W. P. LAWRENCE.

CHAIR.

APPLICATION FILED DEC. 29, 1908.

942,570.

Patented Dec. 7, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

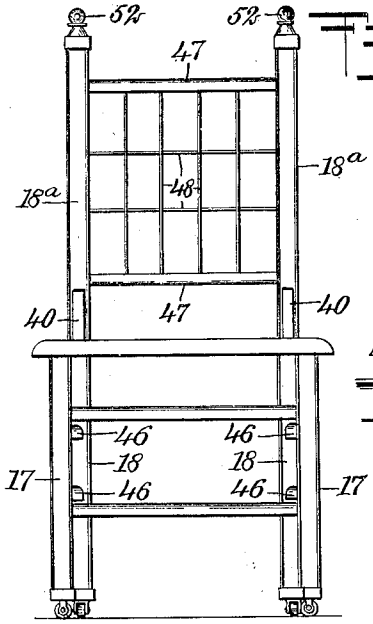


Fig. 3.

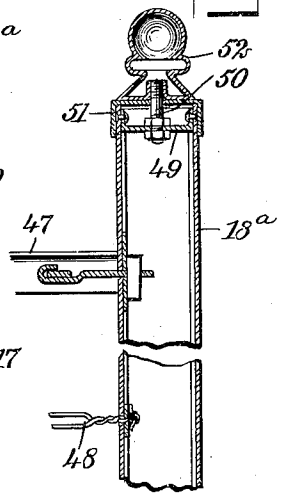


Fig. 2.

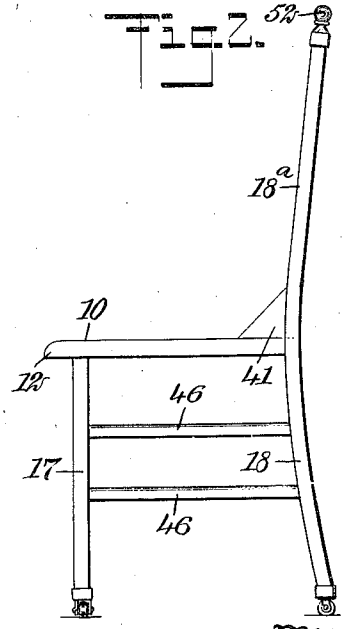


Fig. 4.

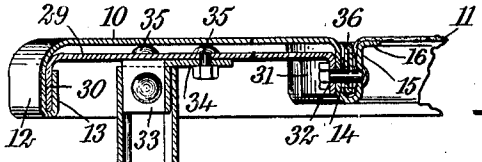


Fig. 5.

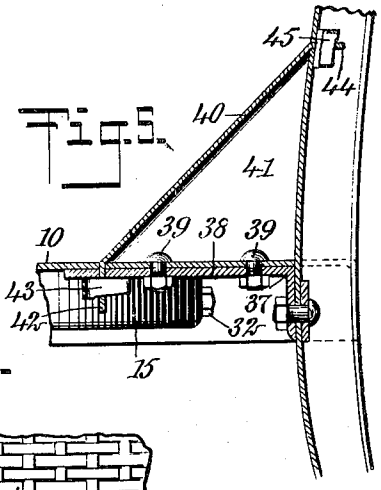
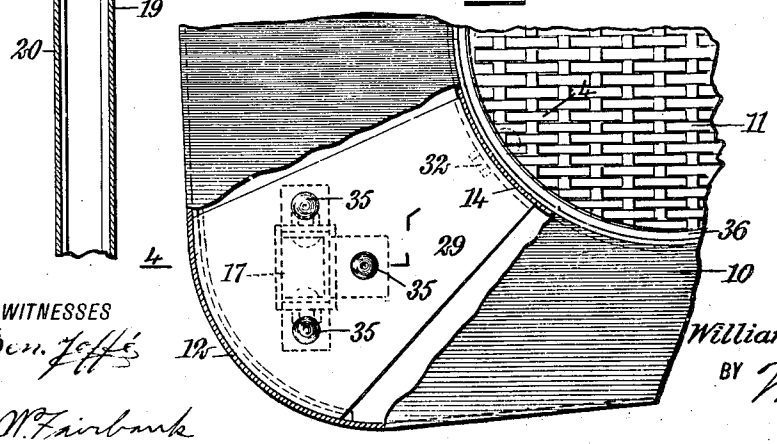


Fig. 6.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 8.

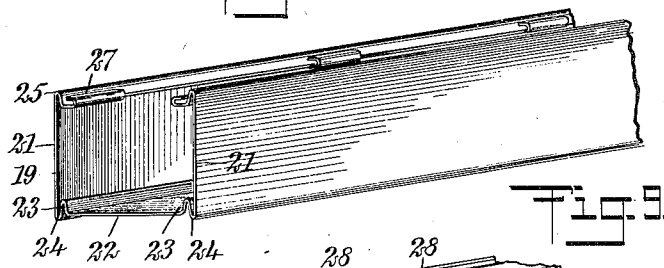


Fig. 9.

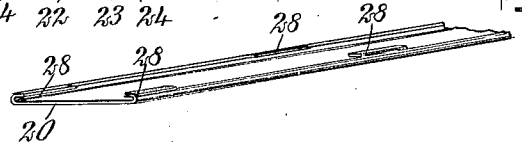


Fig. 7.

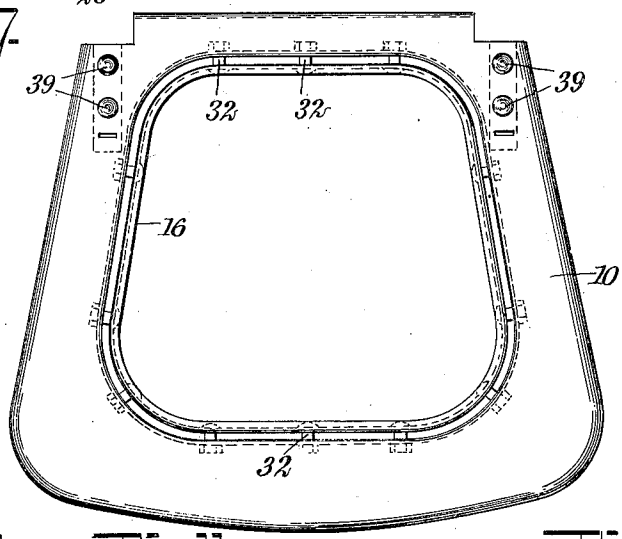


Fig. 10.

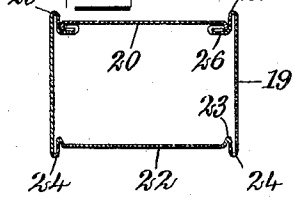


Fig. 11.

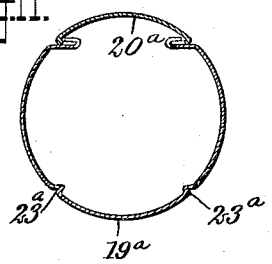
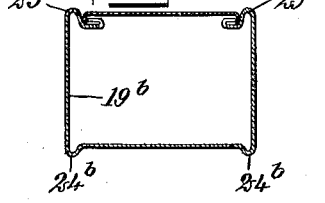


Fig. 12.



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UNITED STATES PATENT OFFICE.

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942,570. Specification of Letters Patent. Patented Dec. 7, 1909.

Application filed December 29, 1908. Serial No. 469,841.

To all whom it may concern:

Be it known that I, WILLIAM P. LAWRENCE, a citizen of the United States, and a resident of Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and Improved Chair, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in metal chairs, the main object of the invention being to construct a chair, the principal portions of which are formed of sheet metal and all of the parts of which are so connected together that all rivets, bolts or other fastening means are concealed from view. The chair bottom includes a frame to which the center portion of the seat is connected by invisible fastening means and the legs are secured to the under side of said frame by fastening means which are also concealed from view. The rounds are connected to the legs by fasteners, preferably constructed substantially as shown in my prior application, Serial Number 438,541, filed June 15, 1908, and the legs are formed of separate members slidably connected together, the specific form of leg being an improvement on that shown in my application referred to above. Certain details of the construction shown may be employed in other articles of furniture than chairs, and particularly the upright constituting the leg may be used as an upright in various different articles of furniture or other constructions.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a front elevation of a chair constructed in accordance with my invention; Fig. 2 is a side elevation thereof; Fig. 3 is a vertical section through one of the uprights of the back; Fig. 4 is a vertical section through one corner of the seat and a portion of a front leg, said section being taken on the line 4—4 of Fig. 6; Fig. 5 is a vertical section showing the connection between a rear leg and the chair seat; Fig. 6 is a top plan view of the front corner of the seat, a portion thereof being broken away; Fig. 7 is a plan view of the frame of the seat; Figs. 8 and 9 are perspective views of the two members, which when slidably connected together, form a leg or upright; Fig. 10 is a transverse section through the upright formed of the two members shown in Figs. 8 and 9; and Figs. 11 and 12 are transverse sections through uprights varying somewhat in form from that shown in Fig. 10.

The specific form of chair illustrated in the accompanying drawings, includes a seat formed primarily of a frame 10 and a center or bottom proper 11 of cane or other suitable material. The outer peripheral portion of the frame is bent downwardly to form an outer annular flange 12, and this flange is bent inwardly and upwardly at its lower edge to form a second flange 13, substantially parallel to the flange 12 and forming therebetween a groove having an open top disposed beneath the main body of the frame. The inner peripheral edge of the frame is provided with a groove or channel in its upper surface, formed by substantially parallel downwardly and upwardly-extending portions 14 and 15. The portion 15 terminates in a flange 16, substantially parallel to the body of the frame but at a slightly lower elevation. This frame carries the seat bottom 11 and is rigidly connected to front legs 17, 17 and two rear legs 18, 18. The fastening means for connecting the seat proper to the frame and for connecting the legs to said frame, are entirely concealed from view, unless one inverts the chair and looks beneath the seat.

Each of the four legs is preferably formed of two members having the form shown in detail in Figs. 8 and 9. Each leg or upright includes two members 19 and 20, slidably connected together, so as to conceal the fastening means within the leg and between the two members. The different parts to which each leg is secured, are fastened to one member before the two members are assembled, so that the fastening may be easily adjusted. If the member be substantially rectangular in cross section, as illustrated in Fig. 10, then the member 19 is substantially channel-shaped, while the member 20 constitutes a plate for closing the open edge of the channel. The member 19 has two oppositely-disposed substantially parallel side walls 21 formed integral with a connecting wall 22. The wall 22, at its opposite edges, is bent inwardly to form a narrow groove or channel 23 and the side of each channel is connected to its respective side wall 21 along a line lying in the plane of the wall 22, whereby a

narrow outwardly-extending ridge or bead 24 is formed at each of the two corners. The free edge of each side wall 21 is bent outwardly and then inwardly to form a bead or ridge 25 opposite to the bead or ridge 24, and of the same size and relative proportions. The metal at the inner edge of each ridge, is bent inwardly to form a flange 26, substantially parallel to the wall 22, and the free edge of this flange is provided with a plurality of separate flanges or tongues 27, bent back adjacent the outer surface of the flange 26. These flanges 27 are comparatively short and are spaced apart, the distance between adjacent flanges being greater than the length of the individual flanges. The flanges 27 are spaced from the base flange to form grooves therebetween, into which extend portions of the other member of the upright when the two members are secured together. The member 20 comprises a flat plate having the edges thereof beaded or rolled over, and each edge terminates in inwardly-directed flanges 28 corresponding in size and position to the flanges 27 of the other member. The two members are so proportioned that the member 20 may be pressed between the free edges of the side walls 21 until its beaded or rolled edges rest directly upon the flanges 26 of said side walls. The members 20 and 19 are then moved longitudinally in respect to each other, so that the flanges 28 of the member 20 pass beneath the flanges 27 of the member 19 and become wedged within the groove, so that the two members are held rigid in respect to each other. They can only be separated by a relative longitudinal movement, but due to the short length of the flanges 27 and 28, this movement is comparatively small. I thus avoid the necessity for moving one member its whole length in securing it to the other member. This is particularly important in connecting curved members, as, for instance, the rearwardly curved back legs of the chair.

The beads 25 correspond to the beads 24 on the opposite side of the upright, and the member 20 when in place is identical with the connecting wall 22, as said member lies slightly below the plane of the outer edges of the beads 25 and its inwardly rolled or beaded edge coacts with the inner portion of the adjacent bead, to form a groove corresponding in appearance to the opposite groove 23.

In the specific form shown in Figs. 8, 9 and 10, the leg is rectangular in cross section but it is evident that the leg might have more or less than four sides. In Fig. 11, I have shown an upright circular in cross section but embodying substantially the same features, that is, it is formed of a channel-shaped member 19^a and plate member 20^a, the two being connected together by coacting and interrupted flanges, and the member 19^a having grooves 23^a corresponding to the grooves formed by the intersection of the two members. The form shown in Fig. 12 is substantially the same as that shown in Fig. 10, save that the inwardly-directed beads 23 are omitted and the corner beads or ridges 24^b and 25^b are of slightly greater width.

The uprights forming the front legs are connected to the under side of the frame 10, preferably substantially as shown in detail in Figs. 4 and 6. The frame at each of its front corners, is provided with a reinforcing plate 29 lying parallel to the body of the frame and having a downwardly-extending flange 30 at its outer edge fitting into the groove between the flanges 12 and 13. At the inner end of the reinforcing plate, there is a downwardly-extending flange 31, rigidly secured to the outer surface of the flange 14 of the seat frame by means of a bolt 32 or other fastening member. The reinforcing plate is thus held rigid to the frame and is itself rigidly secured to the corresponding front leg 17. Preferably, the securing means for connecting each plate 29 to its corresponding leg, includes a channel-shaped fastening member 33 extending down into the channel-shaped member 19 of the leg and having each of the three sides of said member 33 terminating at its upper end in an outwardly-extending flange 34 held rigid with the plate 29 by a suitable bolt or rivet 35. The body portion of the fastening member 33 is riveted or bolted to the member 19 of the leg before the member 20 of the leg is secured in place. This permits the fastening to be easily accomplished, and the fastening member is then completely concealed, as the front side of the leg is formed of the member 20 which has no rivet or bolt therein, and the rivets or bolts connecting the member 33 to the sides of the member 19 are concealed from view by the depending flange 12 of the frame.

The seat proper 11, that is, the portion within the frame 10, is formed of any suitable material, preferably, interwoven cane, which is rigidly secured to the frame within the groove or channel formed between the flanges 14 and 15 of the latter. The cane at its edges is bent downwardly into the groove and forced therein by a double strip of sheet metal 36 serving as a wedge to hold the cane in place. The wedge-like strip 36 is rigidly secured by a series of bolts 32 extending through both flanges 14 and 15 and through the strip 36. One of these bolts, previously referred to, serves also to hold the reinforcing plate 29 to the flange 14.

The frame 10, at its rear corners, is cut away to receive the rear legs of the chair, which latter extend upwardly to form side

members of the chair back. The rear legs are secured in place by a reinforcing angle iron 37 having a downturned flange bolted to the front wall of the chair leg and having a horizontal flange 38 secured to the frame by bolts 39. These bolts are concealed by a triangular brace which further serves to reinforce the connections between the chair bottom and the back. The triangular brace is formed of a piece of sheet metal bent to form an inclined wall 40 and two triangular parallel side walls 41, each of the latter having its vertical edges engaging with the front side of the side members of the back and having its horizontal edges engaging with the upper surface of the frame 10. The inclined wall 40 is extended through an aperture in the frame 10 and this extension 42 is provided with an aperture to receive a wedge 43. The inclined wall at its upper end is provided with an extension 44 projecting through an aperture in the front wall of the side member of the back, and this extension is apertured to receive a wedge 45. Thus, the diagonal brace member is connected to both the back and the bottom by concealed fastening members and it in itself serves to conceal the bolts 39 which hold the fastening member 37 in place.

The legs of the chair may be connected by rods 46 of any suitable character, but these rods are preferably inverted channel-shaped members constructed and secured in place substantially as illustrated in my previous application above referred to. The upward extensions 18^a of the rear legs 18 and which form the side members of the back, may be connected together to form the complete back in any suitable manner. Preferably, these fastening means include upper and lower horizontally-extending members 47, which may be secured in place substantially as shown in Fig. 3 and described in detail in my prior application. The side members 18^a and the upper and lower members 47 may be connected by interwoven wires 48, the ends of which may extend through apertures in the frame formed by the side members and the upper and lower members, and may be secured in any suitable manner, as, for instance, by twisting or knotting, as illustrated in Fig. 3. At the upper end of each side member 18^a of the back, there is any suitable form of ornamental knob held in place by an invisible fastening. This fastening is illustrated as including a plate 49 riveted in place within the side member and serving to support an upwardly-extending bolt 50. The bolt extends through a cap 51 and a hollow knob or ball 52 is screwed onto the upper end of the bolt and into engagement with the cap 51.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A chair having a seat including a sheet metal frame provided with inner and outer downwardly-extending flanges, a reinforcing plate beneath said frame and secured to both of said flanges, and a chair leg having two members slidably connected together, one of said members being secured to said plate and the other of said members being unattached thereto.

2. A chair having a seat including a sheet metal frame provided with two substantially concentric depending flanges, a seat bottom terminating adjacent the inner one of said flanges, a plate beneath said frame and having flanges in engagement with the flanges of said frame, means for securing one of said flanges to the inner flange of the frame and securing the seat bottom to said last-mentioned flange, and an upwardly-extending portion on the inner side of the outer flange of the frame for retaining the corresponding flange of said plate in position.

3. A chair having a seat including a sheet metal frame provided with two substantially concentric depending flanges, a plate beneath said frame and having flanges in engagement with the flanges of said frame, means for securing one of said flanges to the inner flange of the frame, and an upwardly-extending portion on the inner side of the outer flange of the frame for retaining the corresponding flange of said plate in position.

4. An article of furniture having a tubular element thereof formed of two members detachably secured together, one of said members being substantially channel-shaped in cross section and having outwardly-extending beads adjacent its free edges, inwardly-extending flanges adjacent the inner edges of said beads, and a series of short upwardly and outwardly-extending flanges carried by said last-mentioned flanges adjacent their free edges, and the other of said members comprising a plate fitting between said beads and having a series of short inwardly-extending flanges for coacting with the short flanges of the other member to secure said members together upon the longitudinal movement of one member in respect to the other through a distance substantially equal to the length of one of said short flanges, all of said short flanges being concealed from view when said members are in operative relationship.

5. A chair having a seat, a chair leg having a portion extending above said seat and constituting a portion of the chair back, an angular connecting member secured to the under side of said seat and the front side of said leg, means for securing said connecting member to said chair seat, and a triangular brace in engagement with the upper side of said seat and the front side of said leg and serving to conceal said securing means, said

seat and said chair back having apertures therein and said triangular brace having projections extending through said apertures, and means independent of the angular connecting member and in engagement with said projections for retaining said triangular brace in position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM P. LAWRENCE.

Witnesses:

E. BURGAUER,

G. W. STREEPEY.