March 25, 1924. 1,487,975

C. RIDDICK

FASTENING OF DOOR HANDLES AND THE LIKE

Filed Sept. 21, 1922

Fig.1.

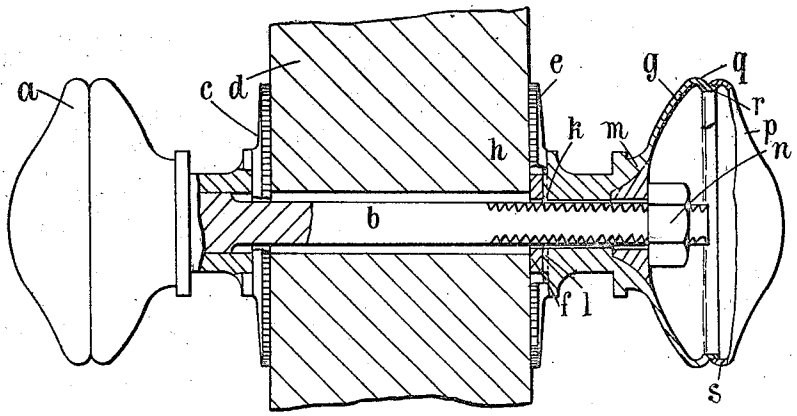


Fig.2.

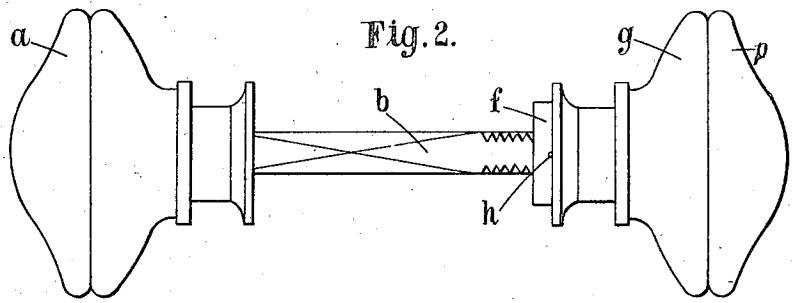


Fig.3.

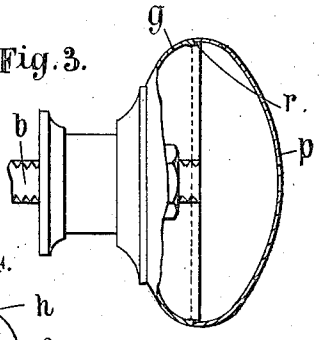


Fig.4.

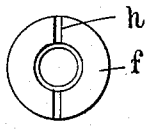
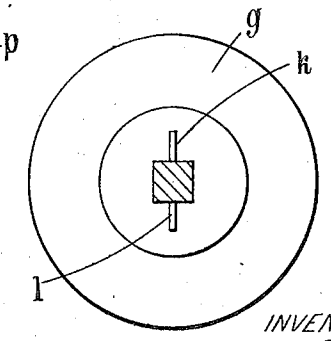


Fig.5.



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UNITED STATES PATENT OFFICE.

CHARLES RIDDICK, OF EPSOM, ENGLAND.

FASTENING OF DOOR HANDLES AND THE LIKE.

Application filed September 21, 1922. Serial No. 539,649.

To all whom it may concern:

Be it known that I, CHARLES RIDDICK, a British subject, and resident of 9 Grand Parade, Epsom, in the county of Surrey, England, have invented certain new and useful Improvements in the Fastening of Door Handles and the like, for which I have filed applications in England dated 15th November, 1921, and 3d August, 1922, of which the following is a specification.

This invention relates to the fastening of door handles and like knobs. The most usual method of fastening door handles consists in employing a small set screw or grub screw passed through the neck of the door handle to grip or pinch the square spindle. This method is often unsatisfactory, however, because it is difficult and inconvenient to screw in the small screw and when it has been in use for some time it usually becomes rusted and it is almost impossible to remove. Other means for securing door handles in position have been proposed and are sometimes seen in use, but as a general rule they are somewhat complicated and do not compare with the more usual form in the point of cheapness. It is the object of the present invention to enable door handles to be fastened upon their spindles in a manner which is satisfactory in practice and yet is simple and therefore cheap.

According to the present invention the door handle or other knob to be fixed to the spindle is made with its front portion readily detachable from the other portion, which is first slipped on to the spindle preferably until it beds against an adjusting nut; then a securing nut is screwed on to the screw-threaded end of the spindle and finally the front portion of the handle is detachably fastened in place in order to enclose the securing nut. In a particularly effective form of this fastening the adjusting nut is engaged by the door handle when the latter beds against the said nut, for example, by a rib and groove connection in such a manner that then the adjusting nut is prevented from rotating relatively to the handle. As the latter is on a square spindle, the result is that when the two are in engagement the adjusting nut is prevented from rotation.

In order that the invention may be clearly understood and readily carried into effect it will now be more fully described with reference to the accompanying drawings in which:—

Figure 1 is a vertical section through the door handle fastening and a portion of a door;

Figure 2 is a side elevation of the door handles and spindle removed from the door;

Figure 3 is an elevation partly in section of a modified form of two part door handle;

Figure 4 is a face view of the adjusting nut, and

Figure 5 is a view of the right-hand door handle looking from the left in Figures 1 and 2.

Referring particularly to Figures 1 and 2, one door handle *a* is permanently fixed to the square spindle *b;* a rose *c* is slipped on to the spindle *b* and the latter is pushed through the door *d* into position with the right hand end of the spindle projecting on the other side of the door; the other rose *e* is placed upon the spindle *b* and the adjusting nut *f* is screwed down on the spindle *b* until the rose *e* is sufficiently tight. Then the rear half *g* of the second door handle is placed on to the square spindle *b* and is bedded against the adjacent nut *f*, as shown in Figures 1 and 2. The face of the nut *f* is formed with a diametral groove as shown at *h* in Figure 4 somewhat like a radial keyway. The engaging face of the rear part *g* of the door handle is formed with two radial projecting ribs *k*, *l*, most clearly seen in Figure 5 and these serve as a key to engage the groove *h*. When the ribs *k*, *l*, are in the groove as illustrated in Figures 1 and 2, the adjusting nut *f* cannot be turned relatively to the handle *g* and as the latter has a square aperture seen in Figure 5 and is on a squared part of the spindle *b*, both the nut *f* and the handle *g* are locked from rotation. When the part *g* of the handle is bedded against the adjusting nut *f* a thick washer *m* substantially conical in shape is placed within the handle over the spindle *b* to fit in the conical recess in the handle *g*. The securing nut *n* is then screwed on to the spindle *b* and beds against the washer *m* holding the part *g* of the handle firmly against the adjusting nut *f* and locking the whole in position. The front part *p* of the handle is then secured to the rear part *g* as shown in Figures 1 and 2. The part *g* is formed with an inturned lip *q* and a projecting cy-

lindrical portion r on which a screw-thread is cut while the part p has an inturned portion s also screw-threaded to screw on to the part r.

In the modified form shown in Figure 3 the front part p of the handle is made of a plainer shape and is simply held by being sprung on to the part r of the rear part of the handle g, which in this case is not screw-threaded but plain and of a suitable size to hold the part p in position.

In order to readjust the nut f the securing nut n has to be slacked back and the part g of the handle withdrawn from engagement with the nut f and then the nut can be rotated. This construction provides an adjustment to within a quarter of one turn of the nut f, because although there are not two grooves h at right angles the portion g of the handle can of course be placed on the squared spindle in one of two positions mutually at right angles.

It will be seen that the invention provides a method of fastening door handles or other knobs, for example, the knobs of brass bedsteads, which is simple and cheap and yet is reliable and satisfactory in use; it has the further advantage that it allows for any thickness of door and can be used with a mortise lock, with an ordinary projecting lock, or in a door without a lock at all.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a knob attachment, the combination of a screw-threaded spindle square at one end, an adjusting nut screwed thereon, a hollow two-part door handle comprising a hollow rear portion substantially of funnel shape and formed with a square aperture to fit the square end of said spindle and a front portion detachably secured to said rear portion, a washer on said spindle located within said door handle and shaped to fit within the funnel shaped portion thereof and to reinforce internally said rear portion and a securing nut screwed on said spindle within said door handle against said washer to maintain said rear portion of said door handle in contact with said adjusting nut.

2. In a knob attachment, the combination of a screw-threaded spindle, an adjusting nut screwed thereon, a hollow two-part knob comprising a rear portion shaped to slide non-revolubly on said spindle and a front portion detachably secured to said rear portion to form a closure therefor, a securing nut screwed on said spindle to maintain said rear portion of said knob in contact with said adjusting nut and a clutch device for clutching said adjusting nut to a portion of said knob in order to prevent rotation of said adjusting nut.

3. In a knob attachment, the combination of a screw-threaded spindle square at one end, an adjusting nut thereon formed with a single diametral groove on the face towards the squared end of said spindle, a hollow two-part door handle comprising a hollow rear portion with a square aperture to fit the squared end of said spindle and a front portion detachably secured to said rear portion, a single projecting rib on the rear face of said rear portion shaped to engage the groove in said adjusting nut when said rear portion is in contact with said adjusting nut to prevent rotation thereof and a securing nut screwed on said spindle within said door handle to maintain the rear portion of said door handle in engagement with said adjusting nut.

CHARLES RIDDICK.