Aug. 16, 1927. 1,639,009

L. K. SINGLEY

ROD JOINT

Filed June 24, 1926

Fig. 1.

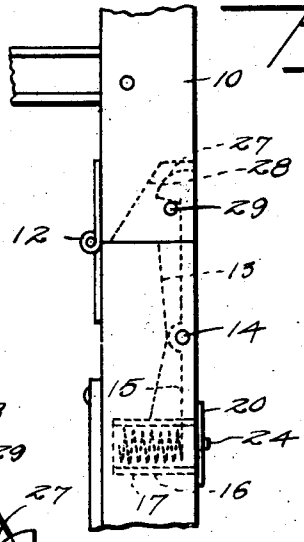


Fig. 2.

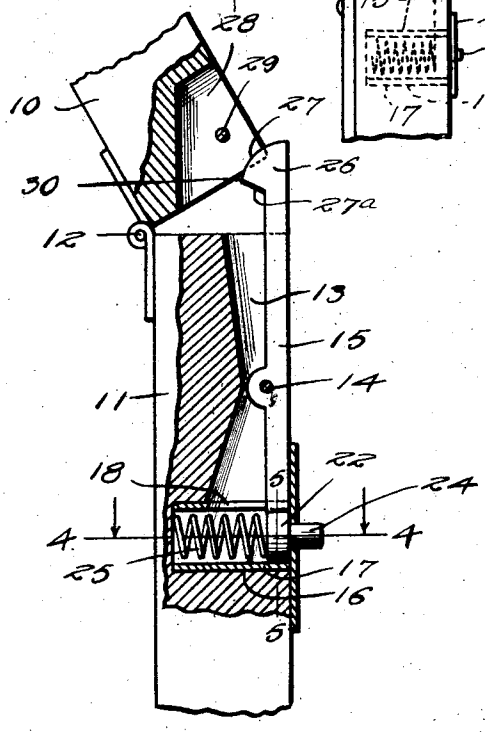


Fig. 3.

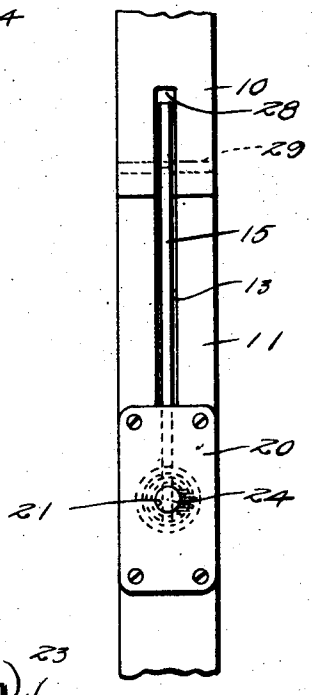


Fig. 4.

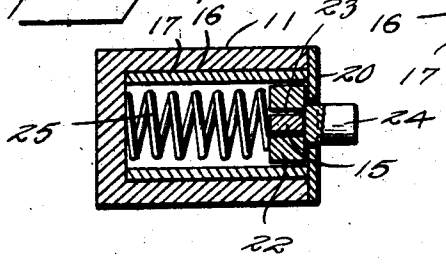
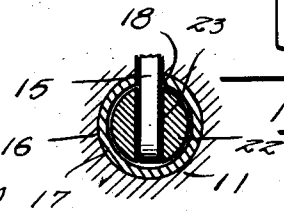


Fig. 5.



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Patented Aug. 16, 1927. 1,639,009

UNITED STATES PATENT OFFICE.

LESLIE K. SINGLEY, OF HENDERSONVILLE, NORTH CAROLINA.

ROD JOINT.

Application filed June 24, 1926. Serial No. 118,307.

This invention relates to rod joints including hinged sections and more particularly to a latch for rigidifying the hinged sections of the supporting legs of tables and the like.

An important object of the invention is to produce a device of this character which will serve to force the leg sections into engagement with one another and thus provide a very rigid structure and which, at the same time, may be very readily released.

A further object of the invention is to provide a device of this character which, in the operative position of the leg structure, presents no parts, which project to engage with the clothing or person.

These and other objects I attain by the construction shown in the accompanying drawing, wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein:—

Figure 1 is a side elevation of a jointed leg structure embodying a latch catch constructed in accordance with my invention, the sections of the leg structure being shown in the operative position;

Figure 2 is a similar view partially in section, showing the leg sections broken to permit folding thereof;

Figure 3 is a rear elevation of the leg structure;

Figure 4 is a section on the line 4—4 of Figure 2;

Figure 5 is a section on the line 5—5 of Figure 2.

Referring now more particularly to the drawing, the numerals 10 and 11 indicate adjacent ends of leg sections of a table leg or the like connected to one another by a hinge 12. The section 11 at the opposite side thereof from the hinge 12 is formed with a longitudinally extending groove 13 within which intermediate the ends of the groove is pivoted, as at 14, a flat bar 15.

The outer end of this groove or that end remote from the section 11 communicates with a circular recess 16 in which is fitted a sleeve 17 having a slot 18 aligning with the groove and through which the lower end of the lever 15 extends into the sleeve. Seated upon the grooved face of the section 11 and over the outer end of the sleeve is a cover plate 20 having a central opening 21 of less diameter than the bore of the sleeve. Within the sleeve, a plug 22 is slidably mounted, this plug substantially fitting the bore of the sleeve and having a slot 23 into which the lower end of the lever projects. The plug is further provided with a reduced extension 24 upon its outer face, which projects through the opening 21 of the cover plate 20 and forms a button for engagement by the finger. Between the base of the recess 16 and the plug a spring 25 extends to constantly urge the plug and lower end of the lever 15 toward the cover plate. The lever 15 is preferably so pivoted within the recess that when its lower end is in engagement with the cover plate, the outer face of the lever is flush with the grooved face of the leg section 11.

The upper end of the lever is formed with a head 26, the upper surface of which is arcuately curved, as at 27, to provide a cam face, while the inner face of the lever beneath the head provides a shoulder 27^a disposed at an obtuse angle to the longitudinal axis of the lever. That face of the section 10 remote from the hinge 12 is likewise provided with a groove, indicated at 28, this groove opening through the lower end of the section and being bridged by a pin 29 which, when the leg sections are in alignment with one another, is preferably located substantially midway of the angular face of the lever, as more clearly shown in Figure 1.

With a construction of this character, as the leg sections are moved into aligned relation, the pin 29 will contact against the curved surface 27, moving the head of the lever out of its path against the action of the spring 25. As the pin passes the peak 30 between the cam face 27 and shoulder 27^a, the spring 25 will force the head 26 in the general direction of the hinge 12, with the result that abutting faces of the sections are forced into engagement with one another by the camming engagement of the shoulder with the pin. Release of the leg sections to permit folding thereof may, of course, be readily accomplished by pressing upon the button 24 to cause the head 26 to swing outwardly.

It will be obvious that this construction, while particularly efficient for use with table legs and the like, may be conveniently employed with any hinge jointed structure and may be readily modified to permit its accommodation to different types of structure. I

accordingly do not limit myself to the specific structure hereinbefore set forth except as hereinafter claimed.

I claim:—

1. A rod joint comprising two rod sections having abutting ends connected at one side by a hinge, locking means at the opposite side, said locking means comprising a pivoted lever extending longitudinally of one of the sections and having one end thereof projected beyond the end of the section and provided with a head, the other of the sections having a pin, said head having a cam face for engagement by the pin as the sections are moved into aligned relation to thereby shift the head to one side and permit passage of the pin, the head having an inclined shoulder engaging the pin when the ends of the sections are in abutting relation and a spring engaging the opposite end of the lever and urging the head toward the pin whereby said inclined shoulder tends to cam the pin and the adjacent end of the last named section toward the confronting end of the first named section.

2. A rod joint comprising two rod sections having abutting ends connected at one side by a hinge, locking means at the opposite side, said locking means comprising a pivoted lever extending longitudinally of one of the sections and having one end thereof projected beyond the end of the section and provided with a head, the other of the sections having a pin, said head having a cam face for engagement by the pin as the sections are moved into aligned relation to thereby shift the head to one side and permit passage of the pin, the head having an inclined shoulder engaging the pin when the ends of the sections are in abutting relation and a spring engaging the opposite end of the lever and urging the head toward the pin whereby said inclined shoulder tends to cam the pin and the adjacent end of the last named section toward the confronting end of the first named section, the hingedly connected sections being provided with slots within which said lever and pin are disposed, said slots combining to house the lever when the sections are in aligned relation.

3. A rod joint comprising two rod sections having abutting ends connected at one side by a hinge, locking means at the opposite side, said locking means comprising a pivoted lever extending longitudinally of one of the sections and having one end thereof projected beyond the end of the section and provided with a head, the other of the sections having a pin, said head having a cam face for engagement by the pin as the sections are moved into aligned relation to thereby shift the head to one side and permit passage of the pin, the head having an inclined shoulder engaging the pin when the ends of the sections are in abutting relation, a spring engaging the opposite end of the lever and urging the head toward the pin whereby said inclined shoulder tends to cam the pin and the adjacent end of the last named section toward the confronting end of the first named section, the first named section having a bore aligning with the inner end of the lever within which said spring is housed, a plunger slidable in the bore and having a slot into which the end of the lever projects, a plate limiting outward movement of the plunger under the influence of the spring and an extension on the plunger providing an operating button whereby the plunger may be shifted against the action of the spring.

4. A rod joint comprising two rod sections having abutting ends connected at one side by a hinge, locking means at the opposite side, said locking means comprising a pivoted lever extending longitudinally of one of the sections and having one end thereof projected beyond the end of the section and provided with a head, the other of the sections having a pin, said head having a cam face for engagement by the pin as the sections are moved into aligned relation to thereby shift the head to one side and permit passage of the pin, the head having an inclined shoulder engaging the pin when the ends of the sections are in abutting relation, a spring engaging the opposite end of the lever and urging the head toward the pin whereby said inclined shoulder tends to cam the pin and the adjacent end of the last named section toward the confronting end of the first named section, the hingedly connected sections being provided with slots within which said lever and pin are disposed, said slots combining to house the lever when the sections are in aligned relation, the first named section having a bore into which the lower end of the lever extends, the spring being located within said bore, a plunger within the bore and having a slot receiving the end of the lever, the spring abutting the plunger to force the plunger outwardly and to retain the lever within the slot of the plunger, a plate limiting outward movement of the plunger and an extension on said plunger projecting through an opening in said plate and providing an operating button whereby the plunger and lever may be shifted against the action of said spring.

In testimony whereof I hereunto affix my signature.

LESLIE K. SINGLEY.