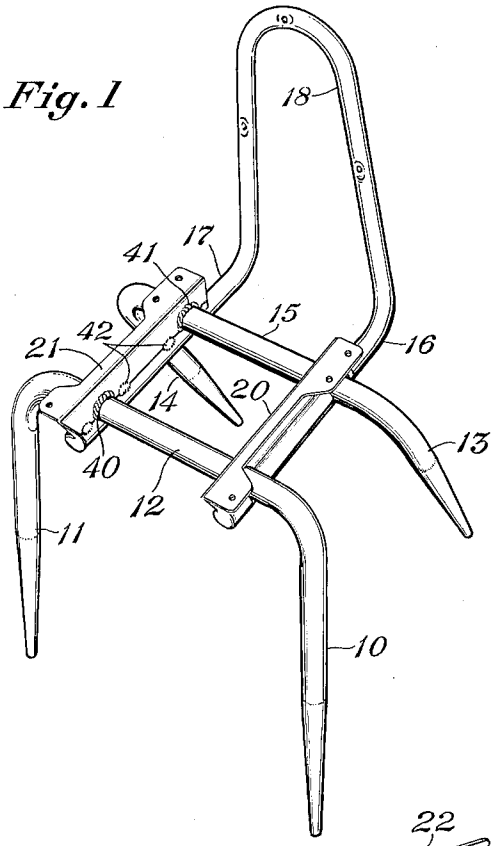
Dec. 21, 1965 L. M. JENNIGES ETAL 3,224,810

FURNITURE AND CHAIR BRACKET CONSTRUCTION

Filed Oct. 31, 1963

Fig. 1



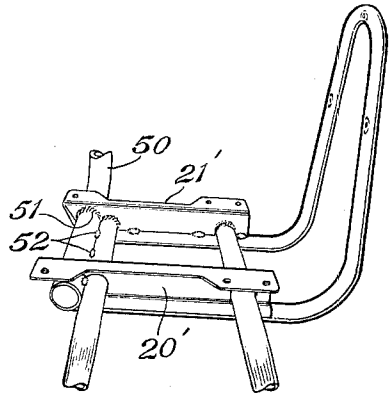


Fig. 3

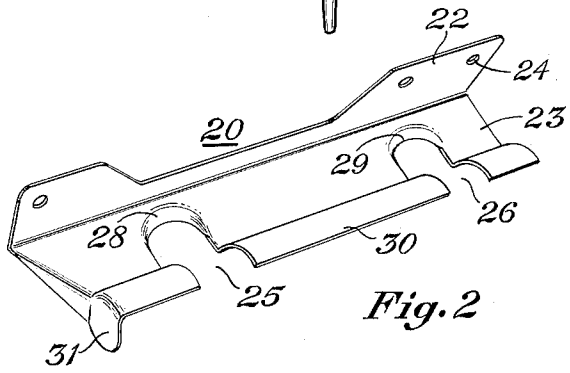


Fig. 2

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United States Patent Office 3,224,810 Patented Dec. 21, 1965

3,224,810

FURNITURE AND CHAIR BRACKET CONSTRUCTION

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Filed Oct. 31, 1963, Ser. No. 320,438
6 Claims. (Cl. 297—451)

This invention relates to a bracket and anchoring system and more particularly to a system for maintaining a predetermined orientation between separate unitary crossed tubular elements such as the leg and back supports of a chair. In another aspect, the invention relates to a bracket which is welded to crossed tubes and which provides a substantial bearing area for such elements.

Various constructions are known for the formation of furniture from tubular stock. Where tubular members cross one another and must be connected one to another, it has been the practice heretofore to tack weld the confronting surfaces one to another. However, applicants have found that a substantial savings in time and an increase in stability of the product may be achieved by employing a bracket of particular configuration for mating together the various separate unitary tubular elements.

More particularly, in accordance with the present invention, there is provided a bracket structure which is employed to couple leg and back elements of tubular form one to another and to provide a seat support. In a specific aspect, a bracket is provided on angular stock having a pair of slots with arcuate ends extending from one edge of one angle plate towards the common plate boundary, and having an arcuate section extending along said one edge forming a bearing surface which is arcuate as an arc of a circle which is tangent to circles which include the arcs at the ends of the slots.

In a further aspect of the invention, there is provided a chair construction in which a pair of tubular legs and a tubular unitary back support are to be secured with the back support extending perpendicular to the leg portions. There is provided an angle bracket which has a top surface parallel to the plane of a seat and adapted to support a seat with elongated slots extending from the free edge of the opposite bracket plate towards the common boundary between the sides of the bracket. Arcuate slot ends mate with the surfaces of the legs to maintain them spaced apart. The lower edge of the slotted plate is arcuate and adapted to receive and mate with the upper surface of the tubular back support elements in position such that the back support element is tangent to the leg support.

For a more complete understanding of the present invention and for further objects and advantages thereof, reference may now be had to the following description taken in conjunction with the accompanying drawings in which:

FIGURE 1 is an isometric view of a chair construction embodying the present invention with the seat and back removed;

FIGURE 2 is a detailed showing of the bracket of FIGURE 1; and

FIGURE 3 illustrates a modification in which a desk support element is anchored to the leg and seat support brackets.

Referring now to FIGURE 1, a chair frame is illustrated in an isometric view. The chair frame is formed out of three elements each of which is made of tubular stock. The front legs are formed of a single element having the leg portions **10** and **11**, and a horizontal beam **12**. The back legs are formed from a single element with vertical portions **13** and **14**, and horizontal portion **15**.

The back portion **18** is hairpin-shaped of tubular stock which includes the outwardly extending ends **16** and **17**. Since the foregoing elements are made in tubular form, it is necessary rigidly to secure them one to the other such that the chair can withstand abuse without breakage.

In accordance with the present invention, the leg and back elements are anchored together through the use of a pair of seat-supporting brackets **20** and **21**. A preferred embodiment of the seat-supporting brackets is illustrated in detail in FIGURE 2. The bracket **20** is formed from rigid sheet metal bent to form a right angle with an upper seat-supporting plate **22** and a vertically oriented side plate **23**. The upper seat-supporting plate **22** is provided with holes such as hole **24** to accommodate screws or bolts to fasten a seat element thereto.

The lower edge of the vertical plate **23** is pierced by two slots **25** and **26** therein. The slots **25** and **26** terminate ot their upper ends near the fold **27**. The arc ends are embossed at zones **28** and **29**. The slot ends **28** and **29** are embossed outwardly to form a bearing surface for the tubular cross members **12** and **15**, respectively. The slots **25** and **26** have a width equal to the diameter of the horizontal elements **12** and **15**. The lower edge of the plate **23** forms an arcuate surface. The arcuate surface follows the contour of a first circle which is tangent to a second circle on which the arcs **28** and **29** lie. Thus, the arcuate portion **30** is supported on the extension **16** as shown in FIGURE 1. In such position, the tube **16** is below and tangent to the cross members **12** and **15**. The front end of the arcuate edge **30** has a closure tab **31** which serves to stop the end of the tube **16** to prevent the deposit therein of debris or the entrapment of exploring fingers.

The chair is assembled by positioning the legs **10–12** and **13–15** and the back **18** in a suitable jig. They are then resistance welded to each other. The brackets **20** and **21** are then slipped over the top of the legs and are then resistance welded. The back is thus secured in the arcuate portion **30**, as indicated by the zones **42**. Thus secured, the leg and back elements may be more extensively welded as at embossed sections **40** and **41**.

In FIGURE 3, there is illustrated a modification in which the chair includes a member **50** which serves to support a desk top. In this case, a tubular element **50** is designed to support the desk top (not shown) by forming an additional hole in the brackets **20'** and **21'** immediately forward of and tangent to the slots such as slot **25**. Thus the desk-supporting pedestal **50** may be inserted through such holes and welded as at point **51** and at zones **52** to make the desk pedestal integral with the chair frame. Thus, the bracket rigidly supports seat and back structures as well as a desk structure.

While the invention has been described in connection with the chair construction of FIGURES 1–3, it will be apparent that modifications may be made both in the structure and in its use. For example, table tops may be supported by structure such as illustrated in FIGURE 1 if the upstanding portion of the back element **18** is removed. Further, the chair is shown as a four-legged chair. The same bracket structure may be employed for a pedestal-type chair wherein the legs **10**, **11**, **13**, and **14** are replaced by a single pedestal secured to a plate welded between the horizontal elements **12** and **15** and the confronting faces of brackets **20** and **21**. The bracket itself may be varied in its length and width in order to accommodate variations in structure as demanded.

Having described the invention in connection with certain specific embodiments thereof, it is to be understood that further modifications may now suggest themselves to those skilled in the art, and it is intended to cover such modifications as fall within the scope of the appended claims.

What is claimed is:

1. A bracket for a chair having legs and a back support formed of tubular members which comprises:

(a) an angle bracket having a horizontal top flange for supporting a chair seat, and

(b) a vertical flange the lower edge of which is arcuate to mate with the surface of said back support, said lower edge being pierced with at least one transverse slot the upper end of which is arcuate as a portion of a circle of diameter corresponding with the diameter of said legs with said circle tangent with said back support, and an integral disk at the front end of the arcuate portion to close the end of said back support.

2. A bracket for connecting leg tubes and back tubes of a chair to be formed from tubular elements which comprises an elongated, rigid angle bracket, said bracket having U-shaped slots extending transversely across one flange thereof from the free edge with the ends of said slots being arcuate at a radius corresponding with one-half the width of said slots, said free edge of said flange being formed in an arc and extending the length of said flange, the radius of said arc corresponding with the radius of said back tubes and tangent to a circle, a portion of which corresponds with the ends of said slots.

3. Chair construction which comprises:

(a) a pair of inverted U-shaped leg tubes,

(b) back support tubes, and

(c) an elongated rigid angle bracket with inverted U-shaped slots extending transversely across a vertical flange thereof from the free edge of said vertical flange in which said leg tubes are secured, the free edge of said vertical flange being arcuate along the length thereof in which arc one of said back tubes is secured tangent to said leg tubes.

4. In furniture construction, the combination which comprises:

(a) a pair of inverted U-shaped leg tubes,

(b) a pair of cross support tubes, and

(c) a pair of elongated rigid angle brackets, each of said brackets having inverted U-shaped slots extending transversely across vertical flanges thereof from the free edges of said vertical flanges in which said leg tubes are secured, the free edges of said vertical flanges being arcuate along the lengths thereof in which arcs said cross support tubes are secured tangent to said leg tubes.

5. Chair construction which comprises:

(a) an inverted U-shaped leg tube,

(b) back support tubes, and

(c) a pair of elongated rigid angle brackets each having an inverted U-shaped slot extending transversely across vertical flanges thereof from the free edges in which said leg tubes are secured, the free edges of said vertical flanges being arcuate along the lengths thereof in which arcs said back tubes are secured tangent to said leg tubes.

6. In furniture construction, the combination which comprises:

(a) a pair of inverted U-shaped legs,

(b) cross support tubes extending between base portions of said U-shaped legs and each having at least one edge thereof in substantially tangent relation to said base portions, and

(c) at least one elongated rigid angle bracket having inverted U-shaped slots extending transversely across the vertical flange thereof from the free edges of said vertical flange in which slots are secured the base portions of said leg tubes adjacent to one of said cross support tubes, said free edge of said vertical flange being formed along the length thereof to engage the surface of said cross support tubes and to which said cross support tubes are secured.

References Cited by the Examiner

UNITED STATES PATENTS

2,572,591	10/1951	Booth	297—450
2,631,076	3/1953	Redlich	248—188
2,747,654	5/1956	Chapman et al.	297—418
2,999,662	9/1961	Lappin et al.	297—445
3,111,344	11/1963	Hoven et al.	297—445

FOREIGN PATENTS

981,092	5/1951	France.

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