March 21, 1944. C. P. GRAHAM 2,344,696

LATCH OPERATING DEVICE

Filed Dec. 6, 1941 2 Sheets-Sheet 1

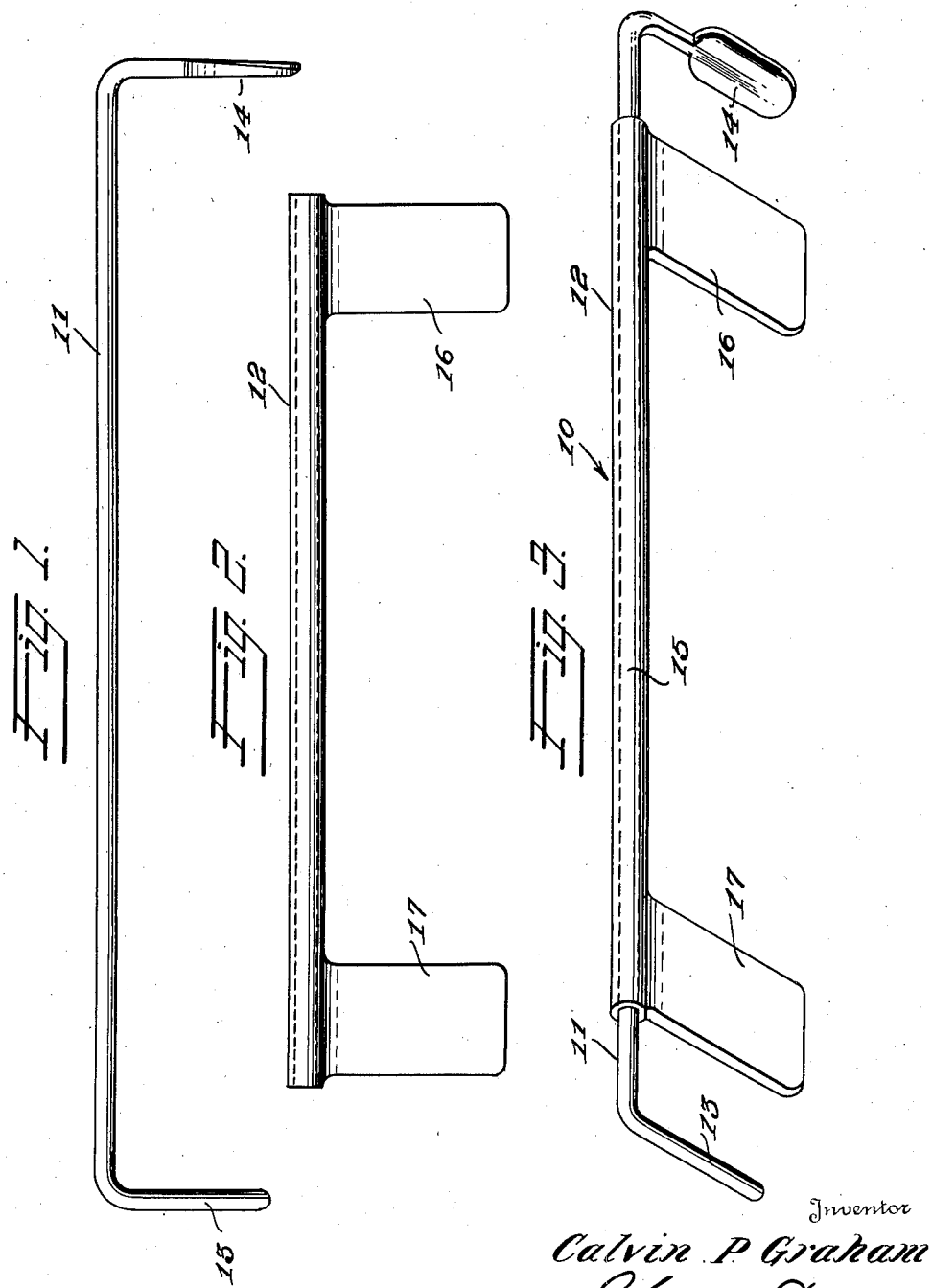


Fig. 1.

Fig. 2.

Fig. 3.

Inventor
Calvin P Graham
By George E. Cook.
Attorney

March 21, 1944. C. P. GRAHAM 2,344,696

LATCH OPERATING DEVICE

Filed Dec. 6, 1941 2 Sheets-Sheet 2

Fig. 4.

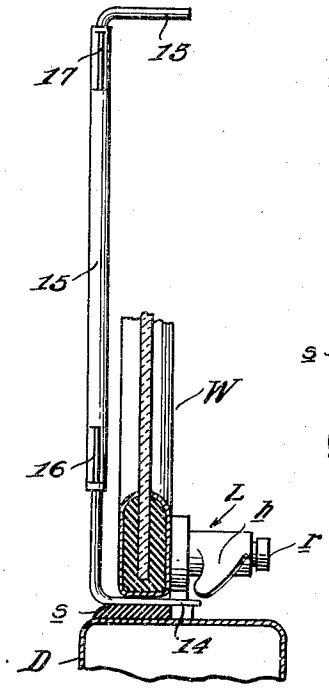


Fig. 6.

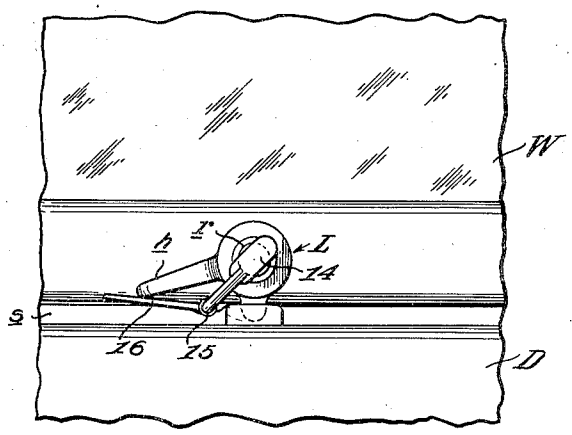


Fig. 5.

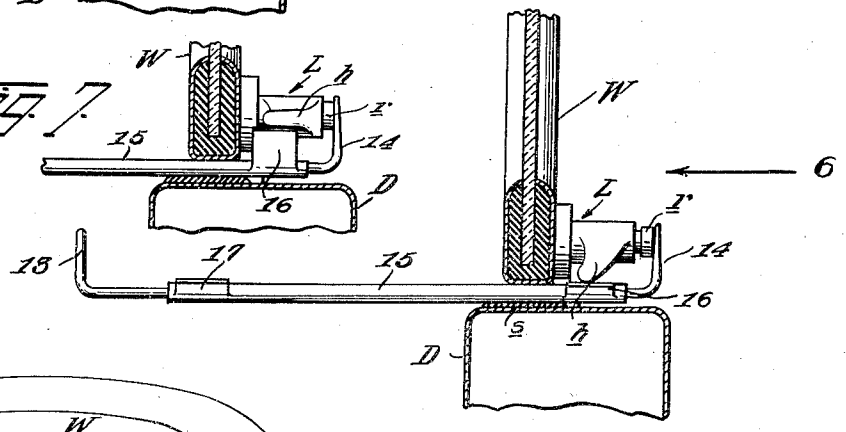
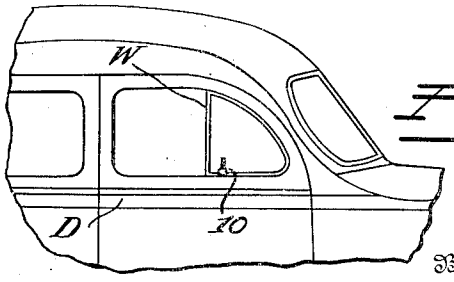


Fig. 7.

Fig. 8.



Inventor

Calvin P. Graham.

By George E. Cook.

Attorney

Patented Mar. 21, 1944

2,344,696

UNITED STATES PATENT OFFICE

2,344,696

LATCH OPERATING DEVICE

Calvin P. Graham, Jackson, Miss., assignor of one-half to Juanita C. Harper, Meridian, Miss.

Application December 6, 1941, Serial No. 421,980

5 Claims. (Cl. 81—3)

This invention relates to a latch operating device.

More specifically, the invention pertains to a device for operating a latch on the interior of a door or window of a compartment which has been otherwise closed by key operated means, and for the ready opening of such door or window on emergency occasions as when the key is lost, stolen, broken, jammed, or the like.

The improved device is particularly adapted for use with automobiles whose bodies include doors and sliding and swinging windows, the windows being operable and securable from within the bodies and the doors being provided with key operated locks whereby the bodies may be closed against admittance by any unauthorized person. As is generally known, the modern automobile body includes opposite side doors, two or four, and each door is provided with a vertically slidable window and with the front doors additionally provided with horizontally swingable windows. Latching and locking means are provided for the doors and windows to prevent unauthorized admittance to the body and which includes key operated locks for the doors, and in many makes of automobiles includes automatic locking latches on the interiors of the horizontally swingable windows, which latches can be unlocked only from the interior of the bodies.

Regardless of the particular means employed to close or secure the windows, access can be had to the body only upon unlocking the doors if the windows have previously been properly closed and secured, without damaging or breaking certain parts in an effort to release the windows or doors.

It is, however, not an uncommon experience of an automobile driver, to lose, break, or jam the door key with the result that he cannot gain access to his car without resorting to drastic measures which result in serious damage to the body, windows, or doors.

While it is quite possible to insert relatively thick instruments or prods under the swingable windows, the latches therefor are usually of such construction that they cannot be operated by instruments selected at random.

Thus in many automobile bodies the small swinging windows in the front doors are provided with latches which require a dual manual operation in releasing same and which obviously could be operated from the exterior of the body only by a specific form of implement.

It is accordingly a primary object of this invention to provide a device or implement for readily operating a window latch of the above noted character from the exterior of the body as an emergency measure to gain access to the interior door lock.

A further object of the invention is the provision of a device which is simple in construction, relatively small in dimensions and light in weight whereby it may be carried in an inside coat pocket or other convenient place.

A still further object of the invention is a device for the purpose above set forth which is of such construction that it will not readily suggest its use to one not familiar therewith, whereby unauthorized admission to a car is rather remote in the event the device should be lost.

For a more complete understanding of the nature and objects of the invention, reference will be had to the following detailed description, taken in connection with the drawings, wherein:

Figure 1 is an elevational view of one of the elements of the device.

Figure 2 is a similar view of the other element of the device.

Figure 3 is a perspective view of the complete device in accordance with a preferred embodiment thereof.

Figure 4 is an elevational view showing the initial application of the device to a window for operating the interior latch thereof, the window and adjacent portion of the door being shown in transverse section.

Figure 5 is a view similar to Fig. 4 but showing the device in final latch actuating position.

Figure 6 is an elevational view as observed in the direction of the line 6 in Fig. 5.

Figure 7 is a view similar to Fig. 5 showing the latch in released position.

Figure 8 is a fragmentary diagrammatic perspective view of an automobile showing the device in the position of Fig. 5.

Referring now in detail to the drawings, and first to Figs. 1 to 3, 10 denotes the device as a whole and which comprises the relatively movable elements 11 and 12.

The basic element 11 mainly comprises a steel rod which is bent adjacent its opposite ends in the provision of a handle 13 and a relatively flat contact member 14.

The element 12 comprises an elongated sleeve 15 which receives the rod 11 intermediate its ends for relative reciprocating and oscillatory movement of the two elements.

The sleeve 15 is provided adjacent its ends with tongues 16 and 17 which are integral or

rigid with the sleeve and which are substantially rectangular in plan and slightly tapered in thickness toward their free ends, particularly the tongue 16 for reasons later apparent.

It is thus to be noted that the improved device is highly simple in construction, comprising only two relatively movable elements and that such elements can be readily assembled by introducing the rod 11 into the sleeve 15 preparatory to the bending operation in the provision of the handle 13.

The operation of the device is disclosed in Figs. 4, 5, 6 and 7 wherein, D designates a door such as is provided in automobile bodies, the door supports a horizontally swingable window W whose lower edge frame portion in closed position of the window rests upon or above a relatively thick rubber strip *s*.

The window W is in accordance with common practice provided with an inside latch L on its lower frame portion and which latch includes a rotatable cylindrical portion having a catch member engageable in or upon a member carried by the frame of the door D, the latch also including a handle *h* for rotating the cylindrical portion and a locking detent or release *r*.

This type of latch is well known and should be understood from the limited disclosure thereof. The latch upon downward swinging movement of the handle *h* locks the window against swinging movement and the detent or release *r* locks the latch in this position, it being necessary to press the spring backed release *r* inwardly before the handle *h* can be raised to unlock the window. In other words, this form of latch requires two distinct manual operations in order to unlock the window for horizontal swinging movement thereof.

With the improved device 10 the latch L can be readily released from the exterior of the automobile body as an emergency measure upon losing or breaking the key or otherwise not being able to unlock the door.

The device is of relatively small transverse dimension and can in fact be made relatively smaller than as indicated on the drawings. However, the rubber insulating strip *s* is relatively thick and is sufficiently compressible to admit the device between the window and door as indicated.

As shown in Fig. 4 the contact member 14 is first entered beneath the window and above the strip *s*, with the sleeve 15 in vertical position. The device is then turned 90° with the sleeve horizontal, and the adjacent end of the sleeve together with the tongue 16 are then pushed under the window, the rubber strip *s* yielding sufficiently to permit such operation.

Since the elements 11 and 12 have relative axial and rotary movement they are so moved through left and right hand engagement with handle 13 and tongue 17 respectively to place contact member 14 in engagement with the latch release *r* and tongue 17 beneath the latch handle *h*. Thus positioned, rod 11 is drawn outwardly to unfasten the latch through inward movement of the release *r* by contact therewith of the member 14, whereupon sleeve 15 is rotated to urge handle *h* upwardly through the action of tongue 16 engaged therewith. The window may then be readily opened.

While the improved device has been disclosed as for a specific application in use, it may, of course, be used in various other structures embodying latches of the character herein set out.

The specific embodiment of the invention herein disclosed is to be considered as illustrative only, and not restrictive, the scope of the invention being defined in the subjoined claims.

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

1. A latch operating device of the character described, comprising an elongated rod member having a handle at one end thereof, the opposite end of the rod member being bent at right angles and terminating in a flat contact member in a plane at right angles to the rod member, and a member rotatably and reciprocably supported by the first member and having a flat tongue at right angles to the plane of said contact member for operative cooperation with said contact member.

2. A device according to claim 1 wherein said last member includes an elongated sleeve rotatably and linearly movable on said rod member, and a second flat tongue on said sleeve for cooperation with said handle in manipulating said contact member and first named tongue, and wherein said handle and contact member extend laterally from the same side of said rod member.

3. A device for operating a latch on the interior of a horizontally swingable window from the exterior thereof and wherein said latch is disposed on the lower frame portion of the window and includes a rotatable handle and a release member movable linearly at right angles to the plane of rotation of said handle; comprising a pair of elongated members having relative linear and rotative movement and both thereof being insertable beneath said lower frame portion adjacent corresponding ends thereof, one of said members having a flat contact member at right angles thereto for engaging and linearly moving said release member and the other of said members having a flat tongue at right angles to the plane of said contact member for engaging and rotating said handle.

4. A device for operating a latch including a rotatable handle and a linearly movable detent, comprising an elongated rod bent at right angles at its opposite ends and providing a handle and a detent operating member, the latter terminating in a flat contact portion to engage said detent, a sleeve slidably and rotatably receiving said rod and having a flat handle engaging tongue at one end thereof and at right angles to the plane of the flat portion of the contact member and adjacent said contact member, and a flat tongue at the other end of said sleeve adjacent said second handle.

5. A device of the character described comprising an elongated rod, a handle and a flat contact member at right angles to said rod and connected thereto by curved portions at its respective opposite ends and with the plane of the flat contact member at right angles to the rod, and a sleeve shorter than the rod and slidable and rotatable thereon, the sleeve being provided at each end thereof with a flat tongue extending from th same side thereof and said tongues being in a plane at right angles to the plane of said contact member.

CALVIN P. GRAHAM.