

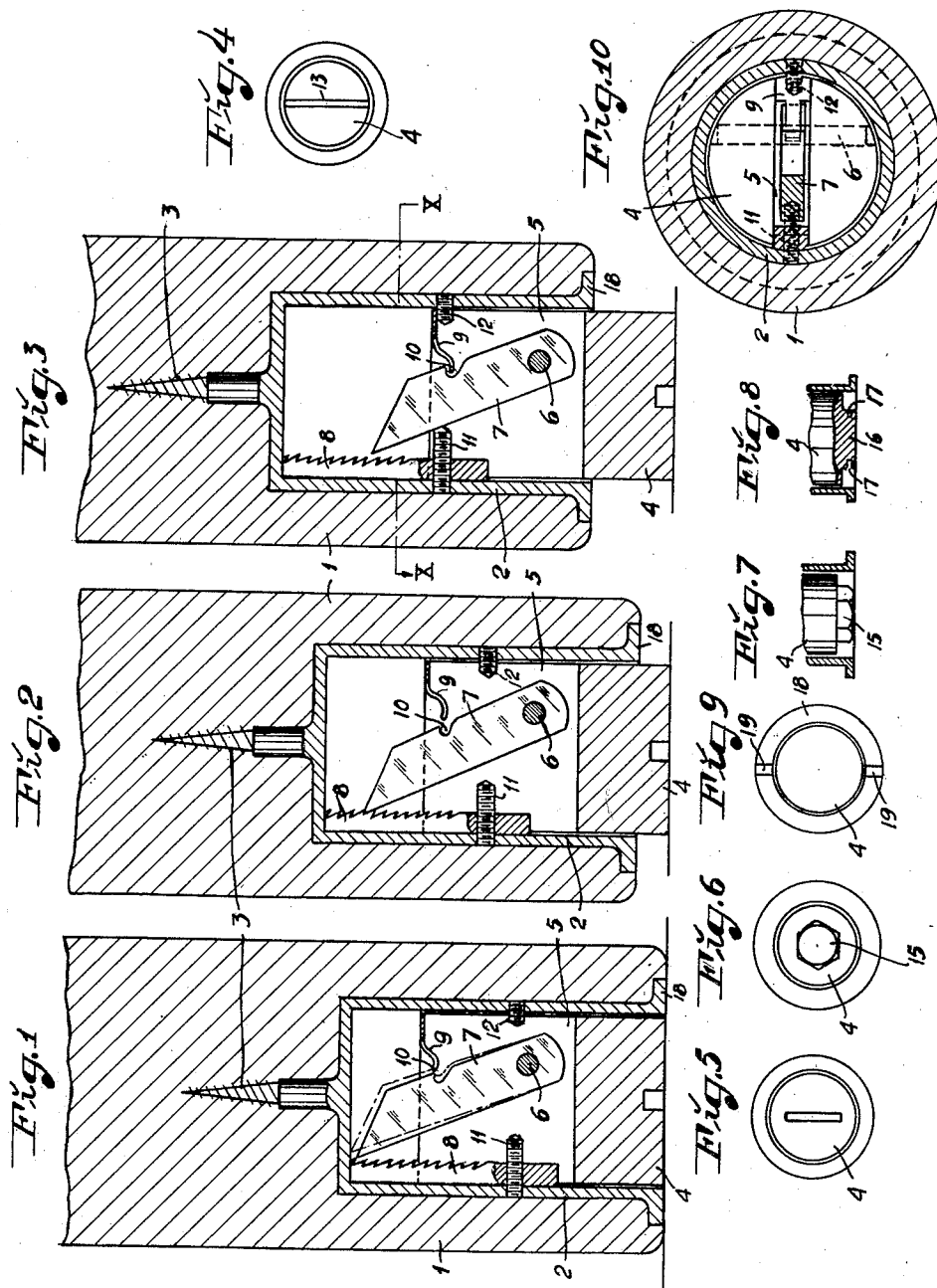
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LEG FOR FURNITURE

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LEG FOR FURNITURE

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For the equalization of the difference in level in connection with legs for tables and the like furniture, means have been previously suggested, consisting of a supporting member adapted to be moved in and out relatively to the table leg in the longitudinal direction thereof, said supporting member being retained in its moved-out position by means of a locking member. The present invention refers to an arrangement of this kind, and has for its object to provide a construction which operates altogether automatically and is exceedingly simple from a constructive point of view and, consequently, safe in operation and suitable for practical use.

I attain this object by mechanism illustrated in the accompanying drawing which forms part of the present specification. In the drawing:

Figures 1-3 are vertical sections of the improved mechanism as applied to a table leg, showing it in three different positions. Fig. 1 shows the mechanism with the table leg standing on the floor. Fig. 2 shows the table leg raised from the floor by a distance corresponding to the desired level equalization. Fig. 3 shows the table leg further raised into an upper limit position. Figs. 4-9 show on a reduced scale different constructions of a detail serving as an attachment for the tool by means of which the mechanism is secured in the table leg. Fig. 10 shows a horizontal section on line X-X in Fig. 3.

Secured in a bore in the lower portion of the table leg 1 is a sleeve 2 which is preferably made integral with a screw 3 threaded into the leg 1. Introduced into the lower open end of the sleeve 3 is a cylindrical supporting member 4 displaceable like a piston within the sleeve 2. As will appear from Fig. 10, the member 4 is split up diametrically from the top, a pawl 7 being pivoted about a pin 6 in the slit 5, said pawl being adapted to cooperate with a toothed rod 8 secured on the inside of the sleeve 2. Secured in the extreme top portion of the slit 5 to the right thereof is a resilient hook 9 adapted to be brought into engagement with a notch 10 in the pawl 7. Besides, there are two screws 11 and 12 secured in the sleeve 2 which enter the slit 5, the first-mentioned screw 11 projecting into the way of the pawl 7 and forming one of two abutments actuating the pawl 7, the other abutment being constituted by the upwardly turned bottom of the sleeve 2.

The mechanism described operates in the following manner. With the parts in the positions shown in Fig. 1, the pawl 7 bears under the influence of its own weight on the toothed rod 8, the table leg 1 and the supporting member 4 stand-

ing both on the floor. Then, if the leg located diagonally relatively to the leg 1 is not supported by the floor, the touching of the table results in rocking of the same, so that the leg provided with the equalizing mechanism is raised. The member 4 will not then follow in the movement, but will be actuated by its own weight or by a spring (not shown in the drawing) in a manner such as to remain standing on the floor. The pawl 7, which is connected with the member 4, will then slide under the influence of its own weight along the toothed rod 8 so as to be brought into engagement with the rod at a point corresponding to the level equalization caused by the raising of the table leg. The member 4 is then prevented from moving back in an upward direction and will thus form the level-equalizing support, whereby all four table legs will obtain a rigid support from below, so that the table is caused to stand steadily. If in the placing of the table on the floor the leg provided with the equalizing mechanism would come into a raised position, then the member 4 will immediately sink automatically to bear on the floor, and is automatically locked in this position.

To return the member 4 into the inner initial position shown in Fig. 1, the table leg need only be raised so high that the member 4 is caused by the influence of its own weight or a spring to reach the extreme limit position shown in Fig. 3. The pawl will then be actuated by the one abutment, the screw 11, in the way thereof, in a manner such that it is swung out of engagement with the toothed rod 8, and at the same time the notch 10 of the pawl is brought into engagement with the hook 9 which then retains the pawl in its released position. When the member 4 takes the outer extreme position in this way, the attachment of the hook 9 strikes against the screw 12 which prevents the member 4 from falling out of the sleeve 2. When by the lowering of the table leg 1 to bear on the floor the supporting member 4 is then introduced into the sleeve 2 up to its inner extreme limit position, the pawl is caused to strike against the other abutment, that is to say, against the bottom of the sleeve 2, as shown by chain-dotted lines in Fig. 1, and is thus released from its engagement with the resilient hook 9, the mechanism being then again in readiness for a level equalization, when required. Instead of the above described locking means shown in the drawing, the common arrangement known from ventilation valves, for example, may be brought into use, wherein the locking member is freely movable in one direc-

tion along a locking track toward the other end thereof, in order there to be brought into such a position that the movement along the track may take place in the other direction with a locking effect.

To enable the screwing of the equalizing mechanism rigidly in the table leg, the outer end of the supporting member 4 is formed to be engaged by means of a screw driver or other suitable tool. According to Fig. 4, the member 4 is for this purpose provided with a diametrically extending driver slit 13. According to Fig. 5, the driver slit 14 does not extend as far as to the circumference of the member, in order to provide for a larger supporting surface for the member 4. According to Figs. 6 and 7, the member 4 is formed into a nut 15 adapted to be engaged by means of a screw-wrench. According to Fig. 8, the member 16 corresponding to the nut 15 in Fig. 7 is provided with two diametrically arranged openings or notches 17 adapted to be engaged by means of a clutch-key. According to Fig. 9, the lower flange 18 of the sleeve 2 is provided with two diametrically arranged catches 19 adapted to receive a key of suitable type.

Obviously, the arrangement may be modified in many different ways with respect to the details thereof beyond the disclosure and the description herein, without the principle of the invention being departed from. This is above all the case with the locking means which may, if desired, be arranged as a roller or ball lock. The locking means illustrated in the drawing is to be preferred, however, by reason of its simplicity and inexpensiveness.

I claim:

1. In means for automatically adjusting the length of a furniture leg, the combination of a hollow sleeve member carried on the end of the furniture leg, an inner support member having a floor engaging portion slidable within said sleeve member, a rack carried by said sleeve member, a pawl on said inner support member normally engaging said rack to prevent upward displacement of said inner member relative to said sleeve, a holding member carried by said inner member, an abutment carried by said sleeve member intermediate its ends and at the lower extremity of said rack engageable with said pawl to lift said pawl out of contact with said rack and into locking engagement with said holding member when said support member reaches its extreme outer position relative to said sleeve member, and a second abutment on said sleeve member adapted to engage and move said pawl into engagement with said rack when said inner member reaches its extreme retracted position upon upward movement thereof relative to said sleeve member, said holding member retaining said pawl out of contact with said rack during the upward movement of the support member, the said combination cooperating to adjust the length of a furniture leg upon movement of said sleeve member relative to said support member.

2. The combination as claimed in claim 1, wherein the holding member is a resilient hook projecting inwardly from said support member.

3. The combination as claimed in claim 1, wherein the pawl is provided with a notch, the holding member engaging said notch to hold and retain said pawl out of locking engagement with the rack.

4. The combination as claimed in claim 1, wherein a portion of the inner support member is divided by a longitudinally disposed slot, the rack on said sleeve member projecting into said slot, and wherein the abutment carried intermediate the ends of said sleeve member, also projects into said slot.

5. The combination as claimed in claim 1, wherein a third abutment is provided on said sleeve member opposite the abutment carried intermediate the ends of said sleeve member, said third abutment engaging a portion of the support member to limit outward displacement of said support member relative to said sleeve member.

6. In means for automatically adjusting the length of a furniture leg, the combination of a hollow sleeve member carried on the end of a furniture leg, and inner support member having a floor engaging portion slidable within said sleeve member, a portion of said support member being divided by a longitudinally disposed slot, a rack carried by said sleeve member projecting into said slot, a pawl eccentrically pivoted on said support member within said slot, said pawl normally engaging said rack to prevent upward displacement of said support member relative to said sleeve, a resilient hook carried by said support member and projecting into said slot, and an abutment on said sleeve member arranged intermediate its ends and at the lower extremity of said rack, said abutment engaging with said pawl to lift said pawl out of locking engagement with said rack and into locking engagement with said resilient hook when said support member reaches its said extreme extended position relative to said sleeve member, and a second abutment carried on the inner extremity of said sleeve member adapted to engage and move said pawl into engagement with said rack and out of engagement with said resilient hook when said support member reaches its extreme retracted position upon upward movement thereof relative to said sleeve member, a notch in said pawl, said resilient hook engaging said notch to retain said pawl out of contact with said rack during the upward movement of the support member, a third abutment carried by said sleeve member opposite the first abutment and projecting inwardly to engage a portion of said support member to limit outward displacement of said support member relative to said sleeve member, the said combination cooperating to adjust the length of the furniture leg upon movement of said sleeve member relative to said support member.

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