

(No Model.)

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

No. 494,554.

Patented Apr. 4, 1893.

Fig. 1

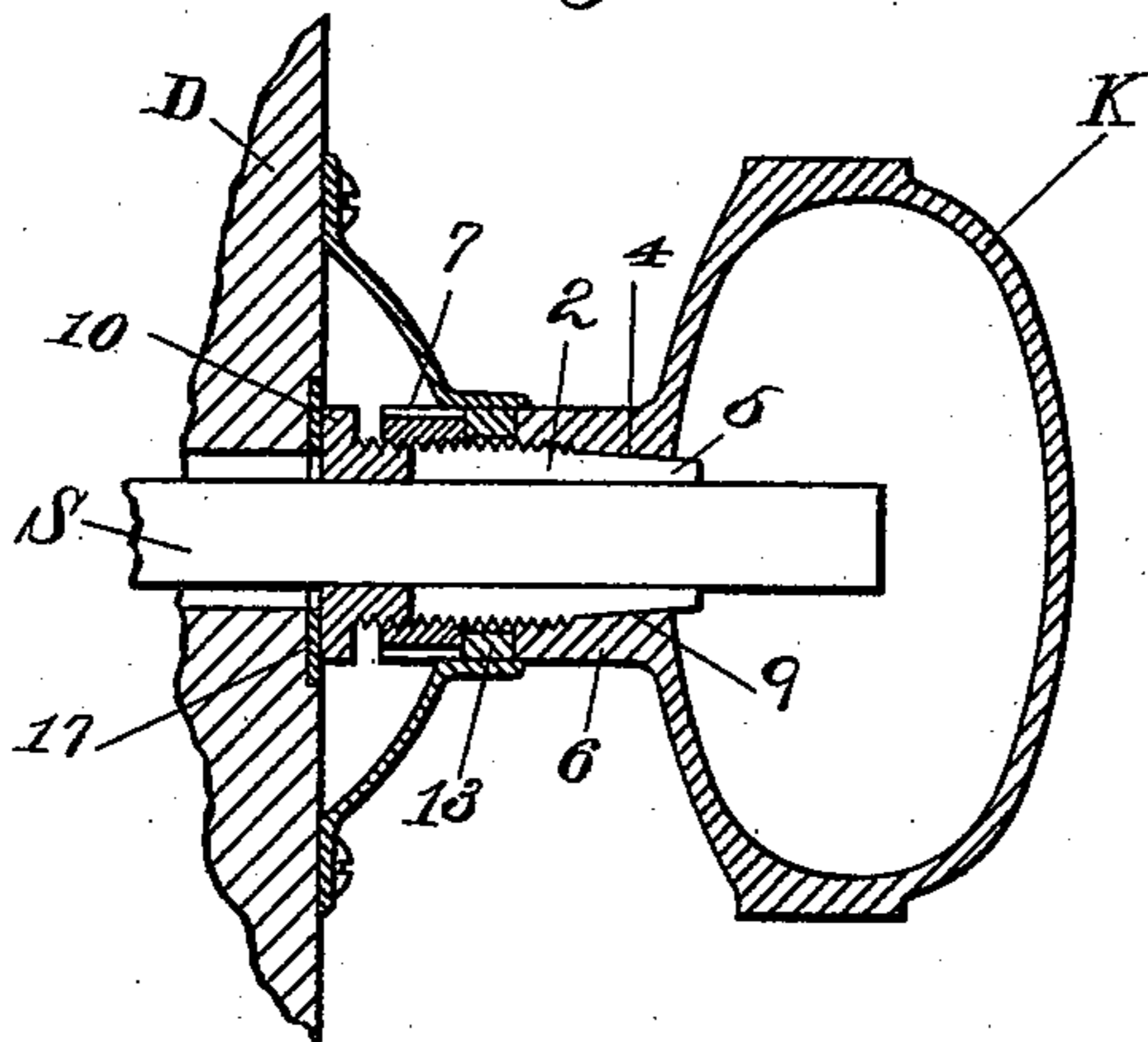


Fig. 2

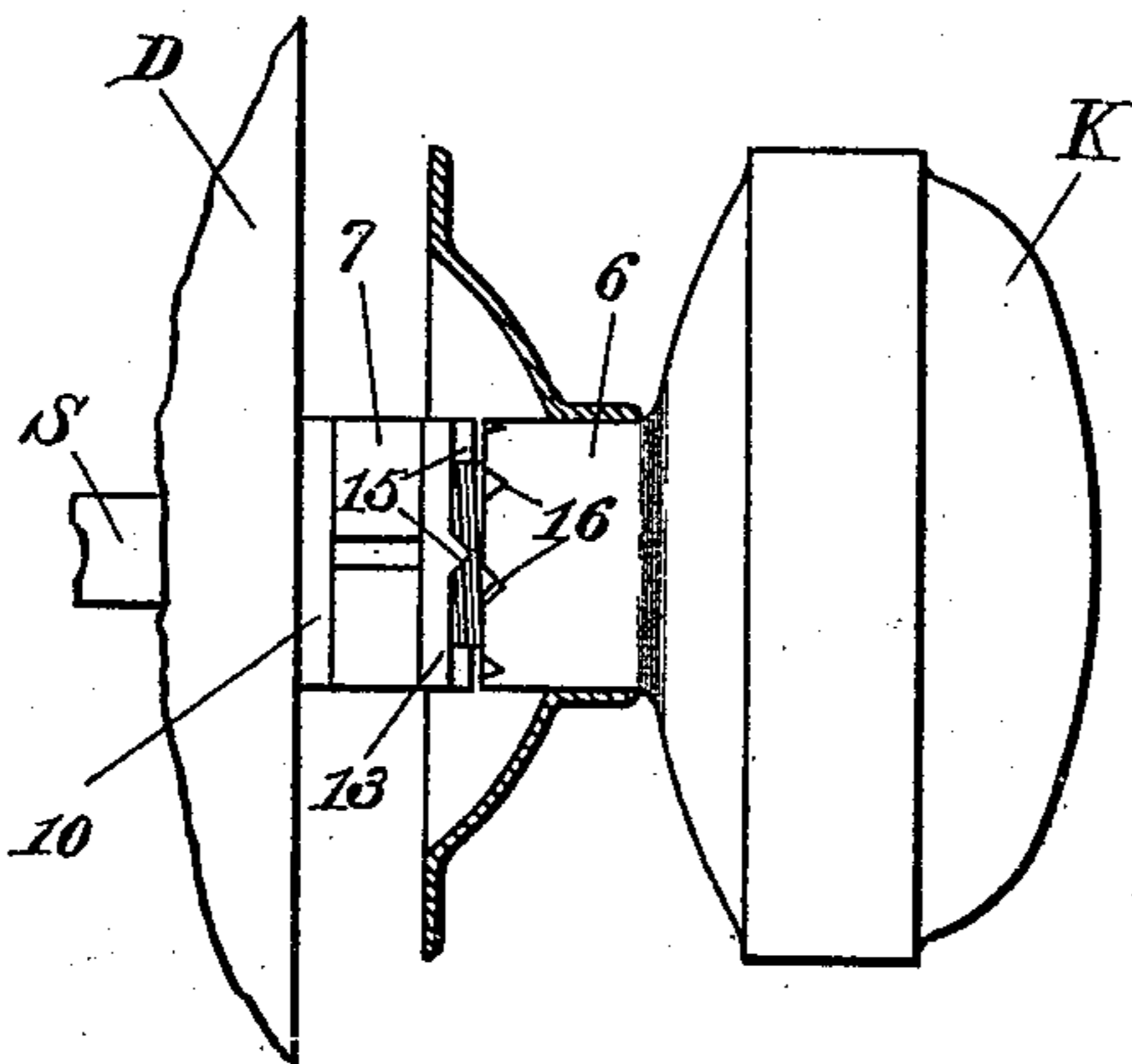


Fig. 4

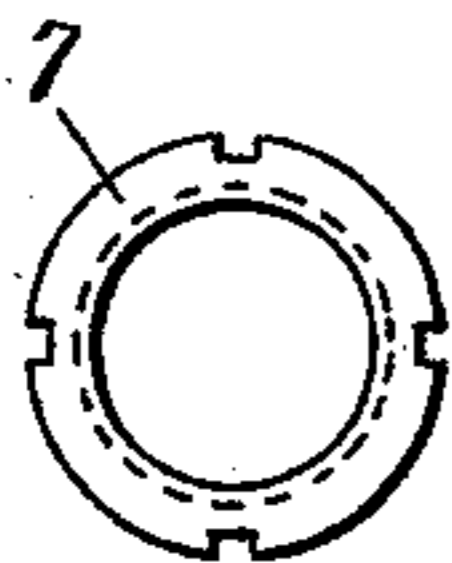


Fig. 3

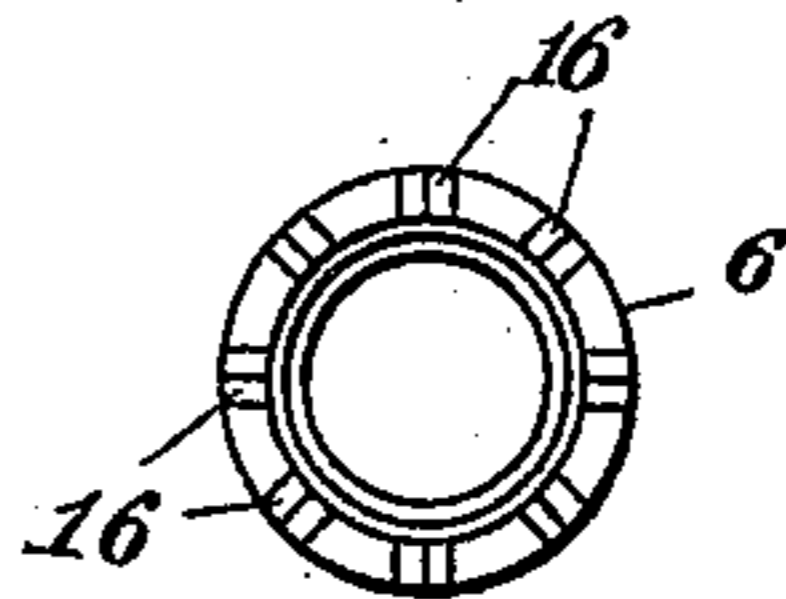


Fig. 5

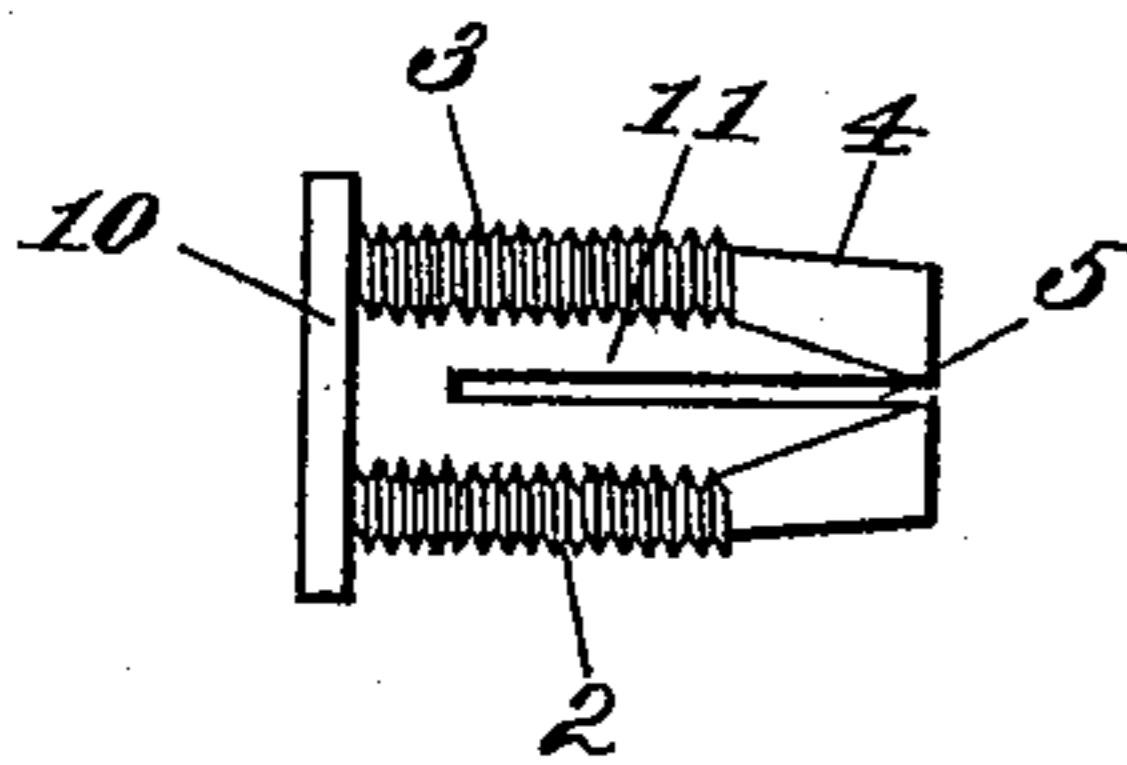


Fig. 6

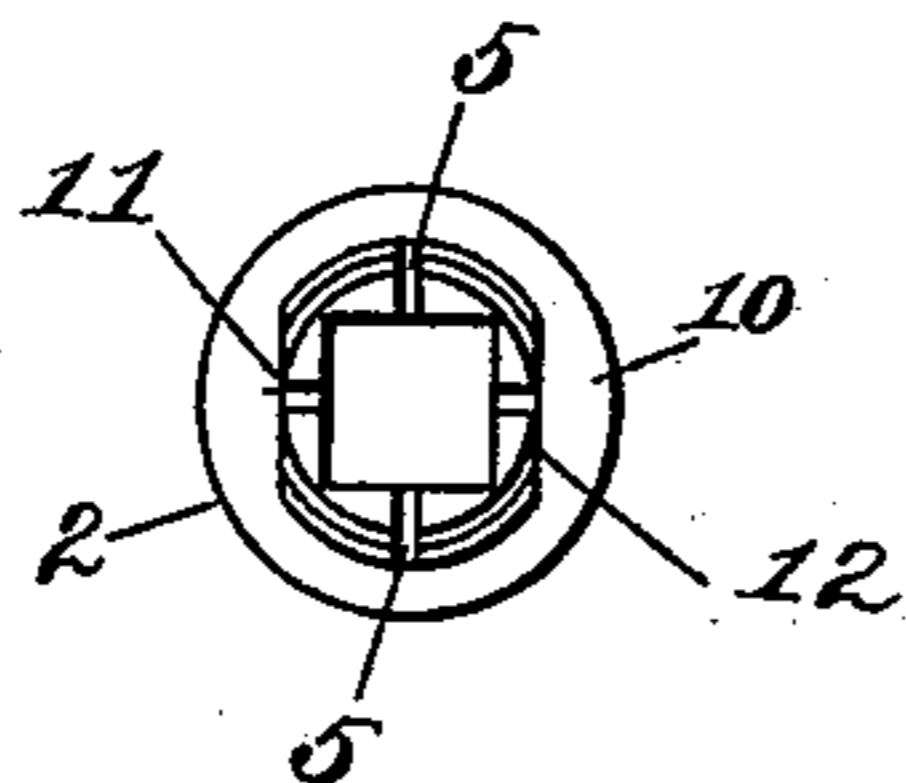


Fig. 7

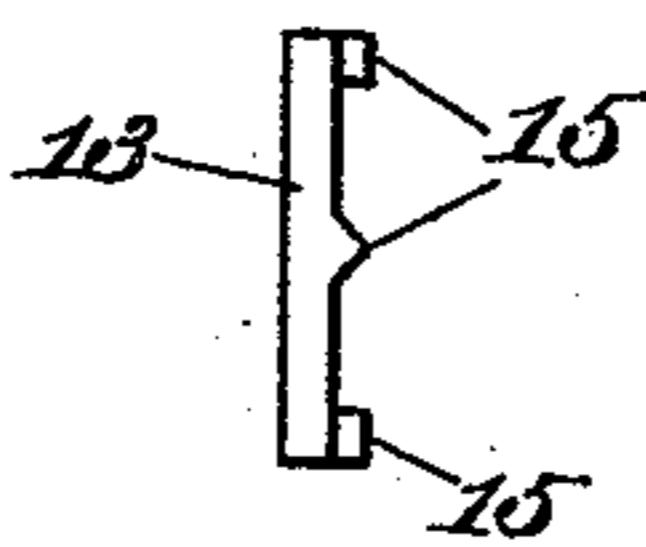
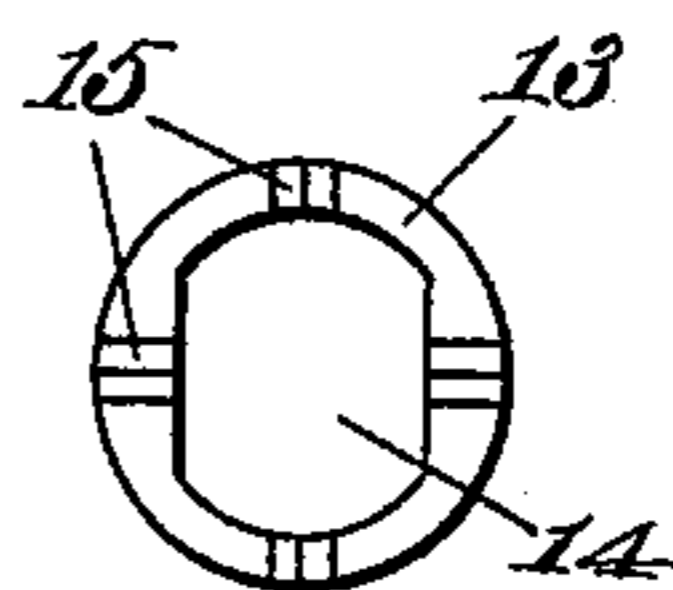


Fig. 8



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UNITED STATES PATENT OFFICE.

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KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 494,554, dated April 4, 1893.

Application filed July 20, 1892. Serial No. 440,644. (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 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 thimble, or sleeve, and 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 section of a knob-attachment embodying our present improvements. Fig. 2 is an external view of the same. Fig. 3 is an end view of the knob-stem. Fig. 4 is a side view of the check-nut. Fig. 5 is a side view, and Fig. 6 an end view, of the clamping-thimble. Fig. 7 is an edge view, and Fig. 8 a side view, of the locking-ring.

Similar characters designate like parts in all the figures.

In our improved knob-attachment, the spindle S is or may be of the usual squared cross-sectional form shown, and of uniform diameter throughout the length thereof. On this spindle is fitted the spindle-clamping sleeve 2, centrally perforated throughout the length thereof by a squared hole fitting freely on the spindle S. One end of said sleeve 2, which is externally round in cross-section, is threaded at 3, and the other end, 4, thereof is formed tapering; said sleeve is also slotted at one or more points (in the present instance at four points, as shown at 5 in Figs. 5 and 6) for the greater part of its length, so that said conical end 4 may be closed onto the spindle. Said sleeve is also shown having a flange, 10, formed on the inner edge thereof for bearing against the door D, and also for preventing the separation of the parts when the knob with the sleeve thereon is removed from the spindle.

The sleeve 2 is flattened on one or more sides thereof, as at 11 and 12, to receive and engage the locking-ring, 13, whose central

opening, 14, is correspondingly shaped so that said ring cannot turn on said sleeve. The locking-ring has formed thereon some suitable knob-engaging projections, 15, in this instance four in number, for engaging a series of corresponding notches, 16, formed in the end of the knob-stem. Of course, the form of the notches may be reversed, those on the stem being made to project while those on the ring are indented, without departing from our invention.

The knob-stem, 6, has the knob-end thereof bored tapering to fit on the aforesaid conical end, 4, of the sleeve 2, while the projecting end of said stem is bored and threaded to screw onto the thread, 3, of said sleeve. As a means for holding and locking the knob-stem in place on the sleeve, the latter member is provided with the aforesaid locking-ring 13, and also with a check-nut, 7, (which may have the usual hexagonal form, or, if preferable, may be a ring-nut as shown,) screwed upon said threaded portion 3 and bearing against said ring, which is thus forced against the extreme end of said stem 6, as will be understood by inspection of Fig. 1. The locking-ring 13 being located on the sleeve 2 intermediate to the stem 6 and the nut 7, and being non-rotatable on said sleeve, by its engagement with the end of the knob-stem securely locks this in place.

When assembling the knob-attachment, the spindle is put through the door D, and the sleeve with the locking-ring 13 and the check-nut 7 thereon is then slid upon the spindle and against the door, or against the bearing-plate, 17, thereof. The knob-stem is now, by means of the knob K, screwed onto the sleeve until the conical seat, 9, of said stem closes the forward end of the sleeve firmly onto the spindle, after which the locking-ring is pushed up against the stem 6, the projections, 15, thereof engaging the notches, 16, of the stem, when the check-nut is screwed up against the locking-ring to firmly bind the knob-stem in place on the sleeve.

It will be readily understood, from the drawings and from the foregoing description, that when the parts are constructed and assembled as shown in Fig. 1, the knob cannot be unscrewed from the sleeve, and that the

check-nut must first be turned back to the position shown in Fig. 2 to release the locking-ring. After this, on turning the knob to unscrew the same from the sleeve, the locking-
5 ring, by means of the angular form of its projections and of the corresponding notches in the end of the knob-stem, is forced back as shown in Fig. 2, when the knob may be further unscrewed and the parts removed from
10 the spindle. If the locking-notches be not beveled as shown, of course the ring must be pushed back by other means before the knob-stem may be turned on the sleeve.

Having thus described our invention, we
15 claim—

1. In a knob-attachment, the combination with the spindle, of the compressible sleeve constructed to fit upon the spindle and to receive and engage the non-rotatable locking-
20 ring, of the knob-stem screwed upon said sleeve and constructed to compress the same upon the spindle and having locking-ring-engaging notches, the locking-ring fitted to engage said sleeve and slide lengthwise thereof
25 and to engage the knob-stem, and means for holding the locking-ring against the knob-stem, substantially as described.

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

bored substantially as set forth, of the compressible sleeve 2, the locking-ring engaging and sliding on said sleeve and engaging the knob-stem, and the nut 7 engaging the thread of said sleeve for forcing the locking-ring toward the knob-stem, said knob-stem being
35 adapted for compressing the sleeve substantially as described.

3. In a knob-attachment of the class specified, the combination with the sleeve 2 externally threaded and constructed substantially
40 as set forth to receive the correspondingly-bored knob-stem and the non-rotatable locking-ring, and having the bearing and retaining flange on the end opposite the knob-stem, of the nut on said sleeve adjacent to said
45 flange, the threaded sleeve-compressing knob-stem on the end of said sleeve opposite to said flange, and a locking-ring substantially as described intermediate to the nut and knob-stem, the whole constituting a separable knob
50 and fastening, substantially as described and for the purpose set forth.

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