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(71) Applicant: **KOKUSAN KINZOKU KOGYO KABUSHIKI KAISHA**
2-8-2, Kamata
Ota-ku Tokyo(JP)

(72) Inventor: **Uemura, Isamu**
3-36, Oppama-cho Yukosuka-shi
Kanagawa-ken(JP)

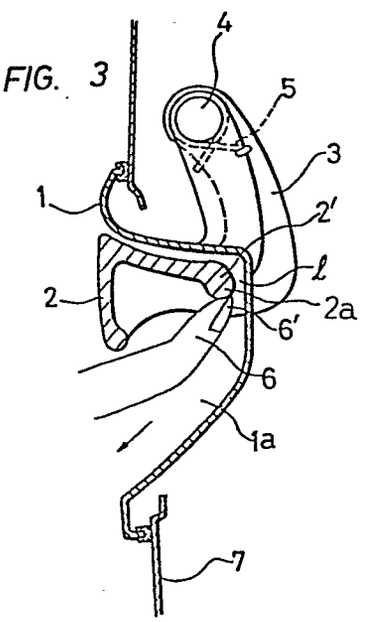
(72) Inventor: **Yamamoto, Kazumasa**
3-43-8, Kojima-cho Chofu-shi
Tokyo(JP)

(74) Representative: **Daunton, Derek**
Barlow, Gillett & Percival 94, Market Street
Manchester M1 1PJ(GB)

(54) Automobile door handle assembly.

(57) An automobile door handle assembly comprises a pivotable handle (2) held at its normal inoperative position substantially within a recess (1*a*) formed in an escutcheon (1) fixedly attached to door panel (7) of an automobile or formed directly in said door panel (7). The handle (2) is formed at its inner edge with a bulged-out or thickened portion (2') generally directed inwardly of the recess (1*a*) and downwardly, for preventing possible physical hurt or damage to the operator's finger nails (6') or finger tip(s) by accidental entry into gap (ℓ) existing between the inner edge (2') of the handle (2) and the confronting wall of the recess (1*a*).

FIG. 3



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AUTOMOBILE DOOR HANDLE ASSEMBLY

This invention relates to automobile door handle assemblies.

Conventionally automobile doors are opened and closed by manipulating a door handle. Arrangements are known in which the handle, when actuated by an operator pulling it towards him, swings outwards and upwards so as partially to emerge from a surrounding casing, and by this action the door lock is brought into its released or unlocked condition, ready for opening the door. With continued pulling of the raised door handle, the door is caused to swing open.

Upon opening of the door, the operator's

pressure on the door handle is released. The door handle then automatically returns to an initial position within the casing, under the action of a return spring. It is not unusual, during the return movement of the handle for the tip of one or more of the user's fingers, or his finger nails to be squeezed in the gap which has been created between the inside edge of the handle and the inside wall surface of the casing normally housing the latter (hereinafter referred to as an "escutcheon") or a corresponding part of the door panel, thereby hurting or damaging the finger(s).

It is, therefore, an object of the present invention to provide an improved automobile door handle assembly the construction of which is effective to preventing physical hurt or damage being caused to the operator's fingers' end during door-opening manipulation, the inside edge of the door handle being designed in its cross-sectional configuration, so as positively to prevent an operator's finger end(s) from entering into the gap as above discussed.

With this object in view, the present invention provides a door handle assembly comprising a door panel or an escutcheon, said panel or escutcheon being formed to provide a handle-containing space or recess accommodating a pivotable handle so as to be substantially contained therein in its normal position corresponding to door-closure and adapted partially to emerge therefrom in a pulled-out position corresponding to door-opening, characterised in that said handle is formed at its inside edge with a bulged-out or thickened portion for the prevention of physical hurt and/or damage to operator's finger end(s) as a result of possible entry into any gap present or arising between the inside edge of the handle and the confronting part of the escutcheon or door panel.

The invention will be described further, by way of example, with reference to the accompanying drawing, in which:-

Fig. 1 is a schematic perspective view illustrating a preferred embodiment of the door handle assembly of the present invention;

Fig. 2 is an enlarged sectional elevation illustrating the construction of a conventional door of the kind with which the invention is concerned, and;

Fig. 3 is an enlarged sectional elevation illustrating the handle assembly, according to the invention, of Fig. 1, in such a way that it may be compared with Fig. 2, and the inventive features thereof may be perceived.

As will be understood, in the accompanying drawing a preferred embodiment of the handle assembly of the invention (Figs. 1 and 3) will be described in comparison with a prior known or conventional automobile door handle assembly (Fig. 2).

In the figures, the reference numeral 1 indicates an escutcheon which, in the installed condition of the assembly, is attached to an automobile door panel 7 of which only a part is shown. The escutcheon 1 is shaped to provide a recessed open space or recess 1a opening towards the exterior of the vehicle

The reference numeral 2 indicates a handle which

in its normal position is contained substantially wholly within the open space or recess 1a. Two arms 3 are formed integrally with the handle 2 and are pivotably mounted by two pivot pins 4 respectively on the upstanding limbs of a stationary U-shaped mounting bracket 1b which is formed integrally with the escutcheon 1 and has its limbs projecting upwards therefrom. A respective return coil spring 5 is mounted on each of the pivot pins 4.

When an operator has manually raised the handle 2 by applying a turning pressure thereto in the clockwise direction as indicated in Figs. 2 and 3, and then releases his hand therefrom or relaxes the pressure, the handle 2 will return automatically to the illustrated normal position under the action of the springs 5 and thus moves back into the space or recess 1a.

In the conventional arrangement shown in Fig. 2, a small gap ℓ arises between the inside edge 2' of handle 2 and the confronting inside wall surface 1c of the escutcheon 1.

According to experience, it has been found that

an operator's finger nail, as indicated at 6', may sometimes be subjected to squeezing between the stationary wall surface 1c and the moving handle edge 1' when manipulating the handle 2 for opening and closing the door, and this can quite frequently lead to physical injury.

For avoiding this disadvantage of the conventional construction, the handle 2 is formed, in accordance with this invention, and as shown specifically in Fig. 3, with a bulged-out or thickened end portion 2a at its inside side edge 2' when considered in cross-section.

By the provision of such bulged-out or thickened end portion 2a on the handle 2, the possibility of entry of the operator's finger nail 6' or the tip(s) of his finger(s) into the gap 4 is effectively prevented.

It is most preferable for the bulged-out or thickened portion 2a to extend in a downwardly inclined and inwardly inclined direction as shown. In this way, particularly effective safety for the

user's finger end(s) can be positively achieved.

If desired, the door panel 7 *per se* can be shaped in a manner corresponding to the illustrated escutcheon, in which case the hand 2 will, of course, be mounted so as to be accommodated in a handle - accommodated space or recess formed directly in the door panel, without the use of an intervening escutcheon. This possibility has not been illustrated, since its form will readily be appreciated by those skilled in the art.

CLAIMS:

1. A door handle assembly comprising a door panel or an escutcheon, said panel or escutcheon being formed to provide a handle-containing space or recess accommodating a pivotable handle so as to be substantially contained therein in its normal position corresponding to door-closure and adapted partially to emerge therefrom in a pulled-out position corresponding to door-opening, characterised in that said handle is formed at its inside edge with a bulged-out or thickened portion for the prevention of physical hurt and/or damage to operator's finger end(s) as a result of possible entry into any gap present or arising between the inside edge of the handle and the confronting part of the escutcheon or door panel.

2. A door handle assembly of claim 1, wherein the said bulged-out or thickened portion of the handle is directed generally downwards and inwards of the space or recess.

FIG. 1

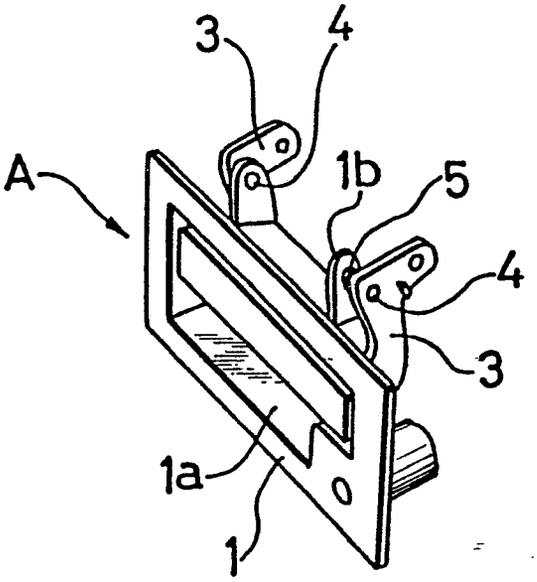

FIG. 2

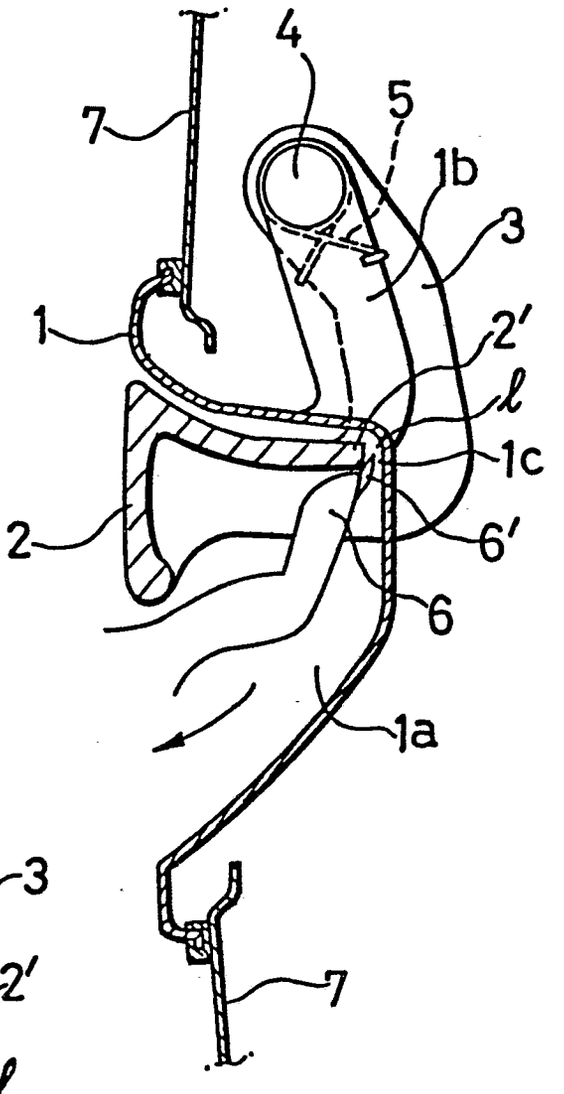

FIG. 3