July 5, 1927.

1,634,342

V. R. SHINKEZ

DOOR HANDLE

Filed Sept. 13, 1924

Fig. 1.

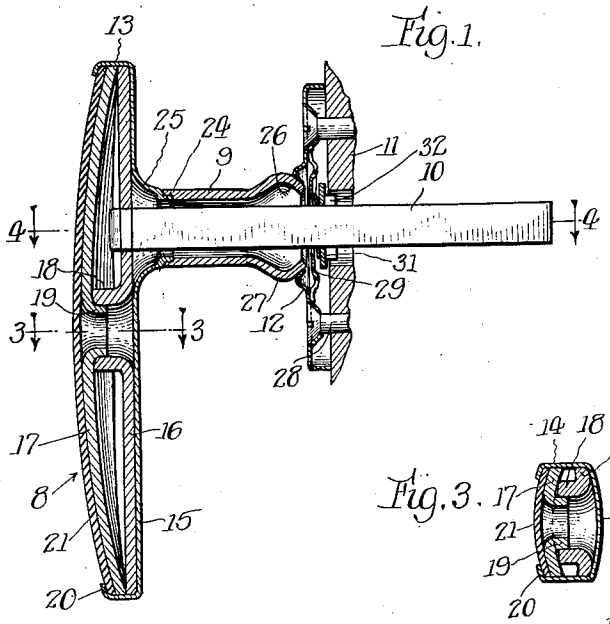


Fig. 2.

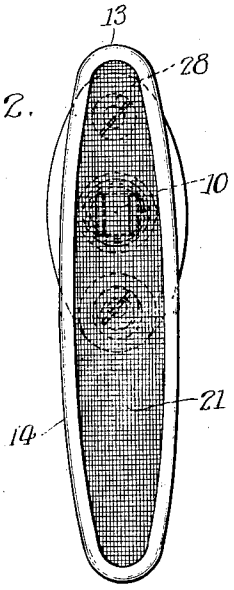


Fig. 3.

Fig. 4.

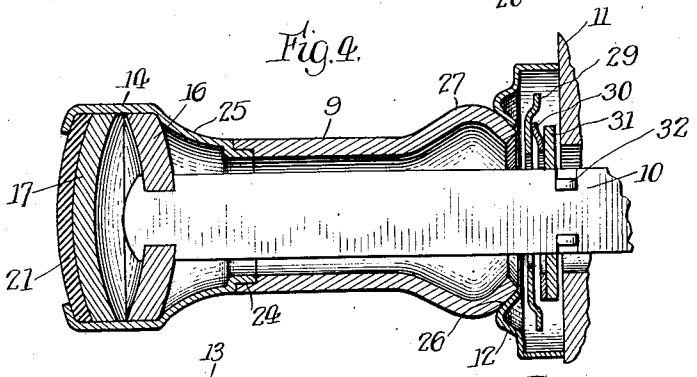


Fig. 5.

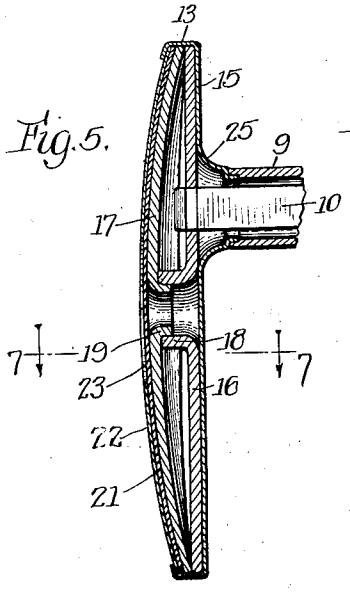


Fig. 6.

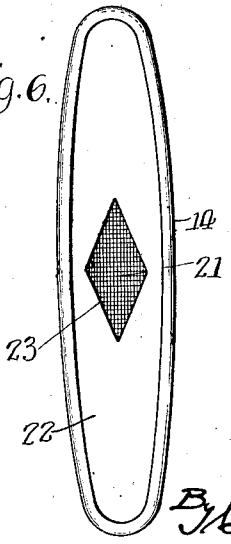
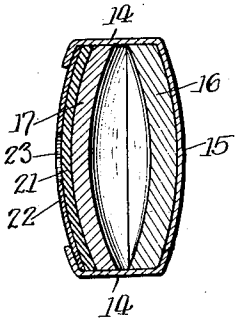


Fig. 7.



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Patented July 5, 1927. 1,634,342

UNITED STATES PATENT OFFICE.

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DOOR HANDLE.

Application filed September 13, 1924. Serial No. 737,470.

The invention pertains to door handles and more especially to handles for automobile doors and the like.

The object of the invention generally stated is to produce a door handle capable of being manufactured at a relatively low cost and possessing the further advantage that it is strong and durable and presents a neat and ornamental appearance.

In attaining this object the handle is constructed almost entirely from metal in sheet form pressed and drawn to form the several parts. A prominent feature is the formation of the main or body portion of the handle from two interengaging strips enclosed by a drawn sheet metal shell which is open at its forward side leaving the rear face of the body portion free from joints, seams and rough edges, so as to present a smooth and unbroken gripping surface pleasing to the touch. Another feature is the use of a panel member 21 closing the forward open side of the shell and made of a rubber composition or other flexible or yielding material which lends itself to easy and effective ornamentation, presenting a pleasing contrast to the metal of the shell or body; which is not subject to easy scratching or marring as is the case with the commonly used enamel; and which is capable of being renewed as by buffing. Still another feature is the use of a drawn sheet metal stem or shank for the handle shaped to provide a spherical bearing surface adapted to engage a similar surface on the escutcheon plate.

In the accompanying drawings I have illustrated a preferred embodiment of my invention, it being contemplated that various changes in the construction and arrangement illustrated and hereinafter set forth may be varied by those skilled in the art without departing from the spirit and scope of the invention as expressed in the appended claims.

Figure 1 is a fragmentary vertical sectional view through my improved handle.

Fig. 2 is a face view of the same.

Fig. 3 is a transverse sectional view taken approximately in the plane of line 3—3 of Fig. 1.

Fig. 4 is a fragmentary sectional view on an enlarged scale taken approximately in the plane of line 4—4 of Fig. 1.

Fig. 5 is a longitudinal sectional view through the handle and illustrating one way in which the decorative character of the handle may be varied.

Fig. 6 is a face view of the handle shown in Fig. 5.

Fig. 7 is a transverse sectional view on an enlarged scale taken in the plane of line 7—7 of Fig. 5.

The handle comprises generally a main or body portion 8 and a tubular stem 9. 10 designates a squared latch-operating shank or spindle disposed axially of the stem 9 and anchored in the body portion 8. 11 is the door of an automobile or the like to which the handle is applied, an escutcheon plate 12 being secured to the outer face of the door and providing a bearing for the inner end of the stem 9.

The body portion 8 of the handle comprises a shell formed from an elongated strip of sheet metal bent upwardly or outwardly at its edges to form end walls 13, side walls 14 and a bottom or rear wall 15. Obviously the shape of the shell may readily be varied at will. Herein the sides are shown as slightly curved and tapering toward opposite ends, and the ends are shown slightly rounded.

For the purpose of lending strength and rigidity to the body portion 8 of the handle I provide a pair of plates 16 and 17 elongated in form and otherwise made of such dimensions as to fit snugly within the side and end walls of the shell. These plates are made to conform respectively to the shape of the rear and front faces of the body portion of the handle. Thus the plate 16 is made approximately straight from end to end but is curved from side to side to present a convex rear face corresponding to the rear face of the handle. The plate 17 on the other hand is not only curved from side to side as is the plate 16 but is also curved from end to end as the body portion decreases in thickness toward its ends. As a result of this shaping of the two plates, when they are placed together in the shell their opposite ends are in contact, and between their ends the plates occupy a spaced relation. To lock them against relative endwise movement I preferably form annular interengaging or telescoping bosses 18 and 19 on the respective plates approximately centrally thereof as shown clearly in Figs. 1 and 3.

To impart to the outer or forward face of the body portion 8 an ornamental appearance I provide a face plate such as a strip of hard

rubber or other suitable material approximately corresponding in size to the plate 17. This face plate or panel strip 21 is also enclosed within the end and side walls of the shell, being placed directly over the plate 17. To hold it in position and at the same time hold the plates 16 and 17 in the shell, the outer edges of the end and side walls are turned inwardly to form a peripheral retaining flange 20.

The panel strip 21 is preferably made of substantial thickness and if desired may itself be covered by a metallic strip constituting a mat 22 with an opening 23 interposed between the peripheral flange 20 and the panel strip as shown in Figs. 5 to 7. This mat may embody any suitable design, that herein shown being in the form of a diamond shaped opening 22, substantially midway between the opposite ends of the mat, which serves to expose the contrasting color of the panel strip 21.

The stem 9 of the handle is formed from a piece of metal drawn into a tubular form and mounted at its forward end upon a rearwardly extending boss 24 formed integral with a nipple 25 pressed from the rear wall 15 of the shell. The stem may be rigidly secured to the boss 24 in any suitable way.

The latch-operating shank or spindle 10 extends axially through the stem 9 and is anchored as by riveting (Fig. 4) to the rear reenforcing plate 16. It will be noted that the two plates, being rigidly secured together, form in effect an anchoring bar for the shank, which extends into the door 11 in the usual way for operating the latch (not shown).

Interposed between the stem 9 and the door is the escutcheon plate 12, which in the present instance is also formed of sheet metal shaped to provide a spherical bearing surface 26 with which the rear end of the stem 9 is adapted to coact. To this end the stem is flared outwardly near its rear end and then inwardly to form a ball member 27 the rear surface of which bears on the bearing surface 26 of the escutcheon plate. The latter is secured to the door in the usual way as by screws 28.

Within the escutcheon plate I provide a spring plate bearing against the escutcheon plate and a spring washer 30 interposed between the plate 29 and an ordinary washer 31 held against rearward movement on the shank 10 by struck-up portions 32. The arrangement is such that the plate 29 and washer 30 coact to hold the ball member 27 in contact with the spherical bearing surface 26, and the escutcheon plate is made of substantial depth so as to enclose the parts 29, 30 and 31. Obviously any other means may be employed to hold the handle in proper relation to the door.

It will be observed that my handle is constructed almost entirely of sheet metal so that it may be formed by press work, a very economical method of construction; but the construction and arrangement of the parts is such that notwithstanding the sheet metal construction the handle presents a neat and ornamental appearance and is also strong and durable. By employing an outer shell in the manner set forth, the body portion and the rear face of the handle is left smooth and unbroken by seams, joints and other protruding edges, so that this portion of the handle which is subjected to the grip of the fingers of the operator is pleasing to the touch. On the other hand the forward face of the handle, by reason of the shell construction employed and the panel strip therein, lends itself readily to easy and effective ornamentation. The peripheral retaining flange 20 on the face of the handle may be of any desired width and this flange forms a bordering edge portion for the contrastingly colored material of the panel strip. Moreover the construction lends itself readily to the use of a metallic mat to produce any desired design, further utilizing the contrasting color of the panel strip for decorative purposes. By making the panel strip of hard rubber or other yieldable material, it is not subject to easy scratching or marring as is the case with enamel customarily employed for decorative purposes, and being made of substantial thickness the strip may be rebuffed from time to time for the purpose of removing any blemishes due to wear.

I claim as my invention:

1. A door handle having, in combination with a spindle, a bar rigidly secured to the end of the spindle, a face plate for said bar, and a shell formed from a single sheet of metal and providing a rear wall with an aperture therein to receive said spindle, the edge portion of said shell being bent around said face plate to form a flange, the edges of which overlie said face plate and serve to clamp the face plate in position.

2. A door handle having, in combination with a spindle, a bar rigidly secured on the end of the spindle, a face plate for said bar, a shell formed of a single sheet of metal and providing a rear wall having an opening therein to receive said spindle, and a curved flange formed from the edge portion of said shell and bent around said bar and said face plate thereby clamping them together, with said bar lying against said rear wall.

3. A door handle having, in combination with a spindle, a bar rigidly secured to the end of said spindle, a face plate for said bar, a shell formed from a single sheet of metal and comprising a rear wall, a tubular boss projecting rearwardly from said wall and defining an aperture receiving said spindle, and a flange overlying the edges of said face plate and cooperating with said

rear wall to clamp said face plate against said bar and said bar against said rear wall, and a tubular member enclosing said spindle and having one end thereof seated in said boss.

4. A handle having a body portion comprising an elongated shell providing a closed rear face and open at its forward side, a reenforcing plate having thereon a rearwardly projecting tabular boss enclosed within the shell and disposed forwardly therein, and a second plate including a forwardly projecting tubular boss disposed rearwardly in the shell in contact with the rear wall thereof, said rearwardly projecting boss on said reenforcing plate and said forwardly projecting boss on said second plate being interengaged to prevent relative endwise movement therebetween.

5. A door handle having a body portion, a stem projecting rearwardly from the body portion, a shank rigid with the body portion and extending through said stem, an escutcheon plate adapted to be secured to the door, a washer fixed against movement on said shank, a spring plate encircling said shank and bearing against the escutcheon plate, and a spring washer interposed between said plate and said fixed washer, said escutcheon plate being formed of sheet metal and having substantial depth so as to enclose said spring plate and washers, the escutcheon plate further being shaped to provide a spherical bearing surface and said stem being shaped to provide a corresponding bearing to engage said surface.

In testimony whereof, I have hereunto affixed my signature.

VICTOR R. SHINKEZ.