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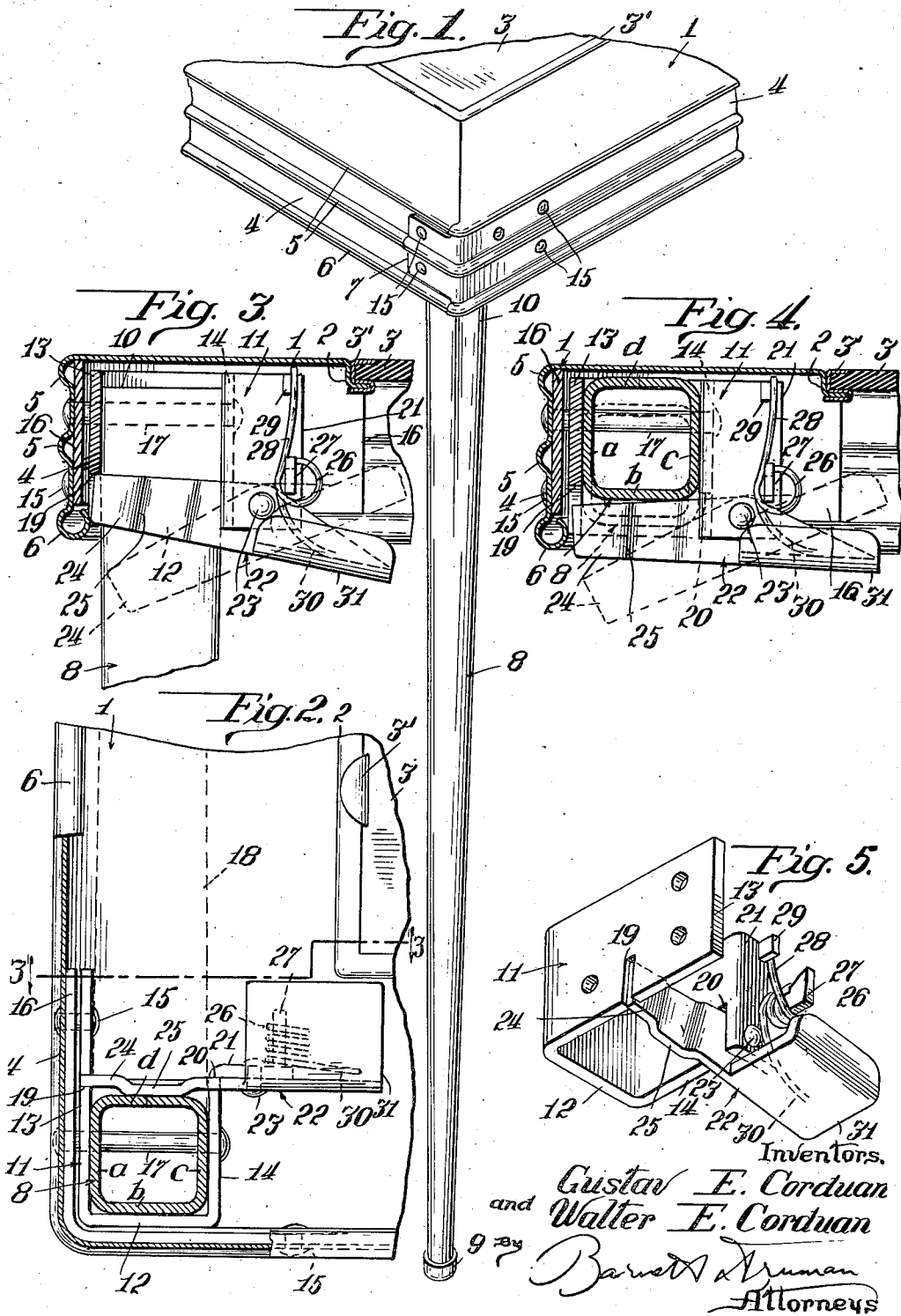
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TABLE LEG LOCK

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This invention relates to certain new and useful improvements in a table leg lock, more particularly to improved means for removably locking in upright supporting position the foldable legs of a small table, such as a card table.

Many well known types of card tables are provided with swinging legs which may be moved from a folded position beneath and parallel to the table top to an upright table-supporting position at substantial right angles to the corner portions of the table. Many types of locking means have been provided for holding the legs in this upright position so that the table will not collapse. In many instances, these locking means, or a portion thereof, are carried by the legs themselves, thus complicating the leg construction and forming objectionable obstructions on the legs or beneath the corner portions of the table. According to the present improved and simplified construction, the entire locking means is carried by the top frame and simply engages against a portion of the leg to hold same in upright position.

More specifically, a yoke member is secured to the corner portion of the table, the leg being pivoted between the side bars of the yoke and swinging through the open end of the yoke into folded position against the table top. When the leg is swung to upright position, it is braced on three sides by the yoke member, and a pivoted locking member automatically moves into engagement with the fourth side of the leg or an opening in the leg to hold the leg against swinging back out of the yoke. This locking member is manually moved to unlocked position when the leg is to be folded, but automatically returns into position over the folded leg so as to assist in yieldably holding the leg in this folded position. When the leg is swung to upright position the locking member is automatically cammed out of the path of the leg and then snapped into locking position by a spring means when the leg reaches its normal upright position.

The principal object of this invention is to provide an improved table leg lock of the type briefly described hereinabove and disclosed more in detail in the specifications which follow.

Another object is to provide an improved form of locking means for engaging the swinging leg of a foldable card table.

Other objects and advantages of this invention will be more apparent from the following detailed description of certain approved forms of apparatus constructed and operating according to the principles of this invention.

In the accompanying drawings:

Fig. 1 is a perspective view of one corner portion of a card table with the leg which supports this corner shown in upright supporting position.

Fig. 2 is an inverted plan view of one corner portion of the table top showing one preferred form of lock, the leg being extended and shown in horizontal section.

Fig. 3 is a vertical section, taken substantially on the line 3—3 of Fig. 2.

Fig. 4 is a view similar to Fig. 3 but showing the leg in folded position.

Fig. 5 is a detached perspective view of the locking assembly shown in Figs. 2, 3 and 4, the leg being removed to facilitate the disclosure.

Figs. 6, 7 and 8 correspond to Figs. 2, 3 and 5, respectively, but show a modified form of locking means.

Figs. 9, 10 and 11 also correspond to Figs. 2, 3 and 5, respectively, but show a third form of locking means.

The table comprises a top supporting frame 1 which is centrally recessed and provided with a depending internal flange 2 adapted to support the central top panel 3 which may be held in place by the binding means indicated at 3'. The frame is provided with downwardly extending substantially vertical side flanges 4 which may be corrugated at 5 and provided with a bottom bead 6 for both strengthening and ornamental purposes. The corner portions of the frame may be overlapped and riveted or spot-welded together as indicated generally at 7 in Fig. 1.

At each corner of the frame there is pivoted a leg 8 which may also be formed of sheet metal. These legs may have a round or square or any other suitable cross-section. In the leg here shown by way of example, the lower portion of the leg is of circular cross-section and tapers downwardly toward a smaller lower end 9 which may be formed with a suitable supporting foot. The upper end portion 10 of the leg is flattened out to provide a four-sided construction which cooperates effectively with the pivoting, bracing and locking means hereinafter described, although it will be apparent that the entire leg could be made circular in cross-section. A yoke member 11 bent from fairly heavy flat bar metal comprises a cross bar 12 connecting a pair of parallel side bars 13 and 14. The portions 12 and 13 of the yoke member 11 are spot-welded or otherwise secured to the adjacent frame members 4 at the corner of the table, as indicated at 15. This strengthens and braces the table frame and secures the leg to the table top. Preferably a right-

angled bar or plate 16 is interposed between the yoke member 11 and the corner frame members to give additional strength to the frame construction. This plate 16 may be set in above the bead 5 6 so as to permit the yoke member 11 to extend down practically level with the lower edge of the bead. This permits the use of a yoke member of maximum width to more securely brace the leg as will be hereafter apparent.

10 The upper end portion of leg 8 is pivotally mounted on a pivot pin 17 between the side bars 13 and 14 of the yoke. The pin 17 may be riveted or otherwise secured in the side bars. The leg 8 is adapted to swing through the open end 15 of the yoke to the position indicated in dotted lines at 18 in Fig. 2, and in solid lines in Fig. 4, in which position the leg lies against and parallel to the under surface of the table top. It will be understood that the four legs 8 are so arranged 20 that one will fold adjacent each side edge of the table. When the leg 8 is swung to upright supporting position, as shown in Figs. 1, 2 and 3, the three side portions a, b and c of the upper portion of the leg will move into close bracing engagement with the respective sides 13, 12 and 25 14 of the yoke member and be held against further movement in each of these three directions. The fourth side d of the leg is held against swinging movement by the locking means now 30 to be described.

Referring now to the form of locking means shown in Figs. 2, 3, 4 and 5, the two side bars 13 and 14 are notched at 19 and 20 respectively in line with or parallel to the outer face of 35 side d of the leg. Beyond the notch 20 the leg 14 is bent laterally at right angles, as indicated at 21, to form a supporting means for the movable locking member. This locking member 22 comprises a swinging plate or lever pivoted on 40 the yoke extension 21 by means of a pin or rivet 23. The longer arm 24 of this lever is adapted to swing into the notches 19 and 20 and in engagement with the side d of the leg so as to prevent the leg from swinging back to folded position. 45 The arm 24 may engage directly with the side of the leg, or may be formed with an offset boss or projection 25 which engages the leg. This boss may be deeper at the bottom than at the top so as to have a camming action on the leg 50 as it is swung upwardly to locking position. It will be noted that this locking bar 24, together with the three sides 12, 13 and 14 of the yoke forms a fixed solid box or receptacle in which the upper portion of the leg is firmly held from move- 55 ment in any direction. A torsion spring 26 is intermediately coiled about a lug 27 projecting from plate 21 with one end 28 of the spring bearing against a lug 29 on the supporting plate, and the other end 30 of the spring bearing against 60 the under face of a finger piece 31 formed on locking member 22. The spring always tends to swing the member 22 up to locking position, that is to position within the notches 17 and 18, but the finger piece 31 may be manually pushed up 65 to swing the member 22 to unlocked position against the resistance of spring 26.

Assuming that the table is in the normal upright position shown in Figs. 1, 2 and 3 and that it is desired to fold the legs, each leg is successively 70 folded by pushing up on the finger piece 31 and thus swinging the locking member 22 to released position whereupon the leg is swung to the position shown in dotted lines Fig. 2, or solid lines Fig. 4, against the under face of the table top.

75 As soon as the locking member 22 is released,

it will swing back into position within the notches 19 and 20 against the outer surface of the opposite side b of the leg as shown in Fig. 4. In this position it will assist in yieldably holding the leg 5 in folded position. When it is desired to again erect the table for use, each leg is grasped at any convenient place and swung outwardly away from the table to its upright position. During this movement of the leg the locking member 22 will be cammed out of position as indicated in dotted 10 lines in Fig. 4, and as soon as the leg is fully extended the locking member will automatically swing into locking position under the influence of spring 26. It will thus be seen that the locking operation is entirely automatic. 15

If desired the parts may be given an initial tight fit (augmented perhaps by the paint covering), so that the locking arm 24 will not, at first, swing completely into the locking notch 19 but will bind when in some intermediate position 20 such as indicated in dotted lines in Fig. 3. As the parts wear and the fit becomes looser, the locking arm will swing further into notch 19. This action is also reinforced by the cam inclination of boss 25, and if desired the notch 25 19 may be inclined as shown in Fig. 5 to increase the binding action as the lever is swung further toward the table-top.

It will be noted that this improved locking mechanism is very simple and economical in construction and provides a firm support for the leg 30 when in both extended or folded positions. The parts of the locking means are either integral with or carried by the yoke frame in which the leg is pivoted, and this frame serves as a bracing 35 and strengthening means for the corner portion of the table frame. No part of the locking means is carried by the leg itself, nor does any portion of the locking means project materially beneath the table frame so that there are no obstructions 40 on the legs or adjacent thereto.

Referring now to the modification shown in Figs. 6, 7 and 8, the locking member 32 is generally similar in construction to the locking member 22 previously described except for the fact 45 that the locking arm 33 which projects through notch 20 is much shorter and is simply adapted to overlap one edge portion of the leg as indicated in Figs. 6 and 7. Also the pivoted body 50 portion of the locking member is made much deeper as indicated at 34, and the pivot pin 23 is positioned higher on supporting plate 21, so that a relatively small swinging movement imparted to the finger piece 35 will swing the locking finger 33 through a longer arc. Therefore a 55 relatively smaller movement of the finger piece will suffice to move the locking member from locked to unlocked position. Since this form of locking member only engages a portion of one side of the leg there will be a more localized pressure exerted on the leg tending to deform the leg 60 member, and it is therefore preferable to provide a reinforcing casing or sheathing around at least three sides of the leg as indicated at 36 in Figs. 6 and 7. 65

Referring now to the modification shown in Figs. 9, 10 and 11, the locking member 37 is substantially the same as the locking member 32, but the locking finger 38 at the inner end thereof 70 is adapted to engage in a slot or opening 39 formed in one side c of the leg 8. In this modification the upper portion of the leg is shown as reinforced by an inner sleeve 40, which may or may not be recessed in line with the recess 39 in the leg member. The opening 39 need not ex- 75

tend completely through the leg but may be in the form of a dent or depression pressed into the metal. This would not weaken the leg as much as cutting a slot completely through the metal and the reinforcement 40 would not be necessary.

Both of the modified forms last described operate in substantially the same manner as the first described form of the invention. It will be observed that both of the locking members 32 or 37 close in above the leg when in folded position, and these locking members are automatically cammed out of the way when the leg is swung to upright position, the locking member then swinging automatically into engagement with the leg under the influence of spring 26.

We claim:

1. In combination with a table-top frame and a leg pivotally attached to the table near one corner thereof so as to be swung from a folded position parallel to the table-top to an upright supporting position at right-angles to the top, there being an opening formed in the upper portion of the leg, means carried by the frame for holding the leg in upright position, said means comprising a member pivoted intermediate its length for swinging movement in a plane at substantial right-angles to the plane of swinging movement of the leg so that one end portion will swing into and out of locking engagement with the opening in the leg, and a spring for automatically moving the member into locking position.

2. In combination with a table-top frame and a leg pivotally attached to the table near one corner thereof so as to be swung from a folded position parallel to the table-top to an upright supporting position at right-angles to the top, there being an opening formed in the upper portion of the leg, means carried by the frame for holding the leg in upright position, said means comprising a member pivoted intermediate its length to swing in a plane at substantial right-angles to the plane of swinging movement of the leg so that one end portion will swing into and out of locking engagement with the opening in the leg when upright and also into engagement with the outer exposed face of the leg when the leg is folded parallel to the table-top, and a spring for automatically moving the member into locking position, the leg automatically camming the locking member out of its path when swung from folded to upright position.

3. In combination with a table-top frame and a leg pivotally attached to the table near one corner thereof so as to swing from a folded position parallel to the top to an upright supporting position at right-angles to the top, a yoke member secured to the frame and comprising a cross-bar and a pair of parallel side-bars, the leg being pivoted at its upper end between the side-bars so as to swing to folded position through the open side of the yoke, the cross-bar and side-bars engaging three sides of the leg when the leg is swung to upright position, there being an opening in the upper portion of the leg, and a locking member pivotally mounted on the yoke-member and adapted to swing in a plane at substantial right angles to the plane of swinging movement of the leg into the opening to hold the leg upright.

4. In combination with a table-top frame and a leg pivotally attached to the table near one corner thereof so as to swing from a folded position parallel to the top to an upright supporting position at right-angles to the top, a yoke-member

comprising a cross-bar and a pair of parallel side-bars secured to the frame, the leg being pivoted between the side bars so as to swing to folded position through the open side of the yoke, the cross-bar and side-bars engaging three sides of the leg when the leg is swung to upright position, the opposite side bars being notched in line with the fourth side of the upright leg, a locking member pivotally mounted on one of the side bars in position to swing in a plane at substantial right-angles to the plane of swinging movement of the leg into and out of the notches, and a spring for automatically swinging the locking member into the notches in locking engagement with the fourth side of the upright leg.

5. In combination with a table-top frame and a leg pivotally attached to the table near one corner thereof so as to swing from a folded position parallel to the top to an upright supporting position at right-angles to the top, a yoke-member comprising a cross-bar and a pair of parallel side-bars secured to the frame, the leg being pivoted between the side bars so as to swing to folded position through the open side of the yoke, the cross-bar and side-bars engaging three sides of the leg when the leg is swung to upright position, the opposite side bars being notched in line with the fourth side of the upright leg, a locking member pivotally mounted on one of the side bars in position to swing in a plane at substantial right-angles to the plane of swinging movement of the leg into and out of the notches, and a spring for automatically swinging the locking member into the notches in locking engagement with the fourth side of the upright leg or into engagement with the opposite side of the leg when folded, the leg automatically camming the locking member out of its path when swung from folded to upright position.

6. In combination with a table top frame and a leg pivotally attached to the table near one corner thereof so as to swing from a folded position parallel to the top to an upright supporting position at right-angles to the top, a yoke-member comprising a cross-bar and a pair of parallel side-bars secured to the frame, the leg being pivoted between the side bars so as to swing to folded position through the open side of the yoke, the cross-bar and side-bars engaging three sides of the leg when the leg is swung to upright position, the opposite side bars being notched in line with the fourth side of the upright leg, one of the side-bars being bent laterally beyond the notch therein to form a supporting plate, a locking member pivotally mounted on this plate and adapted to swing in a plane at substantial right-angles to the plane of swinging movement of the leg into or out of the notches so as to engage the fourth side of the leg, and a spring for normally swinging the locking member into the notches.

7. In combination with a table top and a leg pivotally attached to the table near one corner thereof so as to swing from a folded position parallel to the table-top to an upright supporting position at right-angles to the top, a yoke-member comprising a cross-bar and a pair of parallel side-bars secured to the frame, the leg being pivoted between the side-bars so as to swing to folded position through the open side of the yoke, the cross-bar and side-bars engaging three sides of the leg when the leg is swung to upright position, one of the side-bars being bent laterally to form a supporting plate, a locking member pivotally mounted on this plate for swinging move-

ment in a plane at substantial right-angles to the plane of swinging movement of the leg, the last mentioned side-bar being notched adjacent the bent portion thereof, and a spring for normal-
5 ly swinging the locking member into this notch and into locking engagement with the leg.

8. In combination with a table top and a leg pivotally attached to the table near one corner thereof so as to swing from a folded position
10 parallel to the table-top to an upright supporting position at right-angles to the top, a yoke-member comprising a cross-bar and a pair of parallel side-bars secured to the frame, the leg being pivoted between the side-bars so as to swing
15 to folded position through the open side of the

yoke, the cross-bar and side-bars engaging three sides of the leg when the leg is swung to upright position, one of the side-bars being bent laterally to form a supporting plate, a locking member
5 pivotally mounted on this plate for swinging movement in a plane at substantial right-angles to the plane of swinging movement of the leg, the last mentioned side-bar being notched adjacent the bent portion thereof, an opening in the leg
10 adapted to align with the notch when the leg is upright, and a spring normally tending to swing the locking member through the notch into the opening into the leg.

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