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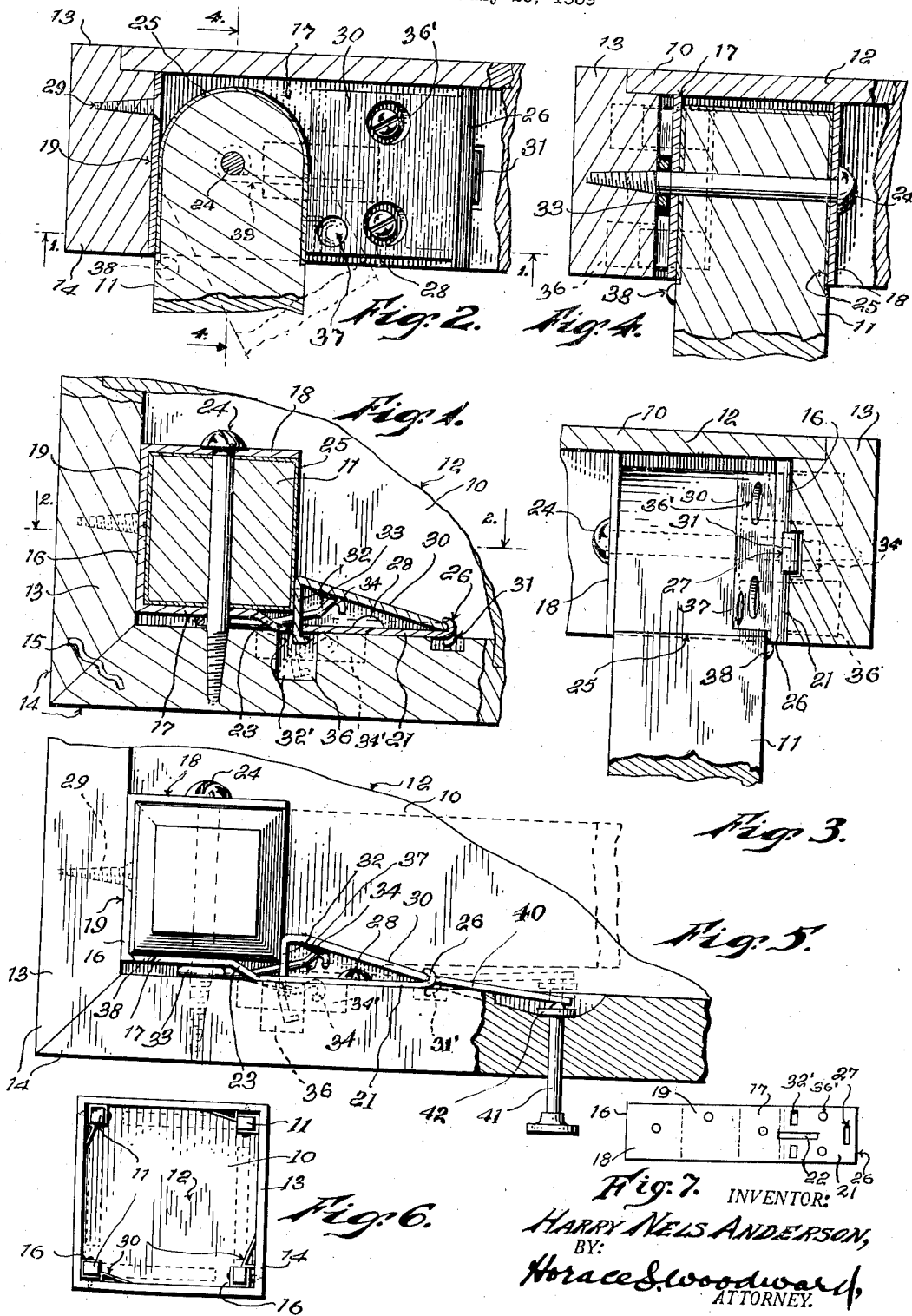


Fig. 7. INVENTOR:
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FOLDING TABLE CONSTRUCTION

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1 Claim. (Cl. 311—99)

This invention relates to folding tables, and particularly folding table legs and the like, and particularly to a construction for such uses which may be accommodated entirely within the smallest table frames, such as may be used on card tables, as well as being useful in other structures where required.

It is an important object of the invention to present a leg mounting and locking device which will afford a sturdy leg mounting, and great security in the retention of the legs in extended position for supporting the table or other structure in which they are incorporated. Another important object is to present such a mounting which will at the same time be free from liability of loose play of the leg when in extended or retracted positions, but will be extremely rigid, and which will not suffer in this respect by wear without requiring compensating adjustment or repair, but will automatically compensate for wear in the parts by which the leg is locked in open position as well as those by which it is retained in closed or collapsed position.

It is an important aim of the invention to evolve a construction, which, while attaining the foregoing objects, will at the same time not require parts that will restrict the knee-room under the table, and will involve no parts projecting or forming diagonals below the usual shallow frame of a folding card table or "bridge table," so that all locking parts are invisible, and whereby the table and legs will present a trim appearance.

It is also an aim to combine with these advantages a design of parts that will enable rapid assembly throughout, both in manufacture of the mounting and its operative parts, and also in its incorporation in a table. A related object of importance is to attain a bracing of the frame of the table by the attainment of my leg mounting unit, including a strengthening of the miter or other joint at the corners of the frame. A further aim is to present a leg pivot in such devices that will not only be secure on the mounting unit, but will in addition be incorporated with the frame of the table in such manner that it will be united therewith additionally, giving it greater rigidity of axis of the pivot with respect to the table body, and adding to the strength of the pivot.

Another important aim of the invention is to attain great rigidity and security of the locking of the leg in extended position and at the same time attain a release which may be finger-operated with great ease.

Yet another object is to present a spring-loaded lock, which, by the use of the same spring will function in a novel way to retain the leg yieldingly in a closed position and lock it in open position, releasably.

A still further purpose is to offer a construction in which the pivot mounting and adjustment of resistance of the leg to opening may be obtained by a single member.

It is also my purpose to enable the production of the invention in a simple form with a minimum number of parts adapted to be produced by conventional manufacturing operations.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the embodiment of the invention, as will be understood from the following description and accompanying drawing, wherein

Figure 1 is a horizontal sectional view of one corner of a table in which my invention is incorporated;

Figure 2 is a section on the line 2—2 in Figure 1;

Figure 3 is an end elevation of the leg mounting unit from the right of Figure 2;

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

Figure 5 is a bottom view of a modification;

Figure 6 is a bottom view of a complete table;

Figure 7 is a plan of the blank for the frame of my leg-mounting unit.

There is illustrated a portion of a table 10, the form of which may be the conventional square table with four legs 11, and including a table top surface piece 12, which may be of ply wood or other material suitably finished or covered, and a simple frame 13, consisting of four side pieces 14 mitered and connected with ends abutting at right angles to each other at the corners of the table, and this frame then secured to the top 12 by any suitable fastenings or adhesives. The pieces 14 in the present instance are oblong in cross section having their major transverse dimensions disposed vertically, the inner upper portions of the side pieces being rabbeted and the top piece 12 set flush with the top thereof so that its edges are protected and concealed. The butted ends of the side pieces 14 may be connected by driven connectors 15 or otherwise, but in addition are firmly connected by the base frame piece of my leg mounting unit now to be described.

The mounting unit, aside from the table top 12 and frame 13, consists of a bed frame piece

16 formed of strap sheet metal having a long side arm member or wall 17, secured against one side piece of the frame 13 and a short arm or wall member 18 parallel to the first, the two being joined by a connecting bight wall 19 set against the side of the frame next to that first mentioned. These wall parts of the bed frame are formed by making two bends at right angles in a stock sheet strip. The frame 16 is of a height the same as that of the frame 13 from the table top 12 to the lower edge of the pieces 14, or may be less. The space within the bight formed by the parts 17, 18, and 19 is of suitable dimensions to snugly receive the upper end of a table leg 11, which in such tables is customarily square in cross section. The outer end portion 21 of the long wall 17 is offset outwardly slightly, at a line near the inner edge of the open leg, and longitudinally slotted a short distance at 22 in the junction 23 of the offset, so that a spring to be described may be held between the inner wall part 17 and the frame member 14 and extended through the aperture.

In the present instance, the upper end of the leg is pivoted in the bight of the frame 16 by means of a long screw 24 engaged through the leg and through apertures in the walls 17 and 18, and engaged in the frame member 14 thereadjacent. This screw thereby serves as a pivot for the leg, attaches the assembly to the frame 13, and in addition serves as an adjustment for wear between the leg faces and the frame 16. The upper end face of the leg is semi-cylindrical, concentric with the screw 24, so as to afford free movement of the leg on its pivot close against the bight wall 19 and the table top 12. By engaging this screw 24 in the frame 13, rigidity of the axis of the leg pivot is greatly enhanced, while permitting use of comparatively thin metal for the frame 16 of the mounting unit.

In the embodiment shown, this upper end of the leg is fitted with a pressed metal cap or facing 25 which may be formed as a stamping from one piece of metal, and will minimize wear of the engaged surfaces, as well as give greater rigidity to the leg in the mounting, as will be understood. The leg end is engaged in this cap with a driven fit.

The far end of the wall portion 21 is formed with a vertical edge, and the adjacent end portion of the wall is turned inward at right angles, forming a step bearing flange 26, a vertical slot or opening 27 being formed in the base portion of the flange, which may be an open slot, is desired. The wall portion 21 is apertured in its upper and lower parts to receive mounting screws as at 28 by which it is held securely to the member 14 thereadjacent. The bight wall 19 may also be apertured to receive fastening screws as at 29, by which it is attached firmly to the adjacent member 14 of the table frame 13, and also connects the mitered members 14 firmly, as well as adding rigidity to the pivot 24.

The flange 26 stops at the plane of the inner face of the wall part 17, so that pivotal movement of the leg is permitted from full open or vertical position to a folded or retracted position lying close under or against the table top 12 beside the frame piece 14 against which the wall portion 21 is secured.

Set against the step flange 26, there is a lock wing plate 30, having a tongue 31 extended through the slot 27 and turned under the end of the wall portion 21. Adjacent the leg, two extensions 32 are formed on the inner end of this

plate, bent outwardly so they extend at an angle of 90 degrees more or less to the body of the plate 30, forming stop or lock flanges 32 adapted to abut tightly against the side of the leg when the plate is pressed inward so as to move on its edge at the flange 26 as a pivot. The flange 32 projects a substantial distance through slot 32' in the wall 21, the side piece 14 being recessed to receive them. A spring 33 of wire or other suitable material is confined between the wall 17 and frame piece 14, in the present instance being shown as a flat coil of a number of turns of wire encircling the screw 24, and having an outer arm 34 shaped so as to bear against the wing 30 or a lock flange 32 to hold the wing at its inner limit of movement where it will be stopped by the flange binding against the leg 20 when the latter is extended, as will be explained. The frame piece 14 is recessed under the wall portion 21 to allow the spring to move outwardly of the wall 21 at times, and the frame piece 14 is also additionally recessed at 36 to receive the flanges 32 properly. These flanges 32 are set at an angle of approximately 90 degrees to the body of the wing plate 30, and being at a tangent to the arc described by the angle or injunction of the flange and wing when the latter is swung inwardly on its pivot, the distal portions of the flanges swing further toward the leg and so effect a wiping or wedging action against the leg, serving to press it against the bight 19 of the mount frame. Initially this engagement occurs after a comparatively short movement of the wing, substantially as shown in Figure 1, and when the surface of the cap 25 (which is included in the term "leg") and the flanges 32 wear, the clearance is accommodated by a slightly further movement of the wing thereby permitted and consequent further wedging of the flange against the leg. For these functions it is considered desirable to have the spring shaped so that the spring will not strike the side of the leg before the lock flange has been moved a sufficient distance for substantial compensating function indicated. Apertures 36 are formed in the plate 30 to receive screws and screw-driver therethrough to facilitate placement of the screws 28 holding the plate portion 22 to the table frame.

In the wing plate 30 near its swinging edge a recess 37 is pressed or indented, and on the leg 11 a knob or tooth 38 is provided which will slide on the plate 30 as the leg is closed and move into the recess when the leg reaches full closed or retracted position, serving as a yielding latch to hold the leg in closed position, yieldable however to manual force applied near the end of the leg to swing the leg outward. The spring arm 34 presses the wing plate against the leg properly to cause the tooth and indentation to function properly as described, as well as to operate the wing for the leg locking function.

In the production of the invention the frame 16 is stamped and shaped, and assuming that the slot 27 is an open one with two side portions of the step flange 26, the lock wing is separately formed with the tongue 31 straight or partly bent, and after the tongue is laid in the slot 27 while the flanges 32 are engaged through the wall 21, the tongue is bent fully inward under the end of the wall 21 as far as required. The wing will not then become accidentally disengaged. The spring 33 is formed with an inner very small coil into which the screw 24 may be screwed and retained after being passed through the walls 13

and 17 and the leg, which will hold the unit in assembly before mounting on the table.

The recesses for the spring and flanges 32 may be formed in the side pieces 32 before assembly of the table top or frame 13, and the table top and frame 13 afterward assembled.

The legs and mounting units are then put in place by removing the legs and attaching the frame piece 16 by means of the screws in the wall portions 19 and 21, after which the leg is replaced in proper position and the screw 24 introduced through the wall 18, the leg, wall 17, and spring, and screwed into the side member 14 of the frame so as to hold the leg snugly compressed between the walls 17 and 18 and to secure the spring between the wall 17 and side member 14.

This completes the assembly of the table and legs. While the mounting units have been shown with the longer sides of the frames 16 all extending in one direction, if desired, the unit frame may be inverted so that the longer side of the frame 16 will extend along the adjacent side member 14 of the table frame, or in case of a long table two units may be mounted so that both legs fold beside one side member of the table frame. In such event the two legs at each end may be cross-connected in any familiar way so as to swing together, this not being illustrated since it is familiar in prior tables.

It should be noted that the slots 32' in the wall portion 21 are wide enough to clear the flanges 32 in their relative longitudinal movement in the wall, until they have moved nearly to their extreme limit, so that the action of the lock plate will not be impeded except by the leg engaging these flanges. In the final movement of the lock-plate inward, the end portions of the flanges 32 will engage the sides of the slots 32' and so prevent disengagement of the lock plate from the assembly when the leg is not in place. If desired the ends of the flanges 32 may be slightly upset or bent to prevent their passage out of the slots 32', as in Fig. 1.

In the use of the table, after assembly as described, when the legs are in opened or extended and vertical positions, they may be closed one at a time by a single person pressing the wing plate 30 outward against the part 21 of the leg mount frame 16 with the fingers of one hand applied intermediately of the length of the plate 30, and with the other hand swinging the leg a short distance on its pivot, so that it becomes superposed over the plate 30 partly. This will retain the plate 30 compressed while the fingers by which it was initially moved are withdrawn. The

leg is then swung fully to retracted or folded position, lying close under the table top and beside the piece 14 of the frame 13. At this position the tooth 38 will be entered in the indentation 37, holding the leg against accidental movement outwardly, but yieldable to moderate manual force applied on the outer part of the leg. To erect the table after folding of the legs, the top may be laid in inverted position on the floor or set on edge and held with one hand, while the legs are pulled outward and swung to position vertical to the plane of the table. This permits the plates 30 to be swung inwardly before the legs by the spring 33, and the flanges 32 wiping against the sides of the legs lock them firmly against the bight walls 19 of the frame 16.

As shown in Figure 5, the lock plate 30 may have a central longitudinal extension 40 set outward at an angle of approximately 20 degrees to the plane of the plate 30 and a plunger 41 may be mounted slidably in a bore through the side piece 14, to operate the lock plate for release of the leg by manual pressure on the outer end of the plunger, which is headed and projected a distance from the face of the frame when the leg is erect and the lock plate in locking position. The plunger need not be secured to the lock plate, and may simply bear thereon. A cotter pin 42 through the inner end of the plunger will retain it against loss, or other expedient may be used.

A tongue 31' corresponding to the one 31 before described may be struck from the material of the plate 30 or extension 40 and the remainder of the construction of the unit may be as before described, the same reference characters indicating the parts before described.

I claim:

In a table leg mounting wherein the leg is pivoted in the bight of a U-shaped frame one arm of which is extended and offset at its outer part from the path of the leg, and wherein a locking plate is pivoted at the outer end of said extension; a pivot member for the leg engaged through the arms of the frame consisting of a screw projecting through the long arm outwardly for engagement in a table rail and the like, the long arm being longitudinally slotted at the junction of its offset part with its inner part, a spring device comprising an eye portion snugly fitted on the screw next the frame, and having an arm extended through said slot and shaped to press against the locking plate, whereby mounting of the leg with said screw will fix the spring in operative relation to the locking plate.

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