

A.M. Hill,

Knob Attachment,

No. 43,582,

Patented July 19, 1864.

Fig: 1.

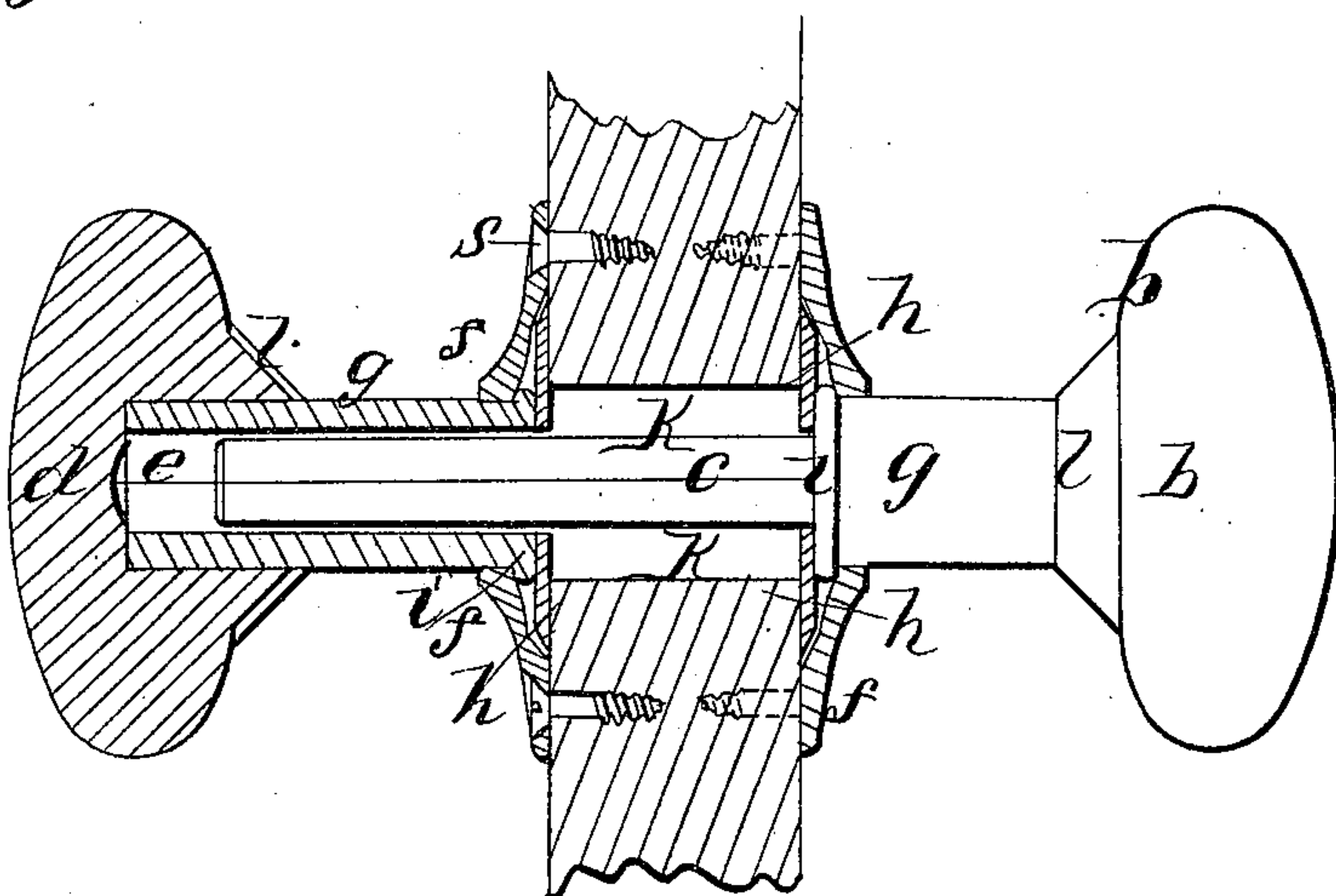
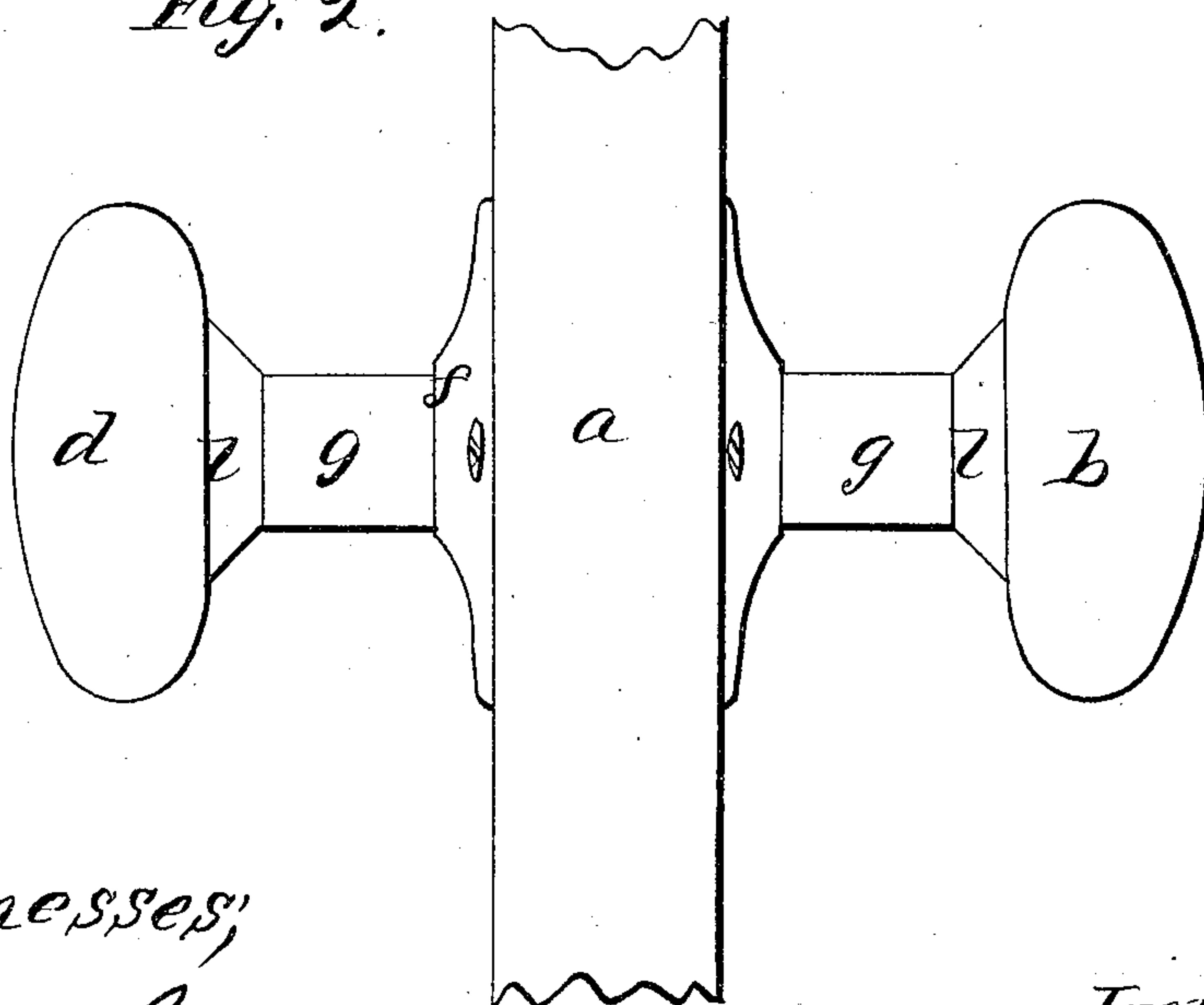


Fig: 2.



Witnesses;

J. J. Jones

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ALBERT M. HILL, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN THE MODE OF ATTACHING KNOBS TO SPINDLES.

Specification forming part of Letters Patent No. 43,582, dated July 19, 1864.

To all whom it may concern:

Be it known that I, ALBERT M. HILL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Extension Door-Knobs; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 2 is a side view of a part of a door with a knob on each side. Fig. 1 is a similar view to Fig. 2, showing all the parts in section, excepting one knob and spindle.

My improved door knob and spindle belong to the class ordinarily called extension-spindles, because they may be lengthened or shortened to adapt them to use on doors of different thickness, and either with mortise-locks or with case-locks placed on the side of a door, without the use of washers or screws to regulate the length of spindle.

There are various devices used in the construction of extension-spindles for door-knobs, some of which are complicated and expensive in construction, and others do not allow of an exact adaptation to every ordinary thickness of door, but are apt to be either a little too loose or too tight.

My improved extension spindle and door-knob are so constructed as to admit of exact adjustment, and are extremely simple in their construction.

To enable others skilled in the art to make use of my invention, I will proceed to describe the construction of my improved door-knobs and spindles.

In the drawings, *a* is a portion of the door to which the knobs are attached. One of the knobs, *b*, has a square spindle, *c*, attached to it. The other knob, *d*, has a cavity, *e*, extending a sufficient depth to receive the spindle *c*. The cavity *e* is square in shape, and is just sufficiently larger in diameter than the spindle *c* to receive it easily, and yet fitting it so closely that the spindle *c* and its knob *b* will turn when the knob *d* is turned. Each knob *b* and *d* has a bead, *i*, around its shank *g* at its lower extremity, which keeps the rose or circle-plate *f* from passing off the knob when detached from the door, and holds the knob to the door when the circle-plate is secured to the door, as seen in the left-hand side of the

door *a* in Fig. 2. The circle-plate *f* fits closely around the shank *g* of the knobs, and the inner edge of the circular aperture on the circle-plate rests on the bead *i* of the shank *g* when the knob is in place. It is manifest, therefore, that the circle-plate *f* must be placed on the shank *g* when the knob is put together. This is done by making the upper end of the shank where it enters the bulb of the knob of the same diameter, or at least no greater diameter than that of the shank near its lower extremity, just above the bead *i*, the shanks *g* of the knobs being made separate from the bulb. The shank and bulb are united in the usual way. A conical metallic cap, *l*, may be used, with porcelain or mineral knobs to cover the junction of the shank and bulb to make a better finish, as seen in Fig. 2. The two knobs *b* and *d* are similarly constructed, excepting that the spindle *c* is attached to one, and the other has a cavity in its shank *g* to receive the other end of the spindle *c*, although this is not absolutely necessary, as the two knobs might both be made with the cavity *e* and the spindle made separate and detached from both.

It is manifest that, as the knobs cannot become separated from the circle-plates, it is only necessary to screw the circle-plates *f f* to the door on opposite sides by the wood-screws *s s* to attach the knobs to a door of any thickness which will admit of the extremity of the spindle *c* entering the cavity *e* of the other knob. In this case, however, the end of the shank of the knobs would work against the face of the door around the edge of the bore *k* made in the door for the passage of the spindle, which would gradually wear away the wood, and the knob would soon work loose and shaky; or, if the bore *k* for the spindle were of equal diameter with the shank *g* at the bead *i*, the shank of the handle would enter the cavity *k*. To obviate this difficulty and hold the knob firmly in its place, so as to make a workman-like job, I use an annular metallic disk, *h*, which fits in a circular recess in the inner side of the circle-plate *f*, and the hole in the center of which allows the spindle *c* to pass freely through it. This annular disk *h* rests against the side of the door around the hole *k*, and is held in place by the circle-plate *f*, while the end of the shank *g* of the knob rests against the outer side of the annular disk, being pressed up

against it by the screwing of the circle-plate *f* to the door. The knobs are thus held firmly in place, and are yet allowed to work freely, the bead *i* around the extremity of each knob being of the same depth as the space between the inside of the circle-plate at that point and the surface of the annular disk *h*, as seen in Fig. 2.

Having thus described my improvement in extension door-knobs and spindles, what I claim as my invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the door-knob having a bead, flange, or equivalent device, surrounding the extremity of its shank,

with a circle-plate placed on its shank between the bead and the bulb of the knob, and an annular disk, or its equivalent, placed between the circle-plate and the door to which the knob is attached, so that the bead or flange may be inclosed and held between the circle-plate and disk, substantially as and for the purpose hereinbefore set forth.

In testimony whereof the said ALBERT M. HILL has hereunto set his hand in.

ALBERT M. HILL.

In presence of—

A. S. NICHOLSON,
JOHN M. NEAL.