No. 755,008. PATENTED MAR. 22, 1904.

A. D. HULQUIST.

COMBINED SECTIONAL POST AND LOCK.

APPLICATION FILED JUNE 10, 1903.

NO MODEL.

Fig. 1.

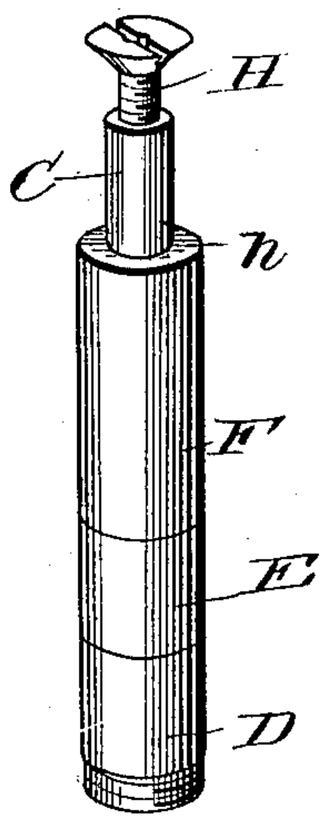


Fig. 4.

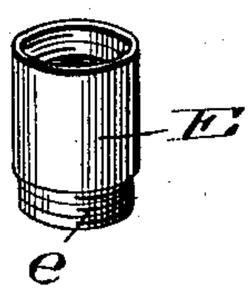


Fig. 2.

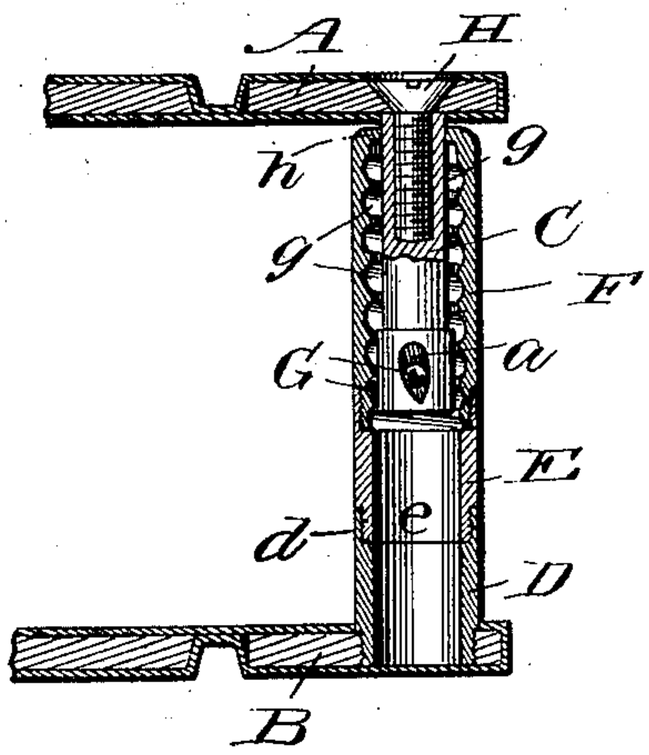
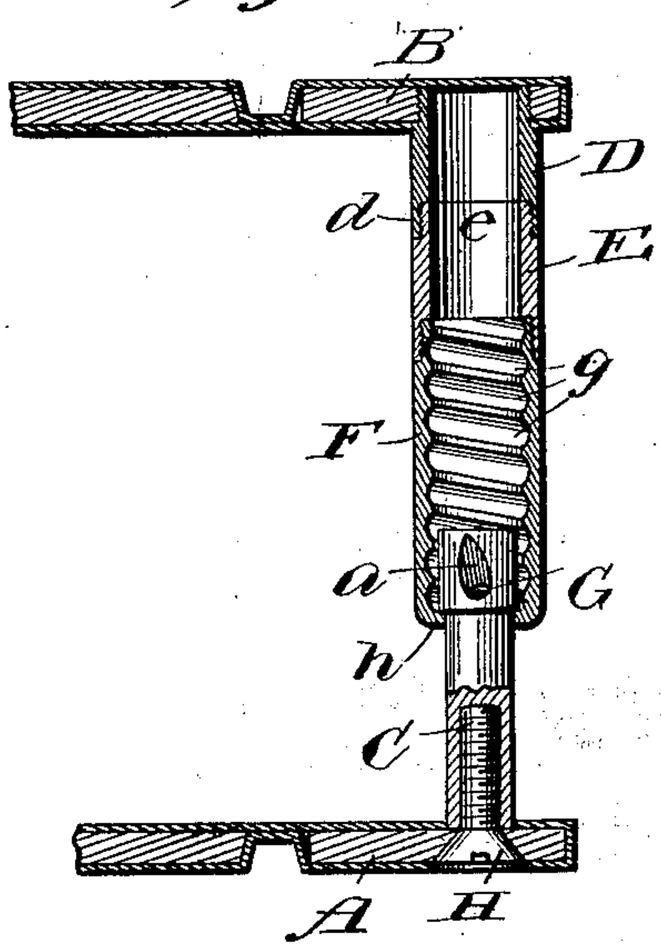


Fig. 3.



Witnesses:
F. C. Barry.
E. L. Lundy

Inventor:
Andrew D. Hulquist.
by Frank D. Thomson
Attorney.

No. 755,008. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

ANDREW D. HULQUIST, OF CHICAGO, ILLINOIS, ASSIGNOR TO J. S. McDONALD, OF CHICAGO, ILLINOIS.

COMBINED SECTIONAL POST AND LOCK.

SPECIFICATION forming part of Letters Patent No. 755,008, dated March 22, 1904.

Application filed June 10, 1903. Serial No. 160,908. (No model.)

To all whom it may concern:

Be it known that I, ANDREW D. HULQUIST, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Combined Sectional Post and Lock for Connecting the Adjustable Backs of Loose-Leafed Ledgers, Account-Books, Record-Books, Files, &c., of which the following is a full, clear, and exact description.

Heretofore sectional posts connecting the backs of loose-leafed books have been used only in conjunction with manually-operated locks. The object of my invention is to use such posts in conjunction with an automatic lock and to combine the recognized advantage of both of these features in a simple, economical, and efficient manner. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my invention detached from the clamping-plates. Fig. 2 is a longitudinal central section through the same and the plates to which the two principal parts are secured, showing them locked. Fig. 3 is a similar view showing the position of the parts when the book is reversed and they are unlocked. Fig. 4 is a perspective view of one of the sections of said tube.

Reference being had to the accompanying drawings, A and B represent the clamping-plates of the backs of loose-leafed books which have the covers flexibly connected thereto. Secured to and projecting at right angles from plate A is a bolt C, the unsecured end of which is greater in diameter than the remainder of its body and is provided with one or more elongated pockets *a*, which are preferably arranged in the circumference thereof in a plane oblique to the axis of the bolt. These pockets are shallowest at the ends thereof of nearest the extremity of the bolt and gradually increase in depth as they extend toward the opposite ends. This bolt extends longitudinally and centrally into the tubular post, which consists of two or more sections D and E, substantially as shown. In the drawings one of these sections D has one end suitably secured in plate B in alinement with the bolt, and its end opposite said plate is stepped and screw-threaded, and onto this stepped screw-threaded portion *d* the screw-threaded exteriorly-stepped end *e* of section E is screwed. The opposite end of this section E is stepped to a less diameter and screw-threaded similar to the end portion *d* of the section D, and if desired another section similar to itself may be screwed onto its screw-threaded stepped end to elongate it to the extent desired. In the drawings, however, an end sectional tubing F is screwed thereon, which is preferably of a greater length than sections D and E and has its inner circumference provided with a circumferential groove *g*, which is preferably spiral. The end of tube F attached to section E is stepped exteriorly to a less diameter and provided with a screw-threaded portion to engage the adjacent screw-threaded end of section E; but the opposite end thereof has its annular edges *h* flanged inward, so as to restrict the opening therethrough to a diameter sufficient to permit the body of the bolt to pass and move freely therethrough, but prevents the withdrawal of the bolt from said tube. The length of the interiorly corrugated or grooved portion of tube F corresponds to the length of the bolt, and when the plate A is uppermost the small balls G, of steel or other suitable material, which are seated in the pockets *a*, gravitate toward the extremity of the bolt into the shallowest portion of the same and crowd into the adjacent corrugation of the tube F and between the same and the head of the bolt and lock said bolt and tube, so as to prevent the further separation of the tube; but when the position of the plates is reversed and plate B is uppermost the ball when the plates are compressed toward each other slightly will gravitate into the deeper portion of the pockets farthest from the extremity of the bolt and be out of engagement with the tube F, whereupon the plates may be separated until the shoulders of the head of the bolt impinge against and are stopped by the margins of the respective opening in the end of said tube farthest from the tube E. The bore of sections D and F of the tube is

smooth, and the circumference of all of the sections D, E, and F is the same, so as to make the diameter of the section of tube the same throughout its length. The sectional tube may be increased in length or diminished by the addition of sections similar to section E until the desired length is obtained, or the length of said sectional tube may be decreased by unscrewing and removing such sections from the tube.

The bolt C may, if desired, be secured rigidly in the clamping-plate A; but I prefer to make it rotatable, so that when the clamping-plates are forced together as far as they will go by pressing said plates together and then locked any remaining lost motion or loosening can be taken up by "screwing" the bolt, so to speak, farther into the corrugated end section of the tube. This I accomplish by using a screw H, which is passed from the outside through a countersunk opening in said plate and tapped longitudinally and centrally into the adjacent end of the bolt. This screw enters the bolt far enough to hold it in its proper relative position to the sectional tube and yet lets it remain sufficiently loose so that by manipulating said screw with a screw-driver or other suitable device the bolt can be rotated for the purpose stated.

What I claim as new, and desire to secure by Letters Patent, is—

1. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates and the opposite end section of which is removably secured thereto; a bolt secured to the other plate which extends longitudinally into the last-mentioned end section of said tube; and means for interlocking said tube and bolt.

2. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates and the opposite end section of which is removably secured thereto; a bolt secured to the other plate which extends longitudinally into the last-mentioned end section of said tube; and automatic means for interlocking said tube and bolt.

3. A combined sectional post and lock comprising two clamping-plates; a jointed tube consisting of a section suitably secured to and projecting from one of said plates, an opposite end section, and an intermediate section removably secured to said first-mentioned section at one end and having said end section removably secured to its opposite end; a bolt secured to the other plate and extending longitudinally into said end section; and means for interlocking said tube and bolt.

4. A combined sectional post and lock comprising two clamping-plates; a jointed tube consisting of a section suitably secured to and projecting from one of said plates, an opposite end section, and an intermediate section removably secured to said first-mentioned section at one end and having said end section removably secured to its opposite end; a bolt secured to the other plate which extends longitudinally into said end section; and automatic means for interlocking said tube and bolt.

5. A combined sectional post and lock comprising two clamping-plates; a tube consisting of several removably-connected sections secured to and projecting from one of said plates; a bolt secured to and projecting from the other plate into said tube; and independent means for locking said bolt to said tube.

6. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates and the opposite end section of which is removably secured thereto; a bolt secured to the other plate and extending longitudinally into the last-mentioned end section of said tube; and means capable of movement in directions transverse to each other for interlocking said tube and bolt.

7. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates and the opposite end section of which is removably secured thereto; a rotatable bolt secured to the other plate which extends longitudinally into the last-mentioned end section of said tube; and means for interlocking said tube and bolt.

8. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates and the opposite end section of which is removably secured thereto; a rotatable bolt secured to the other plate which extends longitudinally into the last-mentioned end section of said tube; and means capable of movement in directions transverse to each other for interlocking said tube and bolt.

9. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates, and the opposite end section is removably secured thereto and has an uneven interior surface; a bolt secured to the other plate which extends into said end section and a ball for interlocking said bolt and tube.

10. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates, and the opposite end section is removably secured thereto and has a circumferentially-corrugated interior surface; a rotatable bolt secured to the other plate which extends into said end section; and a ball for interlocking said bolt and tube.

11. A combined sectional post and lock comprising two clamping-plates; a jointed tube

one section of which is suitably secured to and projects from one of said plates, and the opposite end section is removably secured thereto and has an uneven interior surface; a bolt secured to the other plate which extends into said end section having longitudinally-disposed pockets; and a ball seated in each of said pockets for interlocking said bolt and tube.

12. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates, and the opposite end section is removably secured thereto, the opening in the unsecured end of which is restricted in diameter, and has an uneven interior surface; a bolt secured to the other plate which extends into said end section having its unsecured end provided with a head of greater diameter which has longitudinally-disposed elongated pockets in its circumference; and a ball seated in each of said pockets for interlocking said bolt and tube.

13. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates, and the opposite end section is removably secured thereto, the opening in the unsecured end of which is restricted in diameter, and has a circumferentially-corrugated interior surface; a bolt secured to the other plate which extends into said end section having its unsecured end provided with a head of greater diameter which has longitudinally-disposed elongated pockets in its circumference; and a ball seated in each of said pockets for interlocking said bolt and tube.

14. A combined sectional post and lock comprising two clamping-plates; a jointed tube one section of which is suitably secured to and projects from one of said plates, and the opposite end section is removably secured thereto, the opening in the unsecured end of which is restricted in diameter, and has an uneven interior surface; a rotatable bolt secured to the other plate which extends into said end section having its unsecured end provided with a head of greater diameter which has longitudinally-disposed elongated pockets in its circumference; and a ball seated in each of said pockets for interlocking said bolt and tube.

In testimony whereof I hereunto set my hand this 11th day of May, 1903.

ANDREW D. HULQUIST.

Witnesses:
E. K. LUNDY,
E. W. HART.