(No Model.)

W. H. GONNE.

KNOB ATTACHMENT.

No. 510,968. Patented Dec. 19, 1893.

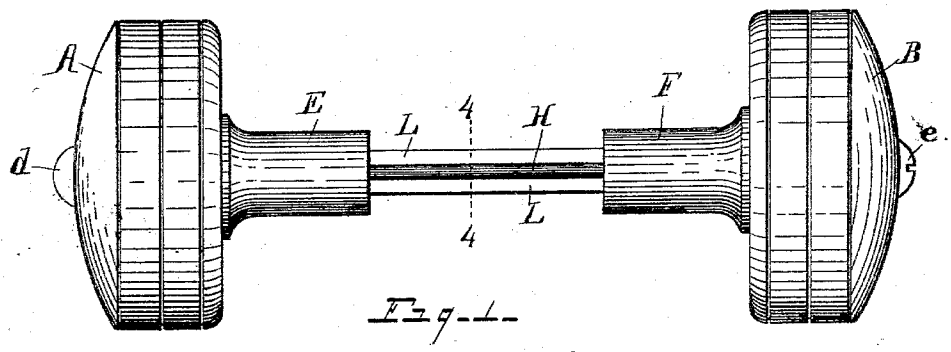

Fig. 1.

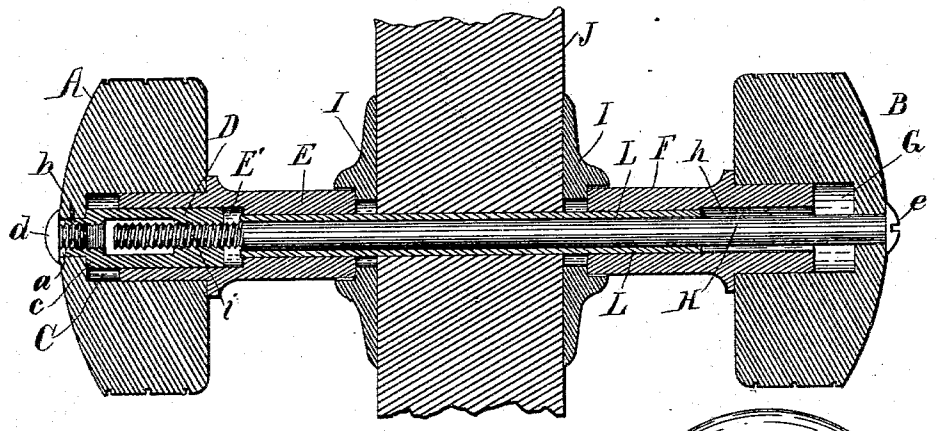

Fig. 2.

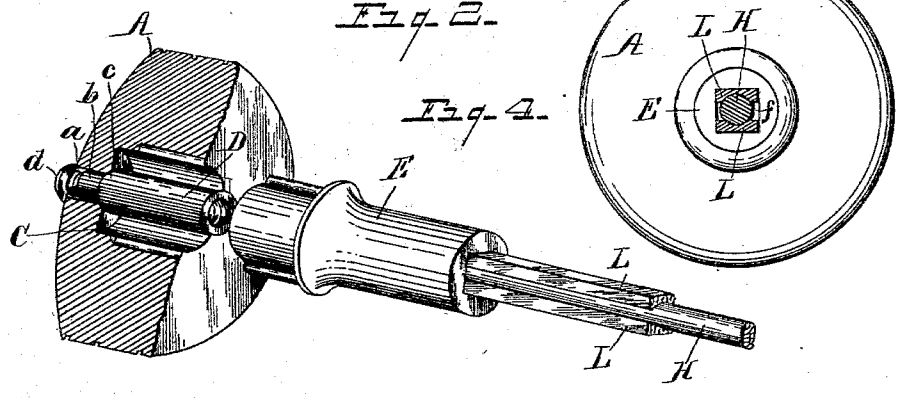

Fig. 3.

Fig. 4.

WITNESSES

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SPECIFICATION forming part of Letters Patent No. 510,968, dated December 19, 1893.

Application filed January 6, 1893. Serial No. 457,501. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GONNE, a citizen of the United States, residing at Chatham, in the county of Kent, Province of Ontario, Canada, have invented certain new and useful Improvements in Knobs and Spindles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in door-knobs and spindles; and consists in a certain construction and arrangement of parts, as hereinafter fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide simple, cheap and effective means for securing the knobs to the spindle which passes through the door and lock and actuates the latter, in such manner as to enable the knobs and spindle to be readily and securely coupled, and to provide for the most minute adjustment, so as to obviate all lost motion and rattling of said parts. This object is attained by the construction illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of the knobs and spindle embodying my improved features. Fig. 2 is a central vertical section through the same, attached to a door. Fig. 3 is a detail in perspective of one of the knobs, its shank and the spindle, the knob and its shank being drawn apart, and said knob being partly in section. Fig. 4 is a sectional view on line 4—4 of Fig. 1.

Referring to the letters of reference, A and B designate the knobs, respectively. The knob A is provided with an annular socket C, terminating in a reduced aperture *a* which extends through the outer face of the knob.

D designates a cylindrical nut, provided with a reduced end *b* forming an annular shoulder *c* at the base thereof. The reduced end *b* of the nut C is tapped, as well as the opposite end thereof, its central portion being simply cored out. This nut is inserted in the socket in said knob, its reduced end *b* entering the aperture *a* leading therefrom, and the annular shoulder *c* bearing upon the bottom of said socket around said aperture, in which position said nut is secured by means of the headed screw *d* which is inserted through the aperture *a* in the knob and onto which said nut is screwed, by which means said nut is firmly retained in position and caused to extend centrally from the socket in said knob.

E designates the shank of knob A which is adapted to enter the socket C in said knob and is firmly secured therein. The inner end of said shank is provided with an annular recess or socket E′ into which the cylindrical nut D extends, as shown in Fig. 2, and extending from said socket through the outer end of said shank is a reduced rectangular aperture *f* as shown in Fig. 4.

F designates the shank of the knob B, which is provided with a rectangular aperture *h* extending therethrough. Said shank is secured in the knob B, which is provided with a socket G to receive it.

H designates the knob-stem or spindle, by means of which the knobs are coupled. Said stem is provided with the slotted head *e* at one end, and with the screw threads *i* at the opposite end, and passes through the outer face of the knob B, through the shanks F and E, and screws into the cylindrical nut D in the knob A, thus enabling the knobs to be drawn together so that their respective shanks are held in proper contact with the rose plates I on each side of the door J, as shown in Fig. 2, through which the spindle passes to actuate the lock (not shown), as will be well understood, by which construction a perfect adjustment of the knobs may be effected by turning the threaded spindle H, to accommodate any thickness of door, and to overcome undue lost motion in the connected parts, and also to compensate for the varying thicknesses of knobs.

Located on opposite sides of the stem H are the bushings L, which are concaved on their inner faces to fit the round of the stem, and whose outer contour is rectangular to fill the rectangular apertures in shanks E, F, respectively, of the knobs, into which they extend around said stem. This construction enables the stem to be turned independently of the knobs to effect their adjustment, but couples

said knobs through their shanks, so as to cause them to operate in unison, one by the other, and provides a square knob-stem where it passes through the lock to enable the actuation thereof by the turning of the knobs, as is common.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the knobs and shanks, said shanks having rectangular apertures therein, the nut fixed in one of said shanks and registering with said aperture, the spindle passing entirely through the opposite knob and shank and into the shank having the nut therein and screwing into said nut, the rectangular bushings filling the apertures in said shanks on opposite sides of said spindle and having the concaved inner faces in which said spindle lies, substantially as set forth.

2. The combination of the knob having a socket therein and a reduced aperture leading from said socket through the outer face of the knob, the cylindrical nut having a reduced end that enters said aperture, an annular shoulder that bears upon the bottom of said socket, the headed screw passing through said aperture and screwing into the reduced end of said nut, the shank adapted to be secured in the socket in said knob and having an annular recess that receives said cylindrical nut and a reduced aperture extending from said recess through the outer end of the shank, the threaded spindle passing through said aperture and screwing into said nut within said shank the rectangular bushing around said spindle, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. GONNE.

Witnesses:
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E. S. WHEELER.