Nov. 26, 1957 S. DERMAN 2,814,541

COLLAPSIBLE EXTENSIBLE TABLE

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FIG. 1.

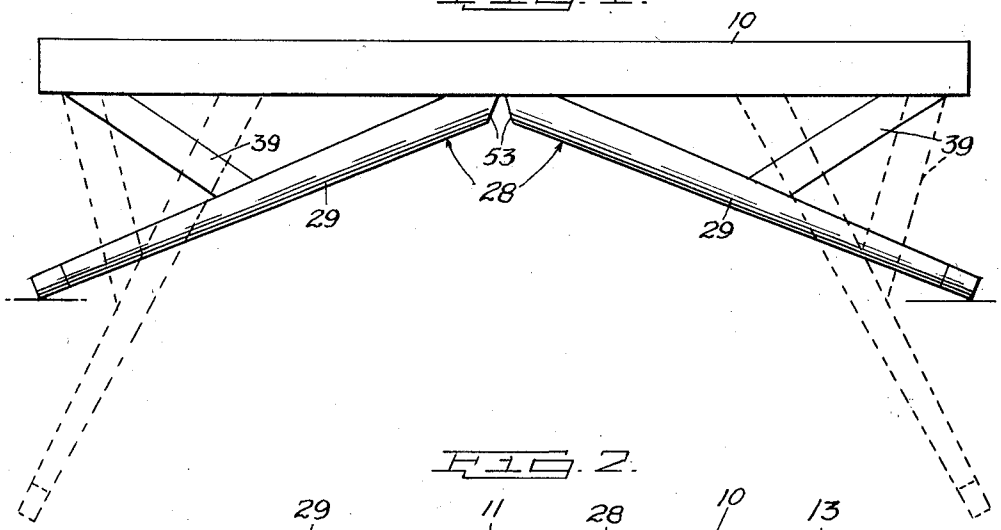
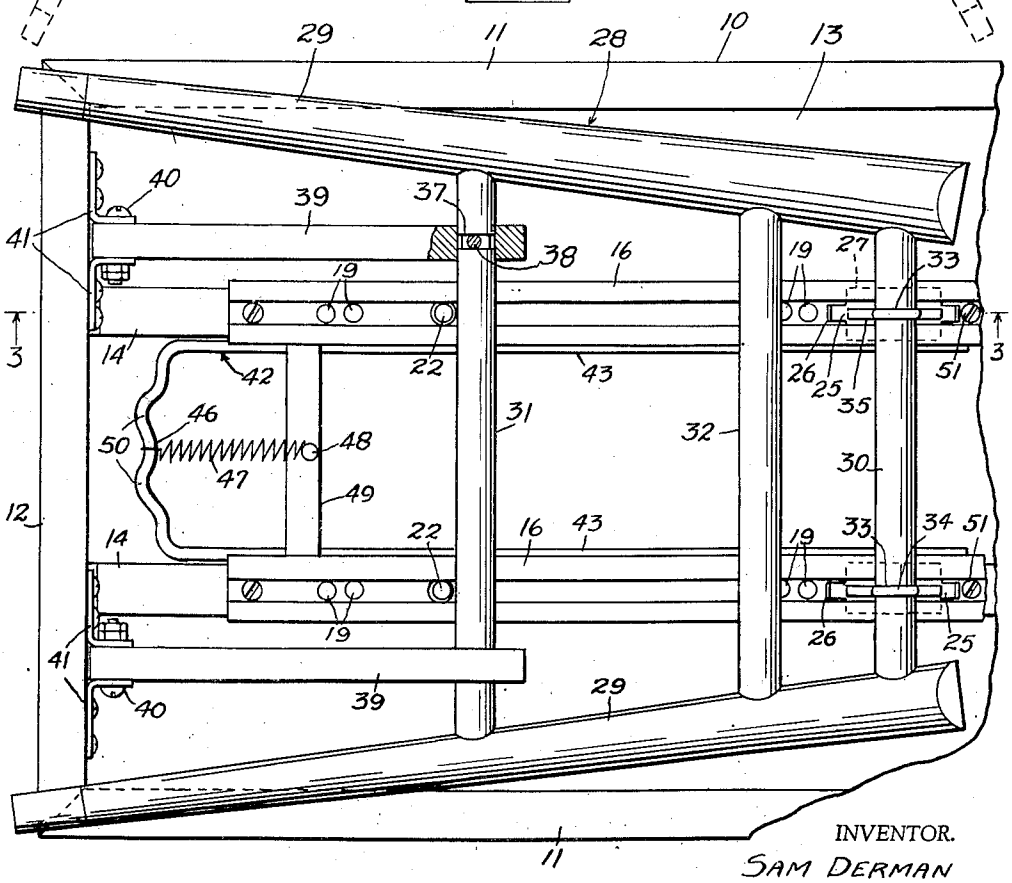


FIG. 2.



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Fig. 3.

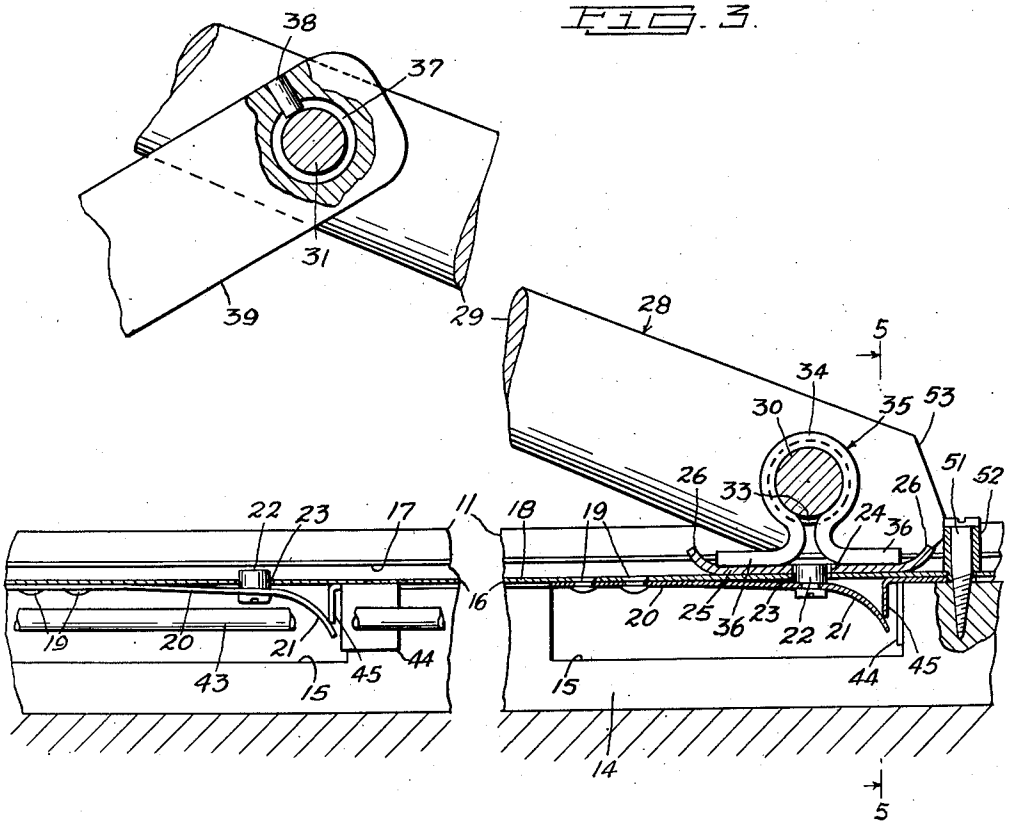


Fig. 4.

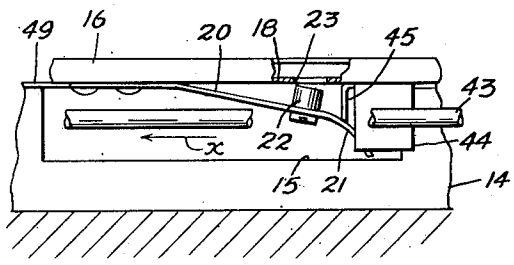
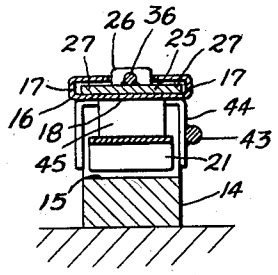


Fig. 5.



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COLLAPSIBLE EXTENSIBLE TABLE

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Application March 13, 1957, Serial No. 645,827

14 Claims. (Cl. 311—39)

This invention relates to tables of the type and kind which can be supported in a low cocktail-type of table and a high dining or serving-type of table, wherein removal of certain fastener devices facilitates complete collapsing of the table for packaging and shipment.

More particularly, the invention deals with a table structure of the character described, employing a manually operating latching element at end portions of the table operatively engaging latch shoes at upper portions of the leg units of the table for definitely retaining the leg units in the low, as well as high table supporting positions.

Still more particularly, the invention deals with a structure of the character described, wherein latching engagement is automatic in both positionings of the leg units, the latching elements or pins being released or moved into inoperative positions by manual operation of releasing frames.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a diagrammatic side view of a table made according to my invention, showing the same supported in the low cocktail table position in full lines and in raised dining or serving table position in dotted lines.

Fig. 2 is an enlarged bottom view of the structure, as shown in full lines in Fig. 1, illustrating one end portion only of the table, with parts of the construction broken away and in section.

Fig. 3 is a broken enlarged detail section substantially on the line 3—3 of Fig. 2, with parts of the construction being shown in elevation and with parts broken away.

Fig. 4 is a view, similar to Fig. 3, showing only part of the construction and illustrating the latching means in inoperative position for release of the leg unit; and

Fig. 5 is a section on the line 5—5 of Fig. 3.

In Fig. 1 of the drawing, I have shown, at **10**, a table top, which may be of any desired form and construction and in the showing presented is generally oblong or rectangular in form and includes depending side and end walls, part of the side walls being shown at **11** in Fig. 2 of the drawing and one end wall at **12**.

The depending walls **11** and **12** form a recessed bottom **13**, in which most of the operating mechanism of the table is arranged. In this recessed portion are a pair of longitudinal rails **14**, spaced substantially as illustrated in Fig. 2, the rails being of less depth than the side and end walls, as will appear from an illustration of one of the side walls **11** in Fig. 3 of the drawing. The rails **14** have, at spaced intervals, cutouts or apertures opening through the lower surface thereof, as noted at **15** in Fig. 3 of the drawing.

Extending longitudinally of the lower surfaces of the rails **14** are double channelled strips **16** with the channels **17** thereof directed toward each other, as clearly

noted in Fig. 5 of the drawing. Secured to the top wall **18** of the channelled strips **16** by flathead rivets **19** are elongated spring-fingers **20**, which are arranged in the apertures **15**, as clearly noted in Fig. 3 of the drawing. Supported on these spring-fingers inwardly of the downwardly curved ends **21** thereof are latching pins **22**, normally and freely supported in apertures **23** in the top wall **18**, so as to project into the double channelled strips **16**, as shown in Fig. 3 of the drawing, to extend into apertures **24** of latching shoes **25** slidable in the strips **16**. The shoes **25** have upturned ends **26**, note Fig. 3, and sides of the shoes extend into the channels **17**, as indicated at **27**, so as to be definitely guided in their movement longitudinally of the strips **16** from a standpoint of latching engagement with the two latching pins **22** spaced longitudinally of the strips **16**.

For purposes of description, the innermost latching pins **22**, at each side of the table, will be identified as the low latching pins; whereas, the outer pins **22** will be identified as the high latching pins, common references being used from the standpoint that each structure is identical with the other. In other words, a common part of common structure is used in all instances. That is, there are four latching pins at each side portion of the table or, putting it another way, in each longitudinal strip, there are two low and two high latching pins, one pair operating in conjunction with one leg unit and the other in conjunction with the other leg unit, the leg units being identified by the reference character **28**. Here again, as each leg unit is of common structure, the brief description of one will apply to the other.

Each leg unit **28** comprises a pair of diverging legs **29** joined and braced by three transverse rods, namely an upper rod **30**, a lower rod **31** and an intermediate rod **32**, all clearly shown in Fig. 2 of the drawing.

End portions of the rods **30** have shallow grooves **33**, note Fig. 3, in which ring portions **34** of brackets **35** are supported, the brackets having oppositely directed ends **36**, which are welded or otherwise secured to upper surfaces of the shoes **25** to become integral therewith. It will, thus, be seen that the brace rods **30** are free to rotate in the rings **34** in movement of the shoes **25** from latching engagement with the low latching pins **22** to the position engaging the high latching pins **22** arranged at outer portions of the strips **16**. By providing the grooves **33**, the pivot ends of the leg units **28** are maintained in centralized position with respect to the table top. The extended sides **27** of the shoes also contribute to this accomplishment.

Outer end portions of the brace rods **31** are grooved, as seen at **27**, to receive key pins **38** secured to inner end portions of brace rods **39**, this construction being clearly illustrated in Fig. 3 of the drawing.

The other ends of the rods **39** have detachable pivots, as at **40**, with pairs of brackets **41** secured to inner surfaces of the end rails **12**. By detaching the pivots **40**, the leg units **28** can be completely collapsed upon the lower surface of the table top, thus producing a thinner package for storage and shipment. By simply placing the pivot screws or bolts **40** in position, the desired assemblage of the operative extensible table is accomplished.

When the leg units **28** are in the position shown in full lines in Fig. 1, the table top is supported in a low cocktail table position, with the top of the table substantially sixteen inches or the like from the supporting surface; whereas, in moving the units into the raised latching position, as indicated in dotted lines in Fig. 1, the table will be supported with the top approximately thirty inches from a supporting surface or, in other words, at a normal dining or serving table height.

Slidably engaging each end portion of the table top is a latch releasing frame **42**, only one of which is shown, but

both frames are of identical construction. The frames comprise long U-type members, the side rods **43** of which are arranged adjacent the inner adjacent sides of the rails **14**. Secured to the rods **43** are latch releasing elements **44** spaced and positioned on the rods **43** inwardly of the rounded ends **21** of the spring-fingers **20**, as illustrated in Fig. 3 of the drawing. The elements **44** are yoke-shaped in form to straddle and ride upon lower surfaces of the rails **14**, the elements being less in width than the width of the strip **16**, as noted in Fig. 5, and these elements have outwardly and downwardly directed fingers **45**, against which the rounded ends **21** of the spring-fingers **20** normally bear, as seen in Fig. 3 of the drawing. However, by manually pulling outwardly on the frame **42** in the direction of the arrow X of Fig. 4, both elements **44** are simultaneously moved outwardly, in which operation the fingers **45** ride over the rounded ends **21** of the spring-fingers **20**, forcing said spring-fingers downwardly to withdraw the pins **22** from the apertures **23**, as noted, for example, in Fig. 4 of the drawing, thus releasing the shoes **25** for free movement longitudinally of the strips **16**.

The moment that the leg units **28** are free to slide in the strip **16**, the frames **42** are released for return to their normal position, again moving the pins **22** into operative position and, as the shoes **25** ride over the pins, the pins are momentarily depressed and then are moved upwardly into the latching position, as noted at the right of Fig. 3 of the drawing.

The crosshead of each frame **42** has a rounded central portion **46**, with which a coil spring **47** is connected, the other end of the spring being secured, as at **48**, to a crossbar **49** suitably fixed to the rails **14**.

At each side of the center curved portion **46**, the crosshead of the frame **42** has rounded fingerpiece portions **50** for receiving two fingers of a hand in the operation of the frame against the action of the spring **47**. Upon release of the manual pressure, the spring **47** automatically returns the elements **44** to their normal position, shown in Fig. 3 of the drawing.

The elements **44** can be welded or otherwise fixed to the rods **43**, as will be apparent.

The central portions of the strip **16** are secured in position on the rails by screws **51**, having sleeves **52** thereon which act as stops, checking inward movement of the shoes **25** of the leg units **28**. It will also appear that the upper ends of the legs **29** are cut away, as seen at **53**, to provide clearance for swinging movement of the legs over the lower surface of the table top and to avoid interference of the legs of one unit with that of the other.

A table of the type and kind under consideration will be strong and durable in use and economical in construction and will provide a dual purpose table for support at different heights.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, and means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof.

2. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, and said last named means being detachable with respect to the table top for complete collapsing of the leg units on the table top in packaging, storage and shipment of the table.

3. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments, thereof, and said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions.

4. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions, and manually operated means slidably engaging the table top for moving said latching pins into inoperative position in adjustment of the leg units in different positions on the table top.

5. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions, manually operated means slidably engaging the table top for moving said latching pins into inoperative position in adjustment of the leg units in different positions on the table top, and said last named means comprising frames supporting spaced latch releasing elements for movement of said elements into retracted inoperative position.

6. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions, manually operated means slidably engaging the table top for moving said latching pins into inoperative position in adjustment of the leg units in different positions on the table top, said last named means comprising frames supporting spaced latch releasing elements for movement of said elements into retracted inoperative position, and tensional means normally supporting said frame and the latch elements in inoperative position.

7. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longi-

tudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions, manually operated means slidably engaging the table top for moving said latching pins into inoperative position in adjustment of the leg units in different positions on the table top, said last named means comprising frames supporting spaced latch releasing elements for movement of said elements into retracted inoperative position, tensional means normally supporting said frame and the latch element in inoperative position, and a double channelled strip supported on the lower surface of the table top for guiding the shoes in their movement longitudinally of the table top into different latching positions.

8. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions, manually operated means slidably engaging the table top for moving said latching pins into inoperative position in adjustment of the leg units in different positions on the table top, said last named means comprising frames supporting spaced latch releasing elements for movement of said elements into retracted inoperative position, tensional means normally supporting said frame and the latch elements in inoperative position, a double channelled strip supported on the lower surface of the table top for guiding the shoes in their movement longitudinally of the table top into different latching positions, said leg units having a transverse rod at their upper ends forming the pivots of said units, and means keying the shoes to the rods in maintaining alinement of the units on the table top.

9. A collapsible extensible table, comprising a table top, a pair of leg units pivotally and slidably mounted on the undersurface of the table top, means spaced longitudinally of each end portion of the table top and on each leg unit for retaining the leg units in different positions of adjustment for varied heights support of the table top with respect to a surface, means pivotally coupled with the end portions of the table top and the leg units for bracing said units in different positions of adjustments thereof, said first named means comprising yieldably supporting latching pins operatively engaging shoes on the pivot end portion of said leg unit for definitely retaining the shoes in predetermined adjusted positions, manually operated means slidably engaging the table top for moving said latching pins into inoperative position in adjustment of the leg units in different positions on the table top, said last named means comprising frames supporting spaced latch releasing elements for movement of said elements into retracted inoperative position, tensional means normally supporting said frame and the latch elements in inoperative position, a double channelled strip supported on the lower surface of the table top for guiding the shoes in their movement longitudinally of the table top into different latching positions, said leg units having a transverse rod at their upper ends forming the pivots of said units, means keying the shoes to the rods in maintaining alinement of the units on the table top, and the bracing means of the leg units being keyed to other transverse rods on the leg units in further retaining said units in alinement on the table top.

10. A collapsible extensible table, comprising a table top having a pair of longitudinal rails spaced and countersunk on the lower surface of the table top, the lower surface of each rail having secured thereto a double channelled strip extending the major portion of the length of the table top, pairs of spring-fingers secured to end portions of each strip, said spring-fingers supporting latch pins normally supported between channels of said strips, two leg units comprising diverging leg members joined by upper and lower crossrods, shoes keyed to and pivotally mounted on the upper crossrods of each unit and slidably engaging the channels of said strips, said shoes being apertured to receive the latch pins of said spring-fingers in definitely retaining the leg units in different positions of adjustment longitudinally of said strips, pairs of brace rods detachably and pivotally mounted in connection with end portions of the table top and rotatably keyed to the lower crossrod of the leg units, and manually operated means at each end portion of the table top operatively engaging the spaced spring-fingers for movement of the latching pins into positions releasing said shoes for free sliding movement in the channels of said strips.

11. A collapsible extensible table, comprising a table top having a pair of longitudinal rails spaced and countersunk on the lower surface of the table top, the lower surface of each rail having secured thereto a double channelled strip extending the major portion of the length of the table top, pairs of spring-fingers secured to end portions of each strip, said spring-fingers supporting latch pins normally supported between channels of said strips, two leg units comprising diverging leg members joined by upper and lower crossrods, shoes keyed to and pivotally mounted on the upper crossrods of each unit and slidably engaging the channels of said strips, said shoes being apertured to receive the latch pins of said spring-fingers in definitely retaining the leg units in different positions of adjustment longitudinally of said strips, pairs of brace rods detachably and pivotally mounted in connection with end portions of the table top and rotatably keyed to the lower crossrod of the leg units, manually operated means at each end portion of the table top operatively engaging the spaced spring-fingers for movement of the latching pins into positions releasing said shoes for free sliding movement in the channels of said strips, said last named means comprising frames slidably mounted between the rails of the table top, and said frames having spaced latch releasing elements slidable on the rails and operatively engaging said spring-fingers.

12. A collapsible extensible table, comprising a table top having a pair of longitudinal rails spaced and countersunk on the lower surface of the table top, the lower surface of each rail having secured thereto a double channelled strip extending the major portion of the length of the table top, pairs of spring-fingers secured to end portions of each strip, said spring-fingers supporting latch pins normally supported between channels of said strips, two leg units comprising diverging leg members joined by upper and lower crossrods, shoes keyed to and pivotally mounted on the upper crossrods of each unit and slidably engaging the channels of said strips, said shoes being apertured to receive the latch pins of said spring-fingers in definitely retaining the leg units in different positions of adjustment longitudinally of said strips, pairs of brace rods detachably and pivotally mounted in connection with end portions of the table top and rotatably keyed to the lower crossrod of the leg units, manually operated means at each end portion of the table top operatively engaging the spaced spring-fingers for movement of the latching pins into positions releasing said shoes for free sliding movement in the channels of said strips, said last named means comprising frames slidably mounted between the rails of the table top, said frames having

spaced latch releasing elements slidable on the rails and operatively engaging said spring fingers, and tensional means normally supporting each of said frames with the elements of said frames in inoperative position.

13. A collapsible extensible table, comprising a table top having a pair of longitudinal rails spaced and countersunk on the lower surface of the table top, the lower surface of each rail having secured thereto a double channelled strip extending the major portion of the length of the table top, pairs of spring-fingers secured to end portions of each strip, said spring-fingers supporting latch pins normally supported between channels of said strips, two leg units comprising diverging leg members joined by upper and lower crossrods, shoes keyed to and pivotally mounted on the upper crossrods of each unit and slidably engaging the channels of said strips, said shoes being apertured to receive the latch pins of said spring-fingers in definitely retaining the leg units in different positions of adjustment longitudinally of said strips, pairs of brace rods detachably and pivotally mounted in connection with end portions of the table top and rotatably keyed to the lower crossrod of the leg units, manually operated means at each end portion of the table top operatively engaging the spaced spring-fingers for movement of the latching pins into positions releasing said shoes for free sliding movement in the channels of said strips, and end portions of said shoes being turned upwardly to ride over the latching pins in automatic movement of the leg units into latched position.

14. A collapsible extensible table, comprising a table top having a pair of longitudinal rails spaced and countersunk on the lower surface of the table top, the lower surface of each rail having secured thereto a double channelled strip extending the major portion of the length of the table top, pairs of spring-fingers secured to end portions of each strip, said spring-fingers supporting latch pins normally supported between channels of said strips, two leg units comprising diverging leg members joined by upper and lower crossrods, shoes keyed to and pivotally mounted on the upper crossrods of each unit and slidably engaging the channels of said strips, said shoes being apertured to receive the latch pins of said spring-fingers in definitely retaining the leg units in different positions of adjustment longitudinally of said strips, pairs of brace rods detachably and pivotally mounted in connection with end portions of the table top and rotatably keyed to the lower crossrod of the leg units, manually operated means at each end portion of the table top operatively engaging the spaced spring-fingers for movement of the latching pins into positions releasing said shoes for free sliding movement in the channels of said strips, end portions of said shoes being turned upwardly to ride over the latching pins in automatic movement of the leg units into latched position, and said leg units being contained substantially within peripheral boundaries of the table top.

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