No. 629,755. Patented July 25, 1899.

W. A. GIBBS.

KNOB ATTACHMENT.

(Application filed Apr. 15, 1899.)

(No Model.)

FIG: 1.

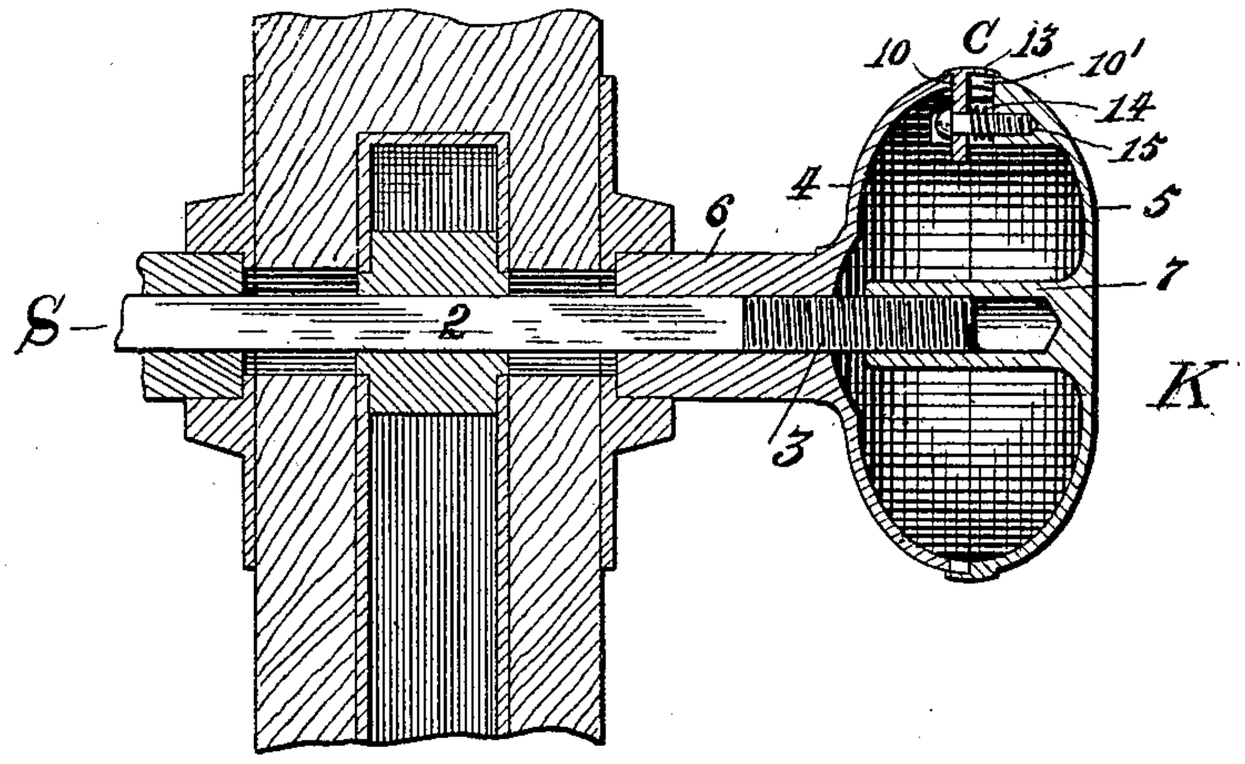

FIG: 2

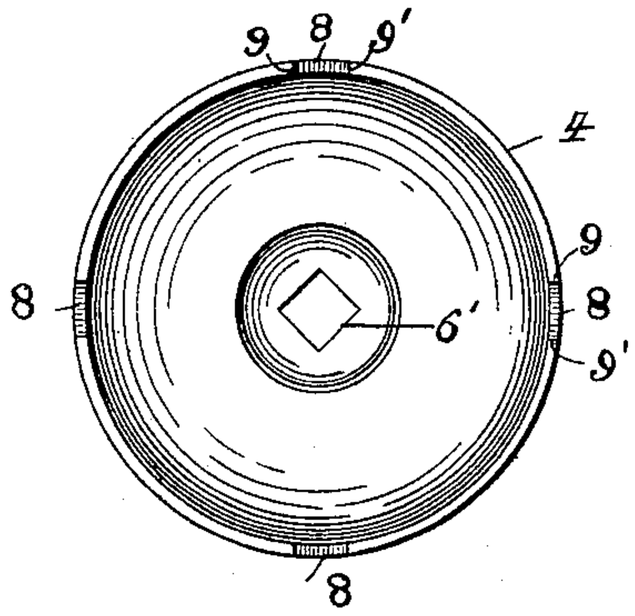

FIG: 3

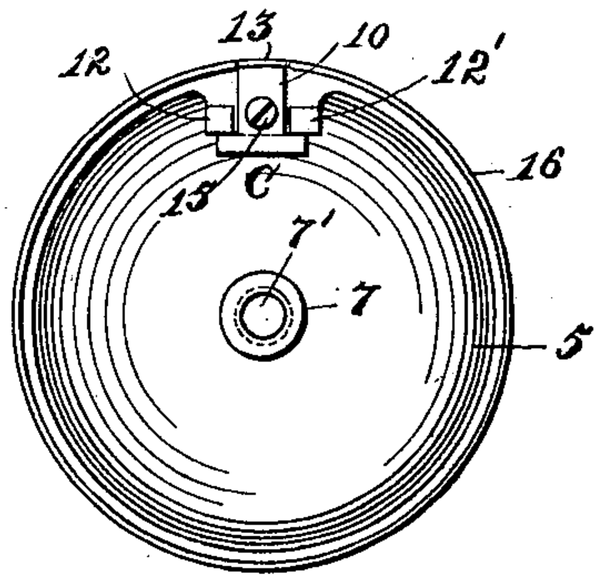

FIG: 4

WITNESSES

B. N. Parker.

M. F. Flynn

INVENTOR

William A. Gibbs

by C. C. Whitney

his Atty.

UNITED STATES PATENT OFFICE.

WILLIAM A. GIBBS, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO ARTHUR R. STEED, OF SAME PLACE.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 629,755, dated July 25, 1899.

Application filed April 15, 1899. Serial No. 713,147. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. GIBBS, a citizen of the United States of America, and a resident of Middletown, Middlesex county, Connecticut, have invented certain new and useful Improvements in Knob Attachments, of which the following is a specification.

This invention relates to knob attachments of the "screwless" type, one object of this invention being to furnish a screwless knob attachment of improved and simplified construction and organization in which the knob proper may be adjusted longitudinally of the spindle and rigidly secured in such adjusted position to render the same applicable to doors of different thicknesses and to facilitate adjustment to take up wear or obviate lost motion and to accomplish this without the employment of clamp-sleeves, screws, wedges, or similar devices common to knob attachments of known construction.

My invention consists in certain details of construction and in the combination and arrangement of the several parts of the knob attachment, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings accompanying and forming part of this specification, Figure 1 is a central longitudinal section of a knob attachment embodying my invention, said figure showing a portion of the spindle and the two-part knob secured thereto. Fig. 2 is an interior view of the inner member of the knob, showing the lock-notches in the outer edge thereof. Fig. 3 is an interior view of the outer member of the knob, showing the detent device or catch which engages in the lock-notches of the inner companion member of said knob when the parts are assembled; and Fig. 4 is a detail showing an inner end view of the detent device or catch.

Similar characters designate like parts in all the figures of the drawings.

In the form thereof shown in the accompanying drawings the knob attachment comprises a spindle S, having a squared or cross-sectionally-angular portion 2 of the same diameter from end to end and a screw-threaded end portion 3, and a knob designated in a general way by K and comprising two members designated by 4 and 5, respectively, and which will be hereinafter referred to as the "inner" member 4 and the "outer" member 5. The inner member 4 has a central external boss or knob-stem 6 with a squared or angular longitudinal non-tapered opening 6′ extending from end to end thereof to receive the corresponding angular portion 2 of the spindle S, on which it is held against rotation, but is capable of indefinite movement longitudinally of said spindle, and the outer member 5 has an internally-projecting central boss 7, in which is formed a screw-threaded opening 7′ to receive the screw-threaded portion 3 of the spindle on which it is mounted for rotative movement toward and away from the inner member 4.

As a simple and convenient means for locking the two members of the knob K against rotative movement with relation to each other when assembled upon the spindle S, whereby to prevent longitudinal movement of the knob as a whole with relation to said spindle, one of said members, as 4, is shown having a series of, preferably four, lock-notches 8 formed in the inner edge of the periphery thereof, each of which lock-notches forms opposing abutment-faces 9 and 9′, and the other of said members, as 5, is furnished with a resilient or reactionary catch or detent C, disposed in position to coöperate with the abutments of the lock-notches of the inner member when the parts are assembled for preventing a rotation of the outer member with relation to said inner member.

The catch or detent C, which is shown wholly mounted upon the outer member 5 of the knob K for movement therewith and which may within the purview of this invention be of any suitable construction and organization for coöperating with the abutment-faces 9 and 9′ of the inner member of the knob, is shown in the accompanying drawings as a catch or plate 10, shiftably supported, for movement transversely of the peripheral edge of the outer member 5, between and guided by ears or lugs 12 and 12′, preferably cast in-

tegral with the said member 5 of the knob on the inner face thereof and in proximity to the periphery. This plate 10 has a curved peripheral flange 13, fitting a notch 10′, formed in the inner edge of the periphery of the member 5, and has its outer face preferably flush with said periphery and of such form as to produce an unbroken and practically imperceptible joint. As a means for normally holding the catch in its locking position and facilitating a disengaging movement of said catch a spring 14 is shown interposed between the catch and inner face of the knob member 5, which spring is preferably held in place by a headed pin or screw 15, which extends through and limits the locking movement of the catch-plate 10.

Formed on the peripheral inner edge of the knob member 5 is an annular flange or bead 16, of slightly-greater internal diameter than the external diameter of the inner edge of the knob member 4, and which flange is adapted, when the two members 4 and 5 are locked together, for overlapping sufficient of the periphery of said member 4 as to cover the lock-notches formed in said member, as will be readily understood by reference to Fig. 1 of the drawings. It will be obvious that said member 4 may have one or more lock-notches or abutments.

In the form thereof shown in the accompanying drawings the knob K is preferably divided substantially central between its inner and outer edges and in a plane transverse to the axis of the spindle to form the two members 4 and 5, which to all intents and purposes constitute two coöperative clutch members, one of which may be shifted toward and from the other by screwing the same inward or outward upon the screw-threaded end of the spindle, and the other of which is mounted upon said spindle for longitudinal movement only.

In assembling the parts of the knob attachment the knob member 4 is slipped upon the angular portion of the spindle until the inner end of the knob-stem 6 bears against the escutcheon or face of the door proper, as the case may be, after which the knob member 5 is screwed upon the screw-threaded end of the spindle, the catch or detent being held in a retracted position until the member 5 bears tightly against the member 4 and until said catch registers with the proper lock-notch in said member 4, after which the catch will be released and allowed to enter said notch, thus locking the two members against relative rotation and against rotative and longitudinal movement with relation to the spindle.

I claim—

1. A knob attachment comprising a spindle having a cross-sectionally angular middle portion and a screw-threaded end portion; a centrally-divided knob including two peripherally-attached members one of which has an angular opening fitting the angular portion of the spindle, and has formed in the inner edge of the periphery thereof a series of lock-notches, and the other of which has an internally-screw-threaded boss fitting the screw end of the spindle and also has near the peripheral edge thereof two remote inwardly-extended lugs; a headed pin fixed to the last-mentioned member and extending toward the other member in parallelism with the axis of the spindle; a locking device mounted on said pin for reciprocatory movement longitudinally thereof and in position to enter the lock-notch in the other member; and a spring interposed between said locking device and member carrying said device.

2. In a knob attachment, the combination with an angular spindle having a screw-threaded end, of a knob comprising two separable members the inner member of which is fitted to the angular portion of the spindle and has a series of peripherally-disposed lock-notches and the outer member of which is fitted to the screw-threaded portion of said spindle and has a peripheral flange of slightly greater internal diameter than the external diameter of the adjacent edge of the inner member and is adapted for overlapping said member to cover the lock-notches therein and which flange has an opening formed in one portion of the outer edge thereof to receive a catch or detent; and a spring-actuated catch wholly mounted on the inner face of the outer member for movement transversely of the peripheral edge of said member, and in position to engage in a lock-notch of the inner member when brought into registration therewith, and having a flange corresponding to, and fitting the opening in, the peripheral flange of said outer member with its outer face flush with the face of the flange of said outer member, whereby to form a smooth unbroken joint.

Signed by me at Hartford, Connecticut, this 10th day of April, 1899.

WILLIAM A. GIBBS.

Witnesses:

ARTHUR R. STEED,

E. C. WHITNEY.