May 19, 1942. E. C. BOOTH 2,283,351

METAL TABLE

Filed March 6, 1941 3 Sheets-Sheet 1

Fig. 1.

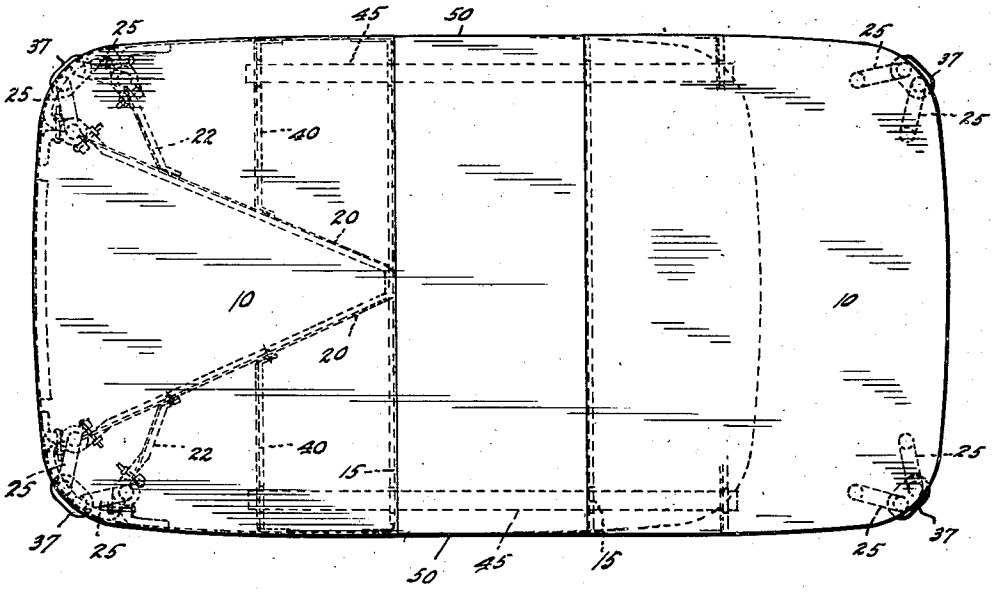
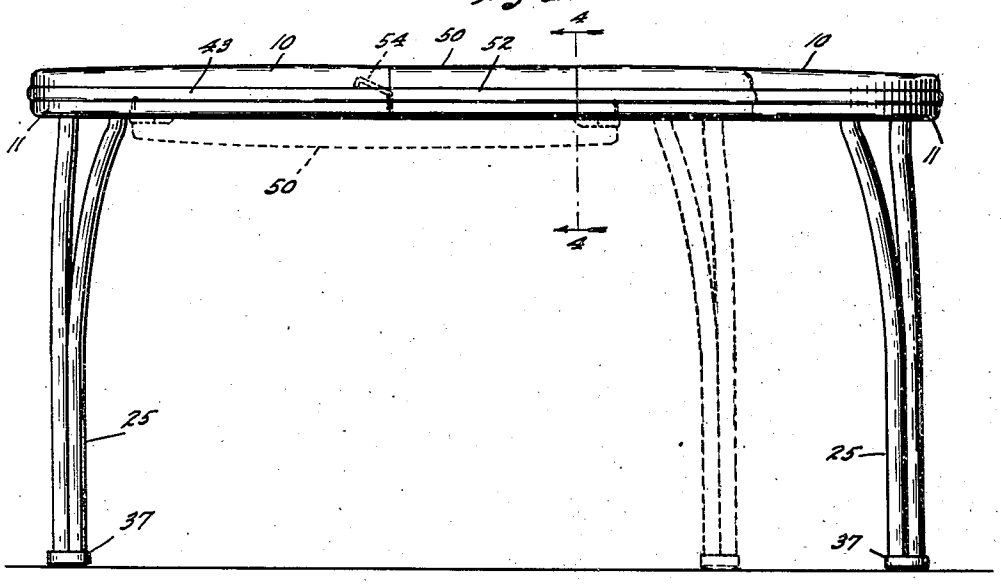


Fig. 2.



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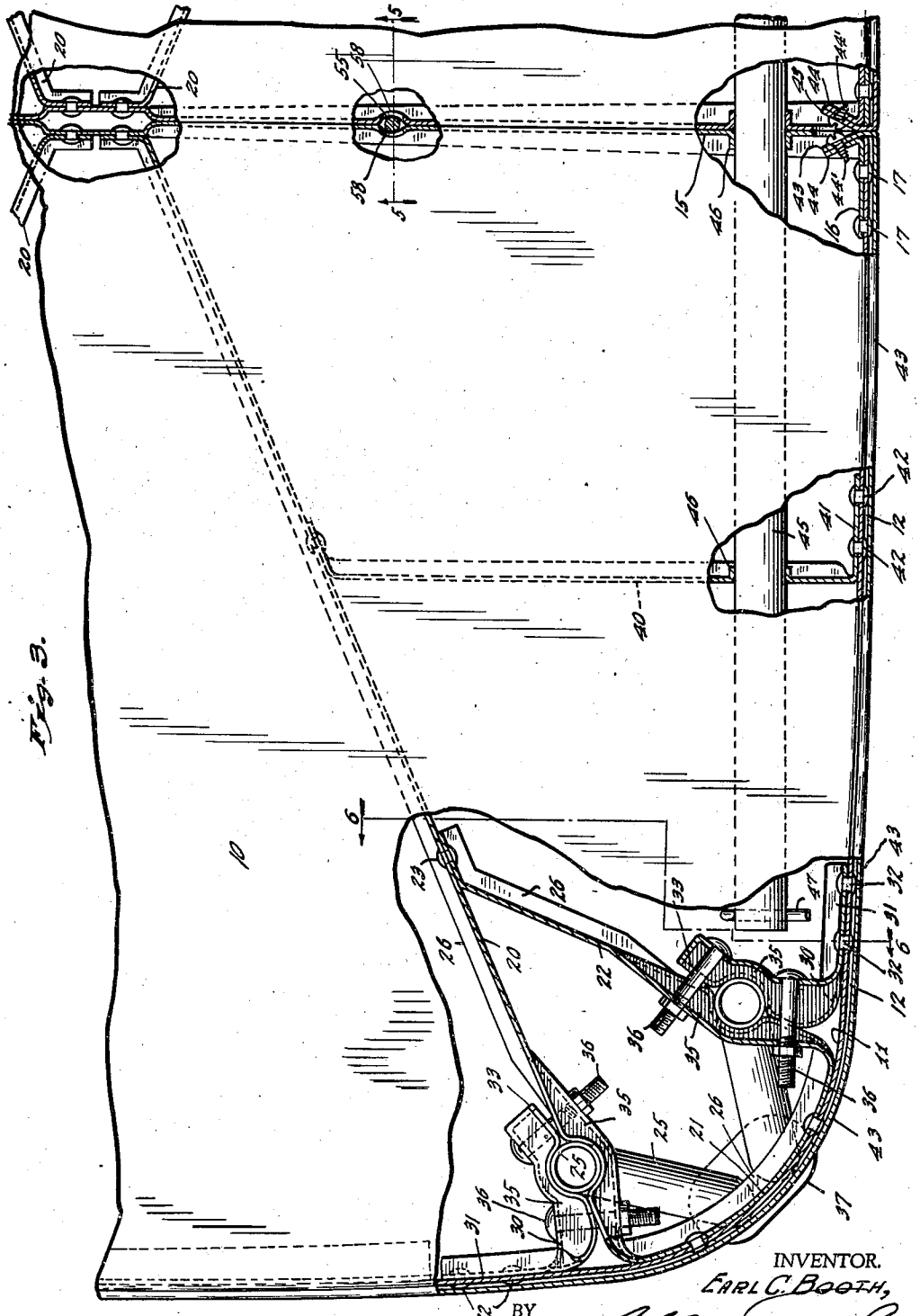


Fig. 3.

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METAL TABLE

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Fig. 4.

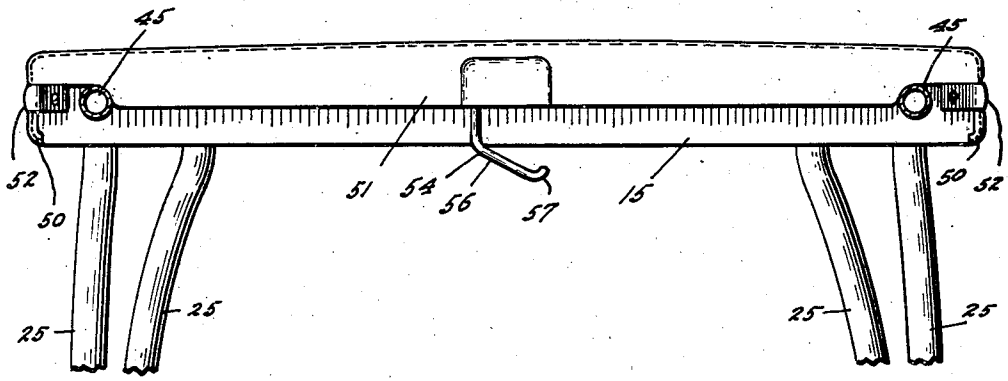


Fig. 5.

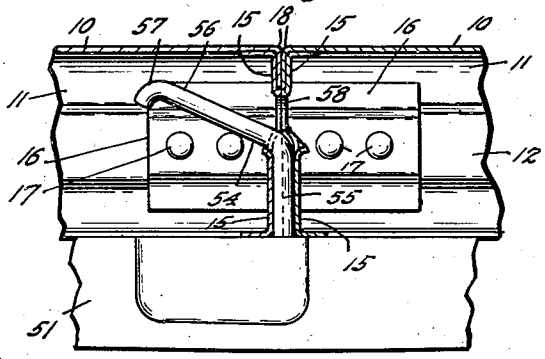
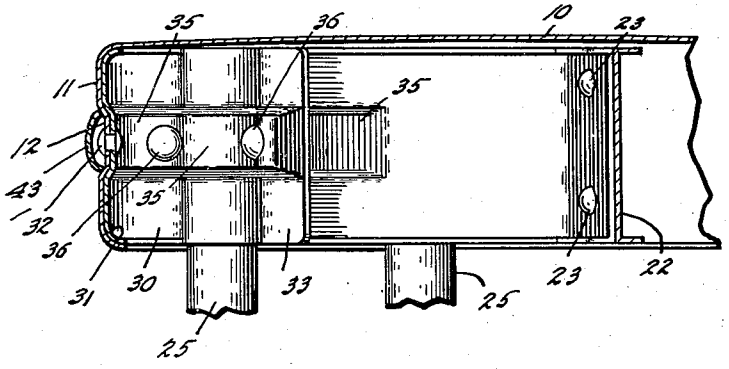


Fig. 6.



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UNITED STATES PATENT OFFICE

2,283,351

METAL TABLE

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Application March 6, 1941, Serial No. 382,003

10 Claims. (Cl. 311—105)

My invention relates to metal tables and has among its objects the production of a table which can be simply and economically manufactured and which will be sturdy and durable in use. Another object of my invention is to produce a metal extension table having a removable center leaf and to provide means for supporting such center leaf beneath the table when the leaf is not in use.

In carrying out my invention, I construct the table of two generally similar sections each of which comprises one-half the table-top and two legs, the two halves of the table being interconnected by guides for relative longitudinal sliding movement. The center leaf, which is adapted to be inserted and supported between the two halves of the top when the table is extended, is provided in its lower surface with a pair of hook-like elements which, when the leaf is removed and placed in inverted position beneath the table, are adapted to be received between the two halves of the table as they are moved together, whereby the leaf is suspended closely adjacent the under surface of the table-top in a position where it is out of the way. Each half of the table top is strengthened and made rigid by braces formed of sheet-metal running in oblique directions beneath the table top and adapted near their outer ends for the reception of the upper ends of the respective legs.

The accompanying drawings illustrate my invention: Fig. 1 is a plan view and Fig. 2 a side elevation of the table, the full-line position illustrating the table extended and the dotted-line position illustrating it collapsed; Fig. 3 is a fragmental plan view of the table on an enlarged scale, parts of the structure being broken away to illustrate details of construction; Fig. 4 is a transverse section on the line 4—4 of Fig. 2 showing the center leaf in place; Fig. 5 is a fragmental longitudinal section on the line 5—5 of Fig. 3 illustrating the means employed for supporting the center leaf beneath the table when it is not in use; and Fig. 6 is a fragmental vertical section on the line 6—6 of Fig. 3.

Each of the two sections of the table embodies a sheet-metal top 10 generally rectangular in shape with its outer corners rounded. Along two sides and across the outer end, the metal of the top 10 is bent downwardly to form a continuous flange 11, and such flange is offset inwardly intermediate its height to form a channel 12 (Fig. 6).

Across the inner end of the top 10 there extends a brace 15 of sheet-metal, such brace desirably being of channel section and arranged with its flanges extending toward the outer end of the top. At each of its ends, the channel 15 is trimmed to provide an ear 16 (Fig. 5) which is bent perpendicularly to the channel to extend along the inner surface of the flange 11, being desirably secured to such flange by means of rivets 17 extending through the bottom of the groove 12 in such flange. For the sake of appearance, the inner edge of the metal forming the top 10 is desirably bent inwardly over the web of the channel 15, as indicated at 18 in Fig. 5.

To stiffen each section of the table top, I employ a pair of brace members 20 which are secured to the channel 15 near the center thereof and which extend diagonally outwardly in diverging relation toward the respective outer corners of the table-top, as will be clear from Figs. 1 and 3. Each of the braces 20 is formed of a piece of sheet metal disposed in a vertical plane and bent at its outer end as indicated in Fig. 3 to provide a curved portion 21 lying against the inner surface of the flange 11 at the rounded corner of the top and an end portion 22 which extends obliquely inward of the table top and is secured to the body of the brace 20 as by means of a rivet 23. Spaced inwardly of the table from the curved portion 21 the body 20 of the brace and the end portion 22 are formed to provide outwardly facing, vertically extending, semicircular grooves adapted respectively for the reception of the upper ends of tubular legs 25. Except in the vicinity of the leg-receiving groove just described, the upper and lower edges of the brace 20 are bent into horizontal planes to form reinforcing flanges 26.

To hold the legs 25 in position, there is associated with each brace 20—21—22 a pair of clamp-brackets 30. Each of these brackets is desirably in the form of an L-shaped sheet-metal stamping having one leg 31 secured to the flange 11 as by means of rivets 32 and the other leg 33 extending inwardly of the table along the adjacent portion of the brace 20—21—22. Opposite the semicircular groove in the adjacent portion of the brace, the leg 33 of each clamp member is provided with a complementary semicircular groove. Intermediate their heights, the bracket-leg 33 and the adjacent portion 20 or 22 of the brace are offset outwardly in channel-section to stiffen them, as indicated at 35 in Figs. 3 and 6. At each side of the leg-receiving socket formed by the vertical grooves the vertical webs of the channel-like offsets 35 in the clamp and brace are parallel to each other so as to meet

squarely the head and nut of a clamp bolt 36 passing through them.

The two legs 25 at each corner of the table have their upper ends secured to the top by tightening of the several clamp bolts 36. Desirably, the legs are offset outwardly below their upper ends and converge downwardly, their lower ends being received in and secured to a suitable foot 37.

If desired, each section of the table top may be additionally reinforced by the provision of an intermediate transverse brace member 40 which has its inner end secured to the diagonal brace 20 and which extends outwardly parallel to the channel 15, having its outer end bent at right angles to form an ear 41 which is secured to the flange 11 as by means of rivets 42 passing through the bottom of the channel 12. See Fig. 3.

It will be noted that the rivets which secure the clamp members 30 and the outer ends of the braces 15, 20, and 40 to the flange 11 all pass through the bottom of the channel 12. For the sake of appearance, it is desirable to cover these rivet heads; and for that purpose I employ a trim-strip 43 which is arch-shaped in cross-section as will be clear from Fig. 6 and which has a width approximately that of the channel 12. The trim-strip 43 extends from one inner corner of the table top along the continuous flange 11 to the inner corner of the table top, its ends being bent inwardly along the channel member 15. Desirably, such channel member is provided at each of its ends with a tongue 44 which is struck up from its web and bent out of the plane thereof as indicated in Fig. 3, and the end of the trim-strip 43 overlies the tongue 44 and is secured thereto as by means of a screw 44'. By this arrangement, the trim-strip is tightly seated in the groove 12, the walls of which support the strip at points remote from the screw 44', and the strip-receiving means is invisible.

In an extension table, the two halves are interconnected for relative longitudinal movement by means of a pair of tubular guides 45 which are slidably received in openings in the webs of the channels 15 and the auxiliary brace members 40 as will be clear from Figs. 1 and 3. Desirably, the metal at the edge of each guide-receiving hole in the channels 15 and braces 40 is displaced to form an annular flange 46 which increases the effective extent of the bearing of the guide 45 in such members. Cotter pins 47 or other abutments provided at the ends of the guides 45 outwardly beyond the auxiliary brace members 40 limit the extent to which the two sections of the table can be separated.

The center leaf which is used with an extension table is illustrated in position in full lines in Figs. 1 and 2 and in Fig. 4. It is formed of a generally rectangular piece of sheet-metal having its end edges bent downwardly to constitute flanges 50 similar in shape to the flange 11 on each section of the table proper and its side edges turned down to form side flanges 51. For uniformity of appearance, each of the flanges 50 is provided with a channel like the channel 12 in the flange 11, such channel being covered with a trim-strip 52 having its ends bent inwardly and secured to the flanges 51 in a manner similar to that employed to secure the ends of the trim strip 43.

Near the longitudinal center of the center leaf there are secured to the side flanges 51 respectively a pair of hook-like members 54. Each of these members has a generally vertical shank 55, an inclined portion 56, and a hooked end 57, as will be clear from Fig. 5. At points corresponding to the spacing of the two hooks 54 on the center leaf, the reinforcing members 15 on each section of the table are formed to provide opposed grooves or channels adapted, when the two sections of the table are forced together to receive the shanks 55 of the members 54 in the manner illustrated in Figs. 3 and 5. At the upper end of each such groove or channel, the reinforcing member 15 is pierced to provide an opening 58 large enough to receive the hooked end 57 of the member 54.

When the center leaf is removed from the table and before the two sections of the table are forced together, the center leaf is inverted beneath the table, the hooks 57 on the member 54 are passed through the openings 58 in one of the reinforcing members 15 and the two sections of the table are then forced together. Upon initial insertion of the members 54 into the holes 58 the center leaf will be supported by engagement of the hooked end portions 57 on the members 54 with the lower edges of the holes 18. As the table-sections are forced together, however, the shanks 55 on the members 54 are struck by the other table section, which forces the inclined portions 56 of the members 54 into the holes 18 and causes the center leaf to be drawn upwardly against the bottom of the table. When the two sections of the table are completely together, the shanks 55 of the members 54 are firmly seated in the grooves in the reinforcing members 15, and the center leaf is firmly supported in an out of the way, though accessible, position. When it is desired to insert the center leaf, the table-sections are separated. This frees the members 54 and permits the hooked ends 57 thereof to be disengaged from the holes 18, whereupon the center leaf may be removed from beneath the table and placed between the two table sections in the position illustrated in Figs. 1, 2, and 4. Desirably, the side flanges 51 of the center leaf are trimmed so as to engage the guides 45 and support the center leaf with its upper surface flush with the upper surface 10 of each table-section.

Attention is directed to the fact that the insertion of the members 54 into the holes 58 and their removal from such holes is facilitated by the inclined portions 56. Because of these inclined portions the center leaf lies closely against the under surface of the table top when the table-sections are collapsed but lies considerably below the under surface of the table top when the table-sections are separated and it is desired to engage the hooks 57 with the lower edges of the holes 58.

I claim as my invention:

1. In a metal table, a generally rectangular sheet-metal top having a downwardly extending marginal flange, a sheet-metal brace associated with each corner of said top, each of said braces having a diagonally extending main portion, an intermediate portion lying against and secured to said flange at the corner of the table-top, and an end portion extending inwardly from said flange and secured to said main portion, a pair of clamp members secured to said flange and extending inwardly in juxtaposition to the main portion and end portion of said brace, each of said clamp members and its associated brace-portion being provided with a pair of opposed vertically extending grooves, a leg member received in each such pair of grooves, a common

foot for the two leg members at each corner of the table, and clamp bolts acting between each clamp member and its associated brace-portion and disposed on opposite sides of the grooves therein.

2. In a metal table, a generally rectangular sheet-metal top having a downwardly extending marginal flange, a sheet-metal brace associated with each corner of said top, each of said braces having a diagonally extending main portion, an intermediate portion lying against and secured to said flange at the corner of the table-top, and an end portion extending inwardly from said flange and secured to said main portion, a pair of clamp members secured to said flange and extending inwardly in juxtaposition to the main portion and end portion of said brace, each of said clamp members and its associated brace-portion being provided with a pair of opposed vertically extending grooves, a leg member received in each such pair of grooves, a common foot for the two leg members at each corner of the table, and means for clamping each leg member between the clamp member and brace portion associated with it.

3. The invention set forth in claim 1 with the addition that the material of each clamp member and its associated brace portion is offset outwardly intermediate its height in channel cross-section to provide a stiffening rib.

4. In a metal table, a sheet-metal top, brace members connected to said top and extending inwardly from the periphery thereof, a clamp member associated with the outer end of each brace member, said clamp member and its associated brace member being provided with opposed vertically extending grooves, a leg member received in such grooves, and clamp bolts for drawing each clamp member and its associated brace together to clamp said leg member between them.

5. The invention set forth in claim 4 with the addition that said table-top is provided with a depending peripheral flange, said brace members and clamp members having portions extending along and secured to said flange.

6. The invention set forth in claim 4 with the addition that said brace members and clamp members are formed of sheet-metal which, intermediate the height of the members and adjacent the leg-receiving grooves therein, is offset in channel-section to provide a stiffening rib.

7. In an extensible sheet-metal table, two slidably interconnected sections each including a generally rectangular top-portion provided with legs at its outer corners and having a depending flange along its sides and outer end, a sheet-metal reinforcing member extending across the top-portion beneath the inner edge thereof, and a trim-strip overlying said flange and having its ends bent inwardly along said reinforcing member and secured thereto in position to be concealed when the two table-sections are together.

8. The invention set forth in claim 7 with the addition that said flange is formed intermediate its height to provide an outwardly opening continuous groove, said trim strip overlying said groove and being supported by the side walls thereof, portions of said reinforcing member near each end thereof being offset toward the outer end of the table-section, and a screw passing through each end of said trim strip and into the adjacent offset portion of said reinforcing member to secure the trim strip in place.

9. The invention set forth in claim 7 with the addition that said flange is formed intermediate its height to provide an outwardly opening continuous groove, said trim strip overlying said groove and being supported by the side walls thereof.

10. The invention set forth in claim 7 with the addition that portions of said reinforcing member near each end thereof are offset toward the outer end of the table-section, and a screw passing through each end of said trim strip and into the adjacent offset portion of said reinforcing member to secure the trim strip in place.

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