

Sept. 30, 1941.

E. C. BAILEY

2,257,522

FOLDING TABLE

Filed May 27, 1939

3 Sheets-Sheet 1

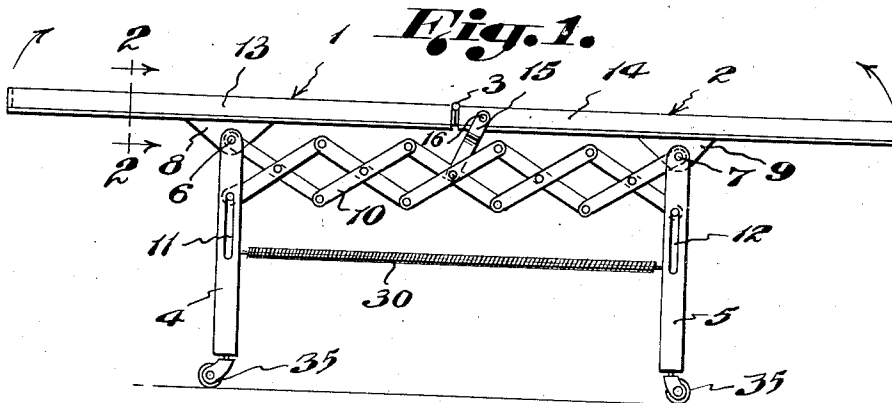


Fig. 3.

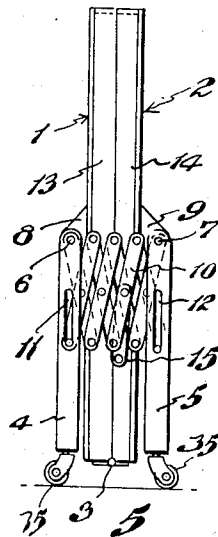


Fig. 6.

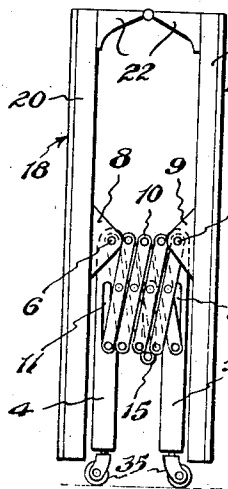
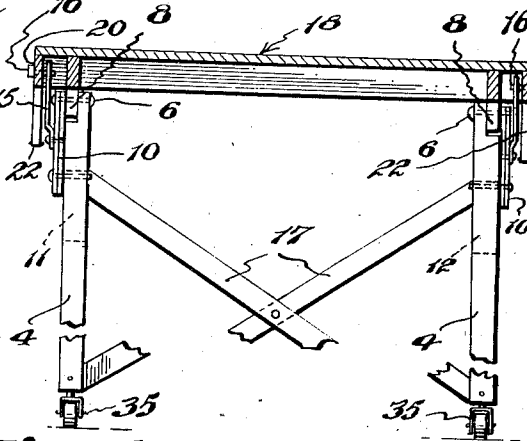
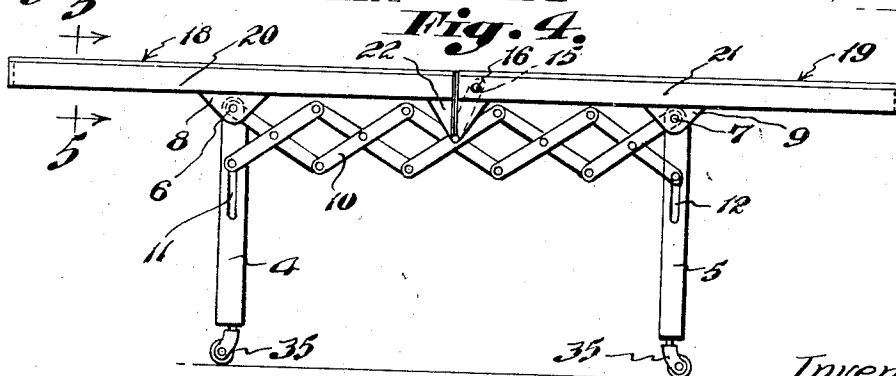


Fig. 5.



Inventor,
Emmett C. Bailey
By: Henry C. Parker, Atty.

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E. C. BAILEY

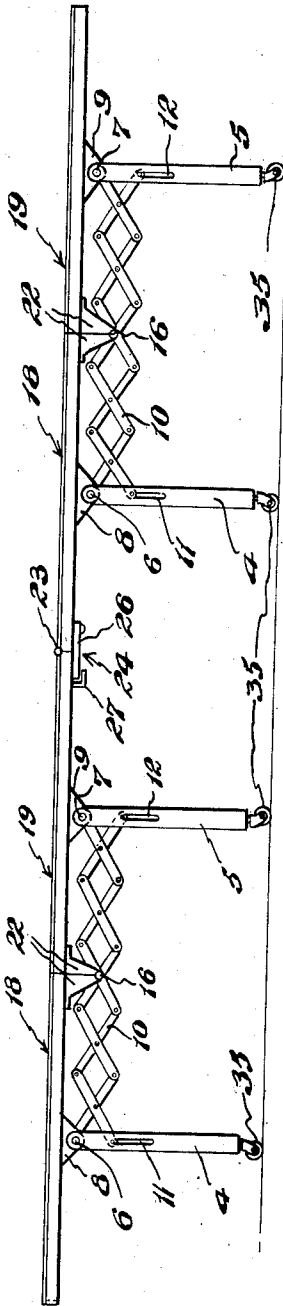
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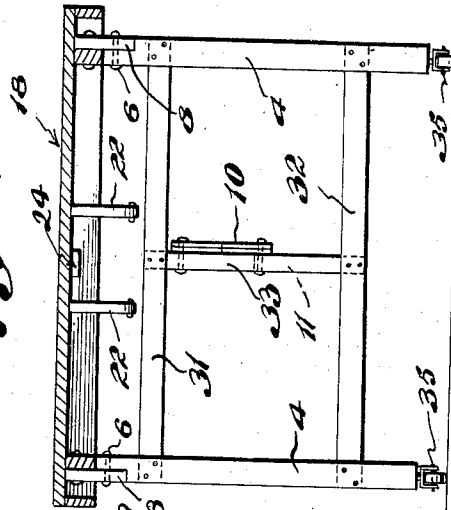
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8. July

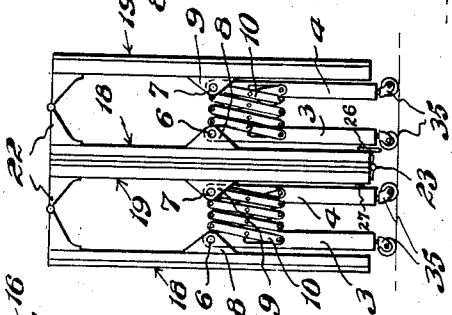
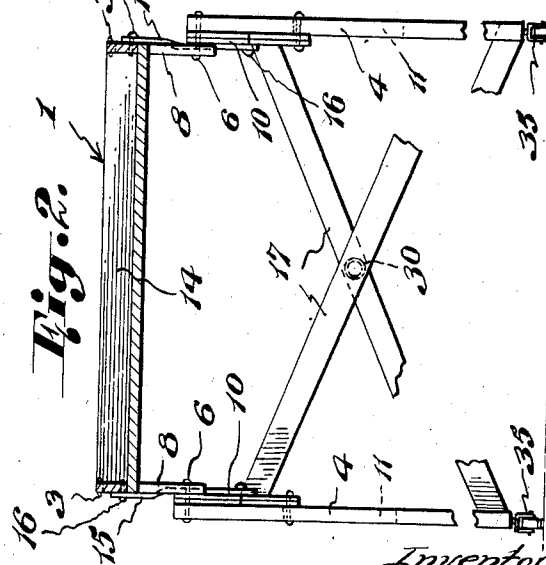


Fig. 2.



Inventor,
Emmett C. Bailey
By: Henry C. Parker atty.

Sept. 30, 1941.

E. C. BAILEY

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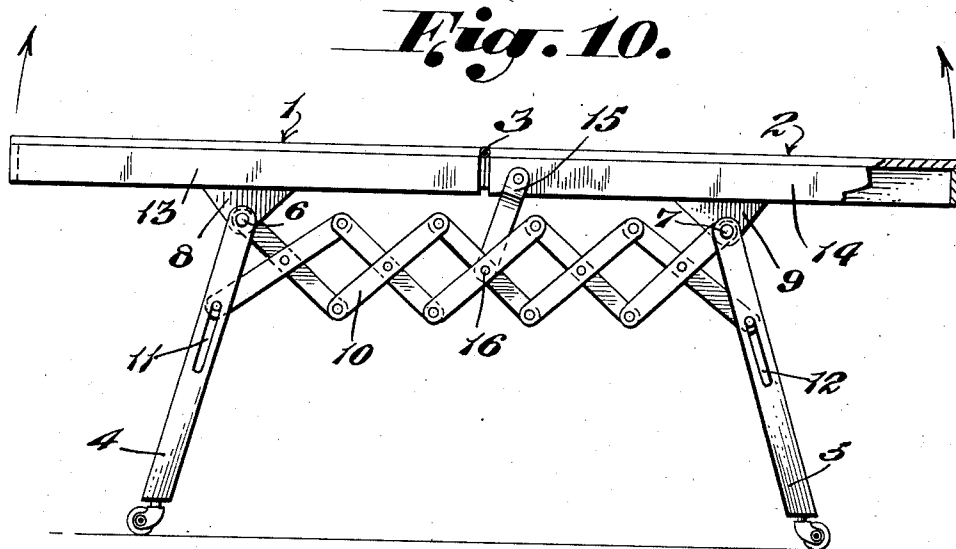
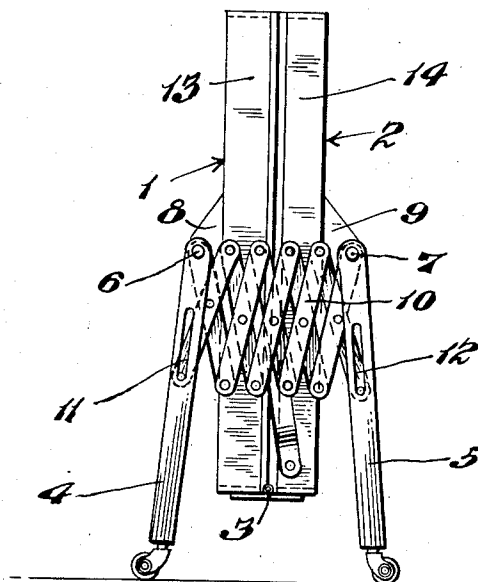


Fig. 11.



Inventor,

Emmett C. Bailey
By: Henry C. Parker
Att'y.

UNITED STATES PATENT OFFICE

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FOLDING TABLE

Emmett C. Bailey, Washington, D. C.

Application May 27, 1939, Serial No. 276,185

17 Claims. (Cl. 311—89)

This invention relates to folding tables; and it comprises a folding table comprising at least two tiltable, adjoining top members, each of said members being pivoted substantially centrally on a pair of legs, said top members being secured together by hinges along a folding line provided substantially centrally between said pairs of legs, at least one lazy tongs for each pair of top members extending between and secured to adjacent pairs of legs; said top members, legs and lazy tongs being so constructed and arranged that, when said top members are tilted from horizontal to vertical position during folding of the table, the pairs of legs are caused to approach each other but are held in substantially parallel position; all as more fully hereinafter set forth and as claimed.

An object of this invention is to provide a folding table easily foldable due to its almost automatic operation and capable of being folded into a relatively small space.

A further object of the invention is to provide a folding table, which, when folded, will form a packing box for displays or layouts such as toy electric railroad tracks, and being capable of storing the same without the necessity of removing the layout from the table before it is folded, as is now necessary when the conventional folding tables are used.

A still further object of the invention is to provide a folding table of any desired length employing a plurality of hinged, folding top members constructed and arranged end to end forming a multiple unit and being adapted to be folded simultaneously together.

Other objects and advantages of the invention will be apparent during the course of the following description of the drawings in which

Fig. 1 is a side elevation of a table, constructed in accordance with the invention, in open or extended position,

Fig. 2 is a sectional view on a larger scale taken along the line 2—2 of Fig. 1 looking in the direction of the arrows,

Fig. 3 is a view of the table in folded position,

Fig. 4 is a view similar to Fig. 1 of a modified form of a folding table,

Fig. 5 is a sectional view on a larger scale of the modified form, taken along line 5—5 of Fig. 4,

Fig. 6 is a view of the modification in folded position,

Fig. 7 is a side elevational view of two tables of the form illustrated in Fig. 4, hinged together at their ends to form a multiple unit,

Fig. 8 is a view of the multiple unit in folded position,

Fig. 9 is a sectional view, similar to those shown in Figs. 2 and 5 of a further modification of my table,

Fig. 10 is a side elevation of a table modification in open position showing legs which diverge slightly downwardly, while

Fig. 11 is a similar showing of the same modification in folded position.

In the drawings like elements are designated by like reference numerals. Referring first to Figs. 1, 2 and 3, elements 1 and 2 represent a pair of table top members hinged together at 3. This table is provided with two pairs of legs 4 and 5 preferably provided with roller casters 35, one pair of legs being provided for each respective table top member. These legs are pivoted at 6 and 7 to the outer sides of bracket members 8 and 9 which are attached to the outer edges of the table top members 1 and 2 at points which are intermediate and usually substantially midway between the ends of the top members. At least one lazy tongs 10 is provided for connecting and bracing the legs as well as for maintaining the legs substantially parallel in all positions of the table. As shown in the drawings the upper ends of the cross elements of the lazy tongs are pivotally attached to the upper ends of the table legs, at 6 and 7, respectively, while the adjacent lower ends are attached to the corresponding legs at a lower point by means of pivots which are slidable in vertical slots 11 and 12, provided in the table legs.

A lateral support for each pair of legs is provided comprising a pair of cross bars 17, as seen in Fig. 2. Around the sides and outer ends of each table top member or section 1 and 2 there are attached flange strips 13 and 14 which, when the table is open, form a raised edge or flange around the entire table top, the purpose of which will be explained below. A locking device to prevent the table from folding accidentally, comprising a link 15, may be pivotally attached at one end to the lazy tongs 10 and at the other end to the strip 14 by a removable pin 16 or equivalent means.

In folding the table the operator first pulls out the pin 16. When this pin is removed there is nothing to prevent the table top sections from tilting but, owing to the fact that the legs are mounted substantially midway between the ends of these sections, they usually remain balanced on the legs, held in this position merely by the friction of the pivots and the friction of the

casters 35 on the floor. But if one of the ends of the table is lifted slightly or if the center of the table is depressed, the table top sections become unbalanced on their pivots, their centers of gravity shift and then they move by gravity in the direction of the arrows shown in Fig. 1. It may be said therefore that the table closes substantially automatically. In fact tables with- in this invention can be made which will close entirely automatically as soon as the link 15 is released, merely by making the table top sections slightly heavier at the center of the table or by making the inner ends of these sections slightly longer than the outer ends. I usually prefer, however, to construct my tables in the opposite fashion, that is, to make the outer ends slightly heavier or of greater length in order to prevent the table from closing too readily and without at least some manual effort. If desired, means such as spring 30 may be provided for assisting or opposing the closing of the table.

When the table is completely folded a box-like container is formed, as shown best in Fig. 3, owing to the fact that the peripheral flanges 13 and 14 close together spacing the members 1 and 2 apart. The flanges form the end walls of the box while the table top members 1 and 2 form the sides.

Tables embodying this boxlike feature are particularly adapted for use as salesmen's display tables, game tables, tables for relief maps, etc. For example the tracks of a toy electric train may be left mounted on the table top, provided that the track is separable at the center of the table, or the wickets of a table croquet set may be left mounted on the table top. In fact any articles, which are securely mounted on the table top and which have dimensions falling within the confines of the box-like structure, can be left in mounted position when the table is folded, the box-like structure protecting these articles from dust and injury. The added convenience and labor saving nature of this form of table can be readily appreciated.

In Figs. 4, 5 and 6 a modified form of the invention is illustrated. The elements 18 and 19 indicate a pair of table top members being provided on their under faces with stiffening strips 20 and 21. The element 22 indicates an elongated hinge, the wings of which are attached to the under edges of the stiffening strips 20 and 21. The wings of these hinges 22 are sufficiently long so that the lazy tongs can be confined between the two sections of the table top when in folded position, as shown in Fig. 6. Moreover the legs 4 and 5 are pivoted to the inner sides of the side members 8 and 9 so that the legs also fall within the confines of the table top sections when the table is folded. With this construction it is possible, therefore, for the sides of the table top, when folded, to completely enclose both the lazy tongs and the table legs, which was not possible in the case of the modification shown in Figs. 1, 2 and 3.

The supporting structure of the table top members of the modification shown in Figs. 4, 5 and 6, is very similar to that of the modification of Figs. 1, 2 and 3 with the exceptions noted. In the operation of the modification of Figs. 4, 5 and 6, the operator first pulls out the pin 16 from the locking link 15. It is then only necessary to push downwardly one of the ends of the table or upwardly at the center of the table top, after which the table will fold more or less automatically. As in the first described modifi-

cation the weight of the two sections 18 and 19 of the table top assist in the closing of the table. These sections are substantially in balance on the pivots 6 and 7 but when this balance is disturbed by pressing downwardly on one of the ends of the table or by lifting the table top sections in the center, the centers of gravity of the top sections are shifted outwardly and gravity then assists in folding the table.

In Fig. 7, a pair of the tables of the type shown in Fig. 4 are placed end to end, the adjoining ends being connected by a hinge 23, thus forming a multiple unit. To prevent collapse of the tables at the hinge point 23, suitable locking means 24 may be provided of any desired construction, such as a latch or peg, etc. The locking means shown in Fig. 7 comprises a simple pivoted bar 25 adapted to engage a fastening member 27. In the construction of this multiple unit only a single locking means is required since, if one pair of table top sections is held in position the other sections are held in similar position by their hinges.

While Fig. 7 shows two tables only, joined to form a multiple unit, it is evident that any desired number of tables of the same type can be joined in order to make a table which, when opened, may be of almost any desired length. A folding table of this type is particularly adapted for a banquet table or a temporary counter or cutting table. When folded as shown in Fig. 8 it occupies a relatively small space and the folded table is easy to keep clean for the reason that the top sections are folded together and are protected from dust and dirt. The operation is extremely simple since the various sections fold simultaneously and in one operation.

The modification shown in Fig. 9 is similar to that shown in Figs. 4, 5 and 6 with the exception that the lazy tongs 10 and the hinges 22 are centrally placed. The single lazy tongs is mounted on a cross bar 33 extending between braces 31 and 32, these braces extending between each pair of legs. This lazy tongs is mounted on the cross bar 33 in the same fashion as on the table legs in the other modifications. It is possible, of course, to employ two lazy tongs extending longitudinally of the table but one usually provides sufficient strength for all purposes. This modification is particularly adapted for banquet tables or other tables at which persons are to be seated since knee room is provided along the full sides of the table as well as at its ends.

My tables obviously can be made of various lengths and widths to suit the particular use for which they are intended. Tables of standard dimensions can be provided for such sports as ping-pong (table tennis), billiards, pool, table croquet, etc. The uses of these tables are practically unlimited. Their construction is simple, and the parts used are few in number. The operation of the tables is simple and efficient, and little or no strength on the part of the operator is required.

My invention is particularly applicable for sports tables for use in recreation rooms. When used in this fashion such rooms can be equipped with several foldable sports tables for different games, such as table tennis, pool or billiards. The guests can then take their choice of the games available. Or if the guests would rather dance, the various tables can be folded up, whereupon sufficient space for dancing is provided. Needless to say the use of these tables greatly enhances the attractiveness and extends the usefulness of recreation rooms.

While I have described what I consider to be the best modifications of my table, it is obvious, of course, that various details may be altered without departing from the purview of the present invention. It is possible, for example, to adapt the present invention to tables having round tops or rounded ends. Modified mountings may be used for securing the lazy tongs to the table legs. The table top sections may be decorated, for example it is possible to decorate the bottoms of the table top sections shown in Fig. 1, 2 and 3 in such fashion that, when folded, a decorated panel is exposed which in no way detracts from the appearance of a room. While the drawings show the table legs connected with the table top sections at pivot points which are below the centers of gravity of said top sections when the table is in its open position, in order that gravity may assist in the closing of the tables, it is possible, of course, for the position of the pivot points to be changed. The legs of my tables do not necessarily have to be in exact parallel relationship. In fact in some cases it is desirable that the table legs diverge slightly in a downward direction as shown in Figs. 10 and 11. This increases the stability of the structure especially when in folded position. While the drawings show the table legs mounted at the midpoint between the ends of the table top sections, it is to be understood, of course, that the legs may be mounted at any point intermediate these ends, the top sections being weighted in order to obtain the proper balance. Other modifications of my invention which fall within the scope of the following claims will be immediately evident to those skilled in this art.

What I claim is:

1. A folding table comprising a table top section mounted pivotally on a pair of legs at a point intermediate its ends, an adjacent table top section similarly mounted and pivotally secured to the first mentioned section along a folding line, the said two sections forming a plane table surface when said table is in its open position, and at least one lazy tongs secured between the legs of said sections and mounted in such manner as to maintain the leg pairs substantially parallel both when the table is folded and when open as well as when in intermediate positions, the said table being so constructed and arranged that it can be folded by tilting said table top sections through an angle of 90 degrees in opposite directions about their leg pivots, whereby the table tends to fold automatically.

2. The folding table of claim 1 wherein said lazy tongs is mounted outside the confines of said table top sections when closed and said table top sections are adapted to be folded by raising their outer ends and lowering their inner ends along said folding line.

3. The folding table of claim 1 wherein said lazy tongs is mounted within the confines of said table top sections when closed and said table top sections are adapted to be folded by depressing their outer ends and raising their inner ends along said folding line.

4. The folding table of claim 1 wherein a latch element is provided for holding said table in open position, said latch element being detachably connected between said lazy tongs and said table top at a substantially central point.

5. The folding table of claim 1 wherein said table top sections are provided with an upstanding peripheral flange and wherein said table top sections are adapted to be folded together by de-

pressing said folding line and raising the outer ends of said sections, the said peripheral flange separating said sections when the table is in folded position and forming a box-like structure with said sections.

6. The folding table of claim 1 wherein the upper ends of the elements of said lazy tongs are pivotally connected to said leg pairs at the point where said legs are pivoted to said table top sections, the lower ends of said elements being secured to said leg pairs by a slidable connection.

7. The folding table of claim 1 wherein the said table top sections are pivotally mounted on said legs in such manner that their outer ends are heavier than their inner ends, whereby said table tends to remain in its open position.

8. The folding table of claim 1 wherein the table top sections are pivotally mounted on said legs in such manner that their inner ends are heavier than their outer ends, providing an increased tendency for said table to fold automatically.

9. The folding table of claim 1 wherein the table top sections are pivotally mounted to said legs at points below the centers of gravity of said top sections when the table is in its open position, whereby, when the table is partially folded, the centers of gravity of said top sections shift into a position assisting in the closing of the table.

10. The folding table of claim 1 wherein the table top sections are weighted in order to obtain a proper balance.

11. A folding table comprising a plurality of table top sections each being pivotally mounted on legs, said sections being joined end to end by hinges along folding lines, said legs being connected in pairs by lazy tongs in such manner that said legs are maintained in substantially parallel position as said lazy tongs are compressed or expanded thereby moving said legs towards or away from each other, respectively, said table top sections being hinged in such fashion that, when tilted into vertical position about their leg pivots through angles of 90°, the lazy tongs are compressed, thereby causing said legs to move towards each other and the table is thereby folded.

12. A folding table comprising a table top section mounted pivotally on a pair of legs having braces extending between them, a second table top section similarly mounted and hinged to said first section end to end along a folding line by means of winged hinges, a lazy tongs secured to and connecting the braces of said pairs of legs in such fashion that said pairs of legs are maintained in substantially parallel position, said lazy tongs extending substantially centrally beneath the said table top sections, the wings of said hinges being sufficiently long to permit said table top sections to be pivotally moved about said hinges from horizontal to vertical position by lowering the outer ends of said table top sections and raising said folding line, whereby said lazy tongs is compressed between said table top sections and said legs are moved towards each other into a folded position.

13. The folding table of claim 12 wherein said winged hinges are mounted in a central position beneath said table top sections.

14. A folding table comprising a table top section mounted pivotally on a pair of legs, an adjacent table top section similarly mounted and pivotally secured to the first mentioned section along a folding line, the said two sections forming a plane table surface when said table is in its

open position and means comprising a lazy tongs secured between the legs of said sections and mounted in such manner as to maintain the legs substantially parallel both when the table is folded and when open, said table top sections being so-weighted and so-mounted on said legs that said table tends to fold when open and that, upon partial closure of the table, an increased tendency to close is produced.

15. The folding table of claim 11 wherein said table top sections are pivoted to said legs at a point below their centers of gravity, whereby their weight tends to fold the table automatically as soon as said top sections are partially tilted.

16. A folding table comprising a table top section mounted pivotally on a pair of legs at a point intermediate its ends, an adjacent table top section similarly mounted and hinged to the first mentioned section along a folding line, the said two sections forming a plane table surface when said table is in its open position, and at least one lazy tongs secured between the legs of said sections and mounted in such manner as to main-

tain the leg pairs slightly divergent downwardly both when the table is folded and when open, as well as when in intermediate positions, the said table being so constructed and arranged that it can be folded by tilting said top sections through angles of 90 degrees in opposite directions about their leg pivots.

17. A folding table comprising at least three table top sections each being pivotally mounted on legs, said sections being joined end to end by hinges along folding lines, said legs being connected in pairs by lazy tongs in such manner that when said lazy tongs are compressed or expanded the legs move towards or away from each other, respectively, without changing their relative angular positions with respect to each other, said table top sections being hinged in such fashion that, when tilted into vertical position about their leg pivots through angles of 90°, the lazy tongs are compressed, the legs are caused to move towards each other and the table is thereby folded.

EMMETT C. BAILEY.