

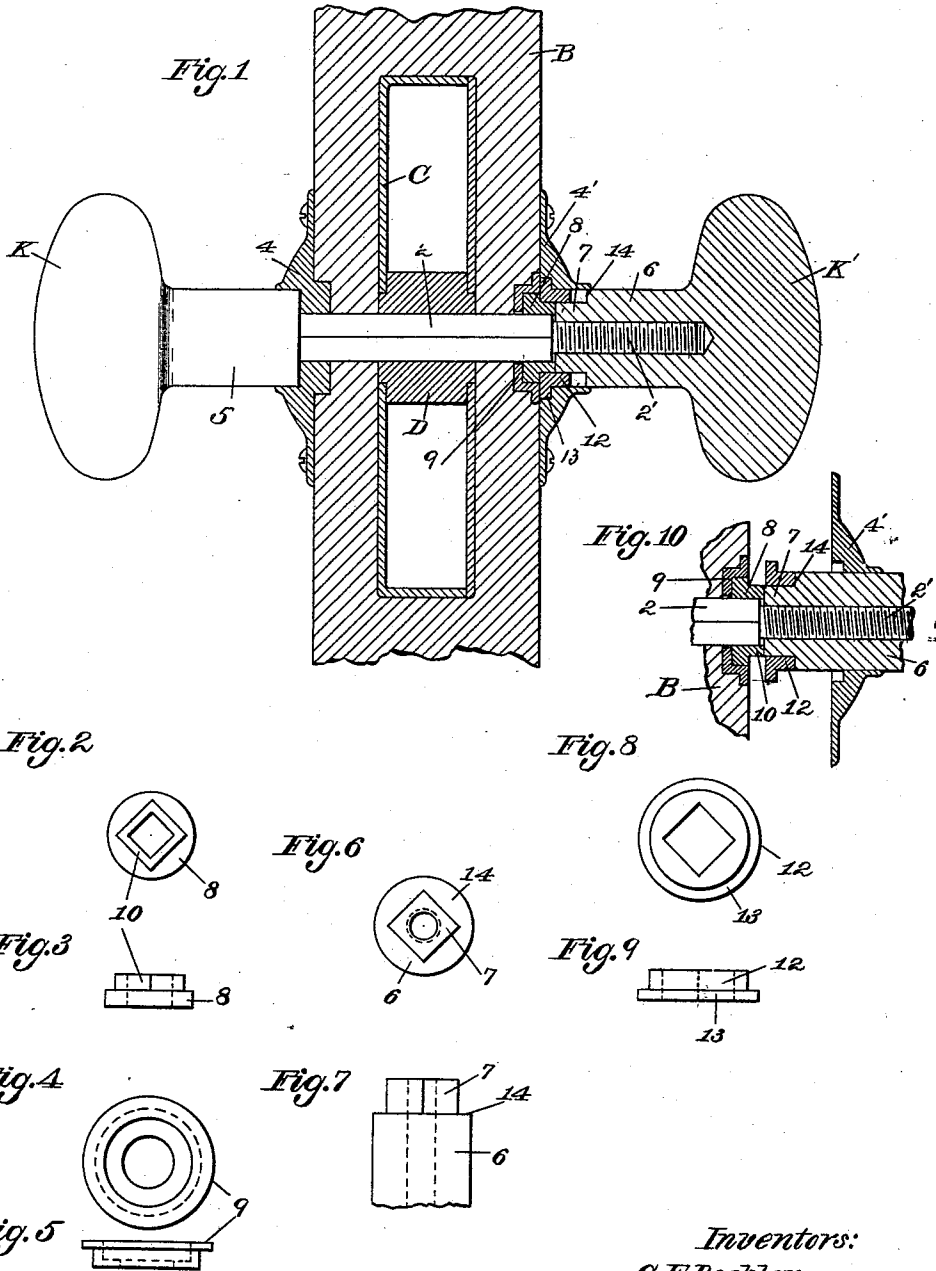
(No Model.)

2 Sheets—Sheet 1.

C. F. DOEBLER & C. K. BRYANT.
KNOB ATTACHMENT.

No. 477,836.

Patented June 28, 1892.



Witnesses:

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Inventors:

C. F. Doebler,
C. K. Bryant,

By their Attorney,

F. H. Richards

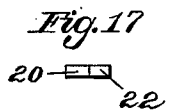
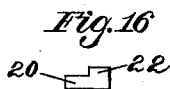
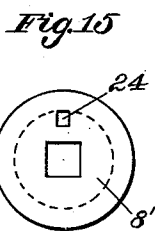
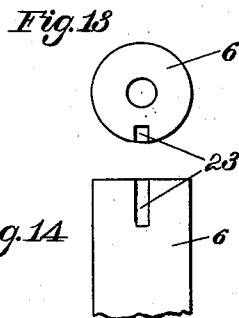
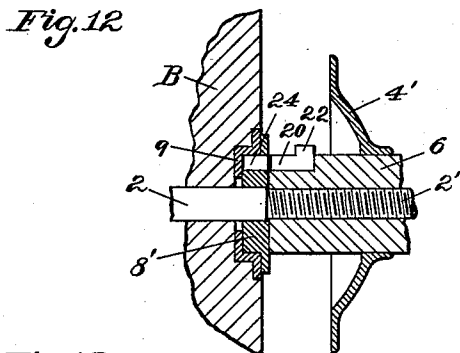
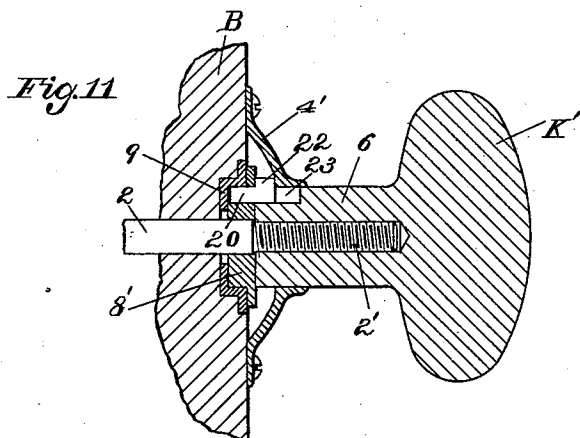
(No Model.)

2 Sheets—Sheet 2

C. F. DOEBLER & C. K. BRYANT.
KNOB ATTACHMENT.

No. 477,836.

Patented June 28, 1892.



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UNITED STATES PATENT OFFICE.

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KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 477,836, dated June 28, 1892.

Application filed November 5, 1891. Serial No. 410,924. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. DOEBLER and CHARLES K. BRYANT, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Knob Attachments, of which the following is a specification.

This invention relates to that class of knob attachments commonly known as "screwless knobs," the object being to provide an adjustable knob attachment of that class which may be readily adjusted to the thickness of the door and which shall at the same time be simple and effective in operation and shall not draw upon the lock or outwardly upon the bearing-plate or "rose" in which the knob-stem is usually supported.

In the drawings accompanying and forming a part of this specification, Figure 1 is a sectional elevation of a knob attachment embodying our present improvements. Fig. 2 is a plan view of the spindle-collar. Fig. 3 is an edge view of the same. Fig. 4 is a plan view of a bearing-washer usually employed in connection with the improvement. Fig. 5 is an edge view of said bearing-washer. Fig. 6 is an end view of the stem of the door-knob. Fig. 7 is a side view of said knob-stem. Fig. 8 is a plan view of the sliding clutch-ring for engaging the spindle-collar and the knob-stem. Fig. 9 is an edge view of said clutch-ring. Fig. 10 is a view similar to a portion of Fig. 1, illustrating the mode of assembling the parts. Fig. 11 is a view similar to a portion of Fig. 1, illustrating a modification in the construction of the improvement. Fig. 12 is a view corresponding to Fig. 10 for illustrating the operation of the form of the improvement shown in Fig. 11. Fig. 13 is an end view of the knob-stem made according to said modification. Fig. 14 is a plan view of the knob-stem drawn in projection with Fig. 13. Fig. 15 is a plan or side view of the spindle-collar. Figs. 16 and 17 are two views of the clutch in its modified form.

Similar characters designate like parts in all the figures.

In Fig. 1, B represents a portion of an ordinary door having therein the lock-case C, furnished with the usual cam or hub D for

actuating the mechanism of the lock. The lock-spindle 2, usually of square cross-sectional form, extends through the door and said hub D and has at the left-hand end thereof the knob K fixed thereto in any well-known manner. On the side of the door adjacent to said fixed knob there is or may be provided the usual bearing-plate or rose 4, furnishing a bearing for supporting the stem 5 of said knob K in a well-known manner. The opposite end of said spindle 2, which is at the right hand in Fig. 1, is shown furnished with a knob having our improved means of attachment. For this purpose the end of said spindle 2 is formed with the threaded portion 2', which screws into the corresponding threaded stem 6 of the detachable knob K'. The inner end of said stem is formed with a squared or similarly-shaped portion 7, whereby it may be clutched by means engaging the spindle, and the spindle is furnished with the spindle-collar 8, which is fitted to slide on the spindle, but not to turn thereon. For the purpose of furnishing a suitable bearing against the door for said spindle-collar there is provided the washer or bearing-plate 9, (shown in detail in Figs. 4 and 5,) whose office is simply to furnish a better surface against which said collar 8 may bear than would be furnished by the ordinary surface of the wooden door B. Said spindle-collar 8 has a squared or similarly-shaped portion 10, corresponding, substantially, with the aforesaid squared or similarly-shaped portion 7 of the knob-stem 6. A clutch-ring 12 (shown in detail in Figs. 8 and 9) is fitted to slide closely and yet freely on the said squared portion 7 of the knob-stem 6 to engage and disengage said spindle-collar. In Fig. 1 said clutch-ring is shown in its left-hand position in full engagement with the spindle-collar 8 and also engaging the end of the knob-stem, thereby firmly connecting said collar and stem, so that on the turning of the knob the collar will be turned therewith.

In Fig. 10 the clutch-ring is shown in its retracted or right-hand position, when the knob K' is free to be unscrewed.

As a means for holding the clutch-ring in engagement with the spindle-collar, as shown in Fig. 1, the plate 4' is constructed to engage the flange 13 of said clutch-ring, substantially

as indicated in the drawings, so as to maintain the engagement of said ring with said collar.

When it is required to adjust the knob on its spindle, the plate 4' is first removed to the position shown in Fig. 10, thus giving access to the clutch-ring 12, which is then slid toward the right hand against the shoulder 14 of the knob-stem and off from said spindle-collar 8. At this time it will be evident the knob, not being clutched to said collar 8, may be turned upon the threaded portion 2' of the spindle. The proper adjustment of the knob having been thus effected, the clutch-ring is slid toward the left hand into engagement with said collar, and the plate 4' is brought into position over the clutch-ring for holding this in working engagement with the two parts 7 and 8. The spindle-collar 8 being free to move longitudinally of the spindle 2, except as said collar is held in place by the hereinbefore-described parts, said spindle is free to be drawn through said collar by pulling upon the knob K', so as to bring the thrust upon the left-hand bearing-plate 4, thereby relieving the lock of the pull of the knob and also relieving the right-hand bearing-plate 4' of any strain due to the operation. By this means the thrust is always taken by the door on the side opposite of the knob being used.

By the term "squared portion," as applied to the spindle and its accessory parts, we mean the usual squared form of spindle or any other cross-sectional form having similar function to prevent rotation of the parts thereon.

The particular form of the clutch is not an essential part of our present invention. In the modification shown in Figs. 11 to 17, inclusive, the clutch-ring 12 of the preceding figures is replaced by a sliding clutch-pin 20, which is carried in a groove or socket 23, formed in the side of the knob-stem 6. Said clutch-pin 20 is fitted to engage in a hole or mortise 24 of the spindle-collar 8', which collar fits the spindle 2 in the same manner as the similar spindle-collar 8 hereinbefore described. The sliding clutch-pin 20 has a projecting flange portion 22, corresponding in function to the aforesaid flange 13 of the clutch-ring 12. The bearing-plate 4', Fig. 11, is constructed to hold the clutch-pin into en-

gagement with the spindle-collar 8' when said plate is secured to the door, as shown in Fig. 11.

The operation of adjusting the knob-stem on the spindle 2 is substantially the same as in the preceding case. The plate 4' being unfastened from the door is slid outward on the knob-stem 6 to give access to the clutch-pin 20, which is then withdrawn from engagement with the spindle-collar 8', as shown in Fig. 12. At this time the knob-stem may be turned on the threaded portion 2' of the spindle to bring the parts into the required position, when the clutch-pin may be re-engaged with the collar 8' and the bearing-plate replaced and secured to the door, as shown in Fig. 11.

It will be evident that the principle and mode of operation of the two forms of the improvement are similar.

Having thus described our invention, we claim—

1. In a knob attachment, the combination, with the spindle having a squared portion and a threaded portion, of the knob-stem fitting the threaded portion, the spindle-collar fitting the squared portion, a clutch in sliding engagement with said stem for engaging and disengaging said collar, and means, substantially as described, for holding said clutch in engagement with the spindle-collar, substantially as described.

2. In a knob attachment, the combination, with the spindle having a squared portion and a threaded portion, of the knob-stem fitting the threaded portion of the spindle and having the squared end, the spindle-collar fitting the squared portion of the spindle to slide thereon and having a squared portion corresponding to the squared portion of the knob-stem, and the clutch fitting upon the squared portion of the knob-stem and spindle-collar and having the flange, and the bearing-plate engaging the flange of the clutch-ring, substantially as described.

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