

(No Model.)

W. F. & W. M. MORTON.
KNOB ATTACHMENT.

No. 471,563.

Patented Mar. 29, 1892.

Fig. 1

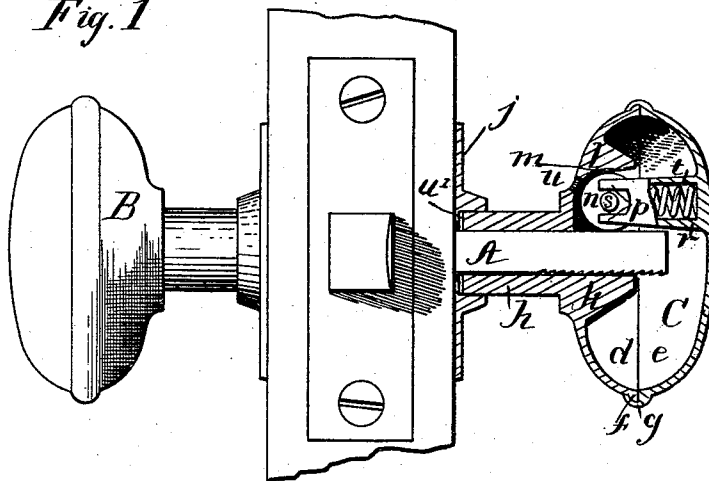


Fig. 2

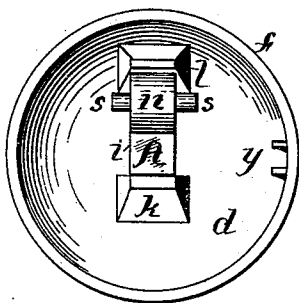


Fig. 3

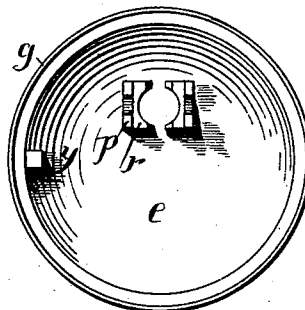


Fig. 4

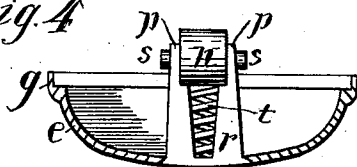


Fig. 6



Fig. 5



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WILLIAM F. MORTON AND WILLIAM MARCUS MORTON, OF NEW HAVEN,
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KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 471,563, dated March 29, 1892.

Application filed December 21, 1891. Serial No. 415,811. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM F. MORTON and WILLIAM MARCUS MORTON, citizens of the United States, and residents of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Door-Knobs, of which the following is a specification.

Our invention relates to door-knobs, and has for its object to provide a self-securing knob adapted to be applied to the spindle without the intervention of screws or similar fastening devices and to automatically clamp itself to the spindle when arranged in place thereon, while admitting of ready removal by means of a suitable instrument inserted on the inner side of the knob.

The invention consists in the novel arrangement and combination, with the spindle, of a spring-actuated clamping-roll and its inclined wedging-seat within the knob and suitable guides and in the construction of the parts of the device, as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side view, partly in section, of my improved knob, shown as attached in place upon a door. Fig. 2 is a front view of the inner part of the knob endwise of the spindle with the exterior part of the knob removed. Fig. 3 is an interior view of said external part, and Fig. 4 is a cross-section of the same. Fig. 5 is a face view of the notched or bearing side of the spindle, and Fig. 6 shows the seat *m* lined with a steel shoe to prevent abrasion.

Referring to the drawings, A denotes the spindle of an ordinary knob-latch, and B designates one of the knobs, which may be permanently secured on the spindle by any well-known and reliable device. In order to insert the spindle through the door and the knob-latch mechanism, the other knob C requires to be readily removable, and I attain this end by the following means: The knob C is cast or spun up in two parts or cupped-shaped halves *d e*, provided with flanges *f g*, the flange *g* being spun over or headed upon the opposite flange *f* to hold the two parts together after the interior mechanism is suitably arranged in place. The part *d* has the ordinary

shank *h*, which is perforated axially to form a socket *i* for the square-sided spindle A, which is received therein, projecting within the knob, as shown. On one side of said socket is a projecting inner lip *k*, adapted to extend the bearing of the spindle, and opposite said lip is a projection *l*, placed at a distance from the socket *i*. The said projection is of the same width as the lip *k*—that is as wide or slightly wider than the spindle—and its interior surface *m* is inclined toward the axis of the spindle from the corresponding end thereof, forming an inclined seat, for the purpose herein-after set forth. In the space between the seat *m* and the spindle-socket a roll *n* is placed, having its periphery normally in contact with the said seat. It is held in place by guides *p*, projecting from a casing *r* on the outer half *e* of the knob, said guides—four in number—being adapted to span suitable holes *s* on the roll. A coil-spring *t* is received in the casing *r* and adapted to press against the roll to force it along the inclined seat *m* in the direction of the opposite knob B.

Constructed and arranged as described the operation of the mechanism is as follows: The spindle, being inserted in the socket *i*, enters readily between the roll *n* and the lip *k*; but when force is applied to withdraw the spindle the roll, which is normally pressed tightly between the seat *m* and spindle by the spring *t*, is powerfully wedged in between them, and is thereby adapted to secure the spindle in place, however great the pressure that may be brought to bear to withdraw it. Thus by simply pushing the knob upon the spindle it becomes automatically and rigidly fastened thereon, and the knobs may be applied instantly and without the use of tools. A hole *u*, drilled through the metal of the knob just back of the roll, permits the insertion of a pointed instrument, by which means the roll may readily be pushed outward from between the wedging-surfaces and the knob then readily removed. When the knob is made of light material other than metal, it need not be entirely hollow, suitable chambers, pockets, or recesses for the reception of the roll and spring only being required. An elastic washer *u'* is preferably placed between the end of the shank *h* and the rose *j* to prevent endwise

play of the parts, due to the slight recession of the knob on the spindle in the act of wedging upon the roll. If desired, the seat *m* may be lined with steel to prevent abrasion.

5 In order to more positively secure the knob, the spindle may be grooved or provided with saw-teeth on one side, as shown, which, being placed to bear on that side of the socket *i* opposite the seat *m*, thus cuts into the bearing
10 in the shank. Suitable guiding projections *y* are cast on the opposite halves of the knob to locate them while being put together.

The knob is cheap, strong, reliable, easily placed in position, and can always be instan-
15 taneously adjusted to compensate for wear.

We claim as our invention and desire to secure by Letters Patent—

1. The combination of the spindle, a knob fitted thereon and provided with an internal
20 chamber, recess, or pocket, into which the spindle is adapted to project, and having a lengthwise plane or seat on the side of said chamber opposite the spindle inclined toward the axis of the spindle from the corresponding end
25 thereof, a roll fitted between said seat and the spindle, guides for retaining the roll in posi-

tion laterally, and an actuating-spring arranged and adapted to press and wedge the said roll between the spindle and the seat, substantially in the manner and for the purpose
30 specified.

2. The combination of the spindle having the teeth or grooves upon its side, a knob fitted thereon and provided with an internal chamber, recess, or pocket, into which the spindle
35 is adapted to project, and having a lengthwise plane or seat on the side of said chamber opposite the spindle inclined toward the axis of the spindle from the corresponding end thereof, a roll fitted between said seat and the
40 spindle, the knob being provided with an aperture in front of said roll leading thereto, guides for retaining the roll in position laterally, and an actuating-spring arranged and adapted to press and wedge the said roll be-
45 tween the spindle and the seat, substantially as and for the purpose specified.

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Witnesses:

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