C. D. MALLATT.

DOOR KNOB FASTENER.

APPLICATION FILED FEB. 24, 1917.

1,245,939. Patented Nov. 6, 1917.

Fig. 1.

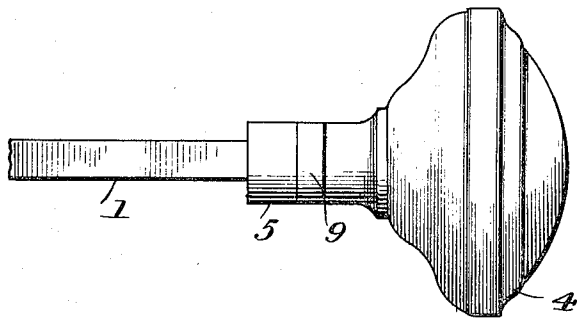


Fig. 2.

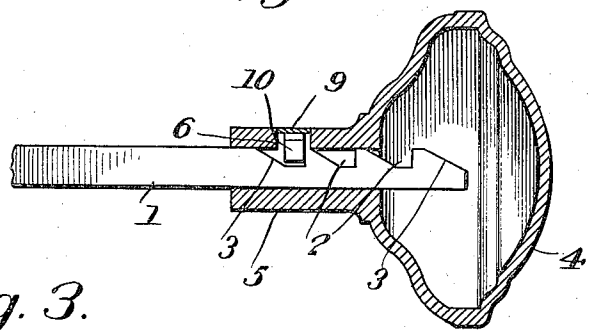


Fig. 3.

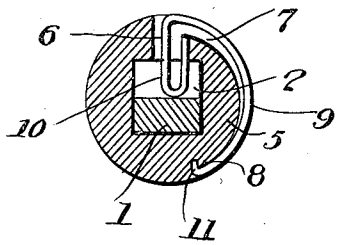
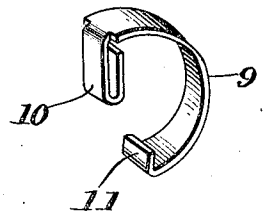


Fig. 4.



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DOOR-KNOB FASTENER.

1,245,939. Specification of Letters Patent. Patented Nov. 6, 1917.

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To all whom it may concern:

Be it known that I, CHARLES D. MALLATT, a citizen of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented new and useful Improvements in Door-Knob Fasteners, of which the following is a specification.

This invention is an improved door knob fastener for use, instead of the usual screw, for fastening a door knob on the spindle, the object of the invention being to provide an improved device of this character which is extremely cheap and simple, which may be applied in an instant to the shank of a door knob, and by means of which the door knob may be readily secured to the spindle, a further object of the invention being to provide an improved fastening device of this character which is not liable to become casually detached from the knob shank and lost.

The invention consists in the construction, combination and arrangement of devices, hereinafter described and claimed.

In the accompanying drawings:—

Figure 1 is an elevation of a door knob and the portion of a spindle provided with a fastening device constructed and arranged in accordance with my invention.

Fig. 2 is a longitudinal sectional view of the same.

Fig. 3 is a transverse sectional view of the same.

Fig. 4 is a detailed perspective view of the fastening spring.

The spindle 1 is preferably provided on one side near one end with a series of ratchet teeth 2 each presenting an inclined face 3 and a notch or space being formed behind each tooth.

The knob 4 has the usual shank 5 provided with a bore for the reception of the spindle and in accordance with my invention the knob shank also has a radial opening 6 to register with any one of the notches formed between the teeth of the spindle. In the form of the invention here shown the knob shank is also provided with an exterior transversely arranged groove 7 of suitable length, width and depth and which extends from and communicates with the opening 6, said opening being at the deeper inner end of the groove. At the shallow, outer end of the groove is a detent device which is here shown as a lip 8. The fastener element is a spring 9 of arcuate form and of a length and width adapting it to be fitted in the groove of the knob shank. At one end of the spring is an inwardly extending arm 10 which is adapted to extend through the opening 6 and to engage in one of the notches formed behind one of the spindle teeth. At its outer end the spring is provided with a detent device 11 which is here shown as an inturned flange and which when the fastening spring is in place is snapped into engagement with the detent lip 8 of the knob shank, thus putting the fastening spring under spring tension, said fastening spring tending to contract longitudinally, as will be understood. The fastening spring is thus held securely on the knob shank and its inner end is free to be moved radially so that when the spindle is inserted in the neck shank and the teeth of the spindle pass the opening 6 the inclined face of each tooth exerts camming action on the arm 10 to force the latter outwardly and as the tooth passes said opening said arm by the retractile spring action of the fastening device snaps back into engagement with the notch or behind said tooth. When it is desired to remove the fastener, to permit the withdrawal of the knob from the spindle this can be readily done by raising the free end of the spring by means of a knife blade or the like, to release the same from the teeth of the spindle and then drawing the knob outwardly, as will be understood.

While I have shown and described a preferred form of my invention I would have it understood that changes may be made in the form, proportion and construction of the several parts, without departing from the spirit of my invention and within the scope of the appended claim.

Having thus described my invention, what I claim is:—

In combination with a knob spindle having a notch, a knob having its shank provided with an opening to register with said

notch and also provided with a transverse exteriorly arranged groove extending from said opening and a detent lip at the outer end of said groove, and an arcuate contractile fastening spring arranged in said groove and having an arm at one end extending through said opening of the knob shank and engaged with said notch of the spindle, said fastening spring having an inturned detent flange at its free end snapped over and engaged with said lip to detachably secure the fastening spring in place and permit radial movement of the inner end of the spring.

In testimony whereof I affix my signature.

CHARLES D. MALLATT.