Jan. 23, 1951 G. V. JAKEWAY 2,539,083

DOOR HANDLE

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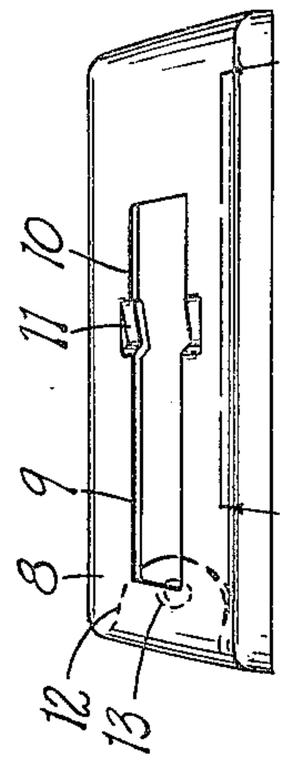

FIG. 5.

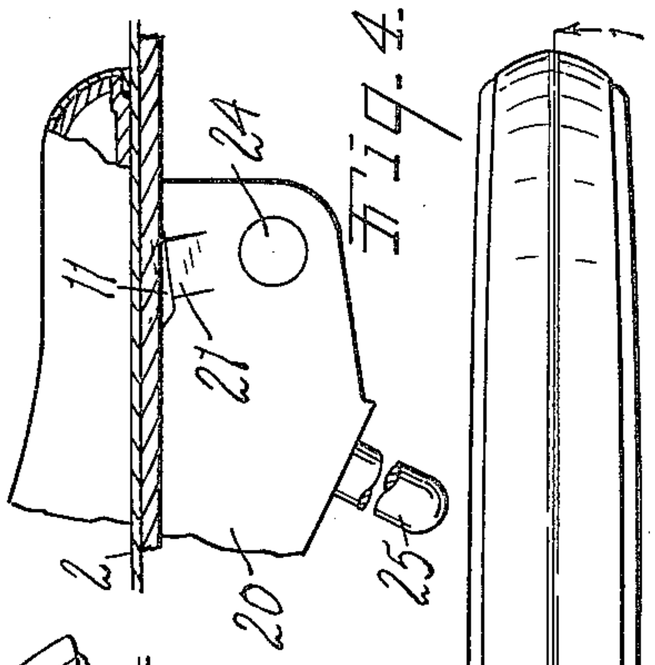

FIG. 4.

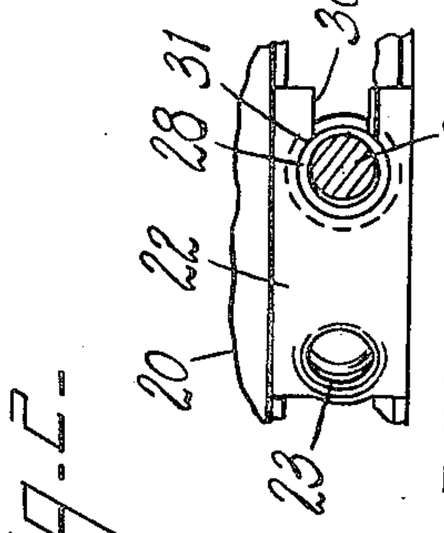

FIG. 6.

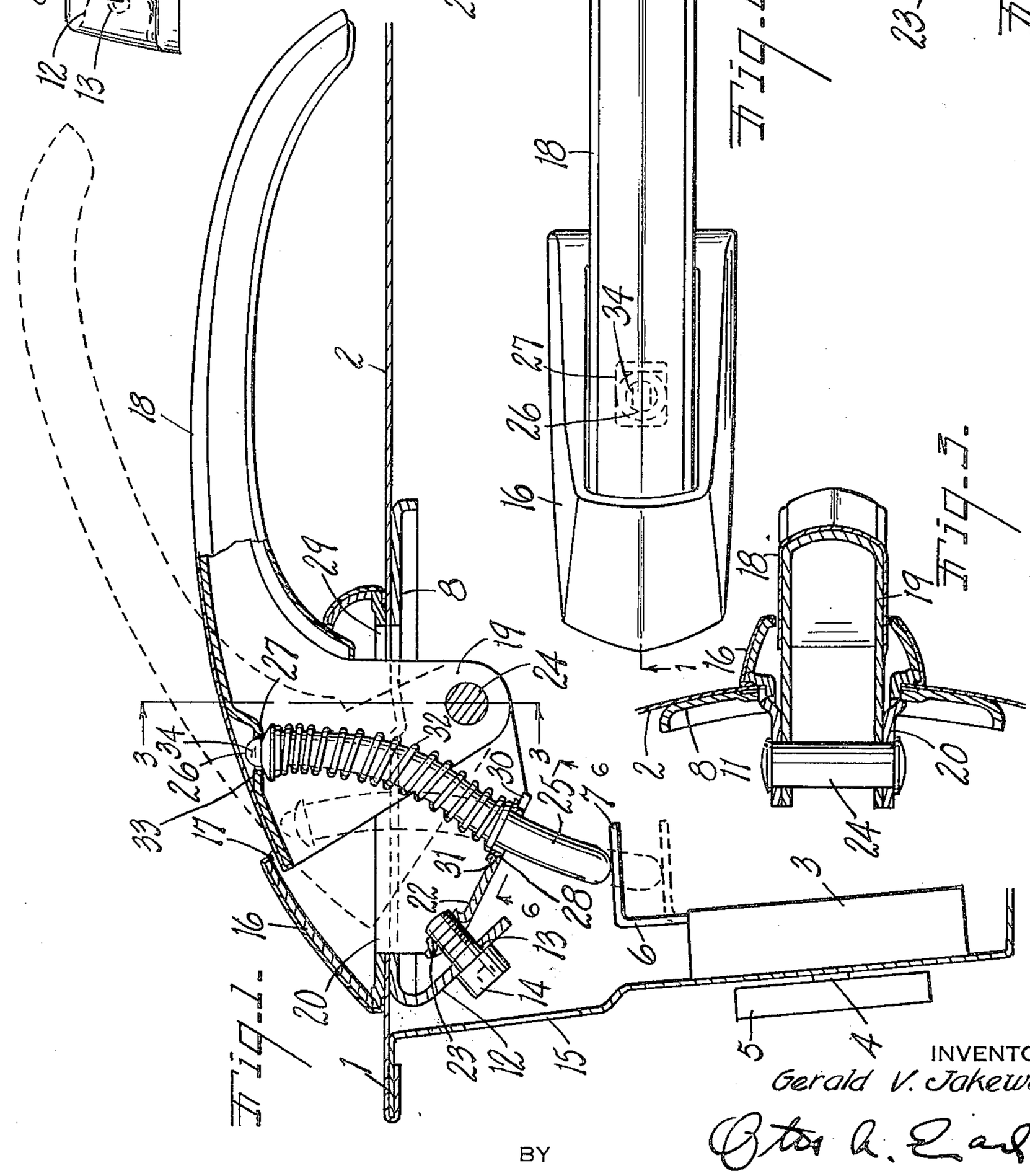

FIG. 1.

FIG. 3.

FIG. 7.

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DOOR HANDLE

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9 Claims. (Cl. 292—348)

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This invention relates to improvements in door handles.

The main objects of this invention are:

First, to provide a handle for motor vehicle doors, refrigerator doors and the like in which an outward pull on the handle serves to release the latch or bolt.

Second, to provide a handle assembly which may be assembled as a unit and quickly and easily applied to a door, the mounting means being concealed within a chamber in the door and inaccessible when the door is closed.

Third, to provide a structure embodying these advantages which is attractive in appearance and may be readily designed to harmonize with the vehicle body to which it is applied and at the same time maintain the structural advantages.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary view partially in section on a line corresponding to line 1—1 of Fig. 2 of a door handle embodying the invention applied to a door, certain of the parts being shown conventionally.

Fig. 2 is a front elevational view of the handle assembly.

Fig. 3 is a transverse section on a line corresponding to line 3—3 of Fig. 1, certain parts being shown in full lines.

Fig. 4 is an enlarged fragmentary view in section on a line corresponding to line 4—4 of Fig. 5, showing details of the handle assembly mounting.

Fig. 5 is a perspective view of the supporting plate adapted to be mounted on the door.

Fig. 6 is an enlarged fragmentary view on line 6—6 of Fig. 1.

In the accompanying drawing, 1 represents the door of an automobile having a chamber therein and an outer panel 2. A latch is conventionally shown at 3, the bolt being indicated at 4 and designed to cooperate with the keeper 5 mounted on the door casing not shown. The latch is provided with a release member 6 having a foot portion 7, the details of the latch not being illustrated as they form no part of the present invention.

The supporting plate 8 which is in the form of a sheet metal stamping is mounted on the inner side of the door panel 2. This supporting plate is provided with a longitudinal slot 9 having

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an enlargement 10 at its inner end, the edges of the slot having opposed inwardly projecting cammed keepers 11, these being formed by striking down portions of the plate.

The plate is provided with an inwardly projecting arm 12 at its outer end having a hole 13 therein adapted to receive the screw 14, an Allen screw being illustrated. The door is provided with an opening 15 affording access to the screw.

The escutcheon 16 is suitably shaped and is provided with an opening 17 receiving the inner end of the handle 18, the handle being provided with inwardly projecting arms 19. The escutcheon is provided with an inwardly projecting inverted yoke-like bracket 20 having lugs 21 struck outwardly from the arms thereof and engageable with the keepers by a sliding adjustment of the bracket relative to the supporting plate, the enlargement portion 10 of the bracket being of such width as to receive the lugs of the bracket.

The cross piece 22 of the bracket is provided with a threaded hole 23 with which the screw 14 may be engaged when the bracket is in locking engagement with the keepers, the screw applying clamping stress to the escutcheon and securely retaining the parts in position. It will be noted that the screw is not accessible when the door is closed. The arms 19 of the handle are pivotally mounted on the pivot 24 carried by the bracket.

The latch actuating plunger 25 is provided with a thrust member 26 engaging the abutment 27 on the handle. The end of the plunger is flattened at 34 to engage the slot 33 in the abutment to prevent rotation or turning of the plunger. The plunger is formed with a reverse curve, its inner end being substantially straight and engages the foot 7 of the reciprocating latch release element 6. The end of the plunger is in the embodiment illustrated spherically curved.

The cross piece 22 of the bracket is provided with a key-hole slot 30 receiving the guide bearing 28 for the plunger 25 fitting within the enlargement 31 of the key-hole slot, the bearing being flanged for retaining engagement with the cross piece as is shown in Figs. 1 and 6.

With this arrangement, the coiled compression spring 32 is slipped onto the plunger as is also the guide bearing 28. The upper end 26 of the plunger is engaged in the opening in the abutment on the handle, the spring collapsed sufficiently to permit the plunger to be passed through the reduced portion of the key-hole slot 30 and then released to permit the bearing to engage the enlarged portion of the key-hole slot. This

provides a very effective way of assembling and these parts are retained in their assembled relation without the aid of screws.

It should be noted, as is indicated by dotted lines in Fig. 1, that the inner end of the plunger moves in practically a straight line and has a straight line engagement movement with the latch element 6. This minimizes friction and wear on the parts. This movement results from the curving and mounting of the plunger.

With this arrangement, the escutcheon, handle and actuating member are assembled as a complete unit and the supporting plate is mounted on the door desirably on the inner side of the door panel, this preferably being done when the door is assembled, the plate being spot-welded in position with its opening 9 registering with an opening 29 in the door panel. With the plate thus mounted and the handle assembled as a unit it may be quickly mounted merely by passing the escutcheon bracket through the opening in the panel and the supporting plate, shifting the unit longitudinally to bring the lugs into engagement with the keepers of the plate and engaging and tightening the screw.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe certain embodiments and adaptations as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A door handle comprising in combination a slotted supporting plate having a laterally projecting arm at one end thereof, the plate having inwardly facing keepers, an escutcheon provided with an inwardly projecting bracket disposed through said slot in said supporting plate for slidable adjustment therein, said bracket having lugs engageable with said keepers by a sliding adjustment of the bracket relative to the plate, the bracket having a threaded opening therein in opposed relation to the arm of said supporting plate, means carried by said arm for securing the bracket with its lugs in engagement with said keepers, a handle disposed with one end thereof within said escutcheon and having inwardly projecting arms pivotally mounted on said bracket, and a latch actuating member mounted on said bracket and extending through the slot of said plate and operatively associated with said handle.

2. A door handle comprising in combination a longitudinally slotted supporting plate having opposed inwardly facing keepers, an escutcheon provided with an inwardly projecting bracket disposed through said slot in said supporting plate for longitudinal adjustment therein and engageable with said keepers by a sliding adjustment of the bracket relative to the plate, a handle operatively associated with said escutcheon and pivotally mounted on said bracket, a latch actuating member swingably connected to said handle and extending through the slot of said plate, and a coiled spring surrounding said actuating member and under compression between said handle and bracket for operating said handle and actuating member from a latch releasing position, said escutcheon, handle and actuating member being

assembled as a unit for engagement with said supporting plate, and means for securing the assembly to the supporting plate adjustable from one side thereof.

3. A door handle comprising in combination a slotted supporting plate having inwardly facing cammed keepers, an escutcheon provided with a bracket engageable with said keepers by a sliding adjustment of the escutcheon relative to the plate, a handle operatively associated with said escutcheon, a latch actuating member operatively associated with said handle and extending through the slot of said plate, and a coiled spring surrounding said actuating member and under compression between said handle and bracket for operating said handle and actuating member from a latch releasing position, said escutcheon, handle and actuating member being assembled as a unit for engagement with said supporting plate, and means for securing the assembly to the supporting plate in engagement with said keepers.

4. A door handle comprising in combination a slotted supporting plate having keepers, an escutcheon provided with a bracket engageable with said keepers by a sliding adjustment of the escutcheon relative to the plate, a handle operatively associated with said escutcheon, a latch actuating member swingably connected to said handle and extending through the slot of said plate, said escutcheon, handle and actuating member being assembled as a unit for engagement with said supporting plate, and means for securing the assembly to the supporting plate in engagement with said keepers.

5. A door handle structure comprising an inverted yoke-like supporting bracket adapted to be mounted on a door and having a key-hole slot extending from one edge of its cross piece, a handle having inwardly projecting arms pivotally mounted on said bracket, a latch actuating plunger having a non-circular outer end and provided with a thrust collar adjacent its outer end, the handle having an abutment provided with a slot receiving the end of the plunger with the thrust collar in engagement with said abutment, a bearing for said plunger having a flange having retaining engagement with the enlarged portion of said key-hole slot, said plunger being swingable through the reduced portion of said slot, and a coiled spring arranged on said plunger between its said thrust collar and said bearing and acting to yieldingly urge the plunger against the abutment and retain said bearing in said slot.

6. A door handle structure comprising a supporting bracket adapted to be mounted on a door and having a key-hole slot opening to an edge thereof, a handle pivotally mounted on said bracket, a latch actuating plunger having thrust engagement with said handle in substantially spaced relation to the handle pivot, a bearing for said plunger having a flange having retaining engagement with the enlarged portion of said key-hole slot, said plunger being swingable through the reduced portion of said slot into assembled operative position in the enlarged portion of the slot, and a spring acting to bias the handle and retain said bearing in said slot.

7. A door handle comprising a supporting bracket adapted for attachment to a door, a handle pivotally mounted on said supporting bracket, an actuating plunger having its outer end in thrust engagement with said handle in substantially spaced relation to the handle pivot,

said bracket having a laterally opening recess through which said plunger may be swung, a retaining bearing for said plunger and through which said plunger is adapted to reciprocate, said bearing being engageable with said recess by an axial movement of the bearing, and a spring arranged on the plunger and adapted to urge the bearing into engagement with the support and to return the plunger and handle to retracted position.

8. A door handle comprising a supporting bracket, a handle pivotally mounted on said bracket, an actuating plunger operatively engaged with said handle in substantially spaced relation to the handle pivot, said bracket having a laterally opening recess through which said plunger may be swung, a bearing through which said plunger is adapted to reciprocate, said bearing being retainingly engageable in an assembled operative position with said recess by an axial movement of the bearing, and a return spring for said handle acting to retain said plunger bearing in said recess.

9. A door handle assembly comprising a supporting bracket, a handle swingably mounted on said bracket, an actuating plunger having its outer end in swinging engagement with said handle, said plunger being in reciprocating guiding engagement with said bracket, said bracket having a lateral opening through which the plunger may be swung in assembling, means for retaining said plunger in assembled relation to said bracket, and a spring arranged on said plunger and adapted to urge it into retaining engagement with said handle and to retainingly engage said plunger retaining means.

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