Oct. 7, 1969 B. WANSBROUGH ET AL 3,471,190

DOOR HANDLE ASSEMBLY

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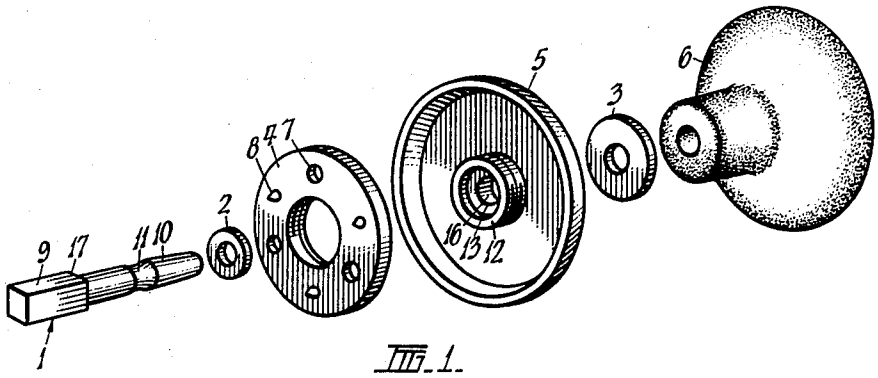


Fig. 1.

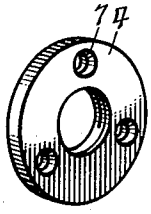


Fig. 2.

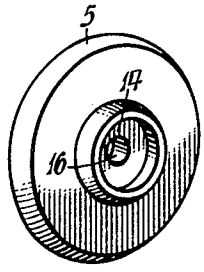


Fig. 3.

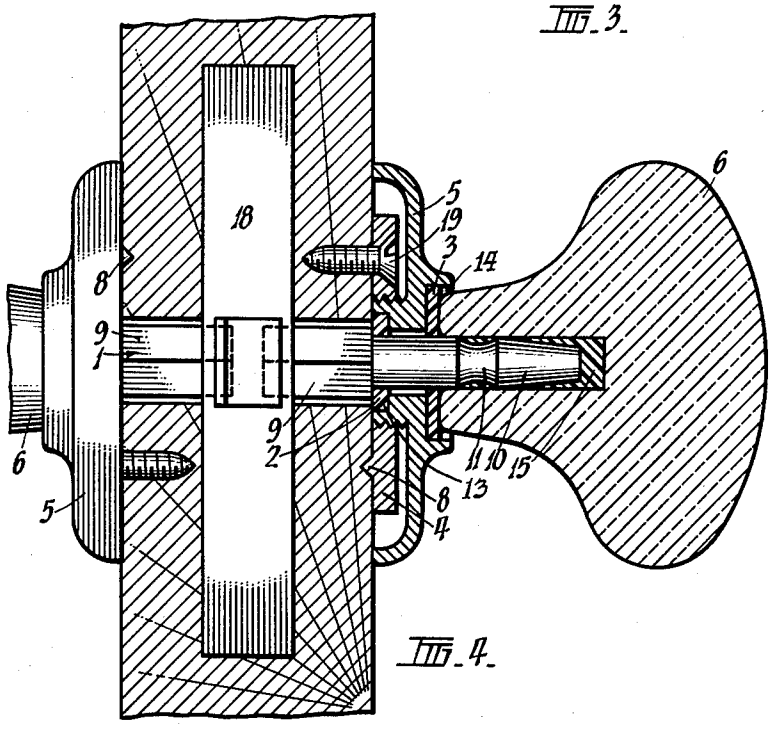


Fig. 4.

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DOOR HANDLE ASSEMBLY

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ABSTRACT OF THE DISCLOSURE

A door handle assembly in which the part actually fixed to the door is formed in two pieces, the first piece being fixed to the door by screws and having screw-threads co-operating with screw-threads on the second piece which covers the first to hide the screw fittings.

This invention relates to door handle assemblies of the type in which a knob or similar handle is mounted on a shaft which operates a mortice or like lock mounted in the door and in which an escutcheon plate is mounted on the shaft between the door and the knob and is secured to the door to cover the hole in the door through which the shaft passes.

In conventional constructions, the door knob is attached to a square shaft by means of grub screws and the escutcheon plate is attached to the door by means of screws, the heads of which are visible on the back plate.

The above described arrangement is somewhat unsatisfactory, particularly on high quality or so-called "luxury" door fittings, because the screws are somewhat unsightly and also, due to the fact that the shaft is usually a square shaft, it can only have a fairly sloppy fit in the back plate.

It is the object of this invention to provide a door handle assembly in which screw heads, particularly on the escutcheon plate, can be hidden. A further object of the invention is to provide a construction in which the shaft may be neatly journalled in the escutcheon plate.

According to this invention there is provided a door handle comprising a stub shaft and a handle mounted on the shaft, and an escutcheon plate assembly comprising a base plate having an internally screw threaded bore therethrough, a cover plate fitted over the base plate and having a recessed portion to receive the base plate and an externally screw threaded boss located in said recessed portion and having a bore therethrough, said base plate and cover plate components being screwed together with their bores aligned and said stub shaft being journalled in a bearing provided in the bore of the cover plate.

One particular construction according to the invention will now be described by way of example with reference to the accompanying drawings in which:

FIGURE 1 is an exploded perspective view of a handle assembly according to the invention,

FIGURE 2 is a perspective view of the base plate,

FIGURE 3 is a perspective view of the cover plate, and

FIGURE 4 is a cross sectional elevation on a larger scale of the door handle assembly in position in a door.

In this particular construction the handle assembly comprises a stub shaft **1**, a pair of nylon bearing washers **2**, **3**, a base plate **4**, a cover plate **5** and a ceramic knob **6**. The base plate **4** is in the form of an annular ring which is internally screw-threaded and which is mounted on a door over the hole designed to receive the shaft of the door handle. Screw holes **7** are provided to permit fixing of the base plate to a door. As an assembly aid, the base plate is provided, on its rear face, with small projections **8** which are on the same pitch circle and at the same relative angular displacement as the screw holes. These projections, when the plate is pressed against the door, mark

the positions at which screw holes should be provided. The shaft **1** of the door handle is a stub-shaft, one end **9** of which is a square sectioned for engaging the lock, and the other end **10** of which is conically tapered and provided with a groove **11** to give a better grip when the shaft is embedded in a ceramic knob **6**. Carried by the shaft and providing a bearing for it, is the cover plate **5**, the rear of which is hollowed to accommodate the base plate and which is provided centrally with an externally threaded cylindrical boss **12** which mates with the internally threaded hole in the base plate. Recesses **13**, **14** are provided one on each side of the cover plate for the bearing washers **2**, **3**. The portion of the shaft which is journalled in the cover plate and bearing washers is cylindrical so that the shaft is a neat rotatable fit in the bearings. Assembly of the shaft bearings and cover plate with the knob may conveniently be effected as follows:

The ceramic knob **6** is provided with a cavity **15** which is filled with a resin such as an epoxy-resin. The bearing washer **2** is assembled on the cylindrical portion of the shaft and the shaft is passed through the opening **16** in the cover plate, the second bearing washer **3** is placed in position and the outer end **10** of the shaft is embedded in the resin in the cavity **15** in the knob. When the resin sets, the cover plate is thus locked in position on the shaft with the shoulders **17** on the square section of the shaft forming an abutment against which the cover plate is held. To assemble the handle on the door, the base plate **4** is first partially screwed onto the boss **12** on the cover plate and the end **9** of the stub shaft inserted into the lock **17**. The handle assembly is thus correctly positioned and the knob is lightly tapped so as to cause the above-mentioned projections **8** to mark the door. The handle is then withdrawn, the screw holes are drilled in the door and the base plate is removed from the boss and attached to the door by screws **18**. The end **9** of the stub shaft is then reinserted into the lock and the cover plate **5** and its associated knob and shaft is simply secured to the base plate by again screwing the externally screw-threaded boss on the cover plate into the internally screw-threaded hole in the base plate until the periphery of the cover plate makes firm contact with the surface of the door. The knob and shaft are thus simply assembled on the door with the cover plate covering up the screws in the base plate. All that is visible is the knob **6** and the cover plate **5**. Furthermore, due to the fact that the shaft is provided with a cylindrical section which is journalled in the bearing provided by the washers **2**, **3** in the cover plate, the handle assembly is a neat fit on the door rather than a sloppy fit as is the case in conventional constructions. Furthermore, due to the fact that the knob is secured to the shaft by means of the epoxy-resin in the cavity in the knob, no unsightly screws are necessary in the knob. Thus the construction above described provides a neat fitting handle assembly in which there are no visible screw heads.

Although the invention has been described particularly with reference to the construction of a door handle assembly using a ceramic knob and a stub shaft, it is to be understood that the invention includes variations and modifications of such construction and is to be understood to include every novel feature and combination of features herein disclosed.

We claim:

1. A door handle comprising a stub shaft, a handle mounted on said shaft, and an escutcheon plate assembly comprising a base plate having an internally screw threaded bore therethrough, a cover plate fitted over the base plate and having a recessed portion to receive the base plate and an externally screw threaded boss located in said recessed portion and having a bore therethrough, said base plate and cover plate being screwed together with their bores aligned, said bore in the cover plate being pro-

vided at each end with enlarged portions, and washers located in said enlarged portions and constituting a bearing for said stub shaft.

2. A door handle assembly as claimed in claim **1**, in which the base plate is provided with an array of screw holes and an identical array of projections.

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