June 1, 1965 B. O. BUHRMASTER 3,186,669

CHAIR BASE CONSTRUCTION

Filed June 19, 1963

Fig. 2.

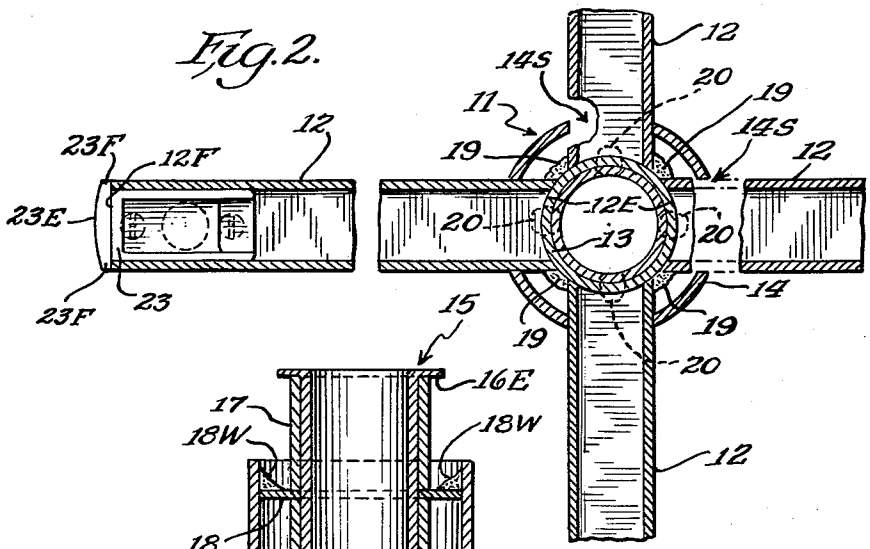
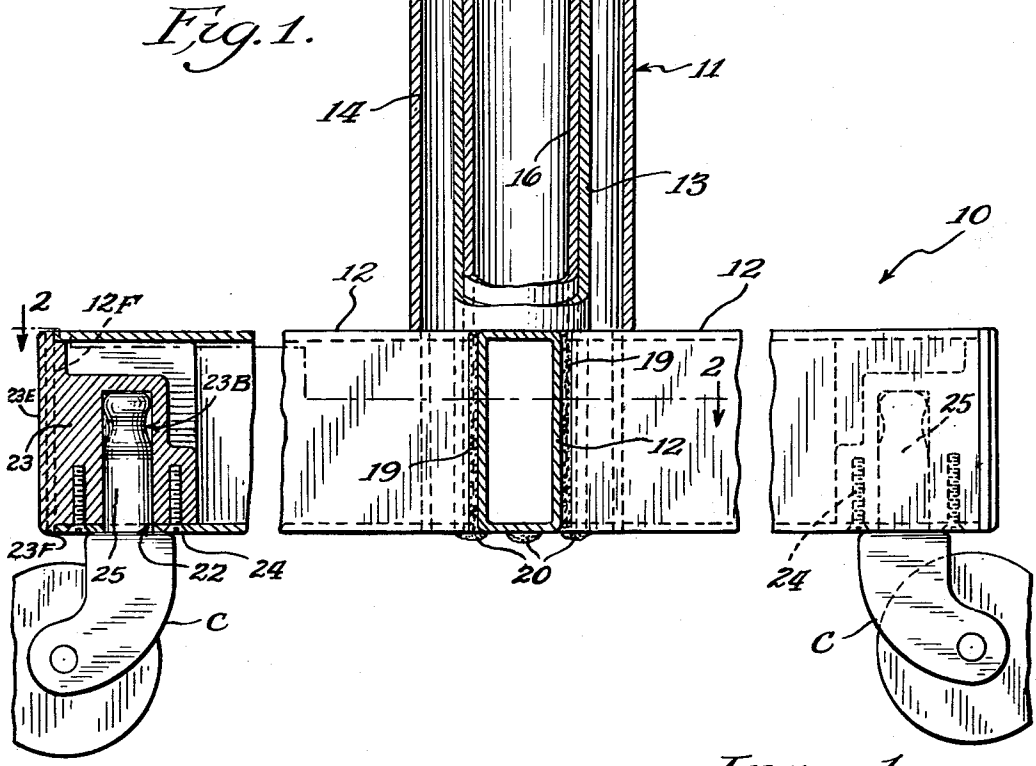


Fig. 1.



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Attys

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CHAIR BASE CONSTRUCTION

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This invention relates to a chair base construction method and a chair base construction arrangement, and more particularly is concerned with chair base structures of the type commonly employed in metal office chairs.

The principal object of the invention is to provide a chair base construction that is durable and pleasing in appearance, while sharply reducing the manufacturing costs.

Another object of the invention is to provide a chair base construction method wherein the externally visible parts are pre-plated and interconnected by welding at junctures that are masked from external view by the pre-plated parts.

Another object of the invention is to provide a chair base construction arrangement having a novel connection of the support legs to a multiple shell vertical post arrangement.

A further object of the invention is to provide a support leg and end filler arrangement of simplified form suitable for direct mounting of casters.

Other objects and advantages of this invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same;

FIG. 1 is a fragmentary side view of a chair base construction arranged in accordance with this invention and having a vertical center post structure shown in section and having mid-length portions of the legs broken out; and

FIG. 2 is a sectional view taken on line 2—2 of FIG. 1.

Referring now to the drawings, the chair base arrangement illustrated for purposes of disclosure is designated generally at **10** and is particularly suited for metal office furniture. Accordingly, the chair base is comprised of a vertical center post structure designated generally at **11**, and a set of four leg elements **12** fixed to and radiating from the center post structure and equipped with casters C to support the chair base in the usual fashion. In accordance with this invention, the center post structure includes a vertical inner shell **13**, a vertical outer shell **14** supportingly engaged upon the inner shell at an upper region thereof and extending downwardly substantially coextensively therewith in outwardly spaced surrounding masking relation to the inner shell, and a hub assembly **15** comprising a hub sleeve **16** projecting vertically through the inner shell **13** to a location adjacent the lower end region thereof, and a hub support collar **17** encircling the upper end of the hub sleeve and engaging an end shoulder **16E** thereof to support the hub sleeve **16** from the shell structures.

In the preferred form illustrated herein for purposes of disclosure, the inner shell **13** is formed of 14 gauge circular steel tubing having an O.D. of 1⅜ inch, and the outer shell **14** is formed of .095 inch thickness circular steel tubing having an O.D. of 2¼ inches and having peripherally spaced wall openings about its lower end to present a separate downwardly open mounting slot **14S** for receiving each support leg **12**. The outer shell **14** is slightly longer than the inner shell **13** and receives a washer **18** secured by weld **18W** in counter-sunk relation within its upper end to provide a support shoulder resting upon the upper end face of the inner shell **13**.

Each of the support legs **12** is of hollow tubular form and is preferably formed of 14 gauge sheet steel stock to

provide a vertically elongated generally rectangular profile in transverse section. Each leg **12** has its radially inner end portion projecting through a corresponding lower end slot **14S** of the outer shell and terminating in an end face **12E** of cylindrically concave profile and abutting a corresponding lower end side wall portion of the inner shell **13** such that lateral and upper extremities of such leg end face **12E** define junctures with such shell side wall portions at locations that are masked by the outer shell **14** and such that lower extremities of such leg end face **12E** are adjacent lower extremities of the inner shell **13** and of the hub sleeve **16** to define composite edge regions at locations that are also masked by the outer shell **14**.

Weld lines **19** are provided along each of these junctures to secure the inner shell **13** and the legs **12** in rigid relation. Weld **20** is applied at each of these composite edge regions to secure the hub sleeve **16**, the inner shell **13**, and the legs **12**.

It should be noted that the slots **14S** defined by the wall openings at the lower end of the outer shell **14** are preferably of a profile matched to that of the legs to dispose the slots **14S** in snug-fit socketing relation about the legs **12**. This presents a trim appearance and ensures that all weld locations are masked from view when the chair is in normal use.

Each leg has its radially outer end opening endwise outwardly and also provided with a vertically downward wall opening **22** flanked by screw holes. Thus, each outer leg end presents a mounting socket of generally rectangular transverse profile, and an insert block **23**, preferably of plastic, is nested in each such socket and has a generally corresponding transverse profile to seat snugly therein.

Each block **23** has end face structure **23E** presenting an end cap closing off the mounting socket. Each block has a downwardly opening bore **23B** flanked by screw holes for registry with the wall opening **22** and screw holes of the outer leg end. Preferably, the end face structure of each block **23** has a marginal edge flange **23F** presenting a locating shoulder for external endwise abutment with the outer leg end face **12F** to locate the bore **23B** and screw holes in registry with the leg wall opening **22** and screw holes. Screws **24** secure the block **23** within the leg end, after which the support spindle **25** for each caster may be received within the bore of the block.

In accordance with the construction method of this invention, each of the legs **12** and the outer shell **14** are completely formed and then are pre-plated to provide a suitable external chrome coating thereon. Finishing these parts at this stage facilitates the plating operation to reduce the manufacturing costs materially. Pre-plating is made possible because all weld locations are effectively masked.

The fabrication and assembly of the chair base is carried out in the following fashion. Each of the pre-plated legs **12** is assembled in radially endwise directed abutment to a corresponding peripherally spaced side wall region at the lower end of the inner shell **13** to form line junctures therebetween. Weld **19** is applied along each juncture to lock these parts together; the pre-slotted and pre-plated outer shell **14** with washer **18** pre-welded at **18W** is assembled onto the lower end of the completed hub assembly to provide a shell and hub subassembly which is then assembled onto the inner shell **13** to rest in supported relation thereon, with the outer shell **14** being located in surrounding relation to the inner shell and having its end slots **14S** in socketing relation to the legs to mask the weld junctures, and with the hub sleeve **16** extending downwardly within the inner shell **13** and terminating adjacent lower extremities of the legs **12** and

of the inner shell **13** to define composite edge regions at locations that are also masked by the outer shell; and finally, weld **20** is applied to these composite edge regions to secure the hub sleeve, the inner shell and the legs together.

While a preferred embodiment of the invention has been illustrated herein, it is to be understood that changes and variations may be made by those skilled in the art without departing from the spirit and scope of the appended claims.

I claim:

1. In a chair base having vertical post structure and a plurality of exteriorly plated leg elements radiating from said post structure, the improvement wherein said post structure includes a vertical inner shell and an exteriorly plated vertical outer shell supported in spaced relation to said inner shell at an upper region thereof and extending downwardly coextensively therewith in surrounding masking relation to the inner shell, said outer shell having peripherally spaced wall openings about its lower end to present a separate mounting slot for each leg, each leg having an exteriorly plated outer surface and having an inner end portion projecting through its corresponding slot into radial abutment with said inner shell to define junction lines therewith masked by said outer shell, a weld along each said junction line securing said inner shell and said legs in rigid relation, and means for securing the outer shell to the inner shell in said spaced relation thereto.

2. An arrangement in accordance with claim **1** and wherein each leg has an outer radial end of hollow tubular form and endwise open to present a mounting socket, said outer leg end having a vertically downward wall opening, an insert block nested in said socket and having end face structure presenting an end cap closing off said socket, said block having a downwardly opening bore registering with said wall opening and arranged to receive a caster support spindle.

3. In a chair base having vertical post structure and a plurality of leg elements radiating from said post structure, the improvement wherein said post structure includes a vertical inner shell, a vertical outer shell supportingly engaged upon said inner shell at an upper region thereof and extending downwardly substantially coextensively therewith in surrounding masking relation to the inner shell, and a hub assembly comprising a support collar overlying and resting upon one of said shells and a hub sleeve carried by said collar projecting vertically through said collar and said inner shell to adjacent a lower end region thereof, said outer shell having peripherally spaced wall openings about its lower end to present a separate downwardly opening mounting slot for each leg, each leg having a radially inner end portion projecting through its corresponding slot and presenting a radially inner end face having lateral and upper extremities abutting with said inner shell to define junctures therewith masked by said outer shell and having lower extremities thereof adjacent lower extremities of said inner shell and said hub sleeve to define composite edge regions masked by said outer shell, weld along said junctures and

securing said inner shell and said legs in rigid relation and weld at said edge regions and securing said hub sleeve, said inner shell, and said legs together.

4. In a chair base having a generally horizontal leg supported on a caster, the improvement wherein said leg has one end thereof of hollow tubular form and endwise open to present a mounting socket, said leg end having a vertically downward wall opening, an insert block nested in said socket and having end face structure presenting an end cap closing off said socket, said block having a downwardly opening bore registering with said wall opening and arranged to receive a caster support spindle.

5. The arrangement of claim **4** wherein said leg end is of vertically elongated generally rectangular transverse section, said block is of generally corresponding transverse sectional outline to fit snugly within said socket and said end face structure has a marginal edge flange presenting a locating shoulder having external endwise abutment with said legend to locate said base in registry with said wall opening.

6. A chair base comprising a vertical post structure and a plurality of metallic horizontal leg elements individually fixed thereto and radiating therefrom, said leg elements each having plating over its exterior surface, said post structure having a metallic vertical inner shell and a metallic vertical outer shell mounted about the inner shell and extending downwardly substantially coextensively with the inner shell and in radially spaced surrounding masking relation to the inner shell, said outer shell having plating over its exterior surface and having peripherally spaced parallel sided wall openings spaced about and opening downwardly through its lower end to present a separate mounting slot of generally rectangular configuration for each said leg element and configured to receive each such leg element in close fit relation, each leg element having a complemental rectangular configuration and having an inner end portion projecting through its corresponding slot into radial abutment with said inner shell to define parallel junction lines therewith masked by said outer shell, welds along said junction lines overlying a portion of the plating on each leg and securing said inner shell and said leg elements in rigid relation, and means for securing the outer shell to the inner shell in spaced relation thereto.

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