June 10, 1952 S. KATO 2,599,642

EXTENSION TABLE WITH LEAF ELEVATING MECHANISM

Filed Jan. 13, 1950 2 SHEETS—SHEET 1

FIG. 1.

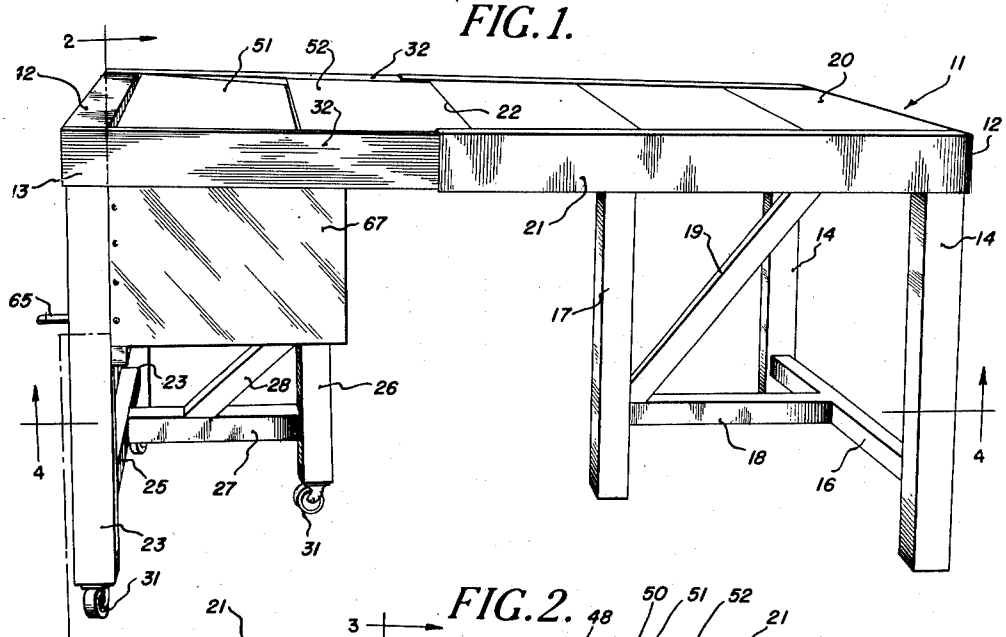


FIG. 2.

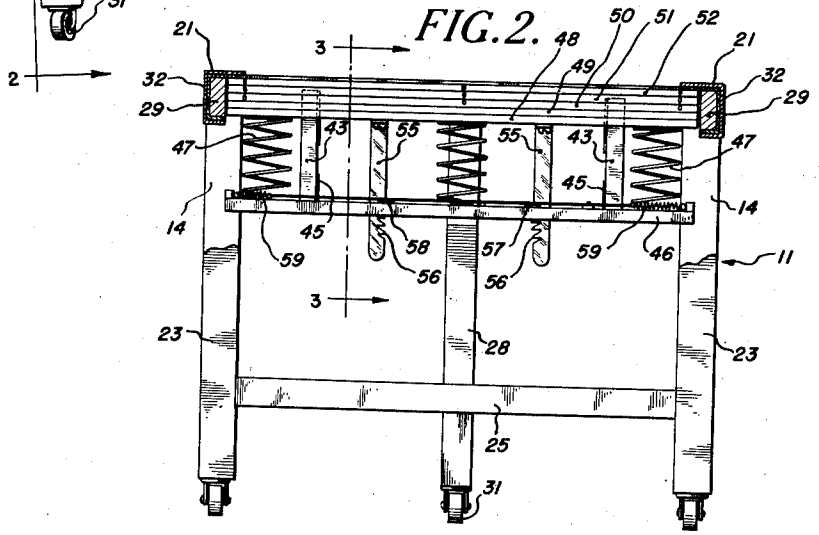
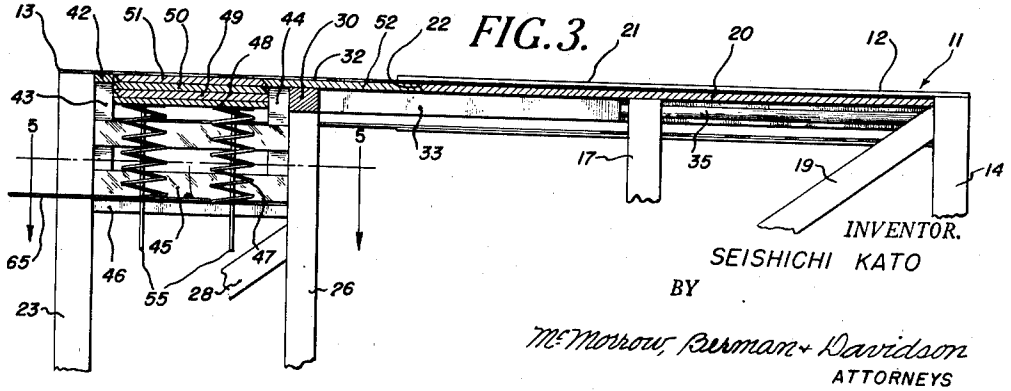


FIG. 3.



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FIG. 4.

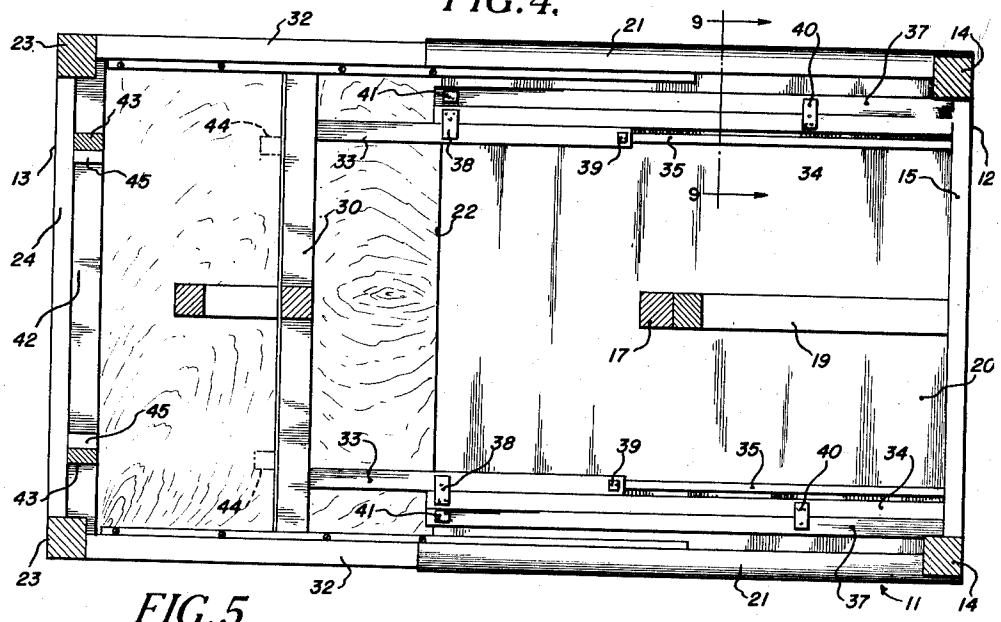


FIG. 5.

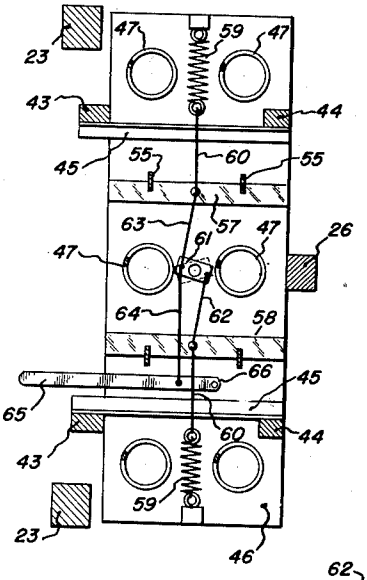


FIG. 7.

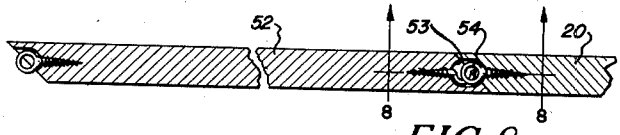


FIG. 8.

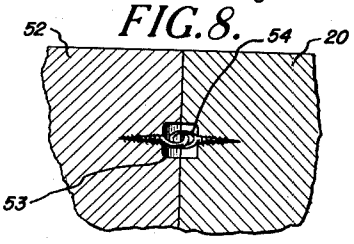


FIG. 6.

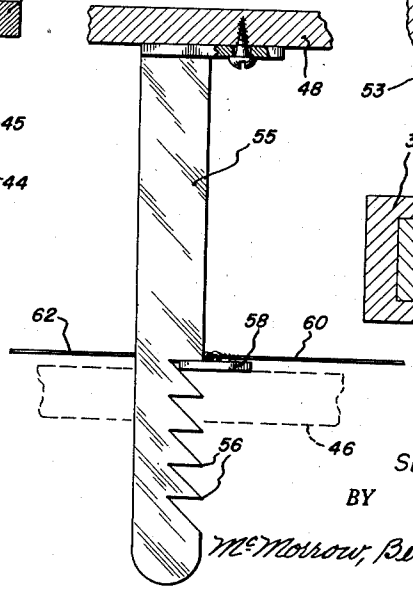
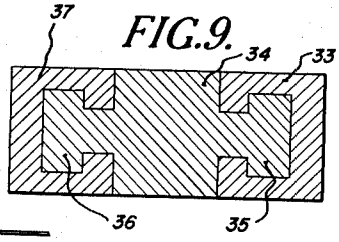


FIG. 9.



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EXTENSION TABLE WITH LEAF ELEVATING MECHANISM

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Application January 13, 1950, Serial No. 138,392

3 Claims. (Cl. 311—46)

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This invention relates to tables, and more particularly to tables of the extensible type.

A main object of the invention is to provide a novel and improved extensible table which is simple in construction, wherein the extension leaves are contained within the table, and wherein the table may be extended or contracted with only a small amount of effort.

A further object of the invention is to provide an improved extensible table which is inexpensive to manufacture, which is sturdy in construction, which is easy to manipulate, which provides a substantially flush top surface when in extended position, and which is attractive in appearance.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a perspective view of an extension table constructed in accordance with the present invention, shown in extended position;

Figure 2 is a transverse, cross-sectional view taken on line 2—2 of Figure 1;

Figure 3 is a fragmentary, vertical, longitudinal cross-sectional view taken through the table of Figure 1, said view being taken on line 3—3 of Figure 2;

Figure 4 is a horizontal, cross-sectional view taken on line 4—4 of Figure 1;

Figure 5 is a detail, horizontal, cross-sectional view taken on line 5—5 of Figure 3;

Figure 6 is an enlarged, fragmentary, cross-sectional, detail view showing the releasable latch means for locking the table leaves;

Figure 7 is an enlarged, cross-sectional detail view taken transversely through portions of two adjacent leaves of the table, the leaves being in their elevated positions;

Figure 8 is an enlarged, cross-sectional, detail view taken on line 8—8 of Figure 7;

Figure 9 is an enlarged, cross-sectional, detail view taken on line 9—9 of Figure 4.

Referring to the drawings, the table is designated generally at 11. Said table comprises a main, relatively stationary portion 12 and a relatively movable portion 13 which is adjustable longitudinally with respect to the stationary portion 12. Portion 12 comprises vertical end legs 14, 14 connected at their top portions by a transverse crossbar 15 and at their lower portions by a transverse crossbar 16. Designated at 17 is an inner vertical leg connected to lower crossbar 16 by a longitudinal bar 18 and connected to the upper crossbar 15 by a diagonal strut 19. Rigidly secured to the upper crossbar 15 and to the top end of vertical leg 17 is the table top 20, the corner portions of the table top being secured to the top ends of the end legs 14, 14. Secured

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to the side margins of the table top 20 are the longitudinal, inwardly facing channel bars 21, 21, said channel bars extending a short distance beyond the inner, transverse edge 22 of the table top, as shown in Figures 1 and 4.

Referring now to portion 13, it will be seen that said portion comprises the vertical end legs 23, 23 connected at their top portions by a crossbar 24 and at their lower portions by a crossbar 25. Designated at 26 is an inner, vertical leg connected to crossbar 25 by a longitudinal bar 27 and braced to bar 27 by a diagonal strut 28. Secured to the top ends of vertical legs 23, 23 are longitudinal bars 29, 29. Secured to the top end of inner leg 26 is a transverse bar 30 which is secured at its respective ends to the longitudinal bars 29, 29, thereby defining a rigid framework for the portion 13. The lower ends of the vertical legs 23 and 26 are provided with casters 31 to facilitate movement of the portion 13, as will be presently described.

Secured to the longitudinal bars 29, 29 are channel bars 32, 32 which are slidably and telescopically received in the channels 21, 21 of the relatively stationary table portion 12. Secured to the transverse bar 30 are longitudinal, C-shaped bars 33, 33 which extend beneath the table top 20, as shown in Figures 3 and 4. Designated at 34, 34 are longitudinal guide bars formed at their opposite sides with T-shaped ribs 35, 36. The ribs 35 are slidably engaged in the bars 33. The ribs 36 are slidably engaged in C-shaped, longitudinal bars 37, 37 secured to the under side of the table top 20. Secured to the forward ends of bars 34 are lugs 38 underlying bars 33. Bars 33 are provided at their ends with projections 39 engageable with the lugs 38 when the movable table portion 13 is extended. Secured to the forward portions of bars 34 are lugs 40 which underlie the bars 37. Bars 37 are provided at their ends with projections 41 with which the lugs 40 are engageable when the movable table portion 13 is extended to its outermost position.

Secured to the top ends of the vertical legs 23, 23 and overlying the top edge of the crossbar 24 is a transversely extending bar member 42. Secured to member 42 are depending bar members 43, 43. Secured to the crossbar 30 in longitudinal alignment with the respective bar members 43, 43 are the respective depending bar members 44, 44. The respective pairs of longitudinally aligned bar members 43, 44 are connected at their lower ends by longitudinal angle bars 45 and secured to the horizontal flanges of said angle bars is a transverse, horizontal board member 46. Secured on board member 46 are a plurality of heavy coiled springs 47 arranged in pairs, as shown in Figure 5. Designated at 48

to 52 are a stack of leaves arranged over the springs 47 and biased upwardly thereby against the inwardly projecting top flanges of the longitudinal channel bars 32, 32. As shown in Figure 3, the inner, transverse margin 22 of the table top 20 is beveled, the adjacent margin of the leaf 52 being beveled to interfit with margin 22. The margins of all the leaves are beveled to interfit in the same manner, the angle of bevel being 45°, as shown in Figure 7. As shown in Figures 7 and 8, hooks 53 and eyes 54 are provided at the respective interfitting edges, said hooks and eyes being interengageable, as shown, to secure the elements in interfitting relation.

Secured to the lowermost leaf 48 are the vertically depending pairs of arms 55 which slidably extend through openings formed in the board member 46 and are formed at their inner edges with the inwardly facing ratchet teeth 56. Designated at 57 and 58 are respective bar members supported on the board member 46 and arranged to interlock with the ratchet teeth 56 of the arms 55. Each of the bar members is biased towards engagement with said ratchet teeth by a spring 59. One end of the spring is connected to the end portion of the board member and the other end of the spring is connected by a cable 60 to the mid-portion of the bar member. Designated at 61 is an arm pivoted at its center to the center of board member 46. One end of arm 61 is connected by a cable 62 to the mid-portion of bar member 58 and the other end of arm 61 is connected by a cable 63 to the mid-portion of the other bar member 57. Said other end of arm 61 is connected by a cable 64 to the intermediate portion of a hand lever 65 pivoted at 66 to board member 46. By rotating hand lever 65 counterclockwise, as viewed in Figure 5, the bar members 57 and 58 may be moved inwardly against the force of springs 59 to unlock the depending ratchet arms 55. The ratchet teeth 56 are successively spaced in accordance with the thickness of the leaves.

When the table is in its contracted position, the leaves 48 to 52 are stacked one on top of the other. When the movable portion 13 of the table is extended, the hand lever 65 is successively operated to unlock the arms 55 and to allow the springs 47 to successively raise the leaves into positions flush with the table top. As shown in Figure 3, the leaves are supported in their raised positions on the longitudinal bars 33, 33, each leaf being held manually while the movable table portion 13 is extended, whereby clearance is provided for the elevation of the next leaf. As the leaves are elevated to positions flush with the table top, the hooks 53 engage the eyes 54 to hold the leaves against extension forwardly with respect to the table top.

To contract the table, the lever 65 is first operated to unlock the end leaf, said end leaf is manually depressed, and the portion 13 of the table is moved inwardly so that the end leaf underlies the next adjacent leaf. The procedure is then repeated until the table has been contracted to its desired size.

Side panels 67 are provided on the movable portion 13 to cover the ends of the leaf magazine. A similar panel may be provided at the end of said movable portion.

Although a specific embodiment of an extensible table has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In an extension table, a top, legs supporting the top, inwardly facing longitudinally extending channels formed on the side margins of the top, a movable frame, depending legs secured to said movable frame, longitudinally extending side elements carried by said movable frame and telescopically received in said channels, a transverse support secured between the legs of said movable frame, spring means vertically mounted on the support, a plurality of superimposed leaves stacked on the spring means, longitudinally extending support members carried by said movable frame and extending subadjacent the top, guide means for said support members which are adapted to support the leaves in side by side relation and aligned with the top, releasable locking means retaining said leaves in stacked arrangement on the support against the urgement of the spring means, each of said leaves having parallel beveled side edges and interengaging connecting means on the side edges of the leaves whereby the leaves are locked together in side by side relation when in raised position.

2. In an extension table, a top, legs supporting the top, inwardly facing longitudinally extending channels formed on the side margins of the top, a movable frame, depending legs secured to said movable frame, longitudinally extending side elements carried by said movable frame and telescopically received in said channels, a transverse support secured between the legs of said movable frame, spring means vertically mounted on the support, a plurality of superimposed leaves stacked on the spring means, longitudinally extending support members carried by said movable frame and extending subadjacent the top, guide means for said support members which are adapted to support the leaves in side by side relation and aligned with the top, releasable locking means retaining said leaves in stacked arrangement on the support against the urgement of the spring means, each of said leaves having parallel beveled side edges and interengaging connecting means on the side edges of the leaves whereby the leaves are locked together in side by side relation when in raised positions, said last means including cooperative hooks and eyes formed in recesses in the side edges of the leaves.

3. In an extension table including a table top, a movable frame, a plurality of leaves carried in stacked arrangement by the frame, supporting means on said frame extending beneath the top, and guide means for said supporting means, the improvement which consists of parallel beveled side edges formed on each of the leaves so that the side edge of one leaf overlies the side edge of an adjoining leaf and is disposed in abutting engagement therewith, said side edges being formed with registrable recesses and interengaging connecting means mounted in said recesses.

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