

(No Model.)

C. F. DOEBLER.  
KNOB ATTACHMENT.

No. 503,201.

Patented Aug. 15, 1893.

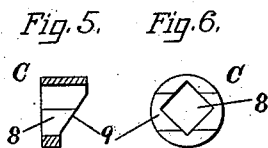
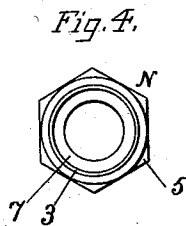
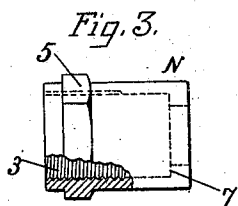
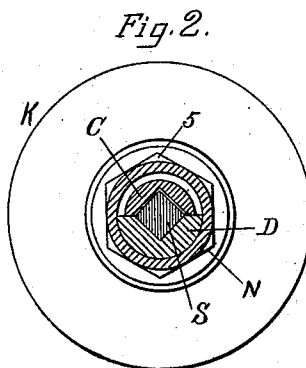
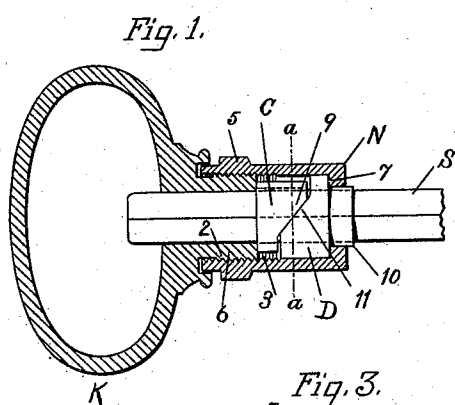


Fig. 6.

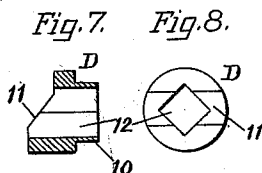
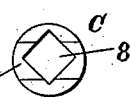
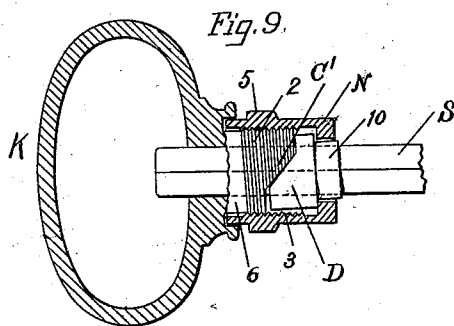
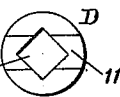


Fig. 8.



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# UNITED STATES PATENT OFFICE.

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## KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 503,201, dated August 15, 1893.

Application filed January 28, 1893. Serial No. 460,019. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES F. DOEBLER, a citizen 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 in which the knob is secured to the spindle by means of clamping devices; the object being to provide a knob-fastening fixable to the spindle through an intermediate spindle-clamping collar or sleeve having its working movement laterally of the knob-stem, whereby the knob-stem may be firmly locked in place, as hereinafter more fully set forth.

In the drawings accompanying and forming a part of this specification, Figure 1 is a longitudinal sectional view of a knob-attachment embodying my present invention. Fig. 2 is a transverse section, in line *a a* of Fig. 1, showing the parts at the left-hand of said knob. Fig. 3 is a detail view of the clamping-nut. Fig. 4 is an end view of said nut, as seen from the left-hand in Fig. 3. Fig. 5 is a longitudinal section of the laterally-movable clamp-ring shown in side view in Fig. 1. Fig. 6 is an end view of said clamp-ring, as seen from the right-hand in Fig. 5. Fig. 7 is a longitudinal sectional view of an intermediate sleeve or wedge. Fig. 8 is an end view of said sleeve or wedge, as seen from the left-hand in Fig. 7. Fig. 9 illustrates a modification of the knob-attachment in which the wedge-sleeve shown in Figs. 7 and 8 is arranged to operate as the spindle-clamp.

Similar characters designate like parts in all the figures.

In my improved knob-attachment, the spindle *S* is or may be of the usual squared cross-sectional form, as herein shown, and of uniform thickness throughout the length thereof. On this spindle is fitted the knob-stem 6 of the ordinary knob *K*, said stem being externally threaded at 2 for engaging the internal thread 3 of the clamping-nut *N*. This nut is usually provided with a hexagonal or squared portion, as 5, whereby the same may be screwed on to or off from the knob-stem 6, and is internally bored to receive the spindle-clamping devices which bear against the

end-face of the stem 6 and the inner face 7 of the internal end-flange of the clamping-nut *N*.

The spindle-clamping device consists of a clamp-ring or sleeve, which in its preferred form is constructed substantially as shown in Figs. 1, 2, 5 and 6. This sleeve, designated by *C*, has a longitudinal perforation, 8, through which the spindle *S* should slide as closely as may be and move freely therein. One end of the clamp-ring *C* bears against the end of the knob-stem 6, as shown in Fig. 1, the opposite end being, for a portion of its area, inclined as at 9, for the purpose of furnishing means whereby the required lateral movement may be given to the clamp-ring.

As a means for actuating the clamp-ring *C*, a wedge or sleeve, designated in a general way by *D*, has the central opening 12 fitting the spindle *S*, and is externally fitted within the nut *N*, as will be understood from Fig. 1. One end of the sleeve *D*, at the right-hand in Fig. 1, bears against the aforesaid inner flange-face 7 of said nut, and is shown having an extension, 10, constituting a bearing for the projecting end of said nut; which nut, it is to be observed, constitutes in practice a continuation of the stem of the knob.

When assembling the knob-attachment, the two parts *D* and *C* are placed together in the nut *N* in substantially the positions illustrated in Fig. 1, and the knob-stem is then screwed into said nut a somewhat less distance than shown in Fig. 1, and to bring its squared central opening in alignment with the similar openings 8 and 12 of the clamp-ring *C* and sleeve *D*, respectively. The spindle *S* is now slipped through the several parts, as illustrated in Fig. 1, and by means of a wrench applied to the squared portion 5 of the nut *N*, this is screwed onto the knob-stem to force the wedge *D* against the inclined face of the clamp-ring *C*, and to slide this laterally of the spindle *S* into rigid engagement therewith. To remove the knob from its spindle, it is only necessary to loosen the nut *N*, thereby releasing the clamp *C* and permitting the spindle *S* to be withdrawn.

In the modification shown in Fig. 9, one of the wedge elements, in this instance the clamp *C*, is represented by a similarly-constructed projection, *C'*, of the knob-stem 6;

the opposite wedge element, D, being fitted somewhat more freely within the nut N than represented in the preceding figures of drawings, and thereby adapted to have some lateral movement relative to the spindle S, for the purpose of clamping the same in the manner hereinbefore described. In this modification, as this is herein illustrated, the element designated by D constitutes a laterally-movable clamp-ring corresponding to the clamp-ring C hereinbefore described.

I do not desire to limit myself to the exact construction, or to the relative arrangement of the two members which constitute, in part, the clamping-device, as shown in Fig. 1 of the drawings, as one member, the clamp-ring for instance, might be formed integral with the knob-stem K as shown in Fig. 9, in which case it would have no lateral movement upon the spindle, and the other member, or wedge, might be constructed, as also shown in said figure, to have a lateral movement upon the spindle; and, if desired, the annular extension upon the member which forms a bearing for the projected end of the nut, might be dispensed with, the flange 7 upon the clamp-nut, in this case, being extended inward in close proximity to, but not in contact with, the spindle, therefore I purpose to draw claim 2 of sufficient breadth to cover the modifications referred to.

Having thus described my invention, I claim—

1. In a knob-attachment, the combination with the spindle, and with the knob-stem fit-

ting thereon, of the clamp-nut and a spindle-clamping device intermediate to the nut and knob-stem and comprising a laterally-movable clamp-ring and a wedge through which said ring is actuated by the clamp-nut, substantially as described.

2. In a knob-attachment, the combination with the spindle, of a knob-stem and spindle-clamping-device, comprising two members having inclined adjacent faces and fitted to slide upon said spindle, one of which members is capable of lateral movement, and a clamp-nut engaging with, and pressing said members together in a direction longitudinally of the spindle, substantially as and for the purpose described.

3. In a knob-attachment, the combination with the spindle, of a knob having an externally-threaded stem fitted to slide on said spindle, a clamp-nut having at its end an internally-projecting flange and being internally screw-threaded to fit the knob-stem; a movable clamp-ring having an inclined face and bearing against the end of the knob-stem and a wedge sleeve having a reduced end projected through the flange of the clamp-nut to form a shouldered bearing and having its opposite end inclined to correspond to the inclination of the face of the movable clamp, all substantially as and for the purpose described.

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