

No. 639,731.

Patented Dec. 26, 1899.

F. C. HULL.
HANDLE FOR UMBRELLAS, &c.

(Application filed Aug. 20, 1898.)

(No Model.)

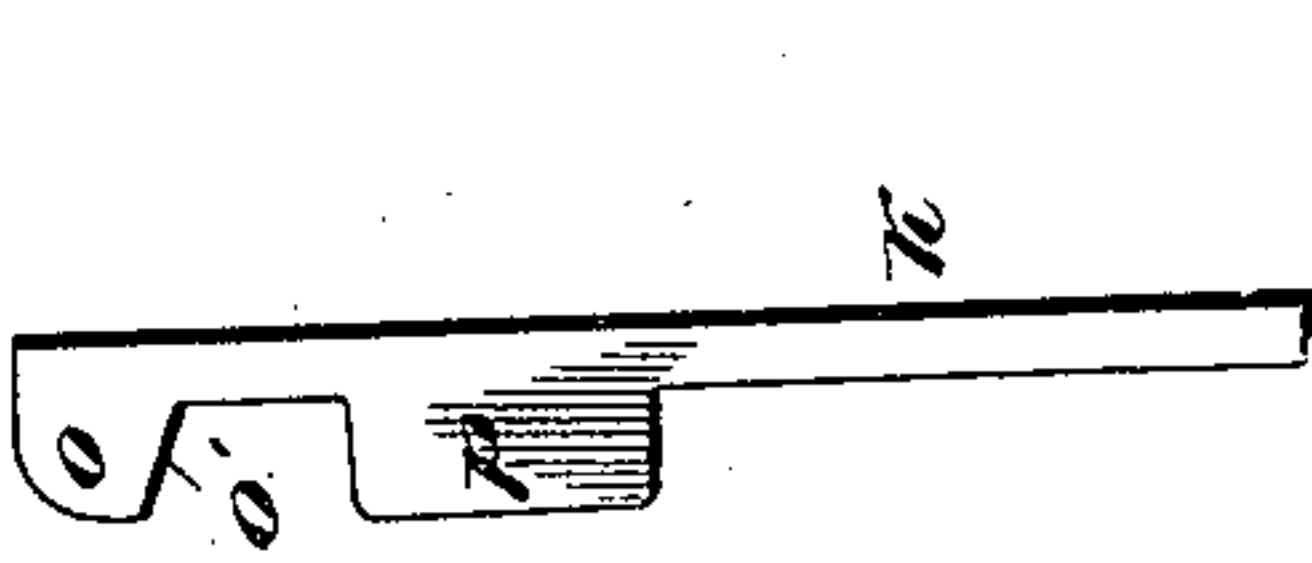


Fig. 3.

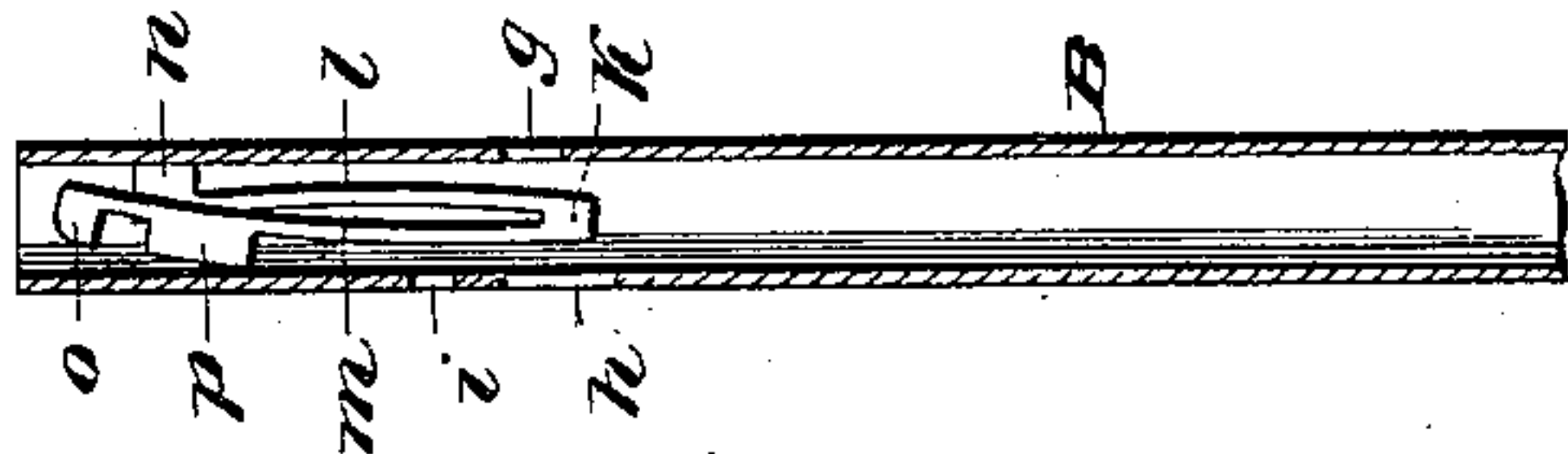


Fig. 4.

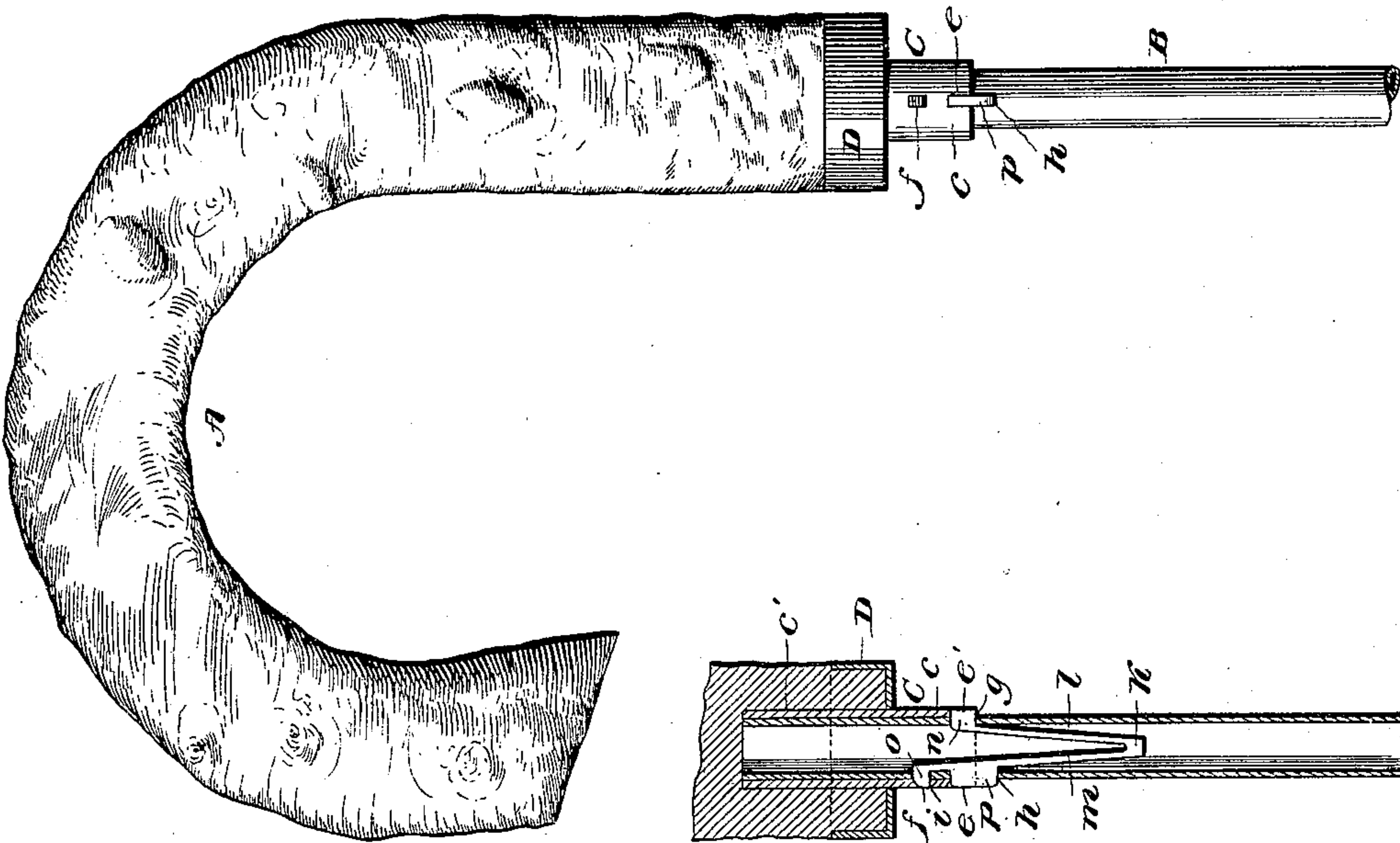


Fig. 1.

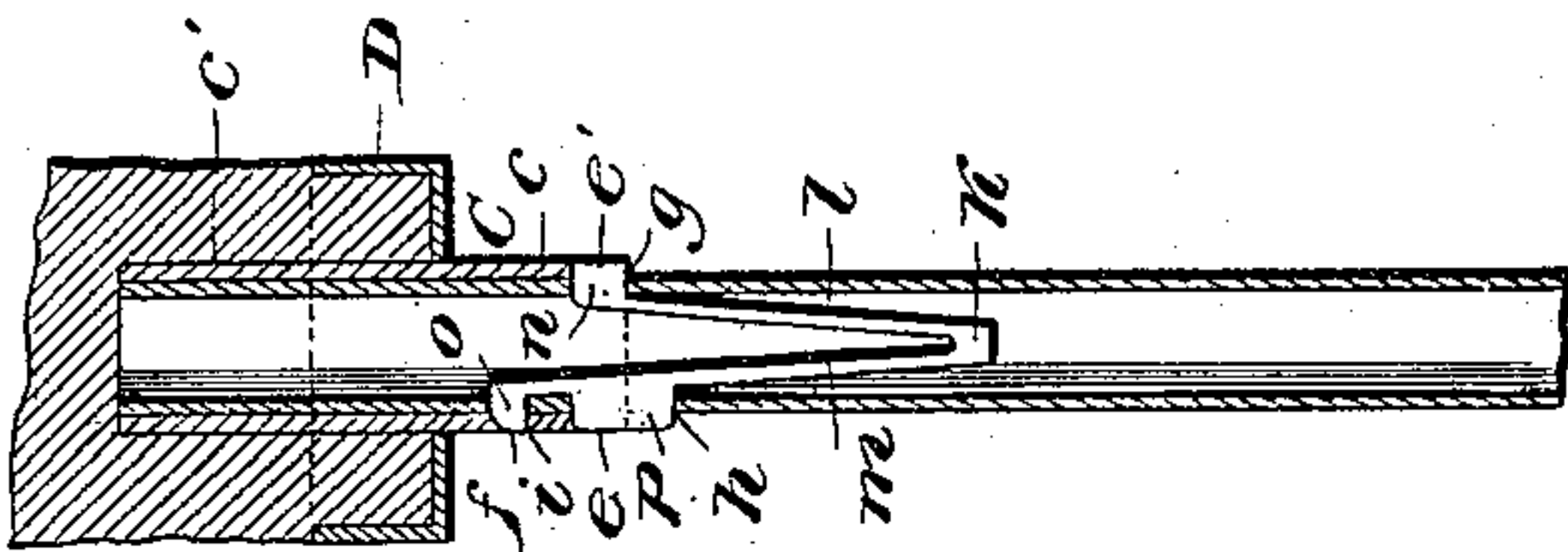


Fig. 2.

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UNITED STATES PATENT OFFICE.

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HANDLE FOR UMBRELLAS, &c.

SPECIFICATION forming part of Letters Patent No. 639,731, dated December 26, 1899.

Application filed August 20, 1898. Serial No. 689,146. (No model.)

To all whom it may concern:

Be it known that I, FLETCHER C. HULL, a citizen of the United States, residing at Norwalk, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Handles for Umbrellas, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in handles for umbrellas, &c.; and the object I have in view is to provide a readily removable or detachable handle free from either lateral or vertical displacement, thus effectually locking it to the staff.

It consists in the combination, with a handle and staff, of a spring-detent arranged within said staff and having teeth adapted to pass through the staff and engage with the sleeve of the handle; and the invention further consists in the detailed construction and arrangement of parts, as will be more fully hereinafter described and claimed.

I have shown the preferred embodiment of my invention in the accompanying drawings, referring to which—

Figure 1 is a side elevation. Fig. 2 is a sectional view through operative parts. Fig. 3 is a detail view, on an enlarged scale, of a portion of the detent. Fig. 4 shows the manner of applying the detent to the staff.

Like letters denote like or corresponding parts in all the figures of the drawings.

A designates the handle, and B the staff, of an umbrella. The handle is provided with a sleeve C of greater diameter than the staff, having a flange or cap D formed thereon at a suitable point between its ends. One end *c'* of this sleeve C is driven into or otherwise secured to the handle, while the other end *c* has opposite notches *e e'*, extending from the edge inward a suitable distance, and in longitudinal alinement with one of said notches is formed an aperture or slot *f*. The staff B is preferably constructed of metal and hollow. At a suitable point in this staff is formed a slot or aperture *g*, while on the opposite

side of said staff is also formed a slot *h*, preferably of greater length than the slot *g*, and at a suitable point above the slot *h*, in longitudinal alinement therewith, is another slot *i*, the walls of which may be beveled, as will be presently explained. A spring-detent K, stamped out of or otherwise produced from spring metal, is adapted to be inserted and held in said staff B, one arm *l* of said detent being provided with a tooth *n*, formed at or near its free end, while the other arm *m*, preferably longer than the first-named arm, also has a tooth *o*, serving as a catch, formed at or near its end. At a point preferably opposite the tooth *n* of arm *l* I provide an elongated thumb-piece *p* on the arm *m*, said thumb-piece being preferably longer than either the tooth *n* or *o*. By compressing the detent K until the inner side of the arm *l* bears against the inner side of arm *m* it will be seen that the cross-sectional area of the detent, taken on a line drawn through the thumb-piece *p* and tooth *n*, will be greater than the inside diameter of the staff B. Therefore in order to insert the detent into the staff I bend or lap one arm upon the other, as shown in Fig. 4, and by the use of a suitable implement—for instance, a pair of pincers gripping the detent—force the detent K into the staff until its tooth *o* and the elongated thumb-piece *p* come opposite or engage the slots *i* and *h*, respectively, and the tooth *n* comes opposite the slot or aperture *g* on the other side of said staff, when the arms *l* and *m* will spring away from each other and force the lugs *n o p* into the slots alined therewith in the staff and lock said detent within the staff. The teeth *n* and *o* and the thumb-piece *p* protrude from the outer surface of the staff to engage the sleeve C, as described later on.

The sleeve C is constructed sufficiently large in diameter to slip over the staff B and fit the same closely. To fasten the handle to the staff, the sleeve C is slid on the latter, the tooth or catch *o* incidentally intercepting the notch *e*, serving as a guide in alining said tooth with the slot or aperture *f*, which finally receives said tooth, said tooth or catch *o* as

the handle is continued to be moved inward passing said notch and being forced inward until its outer surface is flush with the exterior surface of the staff as it is engaged by the inside of said sleeve. The instant, however, the slot or aperture *f* arrives opposite said tooth the latter will be thrown outward by the action of the detent and forced through or into said aperture *f*, thus effecting the retention of the sleeve and handle in place upon the staff. At the same time the tooth *n* and thumb-piece *p* will have entered the notches *e'* and *e*, respectively. Thus it will be noted that the handle cannot be forced any farther inward on the staff, nor can it have lateral or axial movement thereon, this being prevented by means of the engagement therewith of the teeth or lugs *n o* and the thumb-piece *p*, and the handle cannot be removed or withdrawn from the staff while the tooth or catch *o* is in engagement with the slot *f* in the sleeve, thereby, as before stated, effectually holding the handle on the staff. The teeth and thumb-piece are preferably flush with the outer surface of the sleeve.

It will be noticed that the thumb-piece *p* extends beyond the lower end or edge of the sleeve *C* when assembled, and this extension or elongation serves as a convenient means for retracting or disengaging the tooth *o* from engagement with the slot *f*, and thus permitting the handle to be removed.

The detent is securely held within the staff by reason of the engagement of the lug *n* therewith and cannot be accidentally displaced even if this construction be destroyed, as the arms are normally forced apart, causing their teeth to forcibly engage the staff, and, as before explained, the arms have to be lapped one upon the other before the detent can be inserted into or removed from the staff owing to the detent being of greater cross-sectional area than said staff when the arms are simply pressed together.

The tooth or catch *o* should bite forcibly upon the edge of and readily engage the slot *f*, and to insure this I may bevel one edge *o'*, as shown, and, if found desirable, the walls of the slot *f* may also be beveled.

The device can be cheaply constructed, and when the parts are assembled the handle can be easily and quickly applied or detached. These improvements are obviously applicable to canes.

I am aware that changes and alterations in the form and proportion of parts in the details of construction of the devices herein shown and described as the preferred embodiment of my invention may be made by a skilled mechanic without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

It will be noticed that the lug or tooth *o* is relieved from bearing the entire strain or tendency of the handle to move about the axis of the staff and is assisted in this function by means of the lugs or teeth *n o*. Also, it will be noticed that the means for locking the handle against such rotary movement are not all arranged in one line longitudinally or at one side only of the staff and sleeve. By locking the sleeve to the staff at two points (*n p*) diametrically opposed to each other, as well as by the lug *o*, it is apparent that I materially strengthen the construction, as thereby I provide three distinct and independent connections between the sleeve and staff, where heretofore dependence has been placed upon a single point of connection for this purpose. Again, by utilizing the lug *p*, both as a stop against rotary movement of the sleeve and as a means for withdrawing the lug *o* from operative position, I am enabled to arrange this last lug at points relatively remote from the ends of the sleeve and at the same time provide for readily withdrawing it without the aid or employment of any special implement. When no such means as the thumb-piece independent of the lug that connects the sleeve to the staff and which is always in a position accessible to the user of the umbrella is provided, it is difficult to release the handle from the staff. To do so, the lug must be forced inwardly beyond the inner surface of the handle-sleeve, and this can only be accomplished, as the lug is necessarily small, by employing a tool or implement which can enter the slot through which the lug projects, and as the lug is situated at the end of a spring-arm this course of procedure tends to destroy the proper position and resiliency of the spring-arm.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an umbrella, the combination of the staff having opposite slots, the handle, the sleeve let into said handle and sleeved upon said staff and having opposite notches in one edge or end and an aperture above, and in alinement with, one of said notches, and the compressible spring-detent arranged in said staff and having a projection at one end adapted to pass through one of said slots and to engage one of said notches, and having at its other end a catch or projection adapted to engage said aperture, and below said catch, a thumb-piece adapted to pass through the coincident slot and notch of said staff and sleeve, respectively, substantially as set forth.

2. In an umbrella, the combination of a staff, a handle having at its lower end a sleeve extending below the handle and over the staff, and a fastening device having a yielding arm arranged within the staff and provided at its upper end with a lug extending into alined

apertures in the staff and sleeve on the handle, said spring-arm also having, at a point intermediate of its ends, a lug extending through an aperture in the staff and into a
5 notch formed in the lower edge of the handle-sleeve, the last said lug extending below the lower end of the sleeve and serving as a thumb-piece for adjusting the arm to disen-

gage the first said lug from engagement with the handle-sleeve, substantially as set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

FLETCHER C. HULL.

Witnesses:

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