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LEG AND CHASSIS STRUCTURE

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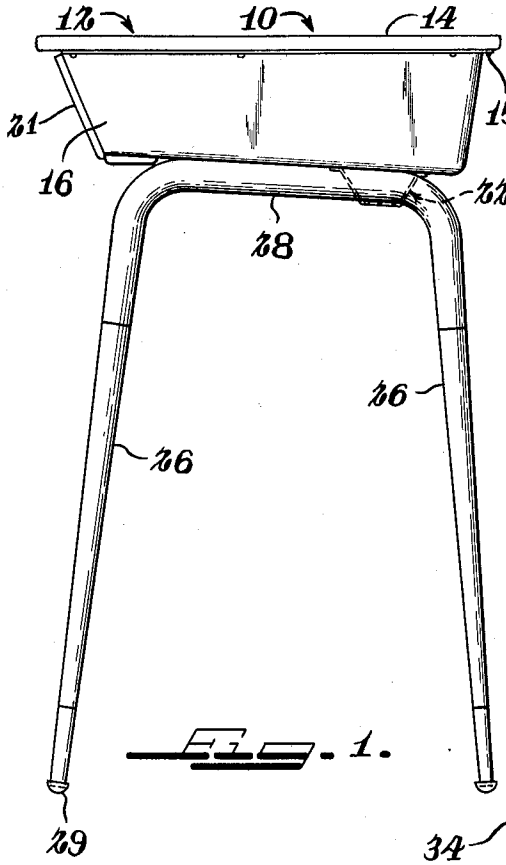


FIG. 1.

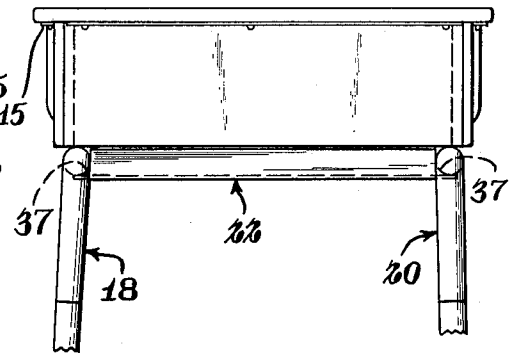


FIG. 2.

FIG. 3.

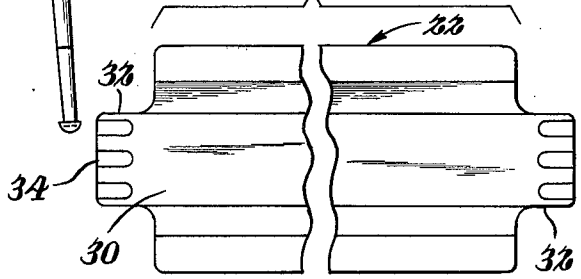
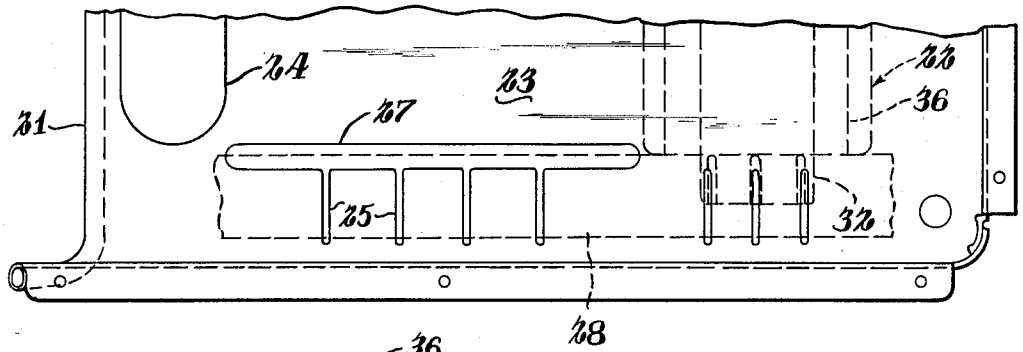


FIG. 5.



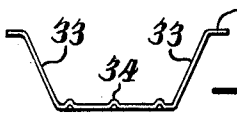


FIG. 4.

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LEG AND CHASSIS STRUCTURE

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This invention relates to a desk structure or the like, and particularly to a chassis for such a structure and a brace for use in such a chassis.

It is a general object of the invention to provide a new and improved brace member of the type described which facilitates manufacture of a welded chassis for a desk, or the like, in a simplified economical manner.

Another object is to provide a new and improved chassis of the type described including a leg structure comprised of separate leg components and a brace member connecting the leg components, wherein the brace member is constructed to facilitate welding to the leg components to thereby join the leg components to provide a chassis for a desk member or the like.

A further object is to provide a new and improved desk, or the like, including a chassis of the type described in the preceding paragraph and a desk unit supported on the brace and legs.

A more specific object is to provide a new and improved brace of the type described comprising an elongate metal member having a generally channel-shaped cross section including a lower wall and spaced apart side walls extending upwardly from the lower wall wherein the upper edges of said side walls are in a generally horizontal plane to receive a book shelf, or the like, and the ends of said elongate member are recessed for receiving a transversely extending portion of a leg member to be attached to the bracket.

The bracket of this invention provides an important economic advantage in that only one such brace is required where prior chassis of similar nature have required several brace members.

A further advantage of this invention is that upper flanges of the brace are easily welded to the desk member, and upon being welded, the desk member becomes the fourth wall of the brace, thereby providing a closed tubular brace having a high degree of resistance to twisting about its longitudinal axis.

The brace provides an important economic advantage in that a brace of relatively simple cross section has flanges to facilitate welding of the brace to a desk member and still has torque resistive characteristics of a member of closed cross section.

Other objects and advantages will become readily apparent from the following detailed description taken in connection with the accompanying drawings, in which:

FIGURE 1 is a side elevational view of a book box desk incorporating a chassis and bracket embodying the principles of the present invention;

FIGURE 2 is a fragmentary front elevational view of the desk illustrated in FIGURE 1;

FIGURE 3 is a fragmentary plan view of the desk brace;

FIGURE 4 is an end view of the brace illustrated in FIGURE 3; and

FIGURE 5 is a fragmentary plan view of the book box with the desk top off.

While an illustrative embodiment of the invention is shown in the drawings and will be described in detail herein, the invention is susceptible of embodiment in many different forms, and it should be understood that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The

scope of the invention will be pointed out in the appended claims.

Referring now to the drawings in more detail, a desk **10** incorporating the principles of the present invention includes a book shelf and desk top assembly **12** including desk top panel **14** mounted along its side and forward edges as at **15** on a book shelf **16**, a pair of leg units **18** and **20** welded to the book shelf, and a brace **22** which is welded both to the legs and to the book shelf.

In the preferred embodiment of the invention as illustrated herein, the book shelf **16** is formed of weldable sheet metal with front and side walls and opens rearwardly as at **21** for easy access. The bottom panel **23** of the book shelf has a transverse recess in the form of a depressed deformation **24** formed therein to contain pencils, or the like. Transverse elongated indentations **25** are formed in a row along each side edge of the bottom of the book box to provide projections on the underside of the book box to facilitate welding to the leg members, and strengthening indentations in bottom panel **23** may be provided as at **27**.

The leg units **18** and **20** are alike in all respects and are made of tubular metal, preferably steel, each of which has been bent into an inverted U-shape to include a pair of laterally spaced upright leg portions **26** having upper ends connected by a transverse piece **28** integral therewith. Preferably, the legs **26** taper diminishingly downwardly toward the lower floor engaging end portions which are desirably provided with suitable feet **29** of rubber or other composition.

The leg units **18** and **20** are connected together by the brace **22** which is also of metal and is preferably welded to the transverse members **28** of the leg units to provide a chassis for supporting the box unit.

The brace **22** comprises a single sheet metal member in an elongate form, as seen in FIGURE 3, bent into a generally inverted hat-shape cross section, as seen in FIGURE 4. The lower wall **30** of the brace member has end portions **32** extending longitudinally beyond spaced apart side walls **33** and the end portions **32** serve to underlie and engage the crosspieces **28** to thereby provide contact between said leg members and the brace for welding. Welding of the brace member to the leg members is facilitated by indentations **34** in end portions **32**, as seen in FIGURE 3 and FIGURE 4. The flanges **36** on top of the brace member abut the bottom side of the desk box and are welded thereto.

Preferably, the brace of this invention, as well as the welded chassis, are usable with a book shelf unit, as illustrated in FIGURES 1 and 2, and also with book box units or other desk like structures, and with tables or chairs.

In constructing a desk as illustrated in FIGURE 1 and FIGURE 2, the leg units **18** and **20** and the brace member **22** are first welded together to provide a chassis to which the book shelf unit **12** is later attached. The construction shown and described of the brace and leg units facilitates the welding of the bracket to both leg units in a single operation in a single machine. The machine utilized may be provided with suitable fixture means for holding the leg units and brackets in the positions illustrated relative to each other, whereupon the welding elements may be brought into position to engage the lower wall portions **32** of the brace member and the transverse portions **28** of the leg members. The book shelf is then welded to the brace member flanges **36** and to the transverse portions **28** of the leg members. The welding together of the brace and book shelf closes the upper side of the brace member, the book shelf acting as the fourth side of a closed structural member, thereby providing a closed tubular brace resistant to torsional twist about its

longitudinal axis. It will be understood that curved ends of brace side walls **33** and end portions **32** of brace bottom wall **30** define a transverse recess or indentation as at **37** (FIGURE 2) at each end of the brace **22** for fitting a leg crosspiece **28** of generally circular cross section.

I claim:

1. A desk or the like comprising a pair of spaced leg structures, each including a pair of upwardly extending leg members and a crosspiece connecting upper ends of the leg members and in spaced generally parallel relationship with the other crosspiece, an elongate brace member of generally channel shaped cross section extending between the crosspieces and having opposite ends engaging the crosspieces, said elongate member having a lower generally horizontally disposed wall and spaced apart side walls extending upwardly from the lower wall and having upper flanges generally horizontally disposed, said lower wall having opposite end portions respectively underlying said crosspieces, a desk panel generally horizontally disposed over the leg structures and brace member in contact with the leg crosspieces and the brace member side wall upper flanges, means securing opposite ends of the brace member lower wall to the leg crosspieces and means securing the desk panel to the crosspieces and brace member flanges, so that the brace member is closed at the top thereby providing a closed tubular brace resistant to torsional twist about its longitudinal axis.

2. The combination of claim **1** wherein the leg crosspieces, the brace member and the desk panel are metal and the brace member is welded to the crosspieces and the desk panel is welded to the crosspieces and the brace member.

3. A book shelf desk structure, comprising, a pair of inverted generally U-shaped metal leg members of generally circular cross section, each including a pair of upright legs having upper ends connected by a generally horizontally disposed crosspiece arranged in spaced parallel relationship relative to the other crosspiece, an elongate metal brace member of inverted generally hat-shaped cross section including a generally horizontally disposed bottom wall, spaced upwardly extending side walls at opposite edges of the bottom wall and outwardly turned flanges at upper edges of the side walls, said brace member extending between said crosspieces, with opposite ends of the lower wall of the brace member extending longitudinally beyond opposite ends of the side walls thereof and underlying respectively the crosspieces, and with end edges of the side walls concavely curved to fit the crosspiece, the brace member lower wall end portions being welded to the crosspieces, a metal book shelf supported on the brace member and crosspieces and welded to the latter and the brace member side wall upper flanges so that the brace member is closed at the top thereby providing a closed tubular brace resistant to torsional twist about its longitudinal axis.

4. A book shelf desk structure, comprising, a pair of inverted generally U-shaped tubular metal leg members of generally circular cross section, each including a pair of upright legs having upper ends connected by a generally horizontally disposed crosspiece arranged in spaced parallel relationship relative to the other crosspiece, an elongate metal brace member of inverted generally hat-shaped cross section including a generally horizontally disposed bottom wall, spaced upwardly extending side walls at opposite edges of the bottom wall and outwardly turned flanges at upper edges of the side walls, said brace member extending between said crosspieces, with opposite ends of the lower wall of the brace member extending longitudinally beyond opposite ends of the side walls thereof and underlying respectively the crosspieces, and with end edges of the side walls concavely curved to fit the wall of the crosspiece, the brace member end portions being welded to the crosspieces, a metal book box having a bottom wall supported on the brace member and crosspieces and welded to the latter and the brace member side wall upper flanges so that the brace member is closed at the top thereby providing a closed tubular brace resistant to torsional twist about its longitudinal axis, said book box bottom wall having strengthening indentations in the bottom panel thereof and transverse elongated indentations formed in a row along each side edge of the bottom of said book shelf to provide projections on the underside thereof for facilitating welding to the said leg members.

5. The combination of claim **1** wherein said leg member crosspieces extending at generally right angles with respect to said brace to define a substantially U-shaped area of contact with said desk panel.

6. The combination of claim **5** wherein said leg member crosspieces are generally circular in cross-section and the height of said brace member side walls is substantially the same as the diameter of said crosspieces.

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