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FOLDING LEG CONSTRUCTION

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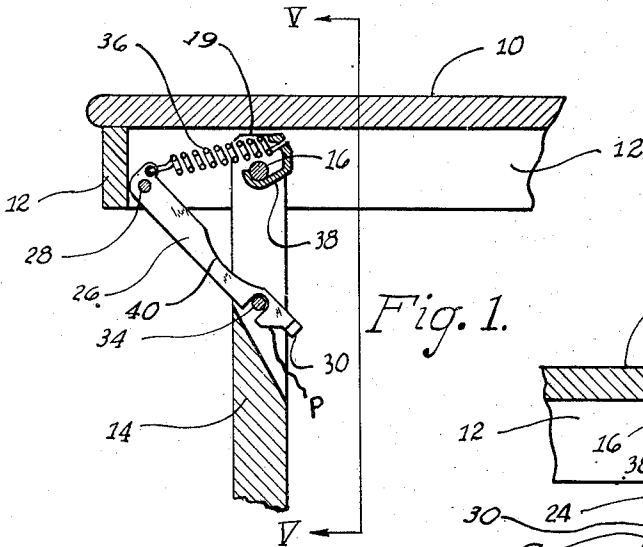


Fig. 1.

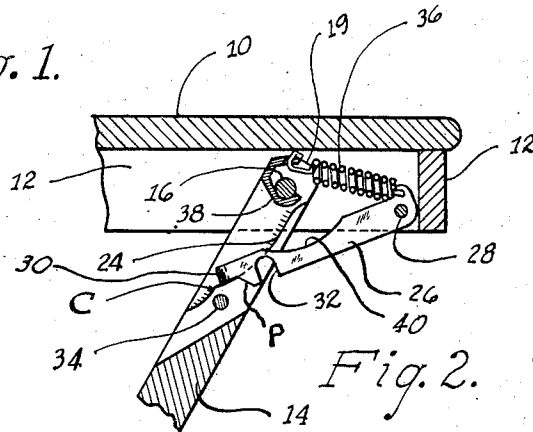


Fig. 2.

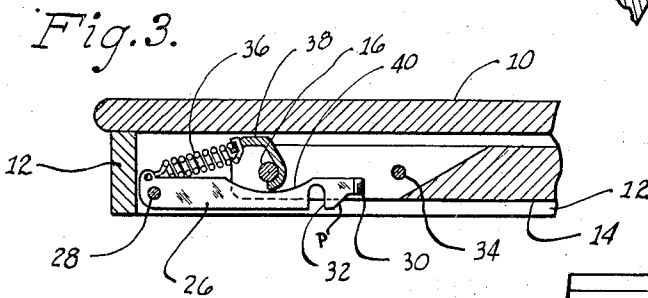


Fig. 3.

Fig. 4.

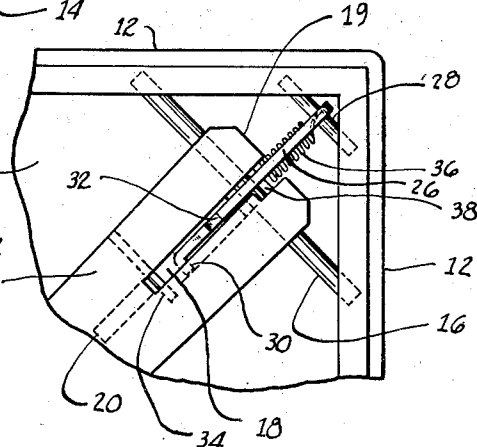
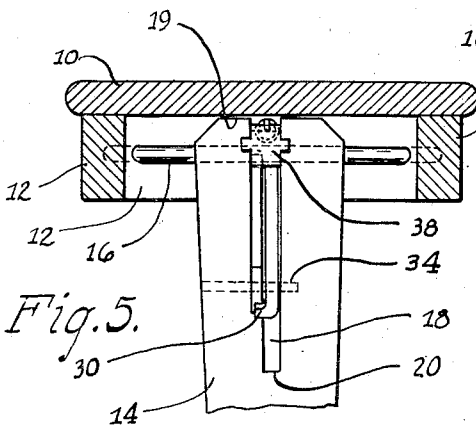


Fig. 5.

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FOLDING LEG CONSTRUCTION

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1 Claim. (Cl. 311-99)

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My invention relates to a folding leg construction which is adapted for foldably or collapsibly mounting the legs of tables, chairs, and the like.

One object of the invention is to produce an improved folding leg construction.

A further object is to produce a rigid, light and inexpensive folding leg construction.

A still further object is to produce an improved folding leg structure, the hinge mechanism of which is easy to operate, inconspicuous and dependable in operation.

These and other objects are attained by my invention as set forth in the following specification and the accompanying drawings, in which:

Fig. 1 is a fragmentary, vertical, sectional view of one corner of a table and one folding leg embodying my invention, the same being shown in fully erected condition.

Fig. 2 is a view similar to Fig. 1, but with the leg shown in partly folded position.

Fig. 3 is a fragmentary, vertical sectional view showing the leg in fully folded position.

Fig. 4 is a bottom plan view of Fig. 3.

Fig. 5 is a fragmentary view, partly in vertical section and partly in elevation, looking in the direction of line 5-5 on Fig. 1.

In the drawings, the invention is shown applied to a folding table which includes a table top 10, pendant aprons 12 and four identical legs 14, the upper portion of only one of which is shown.

Each of the legs is rotatably mounted on a pin 16, the opposite ends of which are suitably anchored in the adjacent aprons 12, as best shown in Fig. 4.

The upper portion of the leg is provided with a central through slot 18 which extends longitudinally of the leg from the upper edge 19 thereof down to about the point 20. One of the walls defining the slot 18 is recessed and cut out so as to provide a cam surface 24 extending over the major portion of the length of the slot. It will be noted that the cam surface undulates so as to provide higher and lower portions which will be hereinafter referred to.

Each leg 14 is held in its vertical position by means of a latch 26 which is rotatably mounted, at its upper end, on a pin 28 suitably anchored to the aprons 12 at a point spaced outwardly from the pin 16. The pins 28 and 17 are parallel, so that the leg 14 and the latch 26 rotate independently about eccentric axes. The latch 26 is so made as to have sufficient rigidity and tensile strength, but is thin enough to move freely in the slot 18. The free end of the latch 26 is bent to provide a side lug 30 which is adapted to ride on

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the cam surface 24, as best shown in Figs. 2 and 4. The lug 30 thus guides the latch and prevents it from being completely withdrawn from the slot. The outer edge of the latch is provided with a notch 32 which is adapted, when the leg is fully erected, as in Fig. 1, to engage a fixed pin 34 extending transversely of the slot. This limits the rotation of the leg about the axis of the pin 16 and locks the leg in its vertical position.

The latch 26 is urged into engagement with the pin 34 by means of a tension coil spring 36 which is anchored at one end thereof to the upper end of the latch, above the pin 28, as viewed in Fig. 1. The other end of the spring is anchored to a clip 38 carried by the pin 16 and the upper portion of the leg. By this arrangement, the spring serves to retain the leg in its fully folded position and causes the latch 26 firmly to engage the pin 34 when the leg is fully erected to prevent accidental disengagement of the latch from the pin.

In order to allow the leg to be folded compactly, the inner edge of the latch is provided with a recess or notch 40 which accommodates the pin 16 and clip 38 when the parts are in the folded position of Fig. 3.

Operation

To erect a table or chair provided with a folding leg construction embodying my invention, it is merely necessary to grasp each leg and move it, about its pivot pin 16 as an axis, from the folded position shown in Fig. 3 to the vertical position shown in Fig. 1. During this movement of the leg, the side lug 30 glides along the cam face 24 and rides on the high portion C of the cam so as to facilitate movement of the cam portion P of the latch over the pin 34 until the latter enters the notch 32. See Figs. 2 and 1. The leg is now locked in position and the latch is retained against accidental disengagement from the pin 34 by the action of the spring 36.

To fold the leg, pressure is applied against the outer edge of the latch to move it in counterclockwise direction. This pressure need only be strong enough to overcome the bias of the spring and need only be exerted until the latch is disengaged from the pin 34, whereupon the leg may be moved, in a counterclockwise direction, until it reaches the position of Fig. 3, in which it is retained by the spring 36 and by the friction of the parts.

What is claimed is:

The combination with a member and a leg for supporting said member, of means for foldably securing one end of said leg to said member, said

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means comprising a first pivot pin spaced inwardly from the outer edge of said member and rotatably engaging the adjacent portion of said leg whereby said leg is swingable to a first position substantially parallel with, or to a second position substantially normal to, said member, a latch, a second pivot pin disposed near said outer edge and rotatably engaging said latch at a point intermediate the ends thereof whereby said latch is swingable to a first position substantially parallel with, or to a second position at an angle to, said member, there being an elongated through slot in the portion of said leg adjacent said first pivot pin in which said latch freely moves, a lug carried by said other end of said latch, a cam surface formed on a side wall of said slot and on which said lug rides, a fixed cross pin traversing said slot, there being a notch formed in said latch for engaging said fixed cross pin, said latch, said notch, said fixed cross pin and said second pivot pin being so arranged and related that when said notch is engaged by said fixed cross pin, said leg is maintained in a position substantially nor-

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mal to said member, and said cam and said lug being so related that movement of said lug over said cam guides said notch into engagement with said cross pin, and a spring engaging the upper end of said latch and the upper end of said leg, said spring being operative, when said leg and said latch are in their second positions, respectively, to bias said leg in counterclockwise direction and to bias said latch in clockwise direction.

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REFERENCES CITED

The following references are of record in the file of this patent:

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