

R. C. WALTER.
ADJUSTABLE DOOR KNOB.
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942,605.

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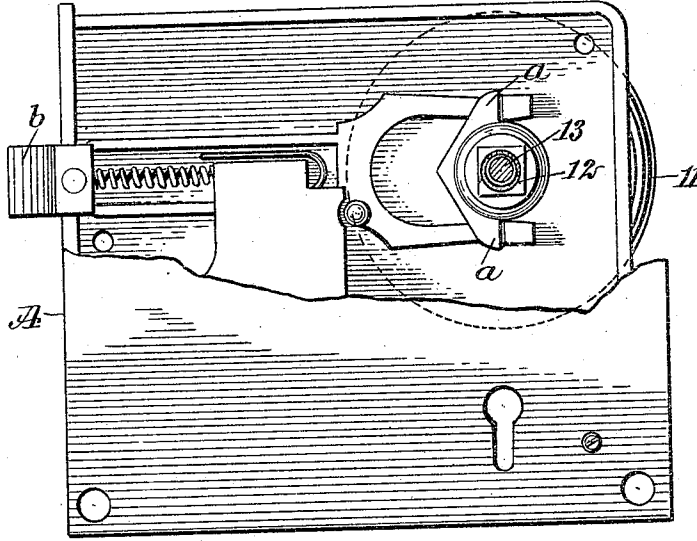


Fig. 1

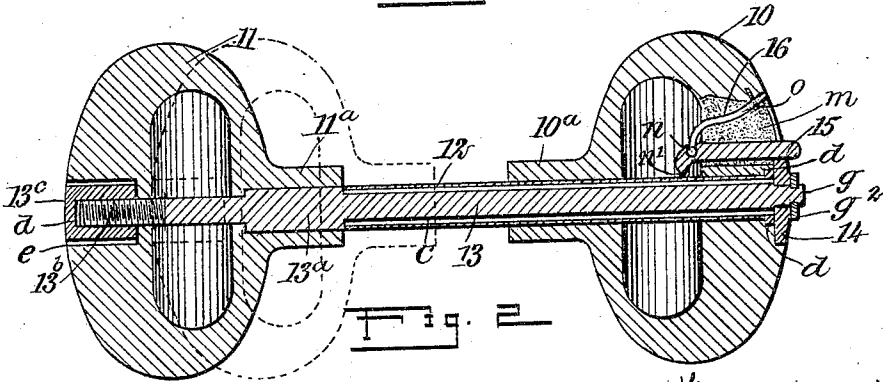


Fig. 2

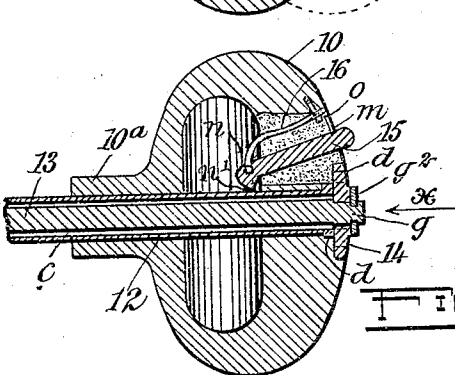


Fig. 3

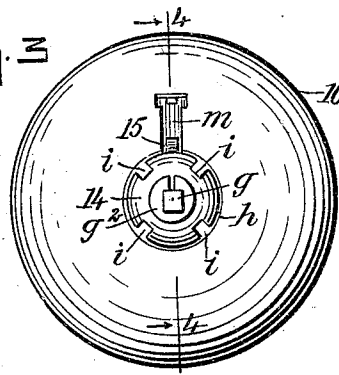


Fig. 4

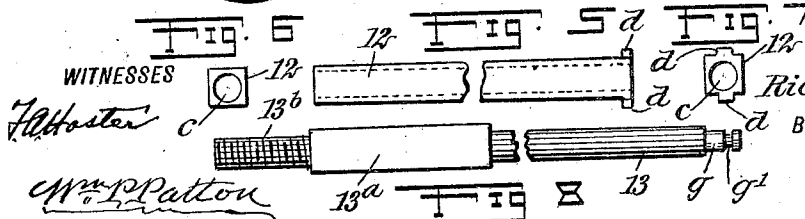


Fig. 5

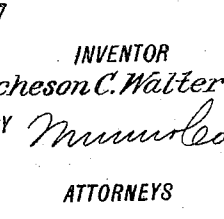


Fig. 6

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UNITED STATES PATENT OFFICE.

RICHESON C. WALTER, OF PARSONS TOWNSHIP, ALFALFA COUNTY, OKLAHOMA.

ADJUSTABLE DOOR-KNOB.

942,605.

Specification of Letters Patent.

Patented Dec. 7, 1909.

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To all whom it may concern:

Be it known that I, RICHESON C. WALTER, a citizen of the United States, and a resident of Parsons township, in the county of Alfalfa and State of Oklahoma, have invented a new and Improved Adjustable Door-Knob, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide novel details of construction for the knobs and spindle of a door lock and latch, which enable the adjustment of the knobs on the spindle, so as to have loose contact with doors of different thicknesses; and a further object is to so construct the door knobs and the spindle therefor, that by an adjustment of parts the outer knob will be rendered loose on the spindle, so that the latch of the door can only be opened by use of the inner door knob, thus locking the door against entrance from the outer side thereof.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a door lock and latch having one side broken away, and a transverse sectional view of the improved latch spindle mounted upon the lock case in engagement with the latch bolt; Fig. 2 is a longitudinal sectional view of two knobs, and a spindle embodying features of the invention and of the improved locking means mounted upon the knobs and in locked engagement; Fig. 3 is an end view of the inner door knob and of the locking details thereon, seen in the direction of the arrow *a* in Fig. 4; Fig. 4 is a longitudinal sectional view of the inner door knob, taken substantially on the line 4—4 in Fig. 3; Fig. 5 is a broken side view of a sleeve that is a detail of the improved spindle; Fig. 6 is an end view of the sleeve shown in Fig. 5; Fig. 7 is a view of the opposite end of the sleeve

shown in Fig. 5; and Fig. 8 is a broken side view of the main portion of the spindle for operating the latch bolt of the door lock.

The knobs 10 and 11 that contain details of the invention may be formed of metal or other suitable material, each consisting of a bulbous body portion from which respectively project the neck portions 10^a, 11^a, as is clearly shown in Fig. 2.

Through the axis of the body and neck of each knob, a perforation is formed that is preferably square in cross section. A sleeve 12 is provided, that is four-sided exteriorly, and fits loosely in the knob 10, that in service is the inner knob of a door lock and latch such as A, shown in Fig. 1. The sleeve 12 projects from the neck 10^a of the knob 10 sufficiently to enter the case of the lock A and pass through the tumbler *a* that operates the latch bolt *b* of the lock in the usual manner when the knob 11 is turned in either direction. A cylindrical bore *c* extends centrally and longitudinally through the sleeve and at one end thereof two lugs *d* are oppositely formed thereon, which are embedded in recesses formed in the knob body at the end of the bore therein.

A spindle body that is of a suitable length proportioned to the maximum thickness of the doors that may be fitted with the knobs and spindle, has, as shown, a portion 13 thereof rendered cylindrical and fitted loosely within the bore of the sleeve 12. The remaining portion 13^a of the spindle body is square in cross section and is fitted loosely into the angular bore in the knob 11 and neck 11^a. It will be noted in Fig. 2 that the knob bodies are hollow and that the angular bore in the knob 11 terminates in an annular shoulder between said bore and the chamber formed in said knob. The squared portion 13^a at the end that passes into the chamber in the knob 11 is reduced in thickness and rendered cylindrical, having a thread formed thereon, as shown at 13^b and said cylindrical extension or stem 13^b is passed through a central circular opening in the knob body into a square socket *e* therein that is defined by the annular shoulder men-

tioned, as shown in Fig. 2. Upon the stem 13^b, a square-bodied cap nut 13^c is fitted, that when in place fills the socket *e* and forms a finish for the convex surface of the knob 11.

5 At the opposite end of the spindle, its cylindrical body 13 is extended through a sleeve 12 and is reduced somewhat in diameter; said end portion *g* of the spindle which has a square contour, as indicated in Fig. 8, extends through a recess *h* formed in the end of the knob 10 that is opposite from the neck 10^a, said recess having a circular peripheral wall and greater diameter than the square bore in said knob. The squared end portion 15 *g* of the spindle body receives a locking disk 14 that has a central squared opening therein, a circular edge, and a plurality of notches *i* formed at intervals in said edge. A peripheral groove *g'* is formed in the end portion of the spindle 13 that extends a short distance beyond the disk 14, and a locking spring washer *g*² is caused to engage said groove when the disk is in position for service. In a radial slot *m* formed in the knob 25 10, a latch bar 15 is inserted and rockably secured by a plate spring 16, as shown in Fig. 2. The spring 16 is pivoted as at *n* upon the innermost end of the latch bar 15, which is curved so as to produce a lateral toe *n'* thereon that has a loose engagement with the sleeve 12, the opposite end of said spring being secured upon the knob 10 in the bottom of the slot *m* by a screw *o*. It will be seen that the latch bar 15 may be interlocked at its outer end with either of the notches *i* in the disk 14 and thus secure the knob 10 to the spindle member 13, the spring 16 enforcing such an engagement of the latch bar. It will also be noted that the outer end 40 of the latch bar 15 may be rocked away from the notched disk and will remain in that condition, due to the position assumed by the toe *n'* of the latch bar below the pivot *n* and slightly nearer the disk when said toe bears upon the sleeve 12, as shown in Fig. 4.

In placing the door knobs 10, 11, and the connecting spindle in engagement with the door lock A, assuming that the latter is mounted upon a door, the sleeve 12 is slid 50 upon the cylindrical portion 13 of the spindle, and the threaded end 13^b and the squared portion 13^a of the spindle are inserted through the door knob 11, first passing through the neck 11^a. The neck 11^a slides 55 over an adjacent portion of the sleeve 12, the knob 11 then being disposed on the spindle as shown by dotted lines in Fig. 2, thus permitting the threaded end 13^b to pass out of the knob through the square socket *e* and receive the cap nut 13^c, which is screwed upon the threaded stem 13^b a proper distance; and it may here be explained that the relative position given to the nut 13^c determines the distance between the necks 10^a, 11^a when

both knobs are mounted upon the spindle, 65 which will be controlled by the thickness of the door and the usual socket plates, not shown, that receive the necks and provide a finish between them and the door.

It will be evident that if the latch bar 15 70 is seated at its outer end in either notch *i* in the disk 14, the two knobs 10, 11, will each be secured upon the spindle so that the door latch may be operated for releasing the door from either side thereof. Upon the adjustment of the latch bar so as to not enter either of the notches *i*, the outer knob 11 will be loose and fail to turn the sleeve 12, so that the latch bar *b* of the door lock will remain locked until the bar 15 is interlocked 80 within one of the notches *i*.

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

1. The combination with two door knobs, 85 having squared passages in their shanks, of a spindle having a squared portion thereon that fits loosely in the shank of one knob, and having a cylindrical portion extended from the squared portion, a sleeve having a 90 squared exterior wall and a cylindrical bore wherein the cylindrical portion of the spindle is loosely fitted, said sleeve fitting in the squared opening in the shank of the other knob, means for releasably locking the sleeve 95 upon the cylindrical portion of the spindle, and also for releasably securing the sleeve upon said knob.

2. The combination with two door knobs having squared openings therein, and a 100 socket in the outer end of one knob, of a spindle having a squared portion that passes through the knob having the socket therein, a thread on the reduced end of said squared portion of the spindle, a cap nut therefor, a 105 cylindrical portion for the spindle, a sleeve having a cylindrical bore and a square exterior, said cylindrical portion of the spindle fitting loosely in the sleeve, and the sleeve fitting in the other knob, and detachable 110 means for locking the sleeve upon the cylindrical portion of the spindle.

3. The combination with a door knob having squared openings therethrough, a sleeve having a cylindrical bore and a squared exterior, a spindle having a cylindrical portion that loosely occupies the bore of said sleeve, a locking disk mounted on the end of the spindle and having a notch therein, and a spring-pressed latch bar loosely secured in 120 the knob and adapted by adjustment to enter the notch.

4. The combination with two door knobs having squared openings therein, a socket in the outer end of one knob, a spindle having a 125 squared portion that fits in the knob having the socket, said squared end of the spindle terminating in a diametrically reduced screw

body, and a cap nut that said screw body
may be screwed into, of a cylindrical portion
for the spindle, a sleeve having a cylindrical
bore and a squared exterior, the spindle
5 loosely fitting into said bore of the sleeve, a
notched disk mounted on a squared end of
the spindle that extends beyond the cylin-
drical portion thereof, means for securing
the disk on the spindle, and a spring-pressed

latch bar in the knob adapted by adjustment 10
to enter a notch in the disk.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

RICHESON C. WALTER.

Witnesses:

THOS. A. HARRISON,
RICHARD SETHMAN.