April 21, 1925. 1,534,470

G. D. SMITH

FOLDING TABLE

Filed April 26, 1924

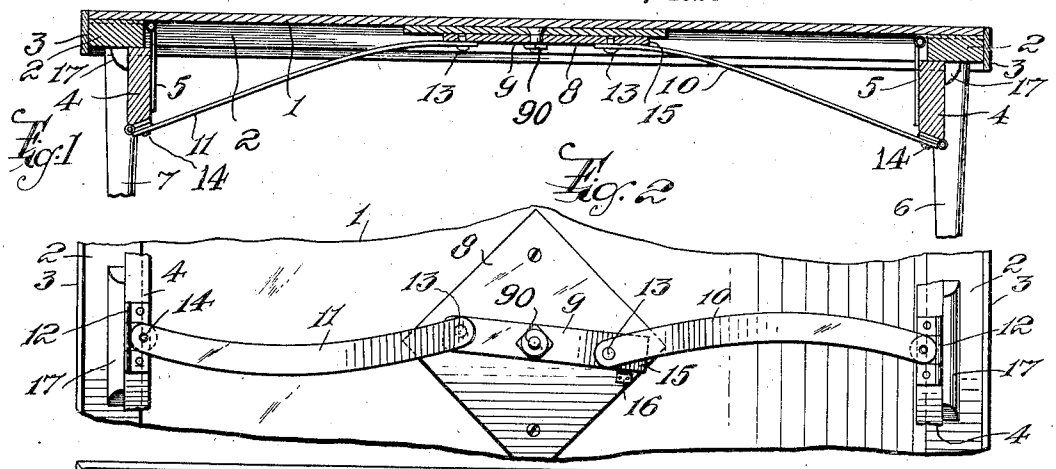


Fig. 1

Fig. 2

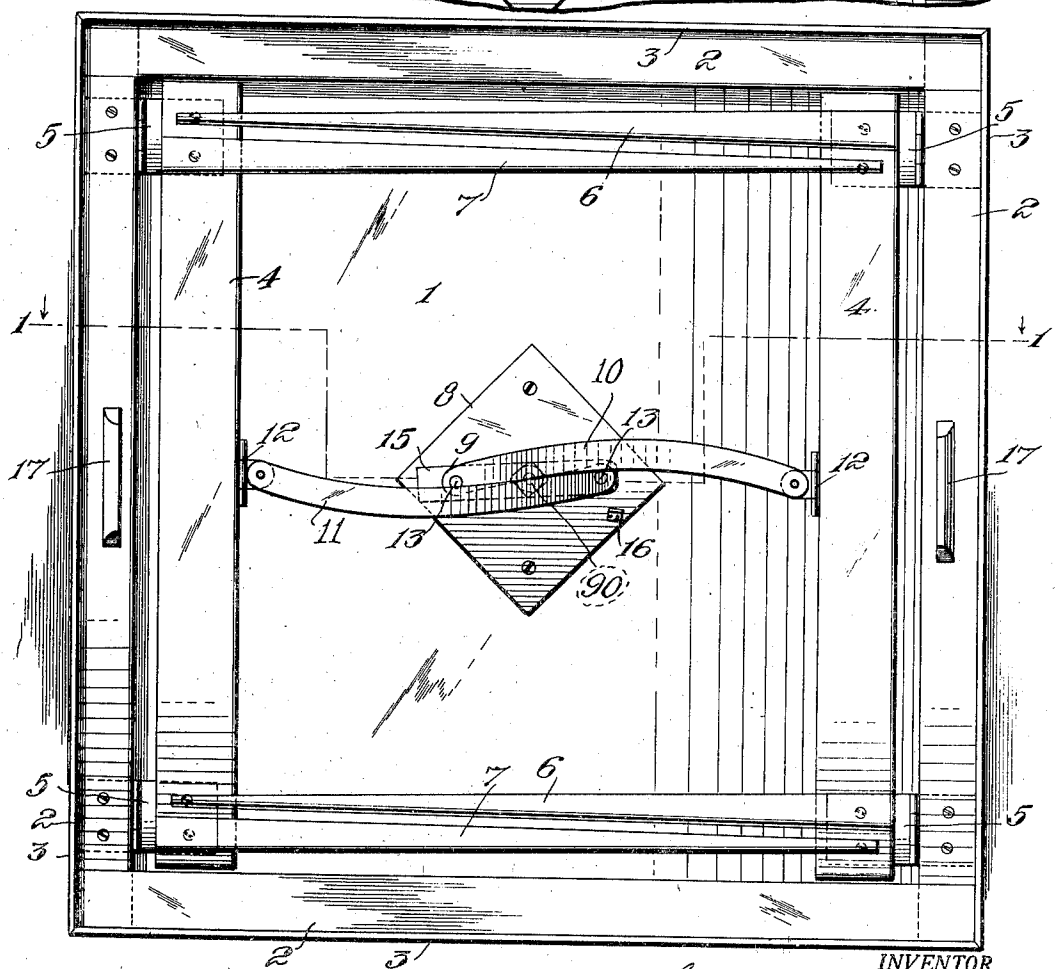


Fig. 3

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Patented Apr. 21, 1925. 1,534,470

UNITED STATES PATENT OFFICE.

GROVER D. SMITH, OF MONTCLAIR, NEW JERSEY.

FOLDING TABLE.

Application filed April 26, 1924. Serial No. 709,099.

To all whom it may concern:

Be it known that I, GROVER D. SMITH, a citizen of the United States, and a resident of Montclair, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Folding Tables, of which the following is a specification.

This invention relates more particularly to that class of table known at the present time as a card table, and which has a comparatively thin top with legs extending therefrom when the table is in use but constructed so that they can be folded closely against said top and enable the entire table to be put away standing upon one edge against a wall or the like and occupy but little space when it is not in use. While I have shown my invention applied to such a card table, I do not intend thereby to limit its use, as of course a table embodying my invention can be used for any purpose whatever.

The objects of the invention are to secure an improved construction by which all four legs of the table can be operated simultaneously in opening and closing; to secure such a construction which can be light and yet the legs rigid with respect to the table so that it shall be firm and stable; to secure an improved construction for opening and closing the legs connected in opposite pairs; to utilize for this purpose a swinging member mounted upon the bottom of the table top and linked to the opposite pairs of legs, which member swings slightly past positions of alinement with the links, so as to lock the legs open and closed; to prevent springing of the pairs of legs from affecting such locking, and to obtain other advantages and results as may be brought out by the following description.

Referring to the accompanying drawings, in which the same numerals of reference designate corresponding and like parts throughout the several views,

Figure 1 is a vertical sectional view on line 1—1 of Fig. 3, of the table with its legs extended;

Figure 2 is an underneath view of a portion of the table with its parts in the same positions as in Fig. 1, and

Figure 3 is an underneath view of the entire table with the legs closed or folded against the bottom of the table top.

In the specific embodiment of the invention shown in the drawings, 1 indicates the usual thin top of a card table having a marginal underlying frame 2 and a depending edge 3. At two opposite sides of the table, strips 4, 4 which are shown of wood are hinged to the frame 2, each by hinges 5, 5, so that said strips 4, 4 will fold flatwise against the bottom of the table top 1, inside the frame 2, as clearly shown in Figure 3. Each of said strips 4 carries a pair of table legs 6, 6 and 7, 7, the two pairs being differently positioned on their strips 4, 4 so as to pass each other in folding, as will be clearly understood. Each of the strips 4 will swing from its folded positions into edgewise position with respect to the table top, as shown in Figure 1, its edge seating in such position against the bottom of the frame 2 as do also the tops of the legs carried by the strip.

At the underside of the table top 1 is secured a plate 8, and upon the underside of this plate is pivoted intermediate its ends, as at 90, a lever 9 to swing in a plane parallel to the plate and table top. Pivotally connected to said lever 9 at points equidistant from its fulcrum, so as to swing parallel to the plate and table top, are the inner ends of links 10 and 11 which extend outwardly apart to the strips 4, 4, each link being pivoted to the free leaf of a hinge 12 whose other leaf is secured to the edge of a strip 4, the pivoting of the link to the free leaf being such as to allow pivotal movement in a plane parallel to said leaf. The links 10 and 11 incline upwardly from the lower edges of the strips 4, 4 to the lever 9 when the table is open or its legs extended, as shown in Figure 1, and the ends of the links which are pivoted to said lever are somewhat curved and pivoted loosely enough to permit unobstructed folding of the table as hereinafter described.

When the table is open, as shown in Figures 1 and 2, the lever 9 swings slightly past a position which would bring its points 13, 13 of pivoting to the links 10, 11 into line with the points 14, 14 of pivoting of the links to the hinges 12, 12, one extended end

15 of the lever 9 striking a stop 16 to limit movement of the lever in that direction. By this means the table legs are locked in extended position and will remain so without any danger of the table collapsing. Preferably bracing blocks 17, 17 are secured to the underside of the frame 2 in such position that the hinged strips 4, 4 will abut thereagainst when open and thus prevent sufficient spring of said strips to detract from the locking effect of the lever 9 turned past its position of alinement of the pivotal points, as above described.

To close the table or fold its legs against the top, as shown in Figure 3, the lever 9 is readily given a half turn into the position shown in Figure 3, whereby the links 10, 11 are drawn upon and the legs folded, and again the lever turns slightly past the position in which the pivotal points 13, 13 are in line with the pivotal points 14, 14, so that it is locked in closed position. A stop for this locking movement is provided by oppositely curving the links 10, 11 longitudinally edgewise so that they abut at their adjacent edges at exactly the proper point to limit the turning. The normal distance between the respective pivots 13 and 14 and relation of the lever 9 and links 10, 11 to the respective strips 4, 4 are such as to resist the swinging of the lever 9 in both directions into positions to bring the pivots 13, 14 and 90 into alinement, and either the links 10, 11 or the strips 4, 4 are slightly resilient or yieldable to permit said lever 9 to swing past said position of alinement of said pivots, so that the lever is yieldingly held in both of said locking positions and the legs cannot be extended or folded except by forcible swinging of the lever 9 about its pivot 90 against said yielding resistance.

Very simple and effective locking means for holding the table legs both extended and closed are provided by my improved construction, and furthermore locking means which act automatically without any possibility of the operating lever turning too far. At the same time, the lever and its links are readily released from such locking by the same movement which swings the lever, and the operator has to pay no attention to the locking other than to swing the lever until it snaps into its final position.

Various modifications of construction may be employed by those skilled in the art, in manufacturing my improved folding table, without departing from the spirit and scope of the invention, and I do not wish to be understood as limiting myself except as required by the following claims when construed in the light of the prior art.

Having thus described the invention, what I claim is:

1. In a folding table, the combination with opposite legs in hinged relation to the table top, of links pivotally connected at their outer ends to said legs, an operating lever having its arms pivoted to said links so as to turn under tension past its positions of alinement of its points of said pivoting with the points of pivoting of the links to the legs, and means for limiting turning of said lever to positions slightly past said alinement positions.

2. In a folding table, the combination with opposite legs in hinged relation to the table top, of links pivotally connected at their outer ends to said legs, an operating lever having its arms pivoted to said links so as to turn under tension past its positions of alinement of its points of said pivoting with the points of pivoting of the links to the legs, one of said arms being extended past the point of pivoting to its link and a stop for engaging said extended arm to limit turning of the lever in one direction to a position slightly beyond one of its said alinement positions.

3. In a folding table, the combination with opposite legs in hinged relation to the table top, of links pivotally connected at their outer ends to said legs, an operating lever having its arms pivoted to said links so as to turn under tension past its positions of alinement of its points of said pivoting with the points of pivoting of the links to the legs, said links being formed to engage each other edgewise upon turning the lever in one direction and limit such turning to a position slightly past one of its said alinement positions, and means for limiting turning of the lever in the other direction to a position slightly past the other of its said alinement positions.

4. In a folding table, the combination with opposite legs in hinged relation to the table top, of links pivotally connected at their outer ends to said legs, an operating lever having its arms pivoted to said links so as to turn under tension past its positions of alinement of its points of said pivoting with the points of pivoting of the links to the legs, said links being oppositely bent in the plane in which they swing with respect to the lever so as to engage each other at their concave edges when the table legs are folded and limit turning of the lever to a position slightly past the alinement of said pivotal points at that end of its movement, and means for limiting turning of the lever in the other direction to a position slightly beyond the alinement of said pivotal points at the other end of its movement.

5. In a folding table, the combination with opposite legs in hinged relation to the table top, of links pivotally connected at their outer ends to said legs, an operating lever having its arms pivoted to said links so as to turn under tension past its positions of alinement of its points of said pivoting with

the points of pivoting of the links to the legs, one of said arms being extended past the point of pivoting to its link and said links being formed to engage each other edgewise upon turning the lever in one direction and limit such turning to a position slightly past one of its said alinement positions, and a stop for engaging said extended arm to limit turning of the lever in the other direction to a position slightly beyond the other of its said alinement positions.

GROVER D. SMITH.

Witness:
E. D. WALKER.