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KNOCKDOWN METAL CHAIR

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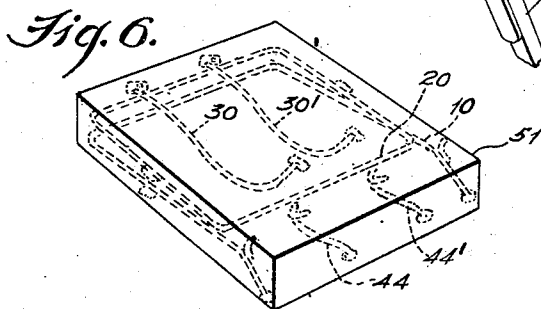
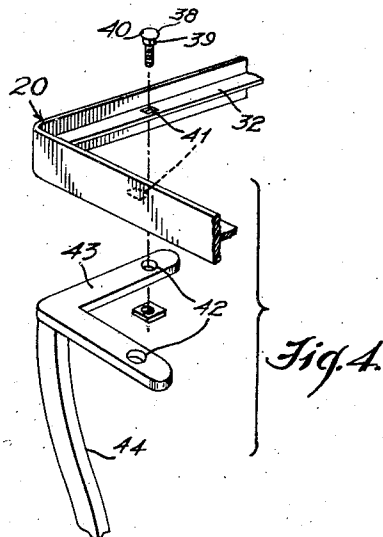
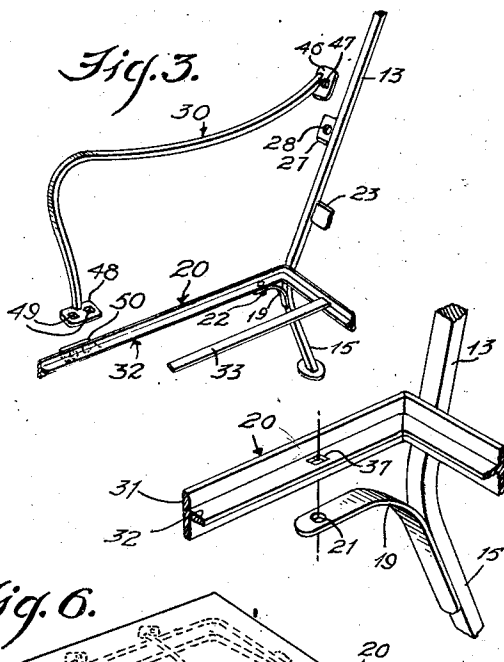
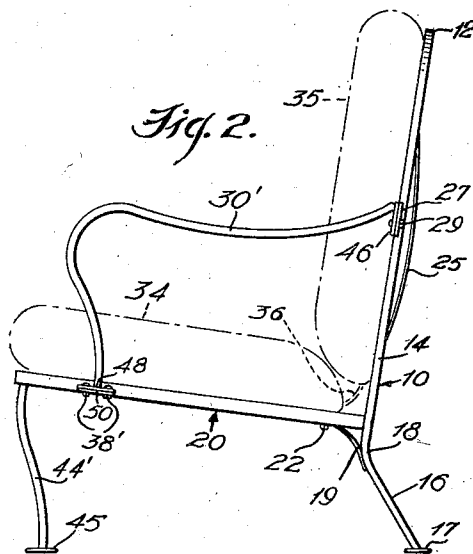
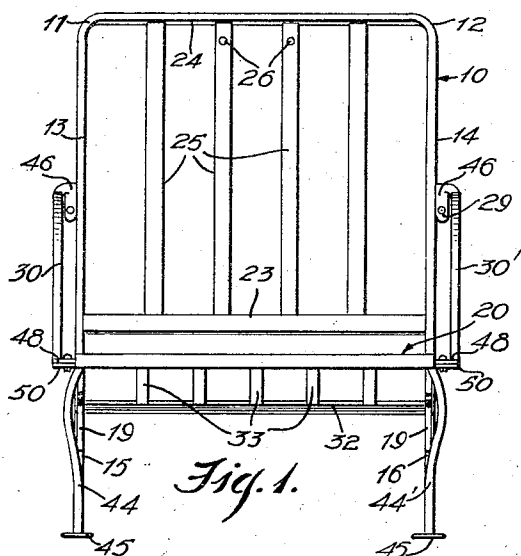


Fig. 5.

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KNOCKDOWN METAL CHAIR

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7 Claims. (Cl. 155—194)

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This invention relates to the construction of metal chairs, settees and the like. More particularly, the invention deals with the construction of metal furniture of this kind, wherein the chair or settee comprises a back rest and rear leg frame, a seat frame, front legs and arm rest portions, all detachably coupled to facilitate compact packaging of the knockdown chair or settee in a relatively thin package of length and width defined primarily by the size of the back rest frame employed. The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a front view of a chair made according to my invention in assembled relationship.

Fig. 2 is a side view of the chair, as seen in Fig. 1, and illustrating in dot and dash lines the arrangement of back rest and seat cushions thereon.

Fig. 3 is a perspective view showing the method of assembling the seat and back rest frame with the arm rest shown in exploded position, preparatory to attaching the arm rest, only one corner portion of the parts being shown.

Fig. 4 is an exploded perspective view showing a corner portion of the seat frame preparatory to attaching a front leg member therewith.

Fig. 5 is a view similar to Fig. 4 showing a rear corner portion of the seat frame and adjacent part of the back rest frame, preparatory to assemblage of the frames; and

Fig. 6 is a perspective view diagrammatically illustrating the packaging of the complete knockdown chair construction.

In the construction of metal furniture, it has been the common practice to employ a more or less one-piece frame construction of the back rest, seat and leg members, as well as the arm rest portions. This method of constructing metal chairs suitable for outdoor and porch use materially complicates storage, shipment and other handling thereof by reason of the space occupied by the complete assembled chair. This method of procedure minimizes the number of chairs that can be stored or packed in a means for transportation such as a freight car, truck and the like. Further, chairs constructed and handled in this manner are more susceptible to breakage and damage by reason of the bulk thereof.

It is the purpose of my invention to so construct and proportion detachable parts of a chair so as to facilitate packaging of the same in a relatively thin carton or other package, the length and width of which is governed by the size of the largest frame part of the chair. In the present specification, reference will generally be made to

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chairs in describing one adaptation and use of my invention. It will be apparent, however, that the same structure is applicable for making settees or couches for seating two or more people, the primary difference being in the length of the back rest and seat frames and in the number of leg members employed.

In Figs. 1 and 2 of the drawing, I have shown at 10 a back rest and leg frame formed from a substantially heavy rod more or less rectangular in cross-sectional form, the rod being bent at corner portions 11 and 12, note Fig. 1, to form depending sides 13 and 14, terminating at their lower ends in rearwardly offset leg members 15 and 16, to the lower ends of which are welded or otherwise secured disc-like feet 17. The leg members 15 and 16 join the sides 13 and 14 in curved portions 18, to which are secured upwardly and forwardly extending brackets 19 forming supports for a seat frame 20. The brackets 19 have apertures 21 therein for the reception of bolts or other fastenings, as indicated at 22 in Fig. 3 of the drawing. Secured to the sides 13 and 14 of the back rest 10, above the curved portions 18, is a cross-strap 23, note Fig. 1, and extending between the strap 23 and the top cross-bar 24 of the back rest frame are vertical bands 25 spaced apart to form a spring-like support on the back rest. The bands 25, including the straps 23, are welded or otherwise secured in position. The two center bands 25 are apertured, as seen at 26, adjacent the upper end thereof to facilitate attachment of ornamental tops to the chair as and when such tops may be desired, but as this forms no part of the present invention, the ornamental top is not shown. The side members 13 and 14 also have welded or otherwise secured thereto outwardly extending plates 27, apertured as seen at 28, note Fig. 3, for the reception of bolts 29 in securing arm rests 30, 30' to the back rest.

The seat frame 20 is rectangular in form and of a width corresponding to the width of the back rest frame and of such depth as to form a relatively deep seat suitable for lounging chairs of the type and kind under consideration. The frame 20 or the rails thereof are T-shaped in cross-sectional form, as clearly seen in Fig. 5 of the drawing. In other words, the frame comprises an outer vertical plate 31 and an inwardly extending central flange 32 on the inner surface thereof. Welded or otherwise secured to the flange 32 of the front and rear members of the frame are spaced slats 33, also preferably of springy material to form a yieldable seat portion. Five of slats 33 are employed in the structure shown, whereas four vertical bands 25 are employed. However, the bands 25 are preferably wider than the slats 33. In the use of the chair, cushion facings may be provided for the seat and back rest frames, as indicated in dot and dash

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lines in Fig. 2 of the drawing, in which 34 represents a seat cushion, 35 a back rest cushion, the cushions being joined by a strap 36. At this point, it is well to point out that the cushions are preferably packaged in a separate wrapper or container by reason of the lightness thereof and, in order to avoid complicating the packaging of the metallic frame. This is, furthermore, desirable from the standpoint that, while the chair frame will be constructed of a few colors suitable for different uses, an independent selection of cushions of varying colors, designs or patterns can be had and, by separate packaging, no difficulty is experienced in sending the required assemblage to the purchaser.

The flanges 32 of the side parts of the seat frame 20 near the rear end thereof are provided with rectangular apertures 37, through which the bolts 22 pass.

In Fig. 4 of the drawing, I have shown at 38 the type of bolt which is used in making all assemblages. These are conventional stove bolts having the square shanks 39 adjacent the heads 40 and the square shanks 39 fit the rectangular apertures, as for example, the apertures 37. In Fig. 4, other rectangular apertures 41 are provided on the flange 32 near the front corners of the seat frame and on front and side parts thereof to receive the fastening bolt which also pass through circular apertures 42 in the end portions of an L-shaped bracket portion 43 secured to or constituting part of upper end portions of front legs 44, 44'.

As the legs 44, 44' are generally of the same structure, as is also true of the arm rests 30, 30', only one of each of these parts is specifically described.

The legs 44, 44' are preferably curved outwardly and downwardly in the manner most clearly seen in Fig. 2 of the drawing and terminating at their lower ends in feet 45, similar to feet 17. The feet 17 and 45 prevent the legs from digging into a lawn or other soft surface on which the chair may be placed.

The arm rests 30, 30' are of the curved construction generally seen in Fig. 2 of the drawing. At one end of the arm rest are secured inwardly extending plates 46 having rectangular apertures 47; at the other end of the arm rest are similar inwardly extending plates 48 having a pair of rectangular apertures 49.

Welded or otherwise secured to the front end portion of the seat frame 20 are outwardly extending brackets 50 having a pair of apertures therein adapted to align with the apertures 49 and to receive bolts 33' similar to the bolts 33. This mounting of the arm rest portions extends the arm rest to a point beyond the overall width of the seat and back rest portion, producing a wide entrance for the seat, as will clearly appear from a consideration of Fig. 1 of the drawing.

When the various parts of the chair are in detached or knockdown condition, they may be assembled and packed in a carton or other container such as 51, illustrated in Fig. 6 of the drawing, in which a diagrammatic arrangement of the back rest frame 10, seat frame 20, arm rests 30, 30' and leg members 44, 44' are indicated in dotted lines.

In assembling the chair, the front leg members 44, 44' are first coupled with the front corners of the seat frame by placing the angular or L-shaped brackets 43 snugly in the corners of the frame 20 below the flange 32 and, then,

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securing the parts together by the bolts 38. After this assemblage, the rear portions of the seat frame are then placed upon the brackets 19, with said brackets seating on the lower surfaces of the flanges 32 and with the rear portion of the seat frame abutting the front face of the back rest frame, as seen in Fig. 2. The bolts 22 which are similar to the bolts 38 are then secured in position. The arm rests are then mounted in position by simply placing the plates 46 and 48 upon the plates or bracket portions 27, 50 and securing the bolts in position. The arm rests aid in bracing the back rest on the seat frame, as well as providing comfortable arm rest portions for supporting the arms of the occupant of the chair. The resulting assembled chair will be relatively light in weight, depending upon the type and kind of material employed in the various parts of the chair. Thus, a chair of this kind can be easily moved about and will have the desired strength and rigidity.

Considering Fig. 2 of the drawing, it will appear that the bands 25 are bowed rearwardly to a slight extent in order to provide a curved back for the chair which will give greater comfort thereto. This bowing will not interfere with other resiliency of the bands. It is preferred, however, that the cleats 33 be normally straight and will yield to the weight of the occupant of the chair.

In addition to materially simplifying storage and handling of the wrapped or packaged chairs, it will also be apparent that the carton 51 may be kept by the purchaser and, in off seasons and, when it is desired to store summer outdoor furniture of this kind, the various chair parts may be disassembled for restoring in the carton, thus occupying a minimum amount of storage space in the home.

For sake of description, 10 can be considered as a back part or section; 20 a seat part or section, 30, 30' arm parts or members; 44, 44' front leg parts or members.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. An article of furniture comprising a back part, a seat part, arm and front leg members, all detachably coupled with each other in forming a seat-like structure, the back part comprising a U-shaped frame defined by side rods joined by an upper cross-head, lower ends of the rods forming leg members for said back part, a strap joining and spacing the side rods above the lower ends thereof, bands joining and spacing the strap with the cross-head of said frame, the side rods of the frame having forwardly extending brackets, said seat part comprising a rectangular frame of T-shaped cross-sectional form, means detachably coupling the frame of the seat part with the brackets of the back part in coupling said parts together, a plurality of slats joining opposed rails of the seat frame, said leg members having L-shaped bracket portions at the upper ends thereof adapted to fit snugly in corner portions of the seat frame, means detachably coupling the leg brackets with the seat frame, said arm rest members being substantially L-shaped in form, and means at the ends thereof and on the back rest and seat parts for detachably coupling the arm rest members therewith.

2. An article of furniture comprising a back part, a seat part, arm and front leg members, all detachably coupled with each other in form-

ing a seat-like structure, the back part comprising a U-shaped frame defined by side rods joined by an upper cross-head, lower ends of the rods forming leg members for said back part, a strap joining and spacing the side rods above the lower ends thereof, bands joining and spacing the strap with the cross-head of said frame, the side rods of the frame having forwardly extending brackets, said seat part comprising a rectangular frame of T-shaped cross-sectional form, means detachably coupling the frame of the seat part with the brackets of the back part in coupling said parts together, a plurality of slats joining opposed rails of the seat frame, said leg members having L-shaped bracket portions at the upper ends thereof adapted to fit snugly in corner portions of the seat frame, means detachably coupling the leg brackets with the seat frame, said arm rest members being substantially L-shaped in form, means at the ends thereof and on the back rest and seat parts for detachably coupling the arm rest members therewith, said last named means comprising mounting plates at the ends of the arm rest members, and supporting plates extending outwardly from side portions of the back and seat parts.

3. An article of furniture of the class described comprising a back section, a seat section and front leg members, the seat section comprising a rectangular frame, means within the frame forming a resilient seat portion, means on the seat frame and upper ends of the front leg members for detachably coupling and keying said leg members against shifting movement in the seat frame, said means on the leg members comprising L-shaped bracket portions at upper ends of the leg members, a back rest section comprising a back rest portion and downwardly extending rear leg parts, forwardly extending brackets integral with the back section at the upper ends of the leg parts thereof for supporting the seat section thereon, and means detachably coupling the seat section with said last named bracket.

4. An article of furniture of the class described comprising a back section, a seat section and front leg members, the seat section comprising a rectangular frame, means within the frame forming a resilient seat portion, means on the seat frame and upper ends of the front leg members for detachably coupling and keying said leg members against shifting movement in the seat frame, a back rest section comprising a back rest portion and downwardly extending rear leg parts, means integral with the back section at the upper ends of the leg parts thereof for supporting the seat section thereon, means detachably coupling the seat section with said last named means, the back rest section and seat section having outwardly extending side plates, and substantially L-shaped arm rest members detachably secured to said plates and arranged above and outwardly of the sides of the seat section.

5. In knockdown metal chairs of the class described comprising detachably coupled parts, two of said parts comprising a back section and a seat section, the back section comprising a U-shaped frame, forming top, sides and lower rear legs of the chair back, means between the top and sides forming a yieldable back rest in the back section, said seat section comprising a rectangular frame defined by side and front and back rails, means joining front and back rails forming a yieldable seat portion in the seat section, the rails of the seat section having inwardly extending flange

portions, the side members of the back section having integral forwardly extending brackets adapted to fit on the flanges of the frame of the seat section in supporting the seat section thereon, means detachably coupling the brackets with said flanges, the sides of the frame of the back section and said seat section having outwardly extending plates, and substantially L-shaped arm rest members detachably coupled with said last named plates.

6. In knockdown metal chairs of the class described comprising detachably coupled parts, two of said parts comprising a back section and a seat section, the back section comprising a U-shaped frame, forming top, sides and lower rear legs of the chair back, means between the top and sides forming a yieldable back rest in the back section, said seat section comprising a rectangular frame defined by side and front and back rails, means joining front and back rails forming a yieldable seat portion in the seat section, the rails of the seat section having inwardly extending flange portions, the side members of the back section having integral forwardly extending brackets adapted to fit on the flanges of the frame of the seat section in supporting the seat section thereon, means detachably coupling the brackets with said flanges, other parts of said chair comprising front leg members, said front leg members having upper L-shaped brackets adapted to fit snugly in corner portions of the seat frame and on the flanges thereof, and means detachably coupling the brackets with the flanges of the seat frame.

7. In knockdown metal chairs of the class described comprising detachably coupled parts, two of said parts comprising a back section and a seat section, the back section comprising a U-shaped frame, forming top, sides and lower rear legs of the chair back, means between the top and sides forming a yieldable back rest in the back section, said seat section comprising a rectangular frame defined by side, front and back rails of T-shaped cross-sectional form, the T-formation of the rails of the seat section providing inwardly extending flange portions on said rails, means joining the flange portions of the front and back rails, forming a yieldable seat portion in the seat section, the side members of the back section having integral forwardly extending brackets adapted to engage the flanges of the frame of the seat section in supporting the seat section thereon, means detachably coupling the brackets with said flanges, other parts of the chair comprising front leg members, the front leg members having upper L-shaped brackets adapted to fit snugly in corner portions of the seat frame and on the flanges thereof, and means detachably coupling said L-shaped brackets with the flanges of the seat frame.

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