Aug. 18, 1953 F. ARNOLD 2,649,206

TABLE HAVING ADJUSTABLE TOP SECTIONS

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FIG. 1

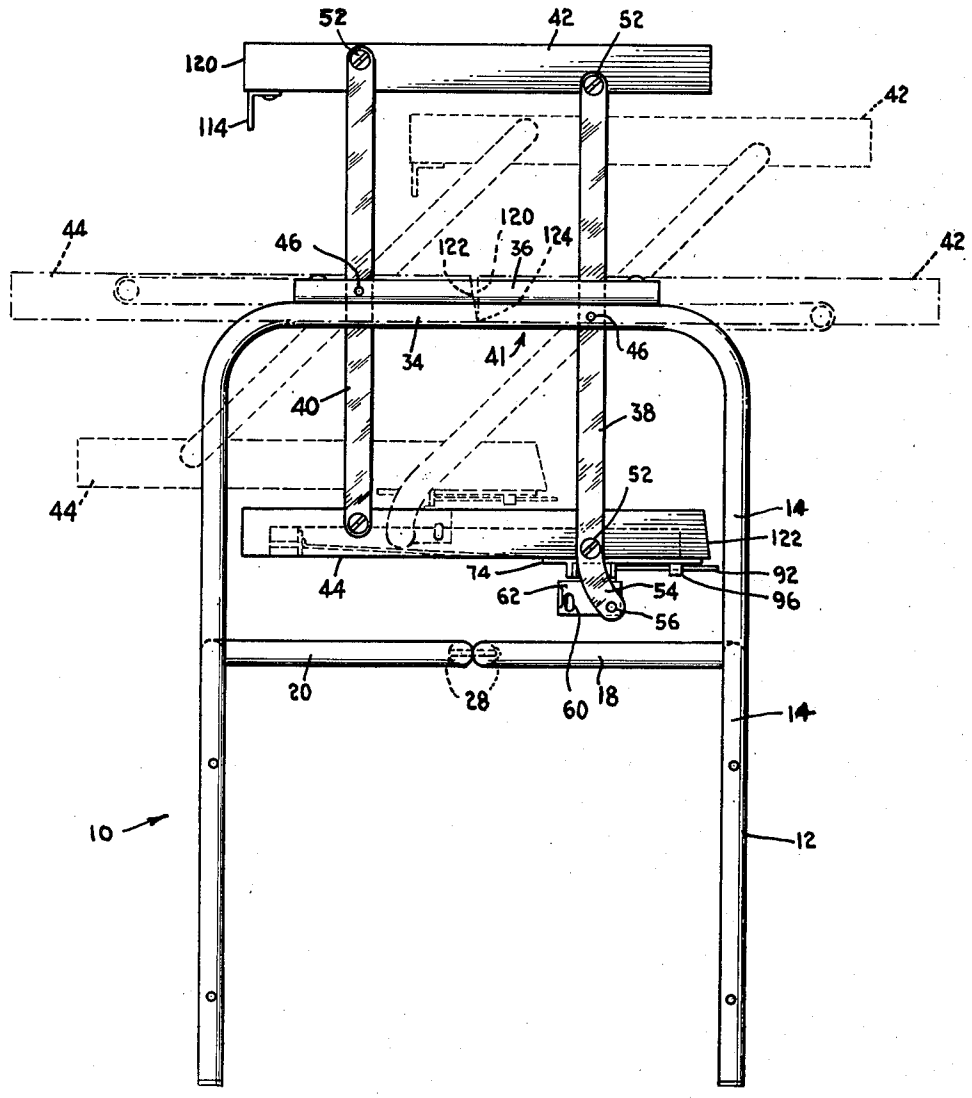

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FIG. 2

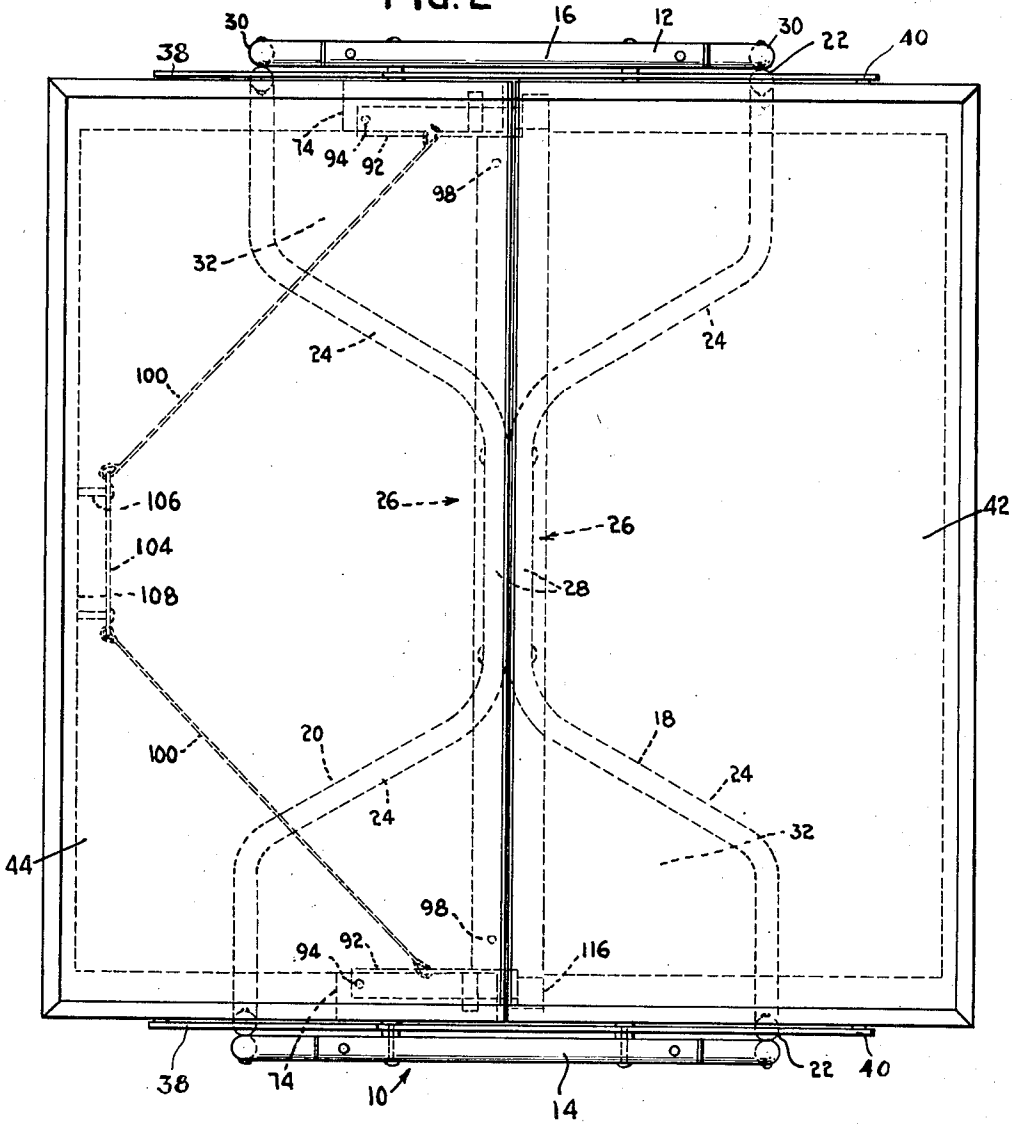

FIG. 3

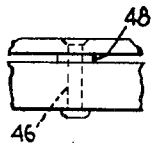

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FIG. 4

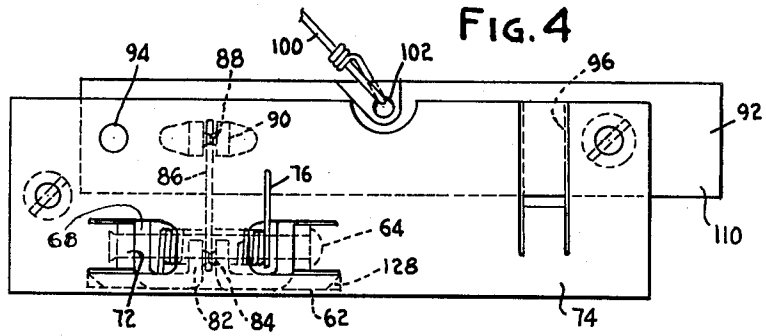


FIG. 5

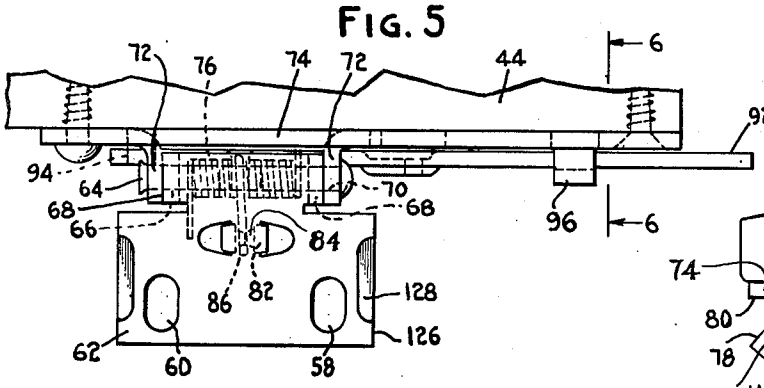


FIG. 8

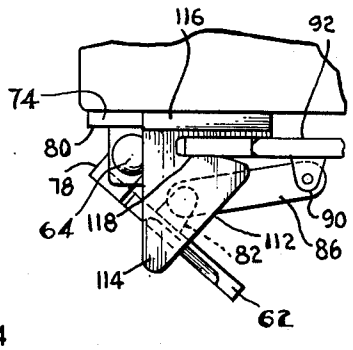


FIG. 6

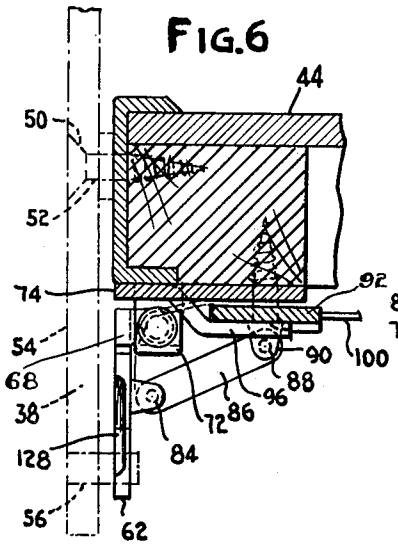
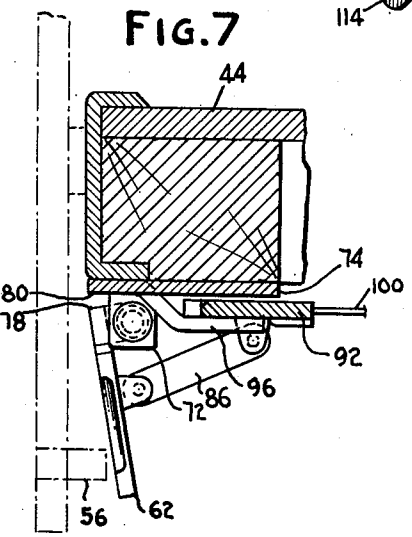


FIG. 7



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UNITED STATES PATENT OFFICE

2,649,206

TABLE HAVING ADJUSTABLE TOP SECTIONS

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Application November 28, 1950, Serial No. 198,009

6 Claims. (Cl. 211—2)

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This invention relates to tables having adjustable top sections.

In many cases, it is desirable to have available a table having multiple functions, as, for instance, a table which may, at one time, serve as an ordinary table, at other times as a bar or refreshment buffet, and on other occasions, as an end table for the display of ornaments and the like. It is an object of the invention to provide a table of the character indicated, of simple structure, which is capable of being adjusted into any one of various relationships with ease, and wherein the parts are capable of being manufactured cheaply, and yet be of sturdy construction, and capable of being assembled easily.

A table construction of this type may comprise a table top made of a plurality of separating sections, wherein means are provided to support the sections so that they may be moved with relation to each other to various positions, where these sections may function as shelves, or may be aligned into a single table top. It is an object of the invention to provide, in a construction of this type, simplified means for locking the sections in the various positions into which they may be adjusted, and means capable of actuation in a very simple manner for releasing such locking means.

It is an object of the invention to provide mechanism for performing the results enumerated, wherein the parts are capable of manufacture from bar or sheet metal stock, by simple stamping and drilling operations.

Other objects of the invention will be set forth hereinafter, or will be apparent from the description and the drawings, in which is illustrated an embodiment of a construction for carrying out the invention.

The invention, however, is not intended to be restricted to any particular construction, or any particular arrangement of parts, or any particular application of any such construction or arrangement of parts, or any specific method of operation or use, or any of the various details thereof, even where specifically shown and described herein, as the same may be modified in various particulars, or may be applied in many varied relations, without departing from the spirit and scope of the claimed invention, of which the exemplifying embodiment, herein shown and described, is intended only to be illustrative, and only for the purpose of complying with the requirements of the statutes for disclosure of an operative embodiment, but not to show all the various forms and modifications in which the invention might be embodied.

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On the drawings, in which the same reference characters refer to the same parts throughout, and in which is disclosed such a practical construction:

Fig. 1 is an end elevational view of a table embodying features of the invention, different positions of the table top sections being shown in dash and dot-and-dash lines;

Fig. 2 is a plan view of the table shown in Fig. 1, the table top sections being shown in aligned position;

Fig. 3 is a detail view illustrating the manner of assembly of the bars with the frame;

Fig. 4 is a detail plan view, to enlarged scale, of portions of the locking mechanism to retain the table top sections in position, the parts being shown separated from the table top;

Fig. 5 is an elevational view of the parts shown in Fig. 4, a part of the table top being shown broken away;

Fig. 6 is a detail cross-sectional view, substantially on the line 6—6 of Fig. 5, illustrating the arrangement of the parts when the table top sections are located in one of the positions out of alignment, the table top section being shown broken away;

Fig. 7 is a view similar to Fig. 6, the parts being shown moved away from the engaged relationship of Fig. 6 to permit movement of the table top sections to another position; and

Fig. 8 is a detail end view, illustrating the manner in which the latching mechanism is operated to disengage and engage for the aligned position.

On the drawings is illustrated a table 10 embodying features of the invention. For certain purposes, a base, provided for the table, may take the form of a frame 12 which may be composed of a plurality of tubular members 14, 16, 18, and 20. Members 14 and 16 may be substantially identical, being substantially inverted U-shaped, and being positioned to form end uprights for the table.

Members 18 and 20 are oppositely identical, being bent to provide legs 22 above which they are then bent into a number of angular bends 24. Each complete bend 24 forms a side recess 26 for its member. The walls 28 are brought into association, when members 18 and 20 are located side by side, so that the now contiguous walls may be secured together in any desired manner, as, for instance, by riveting. Legs 30 of members 14 and 16 are abutted against legs 22 of members 18 and 20, and, in that relationship, are riveted together. In this manner, end recesses 32 are defined. When table 10 finally is set up and in use, recesses

26 and 32 provide for the reception of the knees of persons sitting at the table.

U-shaped members 14 and 16 extend upwardly above the top extent of members 18 and 20, which terminate at the level of bends 24. Each cross-arm 34 of the U has a tubular piece 36 riveted thereto to provide additional thickness. On the bridges 41 formed by cross-arms 34 and pieces 36 are pivotally supported pairs of arms 38 and 40. Each arm 38 is pivoted upon a cross-arm 34 of one of the members 14 and 16, and is longer than the other arm 40 associated therewith. Each arm 40 is provided a pivot in one of the pieces 36. Thus, arms 38 and 40 are pivoted to bridges 41 at points spaced apart both horizontally and vertically sufficiently so that, as shown in dot-and-dash lines in Fig. 1, the arms, when table sections 42 and 44 are positioned in alignment, will be positioned one above the other, substantially parallel to each other, but slightly spaced apart from each other. The pivots for the arms are constructed to facilitate smooth movement of the arms, and the sections and members carried thereby. A riveting construction has been found simplest for this purpose, that is, rivets 46, with suitable washers 48 for spacing and to reduce friction, are used to hold the bars in position, as shown in Fig. 3.

Arms 38 have openings 50 adjacent their ends; arms 40 have similar openings; through each opening is projected a member, such as a screw 52, to engage in the sidewall of the adjacent section 42 or 44. Washers may be used to facilitate freedom of movement in pivoting the sections on screws 52 which thus form fixed pivots. Openings 50 are equidistantly spaced on each side of, and all are in line with, the central pivots of arms 38 and 40. Also, the points of engagement of screws 52 for the arms with sections 42 and 44 are such that they are maintained substantially horizontal and parallel to cross-arms 34 as the sections are moved to any position in the manner to be described.

Each arm 38 has an extension 54 bent slightly from the straight line of the aligned openings in the main body of the arm. Adjacent the end of extension 54 is fixed a pin 56 which projects from the arm inwardly, so that, in certain relationships to be described, it will be juxtaposed to the immediately adjacent portion of section 44 so that it may be in position to engage in one of openings 58 and 60 in a plate 62. This plate, by means of a pin 64 received in openings 66 in a pair of ears 68 bent from the plate, and aligned openings 70 in a pair of ears 72 struck from a plate 74, is pivotally mounted on plate 74. Plate 74 is secured to the bottom of section 44 by suitable fastening means, such as screws or the like. Pin 64 carries a spring 76 to bear against plates 62 and 74 to move plate 62 normally to a substantially vertical position, the end wall 78 of plate 62 engaging against face 80 of plate 74 to limit movement at that position.

Another pair of ears 82 may be struck from plate 62; extrusions 84 are formed on these ears so that, when pressed toward each other, they provide a pivot for a link 86 which extends over to be engaged pivotally by similar extrusions 88 in a pair of ears 90 struck from a lever arm 92. Arm 92, provided a pivot 94 upon plate 74 by means of a screw and washer or other suitable means, may move within the guide provided by a finger 96. This finger, struck out from plate 74, provides a stop to limit movement of arm 92 under the action of spring 76 in one direction; suitable means, such as a screw 98 fixed to the bottom wall of section 44, may provide a stop to limit movement of arm 92 under the action of a link 100 engaged in opening 102 in arm 92. Link 100 extends to a plate 104 carried upon guides 106 fixed in position, as, for instance, upon a wall 108 extended downwardly from the bottom face of section 44.

Since the mechanism including arm 92 is duplicated at each side of section 44, it follows that, as plate 104 is engaged by the hand of an operator and pressed toward wall 108, arms 92 will be moved against the resistance of springs 76. Simultaneously, plates 62 will move away from pins 56 on extensions 54, as shown in Figs. 7 and 8, and release the parts from interlocked engagement, to permit sections 42 and 44 to be moved to another position.

Such new position may be one where pin 56 engages in another of openings 58 and 60, or it may be to a position where the extending end 110 of arm 92 engages against a cam face 112 of a strike plate 114. Plate 114 may be a part of or otherwise constructed to extend from a base 116 which in turn is secured upon the bottom face of the other section 42 by any suitable means such as screws. Arm 92, as sections 42 and 44 move relatively to each other, is cammed along face 112 until it can enter slot 118. By this time, the person manipulating the sections will have released plate 104; end 110 will become engaged in the slot under the action of spring 76. When this occurs, sections 42 and 44 will have arrived at an aligned relationship to form a single table top, as shown by dot-and-dash lines in Fig. 1. In order that end faces 120 and 122 of the respective sections 42 and 44 may move into this position, as shown in Fig. 1, end face 122 of section 44 may have a slight angle away from the vertical. Thus, edge 124 of section 42 will glide past face 122 until the sections are locked in the aligned relationship. To release sections 42 and 44 from the aligned relationship, the same plate 104 is actuated, pulling arm 92 out of engagement with slot 118 of plate 114.

In the position shown by full lines in Fig. 1, the two sections may be disposed in superimposed relationship, when pins 56 are engaged in openings 58; or the table sections may be disposed with one advanced from the other, but still one above the other, as when the pins are engaged in openings 60, as shown by dash lines in Fig. 1.

It can easily be understood that a larger number of openings may be provided, and thus a larger number of positions to which the sections may be adjusted. Also it can be seen that, by bending extension 54, the lengths of plates 74 and 62 may be reduced, to produce a greater compactness of construction. The end edges 126 of plate 62 are provided with bevelled portions 128, forming cams for pins 56 as the plates and pins move into engagement with each other as sections 42 and 44 are moved to their several positions.

Many other changes could be effected in the particular apparatus designed, and in the methods of operation set forth, and in the specific details thereof, without substantially departing from the invention defined in the claims, the specific description being merely of an operative embodiment capable of illustrating certain principles of the invention.

What is claimed as new and useful is:

1. Table structure comprising a plurality of

table top sections, uprights for the table structure, a pair of arms pivotally mounted on the uprights at each end of the table structure and pivotally connected with the sections so that the arms are substantially parallel, a member pivotally mounted on one of the sections, means on an arm and the member for interengagement to lock the section in a position to which the sections have been adjusted, and means for releasing the retaining means, the releasing means including means for holding the sections against separation when the sections are positioned immediately adjacent each other.

2. Table structure comprising a plurality of table top sections, uprights for the table structure, a pair of arms pivotally mounted on the uprights at each end of the table structure and pivotally connected with the sections so that the arms are substantially parallel, a plate pivotally mounted on one of the sections for movement toward and away from a position substantially parallel to an arm, means on said arm and the plate for interengagement to lock the sections in a position to which the sections have been adjusted and the plate is positioned substantially parallel to its related arm, and means for moving the plate out of the substantially parallel relationship, the moving means including means for holding the sections against separation when the sections are positioned immediately adjacent each other.

3. Table structure comprising a plurality of table top sections, uprights for the table structure, a pair of arms pivotally mounted on the uprights at each end of the table structure and pivotally connected with the sections so that the arms are substantially parallel, a plate pivotally mounted on one of the sections for movement toward and away from a position substantially parallel to an arm, resilient means for causing the plate normally to move toward the substantially parallel position, means carried on the plate and the related arm for interengagement to lock the sections in a position to which the sections have been adjusted and the plate is positioned substantially parallel to its related arm, and means for moving the plate out of the substantially parallel relationship, the moving means including means for holding the sections against separation when the sections are positioned immediately adjacent each other.

4. Table structure comprising a plurality of table top sections, uprights for the table structure, a pair of arms pivotally mounted on the uprights at each end of the table structure and pivotally connected with the sections so that the arms are substantially parallel, a plate pivotally mounted on one of the sections for movement toward and away from a position substantially parallel to an arm, resilient means for causing the plate normally to move toward the substantially parallel position, means carried on the plate and the related arm for interengagement to lock the sections in a position to which the sections have been adjusted and the plate is positioned substantially parallel to its related arm, and means for moving the plate out of the substantially parallel relationship.

5. Table structure comprising a plurality of table top sections, uprights for the table structure, a pair of arms pivotally mounted on the uprights at each end of the table structure and pivotally connected with the sections so that the arms are substantially parallel, a plate pivotally mounted on one of the sections for movement toward and away from a position substantially parallel to an arm, resilient means for causing the plate normally to move toward the substantially parallel position, pin and slot means on the plate and the related arm for interengagement to lock the sections in a position to which the sections have been adjusted, and means for moving the plate to separate the pin and slot.

6. Table structure comprising a plurality of table top sections, uprights for the table structure, a pair of arms pivotally mounted on the uprights at each end of the table structure and pivotally connected with the sections so that the arms are substantially parallel, a plate pivotally mounted on one of the sections for movement toward and away from a position substantially parallel to an arm, resilient means for causing the plate normally to move toward the substantially parallel position, pin and slot means on the plate and the related arm for interengagement to lock the sections in a position to which the sections have been adjusted, means for moving the plate to separate the pin and slot, the moving means including a pivoted bar, and means carried by the other section for cooperation with the bar to hold the sections against separation when the sections are moved to a position to define a substantially continuous surface.

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