W. SUTHERLAND.

ATTACHING KNOBS TO SPINDLES.

No. 190,261. Patented May 1, 1877.

Fig. 1.

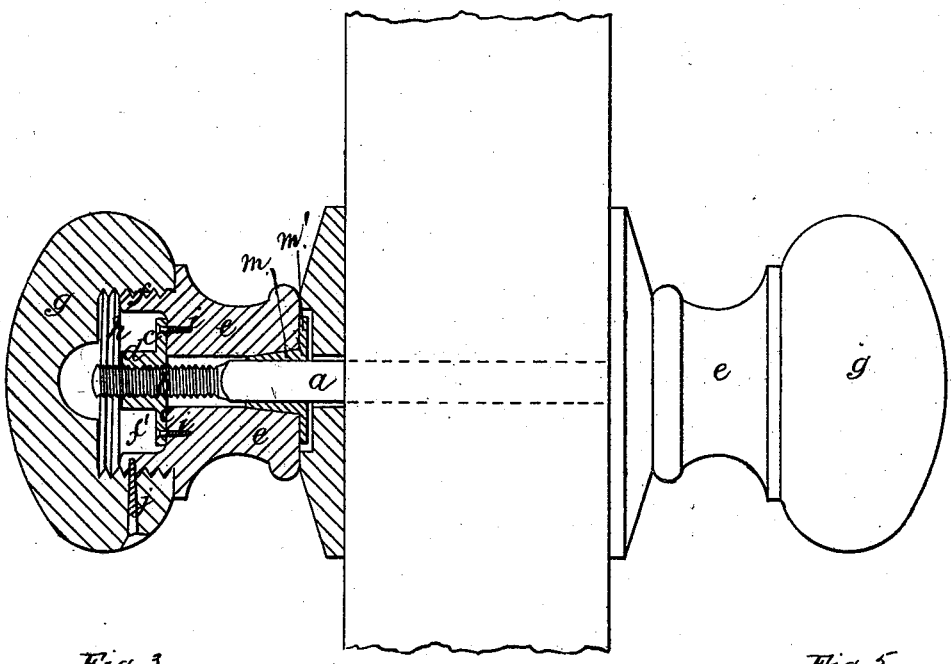


Fig. 3.

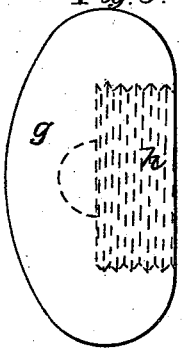


Fig. 2.

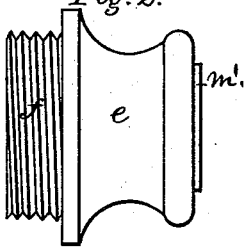


Fig. 4.

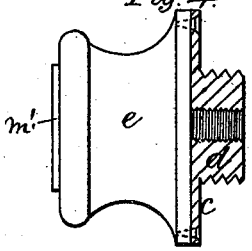


Fig. 5.

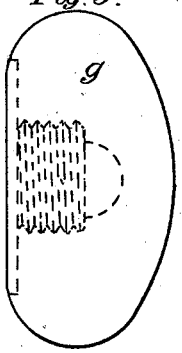


Fig. 6.

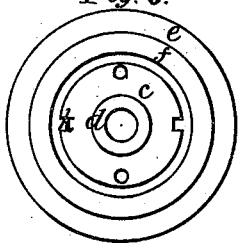


Fig. 8.

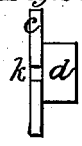
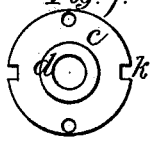


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM SUTHERLAND, OF MANCHESTER, ENGLAND.

IMPROVEMENT IN ATTACHING KNOBS TO SPINDLES.

Specification forming part of Letters Patent No. **190,261**, dated May 1, 1877; application filed January 9, 1877.

To all whom it may concern:

Be it known that I, WILLIAM SUTHERLAND, of Manchester, England, have invented certain Improvements in Lock-Furniture, of which the following is a specification:

My invention consists of a new and improved construction of door knobs or handles, whereby they may be secured to their spindles in a more firm and secure manner than hitherto, and with less liability to get out of order, and may also be readily adjusted and tightened, if need be.

To make my invention better understood, I will proceed to describe the same by reference to the acccompanying drawing, in which—

Figure 1 represents, half in elevation and half in section, a pair of knobs or handles attached to their spindle according to my improvements; Figs. 2 to 8, details.

Similar letters in all the figures represent similar parts.

To carry out my invention, I take an ordinary lock-spindle, *a*, and cut a screw-thread, *b*, upon each end of the same, about one inch in length. I employ a screw-nut, *c*, having a projecting cylinder, *d*, the interior of the cylinder *d* of the nut *c* having a female screw-thread cut therein to exactly fit the screw-thread upon the end of the spindle *a*. This screw-nut *c* is shown in front and side elevation at Figs. 7 and 8. It has two holes for screws, and two slits or notches, *k*, for screwing and unscrewing the same, or two ears instead.

The base *e* of the knob or handle (shown detached at Fig. 2) is formed with a projection, *f*, with a screw-thread cut upon its periphery; and this projection *f* has a cavity, *f'*, hollowed out of its center, sufficiently large in diameter to receive the hereinbefore-described screw-nut *c*, as shown in Fig. 6.

The cap or spherical portion *g* of the knob or handle (shown detached in Fig. 3) has a cavity, *h*, cut with a female screw-thread, which screws upon the projecting screw *f* on the base *e* of the knob; or, instead of cutting the screw-threads on the base and cap of the knob, as hereinbefore described, I sometimes enlarge the screw-nut *c*, and form the cylinder *d* with an outer thread, (as well as with an inner thread,) as shown in Fig. 4, in which case the cap is formed as shown in Fig. 5.

These handles may be made in wood, brass, earthenware, horn, or glass, and may be fitted to old as well as to new locks.

A hollow thimble or tube, *m*, having a tapering exterior, and provided with a flange, *m'*, is applied to the outer end of the base *e*, its tapering part being adapted to make a tight fit within the base when the two knobs, with their spindle, are secured to the door, and the spindle is thus kept firm, and prevented from loose play or rattling.

In putting this new lock-furniture together, I first pass the spindle *a* through the base *e* of the knob; then screw on the nut *c*, and fasten it to the base *e* with two small screws, *i i*. I then screw on the cap *g*, and make it secure with a small screw, *j*, underneath; or this screw may be dispensed with. I now put the spindle *a* through the lock; put on the base *e* of the other knob; then screw on the nut *c* as far as required; fasten with the two screws *i i*, as before; put on the cap *g*, and fasten it, if required, with the small screw *j*, or with glue or other cement.

The advantages of this construction are, first, a screw-nut, being secured upon the spindle at each of its ends, and then screwed fast to the base of its respective knob, forms a united, firm, and secure fastening, which cannot be moved in any but the right direction; secondly, the pull of the handle being direct, and not depending for its firmness upon anything else but the spindle-nut and base, cannot possibly get out of order; thirdly, the cap of the knob, being securely screwed onto the base and fastened, protects and conceals the mechanism, and makes a firm and perfect handle.

Having thus described the nature of my invention, and the manner of performing the same, what I claim is—

1. The combination, with the base *e*, having a screw-threaded projection, *f*, and cavity *f'*, of the flanged nut *c d*, adapted to be lodged and secured in such cavity, the spindle *a'*, and the threaded knob or handle *g*, as and for the purpose set forth.

2. In combination, the parts *e*, *g*, *c*, *d*, *i*, and *m m'*, constructed and applied to each other substantially as shown and described.

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