May 23, 1933. W. N. VANCE 1,910,974

CARD TABLE

Filed July 29, 1929 4 Sheets-Sheet 1

Fig. 1.

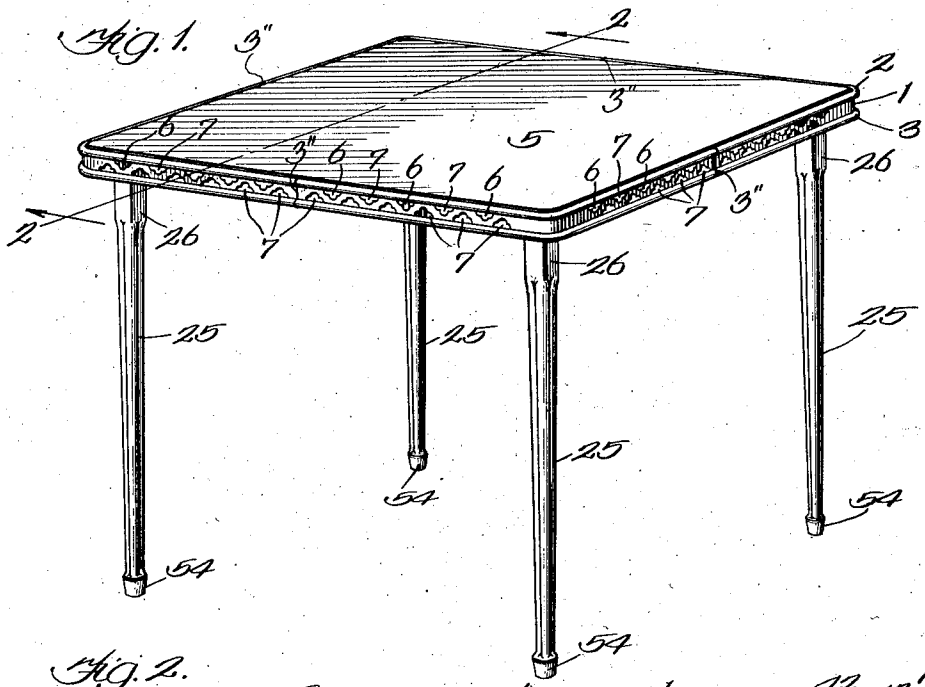


Fig. 2.

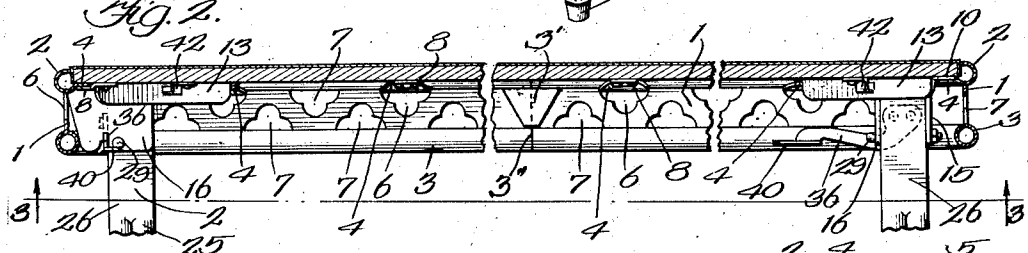


Fig. 3.

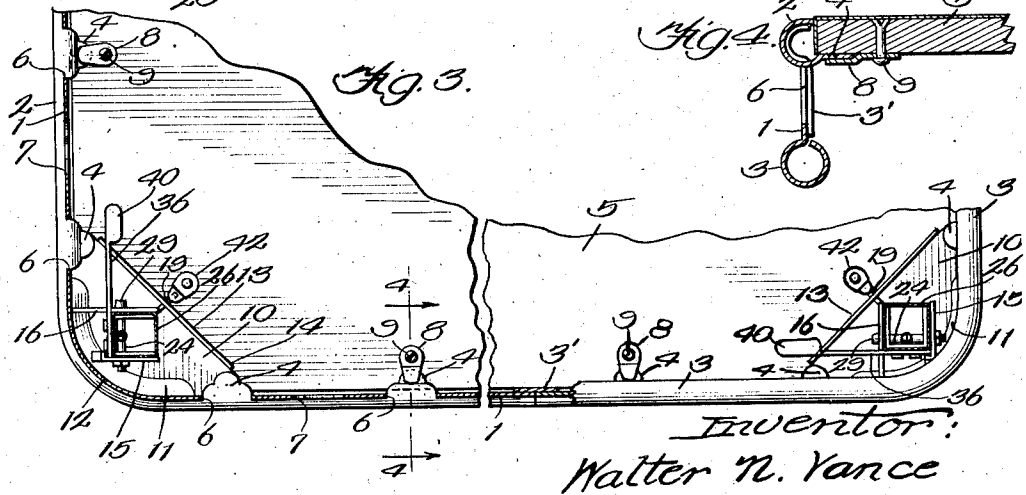


Fig. 4.

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CARD TABLE

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Fig. 5.

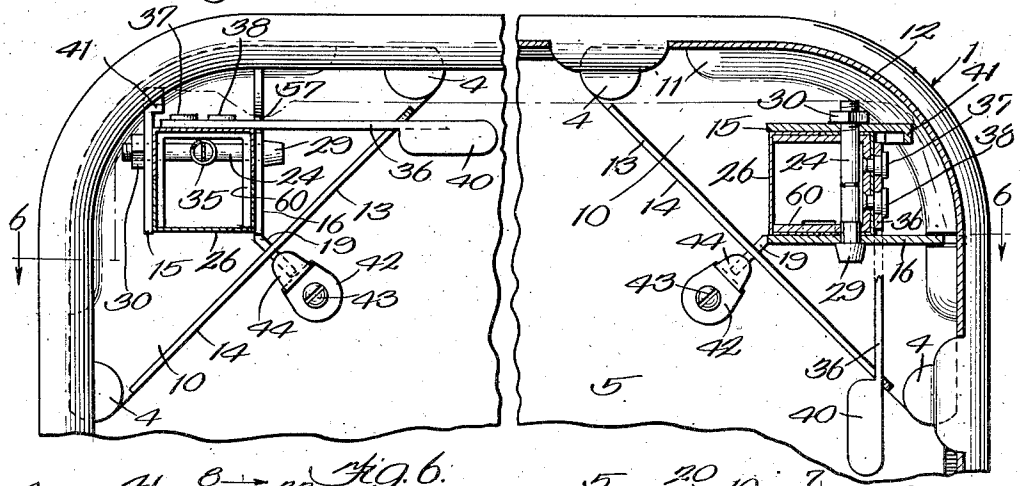


Fig. 6.

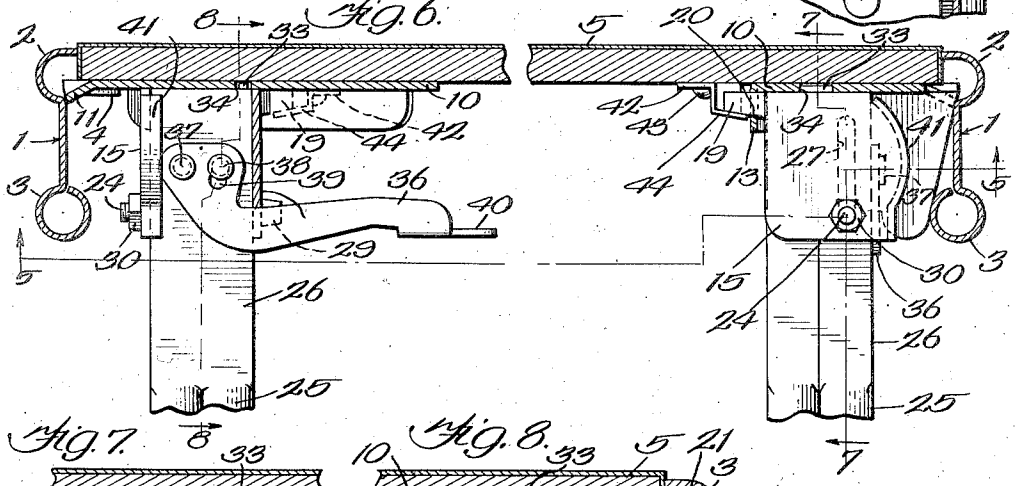


Fig. 7.

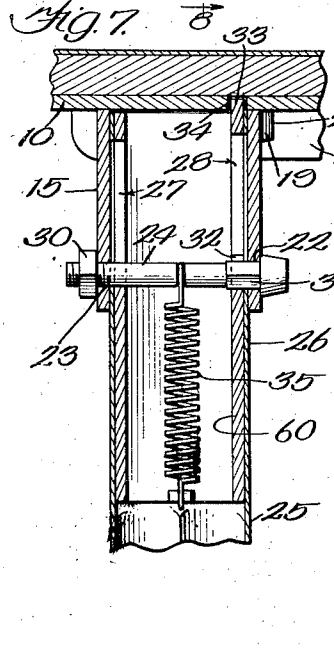
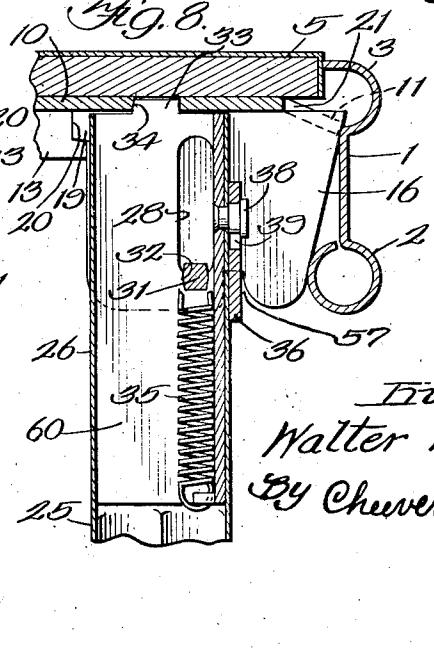


Fig. 8.



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CARD TABLE

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Fig. 9.

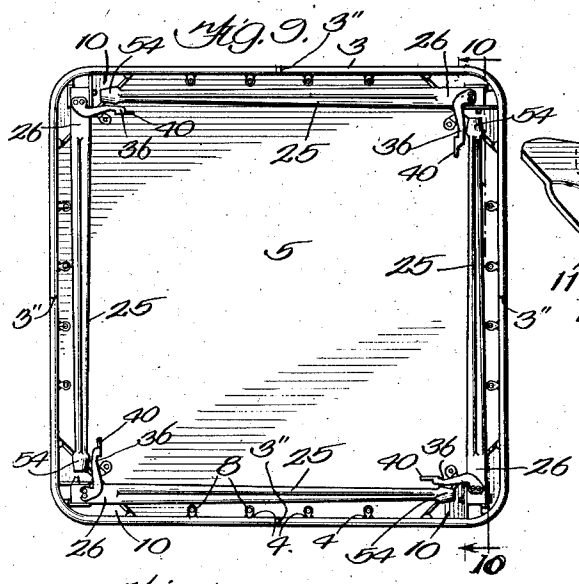


Fig. 12.

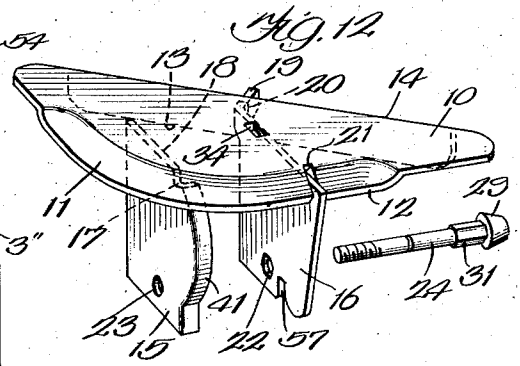


Fig. 11.

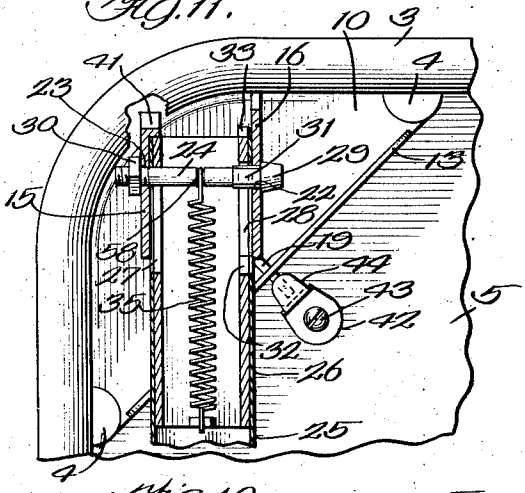


Fig. 13.

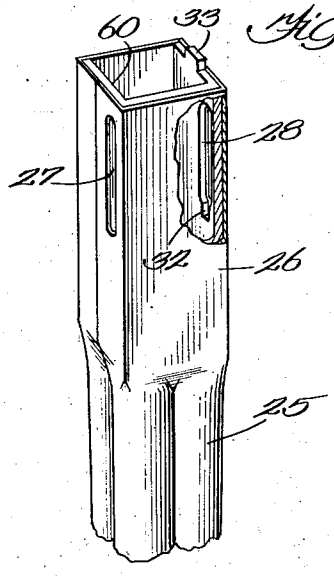
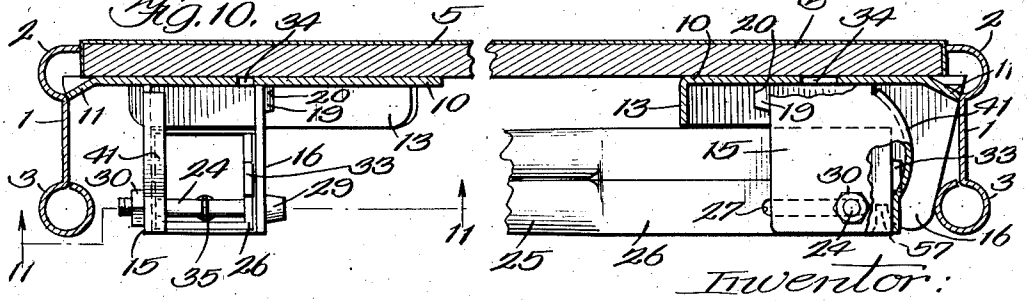


Fig. 10.



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CARD TABLE

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Fig. 14.

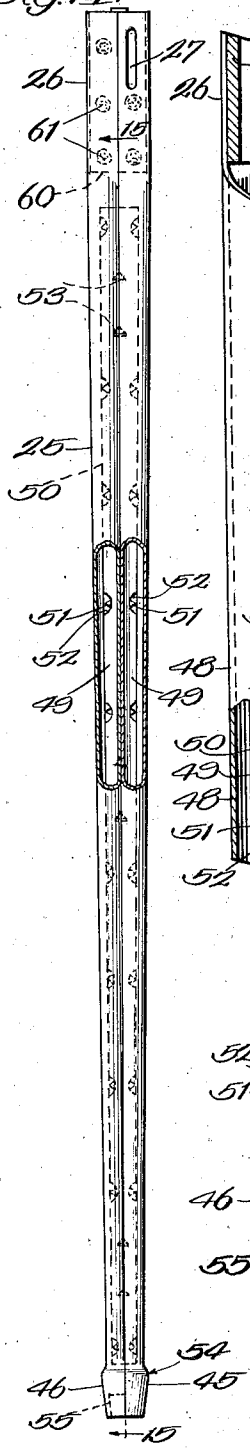


Fig. 15.

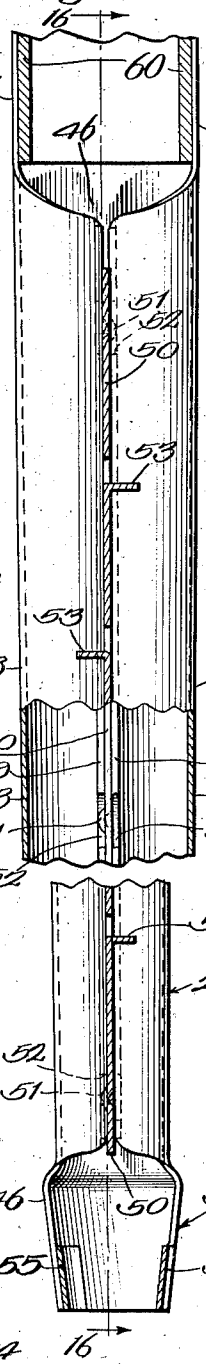


Fig. 16.

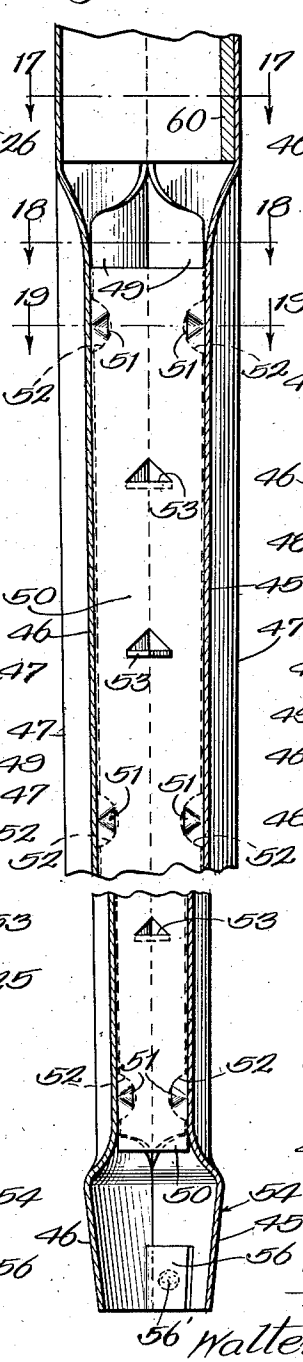


Fig. 17.

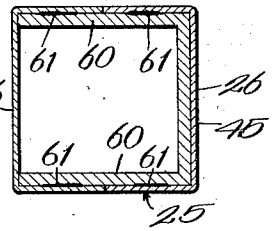


Fig. 18.

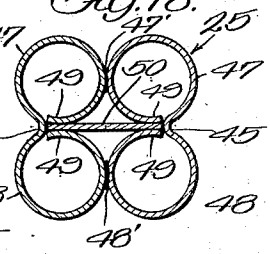


Fig. 19.

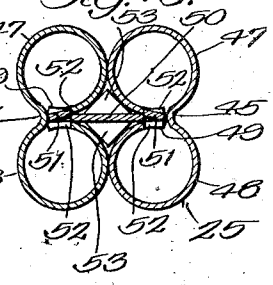
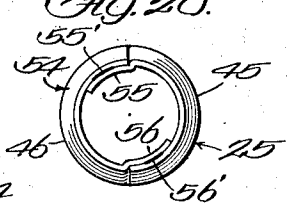


Fig. 20.



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Patented May 23, 1933 1,910,974

UNITED STATES PATENT OFFICE

WALTER N. VANCE, OF NORTH AURORA, ILLINOIS, ASSIGNOR TO LYON METAL PRODUCTS, INCORPORATED, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS

CARD TABLE

Application filed July 29, 1929. Serial No. 381,757.

This invention relates to table construction and has more particular reference to folding tables having for its object the provision of a strong light, folding table possessing the usual advantages of a folding table and in addition providing, when extended, a solid, substantial table having unusual rigidity and strength and presenting a sightly appearance, advantage being taken of certain structural formations to attain this attractive result.

One of the important objects of my present invention is to provide, in a table having a folding leg, a novel means for interlocking the leg in extended position whereby unusual rigidity is attained when the leg is in extended position. The leg locking means also is arranged so that the leg may be quickly and easily disengaged from extended position and folded against the table top.

Another object of the invention resides in the provision of a novel mounting or bracket of simple rugged construction and which is cheap to manufacture whereby a foldable leg may be mounted to a table top.

Another of the important objects of my present invention is to provide a novel table top construction of unusual strength and simplicity and in which structural formations are employed to advantage in decorating the product.

Another object of the invention resides in the provision of a novel table top including a support rim or frame provided with decorative struck-outs which in addition to their decorative feature are used to provide rigid support for a central panel which forms the table top.

Another of the important objects of my present invention is to provide a novel means of making table legs, or in fact legs for any sort of furniture, from sheet metal, the legs of my invention having great strength and rigidity, being cheap to manufacture and presenting a sightly appearance.

Another object of the invention resides in the provision of a compound leg for tables and the like in which the parts are formed of sheet metal stampings and are interlocked together by means of a spacing and locking key and without riveting or welding whereby the leg provides a cheap yet rugged and rigid unitary member.

Still another object of the invention resides in the provision of a compound leg formed of interlocking parts in which the mechanical shape of the parts is relied upon not only to provide strength and rigidity in the leg, but also to present a unique and attractive leg appearance.

Among the other numerous objects and advantages of my present invention is to provide a durable and serviceable folding table in which a rigid leg mounting, an economic and sightly rim construction and a novel manner of forming the table legs all contribute to provide the desirable and useful characteristics of beauty, strength and rigidity in the table.

Numerous other objects and advantages will be apparent as the invention is more fully understood from the following description which, taken in connection with the accompanying drawings, discloses a preferred form of the invention.

Referring to the drawings:

Figure 1 is a perspective view of a table embodying my invention;

Figure 2 is a vertical section taken substantially along the line 2—2 in Fig. 1;

Figure 3 is a horizontal section taken substantially along the line 3—3 in Fig. 2;

Figure 4 is a vertical section taken substantially along the line 4—4 in Fig. 3;

Figure 5 is an enlarged horizontal section taken substantially along the line 5—5 in Fig. 6;

Figure 6 is a vertical section taken substantially along the line 6—6 in Fig. 5;

Figures 7 and 8 are vertical sections taken substantially along the lines 7—7 and 8—8 in Fig. 6;

Figure 9 is a detail plan view of the table in folded position, the view being taken from the bottom of the table;

Figure 10 is a vertical section taken substantially along the line 10—10 in Fig. 9;

Figure 11 is a horizontal section taken substantially along the line 11—11 in Fig. 10;

Figure 12 is a perspective view of a support bracket for mounting the leg in the corner of the table top;

Figure 13 is a perspective view of the top of a table leg showing its formation at the point which is assembled and mounted in the support bracket;

Figure 14 is a perspective view of an entire leg member, parts of which are broken away to reveal details of construction;

Figure 15 is a vertical section taken substantially along the line 15—15 of Fig. 14 and on an enlarged scale;

Fig. 16 is a vertical section taken substantially along the line 16—16 in Fig. 15;

Figures 17, 18 and 19 are horizontal sections taken substantially along the lines 17—17, 18—18 and 19—19 in Fig. 6; and,

Figure 20 is a bottom plan view of the bottom of the legs shown in Figs. 15 and 16.

To illustrate my invention, I have shown on the drawings a folding table having a rectangular frame 1 formed of sheet metal and turned over to provide upper and lower beads 2 and 3. The frame may be made from a single strip of material, suitably configurated and having its ends abutted and secured together in any suitable manner as by the welded fish plate 3'—or the frame may be made in two or more sections having their ends abutting and joined as at 3''. This frame 1 has parts struck out therefrom and bent rearwardly to provide supporting lugs 4 which support a laminated table top 5. These lugs are of an arbitrary shape and provide the ornamental openings 6. Other openings 7 which are the same size and shape as the openings 6, are provided in the frame to lighten the frame and make it ornamental. Offset clips 8 are fastened to the bottom of the top 5 by means of screws or rivets 9 and these clips overlap the lugs 4 and firmly hold the top 5 in position in the frame 1. I may, of course, omit the clips and attach the lugs 4 directly to the table top by suitable fasteners.

A bracket 10, Figure 12, is provided with a downwardly bent portion 11 on its rounded side 12 and with a downturned flange 13 on its straight side 14. This bracket fits into the corners of the frame 1 and carries the downwardly extending plates 15 and 16. The plate 15 has a notched portion 17 which conforms with the portion 11 on the bracket 10, and it also has a flat top portion 18 which bears against the bottom of the bracket. The plate 16 has an outwardly extending lug or finger 19 which extends through a notch or slot 20 in the flange 13 of the bracket. The top forward edge of this plate extends through a notch or slot 21 formed in the portion 11 of the bracket. These two plates are welded or otherwise rigidly secured to the bracket 10. An odd shaped hexagonal opening or hole 22 is provided in the plate 16 and a circular opening 23 is provided in the plate 15 to receive a bolt 24.

Legs 25 having a square top portion 26, Figure 13, are provided with oppositely disposed slotted openings 27 and 28, through which the bolt 24 extends, Figure 13.

The bolt 24 has a head 29 and a nut 30 and pivotally holds the legs 25 in position between the plates 15 and 16. An odd shaped hexagonal portion 31, Figure 12, is formed on the bolt inwardly of its head 29 and seats in the hole 22 in the plate 16. The slot 28 in the leg 25 is provided with a substantially square portion 32 which receives the sides of the portion 31 of the bolt 24 when the legs are arranged in extended position. A lug 33 is formed at the top of the legs and extends through a slot 34 formed in the top of the bracket 10. A spring 35, Figure 11, is connected to the bolt 24 and to a lug formed on the inside of the legs and normally urges the legs upwardly when they are in extended position or toward the frame when they are in collapsed position.

A locking lever 36, Figure 6, is pivotally mounted on the square portion 26 of each leg 25 by means of a screw or rivet 37. Movement of this locking lever is restricted by means of another screw or rivet 38 which operates in a slot 39 formed in the locking lever. A thumb piece 40 is provided at the end of the lever 36 to operate the same. When the legs 25 are operated from collapsed position to extended position, the outer edge of the leg will be guided by the inturned curved flange 41, Figure 12, which is formed on the plate 15. This flange guides the leg when it is sliding on the bolt causing the lug 33 to engage the slot 34 and permitting the hexagonal portion 31 on the bolt 24 to seat in the square portion 32 of the slot 28, that is to say, the cam flange lifts the leg during the folding operation but the leg is guided by the circular portion of the bolt which travels in the straight slot 27 so that the hexagonal portion of the bolt is maintained centrally in the slot 28 while the leg is being folded.

Clips 42 are fastened to the under side of the top 5 by means of screws 43 and they have a portion 44 which overlaps the lug 19 on the plate 16. The clips 42 and some of the lugs 4, Figure 5, which overlap the bracket 10, tend to hold the parts in proper rigid assembled position.

The legs 25, Figures 14 to 20, are composed of two parts 45 and 46, each of which is made of a single piece of sheet metal and bent to form substantially circular curls or beads 47 and 48 having their inner ends 49 bent inwardly, Figure 18. An attaching plate 50 is slid between the free ends 49 of the members 45 and 46, and this attaching plate 50 is provided with struck out lugs 51 which engage and are received in slots

52 formed in the free ends 49 of the members 45 and 46. This attaching plate 50 has triangular portions 53 struck out from each side thereof to fill in the spaces between the member 50 and the members 45 and 46. These portions 53 bear against the inside edges of these two members to force them into proper position to maintain them in locked engagement. The metal from which the members 45 and 46 are made is substantially springy so that when the lugs 51 are received in the slots 52, the parts are rigidly and securely locked together.

The beads 47 and 48 merge into the rectangular top portion 26 of the legs and also merge at their lower ends into a substantially smooth circular portion 54 which acts as a foot for the legs. The lower ends of the members 45 and 46 are provided with tongues 55 and 56, and these tongues overlap inside the members 46 and 45 respectively at the bottom of the foot. It is preferable to secure the tongue 55 to the member 46 and the tongue 56 to the member 45 in any convenient manner such as by spot welding indicated at 55′ and 56′ and I prefer to introduce a channel member 60 within the rectangular top portion and to weld or otherwise secure the upper formed portions of the members 45 and 46 to the channel member as indicated at 61, whereby to rigidly secure the parts together and to form a sturdy leg. The abutting portions of the curls 47 and 48 also may be secured together as by jump welding indicated at 47′ and 48′ or the leg after being assembled may be hot galvanized with spelter or similar molten metal, which in effect solders the curls where they touch and gives the leg a finished appearance. Legs constructed in the manner just described are comparatively simple to manufacture, and at the same time are very rugged and durable. By merging the beads into the rectangular top portion 26 and into the smooth circular bottom portion or foot 54, both simplicity in manufacture and ornamentation have been combined. The leg construction per se is disclosed and claimed in the copending divisional application, Serial No. 386,612, filed August 17, 1929.

In practice, the top 5 is arranged in the frame 1 and held in position therein by means of the inturned lugs 4 and the clips 8. The brackets 10 are arranged in the corners of the frame with their top sides engaging the underside of the top. This bracket is maintained in position by means of the clips 4 engaging the underside of the bracket, and the clips 42 engaging the lug 19 on the side plate 16. The bracket can be welded or otherwise suitably secured to the lugs 4 and also around the outer edge of the bracket and the lower side of the bead 2. The plates 15 and 16 have interlocking and interfitting engagement with the bracket 10 and are preferably welded thereto at their upper ends. The legs 25 are arranged between the plates 15 and 16 with the side of the leg which carries the rectangular slot 32 abutting the plate 16. The bolt 24 fits through the plates 15 and 16 and is received in the slots 27 and 28 of the legs. The bolt head 29 bears against the outside of the plate 16, and the hexagonal portion 31 is received in the hexagonal hole 22 in the plate 16 and also in the slot 28 in the leg 25. The spring 35 tends to pull the leg toward the bolt 24 so that when the leg is in extended position, the part 31 of the bolt will be received in the square portion 32 of the slot 28 and will brace the leg to keep it from swaying or wobbling. When a leg 25 is moved from collapsed position, Figure 10, to extended position, Figures 5 and 6, the outer top edge of the leg will be pulled against the flanged rounded portion 41 of the plate 15 by the spring 35 so that the lug 33 will seat in the slot 34 in the bracket 10. When the leg is in extended position, the spring 35 will have pulled the leg upwardly so that the part 31 of the bolt 24 will be seated in the square portion 32 of the slot 28. The lever 36, pivoted on the leg by the rivet 37, fulcrums in the notch 57, and pressure on the thumb piece 40 shifts the leg, against the tension of the spring 35, a distance sufficient to release the part 31 of the bolt 24 from the square part 32 of the slot 28 and, at the same time to release the lug 33 from the slot 34 in the bracket. As the leg is being returned to collapsed position, the leg will be pulled outwardly the length of the slots 27 and 28 and held in collapsed position by means of the tension on the spring 35 and by the bottom edge of the flange 41.

The bolt 24 may be provided with an annular groove 58 to hold the spring 35 in place thereon, if desired.

The invention provides a table which is comparatively simple in construction, which is strong, rigid and durable. The table is ornamental, presents a neat and pleasing appearance and can be easily folded up and stored away when not in use. It can be readily and quickly manufactured and provides novel means for maintaining the table top in position therein. The locking construction is composed of relatively few simple parts which are strong and rigid and can be quickly and easily assembled and operated. The leg construction is unique for its simplicity and ruggedness and combines both manufacturing simplicity and ornamentation.

Changes may be made in the form, construction and arrangement of the parts without departing from the spirit of the invention or sacrificing any of the advan-

tages thereof, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. A table comprising a frame, inwardly extending lugs struck from said frame, a top mounted on said frame and supported by said lugs, a bracket arranged in each corner of said frame and engaging said top, plates on said bracket, a leg pivoted to said plates, and a locking lever pivoted to said leg for locking the leg in place.

2. A table comprising a frame, a top mounted on said frame and secured thereto, a bracket fastened in the corners of said frame and engaging the top, plates fastened to said bracket, legs having slotted openings therein and arranged between said plates, a bolt passing through said plates and said slotted openings, and means on said bolt and engaging a portion of one of said slotted openings for rigidly supporting the leg when said leg is in extended position.

3. A table comprising a frame, a top mounted on said frame and secured thereto, a bracket fastened in the corners of said frame and engaging the top, plates fastened to said bracket, legs having slotted openings therein and arranged between said plates, a bolt passing through said plates and said slotted openings, means on said bolt and engaging a portion of one of said slotted openings for rigidly supporting the leg when said leg is in extended position, and means for normally urging said last named means toward the portion of said last named slotted opening.

4. A table comprising a frame, a top mounted on said frame and secured thereto, a bracket fastened in the corners of said frame and engaging the top, plates fastened to said bracket, folding legs pivoted to said plates, and a spring connected to the leg pivot and a part of said leg and urging the leg in a predetermined direction.

5. A table comprising a frame, a top mounted on said frame, a bracket having a notch therein and arranged in said frame, a plate fixed to said bracket, a second plate attached to said bracket and engaging said notch, and a lug on said second plate and extending through said bracket.

6. A table comprising a frame, a top mounted on said frame, a bracket having a notch therein and arranged in said frame, a plate fixed to said bracket, a second plate attached to said bracket and engaging said notch, a flange on said bracket and having a hole therein, and a lug on said second plate and engaging the hole in said flange.

7. A table comprising a frame, a top mounted on said frame, a bracket having a notch therein and arranged in said frame, a plate fixed to said bracket, a second plate attached to said bracket and engaging said notch, a flange on said bracket and having a hole therein, a lug on said second plate and engaging the hole in said flange, a leg pivoted between said plates, and a lug on said leg and extending through said bracket.

8. In a table, a bracket, plates attached to said bracket, one of said plates having a circular hole and the other of said plates having a hole provided with angularly disposed sides, a leg arranged between said plates and having oppositely alined slotted openings therein, a bolt passing through said holes and slotted openings, an angularly shaped member formed on said bolt and engageable with said angularly shaped hole, and a spring for normally urging said leg toward the bracket, one of said slots having an additional slotted portion cooperating with the angularly shaped member on said bolt.

9. In a table, a bracket, a pair of plates fastened to said bracket, a leg pivoted between said plates, one of said plates being notched and having a cam adjacent the notch, a locking lever pivoted to said leg and engageable with said cam and notch, and means on the leg and engaging the lever for limiting the movement of said lever.

10. In a table, a bracket, a pair of plates fastened to said bracket, a leg pivoted between said plates and having restricted slidable movement therein, means on one of said plates and frictionally engaging a part of said leg, and means for urging the leg in a predetermined direction.

11. In a table having pivoted folding legs, each leg having a slot therein, a pivot pin through the slot, said leg being movable longitudinally relative to the pivot pin a predetermined distance, spring means for urging the leg longitudinally toward an end of the slot when the leg is in folded position, rigid means engaging a part of the leg for moving the leg toward the other end of the slot when the leg is in extended position, and a locking member for locking the leg in extended position.

12. In a table having pivoted folding legs, each leg having a slot therein, a pivot pin through the slot, said leg being movable longitudinally relative to the pivot pin a predetermined distance, spring means for urging the leg longitudinally toward an end of the slot when the leg is in folded position, rigid means engaging a part of the leg for moving the leg toward the other end of the slot when the leg is in extended position, a locking member for locking the leg in extended position, said locking means moving the leg a predetermined distance out of locking engagement when pressure is applied to a part of said locking member.

13. In a table having pivoted folded legs,

a rigid member fixed to the table and upon which the legs are pivoted, each leg having a slot therein, a pivot pin passing through said member and passing through the slot in the leg whereby the leg is pivoted to said member and having longitudinal movement the length of the slot, an inturned flange on the member, and a spring urging the leg in a predetermined position, said spring urging the leg against said flange, said flange causing longitudinal movement of the leg during certain pivotal movement thereof.

14. In a table having pivoted folded legs, a rigid member fixed to the table and upon which the legs are pivoted, each leg having a slot therein, a pivot pin passing through said member and passing through the slot in the leg whereby the leg is pivoted to said member and having longitudinal movement the length of the slot, an inturned flange on the member, a spring urging the leg in a predetermined position, said spring urging the leg against said flange, said flange causing longitudinal movement of the leg during certain pivotal movement thereof, and a catch fixed to said leg for locking the leg in extended position, operation of said catch moving the leg longitudinally a predetermined distance to permit folding movement of the leg.

15. A table comprising a rectangularly shaped frame made from a single strip of sheet metal material which has its ends abutted and secured together, a plurality of inwardly extending spaced lugs punched inwardly about the sides of the frame near the upper edge of the frame, a table top arranged in the frame and supported by the lugs, and fastening means engaging the table top and the underside of the lugs to fasten the top in rigid position in the frame.

In witness whereof, I have hereunto subscribed my name.

WALTER N. VANCE.