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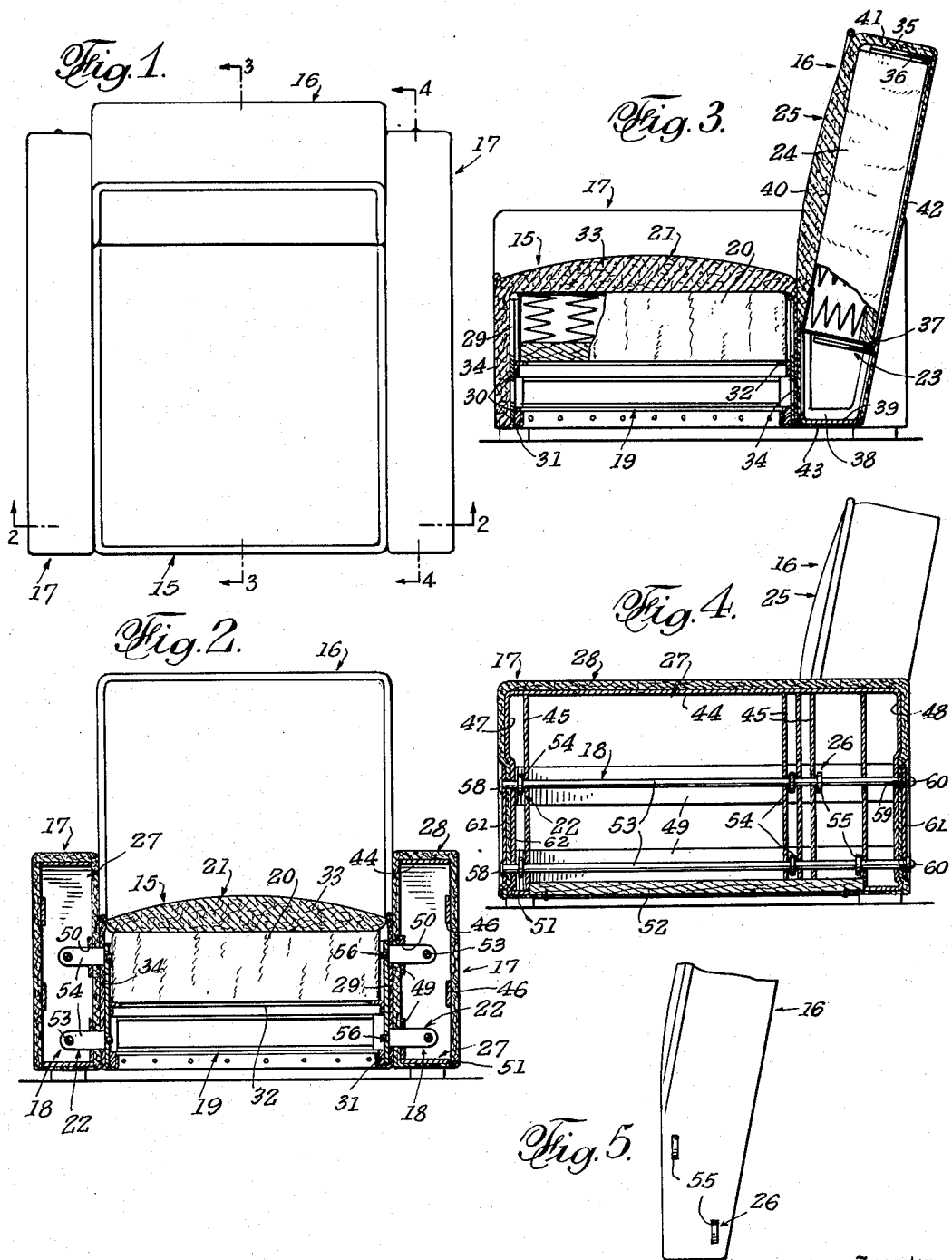
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2,732,889

SEPARABLE CHAIR CONSTRUCTION

Filed March 2, 1953

2 Sheets-Sheet 1



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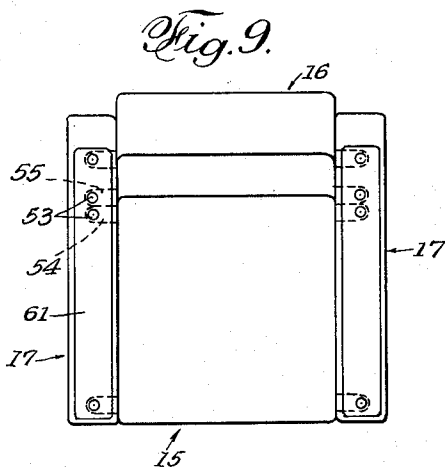
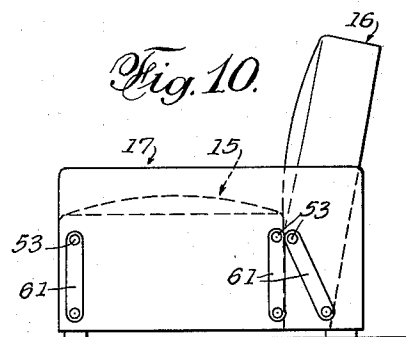
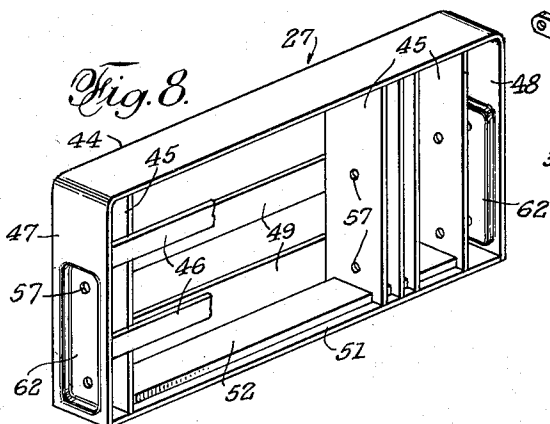
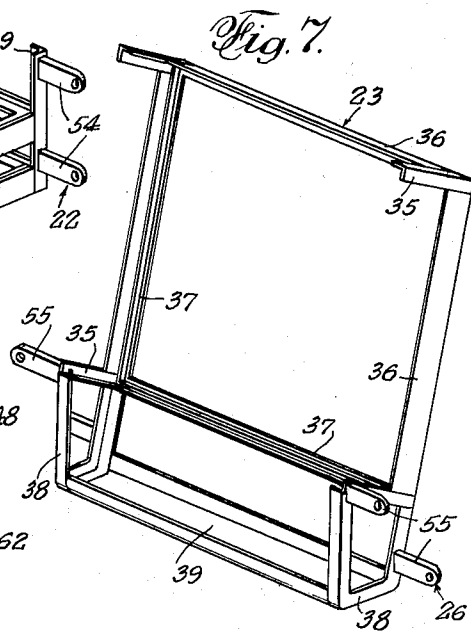
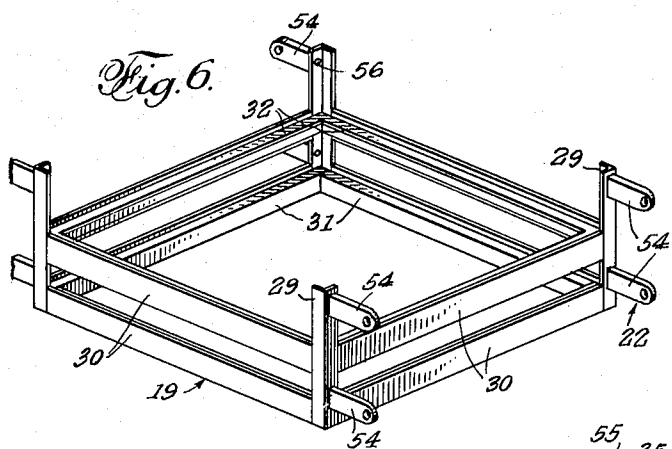
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2 Sheets-Sheet 2



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SEPARABLE CHAIR CONSTRUCTION

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6 Claims. (Cl. 155—196)

This invention relates to a separable or knock-down chair construction, it being understood that the term "chair" as herein used, also includes sofa, couch and love seat, as well as various easy and upholstered chairs.

It is an object of the present invention to provide a chair construction in which the seat, back and arms are separately formed units which, therefore, are more economically constructed relative to conventional chair construction, and are separably connected to form a chair. Thus, any unit or component of such a chair can readily be replaced if, for any reason, the same is desired, or, such unit may be re-upholstered or re-covered at materially less cost than would be entailed in re-upholstering or re-covering an entire chair. Further, the skill required to re-upholster or re-cover the components is materially less than is required to perform the same operations on a conventional chair. Shipping costs are also reduced because of the compactness with which the components may be crated or boxed for shipping. The consumer is enabled to choose the length of chair desired from among a selection of seat and back units of different length. Therefore, the retailer need not stock a large number of chairs of different length. Other advantages of the above-indicated separable construction will be apparent.

Another object of the invention is to provide those components of a separable chair construction that require inner spring means, with cartridge spring units that can be readily slipped in and out of the components so that replacement of such spring unit, when necessary, can be accomplished with ready facility and without the need for baring the entire chair frame as in conventional chair construction.

A further object of the invention is to provide novel means to connect the components of a knock-down chair.

The invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description. However, the drawings merely show and the following description merely describes embodiments of the present invention, which are given by way of illustration or example only.

In the drawings, like reference characters designate similar parts in the several views.

Fig. 1 is a top plan view of a chair according to the present invention.

Fig. 2 is a cross-sectional view thereof as taken on line 2—2 of Fig. 1.

Figs. 3 and 4 are sectional views as taken on the respective lines 3—3 and 4—4 of Fig. 1.

Fig. 5 is a broken side view of the back component of such a chair.

Fig. 6 is a perspective view of a frame for the seat component.

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Fig. 7 is a similar view of a frame for the back component.

Fig. 8 is a similar view of a frame for an arm component.

Fig. 9 is a top plan view showing a modification.

Fig. 10 is a side view of another modification.

The chair that is illustrated comprises, generally, a seat component 15, a back component 16, two side or arm components 17, and means 18 to separably inter-connect said components. The seat component 15 comprises, generally, a frame 19, a spring unit 20 within said frame, upholstery 21 enclosing said frame and unit, and means 22 effecting connection with the inter-connecting means 18. The back component 16 comprises, generally, a frame 23, a spring unit 24 within said frame, upholstery 25 enclosing said frame and unit, and means 26 effecting connection with the inter-connecting means 18. Each side or arm component 17 comprises, generally, a frame 27 and upholstery 28 enclosing each said arm component.

Each of the frames 19, 23, and 27 may be made of either wood, metal or rigid plastics, or combinations of these materials. Said frames may be integrally cast or molded or, as shown, may be fabricated of structural elements that are brazed, welded or bolted together, the intent being to provide frames that are light and strong for their intended purposes. As regards to frames 19 and 23, the same are formed to receive and house spring units 20 and 24, respectively.

The seat frame 19 that is illustrated comprises vertical corner members 29 that are connected by longitudinal side, front and back members 30 to form a rectangular top-open frame. If members 29 and 30 are metal, the frame may be provided with wooden nailing strips 31 around the lower inner portion thereof to enable connection of upholstery 21 to the frame. In this case, the spring unit 20 is shown as inserted from above, although it will be realized that the same may be inserted from below or even from the front or back. Therefore, the frame is provided with members 32 that constitute a support ledge for unit 20, said members being located so that the top of unit 20 is positioned to be engaged and covered by the pad 33 of upholstery 21. If desired, after insertion of unit 20, the same may be fastened in place either to members 32 or to the other frame members 29 and 30.

The upholstery 21 includes the mentioned seat pad 33 and padded or unpadded frame-covering panels 34, and strips 31 used to connect the lower edges of said panels to the frame and, thereby, effect complete enclosure of the frame and unit 20, as shown. Since the frame 19 is of simple rectangular form, it will be obvious that application of the upholstery can be effected without the need for great skill. To this end, said upholstery can be factory produced so that all that is necessary is to fasten the same in place.

The back frame 23 comprises corner members 35 that are connected by side, top and bottom members 36 to form a rectangular front-open frame substantially similar to frame 19. Members 37 constitute a locating ledge for spring unit 24 to locate the forward face of said unit as desired. Said frame 23 further includes a lower extension that is comprised of side frame portions 38, affixed to the lower members 35, and a connecting member or members 39. Said lower extension is preferably tapered, as shown, if the operative position of back 16 is at a rearward angle.

The upholstery 25 for frame 23 comprises a back pad 40, edge panels 41, and a rear covering panel 42. Said panels may be padded or not, as desired. Upholstery 25 may initially be made up as an envelope that can be slipped over frame 23 and the spring unit therein and then fastened in place at its lower side 43, or strips

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similar to strips 31 may be provided in said lower side.

Each arm frame 27 comprises a peripheral frame part 44 within which a suitable number of partitions 45 is provided. If desired, suitable longitudinal straps 46 on the outer side of the frame may span between the front 47 and the rear 48 of frame part 44. On the inner side of the frame, longitudinal spanning straps 49 are located so that openings 50 therein receive the means 22 of unit 15 and the means 26 of unit 16. The bottom 51 of frame part 44 is cut out for a wooden nailing board 52 that has the same purpose as strips 31.

The upholstery 28 simply comprises a covering for frame 27 and, where desired, the same may be padded in the usual way. Said upholstery is also preferably formed as an envelope that is closed by fastening the open edge to board 52.

The means 18 that inter-connects the four components of the chair comprises the means 22 and 26 and a set of tie rods or bolts 53 that extend through said means 22 and 26 and the frames 27 of the arm units.

The means 22 comprises a set of apertured ears 54 that are preferably separably mounted on the sides of frame 19 and extend laterally outward from said frame. Such separable mounting may comprise screw thread connection of the ears with the frame. The means 26 comprises similar ears 55. It will be realized that frames 19 and 23 may first be completely upholstered before said ears are affixed to the respective frames by suitably piercing or slitting the upholstery covering said frames so that the threaded shanks 56 of the ears may be entered into the screw seats provided to receive them.

Since the openings 50 in the arm frames 27 receive ears 22 and 26, when the components of the chair are assembled, the same are located so that, with the ears entered therein, the chair components are properly related. It is, therefore, a simple matter to slit the arm upholstery opposite each opening 50 and place the components in assembly, as shown. The tie rods 53 are then applied by passing them through holes 57 provided in front 47, partitions 45 and rear 48 of the arms, and through the apertures in the ears 55, as shown in Fig. 4. Since the apertures in the ears and the holes 57 are longitudinally aligned, said tie rods effect connection of the chair components.

Each rod 53 is preferably provided with a flat head 58 at one end that is located at the front and with a threaded opposite end 59 for a nut 60. Since said heads and nuts would ordinarily be engaged with the upholstery of the arm components, it is preferred to interpose an escutcheon plate 61 between the same and the respective front and rear walls 47 and 48 of the arm frames. To minimize protrusion of said heads and nuts, the latter walls may have inwardly directed offsets 62, as shown best in Figs. 4 and 8.

It will be noted that tie rods 53 are arranged as two pairs, one pair through each arm component and extending from front to back of said components. As shown in Fig. 9, the rods 53 may extend from top to bottom of each arm component, in which case, instead of two pairs of rods, as in the earlier form, at least two sets of four each may be required to effect sure connection of the chair components. Of course, the ears 54 and 55 are disposed with their apertures to receive such vertically disposed tie rods. As shown in the modification of Fig. 10, the tie rods 53 may extend from side to side of the chair, passing through the arm components and the seat and back components. In this form, the ears are not needed.

By means of the above-described chair structure, knock-down kits comprising the various frames, spring units, made-up upholstery, and inter-connecting means may be sold as a package which the consumer can readily assemble as above.

While I have illustrated and described what I now contemplate to be the best mode of carrying out my inven-

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tion, the constructions are, of course, subject to modification without departing from the spirit and scope of the invention. It is, therefore, not desired to restrict the invention to the particular forms of construction illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.

Having thus described the invention, what I claim and desire to be secured by Letters Patent is:

1. A chair comprising a seat, back and arm components, each being an independently constructed and separately upholstered unit, laterally extending apertured means on each seat and back component, and means extending through the arm components and through the apertured means to separably interconnect said components, each arm component having a frame therein and there being apertures in said frames aligned with the apertures of the laterally extending means, and the inter-connecting means comprising tie rods extending through the aligned apertures.

2. A chair comprising a seat, back and arm components, each being an independently constructed and separately upholstered unit, laterally extending apertured means on each seat and back component, said means extending into the arm components, each arm component having a frame therein and there being apertures in each said frame aligned with the apertures of the laterally extending means that extend thereto, and means extending through the apertures in the frames of the arm components and through said apertured means to separably interconnect said components, said latter means comprising tie rods.

3. A chair according to claim 2: an escutcheon plate disposed against the upholstery of the front and rear faces of each arm component, and said plates being apertured to receive the mentioned tie rods.

4. A chair comprising a seat, back and arm components, each component comprising a rigid frame and upholstery covering each said frame, the frames of the seat and back being interiorly open, a spring unit within the open interior of each of said two frames and covered by the upholstery covering said frames, and means to interconnect said seat and back components with the arm components comprising apertured members extending laterally from the seat and back components into the arm components, and tie means extending through the arm components and engaged through the apertures of the laterally extending members.

5. A chair according to claim 4: the apertured members of each said seat and back component being separably secured to the respective frames of said components and adapted to be mounted on said components after the latter are upholstered.

6. A chair comprising a seat, back and arm components, each being independently constructed and separately upholstered units, the seat component being fabricated to include a pair of superimposed frame units connected at their corners by inwardly facing angle iron elements, the upper frame unit including an inwardly projecting shelf, a pair of spaced vertically aligned perforated ears laterally projecting from the outer faces of the corner angles connecting elements, each pair of ears being horizontally aligned with the ears of the adjacent pair of side ears, said back member being formed of a rectangular frame, inwardly facing upper and lower pairs of angle iron elements extending outwardly from the back frame, the lower portion of said back frame below the lower pair of angle iron elements including an outwardly and upwardly extending portion, a supporting shelf extending between the lower pair of angle iron elements, radially projecting ears extending from the lateral sides of the lower portion of the back frame, said ears being perforated and being aligned with the ears of the seat frame, arm components including elongated outer frames connected by vertical and transverse brace members, the vertical brace members being formed with perforations

for alignment, when assembled, with the perforations in the ears laterally projecting from the seat and back frames, rod members extending through said aligned openings for securing the seat, back and arms in assembled relation, a spring seat assembly including a base structure for supporting association on the flange of the base frame, and a spring back assembly constructed and arranged for association within the upwardly facing angles of the back frame with its bottom supported on said shelf.

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