

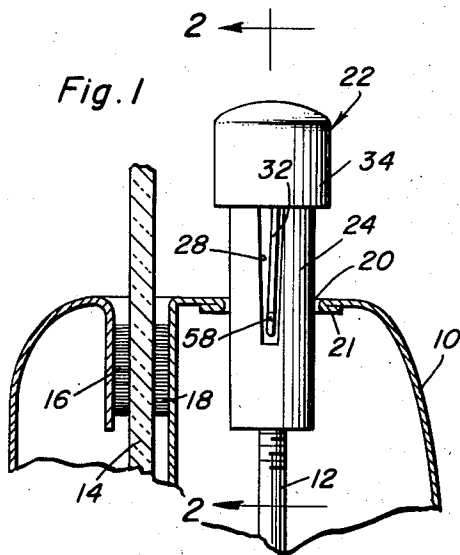
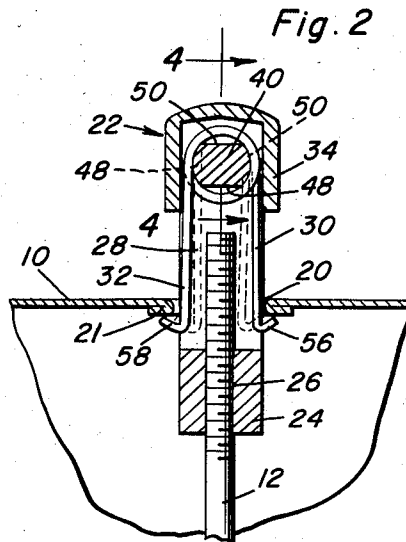
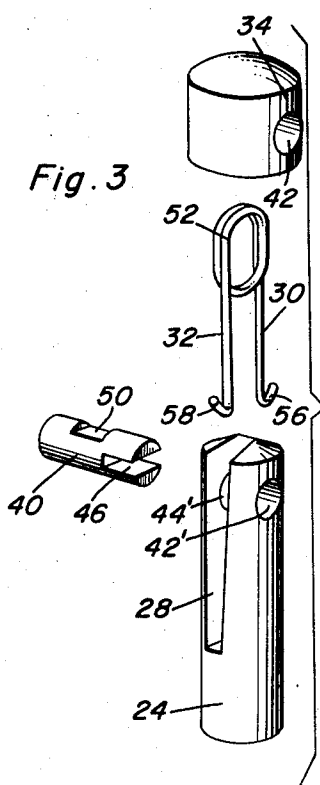
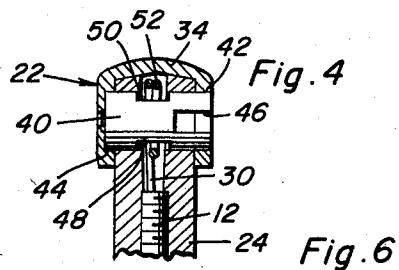
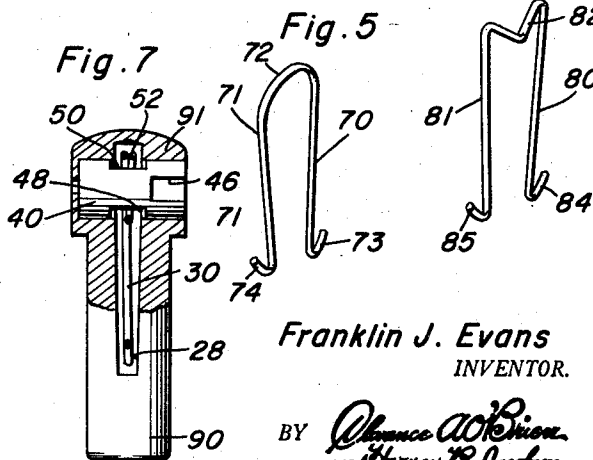
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VEHICLE DOOR BUTTON LOCK

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2,855,773

VEHICLE DOOR BUTTON LOCK

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3 Claims. (Cl. 70—181)

This invention relates to locks for motor vehicle door buttons.

The primary object of the present invention is to provide a door button for a motor vehicle, the door button being used to actuate the locking mechanism of the door and having means connected with it for preventing the door button from being lifted inadvertently or lifted by a child without permission of the motorist.

A more specific object of the present invention is to provide a door button with a pair of resilient arms that are simultaneously spread to the lock position in response to rotation of a barrel that is carried by the door button, these resilient arms being automatically returned in response to further rotation of the same barrel. When the arms are permitted to be returned in this manner, the door button is operable in the usual manner of any ordinary door button.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary sectional view of a door of the typical motor vehicle showing principally the door button lock which constitutes one form of the invention;

Figure 2 is a fragmentary sectional view taken along the line 2—2 of Figure 1 showing in phantom the lock for the door button when in a retracted position;

Figure 3 is an exploded perspective view of the door button of Figure 1;

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 2;

Figure 5 is a perspective view of the modified element of the lock;

Figure 6 is a further modification; and

Figure 7 is an elevational view with parts shown in section, demonstrating that the door button body may be made in one-piece construction if found desirable.

In Figures 1 and 2 there is a motor vehicle door 10 that typifies any of the manufacturers makes of doors that have locking mechanisms operable by a push rod 12. Other structures of the door includes the window pane 14 and anti-rattle strips 16 and 18 in the top therein. Some doors have grommets in opening 20 through which the door button is adapted to pass while others merely have rooled edges as at 21. Regardless of this construction the door button operates in the same manner.

Door button 22 exemplifying the principles of the invention comprises a body 24 that is of cylindrical form and has an internally threaded bore 26 in which push rod 12 is threaded. Longitudinal slot 28 is formed in the body 24 and it accommodates arms 30 and 32 that are mounted therein. The upper end of body 24 has a cap 34 applied thereon, covering a part of the slot 28.

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This cap may be cemented or otherwise fixed to the body 24.

A barrel 40 is mounted for rotation in openings 42 and 44 that are formed in cap 34 and in openings 42', 44', in the upper end of the body 24 aligned with the openings 42, 44. Opening 42 penetrates completely through a wall of the cap while opening 44 that is aligned with opening 42 penetrates the wall only partially. These openings 42, 44, 42', 44' constitute bearings for mounting the barrel so that it is capable of being rotated by placing a key, coin or other object in the kerf 46 and applying a rotational force. Flats 48 and 50 are formed in the barrel between the ends thereof in line with the slot 28 and perpendicular to the longitudinal axis of the barrel.

Arms 30 and 32 are parts of a one-piece resilient member. The arm 30 has a flat sided spirally wound loop 52 at its end through which the barrel 40 extends, the corresponding end 32 forming a continuation of the loop 52. This loop and the metal from which the element is made provide sufficient resiliency for the arms to retain a generally parallel retracted position in the slot 28 as shown in broken lines in Figure 2. The opposite extremities of arms 30 and 32 have angulated parts 56 and 58 that are retracted into the slot 28 when the arms 30, 32 are in retracted position and are adapted to fit under the rolled edge 21 or in doors that are not formed with a rolled edge, the corresponding surface. The barrel 40 is passed through loop 52 in assembly of the device.

In use, the vehicle door button of the motor vehicle is removed and replaced with vehicle door button 22. It will operate in the same manner as the removed door button. However, there is the additional feature of being able to lock the button so that children may not lift the door button or so that the door button may not be lifted by anyone without first positively releasing the lock. The locking takes place by rotating barrel 40. This moves arms 30 and 32 outwardly in a spreading fashion inasmuch as the loop 52 has its sides normally resting in flats 50 and 48. But, when the barrel 40 is rotated the thicker diameter of the barrel spreads the upper ends of the arms 30 and 32 outwardly to the full line position shown in Figure 2. This projects the angulated parts 56, 58 out of the slot 28 in position to engage under the edge of opening 20. When attempting to lift the door button while the angulated ends 56 and 58 are projected, they contact the lower surface of the door surrounding opening 20 and prevent the lifting of the door button and hence, prevent the lifting of the push rod 12.

In Figure 5 there is a modified form of the invention where arms 70 and 71 of the resilient member are connected by a bight 72. The lower ends of the arms 70 and 71 have angulated parts 73 and 74 identical to the angulated parts 56 and 58.

In Figure 6 a further modification has arms 80 and 81 of the resilient member connected by a V-shaped bight portion 82. The lower ends of the arms 80 and 81 are angulated as at 84 and 85 in the same manner as the previously described angulated ends. In operation these forms of the invention are identical to the previously described form.

Attention is now invited to Figure 7 where the body 90 and cap 91 are integrally formed. Otherwise, this form of the invention is identical to that shown in Figure 2.

In all forms of the invention the resilient members are suspended on the barrel and the caps engage the legs of the resilient members and prevent rotation of the resilient members by the barrels.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous

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modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination, a door locking push rod having an end extending out of an upper opening in a door, an elongated body attached to said end and extending outwardly of the opening, said body having a longitudinal slot therein, a member in said slot having a pair of connected arms opposite each other normally spaced apart laterally in substantially parallel relation within said slot and being resilient for movement to spread the same apart outwardly of said slot, angular parts on said arms projectable out of said slot beneath the edge of said opening by spreading of said arms apart, whereby to

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lock said rod in pushed position, and a barrel rotatably mounted in said body transversely thereof between said arms operative by rotation thereof to engage and spread said arms apart.

2. The combination of claim 1, said member being suspended on said barrel.

3. The combination of claim 1, and cap means on said body engaging the arms of the member to prevent rotation of said member by said barrel.

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