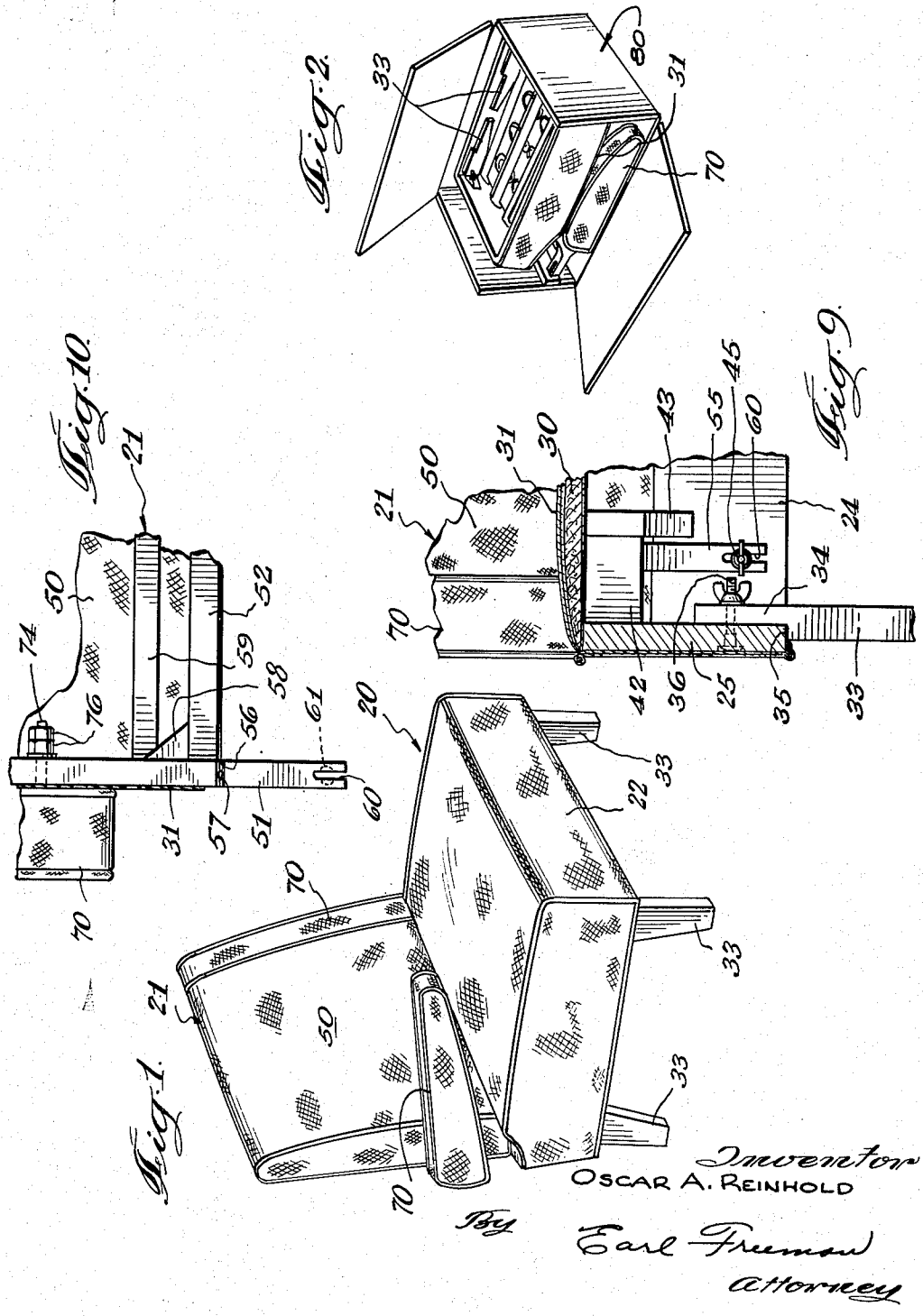
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KNOCKDOWN CHAIR

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KNOCKDOWN CHAIR

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Fig. 4.

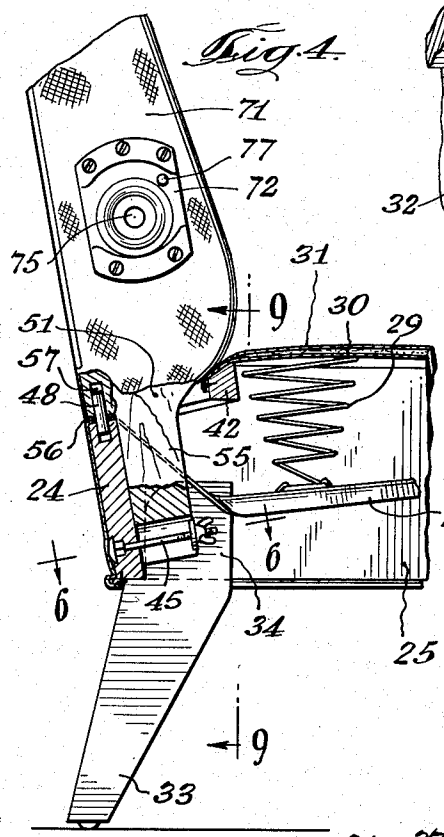


Fig. 5.

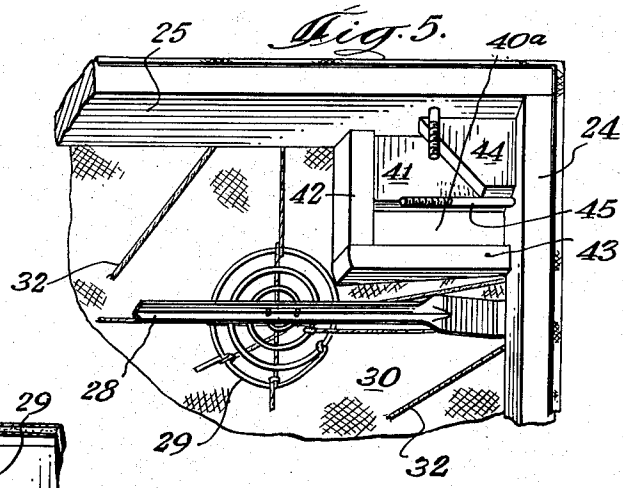
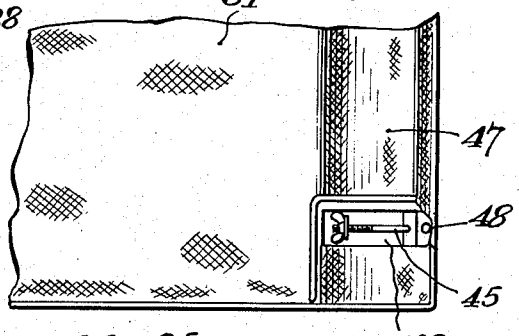


Fig. 7.



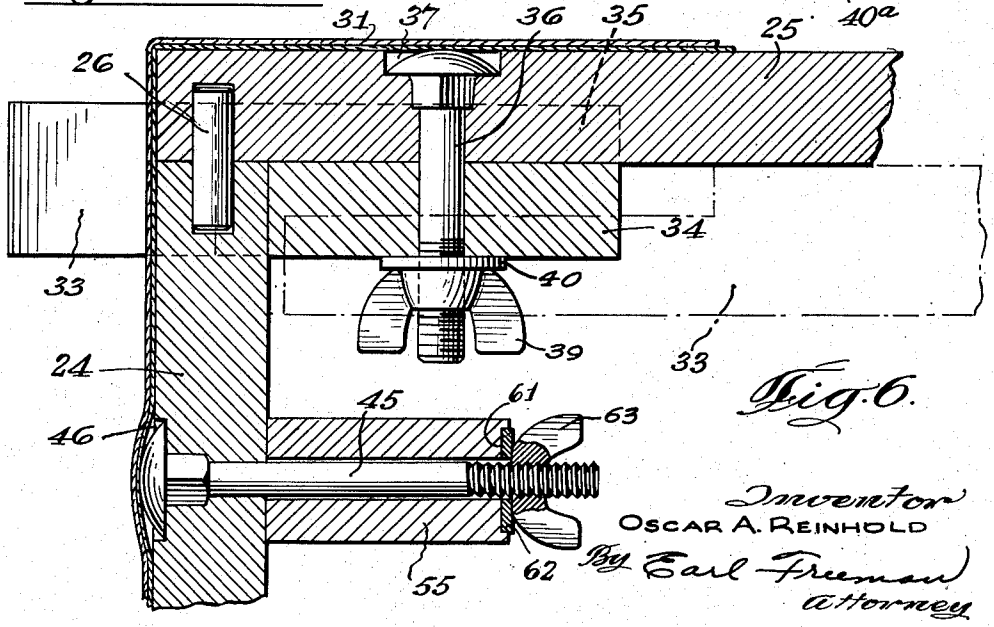


Fig. 6.

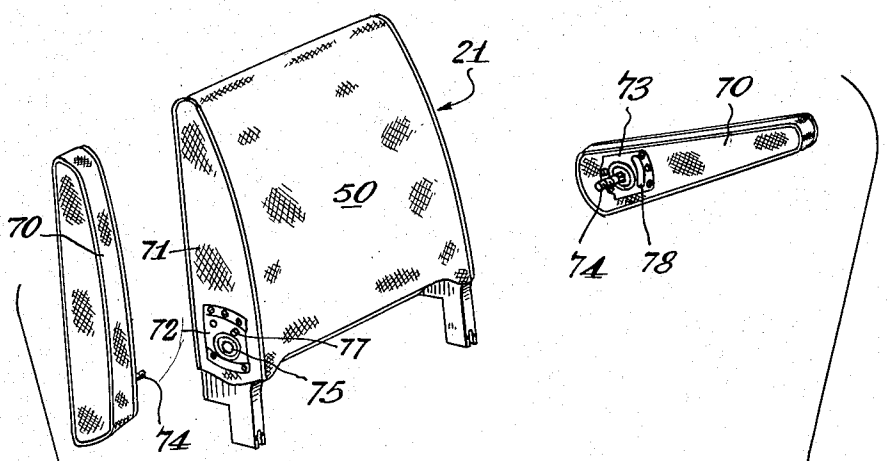
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By Earl Freeman
Attorney

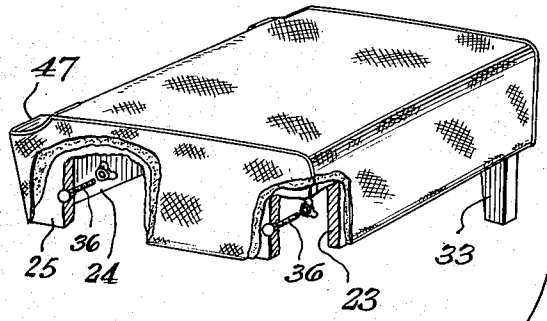
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Fig. 3.





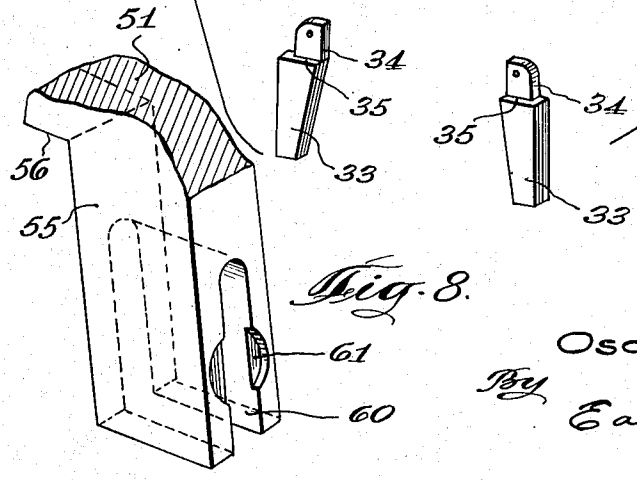


Fig. 8.

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KNOCKDOWN CHAIR

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Application June 24, 1950, Serial No. 170,191

1 Claim. (Cl. 155—196)

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This invention relates generally to furniture and is more particularly concerned with the construction of a chair of the type which readily can be knocked down, that is to say, disassembled.

Many of the principal problems in the manufacture of furniture stem from the necessity of shipping articles of furniture over long distances. The problems are particularly multiplied in the case of large articles, such as for example furniture which is upholstered. Large packages are expensive to construct, difficult to handle, unwieldly to move, and, despite all precautions, do not always prevent breakage. Furthermore, such packages are not readily warehoused due to their size, because they occupy great volume and are usually of asymmetrical configuration.

One of the principal objects of this invention, therefore, is to provide an article of overstuffed furniture comprising a lounge chair, which although rigid and durable when assembled, nevertheless may be knocked down to enable same to be packed in an extremely small, substantially symmetrical package.

Objects of my invention lie in the constructional details of the invention whereby the article of furniture has the massive appearance and the rugged construction characteristic of upholstered furniture, and yet which readily can be disassembled in a matter of minutes without the use of tools.

A further object of the invention is to provide a knock-down chair of the character described which will comprise a seat and back rest separable one from the other, the back rest having portions thereof extending into appropriate socket means or slots formed in the seat and being secured to the bottom of the seat in a novel manner. Ancillary objects rest in the specific constructional details by means of which this arrangement is made possible.

In connection with the readiness by means of which my new chair can be knocked down, I have provided a novel drop arm construction such that the chair has the large upholstered arms desired in this type of furniture, but said arms are capable of swinging from a position normally extending outward from the back rest and spaced above the seat to a position parallel with and adjacent to the back rest.

With the foregoing and other objects in view which will become more apparent as the description of the invention proceeds, I have illustrated a preferred manner of carrying out the invention in connection with a specific embodiment or example described in the accompanying specification, illustrated in the drawings, and claimed in the appended claim.

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It is not intended to be limited by such specific description and illustration which has been advanced merely for the purposes of pointing out the best manner of using the invention, it being intended to be limited in scope only by the language of the claim.

In the drawings:

Fig. 1 is a perspective view of a lounge chair constructed in accordance with my invention, same being shown in fully assembled condition, one of the arms being arranged in normally extended position and the other being folded against the side of the back rest.

Fig. 2 is a perspective view of the lounge chair completely disassembled and in the process of being packed into a small box preparatory to shipment thereof.

Fig. 3 is an exploded perspective view of the lounge chair showing the parts thereof and the manner of their being associated together. Portions are shown broken away in order to clarify details thereof.

Fig. 4 is a fragmentary side elevational view of the chair, with portions being shown in section, and with the arm not in place.

Fig. 5 is a fragmentary bottom perspective view of a corner of the chair to show the construction thereof, neither the associated leg nor the back rest being in position.

Fig. 6 is a sectional view on a greatly enlarged scale taken through a corner of the chair along the line 6—6 of Fig. 4 and in the indicated direction.

Fig. 7 is a top plan view of the corner of the chair which is illustrated in Fig. 5.

Fig. 8 is a detailed perspective view of one of the lower extensions of the back rest.

Fig. 9 is a fragmentary sectional view taken through the chair generally along the line 9—9 of Fig. 4 and in the direction indicated, but with the arm in place.

Fig. 10 is a fragmentary back elevational view of the left hand side of the back rest showing the general construction thereof.

Generally the invention comprises constructing a chair from two mating portions comprising the seat and the back rest, there being provision made in the seat for receiving extensions of the back rest in cooperative engagement so that the two parts can be separated if desired. The back rest is provided with arms which can be rotated a limited extent to either of two positions, in one

of which the arms are substantially in the plane of the back rest, and in the other of which the arms are substantially perpendicular thereto. The seat portion is provided with legs which are pivotally secured to the underside thereof so as to permit same to be folded up into the underside of the seat. In the collapsed or knocked down condition, the chair consists of two compact units readily placed one on top of another to enable same to be packed in a small box whose plan dimensions are roughly those of the seat, and whose thickness is roughly the combined thickness of the seat and back rest.

As previously alluded to herein, various details of the construction enabling the ready collapsing of the chair form an important part of the invention. Moreover, I have found certain of the expedients used suitable for chair constructions irrespective of whether it is intended to collapse the chair.

Referring now to the details of the invention, the reference character 20 is used to designate the chair generally. The chair consists of two portions, the back rest 21 and the seat portion 22, it being intended that such parts be assembled as shown in Fig. 1. The seat portion 22 has frame members comprising front and rear rails 23 and 24, and the side rail 25, assembled to form a rectangular support in any suitable manner. Since both sides of the chair are identical, except formed right and left, the reference characters on both sides will be the same herein. The usual nails, screws, glue, etc. are used to assemble the framing members by any of the well-known techniques. A typical joint is shown in Fig. 6 in which the members 24 and 25 are secured together by means including the dowel 26.

Metal rails 28 are secured between the front framing member 23 and the rear rail 24 and coiled springs 29 are mounted thereon arranged to press upwardly against the padding 30. The usual fabric or leather covering of the seat 22 is designated 31. The springs 29 are held in place against lateral movement by cords 32.

Each of the side frame members 25 is provided with front and rear legs 33 each of the legs having a narrowed portion 34 at the top thereof adapted to form thereby the shoulder 35. The shoulders 35 are adapted to engage under the edges of the side frame members 25 as shown in Fig. 9 for supporting the seat. A carriage bolt 36 is provided in each side framing member 25 having the threaded end on the inside of the seat frame, and having the head recessed as shown at 37 in Fig. 6, and covered with the fabric 31 to conceal the same. The portions 34 are appropriately pierced to enable same to be secured by means of the carriage bolts 36 to the frame members 25. Thumb nuts 39 and washers 40 hold the legs 33 assembled to said framing members 25.

It will be appreciated that the legs 33 are pivotally secured to the side frame members 25, for, upon loosening of the carriage bolts 36 as by unscrewing the thumb nuts, the legs 33 can be moved away from the inner surfaces of the frame member 25 until the shoulders 35 clear the edges, and rotated inwardly to positions shown clearly in Fig. 2 and by the broken lines of Fig. 6. In this condition, the legs 33 are completely within the underside of the seat 22.

As illustrated clearly in Fig. 5, at the rear corners of the seat, on each side thereof, there are provided socket means such as a slot 40*a* for enabling the back rest 21 to be secured to the seat in a manner presently to be described. The slot

is framed by the reinforcing members 41, 42, 43, and the rear rail 24. The joint between framing members at this point is braced by a wooden bracket 44. As will be noted in Fig. 7, the fabric covering 31 is carefully bound about the slot 40*a* to present a finished appearance. If desired, the member 42 may extend completely across the seat for strength and rigidity.

Carriage bolts 45 are mounted on the rear rail 24 with their heads countersunk and concealed as at 46 by the upholstery fabric 31 as shown in Fig. 6. The bolts 45 extend into the center of the respective slots 40*a*. It is intended to secure the back rest 21 thereby. For properly seating the back rest, the rear of the seat may be bevelled as best shown in Figs. 7 and 3 at 47. An upwardly extending guide pin 48 is inserted adjacent each slot in the rear rail 24.

The back rest 21 comprises an upholstered portion 50 of any suitable construction mounted upon a framework which includes side rails 51, a bottom rail 52, and a top rail (not shown). The entire back rest is covered with the same fabric 31 except for the bottom extensions of the side rails 51. Reference should be made to Figs. 4 and 8 for noting the construction of said side rails 51 and their lower extensions, which are designated 55. The extensions 55 are formed by reducing the side rails at the bottom, thereby providing shoulders 56 adapted to engage and seat upon the upper edge of the rear rail 24. Sockets 57 are provided in the shoulders 56 to receive the guide pins 48.

In Fig. 10 there are shown an additional rail 59 and a reinforcing bracket 58 to aid in shaping the bottom of the back rest 21 so that same can conform to the bevel 47. The rear fabric is not shown in said Fig. 10, to reveal the construction of the back rest 21.

Referring now to Fig. 8, the lower extension 55 is provided with an elongate slot 60 serving to bifurcate each of said extensions 55. The front edge of the extension 55 is provided with a countersunk recess 61. The back rest 21 is intended to be engaged upon the seat 22 by inserting the extensions 55 into the slots 40*a* and engaging the shoulders 56 upon the upper edge of the rear rail 24. As the extensions 55 enter the slots 40*a*, the bifurcations will straddle the carriage bolts 45. Said carriage bolts are provided with washers 62 and thumb nuts 63. The washers seat in the recesses 61 when the thumb nuts are tightened, holding the two portions 21 and 22 in firm and rigid assembly.

The back rest 21 is provided with a pair of arms 70 pivotally mounted thereto, and swingable from a position where same lies in the plane of the back rest 21 to a position wherein same is perpendicular to the back rest. Both positions are illustrated in Fig. 1. To enable such swinging, the sides 71 of the back rest 21 are provided with pivot plates 72 suitably secured thereto, the arms having mating pivot plates 73 attached to the inside thereof. The plates 73 have a central mounting bolt 74 adapted to engage the journal 75 of each pivot plate 72 and be secured by the nuts 76. The arms are thus pivotally mounted. In assembly, a pin 77 in each of the plates 72 is fitted into an arcuate slot 78 provided in each of the plates 73 to limit the extent of the rotation as set forth.

When it is desired to use the chair 20 without the arms 70, both can be raised. Two or more of such chairs can be positioned side by side with

the outside arms dropped and the inside arms up, to give the illusion of a sectional sofa.

In any event, it should be obvious that the arms **70** can be folded to lie in substantially the plane of the upholstered portion **50** of the back rest **21** so that no projections will prevent the entire chair from being packaged as shown in Fig. 2. In said Fig. 2, a chair **20** has been knocked down, the legs **33** folded up inside the bottom of the seat portion **22**, and the arms folded on the back rest, which has been separated from the seat portion in the manner described. The two units are shown packed in a small carton **80**, which when sealed, is an ideal shipping or storing package.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should readily be understood from the foregoing without further description, and it should be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details nevertheless are capable of wide variation within the purview of this invention as defined in the appended claim.

I claim:

A chair having a seat formed with a rear rail, a back rest formed with side rails recessed at the bottom to form shoulders resting on said rear rail, means between the latter and said shoulders

for alining the rear rail with said side rails and retaining the back rest against lateral displacement, downward extensions from said side rails in front of the rear rail and recessed in their lower ends, bolts extending forwardly from the rear rail through the recesses of said extensions, and nuts applied to the bolts in front of the extensions to secure them to the rear rail.

OSCAR A. REINHOLD.

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