

(No Model.)

C. C. FROST.
LOCK FOR TELESCOPIC JOINTS.

No. 534,434.

Patented Feb. 19, 1895.

FIG-1-

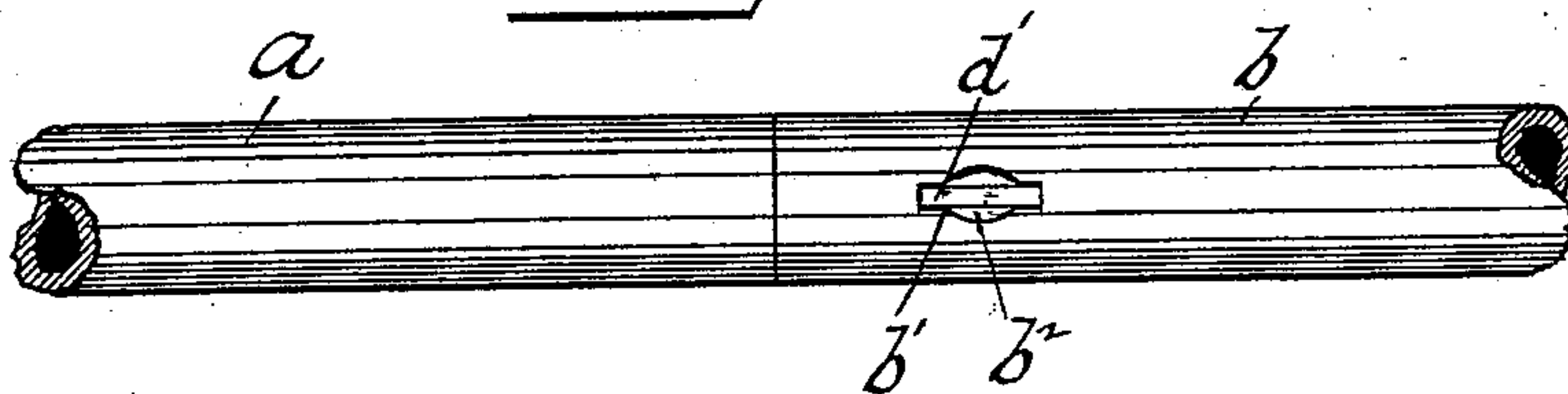


FIG-2-

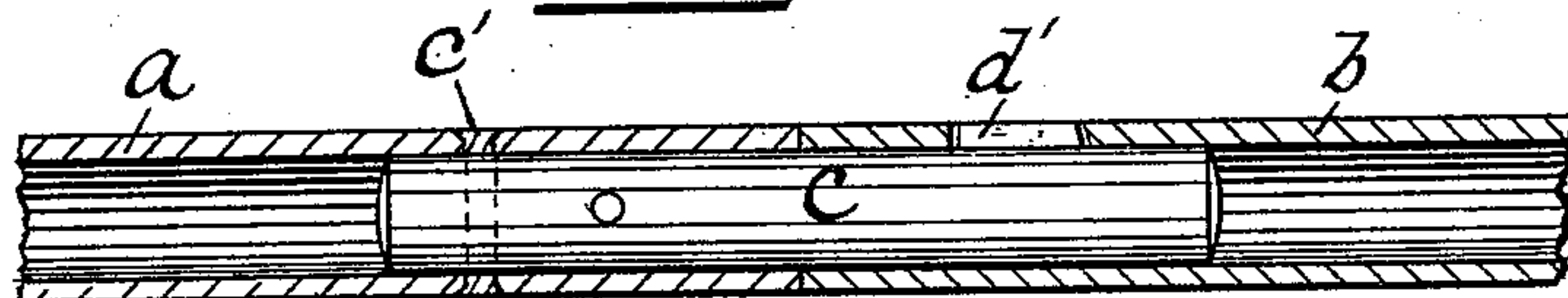


FIG-3-

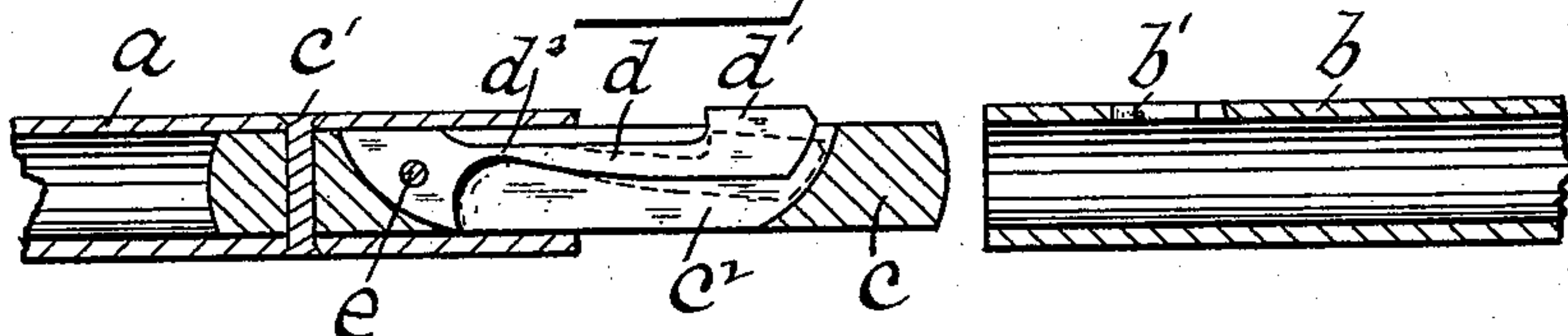


FIG-4-

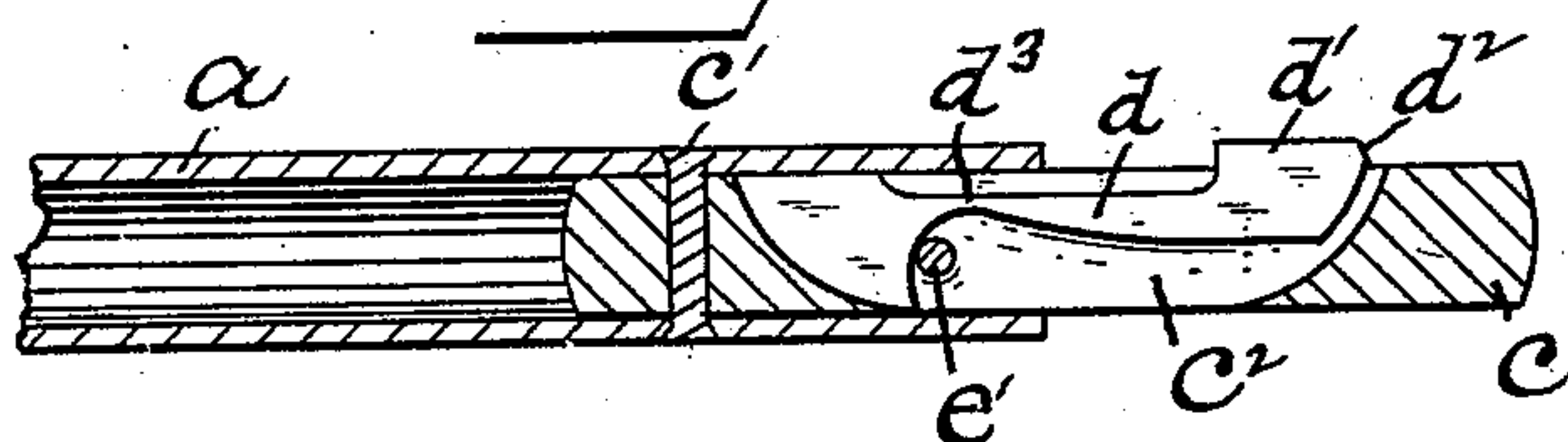
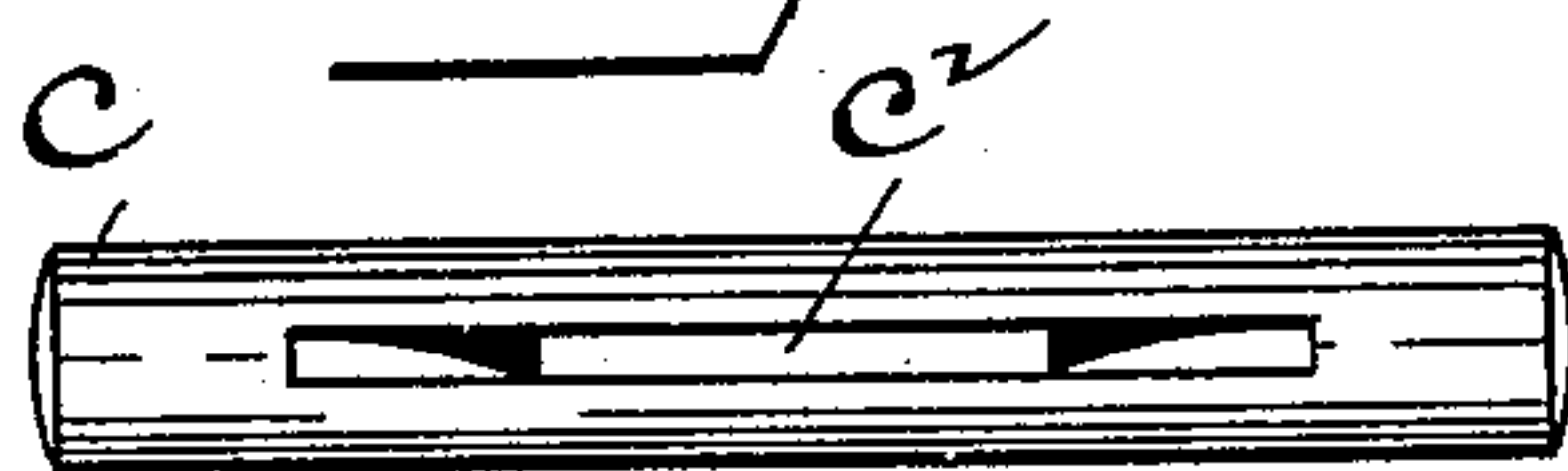


FIG-5-



Witnesses

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UNITED STATES PATENT OFFICE.

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LOCK FOR TELESCOPIC JOINTS.

SPECIFICATION forming part of Letters Patent No. 534,434, dated February 19, 1895.

Application filed June 20, 1894. Serial No. 515,145. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE C. FROST, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Locks for Butt-Joints, which improvements are fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings, in which—

Figure 1 is a plan view of two tubular sections properly locked together by my newly invented device. Fig. 2 shows said tubes in central, longitudinal, section having seated therein a certain rod in which the locking latch is located. Fig. 3 illustrates the said rod in section, as well as the tubes, the latter being disconnected. Fig. 4 explains a slightly different means for securing the latch within its supporting rod, and Fig. 5 is a detached view of said rod.

This invention has for its object the provision of a simple, strong, and quickly operated, lock-joint for the handles of folding umbrellas and the like articles. One of the requisites of umbrella handles of this class is that they may be readily disjointed when it is desired to fold and pack them away. Heretofore it has been most common to thread the meeting ends of the handle sections and screw them together when they are to be used but such screw joints require too much time to operate and, furthermore, they frequently become loosened and unscrewed.

On the 27th day of April, 1894, I filed in the United States Patent Office an application (serially numbered 509,287) for a patent for a joint of this class, in which a spring-actuated bolt was provided, for locking together the handle sections, and my present invention seeks to improve materially that particular kind of joint so that there will be less play in the joint, when the parts are assembled. The parts of my improved joint, herein referred to, are also more easily manufactured and fitted together than those of my earlier form.

Referring to the drawings, the letters *a* and *b* indicate the meeting portions of a tubular sections of a joint of this class.

c denotes a short section of wire rod that is entered about half its length in the tube sec-

tion *a* and is secured in place by driving it snugly into said tube or it may be fastened by a rivet *c'*. The projecting end of rod *c* fits easily into the other tube section *b*. Rod *c* is slotted lengthwise, throughout its central portion, as at *c²*, but its ends are left intact so that said rod is not materially weakened. Slot *c²* provides a chamber in which is located the latch *d* of the joint, said latch being formed of a single piece of spring material, as steel or brass, punched to shape and of such thickness that it will fill the slot *c²* yet may work outward and inward during the operations of jointing or disjointing the tubes *a—b*. This particular manner of supporting the latch allows it to be fitted and adjusted in the rod before the latter is driven into tube *a* and it also leaves the said rod (which serves as a housing for the latch) as strong and serviceable, for the purpose in hand, as if it were not slotted. It also prevents all deflection of the latch when the tubes *a* and *b* are locked together. Such deflection I find to be noticeable in a considerable degree in the joint forming the subject matter of my earlier application, above referred to, but my present improvements overcome that objectionable result.

The latch *d* is shaped at one end substantially the same as the end wall of slot *c²* and may be held in place by a rivet *e*, that passes through the rod and latch, as in Fig. 3, or by a rivet *e'* passing through only the rod but engaging the front lower edge of the latch, as in Fig. 4. When the latch is secured as last described (by rivet *e'*) the latch is laid in slot *c²* before the rod *c* is driven into the tube *a* and it will be understood by reference to Fig. 4 of the drawings that the enlarged end of the latch will be firmly clamped between the said rivet and the inner wall of tube *a* so long as the rod is within said tube. The opposite or exposed end of the latch is formed with a projection *d'* which, when the tubes are brought together, engages a slit *b'* in the tube section *b*, as best seen in Figs. 1 and 2, and locks the two tube sections together. The outer end of the said projection is slightly beveled, as at *d²*, so that the end of tube *b*, when slipped upon rod *c*, may force the projection inward. The middle portion of latch

d is made narrow, as at d^3 , so that said latch may yield, as a spring, sufficiently to permit the free end of said latch to be forced within slot c^2 (see dotted lines in Fig. 3), and thus allow the tube b to be slipped over said rod.

The slit b' , provided for the reception of the latch projection d' , is by preference enlarged at its central part, as at b^2 , so that a finger nail may be conveniently used to press inward said projection whenever it is desired to disjoint the handle.

My present improvements do not increase the cost of this class of joints yet they provide a more rigid and satisfactory lock than has heretofore been used, so far as I am familiar with such devices.

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

The combination, with a tubular section, of a rod seated in one end thereof and pro-

jecting therefrom, the central portion of said rod being provided with a longitudinal slot, a latch located in the said slot, the central portion of which is flexible and one end of the latch is adapted to project above the surface of the rod and the other end is enlarged and has its upper surface even with the surface of the rod and in engagement with the inner surface of the tubular section, a pin through the rod and in engagement with the enlarged end of the latch, and a tubular section adapted to be slipped over the other end of the rod, and provided with a slot adjacent to its end through which the end of the latch is adapted to project, substantially as set forth.

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Witnesses:

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