

Aug. 11, 1931.

E. L. KNAPP

1,818,629

TABLE LEG

Filed July 11, 1927

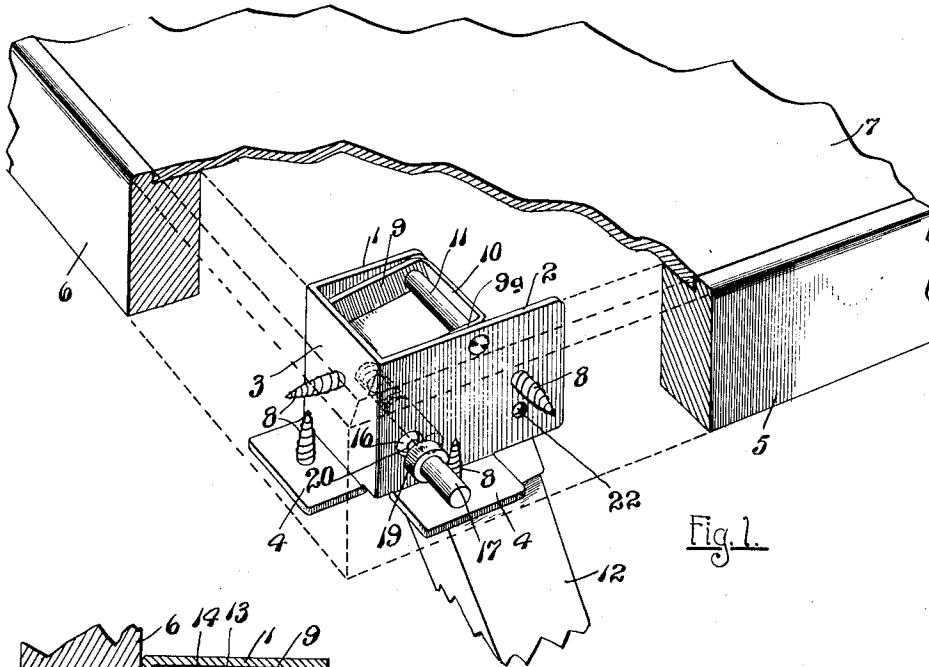


Fig. 1.

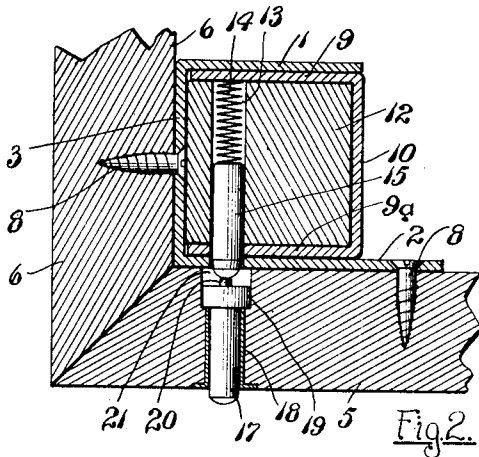


Fig. 2.

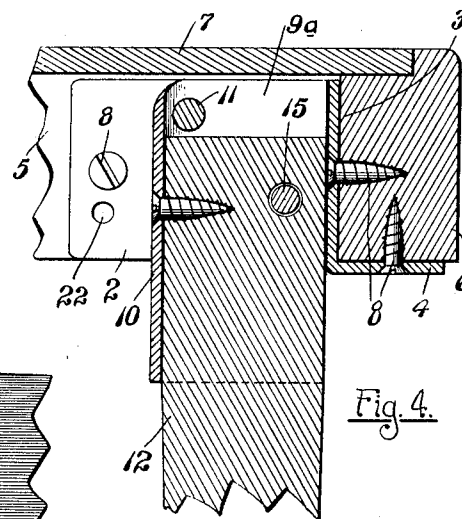


Fig. 4.

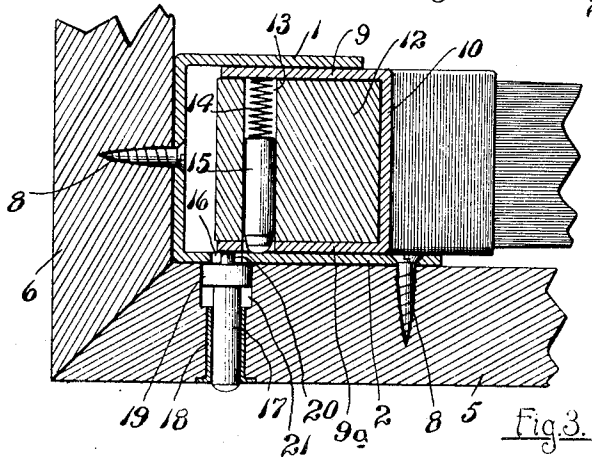


Fig. 3.

Inventor
Edward L. Knapp
By
Frank E. Liverance Jr.
Attorney

UNITED STATES PATENT OFFICE

EDWARD L. KNAPP, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO NATIONAL BRASS COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF MICHIGAN

TABLE LEG

Application filed July 11, 1927. Serial No. 204,698.

This invention relates to folding tables and is more particularly concerned with a simple and novel means for releasably holding legs of a table either in folded inoperative position or in unfolded operative position. The invention is particularly applicable to small and light tables sometimes called card tables which may be collapsed into very small compass when not in use, the legs folding snugly against the under side of the table top and within the frame thereof while, when turned at right angles, the same assume a vertical position and support the table top at a desired height.

The construction which I have devised is not only simple and economical to make but when a table leg is in unfolded operative position it is held very securely and rigidly in place and locked so there is no lost motion between the table top and supporting legs therefor.

An understanding of the invention for the attainment of the above described ends, as well as many others not at this time specifically stated, may be had from the following description taken in connection with the accompanying drawings, in which,

Fig. 1 is a fragmentary perspective view illustrating a corner of a table top and the folding leg construction associated therewith, parts of the top being broken away and shown in section.

Fig. 2 is a fragmentary enlarged horizontal section through the structure shown in Fig. 1 at a corner of the table showing the position of the parts with the leg locked in unfolded operative position.

Fig. 3 is a view similar to Fig. 2 showing the parts unlocked and the leg partially folded, and

Fig. 4 is a fragmentary vertical section adjacent the corners of the table showing the supporting leg in vertical operative position.

Like reference characters refer to like parts in the different figures of the drawings.

In the construction illustrated, a member of flat metal is provided bent into substantially U-shape having inner and outer sides

or flanges 1 and 2, the latter of which is longer than the former and which are integrally connected by a web 3. From the under edge of the web 3 and the flange 2 ears 4 extend outwardly at right angles.

This member described is disposed in a corner of a table top frame made up of parallel sides 5 and ends 6 over which the top cover 7 is placed and secured. When placed in said corner the ears 4 come against the under sides of the frame members 5 and 6 and screws 8 are passed therethrough into the frame while other screws, also indicated at 8, pass through the leg 2 and web 3 into the frame members making a secure and permanent connection of the U-shaped member to the frame.

A second U-shaped member also of flat metal having spaced apart flanges 9 and 9a connected by a web 10 is pivotally mounted on the first member by means of a pivot pin 11 as shown. The second U-shaped member telescopes within the first and the pivot pin 11 is located at the upper inner corners of said members.

The upper end of a leg 12 extends into the second U-shaped member between the flanges 9 and 9a and is permanently secured thereto. An opening 13 is bored transversely through the leg a short distance below its upper end and adjacent its outer side in which is located a coiled spring 14 and a locking pin 15 which normally is projected outwardly by the spring so as to pass through an opening in the side 9a and through a similar opening 16 in the flange 2 when said openings come into conjunction with each other. This occurs when the leg is unfolded so as to be disposed at right angles to the frame of the table top. Therefore, if the leg is moved from folded to unfolded position immediately upon the two openings described coming into conjunction with each other the locking pin 15 is moved so as to extend through both of said openings, as shown in Fig. 2, and the leg is firmly locked to the table top.

In order to move the locking pin 15 inward against the spring 14 a manually operable pin 17 is slidably mounted through the

side 5 of the table top frame, passing through a sheet metal sleeve 18 as shown in Figs. 2 and 3. At the inner end of sleeve 18 the pin is somewhat enlarged, as indicated at 19, while at its inner end it terminates in a projection 20 considerably less in diameter. The opening into which the sleeve 18 is inserted is also enlarged as indicated at 21 for the free movement of the part 19. In the assembly, before the first U-shaped member is attached, the pin 17 is inserted through the frame member 5 after which the sleeve 18 is driven into place and then when the first U-shaped member is attached to the table top frame the pin 17 is held against disengagement from the member 5, as is evident.

The outer end of the operating pin 17, in the position of the parts shown in Fig. 2, projects a short distance beyond the outer side of the frame member 5 and in position that it may be moved inwardly by an operator. When moved inwardly the locking pin 15 is moved until its end comes to the dividing plane between the contacting flanges 9a and 2 of the two U-members while the end of the projection 20 stops before it enters the opening through the flange 9a. As thus positioned the leg 12 may be folded upwardly against the under side of the top 7 and within the frame member 5, the rounded end of the pin 15 riding against the inner side of the flange 2 until, when the leg is folded flat against the top 7, the end of the pin 15 comes to an opening 22 made through the member 2 and seats therein. The opening 22 is of less diameter than the diameter of the pin 15 so that the rounded end of the pin only seats in the opening. While the retaining effect of the pin is sufficient to hold the leg 12 against accidental movement, it is not sufficient to make a positive lock and the leg may be easily moved by exertion of very little force and unfolded to its operative position where the locking pin will pass through the opening 16 and make a positive lock to hold the leg in its unfolded operative position until unlocked by pressing inwardly on the pin 17.

This construction is a simple one yet one which is particularly effective for the purposes for which it is designed. The positive and rigid lock made is one of value particularly with light weight tables, there being no play or lost motion between the table top and the table leg. The invention is defined in the claims appended hereto and is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. In combination with a table top having a depending border frame, a rigid member attached at each corner of the frame, a second member pivotally connected to the first member, a table leg attached to and extend-

ing from said second member, spring actuated locking means housed in the upper end of the said leg adapted to be projected at one end into an opening in the first member when the leg is turned to a position at right angles to the plane of the table top to thereby rigidly lock said leg against movement with respect to said table top, and means extending through said frame and manually operable from the outer side thereof engaging with said locking means to move the same to inoperative position and thereby release said leg so that it may be turned to lie against the under side of said table top.

2. A construction of the class described comprising, a table top having a depending border frame, a U-shaped member of metal secured to said frame, a second U-shaped member pivotally connected to and lying between the flanges of the first member, a table leg permanently secured to the second U-shaped member and swingable from a position parallel to the table top to a position at right angles thereto, locking means housed within the upper end of said leg engageable with a flange of said first U-shaped member to positively lock the leg in the last named position, means extending through said frame and manually operable from the outer side thereof for releasing said locking means so that the leg may be moved to parallel the table top and means on a flange of the first U-shaped member with which said locking means engages when the leg has been moved to a position parallel to the table top for releasably holding the leg in said position.

3. In a construction of the class described, a table top, a depending border frame therefor, a U-shaped member of flat metal secured in each corner of the border frame at the inner sides thereof, a second U-shaped member of flat metal disposed between the flanges of the first member and pivotally connected thereto, a leg permanently secured to the second U-shaped member, a spring actuated locking pin housed in the upper portion of said leg, adjacent flanges of the U-shaped members having openings for an end of the locking pin to pass through, said openings coming into conjunction when the leg is located substantially at right angles to the table top, and a releasing pin slidably mounted through the border frame of said table top and lying in alignment with said pin when the leg is at right angles to the top, whereby, by pressing inwardly on the outer end of said releasing pin, the locking pin is moved so as to disengage from the opening through the flange of the first named U-shaped member, thereby permitting the leg to be folded against the under side of the table top.

4. In combination a table top having a depending frame, a U-shaped member of

metal located in each corner of the frame under said top and permanently secured to the frame, a second U-shaped member of metal pivotally connected to and lying between the
5 flanges of the first member, a table leg attached to and extending from said second U-shaped member, said leg having a transverse opening therein near its upper end, a locking pin slidably mounted in said opening,
10 a coiled spring acting on said locking pin tending to move the same longitudinally when free to do so, the flange of the second U-shaped member adjacent an end of said pin having an opening to pass said pin and
15 the adjacent flange of the other U-shaped member having an opening into which the pin projects when the leg is turned to a position at right angles to the plane of the table top, and a manually operable release member
20 slidably mounted and having an end adapted to bear against an end of the locking pin when the leg has been turned to position at right angles to the table top, said release member being manually movable so
25 as to move the locking pin out of the opening through the flange of the first U-shaped member.

5. In combination with a table top having a depending border frame, a leg pivotally
30 mounted at the inner side of said frame, a movable locking bolt mounted on said leg and swinging therewith, a fixed detent at the inner side of said frame with which said movable locking bolt engages to retain the
35 leg in operative position, and releasing means extending through said frame and manually operable from the outer side thereof and engageable with said locking bolt to release it from said detent.

40 In testimony whereof I affix my signature.

EDWARD L. KNAPP.

45

50

55

60

65