May 24, 1955 E. M. TRAMMELL, JR 2,708,845

LOCK-PLUNGER GUARDING DEVICES

Filed April 10, 1952 2 Sheets-Sheet 1

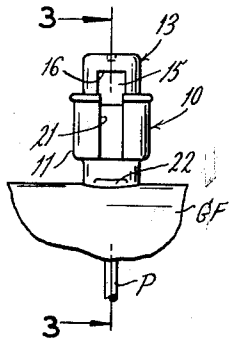


FIG. 1.

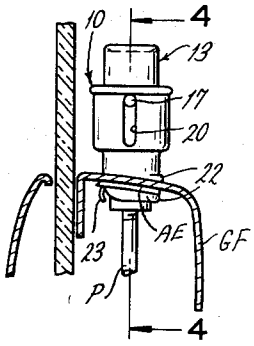


FIG. 2.

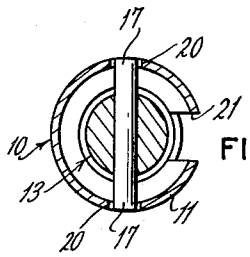


FIG. 5.

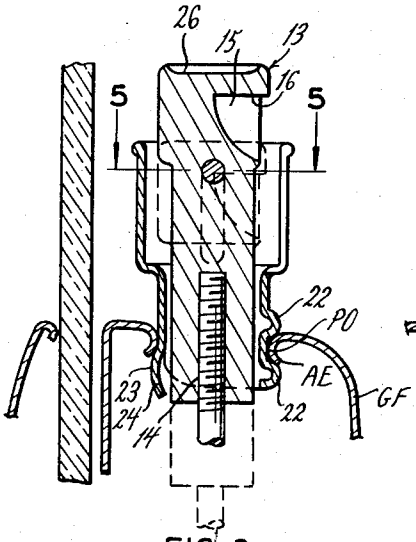


FIG. 3.

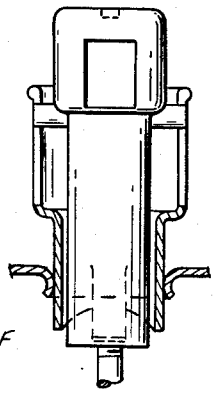


FIG. 4.

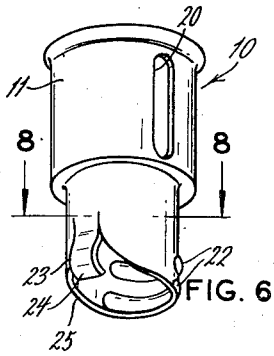


FIG. 6.

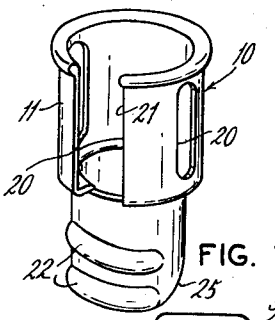


FIG. 7.

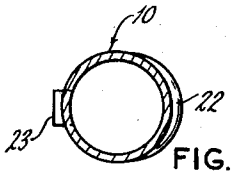
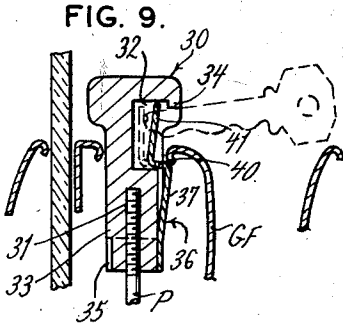


FIG. 8.

FIG. 9.



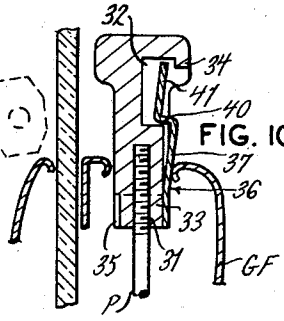


FIG. 10.

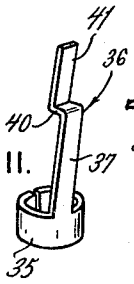


FIG. 11.

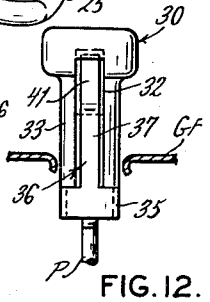


FIG. 12.

INVENTOR.

EARL M. TRAMMELL JR.

BY

Terry & Cohen

ATTORNEYS

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LOCK-PLUNGER GUARDING DEVICES

Filed April 10, 1952 2 Sheets-Sheet 2

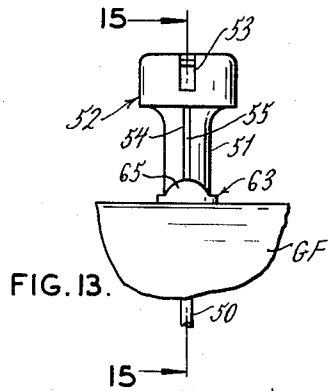


FIG. 13.

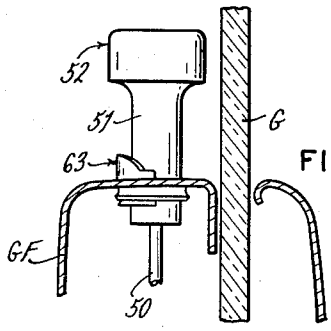


FIG. 14.

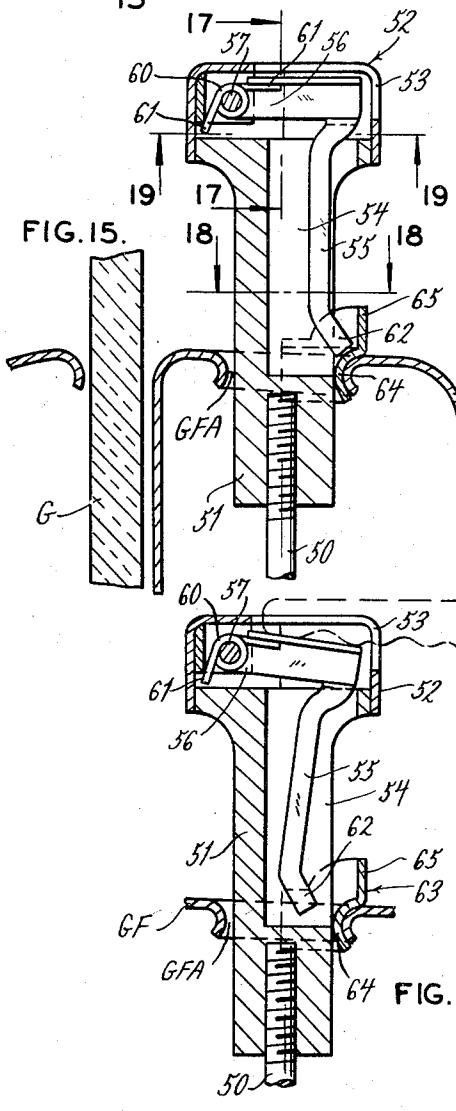


FIG. 15.

FIG. 20.

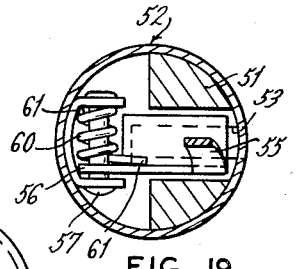


FIG. 19.

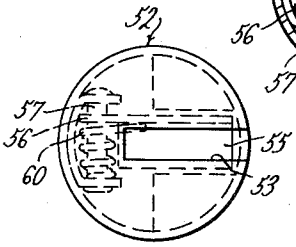


FIG. 16.

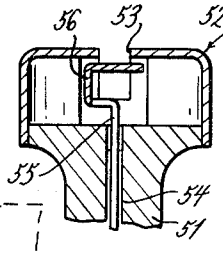


FIG. 17.

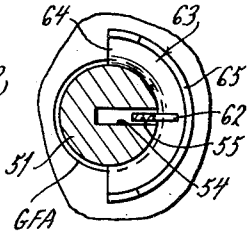


FIG. 18.

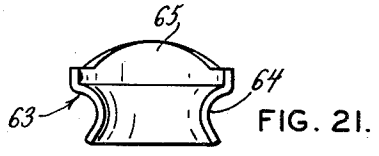


FIG. 21.

INVENTOR.
EARL M. TRAMMELL, JR
BY
Terry & Cohn
ATTORNEYS

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2,708,845

LOCK-PLUNGER GUARDING DEVICES

Earl M. Trammell, Jr., St. Louis, Mo.

Application April 10, 1952, Serial No. 281,539

20 Claims. (Cl. 70—181)

This invention relates to lock-plunger guarding devices, and more particularly to protective arrangements for the door-latch controlling plungers prevalently utilized on doors of closed-body automobiles. The guarding devices of the present subject are utilized to prevent the unintended, casual, or otherwise unwanted manipulation of door lock plungers from door-locking position to door-unlocking position.

Most of the automotive vehicles of closed body types now in service in the United States are equipped, on each door, with a vertically reciprocable plunger, usually so mounted that the plunger is operable through an aperture in a glass frame. Such frame is usually located adjacent a vertically movable door glass, and plungers of the type noted are, as well known, commonly utilized to condition the latch mechanism of the door against operation, as through a latch operating arm, from either the inside or the outside of the door.

Particularly in four-door closed cars, when children occupy the rear seat compartment, there exists a serious personal hazard due to the possibility that the child or children may manually lift one or both of the rear door plungers, thus putting the doors on the latch, and enabling the doors to be opened while the car is in motion. The present improvements have as a general object the avoidance of such hazard through an arrangement such that, once the rear door plungers are depressed to take the door handles off of the latch, such plungers cannot again be lifted without the use of a thin instrument such as an automotive ignition or door key. Thus, objectively, it becomes impossible for the junior occupants of the rear seat, to open the door. Such existing and universally recognized hazards have in most cases compelled resort to two-door closed cars among families including smaller children. Such safety expedients as have heretofore been offered, provide only an indifferent degree of safety, and are liable to loss of parts and other shortcomings all of which are avoided by the development currently described and claimed.

A further object of the present improvements is realized in a small, low cost device which serves as a guard for door plungers of the type noted, and which is easily and quickly installed, requires virtually no added space when installed, is not in any way unsightly, and which is easily and positively manipulable for restoring the door to an on-latch condition.

Yet another object of the improvements is realized in a novel form of plunger head which in one form of the embodiment of present improvements, may be installed in lieu of, and in the same manner as prevailing plunger heads for the purpose noted.

The foregoing and numerous other objects will more clearly appear from the following detailed description of certain variant forms of the improvements, particularly when considered in connection with the accompanying drawing, in which:

Fig. 1 is a side elevational view of one embodiment of

special plunger head and guard as applied to a latch control plunger of an automobile door;

Fig. 2 is a view of the plunger head and adjacent parts, showing certain adjacent parts in section;

Fig. 3 is an enlarged sectional view of the assembly of Figs. 1 and 2 as taken along line 3—3 of Fig. 1;

Fig. 4 is an elevational view taken at a right angle to the plane of Fig. 3, with portions in section;

Fig. 5 is a transverse sectional view, taken in a horizontal plane, the location of this figure being identified by line **5—5** of Fig. 3;

Fig. 6 is a perspective view of a shell or guard element surrounding the special plunger head, as used in the present embodiment;

Fig. 7 is a perspective view similar to Fig. 6, but showing an opposite side of the guard or shell;

Fig. 8 is a sectional view as taken along line **8—8** of Fig. 6;

Fig. 9 is a vertical sectional view of a modified form of special plunger head and adjacent parts;

Fig. 10 is a view similar to Fig. 9 but showing the plunger head and plunger rod in an outer or raised position;

Fig. 11 is a perspective view of a latch arm element such as utilized in the assembly of Figs. 9 and 10;

Fig. 12 is an elevational view of the plunger head, with adjacent parts in section;

Fig. 13 is a side elevational view of a still further modified form of special plunger head and appurtenant parts;

Fig. 14 is a view of the assembly shown by Fig. 13 but taken at a right angle thereto and showing certain adjacent parts in section;

Fig. 15 is an enlarged vertical sectional view of the special plunger head of Figs. 13 and 14, but showing the arrangement of plunger latching elements and assembly internally of the head, Fig. 15 being located by line **15—15** of Fig. 13;

Fig. 16 is a top or plan view of a cap element forming a part of the second modified assembly;

Fig. 17 is a fragmentary vertical sectional view as taken along line **17—17** of Fig. 15;

Fig. 18 is a transverse or horizontal sectional view taken along a plane indicated by line **18—18** of Fig. 15;

Fig. 19 is a transverse sectional view partly in elevation located by line **19—19** of Fig. 15;

Fig. 20 is a view similar to that of Fig. 15, but omitting certain adjacent parts, and showing the resiliently mounted plunger-latch in a released position to permit depression of the plunger, and

Fig. 21 is a side elevational view of a combined guard and keeper member utilized with and as a part of the second modified form of the device.

Prior to a description of structure embodying the present developments, it is noted that some similarity in features and general purpose exists between the subjects of the present application, and a copending application for patent by this applicant, Serial No. 262,419, filed December 19, 1951, now Patent No. 2,694,917, issued Nov. 23, 1954, and entitled "Inside Door Locks for Automobiles." It is noted, however, that the prior application is directed primarily to the prevention of inadvertent lock-in of ignition and perhaps door keys, particularly in closed cars.

Referring now by characters of reference to the drawing, and without present indication as to preference, there is first described that embodiment of the present subject matter which utilizes a fixed tubular or cup-like guard about the plunger. This form includes, as will appear from Fig. 1 a short, normally vertical, fixed guard element generally indicated at **10**, which constitutes a plunger-guarding means, and which is shown as of a generally cylindrical form, although of a some-

what larger diameter in its upper portion **11**. The top of the cup structure **10** is fully open, and the lower portion thereof is likewise open so as to permit free reciprocal movement therethrough, of the plunger or plunger rod P normally provided for the reception of the plunger head, in the present case, a specially formed head indicated at **13**, being utilized. The head **13** is provided in its lower portion with a longitudinal, normally vertical, tapped axial recess **14** which provides for threaded engagement with the outermost male-threaded end of the plunger rod P.

Preferably located about as shown is a longitudinal recess **15** which, for convenience of reference, is sometimes herein referred to as a key recess. The width of such recess is preferably not substantially greater than sufficient to accommodate the end portion of the usual flat shank of an automotive door or ignition key. It is preferred that the recess **15** terminate short of the outermost, usually the upper, end of the plunger, so that the outer end wall **16** of the recess constitutes a shoulder or abutment for the end of the key when utilized for lifting the plunger, as will later appear.

Extended transversely through the plunger head **13** is a small pin projecting very slightly at its opposite ends from the sides of the plunger head body. The tubular cup-like member **10** is provided along each of its opposite sides, with a longitudinal slot **20**, each such slot being spaced, angularly, about 90 degrees from a longitudinal top-open key slot **21** in the structure **10**. Each of the guide slots **20** receives and guidingly coacts with one of the extended head portions **17** of the transverse pin, and the length of each of the slots **20** is such that this guiding effect occurs throughout the full range of vertical plunger movement, from which it will now have appeared that it is highly desirable to keep the recess or slot **15** of the head in register with the slot **21** of the cup **10**. It is here noted that the relation of the pin and slots **20** is such that the pin may be pressed into position in the plunger head as a final assembly operation. It is further virtually necessary that the width of the recess or slot **15**, as well as that of the slot **21**, be such that it is impossible to force any substantial part of a finger through slot **21** and into plunger actuating relation to the head **13**, when the plunger is depressed. Thus the structure provides for definite digital exclusion from the cup **10** at all times, with advantages later better appearing. At the same time the width of both of the recess **15** and slot **21** is such that, even under conditions of poor lighting, it is quite easy to insert the end of a car key, a knife blade or any other relatively thin actuating instrument through slot **21** and into the recess **15**. Stated otherwise, it is the intent, as reflected in the proportions of the recess **15** and slot **21**, to prevent direct manual or digital actuation (i. e. without some form of tool or instrument requiring deliberate and considered manipulation) of the plunger head when in door-locking position.

In the plunger guard which embodies a shrouding or enclosing member such as **10**, it is highly desirable to provide for installation of the guard and the special plunger head, if not factory installed, with a minimum of time, effort and skill, and without special tools. This objective is realized in the following manner: An examination of a great number of the glass frame elements GF of closed car doors of the last decade or so, indicates the virtually universal provision of an opening PO to accommodate the conventional plunger head. The frame GF is in all cases observed, formed of a sheet metal, and opening PO is punched therein. It is understood that incident to the punched perforation, at the time of formation there results marginally of opening PO, an inturned, convex annular edge AE in most cases, and advantage is taken of the existence of this somewhat resilient inturned ring portion or curl around and defining the opening PO, as an aid to the attachment of this form of the device.

Slightly upwardly of the lower end of the member **10** are provided a pair of relatively closely vertically spaced projections **22**, the extent of projection and the nature of which are such that, when in place, the member **10** will, through its projections or lugs **22**, grip the somewhat resilient curl of the portion AE therebetween. In a region substantially diametrally opposite the projections **22** is provided a tongue or projection **23**. This element is normally of a somewhat resilient character, and located below the tongue **23** is a convex heel portion **24**, the purpose of which will later appear.

The manner of application, usually without the requirement of any tools whatever, or in any case requiring only a conventional screwdriver, will perhaps now have become evident, but it may be noted that this form of the structure is quite quickly and easily installed. The special plunger head **13** is provided with a distinct kerf or cross channel diametrally of its top, and indicated at **26**. Thus for installation of the member **10** and the plunger **13**, if not factory equipped, the conventional plunger head is first unthreaded from the plunger rod P, whereupon the member **10** is inserted at an acute angle, first presenting the lugs or projections **22** downwardly through the plunger opening PO, whereupon the cup **10** is brought to a vertical position. This movement is facilitated by engagement of the convex heel area **24** with a diametrally opposite rim portion AE. The tongue **23** having initially been deflected outwardly same will be slightly depressed against the body of member **10** as the tongue is brought downwardly over the adjacent curl or rim AE, following which the tongue will either snap outwardly into resilient engagement with the curl, or by insertion of a pointed instrument downwardly through the cup **10**, may be forcibly deflected outwardly and into gripping engagement with the curl. It will be noted that prior to final seating of the cup in the aperture PO, the upper lug **22** will have been brought upwardly of the adjacent part of the curl, and the lower lug into engagement with the lower periphery thereof, following which the cup is adequately and firmly positioned in place. The special plunger head **13** may now be inserted axially downwardly through the member **10** to bring its threaded portion **14** into beginning threaded engagement with the top of member P. Further rotation as by engagement of kerf **26** by a screwdriver or the like, will result in final threading of the head upon the rod P.

An alternate and in some respects more economical provision for the general purpose noted, is shown by Figs. 9–12, wherein the plunger guarding means is identified entirely with the plunger, specifically the plunger head and parts carried directly thereby, in coaction with the adjacent marginal portions of the apertured part of the glass frame GF. In this modified form, installation involves merely the removal of a conventional plunger head from the threaded plunger rod P and the substitution, by threading rotation, of a special plunger head generally indicated at **30** and provided with a lower axial or longitudinal, usually vertical recess indicated at **31** and tapped similarly to the bore **14** above described. A tapped metal bushing may if desired, be utilized in the zone of threaded engagement to the rod P and if, but without limitation, either form of the special plunger head be formed of a molded for example, an extruded plastic, such bushing may be molded directly in the body of the head at the time of formation. The special head **30** is provided longitudinally of one side thereof, with a recess of narrow form and proportion such as to receive therein, similarly to the recess **15**, the end of a flat shank of an automotive ignition or like key, and preferably not materially exceeding in width the gauge or thickness of the key shank. Thus either of the key recesses **15** or **32** will exhibit a certain guiding effect and prevent unwanted rocking of

the key when utilized for plunger actuation. The slot 32 is of stepped depth, the upper portion thereof being of somewhat greater depth as shown, than the connecting lower portion 33. The outermost end of slot 32 is preferably characterized by an internally flat upper end 34, which may be similar to or identical with the key abutment 16 heretofore described.

The head 30 is provided with a simple form of latch comprising in the form shown, a resilient contractile collar or band 35 which may if desired be incompletely circular as shown, and which serves as a collar or ring mounting for the latch arm generally indicated at 36. The latch arm 36 constitutes a plunger-guarding means arranged to coact with the frame element adjacent the aperture therein, for preventing direct manual actuation of the plunger 30 when the plunger 30 is in one of the limits of its movement. Member 36 consists of a formed strip of resilient material, and may be separately formed and attached as by riveting or welding to the band 35, or may be if desired, formed integrally with the supporting collar.

The latch arm includes a normally outwardly sloping camming portion 37, the lower end of which is formed on or secured to the band 35 as noted, and the upper end of which is bounded by a latching shoulder or ledge 40. The shoulder 40 normally extends substantially radially of the head 30 and depthwise into the deeper portion of the slotted recess 32, its resilience and mounting permitting a considerable depthwise movement into, and at times partly out of recess 32. Above the portion 40 is the latch actuating arm 41 which extends upwardly just short of engagement with the abutment end 34. The outermost or top face of the plunger head 30 may, if desired, be provided with a kerf to receive a screw driver or like tool, facilitating the application of the special head 30 to the rod P.

A further variant form of plunger-guarding device similar to those earlier described, is shown in Figs. 13–21. The specie thus identified is of particular adaptation as a plunger head under conditions in which it is desirable to prevent inadvertent depression of the plunger by direct digital actuation thereof. This arrangement will more usually be applied to one or both of the front door plungers. It has been found that such inadvertent depression is assured against by permitting downward movement solely with the aid of a thin instrument, such as an automotive ignition or door key, or a similar thin tool. Thus it becomes virtually impossible for the operator of a car of closed-body type, to leave the ignition key in place, then to depress the plunger and close the door, thus leaving the operator without a key again to unlock the door.

The structure by which this is accomplished in accordance with the present modification, is akin to that shown by Figs. 9, 10, 11 and 12, except for the inversion of a resiliently mounted plunger-latching member, with respect to the plunger head. In the figures of drawing of this group, there is utilized a plunger or plunger rod 50 threaded at its upper end to receive an internally threaded or bushed plug element 51. Carried by the plug 51 and extending thereabove is a hollow, preferably metal shell, generally indicated at 52, and which is provided with a transverse top-open cross slot 53 of a width such as to receive an ignition key with not much more than adequate clearance. If both parts 51 and 52 be of metal, they may be welded or otherwise assembled, or if the body 51 be of fiber or plastic, the top cap 52 may be crimped in place on the part 51.

The metal shell 52 is provided with a side opening 54 for a purpose later appearing. Mounted within the shell 52 is a latch arm 55, the upper or outermost end of which, assuming the arm to be formed of strip metal, is formed to constitute a pivot-receiving or journal portion 56 through which extends a pivot pin 57. A portion of the journal portion 56 may, if desired, be cut away or otherwise so formed that there is disposed on the pin 57 a coil spring 60 of torsion type. The end tangs of the spring 60 are indicated at 61 and serve to bias the latch arm 55 upwardly and outwardly. It will have been noted from the drawings that the pin 57 bridges and is secured into spaced apertured lugs extended within the metal shell 52. It will also appear that the latch arm 55 includes a generally horizontal upper portion connected into a generally vertical downwardly extending portion, and that the arm terminates in a latch end 62 normally projecting appreciably out of the side opening 54 of the plunger head. Also it is seen that the latch end 62 extends sufficiently from the plunger head so that, when the plunger is raised, the latch proper 62 overlies a portion of the adjacent glass frame structure GF. This frame is normally provided with the aperture GFA through which the plunger head is reciprocally movable for conditioning the door lock. The position of the parts, except for the novel plunger head and other elements to be described, will be at once apparent since the location of the glass frame GF, aperture GFA and the adjacent window glass G, are or may be conventional.

In order more positively to preclude unwanted direct digital actuation of the latch arm 55 or latch end 62, there is provided in at least partly shielding relation to the element 62, a guard piece 63 overlying a portion of the glass frame GF adjacent the opening GFA. The guard 63 includes a portion 64 which may be brought beneath and extended in gripping engagement with and under that margin of the aperture GFA which is in line with opening 54, thus keeping the guard in place, it being noted that portion 64 coacts with the latch end in the relation of an abutment or keeper. The opposite end of guard 63 forms a raised lip 65 spaced above the latch end 62; thus it is virtually impossible to actuate the latch arm or the end 62 in a releasing direction, by direct digital engagement therewith. It is seen that the latch arm 55 and guard piece 63 constitute a plunger-guarding means arranged to coact with the frame element adjacent the aperture therein, for preventing direct manual actuation of the plunger when the plunger is in one of the limits of its movement. The guard 63 and lip 65 also serve to protect the glass frame in the region of the plunger, against scratching and abrasion such as might otherwise result from impact by the key.

In keeping with the prevalent vertical mounting of door latch plungers, the present specification and claims make use in part of terms such as "upwardly" or "downwardly," and some reference is made to the plunger as vertically disposed; however, any such terminology is not to be taken as in any way limiting the angle of plunger mounting, nor directions of its movement.

It will now have appeared that any of the forms of the plunger guarding devices described, will serve fully to attain the several objectives and purposes of the invention, and that although these structures have been described by particularized reference to selected physical forms, the description should be understood solely in an instructive rather than in any limiting sense, many variants being possible within the fair scope of the claims hereunto appended.

I claim as my invention:

1. In a door-locking plunger assembly for use on the door of a closed-body automotive vehicle, a plunger head connected to door latch mechanism for conditioning same selectively to prevent and to permit latch operation, the plunger head being movable between limits respectively corresponding to lock conditions in one of which the latch and door may be freely operated from points within the vehicle, and in the other of which the lock is conditioned to prevent fully normal door-latch operation, the plunger head extending through an aperture in a frame element on the door, the plunger head being provided with a narrow slot of a width to receive and to hold against turning therein, the end of an automotive ignition or like key, the slot being bounded in part in the region of the outer end of the plunger head

by a key stop providing an abutment for a key when inserted in said slot for plunger actuation, and plunger guarding means arranged to coact with the frame element adjacent the aperture therein, for preventing direct manual actuation of the plunger head when the latter is in one of said limits of its movement.

2. In a door-locking plunger assembly for use on a door of an automotive vehicle of closed-body type, and in which the door is provided with lock mechanism, a vertically reciprocable lock-conditioning plunger head, a frame element exposed on the inside of the door, and having an aperture therein, through which aperture the plunger head extends, the plunger head and the lock mechanism being so connected that the plunger head may be retracted in a manner to prevent actuation of the door latch from a position within the vehicle body, the plunger head being movable upwardly of the first said position to an opposite limit of movement, and thus adapted to condition the door-latch mechanism for free manual actuation of the latch by a person within the body of the vehicle, the plunger head being provided with a narrow vertical slot, the width of which slot is such as to preclude introduction thereto of the finger of an operator, yet of a width to receive in the slot a thin plunger-actuating instrument such as an automotive ignition or door key, the slot terminating below the outer end of the plunger head, such outer end providing an abutment for the instrument inserted in said slot for plunger actuation in an upward direction, and plunger guarding means coacting with the frame element adjacent the aperture therein, for the prevention of direct manual actuation of the plunger head when the latter is in a retracted or door-locking position.

3. In a door-locking plunger assembly for the field of usage described, a plunger head, the plunger head being vertically reciprocable between door-locking and door-unlocking positions, the plunger head being mounted so as to extend through an aperture in a frame element on the door, and the head being provided with a narrow recess proportioned to receive therein the end of a thin instrument such as an automotive ignition key or the like, the recess being located somewhat below the outer end of the plunger head and providing on the head, an abutment for the actuating instrument when same is inserted in the recess for plunger actuation, and plunger guarding means adapted to coact with the frame element adjacent the aperture therein, for preventing direct manual access to, and actuation of the plunger head, when the latter is in door-locking position.

4. In a device for precluding direct manual actuation of an automotive door-latch-conditioning plunger when in a locking position, a plunger head, a housing adapted for mounting on a door glass frame or the like in a position such that the plunger head may be moved into the housing, the plunger head formed to permit actuation in one direction by a plunger actuating instrument such as a key, the housing being provided with an aperture through which such an instrument may be inserted for plunger actuation, the said aperture being of a reduced size such as to preclude finger access therethrough to the plunger head.

5. In a device for precluding direct manual actuation of a door latch plunger of the type described, when the plunger is in a door-locking position, a plunger head, a housing therefor adapted for mounting on a door glass frame or the like, said plunger head being so located that the head may be moved into the housing, the head being provided with a recess for receiving a plunger-actuating instrument such as a key, the housing being provided with an aperture to permit introduction therethrough of the actuating instrument, the aperture being so proportioned as to preclude finger access therethrough to the plunger head, the housing having an open portion such that the plunger head may be moved out of the housing through said open portion, to a position to permit fully normal latch actuation of the door.

6. A door-latch-conditioning plunger assembly for the general field of usage described, the assembly including a cup arranged for mounting on a frame and in an aperture therethrough, a plunger head adapted to be moved into and out of the cup and formed to provide on the head, an abutment for a thin plunger-lifting instrument such as a key, the cup being provided with a slot therein for access of the actuating instrument through the slot to said abutment, the slot being of narrow width such as to preclude digital actuation of the plunger head by access thereto through the slot.

7. The combination and arrangement of elements and features as recited by claim 8, but further characterized in that the abutment for the lifting instrument, as provided on the plunger head, is in the form of a longitudinal slot with an end wall engageable by the instrument, which slot is normally aligned with the slot in the cup, and further characterized by the provision of guide means on the plunger and the cup, said means acting to keep the slots substantially in registering relation.

8. In a plunger-guarding assembly for the noted field of usage, a plunger head reciprocally movable between an extended and a retracted position, and located so as to move through an aperture in a frame on an automobile door, the plunger head projecting variously, according to position, above such frame element, a tubular cup-shaped structure constituting a guard for the plunger head, means carried externally of said tubular structure for assembly thereof to an adjacent apertured frame element, the plunger head being provided with a narrow longitudinal, slotted recess terminating inwardly of the outermost portion of the plunger head, the outer end of the plunger head slot being formed to constitute an abutment for a thin instrument such as an automotive key, when same is inserted in the slot for outward movement of the plunger, the tubular guard member being provided with a longitudinal slot of a width comparable to that of said head recess, the tubular structure being further provided with a guide slot, and the head provided with a lateral projection working within and along the guide slot, said guide slot and projection acting to keep said slot and recess in substantial registry; the tubular guard member being of a depth and diameter such that, with respect to the range of movement and dimensions of the plunger head, the plunger head may, upon retraction, be movable substantially fully within the tubular member so as to preclude direct digital actuation of the plunger head, when same is in a retracted position.

9. In a plunger guard for receiving an auto door-latch-conditioning plunger, a substantially tubular member into which the plunger extends in one plunger position, the tubular member being of a size to extend into and substantially bridge a plunger aperture in an adjacent glass frame, and a pair of projections carried laterally of a lower portion of the tubular member, said projections being closely spaced one above the other, and adapted to receive and engage therebetween the material of the glass frame adjacent the plunger aperture, for positioning the tubular member partly within and projecting outwardly of said aperture.

10. The combination and arrangement of elements and features as recited by claim 9, but further characterized in that the tubular member is exteriorly convexly curved on a portion thereof substantially opposite said projections, said curvature serving to facilitate insertion of the lower portion of the tubular member in a cocked or bias relation through a plunger aperture of an adjacent glass frame.

11. In a plunger guard for the general field of use described, a tubular member into which a head portion of the plunger may extend in one position thereof, the tubular member being of a sectional area to extend into and substantially bridge a plunger aperture in an adjacent glass frame, a pair of closely vertically spaced projections carried laterally of a lower portion of the tubular member,

and adapted to receive therebetween the material of the glass frame adjacent the plunger aperture for positioning the tubular member in the aperture, and coacting means on the tubular member at a point substantially opposite said projections, and adapted to engage a margin of the apertured region of the glass frame opposite that marginal portion engaged by the projections.

12. In a door-latch-control plunger assembly for closed-body auto doors, a reciprocable plunger operable between extended and retracted positions to condition the door latch selectively to permit and to preclude actuation of the door latch from within the auto body, a head on said plunger, a yieldably mounted plunger locking element carried by the head, the head being formed to shield and guard the locking element against direct digital manipulation when the head and locking element are each in retracted position, the head and locking element being further formed to permit actuation of the locking element and plunger by application thereto of a thin instrument such as an automotive door or ignition key.

13. In a door-latch-control plunger assembly for the general field of usage described, a reciprocal plunger, a head on said plunger, the plunger and head being movable between extended and retracted positions to condition the latching mechanism of the door, the head being provided with a recess, a locking arm carried by the head and operable in the recess, said arm adapted to coact as a plunger latch with an adjacent ledge such as the margin of a glass frame opening, said recess and arm being so proportioned as to preclude direct digital releasing actuation of the locking arm, and so dimensioned as to permit such actuation by access to the arm with a thin instrument, such as a key.

14. In a door-latch control plunger assembly for the general field of usage described, a reciprocal plunger, a head on said plunger, the plunger and head being movable between extended and retracted positions so as variably to condition the latching mechanism of the door, the head being provided with a recess, a plunger-locking arm carried by the head and operable in the recess, said arm including a portion adapted selectively to extend into and out of the plunger whereby to coact as a plunger latch for engagement with an adjacent ledge such as the margin of a glass frame opening, said recess and latch portion being restrictedly so proportioned as to preclude direct digital releasing actuation of said arm, and so dimensioned as to permit engagement of the arm when the plunger head is in one position, by a thin instrument such as a key, said recess in the head being defined in part by an internal wall adapted for engagement by the instrument when actuating the locking arm, said wall serving as a key-engaged abutment incident to plunger actuation by the key.

15. In a door latch control plunger assembly for the general field of usage described, a reciprocal plunger connected to a car door latch mechanism for conditioning same, a head on said plunger, the plunger and head being movable between extended and retracted positions variably to condition the latching mechanism of the door, the head being provided with a narrow key-receiving recess, opening into the upper portion of the plunger, a locking arm carried by the head and mounted for a limited movement at least in part in said recess, an element carried by said arm and adapted to project laterally of and adapted to be at times retractible within the plunger, said arm being resiliently mounted on and within the plunger and adapted to coact, as a plunger latch, with an adjacent fixed abutment or keeper, said recess and said arm being of a reduced width such as to preclude direct digital contact with the locking arm, and yet of sufficient width as to permit engagement of the arm for latching and unlatching movements thereof, by a thin instrument such as a key.

16. A safety plunger assembly for the prevention of unintended opening actuation of an automotive door from within the car body, the assembly adapted as an attachment for a plunger rod below a glass frame aperture of an automobile door, and including a plunger head detachably connected to the plunger rod and operable through the glass frame aperture, the head being provided with a narrow longitudinal recess having a slotted opening laterally of the plunger head and terminating in a shoulder below the outermost portion of the head whereby to provide at the otuermost end of the slot, an abutment for a thin instrument such as the end of an automobile ignition or door key, a resiliently mounted latch arm formed of a flat metal strip, a clamping collar constrictingly embracing at least a part of the lower periphery of the plunger head, the lower end of said resilient latch arm being carried by and projecting upwardly of said collar, the latch arm being provided with a distinct shoulder formation substantially inwardly of its outermost end, and above said clamp band, the latch or shoulder of the arm adapted to engage beneath a marginal portion defining the plunger opening in said glass frame and coacting as a keeper with the shoulder portion of the latch arm, the latch arm being further characterized by an outwardly and upwardly extending portion above said supporting band and located to coact with said marginal portion to deflect the latch arm as same is moved inwardly of the aperture, just prior to the time of latching engagement with said marginal portion, the outermost end of the latch arm projecting outwardly of said shoulder region, and being normally concealed within said slotted recess of the plunger head, in a manner to preclude direct digital actuation of the latch arm, yet permitting release of the latch arm by insertion of a thin instrument such as the end of a key or the like, into the plunger recess against the latch arm, the said abutment for an actuating key or like instrument, serving to enable lifting actuation of the plunger head thereby, upon release of the latch arm.

17. An automotive door-latch-control plunger attachment including a plunger head adapted to be attached to the latch control plunger for reciprocal movement within limits determined by the path of plunger actuation, the head being provided with a narrow slotted recess, the slotted recess being of a width to receive a thin instrument such as a key, and to prevent any substantial rocking movement of the key in the recess, yet restricted in width to prevent insertion of the finger of the user into the recess, and plunger-head-guarding means coacting with the slotted recess to prevent direct digital actuation of the head when the head is in one limit of its range of movement, while permitting plunger head actuation by translatory movement of the key to the opposite limit of its range.

18. A door-latch plunger assembly including a plunger head movable within limits to condition the latching mechanism of the door, the plunger head being provided with a narrow slotted recess of a width to receive a thin instrument such as a key, and to prevent any substantial rocking movement of the instrument in the recess, and plunger-head guarding means coacting with said slotted recess to prevent direct digital actuation of the plunger head when the plunger head is in one limit of its range of movement, while permitting plunger head actuation by translatory movement of the instrument to the opposite limit of its range.

19. A door-latch plunger assembly including a plunger head movable within limits to condition the latching mechanism of the door, the plunger head extending through an aperture in a frame element on the door, the plunger head being provided with a narrow slotted recess of a width to receive and to hold against turning therein, a thin instrument such as a key, and plunger-head guarding means arranged to coact with the slotted recess and the frame element adjacent the aperture therein to prevent direct digital actuation of the plunger head when the plunger head is in one limit of its range of movement, while permitting plunger head actuation to the opposite

limit of its range by translatory movement of the instrument.

20. In a device for precluding direct digital actuation of a door-latch-conditioning plunger when in a locking position, the device comprised of a plunger head movable within limits to condition the latching mechanism of the door, a plunger head housing in a position so that the plunger head may be moved into the housing, the plunger head being formed to provide an abutment for a plunger-head lifting instrument such as a key, the housing being provided with an aperture through which the actuating instrument may be inserted for access to said abutment for plunger head actuation, the aperture being of reduced size so as to preclude digital actuation of the plunger head by access through the aperture.

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