Nov. 8, 1949 L. B. TURNER 2,487,401

COLLAPSIBLE TABLE LEG MOUNTING AND LATCH STRUCTURE THEREFOR

Filed Oct. 24, 1946

Fig. 1.

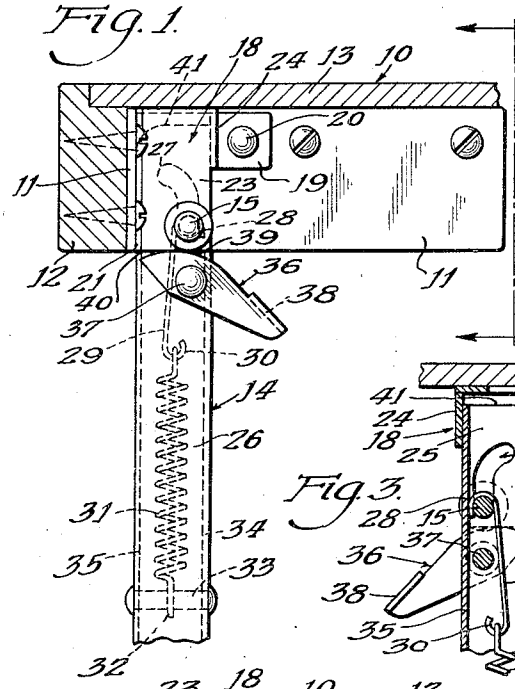


Fig. 2.

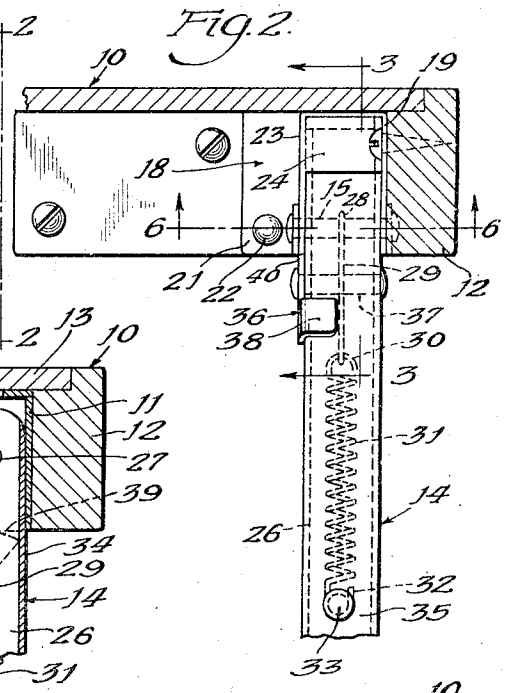


Fig. 3.

Fig. 4.

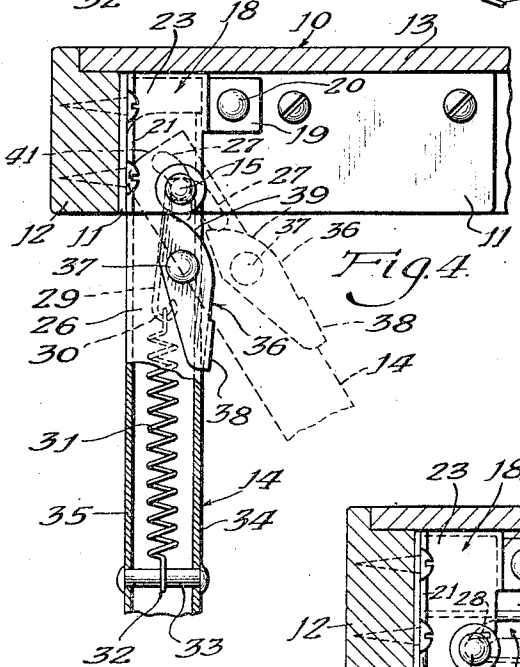


Fig. 6.

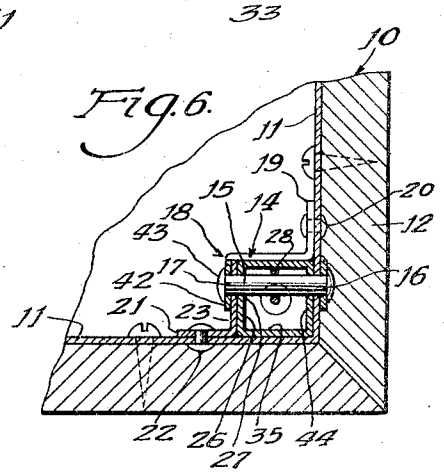
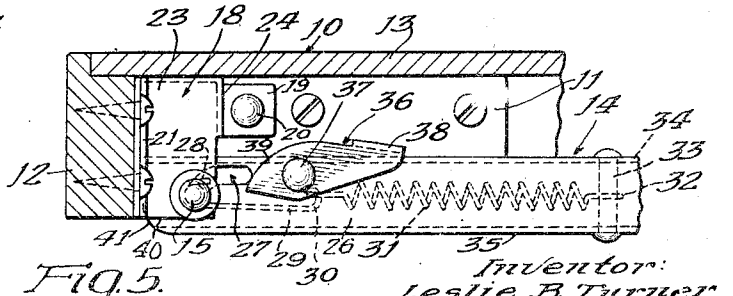


Fig. 5.



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COLLAPSIBLE TABLE LEG MOUNTING AND LATCH STRUCTURE THEREFOR

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3 Claims. (Cl. 311—99)

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This invention relates to a collapsible table leg and mounting and latch structure therefor for use in collapsible folding tables including folding card or so-called bridge tables and the like.

A primary object of the present invention is to provide a new and improved relatively simple but efficient device for mounting the folding leg of a collapsible or folding table for pivotal or hinged swinging movement and for latching the said folding table leg in upright or erected and table-supporting position and for unlatching it from upright and effective position for movement into folded or collapsed position.

An additional object of the invention is to provide a novel and simple device for automatically latching the folding leg of a folding table in upright or effective position as the said table leg is swung into upright or effective position.

A further object of the invention is to provide a novel and simple manually operable device for readily unlatching the folding leg of a folding table from upright or effective position and for movement into folded or collapsed position.

A further object of the invention is to provide a novel folding table leg which is constructed and arranged for use and cooperation with the table leg latching device of the present invention and for use and cooperation with the manually operable means for unlatching the said folding table leg for movement into folded or collapsed position.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawing which, by way of illustration, shows a preferred embodiment of the invention and the principles thereof and what I now consider to be the best mode in which I have contemplated applying these principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings,

Fig. 1 is a fragmentary view of a folding table, partly in section and partly in elevation, showing a preferred embodiment of the new collapsible or folding table leg and latch structure used therewith, the parts being shown in the position which they assume when the folding table leg is in upright or vertically extending supporting and effective position;

Fig. 2 is a view on line 2—2 in Fig. 1, partly in section and partly in elevation;

Fig. 3 is a vertical sectional view on line 3—3 in Fig. 2 illustrating the construction of the new table leg and the new mounting and latching device therefor;

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Fig. 4 is a fragmentary view, partly in section and partly in elevation, illustrating in full lines the relative positions of the parts when the folding table leg and the manually operable cam and latch control member therefor are moved into unlatching position and illustrating in dotted lines the relative positions of the parts when the table leg and the manually operable cam and latch control member therefor are moved into folded or collapsed position;

Fig. 5 is a fragmentary view of a folding table, partly in section and partly in elevation, showing the parts in the position they assume when the folding table leg is in its collapsed position; and

Fig. 6 is a bottom sectional plan view on line 6—6 in Fig. 2.

A preferred embodiment of the new collapsible table leg and mounting and latch structure therefor is shown in the drawing and is shown as being embodied in a folding card table or so-called bridge table or the like which is generally indicated at 10. The folding table 10 may be of any suitable design and shape and is shown as embodying a metal frame 11 to which vertically extending side walls 12 are attached on the outer sides thereof, and a table top 13 which is mounted upon the metal frame 11 and upon the sides 12 of the table. The construction thus far described may, however, be varied widely since it does not form a part of the present invention.

The present invention embodies a folding or collapsed table leg 14 which is shown as being formed of tubular metal. The folding table leg 14 is substantially square in cross sectional form and includes integral and right-angularly intersecting side walls 26, 34, 35 and 44 as best shown in Fig. 6. The tubular table leg 14 is hingedly mounted upon a hinge pintle 15. The outer end portion 16 of the hinge pintle 15 is mounted in the metal frame 11 of the table, as shown in Fig. 6 of the drawing, and the other and inner end portion 17 of the hinge pintle 15 is mounted in a bracket 18. The bracket 18 includes a pair of right-angularly intersecting arms 23 and 24 which constitute the body of the bracket 18. The bracket 18 also has an attaching arm 19 which is formed integrally with and extends at a right angle to the portion 24 of the bracket 18 at one end of the said portion 24. This attaching arm 19 is attached as at 20 to the metal table frame 11. The bracket 18 also has a second attaching arm 21 which is formed integrally with and extends at right angles to the portion 23 of the bracket 18 and this attaching arm 21 is attached as at 22 to the metal table frame 11. As shown in the drawing (Fig. 2) the portion 24 of the bracket 18 includes a relatively narrow web portion which extends between and interconnects the body portion 23 and

the attaching arm 19 of the bracket 18. Thus it will be noted that the upper end portion 25 of the folding tubular table leg 14 projects upwardly into the bracket 18 between the right-angularly interconnecting metal frame parts 11 of the table and the body portion 23 and the relatively narrow web 24 of the bracket 18.

As shown in the drawing, the upper end portion of the side wall 26 of the tubular table leg 14 is provided with an arcuate or curved slot 27, and the inner end portion 17 of the hinge pintle 15 projects through and works in this slot 27. A similar arcuate or curved slot (not shown) is formed in the side wall 44 of the tubular table leg 14 and the upper and outer end portion 16 of the hinge pintle 15 works therein. A washer 42 is mounted on the inner end portion 17 of the hinge pintle 15 and the head 43 thereof, as shown in Fig. 6 of the drawing. The upper end portion 28 of a metal connecting element 29 is extended over the hinge pintle within the upper end portion of the tubular table leg 14 and the other and lower end portion 30 of this metal connecting element 29 is attached to the upper end portion of a coil spring 31 which is arranged within the tubular table leg 14. The lower end portion 32 of this coil spring 31 is attached to an anchoring element in the form of a headed pin 33 which extends between the side walls 34 and 35 of the tubular table leg 14 and has its end portions mounted in the said side walls 34 and 35.

A manually operable latch release and camming lever 36 is pivotally mounted between its ends, as at 37, upon the side wall 36 of the tubular leg 14. This latch release lever 36 has a laterally extending arm or handle portion 38 which provides a thumb rest for use in manipulating the latch release lever 36. The latch release lever 36 is mounted on the tubular leg 14 below the table frame 11 and the side walls 12 thereof as the parts are seen when the table leg 14 is upright or vertically extending and supporting position, and the latch release lever 36 has a cam surface or edge portion 39 which is adapted for camming engagement with the lower or bottom edge portion 40 of the wall 23 of the bracket 18, for a reason which will be pointed out hereinafter.

The upper end portion 41 of the tubular table leg 14 is disposed in the position in which it is shown in Fig. 1 when the tubular table leg 14 is upright or vertically extending and effective position but is adapted to be lowered with the table leg 14 during the operation of folding or collapsing the table leg 14 as will be described hereinafter.

The use and operation of the new collapsible table leg and mounting and latch structure are as follows: When the tubular table leg 14 is disposed in folded or collapsed position, as in Fig. 5, and when the parts of the device are in their respective positions, as shown in this figure, the coil spring 31 is under tension. However, in order to move the tubular table leg 14 into erected or upright position it is merely necessary to grasp the tubular table leg 14 and manually pivot the same about its hinge mounting or pintle 15 into vertically extending upright and supporting position, as shown in Figs. 1, 2 and 3 of the drawings and as shown in full lines in Fig. 4. During this operation the tensioned coil spring 31 acts through the pin 33 to pull the tubular table leg 14 upwardly, whereupon the upper end portion of the tubular table leg 14 rides upwardly between the side wall 23 and the relatively narrow web portion 24 of the bracket 18 and the adjacent parts of the metal table frame 11. At the same time the inner end portion 17 of the hinge pintle 15 rides into the substantially vertically extending lower end portion of the slot 27 which is formed in the upper end portion of the side wall 26 of the tubular table leg 14; and the outer end portion 16 of the hinge pintle 15 works in a similar arcuate or curved slot (not shown) in the side wall 44 of the tubular table leg 14 it being understood, in this connection, that the hinge pintle 15 does not, of itself, move during this operation since its end portions are fixedly mounted as shown in Fig. 6 of the drawing. The upper end portion of the tubular table leg 14 is then held in a firm vertically extending and effective or supporting position within an area which is substantially square in cross section and which is defined by the side wall 23 and the relatively narrow web portion 24 of the bracket 18 and the adjacent parts of the metal table frame 11.

The slots, only one of which, 27, is shown in the drawings, have a substantial vertical portion disposed adjacent the wall of the leg that constitutes the leading wall when the leg is being folded. The slots further have a rearwardly extending portion terminating beyond the vertical center line of the side walls of the leg. The pivot 37 for the release lever 36 is disposed on the side wall 26 of the leg in alignment with the terminal end of that substantial vertical portion of the slots. This arrangement is such that when the release lever is pivoted, the reaction of the cam surface 39 on the stationary cam surface 40 of the side wall 23 of the bracket displaces the leg outwardly, the rearwardly extending portion of the slots accommodating the pintle 15 so that the leg is displaced angularly so that the cam surface 39 of the latch lever can clear the stationary cam surface 40 of the bracket.

However, when it is desired to unlatch the tubular table leg 14 for movement into collapsed or folded position this may readily be effected by manually grasping the latch release lever 36 and exerting the pressure of the thumb downwardly on the laterally extending arm portion 38 of the latch release lever 36 so as to pivot the said latch release lever about its pivot 37 relative to the tubular table leg 14 on which the latch release lever 36 and its suporting pivot 37 are mounted. This action tends to rotate the latch release lever 36 in a clockwise direction, as seen in Fig. 1, and thus forces the upper cam edge 39 thereof into camming engagement with the lower edge 40 of the side wall or body portion 23 of the bracket 18. This camming engagement of the cam edge 39 of the latch release lever 36 with the lower edge portion 40 of the side wall 23 of the bracket 18 urges the tubular table leg 14 and the latch release lever 36 carried thereby downwardly relative to the table top 10 and its metal supporting frame 11 and relative to the bracket 18 and causes the hinge pintle 15 to ride upwardly into the curved upper end portion of the slot 27 which is formed in the side wall 26 of the tubular table leg 14 while, at the same time, the outer end portion 16 of the hinge pintle 15 works in a corresponding arcuate or curved slot (not shown) in the side wall 44 of the tubular table leg 14 this action tensions the coil spring 31. This operation moves the upper end portion of the tubular leg 14 downwardly in and relative to the bracket 18 to a

point at which the upper edge portion 41 of the table leg 14, pivoting about its hinge pintle 15 as a radius, will clear the adjacent wall of the metal table frame 11, as shown in dotted lines in Fig. 4 of the drawing, whereupon the tubular table leg 14 may be further pivoted into full collapsed or folded position, as in Fig. 5 of the drawing.

The new collapsible table leg and mounting and latch structure therefor thus described and which are embodied in the present invention are relatively simple but yet are strong and sturdy in construction and may be used advantageously with folding tables of various sizes and types including folding card tables or so-called bridge tables as well as with other folding tables of heavier construction, and for other uses such, for example, as in restaurant or club tables, and the like.

It will thus be seen from the foregoing description, considered in conjunction with the accompanying drawing, that the present invention provides a new and improved collapsible table leg and mounting and latch structure therefor having the advantages and desirable characteristics, and thus accomplishes its intended objects, including those hereinbefore set forth and others which are inherent in the invention.

I claim:

1. A collapsible or folding table leg mounting and latch structure for a folding table having a supporting frame, comprising a corner socket bracket attached to the supporting frame and including a side wall disposed in the folding plane of the leg and having an edge portion providing a stationary cam surface, a table leg socketed in the bracket and comprising a tubular end portion having opposite side walls disposed in the folding plane of the leg and each side wall having an arcuate slot formed therein in horizontal alignment with each other, the slots having a portion disposed adjacent the leading wall of the leg when the same is being collapsed and a rearwardly extending portion terminating beyond the vertical center line of the side walls of the leg, a hinge pintle having one end mounted in the supporting frame and extending outwardly therefrom and projecting through the socket

and the leg and movable in the slots and anchored in the said side wall of the bracket, a pivot in the side wall of the leg adjacent the cam surface, said pivot being disposed in alignment with the terminal end of that portion of the slot adjacent the leading wall of the leg, a manually operable latch release lever pivotally mounted thereon, and having a cam portion adapted to be manually moved into camming engagement with the stationary cam surface when the release lever is pivoted upon and relative to the side wall of the table leg, said cam portion extending in the same direction as the rearwardly extending portions of the slots, and a spring within the leg and connected between the same and the hinge pintle normally urging the leg into its erected vertical position so that when the lever is pivoted the shape of the slots permits the leg to move angularly and outwardly of the socket bracket so that the cam portion of the lever clears the cam surface thereby allowing the leg to be collapsed.

2. A collapsible or folding table leg and mounting and latch structure as defined in and by claim 1, wherein the free edge of the bracket adjacent and at right angles to the bottom surface of the frame constitutes the said stationary cam surface.

3. A collapsible or folding table leg and mounting and latch structure as defined in and by claim 1, wherein the free edge of the bracket adjacent and at right angles to the bottom surface of the frame constitutes the cam surface and the adjacent edge portion of the latch release lever constitutes the cam portion thereof.

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