

March 27, 1956

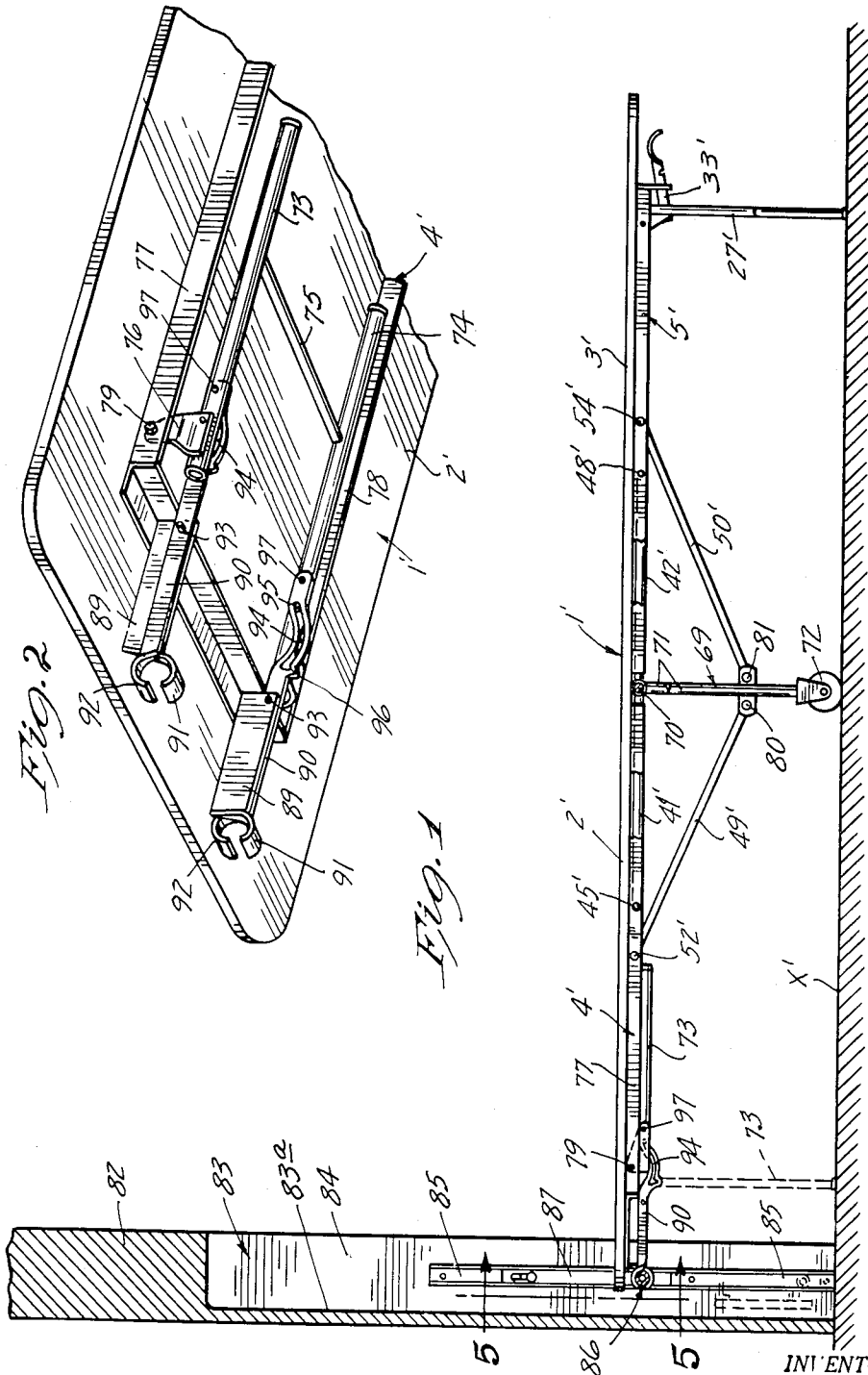
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2,739,860

TABLE AND MEANS FOR CONTROLLING AND GUIDING THE FOLDING  
THEREOF INTO STORAGE POSITION WITHIN A HOUSING

Filed March 4, 1955

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

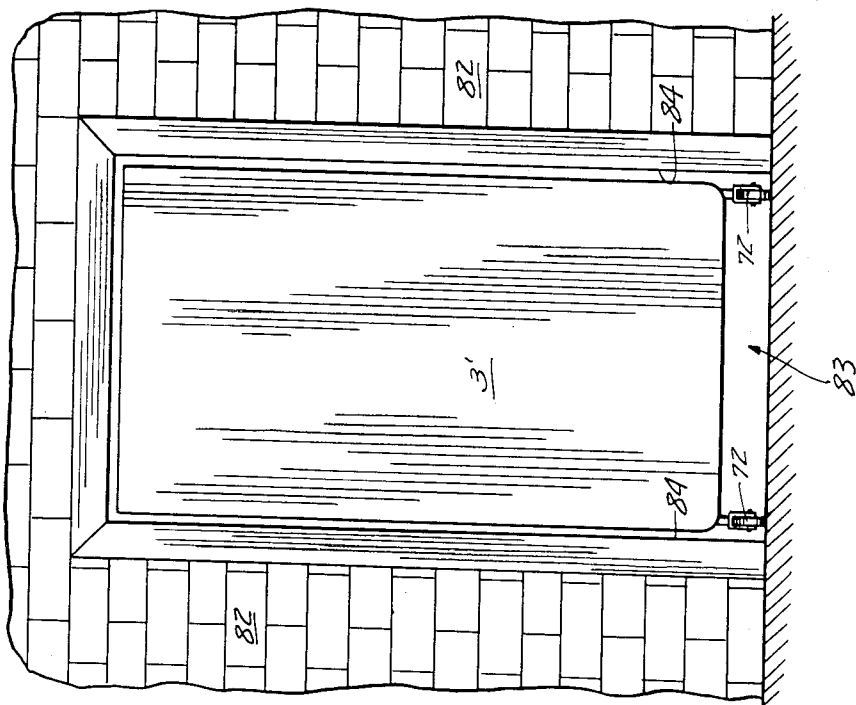


Fig. 4

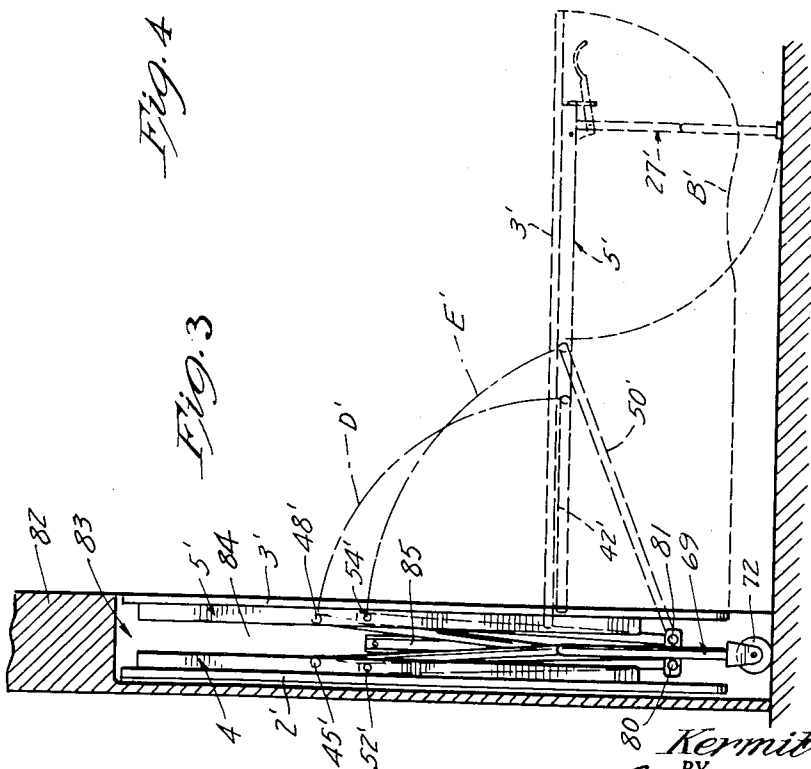


Fig. 3

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3 Sheets-Sheet 3

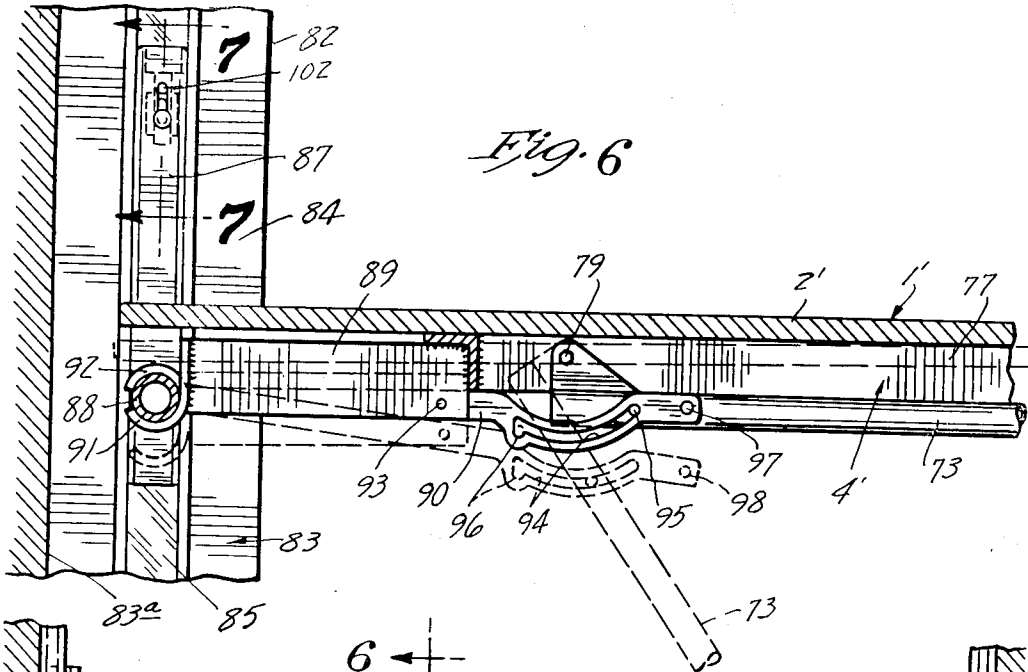


Fig. 5

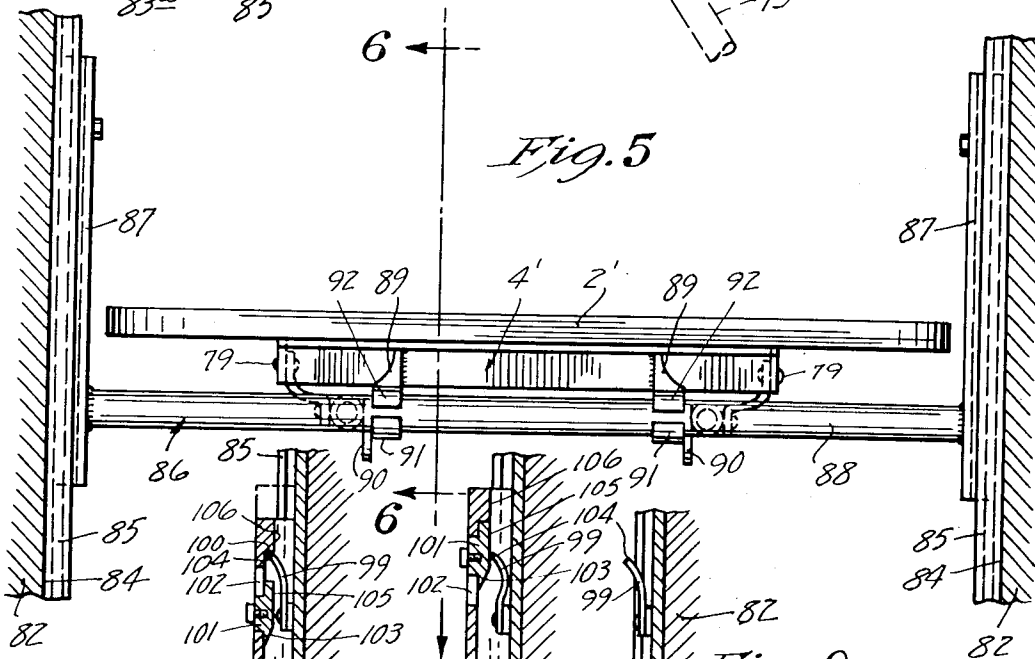


Fig. 7

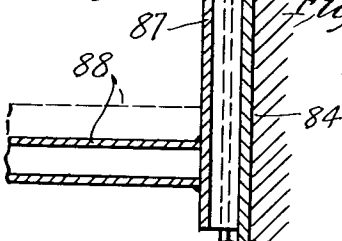


Fig. 8

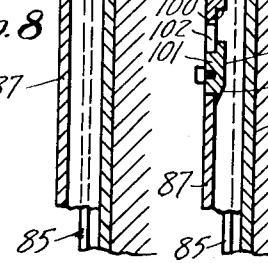
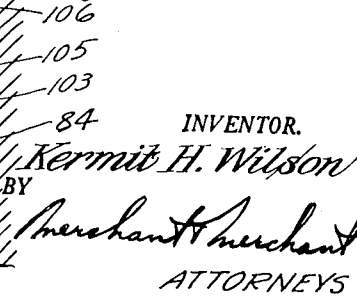


Fig. 9



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## TABLE AND MEANS CONTROLLING AND GUIDING THE FOLDING THEREOF INTO STORAGE POSITION WITHIN A HOUSING

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Application March 4, 1955, Serial No. 492,213

5 Claims. (Cl. 311—16.5)

My invention relates generally to table structures and more particularly to tables which may be folded for storage and the like.

This application is a restriction of my co-pending application S. N. 336,491, filed February 12, 1953, for a Table and Means for Controlling and Guiding the Folding Thereof Into Folding Position, now Patent No. 2,721,778, issued on October 25, 1955.

Tables of this type are generally adapted to be set up in banquet halls, ballrooms and the like, and are designed to accommodate fairly large numbers of people seated thereabout. Where space is at a premium, and it is desired that a single room be utilized for eating purposes, after which it is desired that the room be cleared for dancing or other purposes, it is important that the tables be removed from the room with a maximum of speed and a minimum of effort and disturbance. An important object of my invention is, therefore, the provision of a table which may be quickly and easily set up for use, and which may as readily be folded to an inoperative storage position and moved to an out-of-the-way location with a minimum of time and effort involved.

Still another object of my invention is the provision of novel linkage and counterbalancing means whereby a table of the above type is maintained in a folded storage position against accidental unfolding movements.

Still another object of my invention is the provision of novel means for supporting one end portion of a table of the above type to a building wall or the like.

Another object of my invention is the provision of a table of the above type having novel means for attachment to a building wall, said means permitting detachment of the table from the wall and including an independent supporting device whereby the table may be placed in any desired position in a room.

The above and still further highly important objects and advantages of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings, which illustrate the invention, and in which like characters indicate like parts throughout the several views:

Fig. 1 is a view partly in side elevation and partly in section of the novel table of my invention;

Fig. 2 is a view in perspective of the under side of one end portion of the table structure of Fig. 1;

Fig. 3 is a view corresponding to Fig. 1 but showing the table of Fig. 1 in a folded position in a wall structure;

Fig. 4 is a view in end elevation of the structure of Fig. 3;

Fig. 5 is a view partly in end elevation and partly in section taken substantially on the line 5—5 of Fig. 1;

Fig. 6 is a view partly in section and partly in side elevation taken on the line 6—6 of Fig. 5;

Fig. 7 is a fragmentary detail in section taken on the line 7—7 of Fig. 6; and

Figs. 8 and 9 are view corresponding to Fig. 7 but showing different positions of the parts thereof.

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In the form of the invention illustrated in Figs. 1 to 9 inclusive, a table top 1' is shown as comprising a pair of cooperating table top sections 2' and 3' each mounted on a respective generally rectangular frame 4' and 5'. A central supporting structure 69 is preferably made from metallic tubing and formed into inverted generally U-shape to provide a transversely extending supporting element or seat 70 and laterally spaced depending legs 71 having ground or floor engaging rollers 72 at their lower ends. The transverse supporting element engages and freely supports the adjacent inner ends of the table top sections 2' and 3'.

At its outer end, the table top section 3' is supported by an outer end supporting member 27' which is adapted to be locked in its operative table supporting position of Fig. 1 by a locking lever 33'. The table top section 2' at its outer end is adapted to be supported by a pair of legs 73 and 74 that are joined intermediate their ends by a brace member 75. Plate-like mounting brackets 76 are welded to the upper end portions of the legs 73 and 74 and are pivotally secured to side frame members 77 and 78 of the frame 4' as indicated at 79.

The table top sections 2' and 3' are connected to the transverse supporting seat 70 each by one of a pair of first control links 41' and 42' respectively that are pivotally secured at their inner ends to the transverse seat 70 for upward and downward swinging movements and their outer ends to the intermediate portions of the frames 4' and 5' respectively. A pair of rigid second control links 49' and 50' underlie their respective table top sections 2' and 3' and have their inner ends pivotally secured to the supporting structure 69 as indicated at 80 and 81 respectively for upward and downward swinging movements. The outer ends of the control links 49' and 50' are pivotally secured to their respective frames 4' and 5' longitudinally outwardly of the pivotal connections of the first control links 41' and 42' thereto, as indicated at 52' and 54' respectively. The invention described thus far is similar to that illustrated in my co-pending application Serial Number 492,212, filed March 4, 1955, Table-Bench Having Means for Controlling and Guiding the Folding Thereof Into Storage Position, with parts of the instant application bearing numerals with prime marks added being closely similar to those parts bearing like numerals in the form of the invention as disclosed in the said co-pending application Serial Number 492,212. It will further be noted, with reference to Fig. 3, that the table top section 3' partakes of movement similar to that of the table top sections 2 and 3, of said co-pending application cited above, when being moved from its horizontal operative position to its inoperative storage position.

The table 1' is particularly adapted to be connected to and supported by a supporting structure anchored to a wall surface or received within a recess within a wall. Such a building wall is indicated by the numeral 82 having a recess 83 therein. Rigidly secured to the opposite sides 84 of the recess 83 are a pair of relatively stationary guide rails or the like 85 which extend vertically from the floor X'. A supporting member indicated in its entirety at 86 comprises a pair of slides 87 one each mounted and guided in a different one of said guide rails 85 and a tubular cross bar or arm 88 anchored to the slides 87 adjacent their lower ends. Laterally spaced pairs of gripping elements 89 and 90 have hook-like ends 91 and 92 which are adapted to embrace the arm 88 for pivotal movements about the axis thereof. The gripping element 89 is rigidly secured to the underside of the table top section 2' as by welding or the like to the frame 4' thereof. The movable gripping elements 90 are pivotally secured intermediate their ends one each to one of a cooperating one of the stationary gripping

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elements 39 for upward and downward swinging movements as indicated at 93. Intermediate the pivotal connections 93 and their inner ends, the movable gripping elements 90 are provided with arcuate slots 94 each of which receives a pin 95 which projects laterally outwardly from an adjacent leg 73. The arrangement of the pin and slot connection 94-95 with respect to the pivotal connection 79 between the legs 73 and the frame 4' is such that when the legs 73 are in their horizontal inoperative position indicated by full lines in Fig. 1, the hook-like ends 91 and 92 of the gripping elements are in operative engagement with the arm 88. When the legs 73 are swung downwardly to their generally vertical table top supporting position as indicated by dotted lines in Figs. 1 and 6, the movable gripping elements 90 are positioned so that the hook-like elements 91 and 92 are spaced apart sufficiently to permit withdrawal from the arm 88. In this position of the legs 73, it will be seen that the pins 95 thereof are seated in recess 96 at one end of the slots 94 whereby the legs 73 are held in vertical table supporting position. The movable gripping elements 90 may be locked in arm gripping positions by bolts 97 extending through apertures 98 in the inner ends of the gripping elements 90 and screw threaded into threaded holes, not shown, in the legs 73.

The slides 87 are releasably locked in their upper table supporting positions by releasable latch mechanism which may be of any suitable type, but as shown, may comprise resilient latch bars 99 one each anchored to one of the opposed guide rails 85. Each of the slides 87 is formed to provide an abutment 100 which is engageable by the upper end of a slide block 101 vertically slidably mounted in a slot 102 in the slide 87. Each slide block 101 is provided adjacent its lower end with a cam-acting surface portion 103 which is engageable with the outturned abutment engaging end 104 of the latch bar 99 in a manner now to be described. The slide block 101 is gravity biased toward the bottom of the slot 102 as shown in Figs. 7 and 9. When the end supporting member 86, including the slides 87, is raised to its table top supporting position, the latch bar 99 each being yieldingly biased toward engagement with its cooperating abutment 100, snaps into table supporting position as indicated in Fig. 7. When it is decided to fold up the table 1', the end supporting member 86 is manually raised to its dotted line position of Fig. 7, causing the slide blocks 101 to move their respective latch bar 99 whereby the upper abutment engaging end 104 thereof will be moved out of the path of travel of the abutments 100. The adjacent end of the table top section 2' together with the supporting member 86 is then permitted to move downwardly. At this time, the frictional engagement of the slide blocks 101 with their cooperating latch bars 99 is sufficient to cause the slide blocks to remain stationary until the upper ends thereof engage the abutments 100 as indicated in Fig. 8. The inner surfaces 105 and 106 of the slide blocks 101 and the slides 87 respectively form a continuous wall over which the latch bars 99 slide, thus permitting the supporting member 86 to move downwardly beyond the latch bars 99 as illustrated in Fig. 9.

During the initial folding movements of the table 1', the tendency of the outer end of the table top section 2' to move longitudinally inwardly toward the central supporting structure 69 causes the entire table structure to move toward the wall 82. When the central supporting structure 69 is received within the recess 83, the table top section 2' is disposed substantially parallel to and adjacent the rear wall 83a of the recess. Thereafter, the locking lever 33 is unlatched, and the end supporting member 27' is moved to its inoperative position. The outer end of the table top section 3' then moves downwardly and inwardly as shown by the broken line B' in Fig. 3, the outer ends of the control links 42' and 50' describing arcs D' and E' respectively, see Fig. 3, in a direction counter to the direction of swinging movement

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of the table top section 3'. As further shown in Figs. 3 and 4, when the table top section 3' is moved to its inoperative storage position the top surface thereof will be substantially flush with the wall 82.

From the above, it will be seen that the invention illustrated may be anchored to and supported by end supporting member 86, or removed from engagement therewith and supported at that end by the legs 73 as desired. Although the same are not shown herein, the counterbalancing springs 55 of my co-pending application Serial Number 336,491, cited above, may be, if desired, applied to the novel table of this invention to aid in moving the table top sections to their storage positions and maintaining the same in said storage positions.

Similarly, if desired, the benches or seats 60 of my co-pending application Serial Number 492,212 may also be applied to the table 1' without changing the structure thereof materially.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the objectives set forth; and while I have shown and described a commercial form of my novel table structure and a single modification thereof, it will be understood that the same is capable of further modification within the spirit and scope of the invention as defined in the claims.

I claim:

1. In a fold-up table, a supporting structure providing a seat, a table top having one end normally disposed over and freely resting on the seat of the supporting structure, first and second control links underlying said table top, the first control link being pivotally connected at one end to said supporting structure and at its other end to the intermediate under portion of the table top, the second control link being pivotally connected at one end to the supporting structure below the pivotal connection of the first link thereto and at its other end to the intermediate under side of the table top at a point between pivot connection of the first link thereto and the other end of the table top, said pivotal connections having parallel horizontal axes extending transversely of the table top, and means supporting the other end of the table top, said last-mentioned means comprising a relatively stationary vertical rail adapted to be mounted on a building wall, a movable end supporting member mounted and guided on said rail for vertical movements relative thereto, latch mechanism releasably locking said end supporting member in table supporting position on said rail, and releasable means pivotally mounting the other end portion of the table on said end supporting member, release of said latch mechanism permitting upward swinging movements of said control links and swinging movement of the table top from its horizontal operative position to a generally vertical storage position about the axis of the pivotal connection of said first link thereto and in an angular direction counter to that of the first link, thus causing said other end to move downwardly and said seat forming supporting structure to move toward said other end.

2. The structure defined in claim 1 in which said movable end supporting member includes a horizontally disposed arm extending parallel to the axes of said pivotal connections and in which said releasable means comprises a pair of opposed gripping elements normally embracing said arm and movable about the axis thereof.

3. The structure defined in claim 2 in which one of said gripping elements is mounted on said table for swinging movements toward and away from the other thereof, said arm being releasable from said gripping elements when said elements are in spread apart relationship.

4. The structure defined in claim 1 in which said movable end supporting member includes a horizontally disposed arm extending parallel to the axes of said pivotal connections and in which said releasable means comprises a pair of opposed gripping elements normally embracing

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said arm and movable with said table top about the axis thereof, one of said gripping elements being pivotally mounted on said table for swinging movements toward and away from the other thereof, and in further combination with means for imparting said movements to the movable gripping member, said last-mentioned means comprising a supporting leg for the adjacent end of the table top, means pivotally mounting one end of said leg for movements between a locking position substantially parallel with and adjacent the under side of the table top and a table supporting position at substantially right angles thereto, and connections between said leg and said movable gripping element whereby said gripping element will be moved toward gripping engagement with said arm when the leg is moved to its locking position and causing said movable gripping element to release said arm when the leg is moved to its table supporting position.

5. In a fold-up table, a central supporting structure providing a seat, a table top comprising a pair of cooperating top sections having their adjacent inner ends freely resting on said seat, a pair of first rigid control links each underlying a different one of said table top sections and each pivotally connected adjacent its inner end to the supporting structure for independent upward and downward swinging movements of its outer end and each being pivotally connected at its outer end portion to the intermediate under portion of the adjacent table top section, a second pair of rigid control links each underlying a different one of said table top sections and each pivotally connected adjacent its inner end to the central supporting structure in a horizontal plane of the axis of the pivotal connection of the adjacent link of said first pair to the supporting structure for upward and downward swinging movement of its outer end and each being pivotally connected adjacent its outer end to the

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intermediate under side portion of its respective table top section at a point outwardly spaced from the pivotal connection of the cooperating first link to the adjacent table top section, means supporting the outer end of one of said table sections when said section is in a horizontal position, and independent means supporting the outer end of the other of said table sections, said last-mentioned means comprising a relatively stationary vertical rail adapted to be mounted on a building wall, a movable end supporting member mounted and guided on said rail for vertical movements relative thereto, latch mechanism releasably locking said end supporting member in table supporting position on said rail, and releasable means pivotally mounting the outer end portion of said other table section on said supporting member, release of said latch mechanism permitting upward swinging movements of the control links of said other table section and swinging movement of said other table section from its horizontal operative position to a generally vertical storage position about the axis of the pivotal connection of its respective first link thereto and in an angular direction counter to that of its respective first link.

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