

MATTHEW ANDREW.

Improvement in Attaching Knobs to their Spindles.

No. 115,675.

Patented June 6, 1871.

Fig. 1.

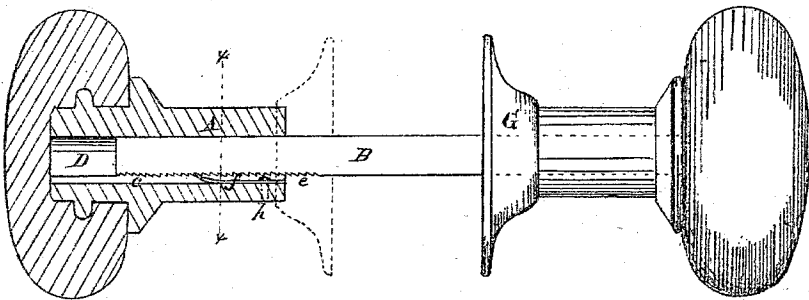


Fig. 3.

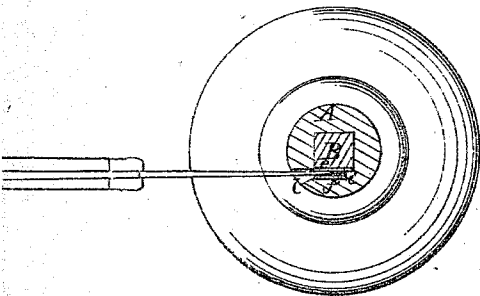
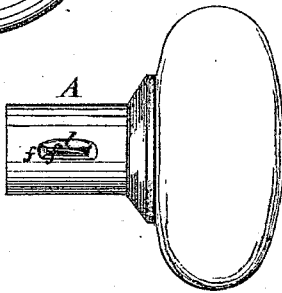
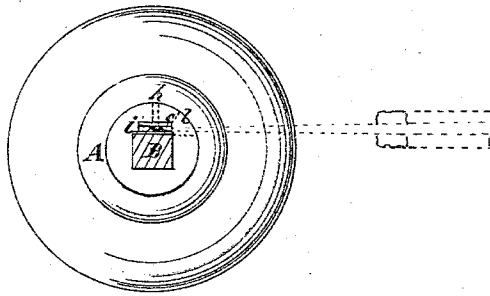


Fig. 2.



Witnesses:

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Fig. 4.

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UNITED STATES PATENT OFFICE.

MATTHEW ANDREW, OF MELBOURNE, VICTORIA.

IMPROVEMENT IN ATTACHING KNOBS TO THEIR SPINDLES.

Specification forming part of Letters Patent No. 115,675, dated June 6, 1871.

I, MATTHEW ANDREW, of Melbourne, in the Colony of Victoria, have invented an Improvement in Attaching Knobs to Spindles, of which the following is a specification:

My invention relates to the class of door-knob fastenings in which the spindle and knob are connected by means of a spring and ratchet teeth, so that the space between the two knobs can be readily adjusted to correspond with the thickness of the door, and is an improvement upon that for which Letters Patent were granted me April 12, 1870, and reissued September 6, 1870. The object of my present invention is to adapt the device to shanks of small size and render the connection between the parts more firm and reliable, to facilitate the separation when required, and to cheapen the cost of production; and it consists in providing a solid bearing for the spindle on the ratchet side, extending the whole length of the socket, and in providing an aperture in the side of the shank in casting for the introduction of a suitable instrument, on a parallel plane with the spring, for disengaging it from the teeth, thereby obviating the necessity of drilling the shank for that purpose.

Figure 1 is an elevation of a spindle and knobs connected, one of the latter being represented in section to show the fastening device. Fig. 2 is an end view of the shank with the spindle in section. Fig. 3 is a section of the shank and spindle together on the line *xx*, Fig. 1, showing the mode of disengaging the spring. Fig. 4 is a side view of the knob, showing the aperture *l* in the shank *A*.

The shank *A* is provided, in casting, with a longitudinal recess, *c*, in one side of the square socket *D*, which receives the spindle *B*, said recess corresponding in length with that of the socket, but being of less width by reason of a small bearing, *i*, Figs. 2 and 3, which is left at one side for the purpose of sustaining the spindle in its proper position. The spindle is provided on the side which, when inserted, is to lie next the recess *c*, with ratchet-teeth *e*; and a small spring, *f*, is secured in the recess, its outer end being fastened to the shank by a rivet, *h*, or in any suitable manner, the other end pressing downward upon the ratchet-teeth of the spindle. These teeth are of such an angle that the spring slides over

them when the spindle is pushed in, but by engaging with one of them prevents its being drawn back again. In order to release the spindle the point of a knife-blade or other similar instrument is inserted through an aperture, *l*, provided in the side of the shank between the spring and the spindle, raising the former sufficiently to disengage it from the ratchet, when the knob and spindle can be separated.

The spindle being passed through the door, the two knobs are slipped on and pressed together until the rose *G* of both knobs is brought in close contact with the side, in which position they are retained by the fastening without becoming loosened by use. The small bearing *i*, extending from end to end of the socket *D*, steadies the spindle from the time it enters, and maintains it in its right line even when the thickness of the door prevents its entering far into the socket. This is of much importance, as heretofore in fastenings of this class the chamber which receives the spring admits, under some circumstances, of the spindle vibrating and working loose in the socket, and thereby deranging the spring, and wearing off the ratchet-teeth, and leaving the knob shaky. These results are not liable to occur with my present mode of construction, and I am hence enabled to use much finer teeth on the spindle, so as to adjust it more perfectly to the thickness of the doors. The manufacture is also much simplified and the cost reduced.

In some instances, when the size of the spindle will admit, two bearings may be used, leaving the recess for the spring between them; but one is generally effectual. The aperture *l* (best shown in Fig. 4) is of such a form and so arranged upon the neck of the shank *A* as to enable the point of a knife-blade or other similar instrument to be inserted under the spring on a parallel plane with it, and employed both as a wedge and a lever to overcome the force of the spring. This aperture is oblong and of conical form in cross-section, so that it may be readily molded and cast, thereby obviating the expense of drilling. One side is arranged upon a plane, or nearly so, with that of the side of the spindle and spring, and serves as a fulcrum for the knife when used as a lever,

while the oblong form admits of the instrument being pushed in and moved about in a plane with the spring to act as a wedge.

What I claim as my invention is—

1. The bearing *i* of the socket D, in combination with the ratchet-spindle B, spring *f*, and recess *c*, substantially as and for the purpose specified.

2. In combination therewith, the arrangement of the aperture *l* through the side of the

shank A, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MATT. ANDREW.

Witnesses:

WM. F. McNAMARA,

K. N. JONES.