May 1, 1956 C. SHORE 2,743,978

LEG AND BRACE CONSTRUCTION FOR FOLDING TABLE WITH DROP LEAVES

Original Filed Feb. 26, 1953 3 Sheets-Sheet 1

Fig. 1.

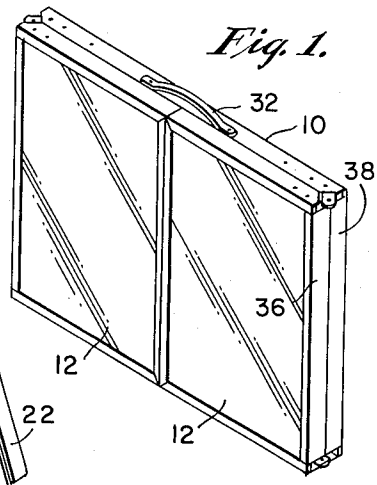
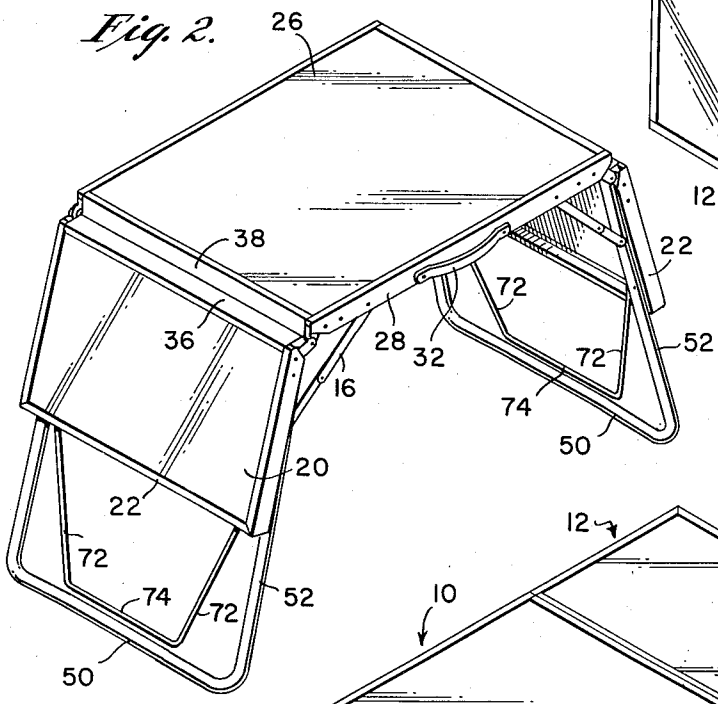


Fig. 2.



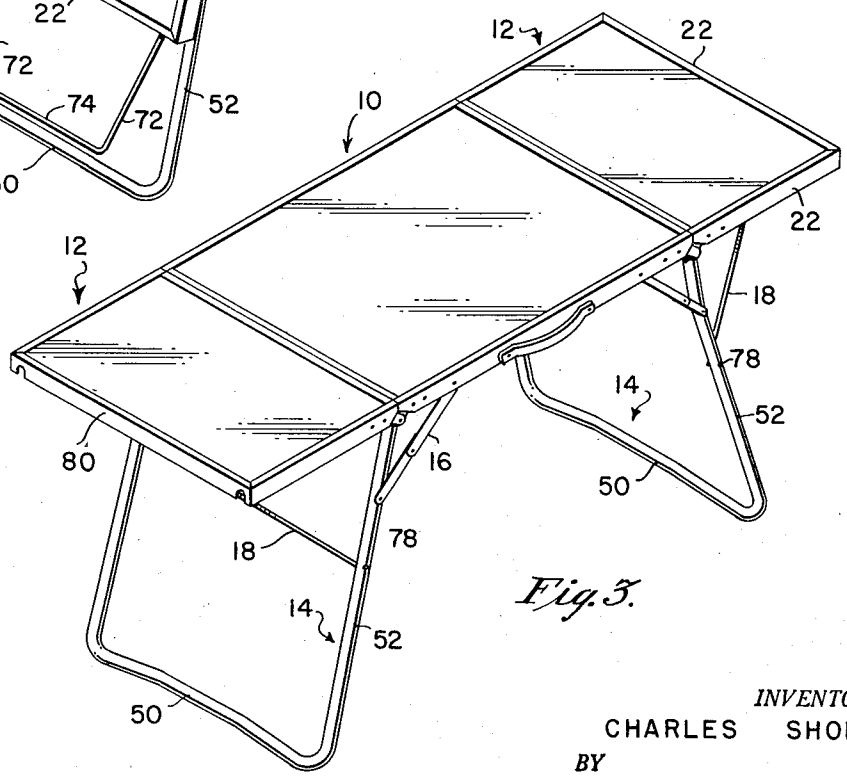


Fig. 3.

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LEG AND BRACE CONSTRUCTION FOR FOLDING TABLE WITH DROP LEAVES

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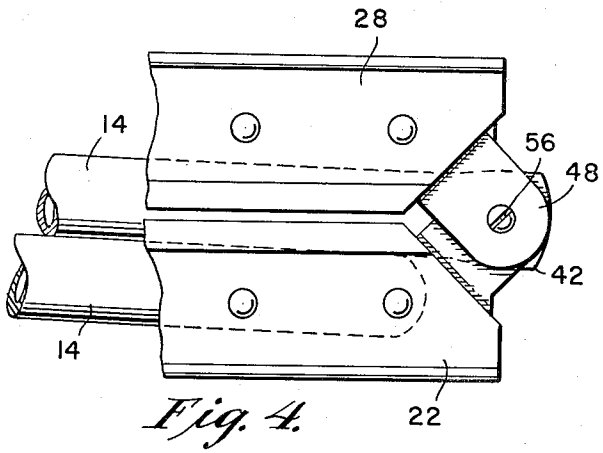

Fig. 4.

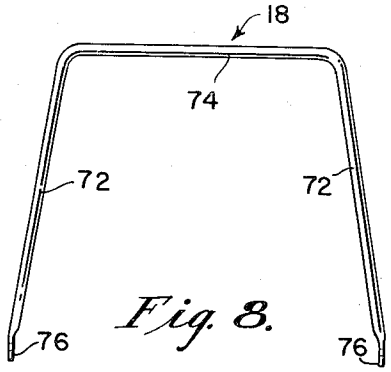

Fig. 8.

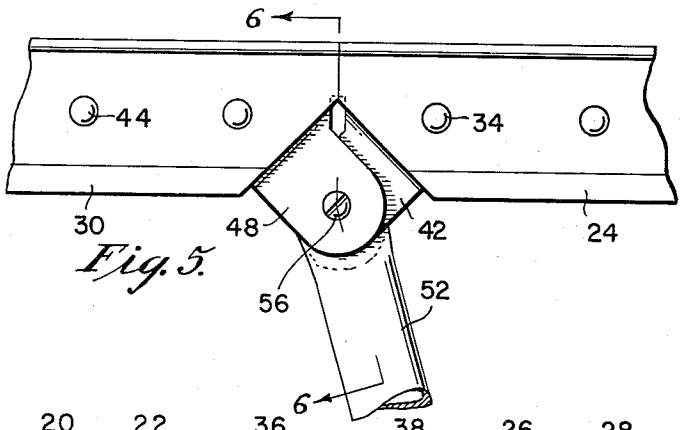

Fig. 5.

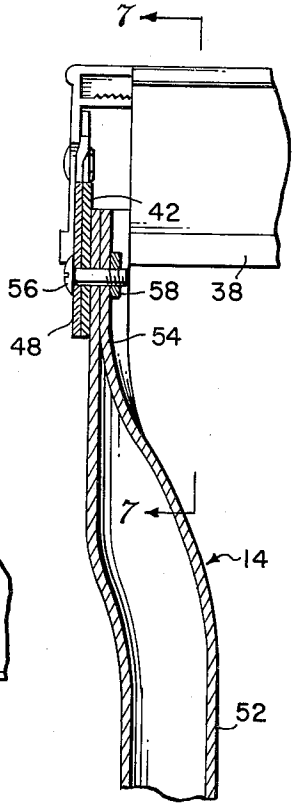

Fig. 6.

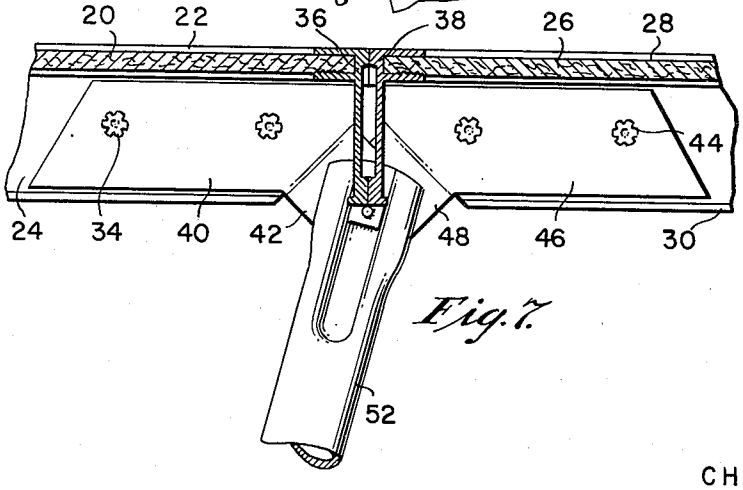

Fig. 7.

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LEG AND BRACE CONSTRUCTION FOR FOLDING TABLE WITH DROP LEAVES

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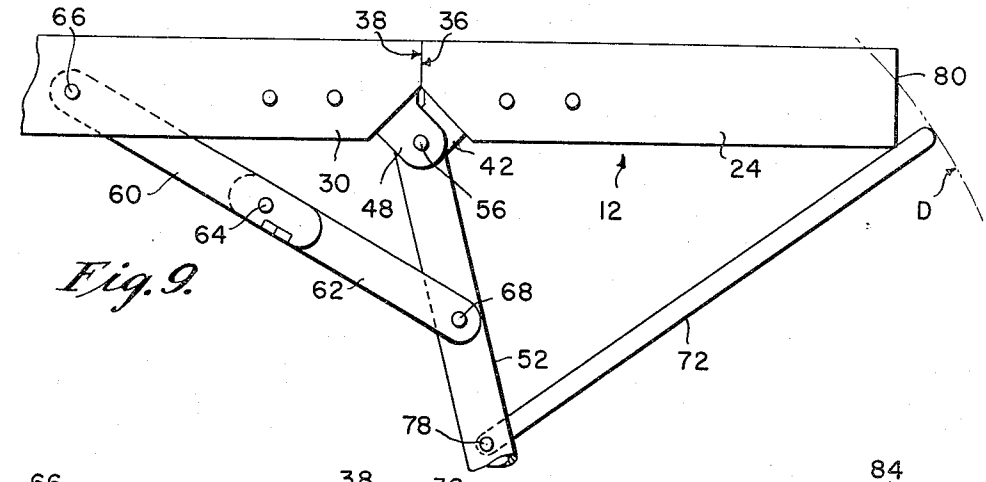

Fig. 9.

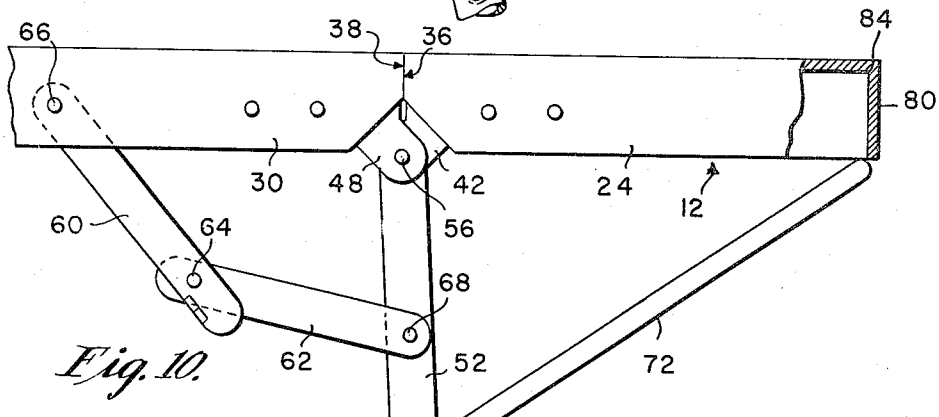

Fig. 10.

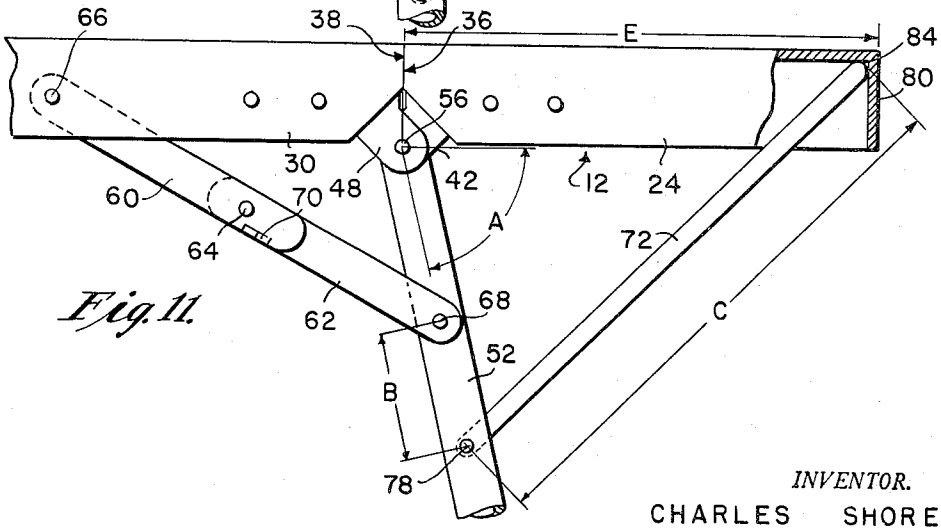

Fig. 11.

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LEG AND BRACE CONSTRUCTION FOR FOLDING TABLE WITH DROP LEAVES

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Original application February 26, 1953, Serial No. 339,039. Divided and this application December 28, 1955, Serial No. 555,848

5 Claims. (Cl. 311—90)

This application is a division of my copending application Serial No. 339,039, filed February 26, 1953 and relates to a light-weight folding table with drop leaves.

The primary object of the invention is to provide a leg and brace construction for a folding table with drop leaves which produces an exceptionally stable unit when erected even though the table is light in weight and compact when folded.

Another object of the invention is to provide a leg and brace construction for a folding table with drop leaves in which the drop leaves are retained in their extended position with unusual rigidity and rocking of the table due to a load on one of the drop leaves is minimized.

A further object of the invention is to provide a table of the character described in which the divergent angle of the legs when fully erected, the length of each drop leaf section and the length and position of attachment to the legs of the drop leaf-supporting wire brace are so correlated that the wire brace cannot be positioned to engage under a drop leaf when the legs are fully opened but only at a point when the legs are partially opened. The result is that after proper positioning of the wire braces beneath the drop leaves and after the legs are fully unfolded, the drop leaves are very firmly supported in their extended positions; and the wire braces cannot be removed and the drop leaves folded downwardly in the fully unfolded position of the table unless and until the brace-locks holding the legs are released and the legs infolded.

These and other objects will become more apparent as the following description proceeds in conjunction with the accompanying drawings, wherein:

Fig. 1 is a perspective view of the table in its folded position;

Fig. 2 is a perspective view of the table in its unfolded position and the drop leaves unextended;

Fig. 3 is a view similar to Fig. 2 but with the drop leaves fully extended;

Fig. 4 is an enlarged elevational view of a corner portion of the folded table looking down on Fig. 1;

Fig. 5 is a fragmentary enlarged elevational view of the side of the table showing the pivotal connection of the drop leaf and a leg to the central portion of the table;

Fig. 6 is an enlarged sectional view taken on the line 6—6 of Fig. 5;

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 6;

Fig. 8 is an elevational view of the wire drop-leaf supporting brace per se;

Fig. 9 is a fragmentary enlarged side elevational view of the table illustrating the relation of the wire supporting brace to a drop leaf when the table leg is in its fully opened position;

Fig. 10 is a view similar to Fig. 9 showing the relation of the wire supporting brace to the drop leaf when the table leg is not fully opened; and

Fig. 11 is a view similar to Fig. 10 showing the engagement of the wire supporting brace beneath the drop leaf after the leg has been fully opened.

Specific reference is now made to the drawings wherein similar reference characters are used for corresponding elements throughout.

The table which may be made of lightweight metals such as aluminum comprises essentially a table top including a central section **10**, two drop leaf sections **12**, a pair of legs **14**, locking braces **16** to hold the legs fully erected, and wire drop leaf-supporting braces **18**.

Each drop leaf is substantially rectangular and of desired length and comprises a top member **20** retained in a peripheral preferably metallic frame **22** having a depending skirt portion **24** of desired depth. The central portion **10** of the table is similarly constructed and therefore consists of a top section **26** retained in a substantially rectangular frame **28**, the latter including a depending skirt **30** one portion of which being equipped with a carrying handle **32**. The skirt **30** of the central table section is of the same depth as that of the drop leaves.

Appropriately secured as at **34** to the side portions of the skirt **24** of each drop leaf adjacent the end **36** thereof, which is adapted to abut the end **38** of the frame of the central table section when the drop leaves are fully extended, are brackets **40** having apertured ears **42**, the ears extending at an angle inwardly towards the central table section.

Appropriately secured as at **44** to the side portions of the skirt **30** of the central table section adjacent the end portions **38** thereof are brackets **46** having outwardly angulated apertured ears **48** which lap the drop leaf ears **42**.

The legs **14** are generally U-shaped having a ground-engaging web portion **50** and members **52** integral therewith which are flattened at their free ends as at **54** and there pivoted by means of an appropriate headed bolt **56** and nut **58** to the lapped ears **42** and **48** of the drop leaf and central table sections respectively. It will be observed that the central axis of the bolt **56** is a trifle below the bottommost edge of the skirt **24**, generally about 1/16".

In the fully erected position, the legs **14** are divergent and support the table at positions beneath the drop leaves beyond the meeting of the ends **36** and **38** of the frames of the drop leaves and central table section. To releasably retain the legs in this position, conventional break-type braces **16** are employed consisting of links **60** and **62** which are pivotally connected at their inner ends as at **64**. The outer end of the link **60** is pivoted as at **66** to the side of the skirt **30** of the central table section at a point above the bottommost edge of the skirt, generally about 3/8" above if the depth of the skirt is 1¼".

The outer end of the other link **62** is pivoted as at **68** to each member **52** of each leg **14**, the links **60** and **62** being equipped with conventional friction locks **70** to releasably retain the links in alignment as shown in Figs. 9 and 11. The overall length of the links **60** and **62** when extended and the relative relation of the pivots **56**, **66** and **68** are such that when the legs are locked in a fully erected position the preferred angle A, Fig. 11, between the axis of the leg member **52** and the horizontal line through the pivot **56** is 75°.

The drop leaf supports **18** are preferably made of wire having converging arms **72** interconnected by a web **74**, the ends of the arms having short parallel apertured ears **76**. The ears are pivoted as at **78** to each of the leg members **52** at a predetermined distance B from the pivot **68** of the link **62**. The length C of the arms **72** and the location of their pivots **78** must be such that in their fully unextended position as shown in Fig. 2, the web **74** of the brace clears the web **50** of the leg **14** otherwise when the table is fully folded as in Fig. 1, the drop leaves could not enclose the legs and wire braces.

The pivotal positions of the arms 72 and their lengths relative to the leg angle A and the depth of the skirt of the table top frame are also such as to produce the conditions shown in Figs. 9–11. That is, when the legs 14 are locked in their fully erected positions, it is not possible to extend the wire braces 18 beneath the drop leaves as shown in Fig. 9. This is so because the length C of the arms 72 is such that their outer ends move in an arc D which intersects the outer end portion 80 of the drop leaf skirt 24.

If, however, the links 60 and 62 are loosened to a point where the angle A of the legs are more nearly perpendicular, as shown in Fig. 10, the wire braces can clear the skirt of the drop leaf frame and be positioned beneath the top of the drop leaf.

Thereafter, when the links 60 and 62 are locked in their aligned positions and the legs 14 assume their fully divergent positions, as in Fig. 11, the webs 74 of the wire braces 18 firmly abut the corners 84 formed at the intersection of the outer end skirt portion 80 and the flat top portion 20 of the drop leaves. In this position an upward force is exerted by the wire braces 18 upon the drop leaves thereby urging their inner ends 36 firmly against the ends 38 of the central table section and urging planar alignment of the top portion of the drop leaf with that of the central table section. Furthermore, the drop leaves when fully extended cannot be released, accidentally or otherwise, unless and until the links 60 and 62 are again loosened and the condition shown in Fig. 10 is attained.

While various modifications in dimensions may be made by skilled artisans without departing from the principles of the invention, it is preferred that when the length E of the drop leaf section is 9, 15 or 18 inches, the distance B between pivots 68 and 78 be 3⅞, 3⅞ and 5½ inches respectively and the length C of the arms 72 of the wire supporting brace be 13⅜, 16¼ and 18¾ inches respectively where the depth of the skirt of the frame is 1¼ inches and the angle A of the legs is 75° when the legs are fully erected.

I claim:

1. A folding table comprising a substantially rectangular central section having a flat top member and a depending peripheral skirt having side and end portions, a pair of drop leaves each including a flat top member and a peripheral skirt having side portions and inner and outer end portions, means pivotally attaching the inner end skirt portion of each drop leaf to the end skirt portion of the central table section adjacent the lower edges of said end skirt portions, legs pivoted to said central table section, means to releasably lock the legs in fully erected positions, and means to support the drop leaves in extended positions, said support means including an elongated brace member for each drop leaf which is pivoted at one of its ends to each leg member, the free end of said elongated brace member being movable in an arc around its pivot point which intersects the outer end skirt portion of the drop leaf when the leg member is locked in its fully extended position, and in this position the free end of the elongated brace member bears against the corner formed between the outer end skirt portion of the drop leaf and the top member thereof thereby urging the latter into planar alignment with the top member of the central table section.

2. The combination of claim 1 wherein said legs are each generally U-shaped having a ground-engaging web interconnecting spaced elongated members which are pivoted at their free ends to the central table section, and said elongated drop-leaf supporting brace members each include a web interconnecting spaced arms whose free ends are pivoted to said elongated members of said legs intermediate their ends.

3. The combination of claim 2 wherein the central table section, the drop leaves and the legs are pivoted at the corners of the central table section on common pivots.

4. The combination of claim 3 wherein said means to releasably lock the legs includes pairs of break-type braces terminally pivoted to the elongated members of the legs and to the side portions of the skirt of the central table section, the latter pivotal positions being above the location of the common pivots for the legs and drop leaves.

5. The combination of claim 4 wherein the legs diverge away from the center of the central table section and the ground-engaging webs lie beneath each drop leaf and beyond the end portions of the central table section when the legs are locked in their fully erected positions.

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