(No Model.)

A. E. WHITE.

KNOB ATTACHMENT.

No. 537,092. Patented Apr. 9, 1895.

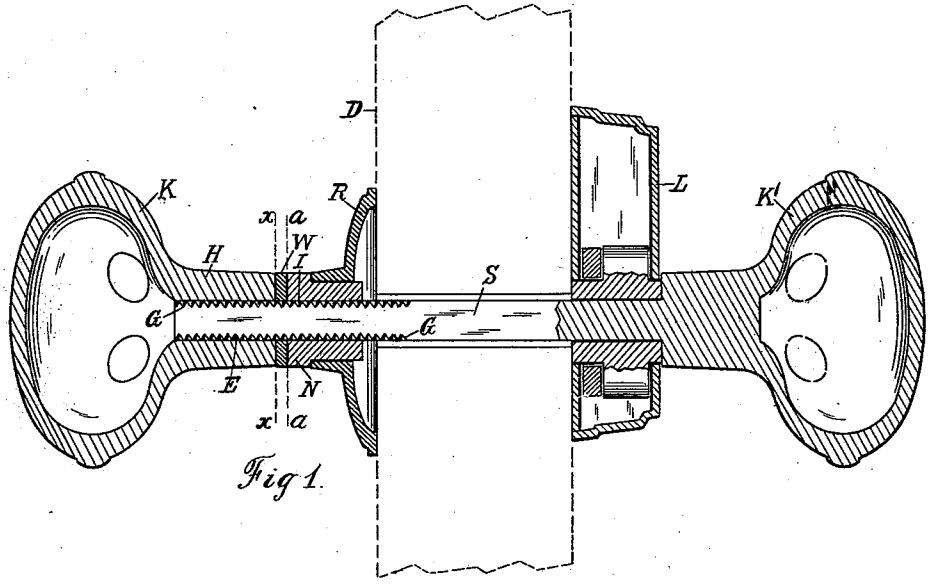

Fig. 1.

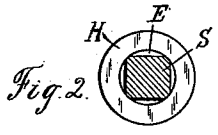

Fig. 2.

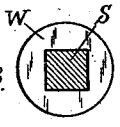

Fig. 3.

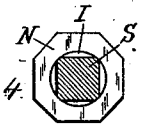

Fig. 4.

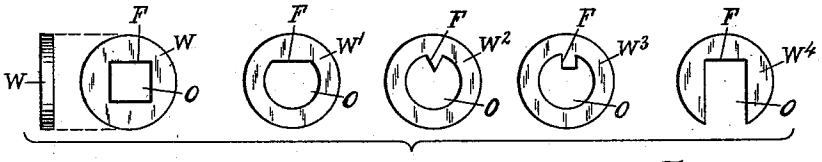

Fig. 5.

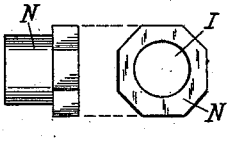

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT E. WHITE, OF DUTTON, CANADA.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 537,092, dated April 9, 1895.

Application filed July 16, 1894. Serial No. 517,753. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. WHITE, a subject of the Queen of Great Britain, and a resident of Dutton, in the Province of Ontario, Canada, have invented a certain new and useful Improvement in Door-Knobs, of which the following specification, taken in connection with the accompanying drawings, forms a full, clear, and exact description.

This invention relates to devices for securing and rigidly holding the adjustable knob at any point required on the spindle.

The practice in general use of securing door knobs to the spindle, is by set screws extending through the shank or face of the knob, and engaging with sockets in the spindle. The objection to these screws, is that they are continually working loose with wear, or the sockets to receive the screws are too wide apart, and thereby permit the knob and spindle to move lengthwise and rattle in the door; all of which is avoided and completely prevented by using my invention.

My invention consists of the improved construction and new combination of parts, as will be hereinafter first fully set forth and described, and then pointed out in the claim, reference being had to the accompanying drawings, wherein—

Figure 1. is a central longitudinal sectional view of a door knob and attachments, embodying my invention. Fig. 2. is a cross sectional view on the line, *x*, *x*, of Fig. 1. looking toward the knob. Fig. 3. is a cross sectional view on the line, *x*, *x*, of Fig. 1. looking toward the washer. Fig. 4. is a cross sectional view on the line, *a*, *a*, of Fig. 1. looking toward the nut. Fig. 5. is a detail side and end view of the washer and modifications thereof. Fig. 6. is a detail side and end view of the nut.

In the annexed drawings, S, designates a spindle; and, K, K′, the door knobs, one of which knobs, K′, is shown secured to one end of said spindle, by being formed integral therewith, but it may be secured thereto, in any other suitable manner. On the other end of the spindle, S, is formed the screw threaded corners, G; and the shank, H, of the adjustable knob, K, is formed with a circular screw threaded socket, E, to which the screw threaded corners, G, of the spindle, S, are fitted.

W, designates a washer formed with an opening, O, having a segmental or angular face, F, as shown in Fig. 5. to which the spindle, S, is fitted.

N, designates a nut, having a circular screw threaded socket, I, to which the screw threaded corners, G, of the spindle, S, are fitted.

D, designates the door; and, L, the lock secured thereto.

The method of attaching the adjustable knob, K, to the spindle is as follows:—The spindle, S, is projected through the door, D, and lock, L, until the shank of the knob, K′, rests against the lock, L, or against a plate, R, on the adjacent side of said door or against the door. When in this position, the threaded end, G, of the spindle, S, projects beyond the door at the opposite side. The nut, N, is then turned on this end of the spindle, until it abuts against the plate, R, permitting the spindle and knob to turn perfectly free without any motion lengthwise thereof. The washer, W, is then placed on the spindle, and adjusted against the nut, N. The screw threaded socket of the knob shank, H, is then engaged with, and screwed up on the spindle until the washer is rigidly bound against the nut, N; and the washer, W, having an opening formed with a segmental or angular face, F, as shown in Fig. 5. engaging with a corresponding face or recess on the spindle, S, the nut is prevented from turning farther on the spindle, and thereby prevented from binding on the door, and the nut, washer, knob and spindle are rigidly bound together. By tightening the knob, K, with a wrench or other similar means, said knob may be made to bind on the washer, W, and the latter against the nut, N, to prevent said knob from being turned off, unless by the application of a power equal to that used when tightening same.

At, W, Fig. 5. a washer is shown with a square opening, but this opening may be triangular, or of any other suitable shape. To this opening, the spindle is fitted.

At, W′, Fig. 5. a washer formed with an opening, having a segmental face is shown, which is intended to engage with a correspondingly shaped spindle, but one or more of these segmental faces may be formed in the opening, O, and on the spindle as desired.

At, W^2, and, W^3, Fig. 5. washers are shown

with openings having internal angular projections, which are intended to engage with corresponding recesses in the spindle, S, or vice versa. The projections may be formed on the spindle, and the corresponding recesses in the washer, and these internal projections may be of any number or of any shape, according to the fancy or taste of the manufacturer.

At, W^4, Fig. 5. a washer is shown having an opening cut therein from one side. A washer of this construction, may be placed in position after the knob is partly screwed on the spindle.

Whichever of these forms of a washer is used, the segmental or angular face, F, of the opening, engages with a corresponding face or recess in the spindle, so that when the nut, N, is properly adjusted to permit the knob, K, and spindle, S, to turn perfectly free, but not to move longitudinally in the door, it is rigidly held at this point, by interposing a washer, W, between said nut and the adjustable knob, and screwing up the latter to bind said washer against said nut. Again, by providing the nut, N′, with a set screw, *b*, to engage with the spindle, S, as shown in Fig. 7. the washer, W, may be dispensed with. When this modification is used, the nut, N′, is screwed up to its proper position on the spindle, S, and the set screw, *b*, tightened. The knob, K, is then screwed up on the spindle, S, until it binds against the nut, N′, the frictional contact being sufficient to rigidly hold the knob, K, and nut, N′, together; the said set screw, *b*, preventing said nut from being turned farther on, or binding on the door. This provides inexpensive devices for rigidly holding the knob on the spindle, which devices are at the same time, strong, durable, and not liable to get out of repair, and practically everlasting; and by which, all rattle of the knob and nut, and all movement of the spindle lengthwise, is avoided and completely prevented; by which the knob or spindle cannot work loose with wear; by which the knob can be adjusted instantly to the thickness of the door; and by which the objectionable screws generally used through the shank or face of the knob for this purpose, are avoided and completely dispensed with.

This invention is for the introduction of old devices to perform an old function or mode of operation, into a class of devices (door knobs) or art in which it has not been previously used. This produces a new combination. Consequently, I make no claim to this invention, except and only when used in combination with a door knob; and while I prefer the construction shown, I do not limit myself to the details, as they may be modified in various ways, without departing from the spirit of my invention.

Having thus described my invention, I claim—

The spindle having a knob rigidly secured to one end and its other end made angular and screw threaded, combined with a tubular screw threaded nut, flanged on its outer end so as to bear against the rose, and thus secure the spindle in position in the door; a non-rotating washer placed on the spindle against the end of the nut, and a removable knob, having a screw threaded socket to receive the end of the spindle, and which knob is screwed up tightly against the washer, substantially as shown.

In testimony whereof I have signed in the presence of the two undersigned witnesses.

ALBERT E. WHITE.

Witnesses:
P. J. EDMUNDS,
S. MCBAIN.