

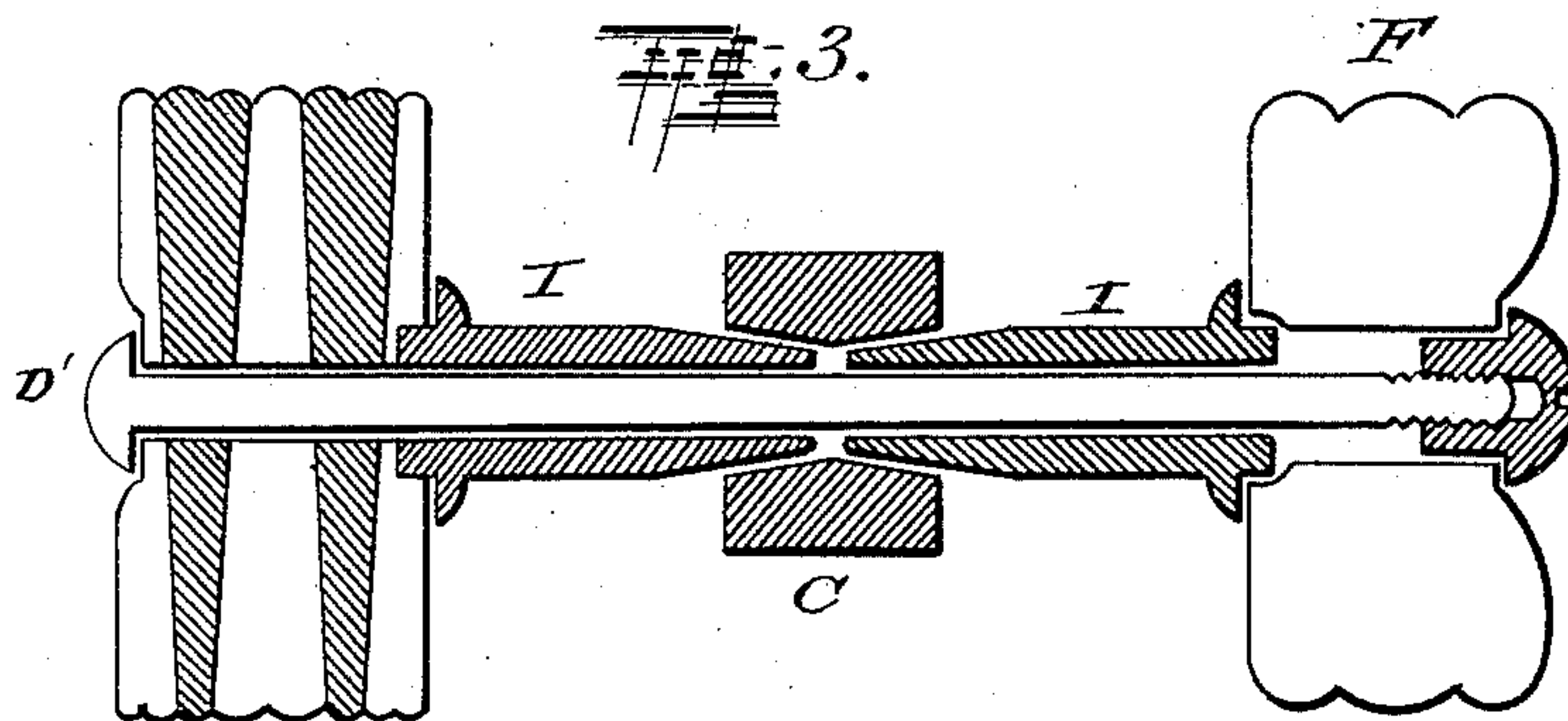
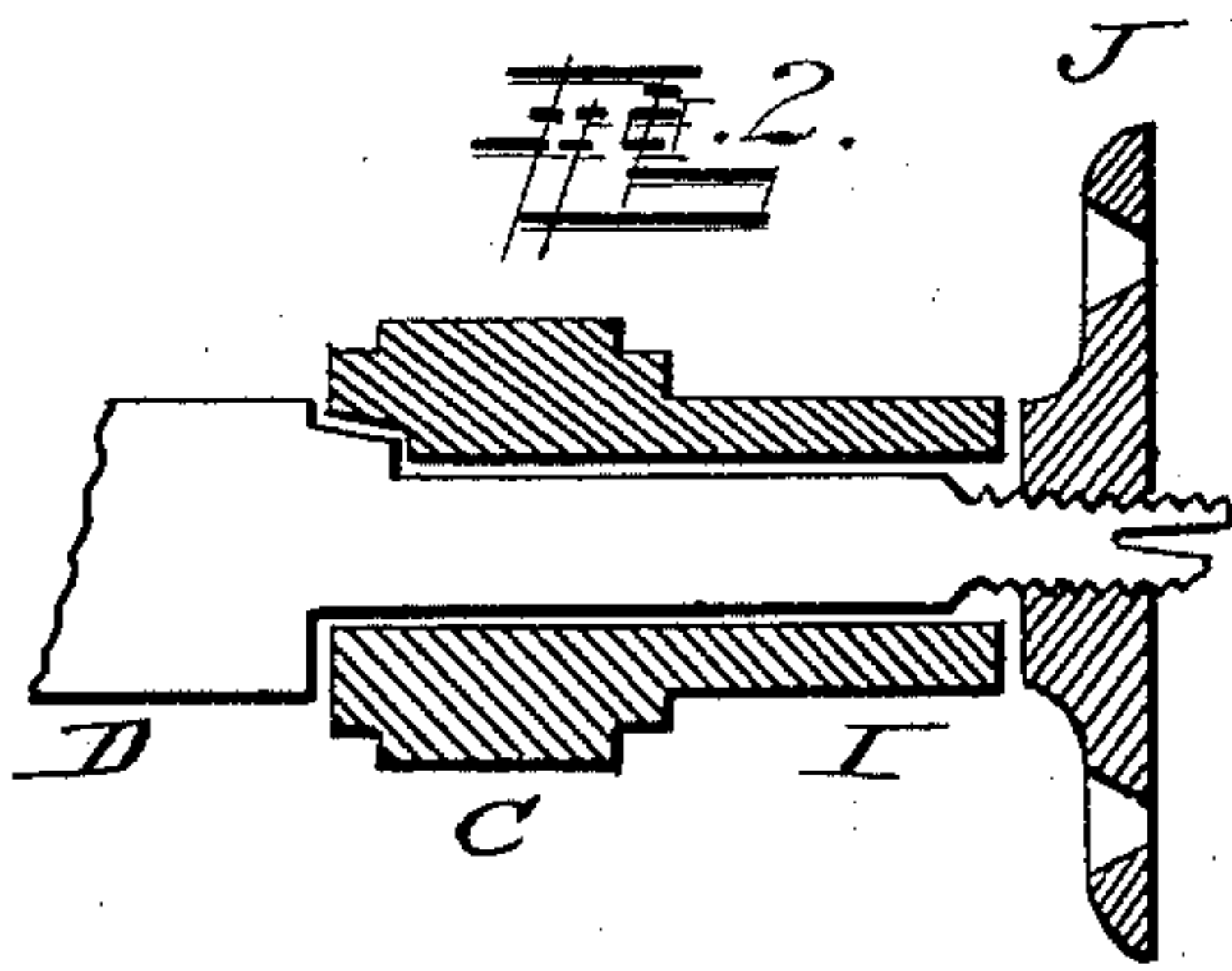
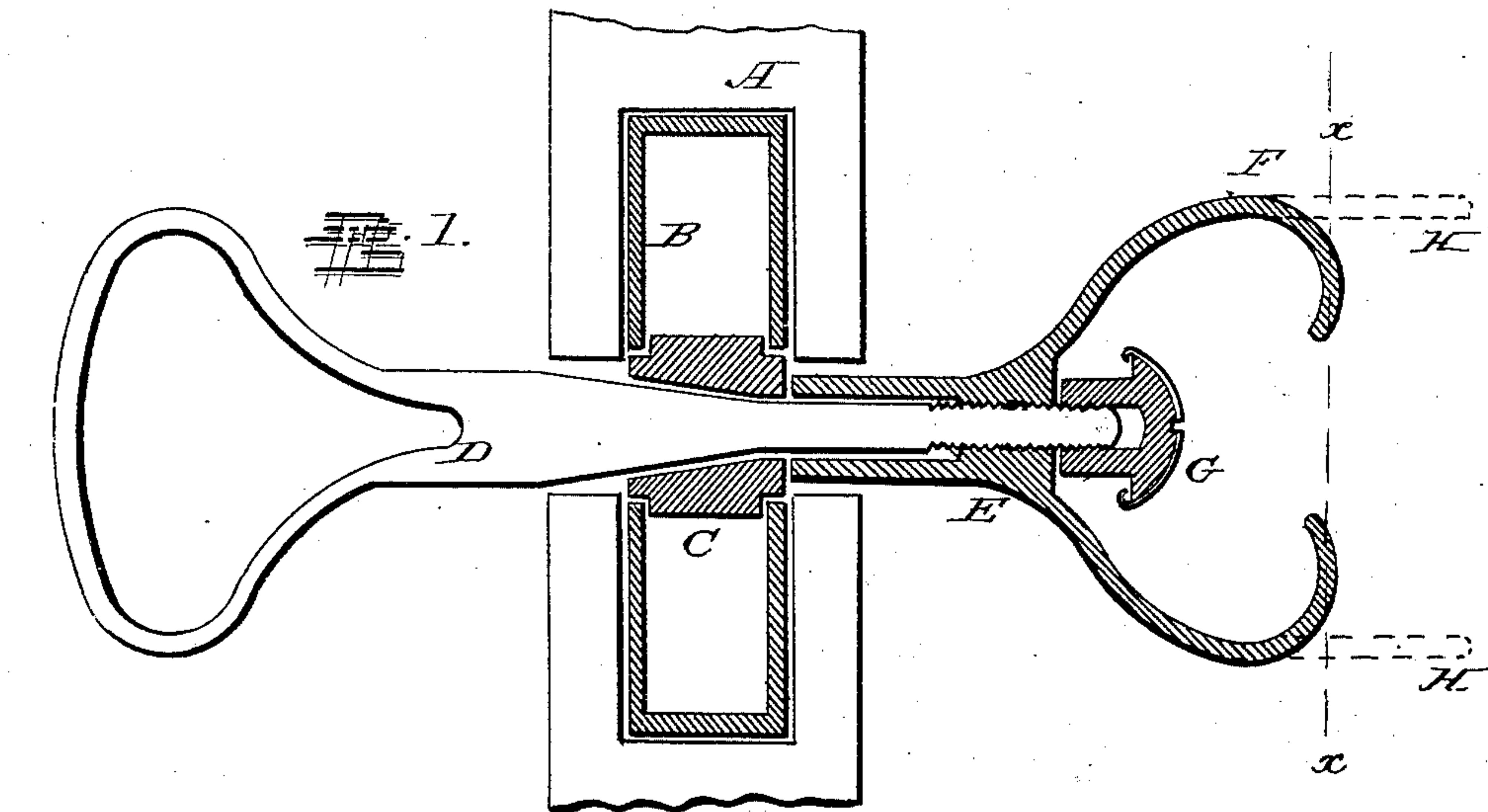
(Model.)

2 Sheets—Sheet 1.

T. D. DAVIS.
KNOB ATTACHMENT.

No. 327,386.

Patented Sept. 29, 1885.



Witnesses:

J. M. Hays.
Fred. G. Dieterich

Inventor:

Theodore D. Davis

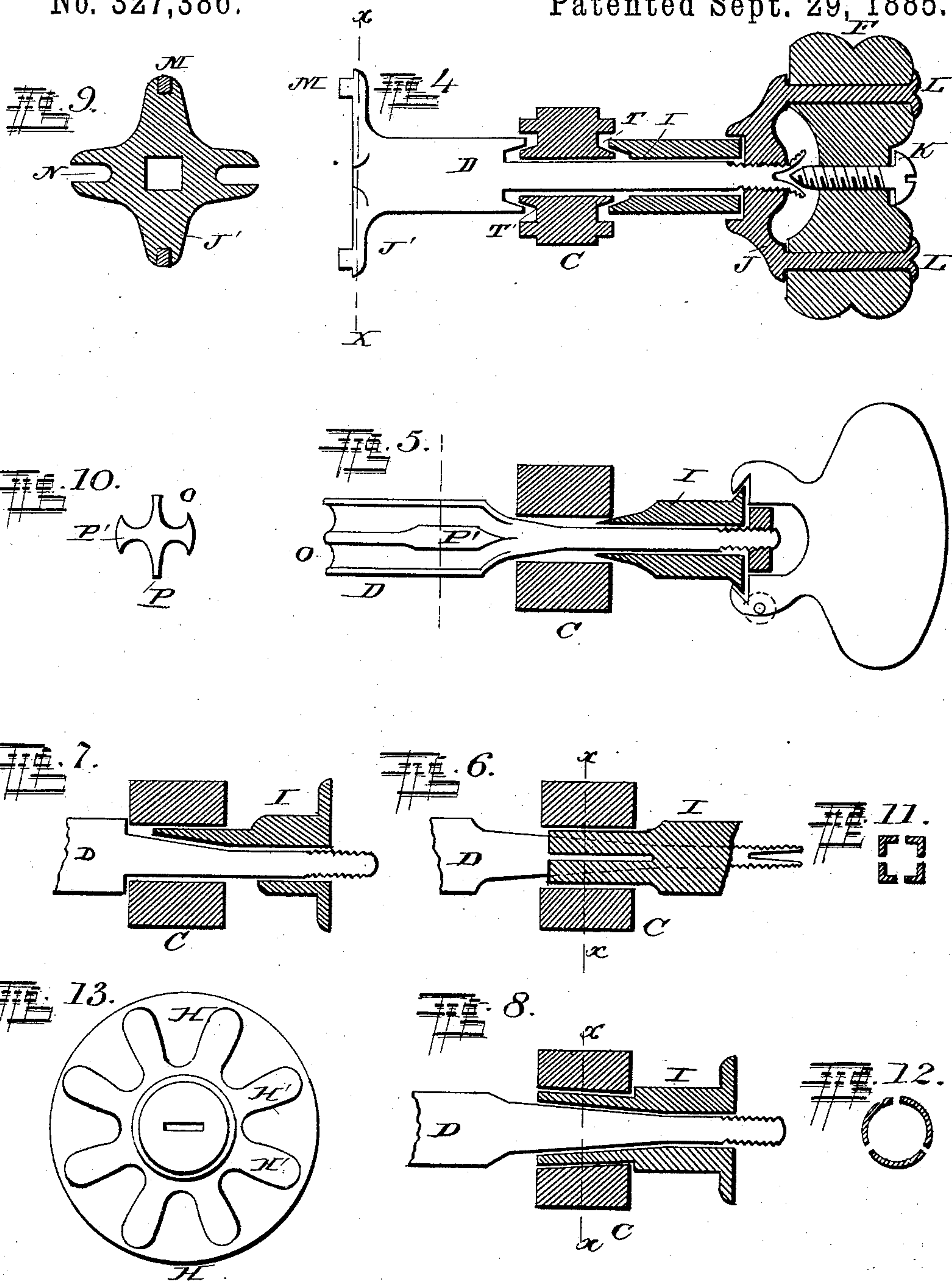
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UNITED STATES PATENT OFFICE.

THEODORE D. DAVIS, OF WILLIAMSPORT, PENNSYLVANIA.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 327,386, dated September 29, 1885.

Application filed August 29, 1884. (Model.)

To all whom it may concern:

Be it known that I, THEODORE D. DAVIS, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Knob Attachments to Door Locks and Latches, of which the following is a specification.

This invention relates to the means of securing the knob-spindle to the hub of door locks and latches.

My improvement consists, mainly, of such a combination of spindle and nut that the spindle will be firmly bound on the hub of the latch and cannot be loosened by turning either knob. To adapt the improvement to locks and latches now in use, the spindle is made preferably in sections, which respectively engage the hub on opposite sides, and are forced to bind on it by a nut or screw connection outside of the hub.

The annexed drawings illustrate various forms of my invention, which I will describe in proper order.

Figure 1 is an axial section of a door lock and latch. A refers to the door, B, to the lock-case, and C to the latch-hub, formed with a tapering eye. The male section D of the spindle, formed with a skeleton knob, has a tapering surface adapted to the tapering eye of the latch-hub, and a reduced stem, which enters the female section E, also formed with a skeleton knob, F. The reduced stem of section D is screw-threaded, and the section E is internally screw-threaded, so that it may be screwed on said stem to draw the tapering part of the male section into the tapering eye of the hub, and itself bind firmly against the face of the hub. A jam-nut, G, is used to lock the female section. When made of malleable cast-iron, the prongs H of the knobs are originally cast straight, as indicated by dotted lines, and afterward bent over. Fig. 13 represents a face view of one of these knobs, H' referring to the recesses between the prongs H.

Fig. 2 is an axial section of another form of my invention. The latch-hub C is formed with a projecting tube, I, against the end of which the knob-flange J is forced by screwing said flange on the screw-threaded stem of the spindle D and then locking it, the spindle D being provided with a tapering surface adapt-

ed to the tapering end of the eye of the hub, so that the spindle may firmly bind on the hub when drawn by the flange J.

Fig. 3 is an axial section of another form of my invention. The spindle consists of the tubes I I and the bolt D', having a head at one end and a nut at the other. The adjacent ends of tubes I are tapered to fit tapers in the eye of hub C. The outer ends of the tubes are flanged, so that the knobs F and F' can be secured by the same bolt and nut that forces the tubes into the hub.

Fig. 4 is an axial section of another form of my invention. The latch-hub C is provided with a tapering rim, T, around its eye at each face. The male section D of the spindle has a shoulder with a tapering annular groove adapted to the tapering rim at one face of the hub, and the female section I has a tapering bore to fit the tapering rim at the other face of the hub. The two sections of the spindle are forced on the tapering rims T by the nut-flange J, to which the knob F is secured by bolts L, and which screws on the screw-threaded stem H of section D. The nut-flange is locked by a screw, K, which spreads the split end of the screw-threaded stem. Section D is formed with a flange, J', for the attachment of the other knob, the flange being provided with spurs M and notches N, (see Fig. 9,) the spurs serving to engage the knob, and the notches being provided for the screws by which the knob is secured.

Fig. 5 is an axial section of another form of my invention. The latch-hub C has a straight eye, round, or square. The male section D of the spindle is tapering where it enters the eye of the hub, and the female section I is also tapered at the end entering said eye. The two sections are drawn together, so as to force their tapers into the eye of the hub, by a nut on the screw-threaded stem of the male section. These sections have the cross-sectional contour shown in Fig. 10, having channels O and ribs P broadened at P', where they turn in the roses. The knob G is detachably secured to the female section I, covering the nut.

Fig. 6 is an axial section of another form of my invention. The latch-hub C has a square eye. The female section I of the spindle has a split end, (see Fig. 11,) fitting the eye of the hub. This split end is tapered internally to

receive the tapering portion of the male section D, by which it is spread and firmly fixed in the eye of the hub, and a jam-nut (not shown) being applied to slide the two sections 5 of the spindle on each other and then lock them together.

Fig. 7 is an axial section of another form of my invention. The latch-hub C has a tapering round eye. The female section I has a 10 split end, (see Fig. 12,) which enters the eye of the hub, and is spread by the tapering portion of the male section D when the two sections are slid on each other by the nuts, (not shown,) to be applied to the screw-threaded stem of 15 the male section D.

Fig. 8 is an axial section of another form of my invention. The sections D and I are firmly bound on the hub C by wedging in the eye. To this end the male section D has an incline 20 along that portion which is in the eye of the hub, and the female section I has a wedge-extension to enter said eye and slide on the incline of the male section. The two sections are slid on each other and locked together by 25 nuts, (not shown,) to be applied to the screw-threaded stem of the male section.

I claim as my invention—

1. The combination, substantially as before set forth, of the hub of a latch, a spindle passing through said hub and having a tapering 30 surface, and a nut on the spindle to cause it to firmly bind on the hub.

2. The combination, substantially as before set forth, of the hub of a latch, a sectional spindle having a tapering surface, and a screw- 35 connection for drawing the sections of the spindle together and toward the hub, whereby the said sections of the spindle and the hub are all firmly bound together.

3. The combination, substantially as before 40 set forth, of the hub of a latch, a spindle composed of a male section and a female section, each of which is constructed with a tapering surface, and a nut for moving the sections of the spindle on each other to force their taper- 45 ing surfaces into the eye of the said hub.

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Witnesses:

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