Sept. 6, 1932. F. KUSTERLE 1,876,010

FOLDING LEG FOR CARD TABLES AND THE LIKE

Filed March 17, 1930

Fig. 1

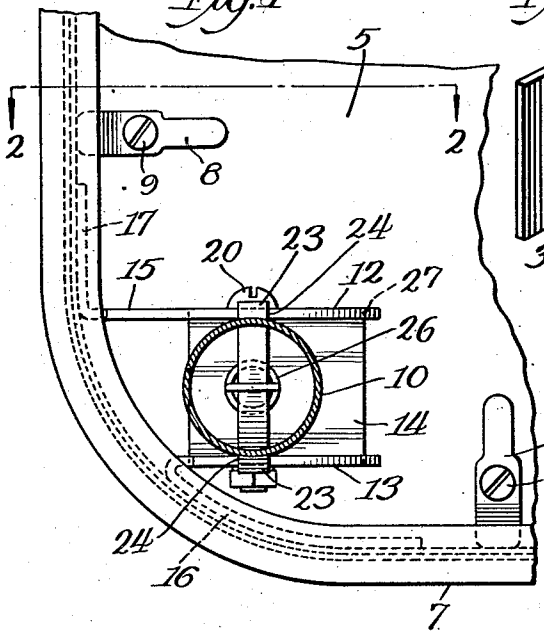
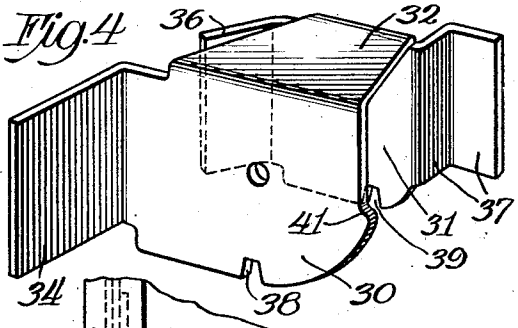


Fig. 4



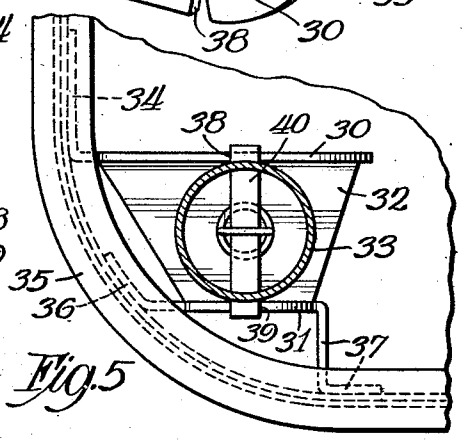


Fig. 5

Fig. 2

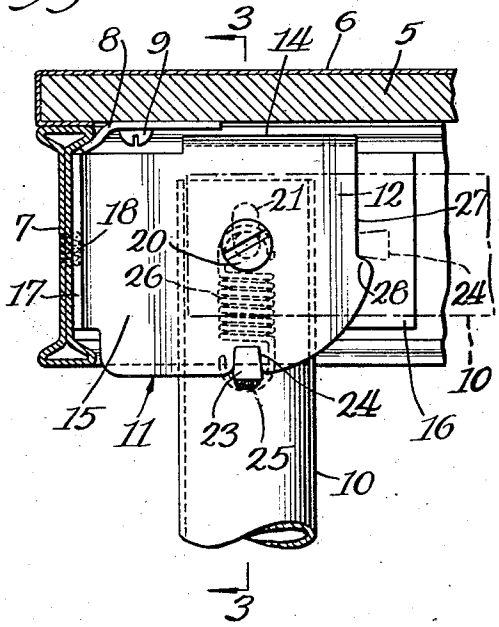
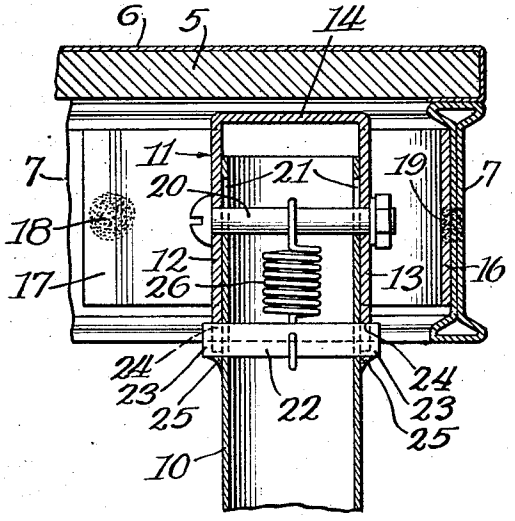


Fig. 3



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UNITED STATES PATENT OFFICE

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FOLDING LEG FOR CARD TABLES AND THE LIKE

Application filed March 17, 1930. Serial No. 436,290.

This invention relates to folding table structures and more particularly to such structures usually referred to as folding card tables.

The main object of the invention are to provide a folding leg arrangement which is easy to manipulate, i. e. to fold and unfold; to provide folding legs and a mounting therefor in a card or like table which will be effective to rigidly support the table top; to provide an arrangement in which the legs will be effectively locked in both their extended and folded positions; and in general, it is the object of my invention to provide a simple, durable, and generally improved structure of the kind referred to.

Other objects and advantages will be understood by reference to the following specification and accompanying drawing in which I have illustrated one corner portion of a folding card table structure including a folding leg embodying a preferred form of my invention.

In the drawing:

Fig. 1 is a bottom plan.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a perspective of a modified form of my mounting bracket, and

Fig. 5 is a bottom plan showing the modified form of bracket in operative position.

Referring now to the drawing, my improved card table construction comprises a table top which, in the present instance, includes a top board 5 having a suitable surface covering indicated at 6 and a depending side rail or side frame 7. The side frame 7 is desirably formed of metal tubing which is collapsed to form the I-beam structure illustrated. The top part 5 may conveniently be secured to the side frame 7 by means of clips 8 which are secured to the under side of the top 5 by suitable means such as screws 9, and the outer ends of the clips 8 are arranged to fit tightly against the inside of the top flange of the side frame to clamp the top 5 to the upper edge of the said side frame. It will be understood that the side frame 7 is generally rectangular in plan and extends around the entire periphery of the table top so as to form a rigid support for the said top.

For supporting the table, I provide a folding leg structure at each corner of the top structure, one of such legs being indicated at 10. In this instance, the leg 10 is formed of tubular metal and it will be understood that the length thereof is such that the table top is supported at the desired height. The leg 10 is connected to the table top so as to be capable of being swung from operative or extended position to folded position adjacent the under side of the top part 5 and inside of the side frame 7. For so mounting the leg, I provide a one piece, inverted, substantially U-shaped bracket 11 which includes leg or side portions 12 and 13 and a connecting web 14.

The U-shaped bracket 11 is further provided with wing portions 15 and 16 which are formed integral with and extend from the legs or sides 12 and 13 respectively of the U-shaped bracket. The wing 15 is bent intermediate its length at substantially right angles to form a leg portion 17 which is disposed against the inside of one side part of the frame 7 and secured thereto, preferably by spot welding as indicated at 18. The other wing 16 is more or less rebent with respect to the bracket side 13 from which it extends and is disposed against the inside of the adjacent part of the side frame 7 as clearly shown in Fig. 1 and secured thereto by suitable means such as spot welding as indicated at 19.

The leg 10 is mounted between the sides 12 and 13 of the bracket for pivotal movement and for limited longitudinal movement. Such mounting of the leg is effected by means of a pivot pin 20 which extends through suitable apertures provided in the sides 12 and 13 of the bracket 11 and through elongated openings 21—21 provided in opposite sides of the leg 10. It will be seen that the leg may swing around the pivot pin 20 and also be moved longitudinally relative to the sides of the bracket by reason of the elongated slots 21 in the leg.

Means for locking the leg in both extended and folded positions is provided and in

this instance includes a cross pin or bar 22 which extends through the leg 10 and which has end portions 23—23 projecting laterally from the opposite sides of the leg. The respective sides 12 and 13 of the bracket are provided with recesses such as indicated at 24—24 for receiving the projecting end portions of the cross pin 22 when the leg is in extended position, the leg being thereby locked against swinging movement. The pin 22 is desirably anchored in place in the leg 10, one means for anchoring the leg being by welding as indicated at 25. A tension spring 26 extending between the pivot pin 20 and locking pin 22 serves to yieldingly maintain the leg in locked position as clearly shown in Figs. 2 and 3. For locking the leg in folded position adjacent the under side of the top as indicated in broken lines in Fig. 2, the sides 12 and 13 of the bracket are provided with a recessed portion 27 which forms a shoulder 28 adapted to engage the respective ends of the locking pin 22 to resist unfolding movement of the leg as clearly indicated in Fig. 2.

The above described leg mounting has been found to be exceptionally satisfactory in that it is cheap to manufacture while providing a stable or rigid connection between the leg and table top. Rigidity is due partly to the arrangement of the leg mounting bracket. It will be noted that the sides of the bracket are rigidly connected by the integral connection 14 and also that the sides 12 and 13 are rigidly supported by the attaching wings 15 and 16 which are secured to the side frame. The angular relation of the wings and their respective sides forms, in effect, angle iron side portions for the bracket, and such angle iron structure is exceptionally stiff and rigid.

In Figs. 4 and 5, I have illustrated a modified bracket structure which includes sides 30 and 31 and an integral connecting portion 32 forming an inverted substantially U-shaped element. The folding leg indicated at 33 is pivotally and longitudinally movably mounted between the sides of the bracket in substantially the same manner as above described in connection with Figs. 1 to 3 inclusive.

The modified form of bracket, is provided with a wing or leg 34 extending from the side 30, bent at substantially right angles thereto and secured to an adjacent part of the side frame 35. The side 31 is provided with wings or legs 36 and 37 extending from opposite ends thereof and each bent at an angle thereto as shown. The wing 36 corresponds to the wing 16 of the structure shown in Figs. 1 to 3 inclusive and the wing 37 is an additional wing. Both wings are secured to adjacent portions of the side frame 35 and serve to rigidly support the side 31 against flexing under ordinary strains. The additional wing 37 imparts considerable additional rigidity to the bracket so that the table structure is more rigidly supported by the legs.

In the modified structure just described, the leg is held in extended position by means of notches 38 and 39 in the sides 30 and 31 respectively of the bracket which receives the ends of a cross pin 40. The leg is maintained in folded position by a shoulder 41 on the side 30 which coacts with one end of the said cross pin. The attaching wing 37 being preferably provided of full width as shown, causes the side 31 to be narrowed slightly so that it is inconvenient to provide a shoulder thereon to help support the leg in folded position. However, inasmuch as the leg is not subjected to great strains when in folded position, the omission of one of the locking shoulders is not objectionable.

It will be noted that the leg mounting and its locking means is practically concealed by reason of its being located substantially in its entirety within the width of the side frame. It is, of course, noted that in the present illustration, a lower marginal portion of the sides of the bracket depend slightly below the bottom of the side frame, but this is practically unnoticeable inasmuch as the parts are comparatively small and set back from the outer surface of the side frame. The lengths of the sides may, of course, be shortened somewhat but it is desirable to maintain such length as will provide sufficient distance between the pivot pin and locking pin to afford a rigid lock against pivotal movement of the leg. Also, it will be noted that the leg is a snug fit between the sides of the bracket whereby shifting or wabbling of the leg cross-wise of the bracket is effectively resisted.

I am aware that changes may be made in the structure above described without departing from the spirit of my invention, the scope of which should be determined by reference to the following claims, the same being construed as broadly as possible consistent with the state of the art.

I claim as my invention:

1. In a folding table of the class described, the combination of a table top including a depending side frame, a leg for supporting said top, means connecting said leg and top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of the top, said means including a one piece, substantially U-shaped bracket fixed to said top and having the web of said U-substantially parallel with the table top and wing portions extending laterally from the depending legs of said U and secured to said depending side frame, said leg being pivotally mounted between the sides of said U-shaped bracket,

and means for locking said leg in extended position.

2. In a folding table of the class described, the combination of a table top including a substantially square top member and a frame depending from said member around its periphery, a leg for supporting said table top, means connecting said leg and table top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of said top member, said means including a one piece, substantially U-shaped bracket fixed to said top and having the web of said U substantially parallel with the table top and wing portions extending laterally from the depending legs of said U, said wings being disposed in angular relation relative to each other and being respectively secured to adjacent sides of said frame in a corner thereof, said leg being pivotally mounted between the legs of said U, and means for locking said leg in extended position.

3. In a folding table of the class described, the combination of a table top, a leg for supporting said table top, means connecting said leg to said table top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of the top, said means including a one piece, substantially U-shaped bracket fixed to said top and having the web of said U substantially parallel with the table top and wing portions extending laterally from the depending legs thereof and secured to said top, said leg being mounted between the sides of said bracket for pivotal movement and for limited longitudinal movement, and means engageable as an incident to said longitudinal leg movement for locking the leg in extended position.

4. In a folding table of the class described, the comibnation of a table top, a leg for supporting said table top, means connecting said leg to said table top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of the top, said means including a one piece, substantially U-shaped bracket fixed to said top and having the web of said U substantially parallel with the table top and wing portions extending laterally from the depending legs of said U and secured to said top, said leg being mounted between the sides of said bracket for pivotal movement and for limited longitudinal movement, interlocking means carried by one of said bracket sides and said leg for locking the leg in extended position, said interlocking means being engageable as an incident to said longitudinal leg movement, and spring means for urging said leg into locked position.

5. In a folding table of the class described, the combination of a table top including a depending side frame, a leg for supporting said table top, means connecting said leg and said table top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of the top, said means including a one-piece, inverted, substantially U-shaped bracket fixed to said top and having wing portions extending laterally from the sides thereof and secured to said depending side frame, said leg being mounted between said bracket sides for pivotal movement and for limited longitudinal movement relative to the bracket, and interlocking means carried by one of said bracket sides and said leg for locking the leg in extended position, said means being engageable and disengageable as an incident to said limited longitudinal leg movement.

6. In a folding table of the class described, the combination of a table top including a depending side frame, a leg for supporting said table top, means connecting said leg and top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of said table top; said means including a one-piece, inverted, substantially U-shaped bracket fixed to said top and having wing portions extending laterally from the depending legs of said U and secured to said depending side frame, said leg being mounted between the sides of said bracket for pivotal movement and for limited longitudinal movement relative to the bracket, means for locking said leg in extended position comprising a part projecting laterally from the leg, one of said bracket sides being provided with a recess for receiving said projecting part when the leg is in extended position, said locking means being engageable and disengageable as an incident to said limited longitudinal leg movement, and yielding means for maintaining said leg locked in extended position.

7. In a folding table of the class described, the combination of a table top including a depending side frame, a leg for supporting said table top, means connecting said leg and top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of said table top, said means including a one-piece, inverted, substantially U-shaped bracket fixed to said top and having wing portions extending laterally from the depending legs of said U and secured to said depending side frame, said leg being mounted between the sides of said bracket for pivotal movement and for limited longitudinal movement relative to the bracket, means for locking said leg in extended position comprising a locking pin extending transversely through said leg and having an end portion projecting laterally from the leg on one side thereof, one of said bracket sides being provided with a recess for receiving said projecting end portion when the leg is in extended position, and yielding means

for maintaining said parts in locked position.

8. In a folding table of the class described, the combination of a table top including a depending side frame, a leg for supporting said table top, means connecting said leg and top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of said table top, said means including a one-piece, inverted, substantially U-shaped bracket fixed to said top and having wing portions extending laterally from the depending legs of said U and secured to said depending side frame, said leg being mounted between the sides of said bracket for pivotal movement and for limited longitudinal movement relative to the bracket, means for locking said leg in extended position comprising a locking pin extending transversely through said leg and having an end portion projecting laterally from the leg on one side thereof, one of said bracket sides being provided with a pair of recesses for respectively receiving said projecting end portion when the leg is in extended and folded positions, and yielding means for effecting longitudinal movement of said leg to cause said projecting end portion to enter said recesses.

9. In a folding table of the class described, the combination of a table top including a depending side frame, a leg for supporting said top, means connecting said leg and top, said leg being movable about said supporting means from extended position to folded position adjacent the under side of the top, said means including a one piece, inverted, substantially U-shaped bracket fixed to said top and having a wing portion extending laterally from one of the sides of said bracket and secured to said frame, a pair of wing portions extending angularly in opposite directions respectively from the opposite ends of the other side of said bracket and secured to said frame, said leg being pivotally mounted between said bracket sides, and means for locking said leg in extended position.

10. In a device of the class described, the combination of a table top having a depending marginal flange, a supporting leg, means connecting said leg and top, said leg being movable about said connecting means from extended position to folded position adjacent the underside of said top, said means consisting of a unitary U-shaped bracket having the web thereof fixed to said table top and having its legs depending therefrom and having offset portions extending laterally from the legs of said bracket and secured to said marginal flange, the legs of said bracket having recesses in the lower edge and one side edge thereof for locking said supporting leg in extended and folded position respectively, a pintle pivotally connecting said leg to said bracket, said leg being longitudinally slotted to permit movement thereof relative to said bracket, a pin projecting laterally from said leg and engageable with the recesses of said bracket, and resilient means urging said pin into engagement with the adjacent edge of said bracket.

11. In a device of the class described, the combination of a table top having a depending marginal flange, a tubular supporting leg, means connecting said leg and top, said leg being movable about said connecting means from extended position to folded position adjacent the underside of said top, said means consisting of a unitary U-shaped bracket having the web thereof fixed to said table top and having its legs depending therefrom and having offset portions extending laterally from the legs of said bracket and secured to said marginal flange, the legs of said bracket having recesses in the lower edge and one side edge thereof for locking said supporting leg in extended and folded positions respectively, a pintle pivotally connecting said leg to said bracket, said leg being longitudinally slotted to permit movement thereof relative to said bracket, a transverse pin extending through said leg at a point spaced from said pintle and projecting laterally from said leg, a projecting portion of said pin being engageable with the recesses of said bracket, and a helical spring having its ends secured to said pintle and said pin, respectively, for urging the projecting portion of said pin into engagement with the adjacent edge of said bracket.

FRANK KUSTERLE.