May 28, 1935. R. A. HOLLAND ET AL 2,002,576

EXTENSION TABLE

Filed Sept. 5, 1933 4 Sheets-Sheet 1

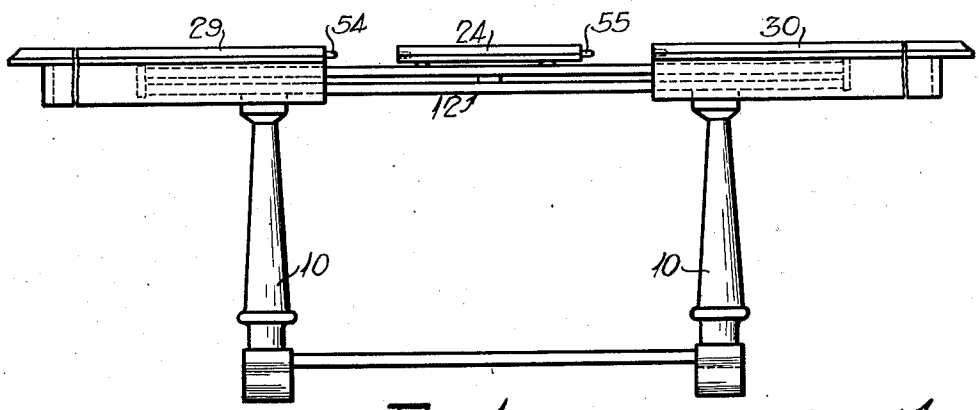


Fig-1

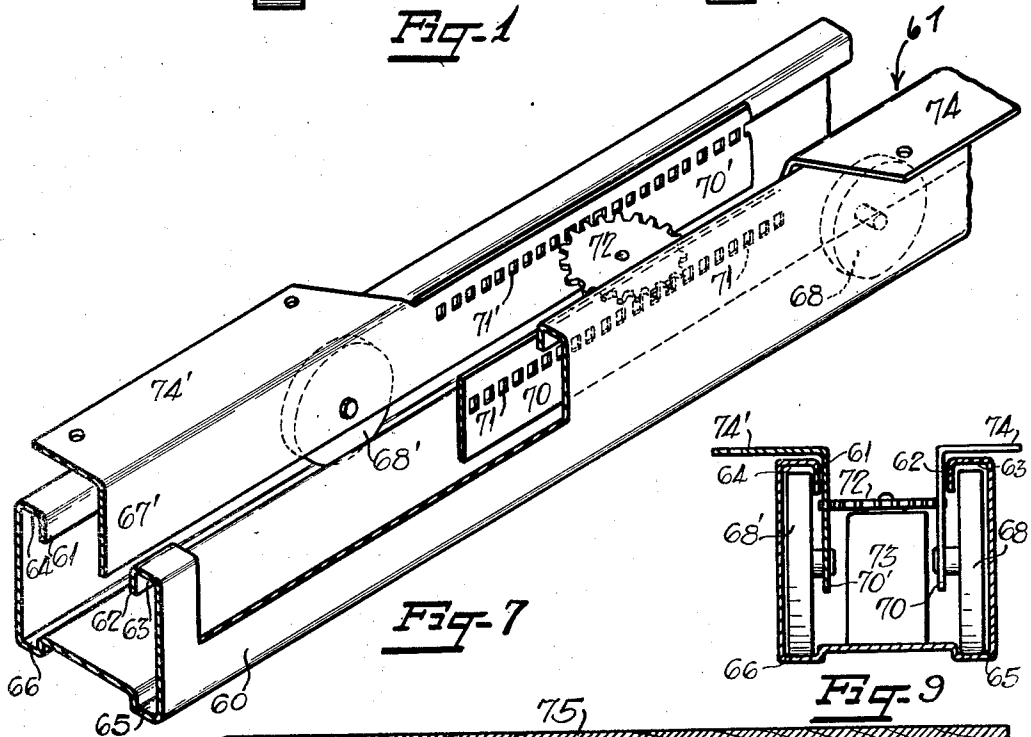


Fig-7

Fig-9

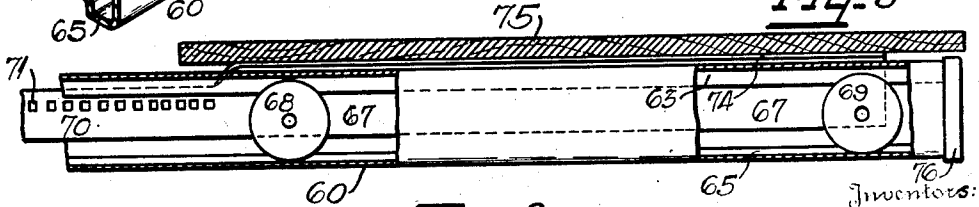


Fig-8

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EXTENSION TABLE

Filed Sept. 5, 1933 4 Sheets-Sheet 2

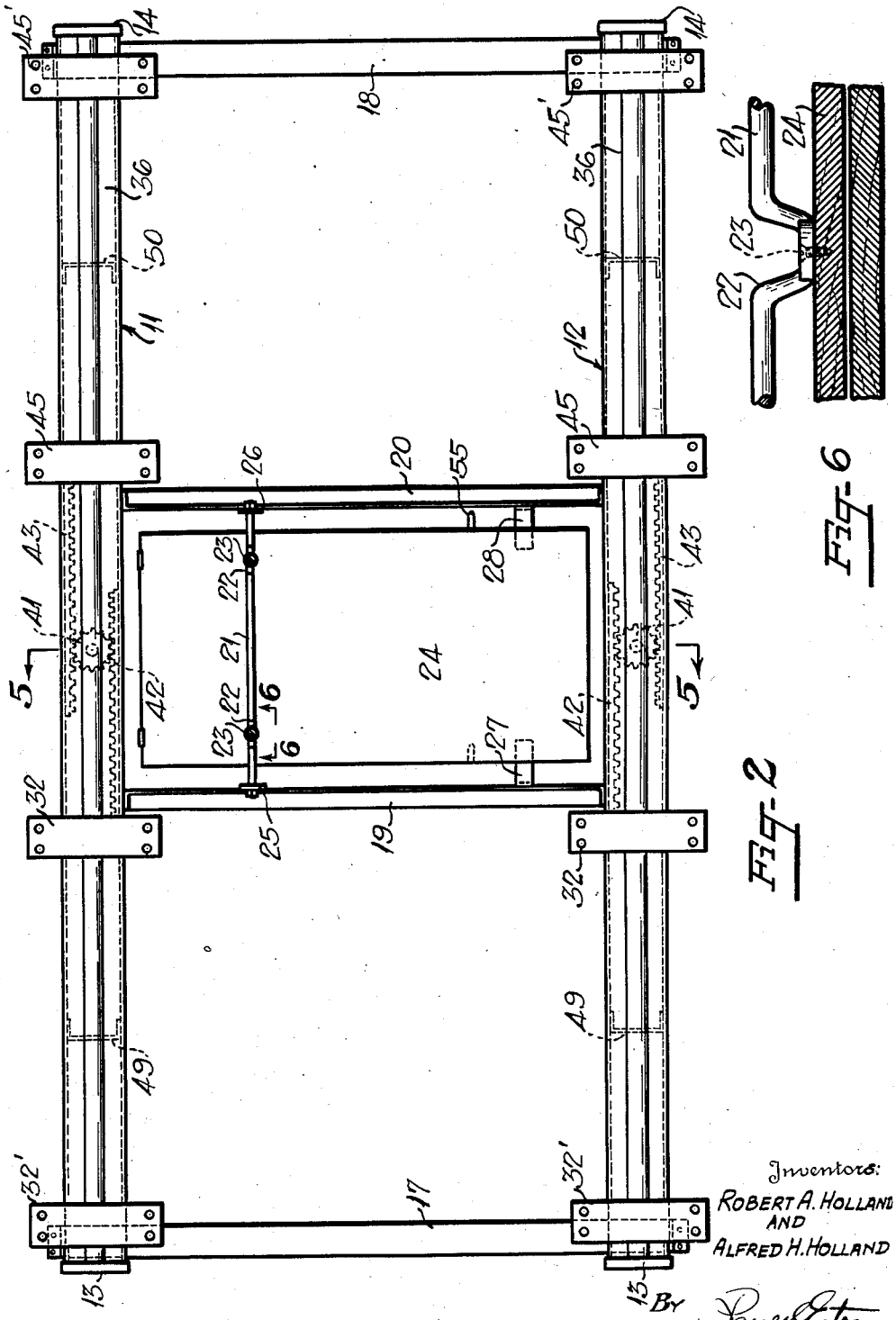


FIG. 2

FIG. 6

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EXTENSION TABLE

Filed Sept. 5, 1933 4 Sheets-Sheet 3

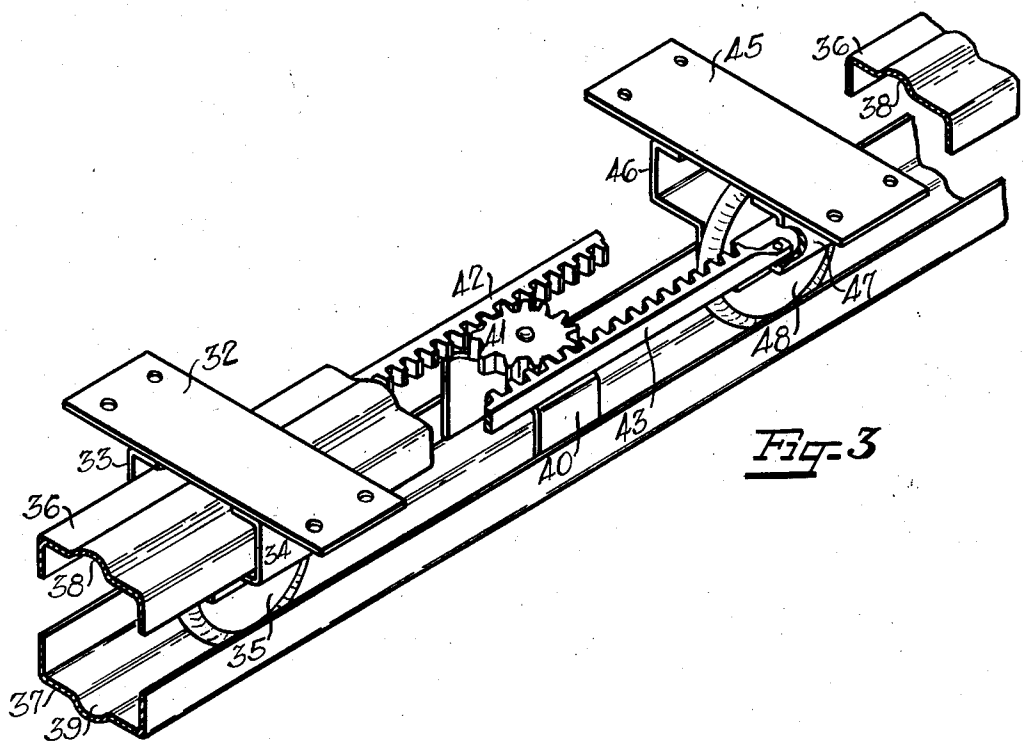


Fig-3

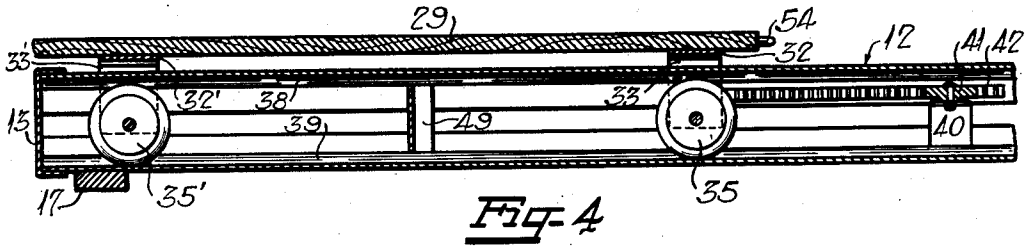


Fig-4

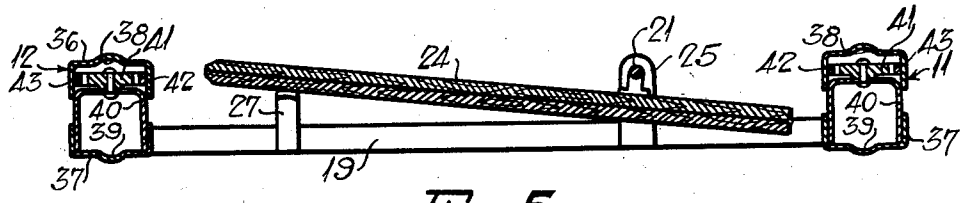


Fig-5

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EXTENSION TABLE

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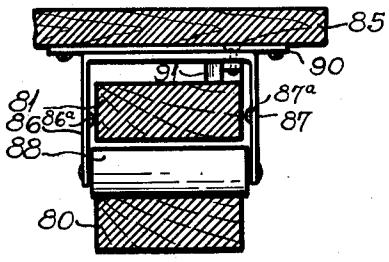


Fig-12

Fig-10

Fig-14

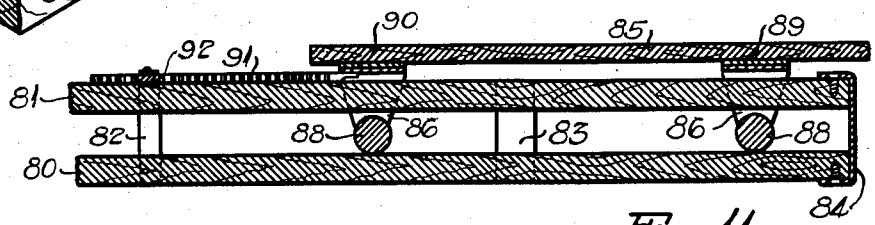


Fig-11

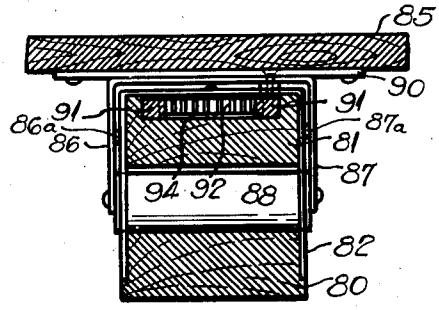


Fig-13

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UNITED STATES PATENT OFFICE

2,002,576

EXTENSION TABLE

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Application September 5, 1933, Serial No. 688,202

2 Claims. (Cl. 311—68)

This invention relates to an extension table having therein improved non-friction roller means movable with the top section or extension leaves, for supporting the top section or extension leaves of the table so that the same may be extended or moved to folded position with a minimum amount of effort. The extension leaves or top sections are mounted on suitable rollers mounted in suitable trackways or channel members so that a minimum amount of friction is encountered in moving the extension leaves or top sections of the table with relation to the trackways on which they are mounted.

It is an object of this invention to provide an extension table having a unit structure adapted to be placed on top of a table framework and having a pair of parallel trackways therein for guiding a plurality of rollers, said rollers being mounted on brackets which are attached to the lower side of the top sections so that the roller and top sections move with relation to the channel member when the top sections are moved to open or closed position.

It is a further object of this invention to provide rollers for supporting extension leaves or top sections of a table with parallel channel members for supporting the rollers so that the rollers can move with the top sections with relation to the channel members and suitable rack members are secured to the brackets carrying the rollers and engage a common pinion for each channel bar so that movement imparted to one extension leaf or top section will cause movement in a reverse direction of the other extension leaf or top section.

It is a further object of this invention to provide an extension table having channel bars provided with rollers contacting the channel bars and secured on the bottom surfaces of the top sections for rotation, which rollers not only reduce friction, but also prevent lateral and vertical movement of the top sections with relation to the channel bars.

Some of the objects of the invention having been stated, the invention will appear more fully as to details when taken in connection with the accompanying drawings, in which:—

Figure 1 is a side elevation of an extension table in extended position and showing the unit extension structure hereinafter set forth;

Figure 2 is a plan view of the unit for an extension table with the table framework and the top sections attachable thereto omitted, except the foldable leaf;

Figure 3 is an isometric view of the central portion of one of the channel bars and the proximate roller brackets supporting the proximate edges of the top sections and showing portions broken away;

Figure 4 is a longitudinal sectional view through one end of one of the channel bars and one of the top sections;

Figure 5 is a transverse sectional view taken along the line 5—5 in Figure 2;

Figure 6 is a detail view showing the means for supporting the foldable leaves and taken along the line 6—6 in Figure 2;

Figure 7 is an isometric view, with portions broken away, of the central portion of one of the channel bars showing a modified form of the invention and showing a portion of the brackets for supporting the top sections;

Figure 8 is a longitudinal view, with portions broken away, of one end of one of the modified channel bars and showing the brackets and rollers supporting one of the top sections;

Figure 9 is a view looking into the nearest end of Figure 7;

Figure 10 is an isometric view of the central portion of one of the supporting bars for another slightly modified form of the invention;

Figure 11 is a longitudinal sectional view showing one end of the structure supporting the form shown in Figure 10;

Figure 12 is a view looking into the nearest end of Figure 10;

Figure 13 is a view similar to Figure 12 and showing a slightly modified form of the structure over that shown in Figures 10, 11 and 12.

Figure 14 is a view similar to Figure 12 but showing rollers for preventing lateral movement of the top sections.

Referring more specifically to the drawings, the numeral 10 indicates the framework of a table which is usually without a top thereon and an extension top is to be placed thereon. On top of this framework 10 there is provided a unit comprising channel bars 11 and 12 which are closed at their ends by suitable caps 13 and 14 to limit outward movement of the brackets carrying the extension leaves. These channel bars are held in parallel relation by means of bars 17 and 18 disposed between the ends of the channel bars and also by the angle bars 19 and 20 which not only serve to space the channel bars 11 and 12 in parallel relation but also make the foldable leaves supporting structure integral with the remainder of the unit so that the entire unit can be manufactured and sold to furniture factories and installed on the table framework.

This foldable leaf supporting structure, comprising bars 19 and 20, pivotally supports a transverse rod 21 which has bent portions 22 therein and which is secured by any suitable means such as screws 23 to the foldable leaf 24 which is shown in folded position in Figures 2 and 5. These angle bars 19 and 20 have mounted thereon the upstanding lugs 25 and 26 in which the transverse rod 21 is rotatably mounted.

The angle bars 19 and 20 also have the upstanding inturned brackets 27 and 28 which support the open end of the folded leaf 24 in the position shown in Figure 5 so that top sections 29 and 30 may be moved thereover when the foldable leaf 24 is in folded position. Although there is shown only one foldable leaf, it is evident that the length of members 11 and 12 may be increased and a greater number of foldable leaves placed in position, if desired. In Figure 4, the leaf 29 is shown in section and has attached to the lower surface thereof, a plate 32 which has integral therewith, downturned and inwardly projecting arms or brackets 33 and 34, which have rotatably mounted therein a roller 35. The channel members 11 and 12 are identical and are composed of the upper portion 36 and the bottom portion 37. The upper portion 36 has a longitudinally and centrally disposed groove 38 therein and the bottom portion has a longitudinally and centrally disposed groove 39 therein in which the rounded periphery of roller 35 travels, and which restricts the upward, downward and lateral movement of roller 35. Each of these channel bars 11 and 12 have mounted centrally thereof a bracket 40 which has mounted thereon a pinion 41 which meshes with racks 42 and 43, rack 42 being secured to arm or bracket 33 and associated with roller 35, whereas, rack 43 is secured to one of the arms or brackets of a bracket 45, the latter carrying the downwardly and inwardly projecting arms or brackets 46 and 47 in which is rotatably mounted a roller 48 which also travels in the grooves 38 and 39.

The description of the members 32 and 45 and associated parts is sufficient to describe the end members 32' and 45' because the structure of the latter differs from that of the former only in the omission of racks 42 and 43. Members 36 and 37 forming the channel members 11 and 12 are not only secured to each other by means of caps 13 and 14 but also by members 49 and 50 so disposed between brackets 32 and 32' and brackets 45 and 45' as to be out of the path travelled by the rollers carried thereby so that the rollers and leaves carried thereby can be opened sufficiently for the foldable leaf to be manipulated, the position of the brackets in Figure 2 being that position they will occupy when the extension leaves are in extended position.

The structure of channel bar member 12 having been described, the structure of the other similar member 11 is identical and therefore like reference characters will apply. The top section 29 has pins 54 therein adapted to penetrate coinciding holes in the foldable leaf 24 when the same is in unfolded position and the foldable leaf also has pins 55 therein adapted to enter coinciding holes in the extension leaf 30 also when the foldable leaf 24 is in unfolded position and ready for use. This supports the unfolded center leaf.

In Figures 7, 8 and 9 a slightly modified form of the invention is shown and instead of showing the entire table, only the central portion thereof and one end of one of the channel bars is shown as it is evident that the structure of the two channel bars is identical and the central structure in both of the channel bars is identical and therefore the showing, as set forth in Figures 7, 8 and 9, will enable those skilled in the art, to reconstruct the invention, as set forth in these Figures 7, 8 and 9, according to the unit set forth in Figure 2.

In the form shown in Figures 7, 8 and 9, a channel bar 60 which is U-shaped in cross-section, is provided and has not only inturned upper edges, but these edges are also downturned as indicated at 61 and 62, forming channels 63 and 64 which coincide with channels 65 and 66 in the bottom portion of the channel bars. In these channels and at opposite ends and sides of each of the channel bars 60, a bracket 67 is mounted having rollers 68 and 69 thereon, which roll in and are confined in channels 64 and 66 and channels 63 and 65, limiting the upward, lateral and downward movement of members 67 and 67.

Bracket 67 has portion 70 projecting toward the central portion of the framework and has a plurality of equally spaced holes 71 therein serving as a rack for engaging a centrally disposed pinion 72 mounted on an upstanding support 73. The upper portion of the bracket 67 is turned laterally as at 74 and has holes therein whereby wood screws may penetrate same and be embedded in the extension leaf 75.

The channel bars have their ends closed by any suitable means, such as caps 76. The above description for the structure shown in Figure 3 equally applies to the brackets disposed on the other end of each of the channel bars, a portion of the other bracket being shown in Figure 7 and being indicated by like reference characters with the prime notations added.

In Figures 10, 11 and 12 there is shown a slightly modified form of the invention in which one of the extension leaf supports, corresponding to channel member 11 or 12 of Figure 2, comprises upper and lower parallel rails 80 and 81, which are held in spaced relation by suitable straps 83 near each end, and by a suitable cap 84 over each end. On each end of each extension leaf support, means are provided for supporting the extension leaf 85 of the table, said means comprising two brackets, each bracket having depending legs 86 and 87 which engage opposite sides of the upper rail 81 and thereby guide the bracket. A roller 88 is mounted in the lower ends of the legs of each bracket and is in contact with the top surface of rail 80, and is confined between the rails 80 and 81 to limit upward and downward movement of the bracket. A plate 90 is welded to the bracket nearest the center of the table and a plate 89 is welded to the remaining bracket. The bracket nearest the center of the table also carries a rack 91 which engages a pinion 92 mounted on a strap 82, the strap being secured to both rails and cooperating with straps 83 to hold the rails in spaced relation to provide a passageway for the rollers 88.

In Figure 13 a slightly modified form of the invention, as shown in Figures 10, 11 and 12, is shown, the only difference being, that the upper rail 81 has a suitable channel 94 therein in which a pinion 92 and the racks 91 operate instead of being disposed on top of the rail 81, as shown in Figures 10, 11 and 12. The channel does not extend the entire length of the upper rail 81 but only in the central portion thereof and is just long enough to permit the extension leaves to be moved to outward position.

In all of the forms of the invention, lateral movement of the extension leaves is prevented. In Figures 10 to 13, indentations **86***a* and **87***a* on the bracket legs **86** and **87**, respectively, prevent this lateral movement. In Figures 7 to 9 the upper and lower channels for the rollers, prevent this lateral movement, and in Figures 3 to 5 the channel **39** having rollers **35** and **35'** prevent lateral movement of the extension leaves, and when the leaves are raised upwardly to cause the rollers **35** to engage the upper channel **38**, this channel serves to prevent lateral movement of the extension leaves.

In Figure 14, instead of indentations, rollers **86***b* and **87***b* are provided for taking care of lateral thrusts.

We claim:

1. A table slide for an extension table having two slidable top sections comprising two, spaced parallel members adapted to be rigidly mounted on said table, each of said members comprising upper and lower bars spaced from each other and forming a guideway therebetween, a plurality of rollers positioned in each guideway, each roller being carried by a bracket which is adapted to be secured to the lower surface of one of the top sections, each of said brackets comprising a pair of depending arms positioned on each side of said upper bar to limit lateral movement of the bracket, there being at least two of said brackets associated with each top section and adapted to be positioned near the meeting edge of each top section, the brackets of one top section confronting those associated with the other section, and equalizer means associated with each of the confronting brackets and said parallel members.

2. A table slide as recited in claim 1, said equalizer means comprising a pinion mounted on one of the bars of each parallel member and a rack mounted on one arm of each confronting bracket.

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