July 9, 1968 F. DOERNER 3,391,887

CHAIR BASE

Filed Nov. 14, 1966

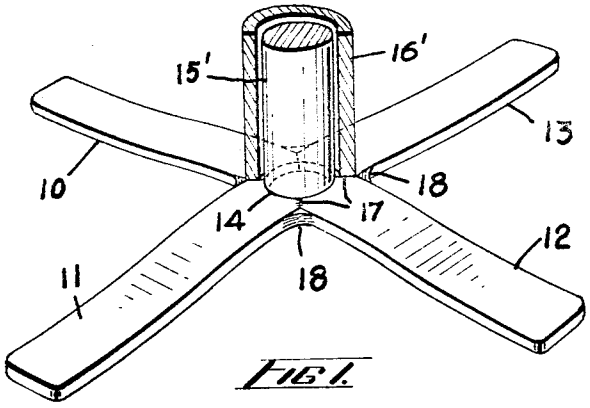


FIG 1.

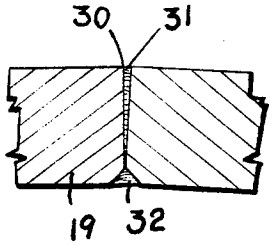
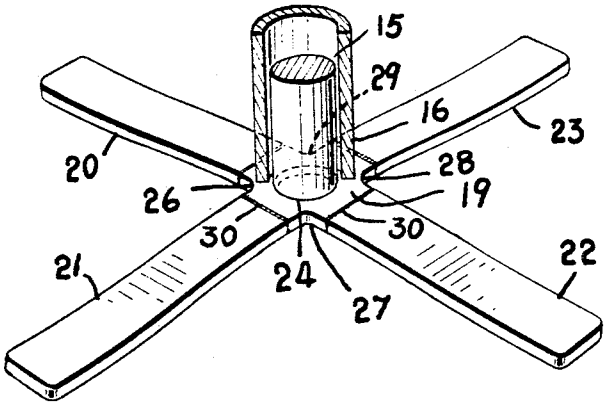


FIG 4.

FIG 2.



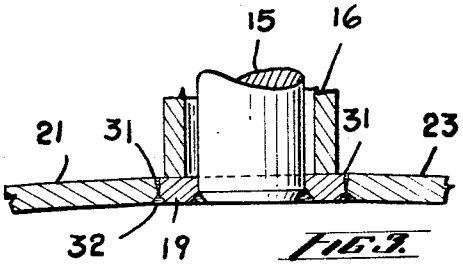


FIG 3.

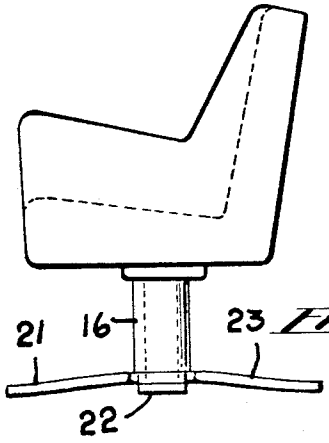


FIG 5.

INVENTOR
FRANK DOERNER

BY

ATTORNEY

United States Patent Office 3,391,887 Patented July 9, 1968

3,391,887

CHAIR BASE

Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co. Limited, Waterloo, Ontario, Canada, a corporation of Canada

Filed Nov. 14, 1966, Ser. No. 594,007
1 Claim. (Cl. 248—188.7)

ABSTRACT OF THE DISCLOSURE

The chair base is fabricated from flat bar stock in which the four legs are arranged radially about a separately formed square centre piece having a central hole for a centre post, the legs and centre piece being permanently united by welding.

This invention relates to a chair base which is fabricated from flat bar stock and in particular to an improved construction which increases its strength and reduces the amount of welding necessary heretofore required for joining the parts into a unitary structure.

The chair bases presently in use comprise four radially extending legs arranged to form a cross with their abutting ends shaped so that when they are brought into juxtaposition a central hole is formed for receiving the lower end of a chair post. That type of structure has proved unsatisfactory because of the limited amount of welding which can be done to join the four legs into a unitary structure. Furthermore that type of structure required large fillet of welding at the corners and careful buffing to achieve the large radius required at the corners.

The improved chair base of the present invention comprises:

(a) A separately formed rectangular center piece of flat form with a center hole pierced therethrough;

(b) Separately formed legs having substantially flat butt ends of a width not greater than the side edge of the centre piece against which it is abutted; and

(c) Welding material permanently uniting said center piece and the legs into a unitary structure.

Other features of the invention will be set forth and described in the following disclosure which is illustrated by the accompanying drawings in which:

FIGURE 1 illustrates the chair base presently in use;

FIGURE 2 illustrates a chair base constructed in accordance with the present invention;

FIGURE 3 is a vertical cross-section to illustrate the welded joints;

FIGURE 4 is an enlarged cross-section showing one leg abutted against the center piece in order to show the welding; and

FIGURE 5 is an assembled view of a chair and a base.

Referring now to FIGURE 1 which illustrates the prior art construction, it will be seen that it consists of four flat, slightly curved legs **10, 11, 12** and **13** with the abutting ends arcuately curved to form a center hole **14** which receives a chair post **15'**, the chair post being enclosed within a tubular sleeve **16'**. The tubular sleeve **16'** (FIGURE 1) and the tubular sleeve **16** (FIGURE 2) are merely ornamental features. The exterior of the tubular sleeves are highly polished (chrome). Their primary function is to hide the rough appearance of the post **15'** (FIGURE 1) or the post **15** (FIGURE 2). It will be noted that each of the abutting ends of the legs are tapered as indicated at **17** to provide a welding joint together with a fillet weld joint as indicated at **18**. It will be seen that the large area of the leg ends which surround the post is free of welding. This results in a weak structure.

Referring now to the present invention which is illustrated in FIGURES 2 to 5 inclusive, it will be seen that the structure therein disclosed comprises a center piece **19** and four legs **20, 21, 22** and **23** made of flat bar stock, each leg being slightly arched to raise the center piece up from the floor as required by conventional practice. The center piece **19** is pierced by a center hole **24** for the chair post **15** which is secured therein by conventional means. In its preferred form, the center piece **19**, is provided or formed with radii **26, 27, 28** and **29**, one at each corner. The radii **26, 27, 28** and **29** are formed to leave four straight edges which are the same width as the width of the legs. As the legs will slope downwardly away from the center piece, when the abutting edges are brought into juxtaposition, the leg ends will not be parallel to a corresponding edge **30** of the center piece **19** and a tapered gap as indicated at **31** will be left for a conventional butt weld. The abutting under-edges of the center piece and the leg will be bevelled for a single bevel groove weld as indicated at **32**.

It will be seen from the foregoing that the structure described and disclosed with reference to FIGURES 2 to 5 inclusive provides a very strong structure and a more simple structure than the present structure which is illustrated in FIGURE 1.

The method of assembling and making the improved structure comprises the following steps:

(1) The center piece **19** is first formed from a flat, substantially square bar having a center hole pierced therethrough and flat edges, preferably with a radius at each corner;

(2) the legs are formed of substantially flat stock slightly arched and formed with a substantially flat butt end of a width not greater than the side edge of the center piece against which it is to abut;

(3) the butt end of each leg is brought into juxtaposition with the side of the center piece to which it is to be welded. The parts are then welded together. It is to be noted that no corner fillets are required and no hand filing or buffing is necessary since the sleeve **16** will cover substantially all of the welded joints.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. A chair base comprising, in combination,

(a) four legs arranged radially in a horizontal plane abutting against a center piece at about 90° intervals, each leg comprising an elongated rectangular strip of plate material;

(b) said center piece comprising a square plate member having a central hole therethrough and having each of its corners cut away along a circular arc having a radius at each corner to provide between the two corners a flat edged abutment of the same cross sectional dimensions as the cross-sectional dimension of a leg against which the legs abut;

(c) welding material permanently uniting said center piece and the legs into a unitary structure, along the abutting edges; and

(d) chair post having its lower end secured in said center hole and a tubular sleeve enclosing said post.

References Cited

UNITED STATES PATENTS

2,284,770	6/1942	Scheuer	248—158
3,086,741	4/1963	Cramer	248—188.7
3,186,064	6/1965	Buhrmaster	29—150

JOHN PETO, *Primary Examiner.*