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G. C. BURD

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SEAT FRAME

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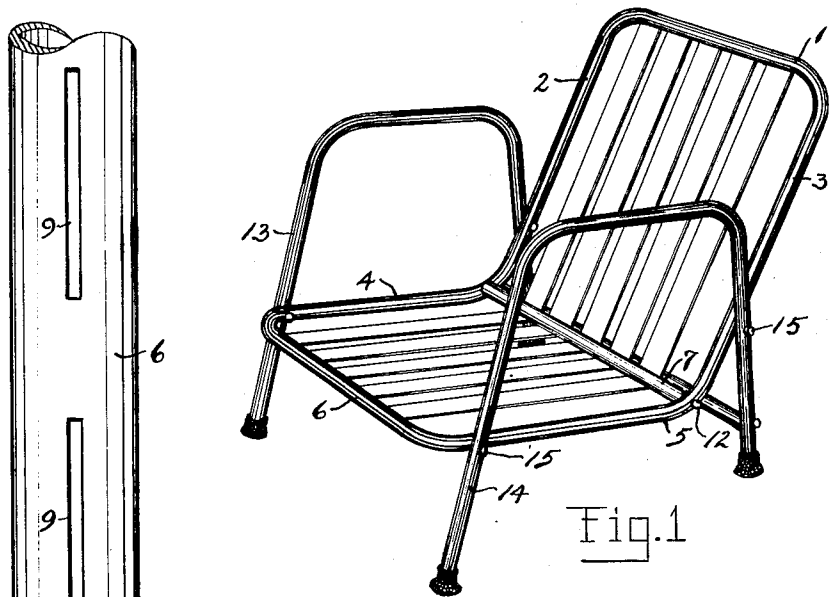


Fig. 1

Fig. 2

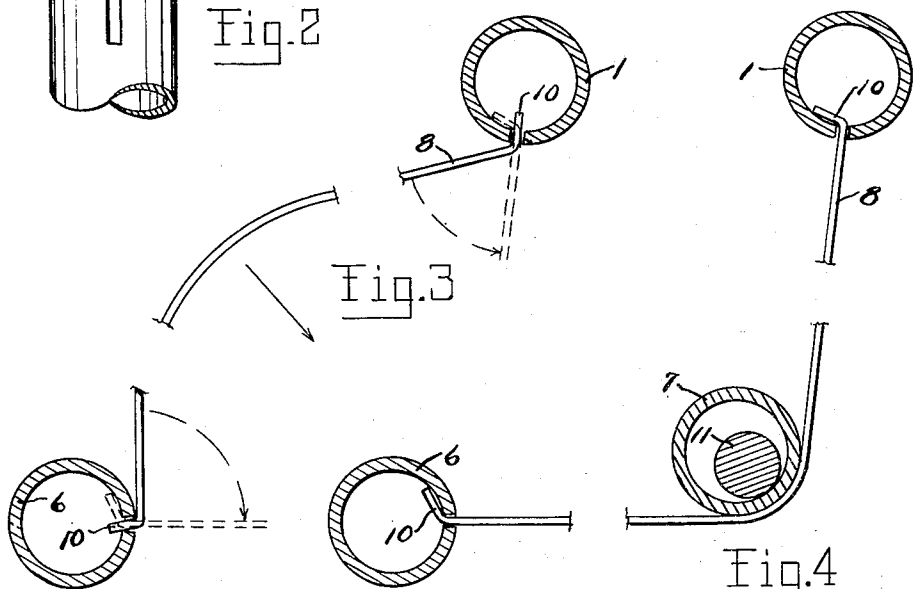


Fig. 3

Fig. 4

Inventor

G.C. Burd

By

Arthur Minnick
Attorney

UNITED STATES PATENT OFFICE

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SEAT FRAME

Gorman C. Burd, Clearwater, Fla.

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6 Claims. (Cl. 155—194)

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This invention relates to a method of securely fastening flat metal straps in a frame made of metallic tubing in such manner that there are no projecting ends and that the straps are held under a desired tension.

The primary object of the invention is to provide a light tubular frame for use in a seat, the frame having relatively thin straps adapted to support cushions for the seat and back, and the straps being secured to the frame in a manner to leave the tubing smooth at the top of the back and at the front of the seat.

A further object of the invention is to secure the end of a metallic strap to a tube without the use of supplemental fastening means.

In the drawings, showing a preferred embodiment of the invention chosen for purpose of illustration, Figure 1 is a perspective view of an easy chair with the cushions omitted and showing the frame supported by tubular legs; Fig. 2 is a fragmentary elevation of a portion of the front tube of the seat portion of the frame; Fig. 3 is a cross section of the tubular portions of the frame to which the straps are attached, showing the initial position assumed by a strap bent outward in an arc when it is being placed in the slots ready for assembly; and Fig. 4 in a similar cross section of the same members with the straps held in fixed position by a cross brace.

A tube, preferably of aluminum, is shown in Fig. 1 as bent to form a frame having a back portion, members 1, 2, and 3, and a seat portion, members 4, 5, and 6. At the angle between the back and the seat, a tube 7 extends across the frame and across the metal straps 8 which reach from the top of the back at 1 to the front of the seat at 6.

Fig. 2 shows slots 9, 9, cut through the wall of the tube portion 6 to receive the ends of the straps and similar slots are cut in the under side of the portion 1. In each case, the slots are on the side of the tube toward the corner brace 7.

In Fig. 3, a strap 8 is shown in solid lines as having laterally bent ends 10, 10, inserted into these slots in both tube portions, 1 and 6, and when the strap is swung down as indicated by the arrows from its outwardly bowed position into the broken line position, the ends 10, 10, are pressed through the slots into the full line positions of Fig. 4.

Since the back is usually about twenty-four inches in length and the seat about twenty-one inches, the straps will be a little over forty-five inches between the bent ends, while the distance from the tube 1 to the tube 6 is about thirty-two

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inches, thus giving over a foot leeway to permit snapping the flexible strap from the outwardly arced initial position to the inward final position of Fig. 4. Each slot 9 is cut with only a few thousandths of an inch extra width necessary to permit the bent end to slide through to the interior as the strap is swung around the bend near the end and when the end is once hooked into place, the bent ends 10 will engage the interior of the tube wall so that no direct pull can straighten out the bend to release the strap.

The metal of the tube between the spaced slots will prevent any substantial sideways sliding movement of the ends of the straps toward or from each other.

The tube 7 is milled out at both ends on a curve to fit closely against the adjacent inner face of the tubular frame at the bend. After the straps 8 are all in place (five are shown in Fig. 1), the frame is placed upon a suitable support and the tube 7 is laid across the frame upon the straps near the bend.

By the use of a suitable press, the tube 7 is then forced down upon the straps until its ends lie between the corners of the frame. A rod 11 (seen in section in Fig. 4) passed through the tube 7 and through both side bends is engaged at its ends by cap nuts 12.

The frame is thus strengthened and prevented from spreading while the straps are held in place under any desired tension.

The completed seat frame with its straps may be supported by any suitable legs, a preferred construction being shown in Fig. 1, in which two U-shaped tubular pieces 13 and 14 are mounted on opposite sides of the frame and secured thereto by bolts 15. The rear legs of these pieces are connected by a tubular cross brace 16 similar to the member 7.

The usual cushions for seat and back will normally be provided to rest upon the straps 8 or the framework may be covered with any desired upholstery.

The construction disclosed is very light, strong, and durable and it requires a minimum of labor for its assembly.

It will be evident to those skilled in the art that many changes may be made in details of construction without departure from the spirit of the invention as claimed.

I claim:

1. In a seat, a framework comprising two side members, front and rear end members consisting of tubes substantially at right angles to the side members and each having along its inner side a

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plurality of longitudinal slots in alinement with each other and substantially in the plane of the side members, and a plurality of flat metallic straps substantially parallel with the side members, each strap having each end portion extending through a slot in an adjacent end member into the interior of the tube and being bent transversely of its length and of its thickness within the tube at a sufficient angle to prevent withdrawal of the strap at the slot by a longitudinal pull radially of the tube, and means engaging the straps to hold them under radial tension within the slots.

2. A construction as in claim 1 having two leg members secured to the framework on opposite sides thereof and connected to each other to form a chair.

3. A seat comprising a substantially L-shaped frame having a tubular top back member and a tubular front seat member, each of these tubular members having a plurality of slots formed within its inner wall, a plurality of flat, flexible, metallic straps extending between the tubular members, each strap having one of its ends extending within a slot in the adjacent tubular member and being bent transversely of its length within the tube at a sufficient angle to prevent withdrawal of the strap by a pull on the strap radially of the tube, and means engaging the straps to hold them under radial tension within the slots.

4. A structure as in claim 3 having leg members supporting the L-shaped frame in seat-forming position.

5. A seat comprising a tubular frame bent in

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L-shape and having its outer end portions formed with a plurality of slots on the sides toward the bend, a plurality of flat, flexible, metallic straps, each of greater length than the distance between the end portions of the frame and each having its ends bent laterally toward the same side of the strap, both ends of the straps extending each into a slot in the adjacent end portion of the frame, the bent portion within the slot being at an angle to the length of the strap sufficient to prevent withdrawal by a pull on the strap radially of the tubular member, and a means to hold the straps in place consisting of a cross member engaging the central portion of all of the straps and having its ends secured to the sides of the frame near the bends.

6. A structure as in claim 5 having two leg members connected to the frame and to each other to form a chair.

GORMAN C. BURD.

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