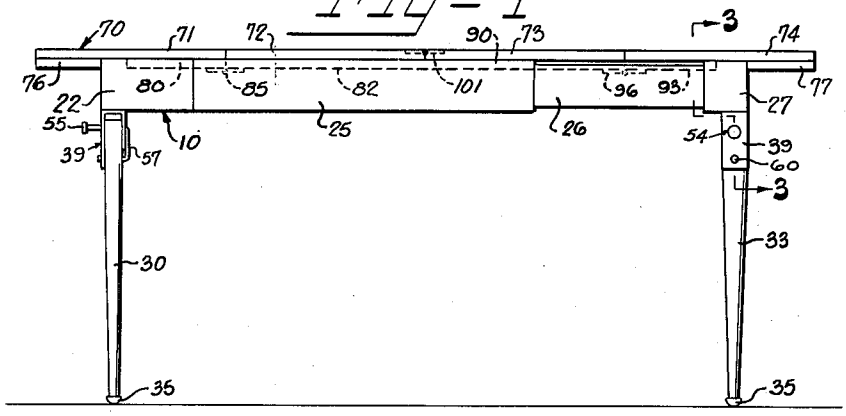
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FOLDING EXTENSIBLE TABLE

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Fig- 1



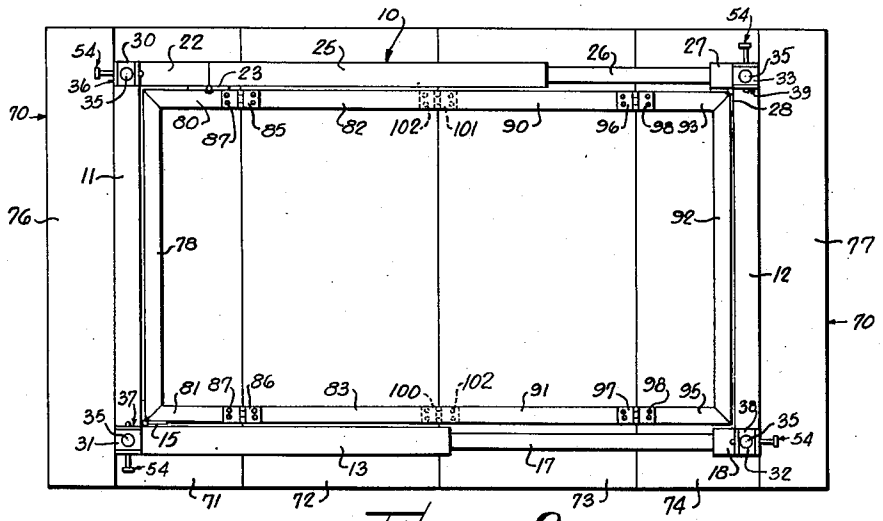


Fig- 2

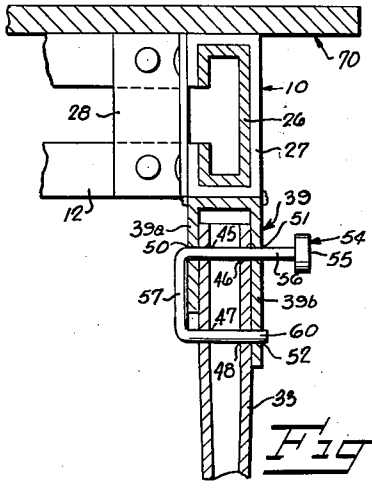


Fig- 3

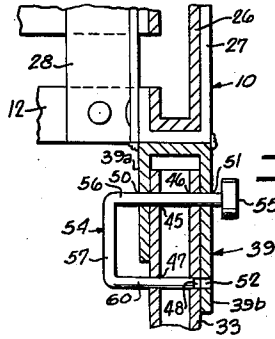


Fig- 4

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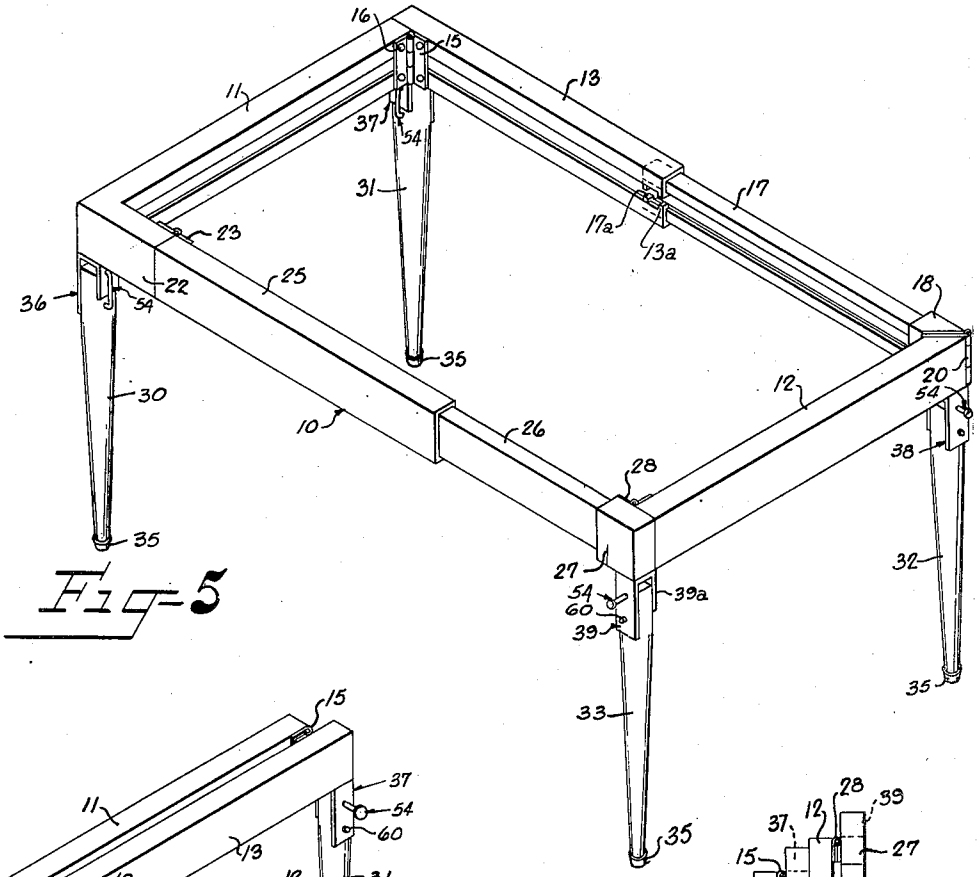


Fig-5

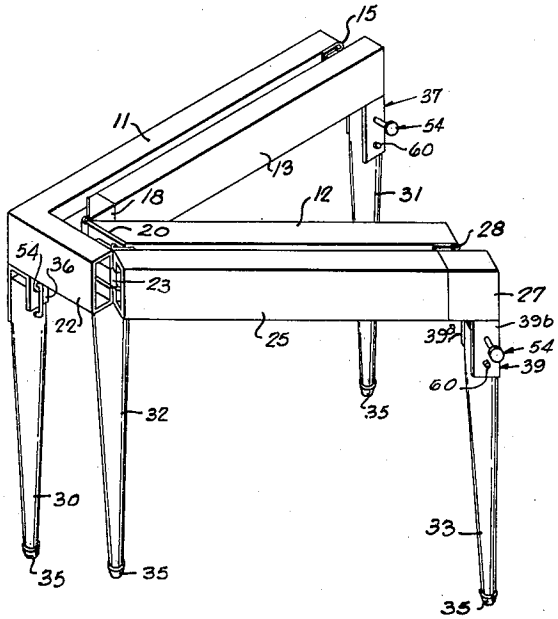


Fig-6

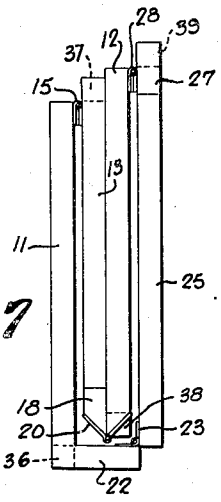


Fig-7

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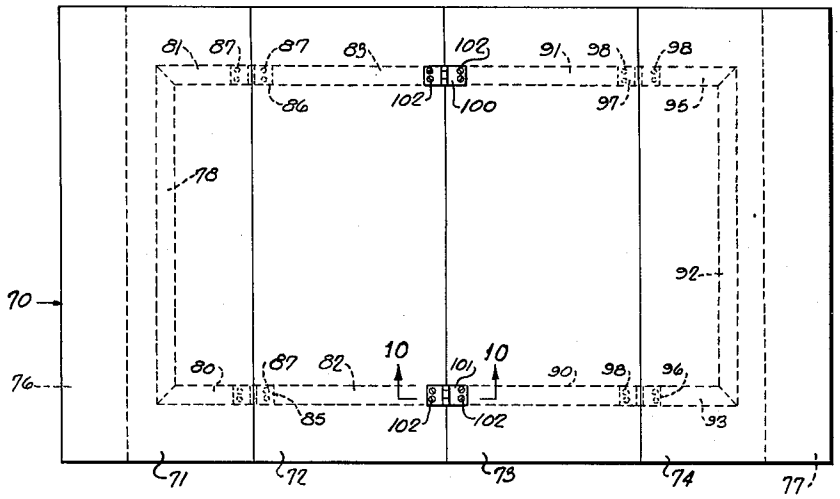


Fig-8

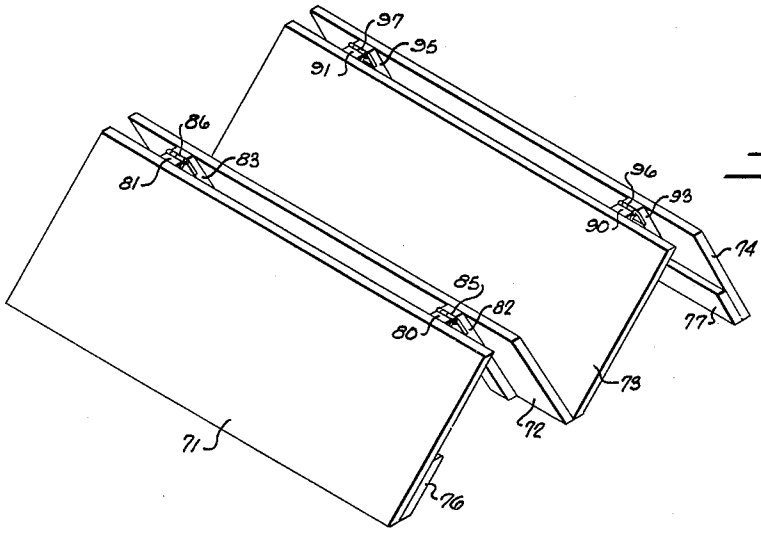
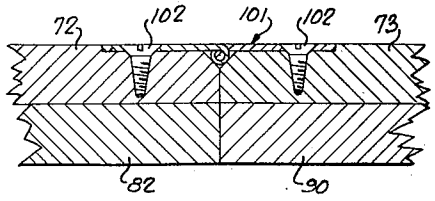


Fig-9

Fig-10



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2,609,263

UNITED STATES PATENT OFFICE

2,609,263

FOLDING EXTENSIBLE TABLE

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Application January 31, 1950, Serial No. 141,464

3 Claims. (Cl. 311—76)

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This invention relates to a folding table and more especially to a folding cutting table particularly adapted for home use in cutting cloth for sewing and other purposes.

It is an object of this invention to provide a folding table having a removable top and the frame of said table being so constructed that it may be telescoped and then folded into a compact unit and the table having legs which are foldable to a position parallel to the frame so that the entire structure when in folded position will take up a very small amount of space.

It is another object of this invention to provide a light weight folding table particularly adapted for home use which may very easily be set up to provide a strong steady table and which may readily be folded into a compact unit which may be stored in a small space.

It is another object of this invention to provide a folding table having legs which may be folded into a position parallel to the main portion of the table and having special means for holding the legs in extended position when the table is in use and said means also being adapted to hold the legs in folded position.

It is still another object of this invention to provide a cutting table having a removable top, said top being cut transversely and hinged to permit the same to be folded when it is removed from the table and said top also having means for holding it in place on the table frame and for holding the table frame in fully extended position when the top is placed thereon. The table frame comprises end rails and side rails, the side rails being of telescopic construction and also being provided with hinges to permit the side rails to be telescoped and to be folded, together with the end rails, to form a very compact unit.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of the improved folding table in assembled position;

Figure 2 is a bottom plan view looking up from the bottom of Figure 1 and showing the manner in which the removable top is hinged to permit the same to be folded when the top is removed from the table frame;

Figure 3 is an enlarged vertical sectional view taken substantially along the line 3—3 in Figure 1 and showing the manner in which each of the folding legs is secured to the frame of the table and also showing the means for holding the corresponding leg in extended position;

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Figure 4 is a view similar to Figure 3 but showing the means for holding the leg in extended position moved to a different position to permit the leg to be folded so as to assume a position parallel to the table frame;

Figure 5 is an isometric view of the table frame in extended position with the legs also in extended position and omitting the table top;

Figure 6 is an isometric view of the table frame in a partially folded position;

Figure 7 is a top plan view of the table frame in a completely folded position;

Figure 8 is a top plan view of the table top removed from the table;

Figure 9 is an isometric view of the table top removed from the table and showing it in a partially folded position;

Figure 10 is an enlarged vertical sectional view taken substantially along the line 10—10 in Figure 8 and showing the manner in which the table top is hinged at its medial portion.

Referring more specifically to the drawings, the numeral 10 broadly designates the frame of a folding table which may be of any suitable material but which is preferably made of light weight metal such as aluminum. The frame 10 comprises end rails 11 and 12 which are preferably channel-shaped in cross section but which may be of solid construction if so desired. A side rail 13 which is also preferably channel-shaped in cross section is secured to one end of the end rail 11 as by a hinge 15 secured to the inner surface of the end rail 11 and the inner surface of the side rail 13 as by rivets 16 (Figure 5).

A second side rail 17, which is preferably channel-shaped in cross section, having exterior dimensions slightly less than the interior dimensions of the channel-shaped rail 13, has one end telescopically disposed in the free end of the side rail 13 and its other end is secured to a shoulder portion 18 of the same dimensions as the exterior dimensions of the side rail 13. The proximate ends of the side rails 13 and 17 are provided with ears 13*a* and 17*a* to prevent the side rails 13 and 17 from becoming disengaged.

The end of the rail 17 having the shoulder portion 18 thereon is cut at a 45 degree angle and is secured to the end rail 12 by a hinge 20 which is secured to the shoulder portion 18 and is also secured to one end of the end rail 12 which is also cut at a 45 degree angle. The hinge 20 permits the rails 12 and 17 to pivot through an arc of 270 degrees.

The end rail 11 has a relatively short stub side rail 22 integral with the end thereof remote from

the side rail 13 and forming a right angle to the end rail 11. This stub side rail 22 is also preferably channel-shaped in cross section. Hingedly secured, as at 23, to the free end of the stub side rail 22 is another side rail 25 of the same cross-sectional dimensions as the stub side rail 22. The side rail 25 has a side rail 26 telescopically mounted therein, the side rail 26 being of smaller outside dimensions in cross-section than the interior dimensions of the side rail 25 and being provided with a shoulder portion 27 integral with the end remote from the side rail 25. The shoulder portion 27 is of the same cross-sectional dimensions as the side rail 25.

The proximate ends of the side rails 25 and 26 are provided with ears, not shown, similar to the ears 13*a* and 17*a*, to prevent the side rails 25 and 26 from becoming disengaged. The shoulder portion 27 of the rail 26 is hingedly secured, as at 28, to the end of the end rail 12 remote from the shoulder portion 18 of the rail 17, the hinge 28 being secured to the inner surface of the shoulder portion 27 and to the inner surface of the end rail 12 as by rivets 29 (Figure 3).

It is thus seen that the frame 10 is substantially rectangular when in extended position, as shown in Figure 5, and when it is desired to collapse the frame 10 the side rail 17 is telescoped into the side rail 13 thus opening the hinge 28 and causing the end rail 12 to move inwardly toward the side rail 25. The hinge 23 will also open slightly as the shoulder portion 18 moves adjacent the side rail 13. The end rail 12 is then moved further inwardly toward the side rail 25 so that the hinge 20 will move past dead center to substantially the position shown in Figure 6. At the same time the side rail 26 will be telescoped within the side rail 25 and the hinge 23 will open further as the side rail 25 is folded in toward the rails 12 and 13. The rails may then be folded together so that the outer surface of the side rail 13 and the outer surface of the side rail 12 will be disposed in contact with each other. Then the legs of the table may be folded up adjacent the frame in a manner about to be described to form the compact unit shown in Figure 7.

A plurality of legs 30 through 33, inclusive, preferably of tubular construction and each having a cap member 35 on the lower end thereof, in Figure 5, are secured to the opposed corners of the frame 10 by means of inverted substantially U-shaped brackets 36 through 39, inclusive, respectively, which are welded to the four corners of the frame 10.

It should be noted that the inverted U-shaped bracket 36 is welded to the lower surface of the end rail 11 in such a manner as to permit the leg 30 to be folded to a position parallel to the end rail 11. The U-shaped member 37 is welded to the lower surface of the end of the side rail 13 adjacent the end rail 11 and is adapted to permit the leg 31 to be folded to a position parallel to the side rail 13. The bracket 38 is welded to the lower surface of the end of the end rail 12 adjacent the shoulder 18 and this bracket 38 extends slightly beyond the end of the end rail 12 and is so positioned as to permit the leg 32 to be folded to a position parallel to the end rail 12. The bracket 39 is welded to the lower surface of the shoulder portion 28 of the side rail 26 and is so positioned as to permit the leg 33 to be folded to a position parallel to the side rails 25 and 26.

Since the brackets 36 through 39 and the manner in which the legs 30 through 33 are mounted therein are identical only the bracket 39 and the leg 33 will be described. Referring to Figures 3 and 4 it will be observed that the bracket 39 is substantially U-shaped in cross-section and has a leg 39*a* and a leg 39*b*, the leg 39*b* being of slightly greater length than the leg 39*a*. The upper portion of the leg 33 is preferably rectangular in cross-section and is provided with diametrically opposed bores 45 and 46 in the upper end thereof and with diametrically opposed bores 47 and 48 spaced slightly below the bores 45 and 46.

The wall 39*a* of the U-shaped bracket 39 is provided with a bore 50 which coincides with the bore 45 in the upper portion of the leg 33 and the wall 39*b* of the bracket 39 has a bore 51 therein which coincides with the bore 46 in the upper portion of the leg 33. The wall 39*b* of the bracket 39 is also provided with a bore 52 which coincides with the bore 48 in the leg 33. It should be observed that the wall 39*a* of the bracket 39 stops short of the bore 47 in the leg 33. A substantially U-shaped pin 54 is provided. This pin 54 has a head 55 thereon and a horizontal leg 56 which extends inwardly through the bores 51, 46, 45 and 50 and then extends downwardly, as at 57, and then outwardly to form a second horizontal leg 60 which penetrates the bores 47, 48 and 52.

It is thus seen that when the leg 33 is extending at right angles to the rail 26 and the pin 54 is in the position shown in Figure 3, with the horizontal leg 60 penetrating the bore 52 in the U-shaped bracket 39, the pin 54 will serve to lock the leg 33 in this extended position.

Now, when it is desired to fold the leg 33 to a position parallel to and adjacent the side rails 25 and 26, an operator may push the head 55 of the pin 54 inwardly, or to the left in Figures 3 and 4, to where the horizontal leg 60 will be out of engagement with the bore 52 to thus permit the leg 33 to be pivoted on the leg 56 of the pin 54 to a horizontal position adjacent the side rails 25 and 26. It is obvious that the pin 55 will pivot with the leg 33 since the portion 60 of the pin 55 is spaced a sufficient distance below the end of the wall 39*a* of the bracket 39 to permit the same to move past the end of the wall 39*a* when the leg is moved to a horizontal position.

Referring now to Figures 1, 2, 8, 9 and 10, there will be observed a removable top broadly designated at 70 and comprising sections 71, 72, 73, and 74 hingedly secured to each other in a manner to be presently described. The section 71 has a transverse member 76 secured to the outer end thereof on its lower surface and the portion 74 has a transverse member 77 secured to the outer end thereof on its lower surface. A bracing member 78 is secured to the lower side of the portion 71 in a position parallel to and slightly spaced from the transverse member 76. The brace member 78 has an extension 80 at one side thereof which extends parallel to and adjacent the side rail 22 in Figure 2. A second extension 81 extends from the other end of the bracing member 78 parallel to and adjacent the side rail 13.

A brace member 82 is secured to the lower surface of section 72 adjacent the side rail 25 and a brace member 83 is also secured to the lower surface of section 72 adjacent the side rail 13. The brace members 82 and 83 are hingedly secured to the members 80 and 81, respectively, by means of hinges 85 and 86, respectively, secured

to the respective portions 80, 81, 82, and 83 as by screws 87. Brace members 90 and 91 are secured to the lower surface of the section 73 adjacent the side rails 25 and 13, respectively. The section 74 has a transverse brace member 92 secured thereto adjacent the end rail 12 and this member 92 has an extension 93 adjacent the shoulder 27 of the side rail 26 and an extension 95 adjacent the shoulder 18 of the side rail 17. The brace members 93 and 95 are hingedly secured to the brace members 90 and 91, respectively, by means of hinges 96 and 97 secured to the members 90 and 93 and 91 and 95, respectively, as by screws 98.

Referring to Figure 10 it will be observed that the top sections 72 and 73 are hingedly secured to each other by means of hinges 100 and 101 which are set flush in the sections 72 and 73 and are secured therein as by screws 102. It is thus seen that the table top may be folded at the hinges, 85, 86, 100, 101 and 96 and 97 in the manner shown in Figure 9 into a relatively small compact unit.

When the table top 70 is in position on the frame 10 the brace members 76 and 77 will be disposed adjacent the outer surfaces of the end rails 11 and 12, respectively, and brace members 78 and 92 will be disposed adjacent the inner surfaces of the end rails 11 and 12, respectively. The brace members 80, 81, 82, 83, 90, 91, 93 and 95 will be disposed adjacent the respective side rails (Figure 2) to thus hold the frame 10 in extended position, and to hold the table top on the frame 10.

If desired, the table top 70 may be provided with suitable graduations around each edge thereof to provide for the easy measuring of cloth being cut on the cutting table.

It is thus seen that I have provided a cutting table particularly adapted for home use and having a removable top which may be folded into a compact unit and also having a telescopic frame which is provided with hinges at various points to permit the frame to be folded so that the end rails and side rails of the frame will be disposed adjacent each other. This table also has legs pivotally secured to the opposed corners of the frame and releasable means for locking the legs in extended position which means, when released, will permit the legs to be folded against the end and side rails of the frame 10 of the table.

In the drawings and specification there has been set forth a preferred embodiment of the invention, and although specific terms are employed, they are used in a generic and descriptive sense only, and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. A substantially rectangular foldable table frame comprising a first and a second end rail and a first and a second side rail, the second end rail being provided with a relatively short stub side rail secured to one end thereof, each of said first and second side rails being tubular and formed of two parts adapted to be telescoped one within the other, one end of the second side rail being hingedly secured to the free end of the relatively short stub side rail secured to the second end rail, the other end of said second side rail being hingedly secured to one end of the first end rail, one end of said first side rail being hingedly secured to the end of the second end rail remote from the relatively short stub side rail and having its other end hingedly secured to the end of the first end rail remote from the end to which the second side rail is secured, said table also having a table leg on each corner of the frame, whereby the sections of the side rails may be telescoped one section within the other and the end rails and the side rails may be folded together in parallel relation to each other to form a compact unit when the table is not in use.

2. A collapsible table frame comprising first and second spaced parallel tubular telescopic side rails, first and second end rails extending between opposed ends of the telescopic side rails, the first side rail being hingedly connected at opposed ends thereof to one end of both of the end rails, the second side rail being hingedly connected at one end thereof to the end of the first end rail remote from the end of the first end rail which is hingedly connected to the first side rail, a right-angular stub portion integral with one end of the second end rail and projecting toward the first end rail and to which the end of the second telescopic side rail remote from the first end rail is hingedly connected, a table leg secured to each corner of the frame for supporting the table top whereby, when the side rails are fully telescoped, the side rails and the end rails may be folded at the hinged points thereof so the side rails and end rails may assume a substantially parallel position in juxtaposed relation to each other.

3. A substantially rectangular frame for supporting the table top comprising first and second spaced parallel telescopic side rails, first and second end rails extending between opposed ends of the telescopic side rails, the first side rail being hingedly connected at opposed ends thereof to one end of both of the end rails, the second side rail being hingedly connected at one end thereof to the end of the first end rail remote from the end of the first end rail which is hingedly connected to the first side rail, a stub portion integral with the second end rail and projecting toward the first end rail and to which the end of the second telescopic side rail remote from the first end rail is hingedly connected, a table leg hingedly secured to each corner of the frame for supporting the table top, whereby the sections of the side rails may be fully telescoped one within the other and the side rails and the end rails may be folded at the hinged points thereof so the side rails and end rails may assume a substantially parallel position in juxtaposed relation to each other.

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