

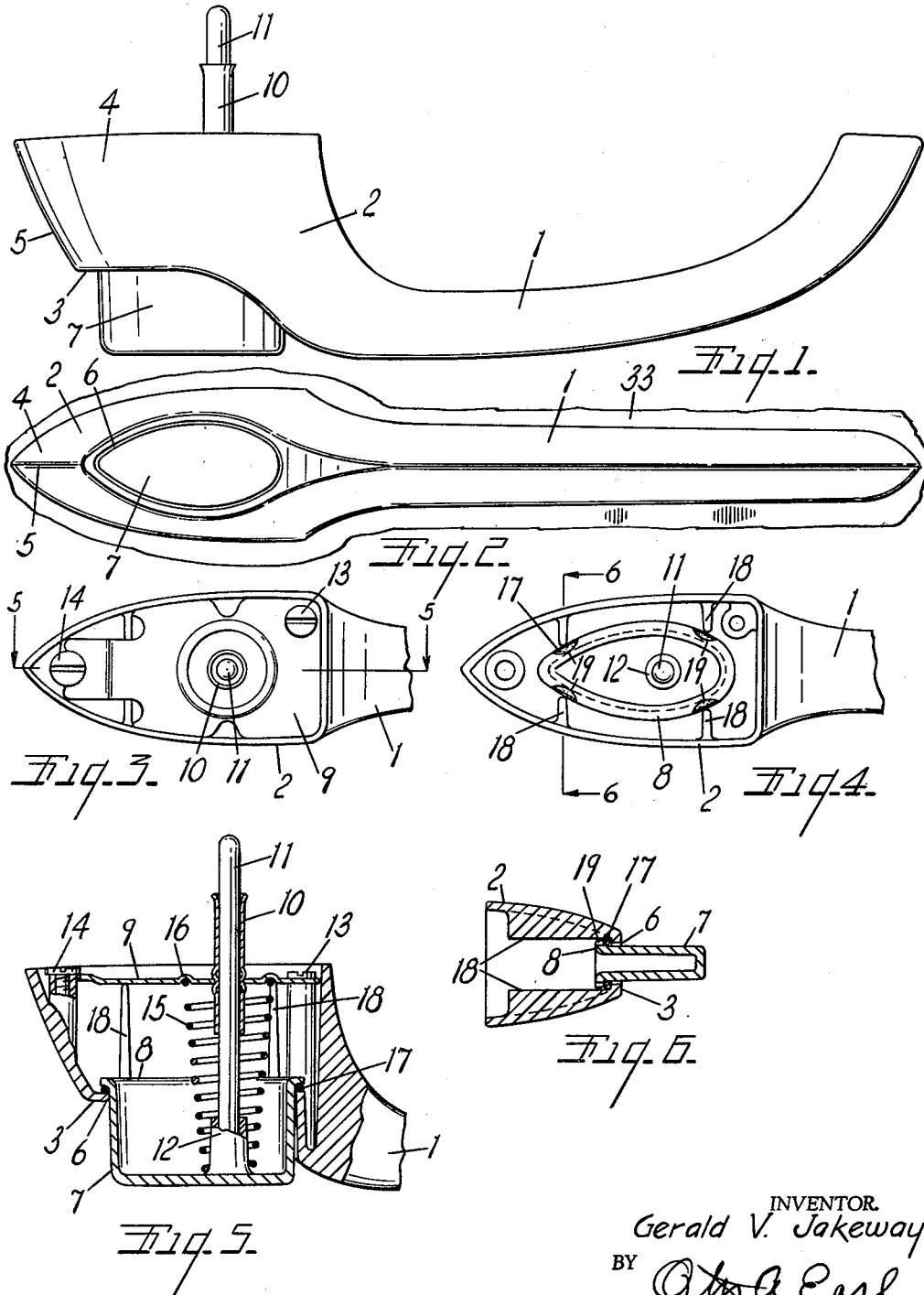
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DOOR HANDLES

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DOOR HANDLES

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This invention relates to door handles. The principal objects of this invention are:

First, to provide a door handle of the push button type which is adapted for use on motor vehicle doors and the like in which the push button is supported throughout its range of adjustment so there is no noise as a result of vibration of the door either when it is in closed position or other position resulting from the operation of the motor and vibration of the vehicle in use.

Second, to provide a door handle having these advantages or characteristics in which parts are not subjected to wear as the result of vibration.

Third, to provide a door handle of the push button type having these advantages in which the vibration preventing means is completely housed or concealed and in which the parts may be economically produced and assembled.

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 side view of the handle embodying my invention with the push button in its extended position, attaching means for the handle not being illustrated.

FIG. 2 is a front elevation thereof, a fragment of a door being conventionally illustrated to show the positioning relationship of the handle thereto.

FIG. 3 is a fragmentary inside view of the push button end of the handle in assembled relation.

FIG. 4 is a corresponding fragmentary view with the spring supporting plate and push button stem guide member removed.

FIG. 5 is a fragmentary view mainly in section on a line corresponding to line 5—5 of FIG. 3.

FIG. 6 is a fragmentary view in section on a line corresponding to line 6—6 of FIG. 4.

In the accompanying drawing I have not illustrated the means for securing the handle to a door as such means form no part of my present invention and they are varied according to shapes and structure of the door on which they are mounted. However, attention is directed to my patent issued Nov. 5, 1957, No. 2,812,205 which shows one form of means for securing the handle to a door panel, and my Patent No. 2,789,853 issued Apr. 23, 1957, which shows another means of securing the handle to a door. Both of these patents correspond to the present invention in that they are of the push button type.

In the embodiment of my invention illustrated, the handle comprises a grip member 1 and a chambered head member 2; these parts being formed integrally. In this embodiment, the outer side portion 3 of the head member is substantially inwardly disposed relative to the grip portion. In FIG. 2 I illustrate the handle in its mounted relation to a door, fragments of which are illustrated at 33. The head member 2 is of outwardly tapered shape, that is, its side walls. Portions 4 of the walls are curved and converge into a tip-like end portion 5. The head

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member has an opening 6 for the push button 7 which is provided with an outwardly projecting flange 8 on its inner edge as is shown in FIG. 4 but see FIGS. 5 and 6 which further illustrate the relationship of the push button and its flange to the portion of the wall surrounding the opening.

A spring and stem guide supporting plate 9 is disposed at the inner end of the housing and is provided with the guide 10 for the inwardly projecting stem 11, the front or outer end of which is engaged in a socket 12 fixedly secured to the inner side of the outer end portion of the push button; see FIG. 5. The plate 9 is detachably secured to the handle body portion by means of the screws 13 and 14; see FIG. 5.

The button retracting spring 15 is disposed with its outer end in supporting engagement with the push button and in lateral thrust engagement with the socket member 12. The inner end of the spring is seated in an annular groove 16 provided therefor in the supporting plate 9.

It will be understood that these parts constitute an assembled unit, being designed to actuate some bolt or other part as latch or lock elements which are not illustrated as these vary greatly and form no part of my present invention.

In the embodiment illustrated the push button is of oval cross sectional shape as is clearly illustrated in FIGS. 2 and 4. However, it will be understood that its shape does vary in commercial use.

A gasket-like silencer member 17, desirably formed of rubber or like elastic springably resilient material is disposed in embracing relation to the push button and in supported relation to the outwardly projecting flange 8 on its inner end. See FIGS. 4, 5 and 6.

In the embodiment of my invention illustrated the head member has inwardly projecting laterally spaced pairs of opposed push button guide members 18, see FIG. 4, which engage the silencer member when the push button is in projected position and also when it is actuated inwardly. In the embodiment illustrated the flange 8 of the push button 7 is provided with notches 19 which expose portions of the silencer member and the guide members 18 engage the silencer member 17 not only when it is in closed position but also while the button is being reciprocated or actuated and, as stated, the silencer member engages the inwardly projecting flange or part 8 surrounding the push button when the push button is in its extended non use position. With this arrangement of parts, the push button is prevented from vibrating so it cannot produce a rattling sound either when it is in closed position or while it is being actuated. However, the parts are not subjected to any substantial wear in use manipulation or as a result of the vibration of the body of the vehicle resulting from the engine or the travel of the vehicle.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe other adaptations or embodiments which I contemplate, as I believe this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described the invention what is claimed as new and desired to secure by Letters Patent is:

1. A handle of the class described comprising a grip member and a chambered head member integral with

the grip member, the outer side of the head member being offset inwardly relative to adjacent portions of the grip member, said head member being tapered outwardly and having an oval push button opening therein surrounded by a push button stop, a push button of oval section reciprocatingly disposed in said opening in said head member and having an outwardly projecting flange-like stop on its inner end, a resonance damper member disposed on the outer side of said stop in embracing lateral thrust sustaining engagement with said push button, said head member having inwardly projecting laterally spaced pairs of opposed push button guide members on its side walls, said flange of said push button having notches therein aligned with said guide members so that said resonance damper member is in lateral thrust sliding engagement therewith, said push button having an inwardly projecting stem, a supporting plate disposed within and supportedly mounted on said head member at the inner ends of said push button guide members and with which said stem is slidably and guidably engaged, and a coiled spring supportedly mounted on said supporting plate in surrounding relation to said stem with its outer end in coacting relation to said push button.

2. A handle of the class described comprising a grip member and a chambered head member integral with the grip member, the outer side of the head member being offset inwardly relative to adjacent portions of the grip member, said head member being outwardly tapered and having an oval push button opening therein surrounded by a push button stop, a push button of oval section reciprocatingly disposed in said opening in said head member and having an outwardly projecting flange-like stop on its inner end, a resonance damper member of resilient material disposed on the outer side of said stop in embracing lateral thrust sustaining engagement with said push button, said head member having inwardly projecting laterally spaced pairs of opposed push button guide members on its side walls, said flange of said push button having notches therein aligned with said guide members so that said resonance damper member is in lateral thrust sliding engagement therewith, and spring means for returning said push button to retracted position.

3. A handle of the class described comprising a grip member and an elongated endwise tapered chambered head member having an oval push button opening in the top thereof surrounded by a push button stop, a push button of oval section reciprocatingly disposed in said opening and provided with a stem slidably mounted on said head member, said head member having inwardly projecting laterally spaced members on its side wall portions, the inner edges of which are disposed in substantially parallel relation to said stem, a nonmetallic resilient guide engaging member supportedly mounted on said push button at the outer side of and in supported relation to said flange and in lateral thrust sustaining engagement with said push button, said flange of said push button having notches therein aligned with said guide members, and means for automatically retracting said push button from its actuated position.

4. A handle of the class described comprising a grip member and a chambered head member having a push button opening in the top thereof surrounded by a push button stop, a push button reciprocatingly disposed in said opening and provided with a stem slidably mounted on said head member, said head member having inwardly projecting laterally spaced members on its side wall portions, the inner edges of which are disposed in substantially parallel relation to said stem, a nonmetallic resilient guide engaging member supportedly mounted on said push button at the outer side of and in supported relation to said flange and in lateral thrust sustaining engagement with said push button, said flange of said push

button having notches therein aligned with said guide members, and means for automatically retracting said push button from its actuated position.

5. A handle of the class described comprising a grip member and chambered head member, the front side of the head member being inwardly offset relative to adjacent portions of the grip member, the head member having a push button opening therein and a push button stop, a push button reciprocatingly disposed in said opening in said head member and having an outwardly projecting flange on its inner end, a cushioning member of nonmetallic material disposed on said push button on the outer side of its said flange in supported lateral thrust sustaining engagement with said thrust member and said push button stop, said head member having inwardly projecting laterally spaced pairs of opposed push button guide members on its side walls, said cushioning member supporting flange of said push button having notches therein aligned with said guide members so that said cushioning member is in lateral thrust sliding engagement therewith, and spring means for retracting said push button from actuated position.

6. A handle of the class described comprising a grip member and chambered head member, the head member having a push button opening therein and a push button stop, a push button reciprocatingly disposed in said opening in said head member and having an outwardly projecting flange on its inner end, a cushioning member of nonmetallic material disposed on said push button on the outer side of its said flange in supported lateral thrust sustaining engagement with said thrust member and said push button stop, said head member having inwardly projecting laterally spaced pairs of opposed push button guide members on its side walls, said cushioning member supporting flange of said push button having notches therein aligned with said guide members so that said cushioning member is in lateral thrust sliding engagement therewith, and spring means for retracting said push button from actuated position.

7. A handle of the class described comprising a grip member and a chambered head member having a push button opening therein and a push button stop, a push button reciprocatingly disposed in said opening and provided with a stem slidably mounted in said head member, said head member having elongated push button guide members disposed to laterally and guidingly support said push button, resilient guide member engaging means supportedly mounted on said push button to reciprocate therewith and being in lateral thrust sliding engagement with said guide members throughout the stroke of said push button and coacting with said guide members to prevent vibration of said push button as it is being reciprocatingly adjusted, and spring means acting to yieldably hold said push button in retracted position and with said resilient means in engagement with said stop.

8. A handle of the class described comprising a grip member and a chambered head member having a push button opening in the front side thereof, a push button reciprocatingly mounted in said opening to project outwardly therefrom and provided with a part actuating stem, spring means for automatically retracting said push button from actuated to retracted position and yieldingly hold it in its retracted position, and a resilient cushioning means supportingly mounted on said push button to reciprocate therewith and being in coacting relation with said head member when in retracted position, said head member having push button guide members disposed in guiding relation thereto and with which said cushioning means is in lateral thrust engagement when said head member is in its retracted position and during the reciprocating adjustment thereof.

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