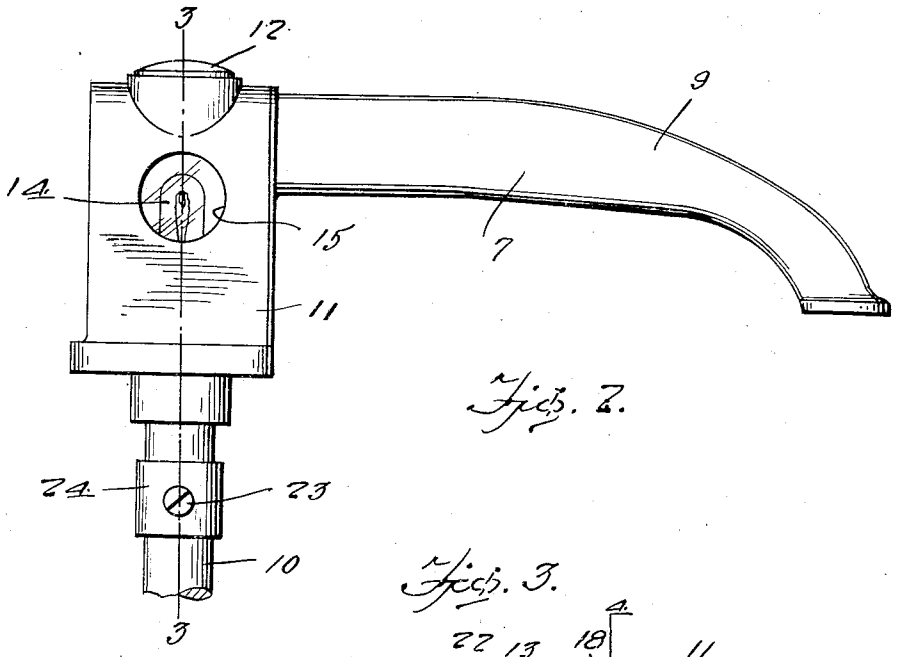


Fig. 2.

Fig. 3.

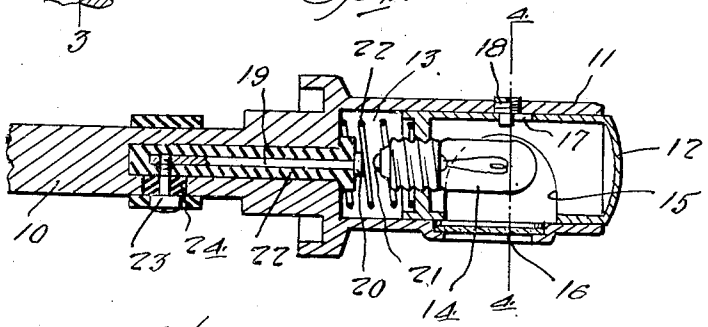


Fig. 6.

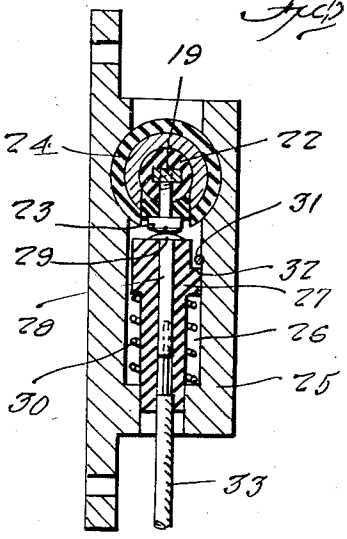
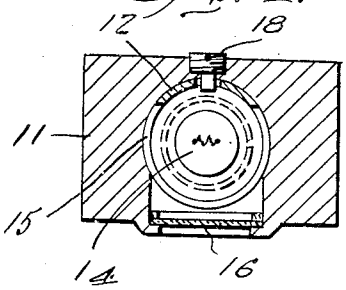


Fig. 4.



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Fig. 14.

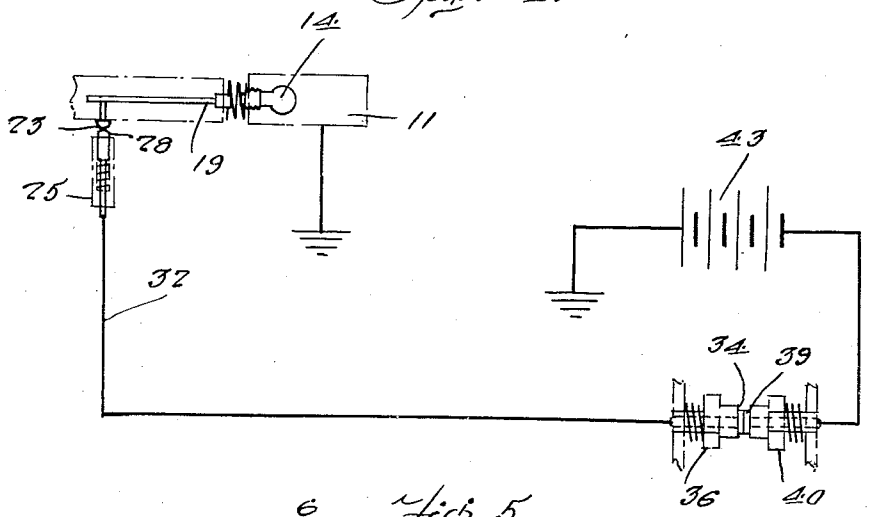


Fig. 5.

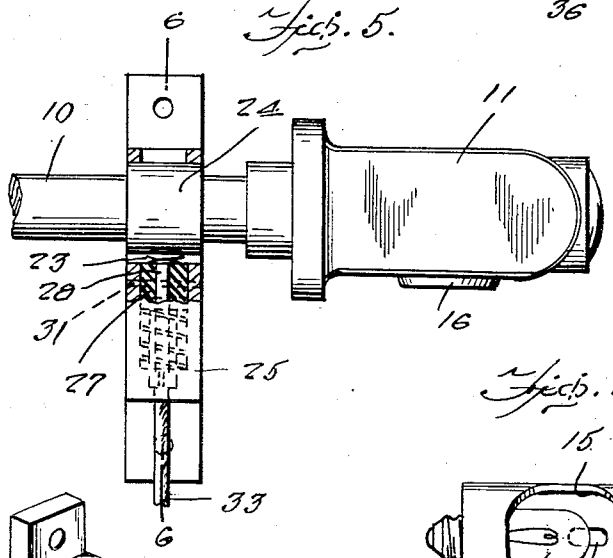


Fig. 11.

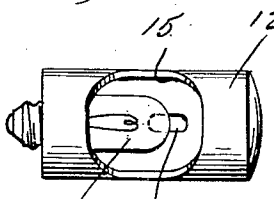
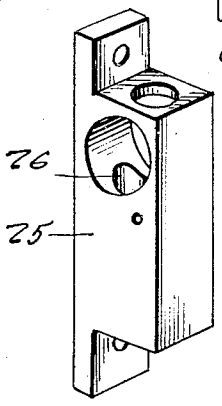


Fig. 10.



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Fig. 7.

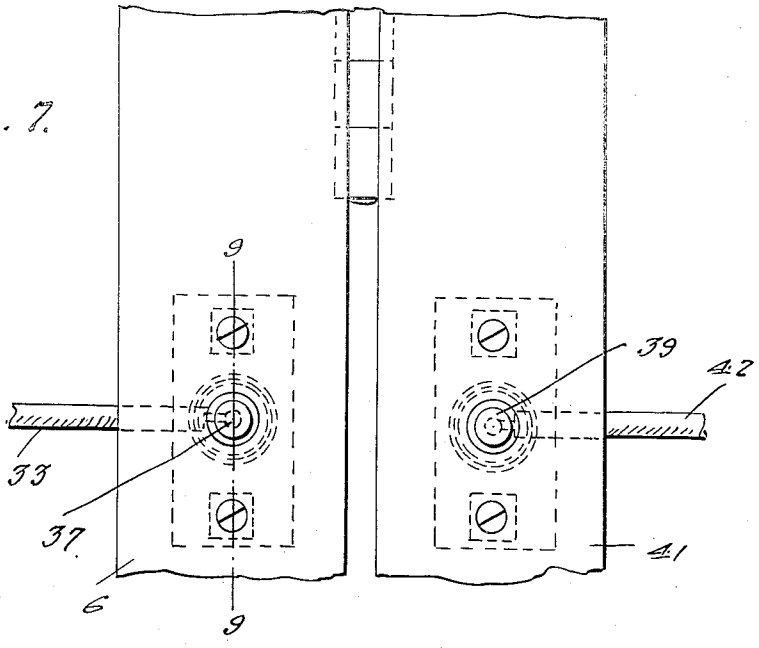


Fig. 9.

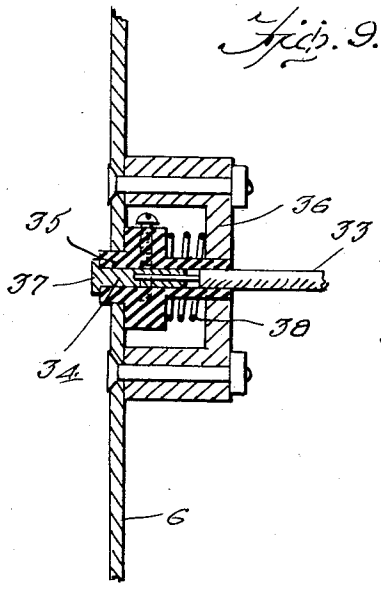
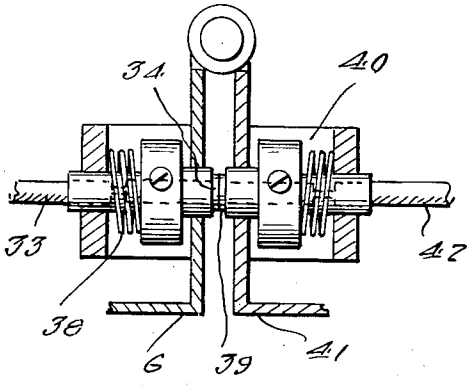


Fig. 8.



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2,256,670

UNITED STATES PATENT OFFICE

2,256,670

ILLUMINATING ATTACHMENT FOR VEHICLE DOOR LOCKS

Edward E. Greenlees, Flint, Mich.

Application November 18, 1939, Serial No. 305,161

1 Claim. (Cl. 240—2.13)

The present invention relates to illuminating attachments for the door locks of an automobile or other vehicle and has for its primary object to provide an electric lamp mounted in the handle of the door for illuminating the keyhole opening of the door lock and having switch means mounted in the handle for controlling the energization of the lamp.

A further object is to provide an illuminating attachment for vehicles or locks of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture and install in operative position and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompany drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which—

Figure 1 is a fragmentary side elevational view of a vehicle body with parts broken away and showing the contacts between the door and door jamb.

Figure 2 is a bottom plan view of the handle.

Figure 3 is a sectional view taken substantially on a line 3—3 of Figure 2.

Figure 4 is a sectional view taken substantially on a line 4—4 of Figure 3.

Figure 5 is an edge elevational view of the handle showing the electric circuit provided through the shaft of the handle.

Figure 6 is a sectional view taken substantially on a line 6—6 of Figure 5.

Figure 7 is a fragmentary edge elevational view of the door and door jamb showing the contacts carried thereby.

Figure 8 is a sectional view through the door and door jamb showing the contacts in closed position.

Figure 9 is a sectional view taken substantially on a line 9—9 of Figure 7.

Figure 10 is a perspective view of the bearing block for the shaft of the handle and providing a mounting for the yieldable contact engaged with the handle.

Figure 11 is a detail of the push-button having the lamp carried thereby.

Figure 12 is a perspective view of the contact pin carried by the shaft of the handle, and

Figure 13 is a perspective view of the insulation sleeve therefor, and

Figure 14 is a diagram of the electric circuit.

Referring now to the drawings in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates a vehicle body having the door 6 mounted therein and provided with the door handle 7 beneath which is the keyhole opening 8 of the lock for the door of conventional construction. The handle 7 includes the hand-grip portion 9 and the shaft 10 which extends at right angles to the hand-grip portion, the junction thereof being formed into a lamp housing 11. The housing 11 is hollow and has an open outer end from which projects a push-button 12 slidably mounted in the cylindrical bore 13 of the housing. The push-button is of cylindrical form as shown in detail in Figure 11 of the drawings, the inner end of the push-button having the electric lamp 14 threaded in its inner end. The side wall of the push-button is formed with an opening 15 adapted to register with a window 16 formed in the bottom side of the housing 11. The wall of the push-button 12 is also formed with a longitudinally extended slotted opening 17 with which a pin 18 is engaged, the pin being carried by the housing 11.

An electrical contact member 19 is mounted in the shaft 10, the contact having a head 20 projecting into the bore 13 for engagement by the base 21 of the lamp 14. A coil spring 22 is mounted in the bore and engages the inner end of the push-button 12 to normally maintain the lamp out of contacting engagement. The contact 19 is enclosed in an insulation sleeve 22 and a contact screw 23 is mounted in an insulation ring 24 and extends laterally of the shaft 10 for threaded engagement with the inner end of the contact 19, the head of the contact 23 projecting laterally beyond the shaft 10, as shown in Figure 3 of the drawings.

The shaft 10 extends through a bearing block 25 secured to the door, the block being provided with a vertical bore 26 within which is slidably mounted an insulation sleeve 27 having an electrical contact 28 extending longitudinally therein and provided with a head 29 projecting from the upper end of the sleeve for contact with the head of the contact 23 as clearly shown in Figure 6 of the drawings. A coil spring 30 mounted in the bore 26 yieldably maintains the contact 28 in engagement with the contact 23. A pin 31 carried by the bearing block 25 engages a shoulder 32 on the sleeve 27 to maintain the same against displacement when it is necessary to remove the shaft 10 of the handle.

A circuit wire 33 extends from the contact 28 through the door 6 and is connected to a

contact 34 enclosed within a sleeve of insulation 35 slidably mounted in a bracket 36 secured to the hinged end of the door. The head 37 of the contact 34 projects outwardly from the edge of the door and is yieldably maintained in outwardly projected position by means of a coil spring 38 carried by the bracket 37. The contact 34 is adapted for engagement with a similar contact 39 mounted in a bracket 40 carried by the door jamb 41, the construction of the contacts 34 and 39 and the mounting therefor being identical, and accordingly, a detailed description of one will suffice for both. The two contacts 34 and 39 are arranged for engagement when the door is in its closed position.

The circuit wire 42 extends from the contact 39 to the battery 43 of the vehicle, the lamp 14 being grounded through the frame of the car to complete the circuit, as clearly shown in Figure 14 of the drawings.

In the operation of the device it will be apparent that the lamp 14 is normally de-energized and upon a movement of the push-button 12 inwardly the contact of the base of the lamp with the contact 19 will close the circuit thus energizing the lamp whereby to illuminate the keyhole opening 8 of the door.

At the same time, while the handle is in its normal position, as shown in Figure 1 of the drawings, the contacts 23 and 28 will be in engagement as well as the contacts 34 and 39 when the door is closed. The rotation of the shaft 16 by the turning of the handle will separate the contact 23 from the contact 28 to break the circuit, or the opening of the door will likewise accomplish this purpose.

It is believed the details of construction, advantages and manner of operation of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention, what I claim is:

Illuminating means for a vehicle door lock comprising a shaft horizontally disposed and rotatable from normal to unlocking position, a handle on one end of said shaft and having a bore therein extending axially of the shaft, an elongated electrical conductor fixed in said shaft axially thereof and having an end disposed in said bore, a cylindrical spring tensioned push button in said bore endwise slidable therein inwardly and outwardly of said handle, an electric light fixed in said button and movable under inward movement of the button into engagement with said end of the conductor to energize the light, and means to energize said conductor in the normal position of said shaft, said means comprising an insulation sleeve disposed radially of said shaft and spring pressed towards the latter, a contact extending out of said sleeve opposite said shaft, and a radial contact in said shaft extending from said conductor and engaging the first-mentioned contact in the normal position of the shaft.

EDWARD E. GREENLEES.