

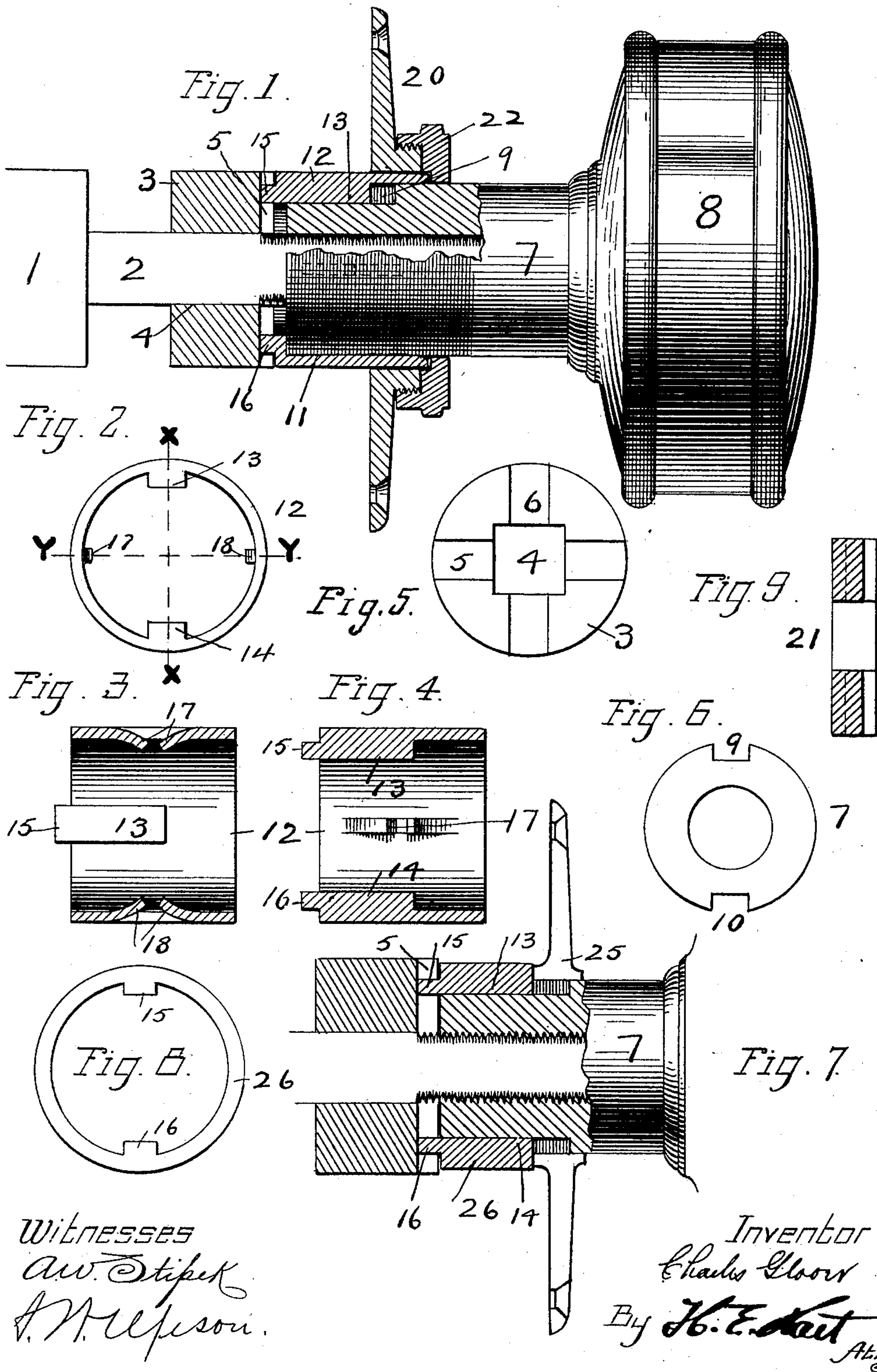
No. 692,265.

Patented Feb. 4, 1902.

C. GLOVER.
KNOB ATTACHMENT.

(Application filed Sept. 5, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

CHARLES GLOVER, OF NEW BRITAIN, CONNECTICUT.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 692,265, dated February 4, 1902.

Application filed September 5, 1900. Serial No. 29,097. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GLOVER, a citizen of the United States, and a resident of New Britain, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Knob Attachments, of which the following is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

The object of my invention is to improve and simplify the construction of knob attachments of the kind which do away with the use of screws for holding the knobs on the spindle, and the means by which these objects are accomplished are shown in the drawings, in which—

Figure 1 is a view, partly in section, showing the construction and arrangement of my invention. Fig. 2 is an end view of the locking-sleeve. Fig. 3 is a sectional view of same on line Y Y. Fig. 4 is a sectional view of same on line X X. Fig. 5 is an end view of the hub of the lock. Fig. 6 is an end view of the knob-shank. Fig. 7 shows a modification of my invention, partly in section. Fig. 8 is an end view of a modified form of sleeve. Fig. 9 is a sectional view of the filling-piece.

Referring to the drawings, 1 denotes a knob attached to the spindle 2, which is square in cross-section and threaded.

3 is the part of the lock commonly called the "hub" and which is connected with and operates the bolt. The hole 4 through the hub is squared to closely fit the spindle. One face of the hub is slotted, preferably with four slots, as shown at 5 6, Fig. 5. The shank 7 of the knob 8 is slotted, as at 9 10, Fig. 6, and is circumferentially grooved on the outside, as at 11.

A locking-sleeve 12 has lugs 13 14, which ride in the slots 9 10 on the shank 7 and project a short distance beyond the end of the sleeve, as at 15 16, said projections being adapted to enter the slots 5 6 in the hub 3 when the parts are assembled. On the inside of the sleeve are spring-fingers 17 18, preferably formed by cutting them out of the walls of the sleeve and bending them inward. These springs are intended to enter the grooves formed around the knob-shank to hold the locking-sleeve in place and yet al-

low of its being moved along the shank when sufficient force is applied.

In assembling the parts the operation is as follows: The spindle is passed through the lock-hub from the side which is not slotted until the shank of the knob abuts against some part of the door or lock and prevents its movement farther in that direction. The locking-sleeve 12 is then mounted on the shank 7 of knob 8, the lugs 13 14 fitting into the slots 9 10 in the shank and their projections 15 16 being flush with the end of the shank. The knob is then screwed onto the end of the spindle until there is no play between the parts and then turned backward (a constant pressure being exerted on the locking-sleeve toward the hub) until the projections 15 16 register with and enter the slots 5 6 in the face of the hub. The springs 17 18, in connection with the grooves on the periphery of the shank, hold the locking-sleeve in place. The outer end of the locking-sleeve extends a little beyond the scutcheon-plate 20, and a ring 22, covering the end of the sleeve, is threaded onto a hub on said plate after the parts are in their above-described positions, giving the whole structure a finished appearance.

To take the knobs off, it is only necessary to remove the ring 22 and withdraw the locking-sleeve to disengage the projections from the slots in the hub. The knob can then be unscrewed.

Inasmuch as there is a great variation in the thickness of doors I prefer to make the parts of my invention to fit the narrow doors, and in order to permit their use on doors of greater thickness without making special sizes I provide a lengthening-piece 21, which is to be placed on the spindle between the lock-hub and the knob-shank, the hole through its center closely fitting the spindle. This lengthening-piece is keyed to the spindle in any desired manner. As shown in the drawings, this object is accomplished by providing a spindle of polygonal cross-section, the hole through the lengthening-piece being of substantially the same shape as the cross-sectional shape of the spindle. Slots formed in one face of this lengthening-piece are adapted to receive the projections 15 16 on the sleeve 12 and lock the knob to the hub.

In the modified form of my invention shown in Fig. 7 I do away with the grooves around the knob-shank and the spring-fingers on the inside of the locking-sleeve to hold the said sleeve in position and obtain the same result by having the scutcheon-plate or rose 25 engage the end of the sleeve 26. This makes it necessary to remove the scutcheon-plate whenever the knobs are taken off, as will be clear from the drawings. In other particulars the two devices are similar.

I have described my invention embodied in its most practical form, and it is so illustrated in the drawings; but alterations in the construction and arrangement of the parts can be readily made without departing from the scope of my invention, and I intend to include herein and cover by the claims all such modifications.

I claim as my invention—

1. A knob attachment comprising the lock-hub, the spindle passing therethrough, the loose knob threaded on one end thereof carrying a movable sleeve on its shank, said sleeve forming connections between the knob and the hub.

2. A knob attachment comprising the lock-hub, the spindle passing through and locked to said hub to rotate with it, a stationary and loose knob located at opposite ends of the spindle, and a movable sleeve carried on the shank of the loose knob forming connections between said knob and the lock-hub, said sleeve being held in any desired position on the shank by spring-fingers frictionally engaging said shank.

3. In a knob attachment the combination with the lock-hub, the spindle passing therethrough, said parts being connected to rotate together, and the fast and loose knobs at opposite ends of the spindle, of a sleeve sliding lengthwise of the shank on the loose knob and adapted to connect the said knob and the lock-hub, substantially as described.

4. A knob attachment comprising the slotted lock-hub, a threaded spindle passing therethrough, the knob internally threaded to engage the threads on the spindle and carrying on its shank a locking-sleeve held against rotary motion relatively thereto, and one or more projections on said sleeve adapted to enter the slots in the hub to lock the parts together.

5. In a knob attachment the slotted lock-hub, the spindle passing through said hub, a knob carrying on its shank a sleeve capable of

lengthwise movement along the shank, spring-fingers for holding the sleeve in position, and one or more projections on said sleeve adapted, in connection with the slots in the hub, to lock the parts together.

6. In a knob attachment the lock-hub, the spindle passing therethrough, a knob having its shank circumferentially grooved, a sleeve mounted on the shank and having spring-fingers engaging the grooves on the shank, and connections between the hub and the sleeve for locking the parts together.

7. In a knob attachment the combination with the slotted lock-hub, the spindle passing therethrough, and the knob, of a sleeve having one or more lugs adapted to slide in grooves in the knob-shank, said lugs extending a short distance beyond the end of the sleeve and being adapted to engage the slots in the hub, and means for holding the sleeve in position.

8. In a knob attachment the combination with the lock-hub, the spindle passing through it, and the loose knob on the end of the spindle, of a sleeve mounted on the knob-shank and capable of lengthwise movement relatively thereto, lugs on the end of the sleeve, a lengthening-piece located on the spindle between the hub and the sleeve, and slots in said lengthening-piece arranged to coact with the lugs on the sleeve, substantially as described.

9. In a knob attachment the hub and spindle arranged in the usual manner, the knob on the spindle, a sleeve carried on the knob-shank and movable lengthwise thereof, connections between the hub and the sleeve and means engaging the end of the sleeve for holding it in position in engagement with the hub.

10. In a knob attachment the slotted hub, the spindle passing therethrough and the knob on the spindle, of a sleeve mounted on the knob-shank and capable of lengthwise movement relatively thereto, one or more lugs on the inner end of said sleeve adapted to engage the slots in the hub, and a plate or rose engaging the outer end of the sleeve to hold it in engagement with the hub, substantially as described.

Signed this 30th day of August, 1900, at New Britain, Connecticut.

CHARLES GLOVER.

Witnesses:

GEO. E. CHRIST,
M. C. NORTH.