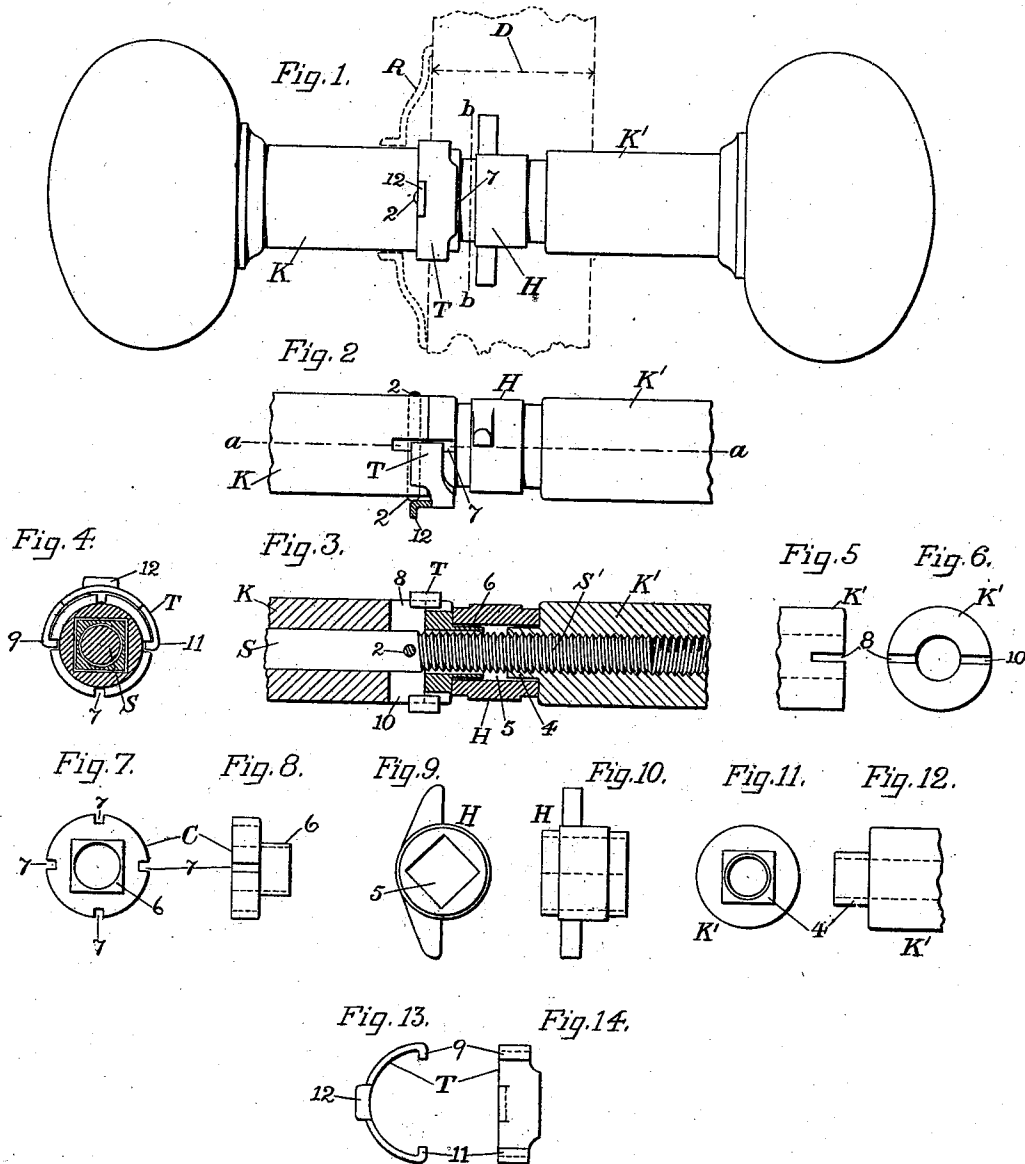


(No Model.)

C. F. DOEBLER.
KNOB ATTACHMENT.

No. 503,202.

Patented Aug. 15, 1893.



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UNITED STATES PATENT OFFICE.

CHARLES F. DOEBLER, OF HARTFORD, CONNECTICUT.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 503,202, dated August 15, 1893.

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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-stems are held together and held in connection with the door-lock or latch, by means of knob-stem-locking devices; the object being to provide an attachment of the class specified having a spindle carrying the two knob-stems, and having an improved knob-stem-locking device whereby the removable knob-stem may be adjustably fixed on the spindle.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side view of a knob-stem embodying my present improvements. Fig. 2 is a view of the knob-attachment as seen from above in Fig. 1, the outer ends of the knob-stems being broken away. Fig. 3 is a sectional view in line *a a* of Fig. 2. Fig. 4 is a sectional view in line *b b* of Fig. 1, showing the parts immediately at the left-hand of said line. Fig. 5 is a view, similar to a portion of Fig. 2, of the end of one of the knob-stems. Fig. 6 is an end view of that portion of said knob-stem which is shown in Fig. 5. Fig. 7 is an end elevation of the clutch-ring, or coupling. Fig. 8 is a side elevation of said clutch-ring, or coupling. Fig. 9 is an end elevation of an ordinary form of the usual bolt-actuating cam, or "hub," of a door-lock or latch. Fig. 10 is a side elevation of said cam, or hub. Fig. 11 is an end view of the removable knob-stem, shown at the right-hand in Figs. 1, 2 and 3. Fig. 12 is a side elevation of the lock-hub-engaging end of the removable knob-stem. Fig. 13 is an end view of the preferred form of the clutch-device, or catch. Fig. 14 is a side view of the device, or catch, shown in Fig. 13.

Similar characters designate like parts in all the figures.

In my improved knob-attachment, one of the knob-stems *K* shown at the left-hand in Fig. 1, is represented as being permanently fixed on the stem-connecting spindle *S* (Fig. 3) by means of the pin 2, which, as indicated

by dotted lines in Fig. 2, extends through both said knob-stem *K* and said spindle *S*. In practice, however, said spindle and knob-stem may be rigidly connected together in any well-known manner or by any well-known means ordinarily employed for such purposes; or, said parts may be made integral. Said spindle *S*, on that part thereof projecting out of the knob-stem *K*, is shown threaded and fitted to screw into the removable knob-stem *K'*, which is shown at the right-hand in Figs. 1, 2 and 3. By this means, not only may said knob-stem *K'* be screwed a greater or less distance upon the threaded portion *S* of the spindle, but said spindle, extending a considerable distance into the stem *K'*, furnishes for this a firm support, notwithstanding that, in practice, the thread of the spindle may be fitted to turn freely within the corresponding internally-threaded removable knob-stem; this feature will be understood from Fig. 3. It will be understood that the terms "fixed" and "removable," as applied to a knob-stem, refer to the relation between such stem and the spindle *S*.

For the purpose of engaging the removable knob-stem with the usual latch-actuating cam or hub, *H*, of the door-lock or latch to which the knob-attachment is to be applied, said removable stem *K'* is shown provided with the projecting squared (or polygonal) end, or driving-stem, 4, which is to be closely fitted within the correspondingly-squared (or polygonal) opening 5 (Fig. 9) of said cam or hub. This hub also furnishes a means for so coupling together the two knob-stems (in connection with the locking device hereinafter described) as to prevent said removable stem *K'* from having any undue rotary movement on said spindle *S*, while the knob-attachment is in use.

For coupling together the fixed knob-stem *K* with said hub *H*, I employ an intermediate clutch-ring, or coupling, *C*, which is adapted to turn freely upon the spindle *S*, and is provided with a squared driving portion, or pin, 6, that, like the aforesaid driving-pin 4 of the removable knob-stem *K'*, should be closely fitted within one end of said hub *H*, as indicated in Figs. 3 and 4. In the periphery of said coupling *C*, I have shown a series of notches, 7 7, which may be of any desired number, four being shown in the present in-

stance. In the end of said fixed knob-stem I have shown two oppositely-disposed notches at 8 and 10, corresponding to those of said coupling.

5 As a means for locking together and un-
locking said fixed knob-stem K and said cou-
pling C, I have provided a clutch-device which,
in its preferred form, consists of a spring-
catch, T, whose in-turned ends 9 and 11 en-
10 gage said stem-grooves 8 and 10, respectively,
and are adapted to engage in the aforesaid
coupling-notches 7. This locking device is
shown furnished with a thumb-catch, 12,
whereby it may be slid on the knob-stem K
15 from and into engagement with said coupling
C. In Figs. 1 and 2 said spring-catch is shown
bearing upon the projecting rounded end of
the aforesaid pin 2, this arrangement form-
ing a means for normally holding said spring-
20 catch locking-device in proper position lon-
gitudinally of the knob-stem, and for pre-
venting the same from being accidentally
moved or shifted out of engagement with said
coupling by the rattling of the knob-stems in
25 the door or by the jar due to the slamming
of the door.

The manner of applying the knob-attach-
ment to a door is illustrated by dotted lines
in Fig. 1, where the door is represented of the
30 thickness D. The coupling-device is shown
inclosed within the usual rose R, which is
fixed (by the usual means, not shown) to the
side of the door. By unfastening the rose
from the door and sliding the same outward
35 on the knob-stem, the spring-catch is accessi-
ble for being drawn outward to disengage the
coupling C. This having been done, the op-
erator may then, by grasping the knob at the
left-hand in Fig. 1, unscrew the spindle S
40 from the right-hand knob-stem K', or may
screw the spindle farther into said knob-stem,
as the case may require. When assembling
the parts, the hub H being in place within
the door-lock or latch, and the coupling and
45 spring-catch being in place but unconnected
on the spindle and knob-stem K, respectively,
said spindle is inserted through said hub and
screwed into the removable knob-stem until
the hub is properly clamped between said
50 removable knob-stem and the coupling, and
is in locking engagement with these parts.
The knob-attachment being thus assembled
and the stem K being turned until its afore-
said notches 8 and 10 come in alignment with
55 the corresponding notches of the coupling,
the spring-catch T is then slid into engage-
ment with the coupling, as illustrated in Figs.

1, 2 and 3, thereby making the knob-attach-
ment ready for use.

My improved knob-attachment has the ad- 60
vantages of moderate cost, ample strength of
parts, and reliability of operation; it is read-
ily assembled and taken apart, and is of con-
venient adjustment; and the so-called "re- 65
movable knob-stem," connecting as it does
directly with the hub to be actuated, secures
the utmost rigidity of construction consistent
with the other requirements of the apparatus.

Having thus described my invention, I
claim— 70

1. In a knob-attachment, the combination
with the knob-stem and spindle rigidly con-
nected together, said spindle being adapted
for carrying a second knob-stem, of the cou-
pling adapted to engage the hub of a lock and 75
to turn freely on the spindle, and a sliding
spring-catch carried on the first knob-stem
and adapted to slide thereon from and into
engagement with the coupling, substantially
as described. 80

2. In a knob-attachment of the class speci-
fied, the combination with the spindle, of the
hub to be actuated thereby, the coupling en-
gaging said hub and having longitudinal slots
in the periphery thereof, the knob-stem fixed 85
on the spindle and having longitudinal slots
corresponding to the said slots of the cou-
pling, a sliding locking device carried on the
knob-stem and engaging in the slots thereof
and adapted to slide in said slots from and 90
into the slots of the coupling, and means for
detaining the sliding locking device in its
working position, substantially as set forth.

3. In a knob-attachment, the combination
with the lock-actuating hub having an angu- 95
lar hole therethrough, of a screw-threaded
spindle of less diameter than the diameter of
the hole in the hub through which it is ex-
tended; a knob-stem screwed upon the thread-
ed end of the spindle and having a square 100
inner-end projected into the hole in the hub;
a hub-stem fixed to the opposite end of said
spindle; a coupling loosely mounted upon
the spindle and interposed between the end
of the fixed knob-stem and hub with an an- 105
gular portion projected into the hole in said
hub, and a removable spring-catch engaging
said coupling and fixed knob-stem to prevent
accidental turning of the spindle in the hub,
substantially as described.

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