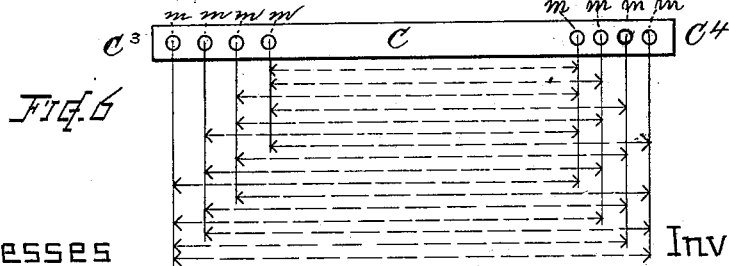
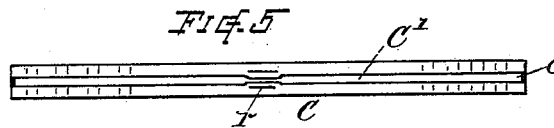
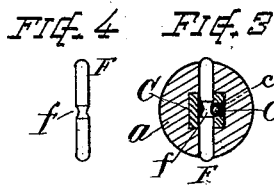
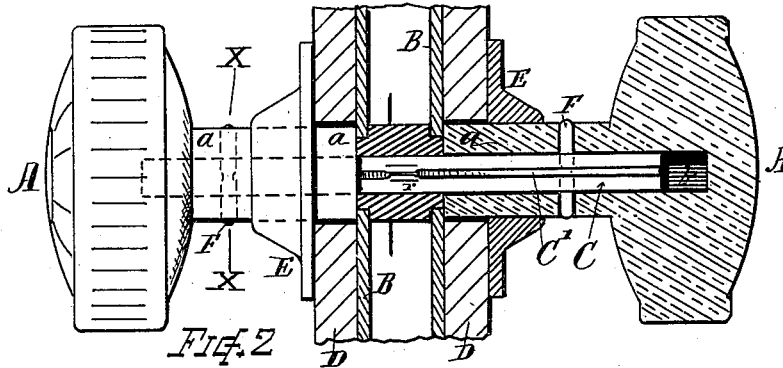
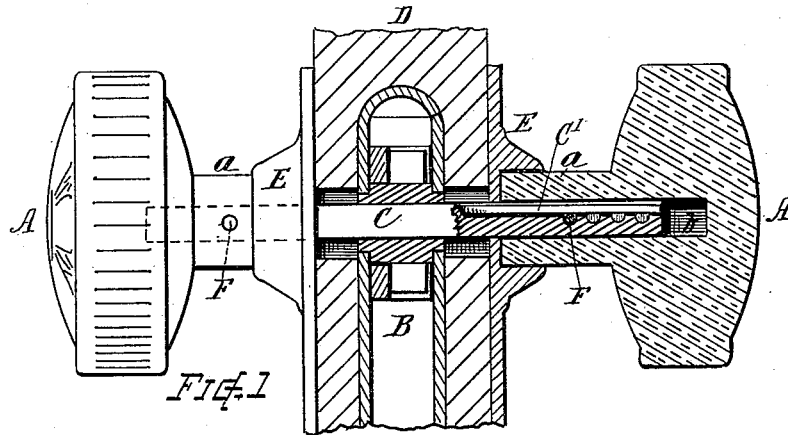


(No Model.)

A. B. PROUTY.
KNOB ATTACHMENT.

No. 346,861.

Patented Aug. 3, 1886.



Witnesses

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UNITED STATES PATENT OFFICE.

AUGUSTUS B. PROUTY, OF PROVIDENCE, RHODE ISLAND.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 346,861, dated August 3, 1886.

Application filed September 30, 1885. Serial No. 178,602. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS B. PROUTY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Knob Attachments; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains, to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide a knob and spindle that can be adjusted to doors of different thicknesses without the introduction of washers; to provide convenient means for securing the knob to the spindle, and an internally-disposed spring for retaining the pin or fastening device from displacement by the jarring action of the door when in use. These objects I attain by mechanism constructed as shown and herein described, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a view, part side, part section, showing the construction and method of connecting the knobs and spindle. Fig. 2 is a similar view showing the spindle at a position at right angles to that in Fig. 1. Fig. 3 is a transverse section at line $x x$, Fig. 2. Fig. 4 shows the fastening-pin separately. Fig. 5 is a plan view of the spindle separately. Fig. 6 is a diagram illustrating the various adjustments for different thicknesses of doors, of which the spindle is in accordance with my invention capable.

Referring to parts, A indicates the knobs; B, the lock or latch frame; C, the spindle, and D the door.

The door and latch mechanism may be of any of the ordinary styles in common use, wherein a rotating or turning spindle is employed for working the latch. The shanks a of the knobs are made to fit square against the escutcheon-plates E, as in Fig. 1, or, if preferred, to extend therethrough and fit against the lock-frame B, as in Fig. 2. The shank a of the knob has a rectangular recess, b , so as to pass over the end of the spindle C, and it is secured thereto by a pin, F, inserted in a

hole that extends laterally through the knob-shank and through the spindle. It is preferred that said pin shall have a comparatively loose fit in the hole, so that it can be easily inserted and removed. The pin is provided with an annular groove or a depression, as f , between its ends. The spindle C is made with a longitudinal groove, c , within which is arranged a wire or spring, C' , that engages with the recess f of the pin F, thereby retaining said pin in position, so that it will not work out by the use of the knob or the jar of the door. The spring or wire may be secured within the spindle by riveting the metal down upon it, as at r , preferably at a central position in its length, or it may be secured in other suitable manner. This method of attaching the knob by the pin-fastening, and securing the pin by an internally-disposed spring or lock, is a feature of my invention.

The adjustment for different thicknesses of doors I attain by series of holes drilled through the respective ends of the spindle and disposed in the peculiar manner shown, the series of holes at one end being spaced to a different measurement from those at the other end, and preferably with such spacings bearing a ratio of variation that gives a substantially equal division throughout the range of the series. Thus, in the present instance there are four holes, m , in the end C^3 , and four holes, m^2 , in the end C^4 . The spacing or distance apart of centers of the holes m is one-fourth of an inch, and this dimension divided by the number of holes m^2 at the opposite end of the spindle gives the amount of variation that will equally take up or distribute this space among the several holes m^2 . This, as here found, is one-sixteenth of an inch. Then this variation subtracted from the dimension of spacing of holes m or one-fourth inch leaves three-sixteenths of an inch, which is the spacing given to the holes m , as shown in Fig. 6. By placing the pins F in the different holes, accordingly as indicated by the diagram-lines in Fig. 6, sixteen different positions of adjustment are obtained for giving longer or shorter distance between the knobs A A, these adjustments varying, except the longest and shortest, by sixteen thousandths of an inch, which is the ordinary variation given in the construction of doors.

Thus the spindles are adapted for all ordinary conditions without the necessity of using washers for taking up the space between the end of the knob-shank and door or lock plate, as
5 is frequently necessary with the ordinary knob attachment. This method of arranging the two series of holes is a feature of my invention that will be appreciated by persons conversant with practice of fitting knobs to doors.

10 I do not confine my invention to the exact number, or dimensions of spacing, of the holes m and m^2 , the two varying series of holes being the gist of this part of my invention.

What I claim as of my invention, and desire to secure by Letters Patent, is—

15 1. The combination, with the door-knobs A, and attaching-pins F, of a spindle, C, provided with series of holes extending through the ends thereof for receiving said pins, the
20 spacing of said holes varying at the respect-

ive ends in the peculiar manner set forth, and a spring-rod let into the side of said spindle and extending across the several holes, to uniformly engage the fastening-pin at each of the several positions of adjustment. 25

2. The combination, substantially as described, of the knobs A, having shanks a , the spindle C, the loosely-fitting pin F, passing through the knob shank and spindle, and an internally-disposed spring engaging a groove 30 or depression formed on said pin between the ends of the rod for retaining said parts in connection, substantially as and for the purpose set forth.

Witness my hand this 7th day of September, 35
A. D. 1885.

AUGUSTUS B. PROUTY.

Witnesses:

CHAS. H. BURLEIGH,
EDWIN S. MATHEWS.