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I. S. KEELER ET AL

2,567,565

HANDLE

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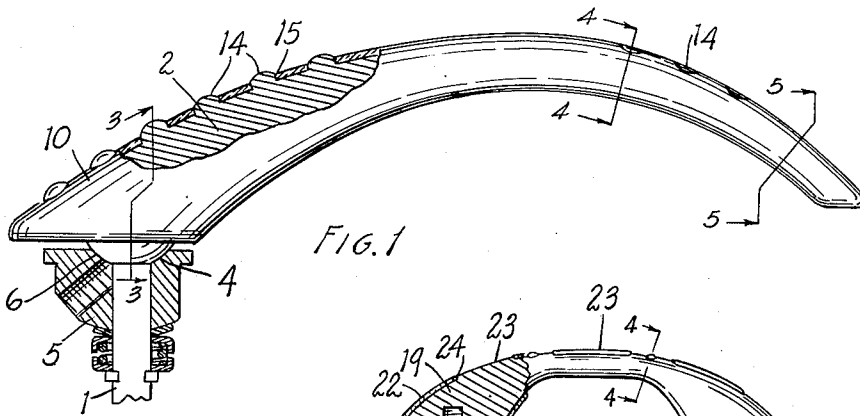


FIG. 1

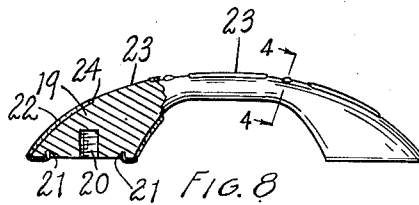


FIG. 8

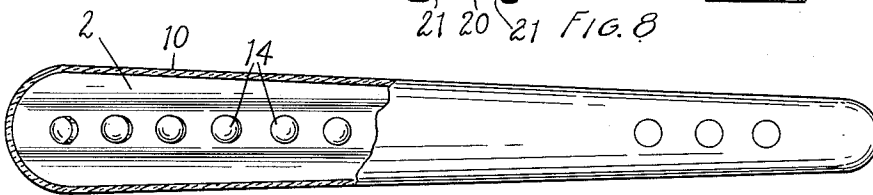


FIG. 2

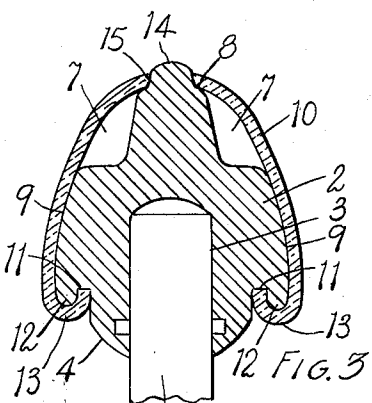


FIG. 3

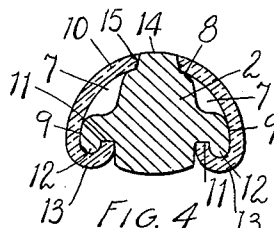


FIG. 4

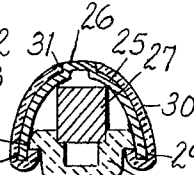


FIG. 9

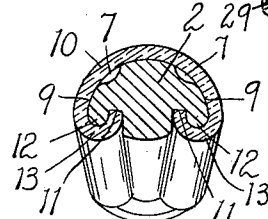


FIG. 5



FIG. 6

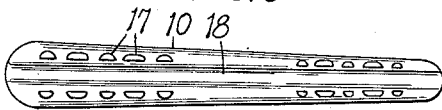


FIG. 7

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## UNITED STATES PATENT OFFICE

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## HANDLE

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7 Claims. (Cl. 292-347)

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The main objects of this invention are:

First, to provide an article of hardware which may be very economically produced and at the same time is highly ornamental and finished in appearance and may be produced in a wide variety of colors to match other associated parts—for example, the trimming of a motor vehicle or of an article of furniture.

Second, to provide a structure having these advantages in which a core or handle bar portion may be formed as a die casting, a casing formed of thermoplastic material and readily applied to the core, forming a rigid permanently assembled unit.

Third, to provide a handle structure which is capable of being embodied in a wide variety of ornamental forms and to produce a wide variety of ornamental effects, the ornamental features also serving as structural elements.

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.

Preferred embodiments of the invention are illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary side elevation partially in longitudinal section on line 1—1 of Fig. 2 of a door handle embodying our invention.

Fig. 2 is a front view with portions of the casing broken away and in longitudinal section.

Fig. 3 is an enlarged fragmentary view on a line corresponding to the broken line 3—3 of Fig. 1.

Fig. 4 is an enlarged transverse section on line 4—4 of Figs. 1 and 8.

Fig. 5 is an enlarged transverse section on line 5—5 of Fig. 1.

Fig. 6 is a front view of a modified form or embodiment of our invention particularly illustrating certain of the ornamental features or characteristics.

Fig. 7 is a front view showing a further modification or embodiment.

Fig. 8 is a side elevation partially in longitudinal section of an adaptation or embodiment of our invention to a drawer pull type of handle.

Fig. 9 is a transverse section of a modified form or embodiment employing a sheet metal core instead of a die-cast core.

In the embodiment of our invention illustrated, 1 represents the chill or spindle of an automobile door handle. The handle proper comprises the metal handle bar or core 2 suitably longitudinally curved and in this embodiment formed as a die

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casting. The handle bar is provided with an inwardly facing socket 3 in its butt receiving the spindle.

The handle bar is provided with an inwardly facing convexly curved bearing portion 4 designed to coact with the bearing member 5 having a suitable socket 6 receiving the bearing 4. The bearing member 5 is adapted to be attached to a door.

In the embodiment illustrated, to economize on material, the handle bar is provided with outwardly facing longitudinal recesses 7 extending for the major portion of its length. The crown or front 8 of the handle bar and the sides 9 thereof are curved to support the casing member 10. The handle bar is provided with inwardly facing longitudinal grooves 11 on its rear side, forming rearwardly projecting flanges 12. The grooves and the border flanges are preferably continuous around the handle bar.

The casing 10 is preformed of thermoplastic moldable material and is of general channel or U-cross section to supportingly fit the core as is illustrated. The thermoplastic material may be any one of such materials now common in the art, as for instance "Tenite." The sides of the casing are plasticized by heat and molded at 13 around the flanges 12, the edges of the casing being turned inwardly and fittingly engaging the grooves 11. This results from the width of the grooves corresponding to the thickness of the casing. The edges of the casing sides about the bottom of the groove and owing to the fact that this is accomplished while the edge portions of the casing member are plasticized, a very secure fit is provided.

The casing is, however, further secured or anchored by means of the lug-like projections 14 which are formed on the outer surface of the handle bar to project through openings 15 provided therefor in the casing. The casing fits the handle bar between the lugs, these lugs serving as anchoring members for the casing and also provide ornamental features, the projecting ends of the lugs being plated or finished to secure the contrasting effect with the casing.

In the modification shown in Fig. 6 the projections 16 are somewhat V-shaped, those at opposite ends being oppositely arranged.

In Fig. 7, the lugs 17 are arranged in two series with a rib-like portion 18 between them.

In the embodiment of our invention shown in Fig. 8, we illustrate an adaptation to a drawer pull, the handle bar or core 19 of this embodiment illustrated being formed as a die casting

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and having threaded inwardly opening holes 20 in the ends adapted to receive attaching screws. In this structure the inner side of the handle bar is provided with grooves 21 receiving the inner edges of the casing 22. These grooves extend continuously along the side and end edges of the inner side of the core member as shown in Fig. 8. The handle bar is provided with projections 23 projecting through holes 24 in the casing member. In this embodiment the lugs also serve as anchoring means for the casing as well as ornamental elements.

In the embodiment of our invention shown in Fig. 9 the core comprises the sheet metal stamping 25 of channel section and suitably shaped longitudinally and transversely and having lugs or embossed portions 26 corresponding to the embossed portions 14 of the core 2. The spindle in this embodiment is provided with an extension 27 supporting the core. The extension seated against the inner edge of the part 24 is a plastic backing 28 which fits within the shell or core 25, coating therewith to form longitudinal recesses 29.

The casing 30 of multiple plastic has its inner edges folded around the edge of the core and into these longitudinal grooves or recesses 29 in retaining engagement with the back member 28.

The ornamental bosses may be the desired size and shape and they are exposed through openings 31 in the casing, thus securing the ornamental effects of the other embodiments. The embodiment of Fig. 9 eliminates the necessity for the use of die castings.

Our invention is capable of considerable modification from the standpoint of ornamentation, that is, the casing may be formed of the desired color of plastic to harmonize with other fixtures or the upholstery of a motor vehicle and the lugs and openings in the casing may be shaped to harmonize with other ornamental features of a motor vehicle, for example. The casing may be quite light or thin and at the same time it is securely anchored.

We have illustrated and described our invention in very practical embodiments thereof. We have not attempted to illustrate or describe other embodiments or adaptations as it is believed that this disclosure will enable those skilled in the art to embody or adapt our invention as may be desired.

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

1. A hardware article comprising a longitudinally bowed metal core member formed as an integral member solid in cross section and of substantial thickness between the inner and outer sides thereof and between the opposite sides intermediate said inner and outer side, said core member having outwardly facing longitudinal recesses extending for a major portion of the length thereof and having continuous inwardly facing grooves in its inner side adjacent to but spaced from the side and end edges thereof providing an inwardly projecting continuous border flange extending along the side and end edges of said inner side, and a hollow preformed casing member generally U-shaped in cross section and of thermoplastic moldable material arranged upon said core member and cross-sectionally shaped to supportingly fit the same, the sides of said casing member being extended inwardly around said inwardly projecting border flanges and the edges thereof being turned into

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said grooves, the width of the grooves corresponding approximately to the wall thickness of said casing member, said core member having inwardly facing flat surfaces at the ends thereof provided with tapped bores adapted to receive attaching screws.

2. A hardware article comprising a longitudinally bowed metal core member formed as an integral member solid in cross section and of substantial thickness between the inner and outer sides thereof and between the opposite sides intermediate said inner and outer side, said core member having outwardly facing longitudinal recesses extending for a major portion of the length thereof and having continuous inwardly facing grooves in its inner side adjacent to but spaced from the side and end edges thereof providing an inwardly projecting continuous border flange extending along the side and end edges of said inner side, and a hollow preformed casing member generally U-shaped in cross section and of thermoplastic moldable material arranged upon said core member and cross-sectionally shaped to supportingly fit the same, the sides of said casing member being extended inwardly around said inwardly projecting border flanges and the edges thereof being turned into said grooves, said core member having inwardly opening bores adapted to receive attaching means.

3. A hardware article comprising a longitudinally curved metal handle bar formed as an integral metal member solid in cross section and having a spindle socket at its inner end and having inwardly facing grooves in its inner side adjacent to but spaced from the edges thereof providing inwardly projecting border flanges and also having a series of longitudinally spaced lug-like projections disposed centrally on its front, and a hollow preformed casing member generally U-shaped in cross section and of thermoplastic moldable material conformed to supportingly embrace the front and sides of the handle bar and having openings therein through which the said projections extend and are exposed, the sides of the casing member being extended inwardly around said inwardly projecting border flanges and the edges thereof being turned into said grooves, said projections constituting anchoring members for said casing, said projections exposed through said openings constituting features of ornamentation on the outer side of the casing, said projections extending from said handle bar prior to assembling of the handle bar and casing member to each other to facilitate such assembling.

4. A hardware article comprising a longitudinally curved handle bar having inwardly facing grooves in its inner side adjacent to but spaced from the edges thereof providing inwardly projecting border flanges and also having a series of longitudinally spaced lug-like projections, and a hollow preformed casing member generally U-shaped in cross section and of thermoplastic moldable material conformed to supportingly embrace the handle bar and having openings therein through which the said projections extend and are exposed, the sides of the casing member being extended inwardly around said inwardly projecting border flanges and the edges thereof being turned into said grooves, said projections exposed through said openings constituting features of ornamentation on the outer side of the casing, said projections extending from said handle bar prior to assembling of the

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handle bar and casing member to each other to facilitate such assembling.

5. A hardware article comprising a handle bar formed as an integral metal member solid in cross section and having inwardly facing longitudinal grooves in its inner side and also having a series of lug-like projections on its outer side, and a hollow preformed casing member of thermoplastic moldable material conformed to supportingly embrace the handle bar and having openings therein through which the said projections extend and are exposed, the sides of the casing member being extended inwardly and the edges thereof being turned into said grooves, said projections exposed through said openings constituting features of ornamentation on the outer side of the casing, said projections extending from said handle bar prior to assembling of the handle bar and casing member to each other to facilitate such assembling.

6. A hardware article comprising a handle bar having inwardly projecting flanges on its inner side and also having a series of projections on its outer side, and a hollow preformed casing member of thermoplastic moldable material conformed to supportingly embrace the handle bar and having openings therein through which the said projections are exposed, the sides of the casing member being extended inwardly around and retainingly engaged with said inwardly projecting flanges, said projections constituting anchoring members for said casing, said projections exposed through said openings constituting features of ornamentation on the outer side of the casing, said projections extending from said handle bar prior to assembling of the handle bar

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and casing member to each other to facilitate such assembling.

7. A hardware article comprising a handle bar having inwardly projecting flanges on its inner side and also having a series of projections on its outer side, and a hollow preformed casing member of thermoplastic moldable material conformed to supportingly embrace the handle bar and having openings therein through which the said projections are exposed, the sides of the casing member being extended inwardly around and retainingly engaged with said inwardly projecting flanges, said projections exposed through said openings constituting features of ornamentation on the outer side of the casing, said projections extending from said handle bar prior to assembling of the handle bar and casing member to each other to facilitate such assembling.

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