

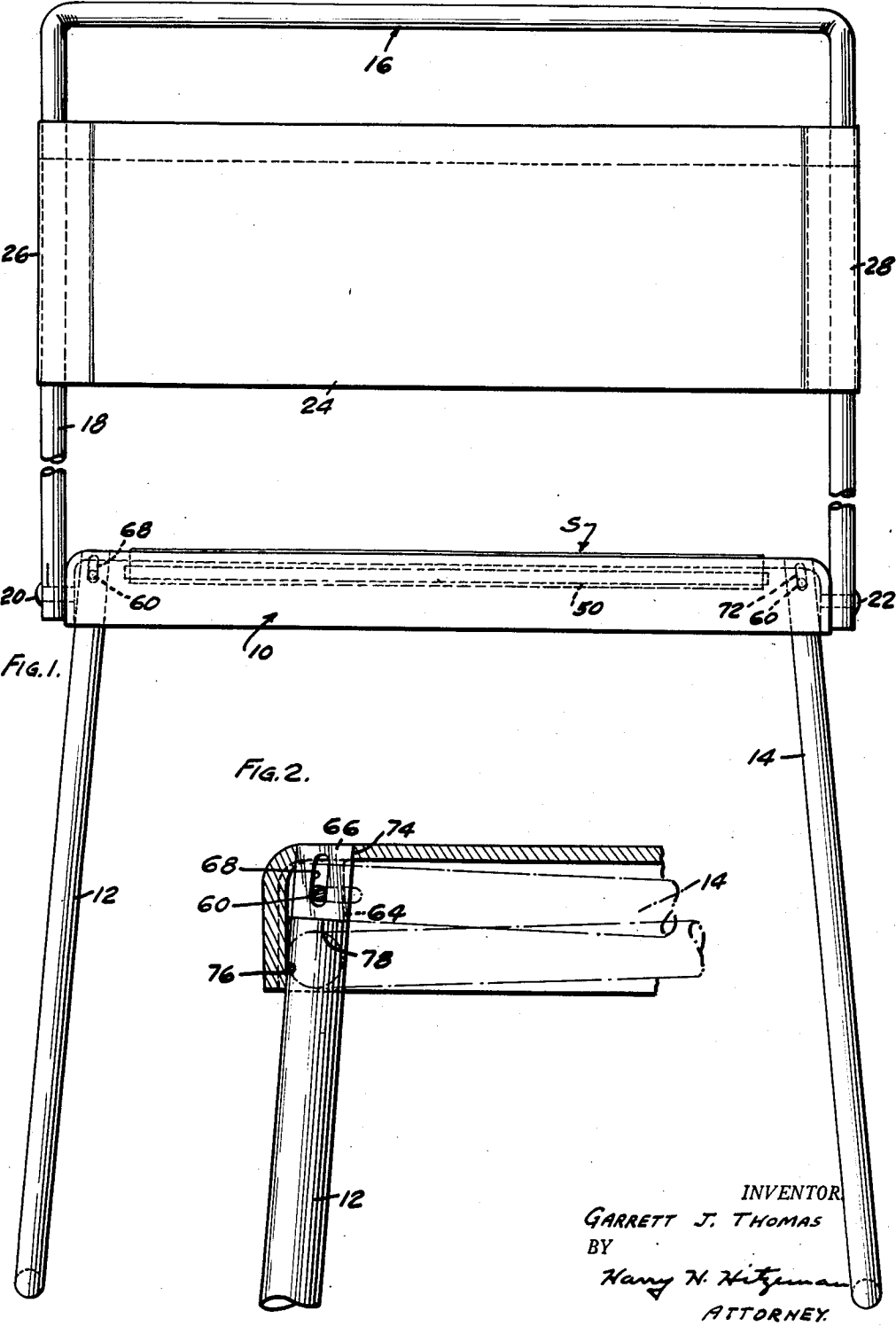
Oct. 28, 1952

G. J. THOMAS
COLLAPSIBLE CHAIR

2,615,500

Filed April 29, 1950

3 Sheets-Sheet 1



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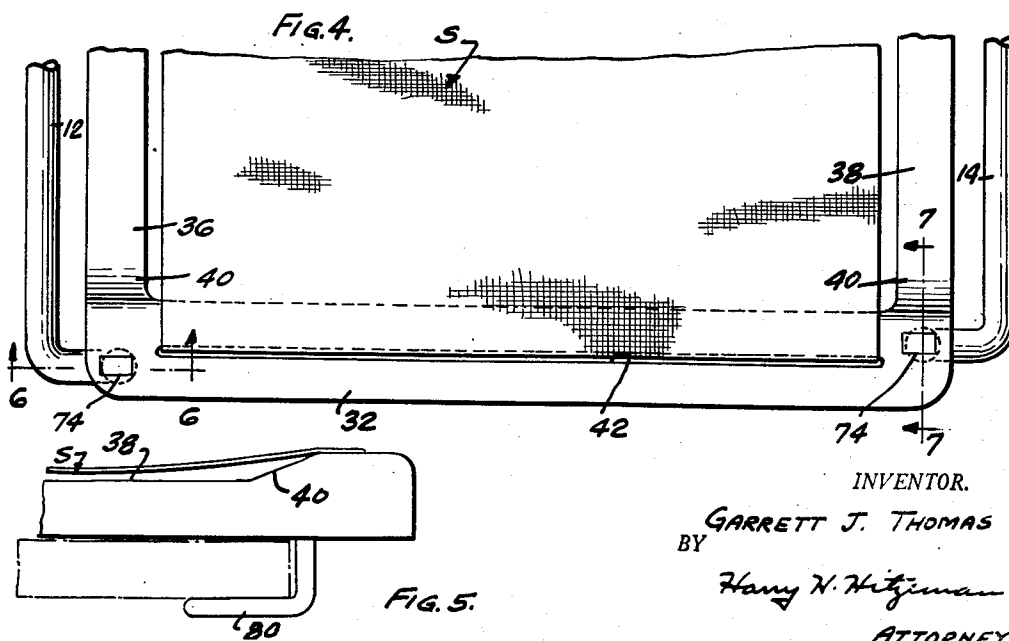
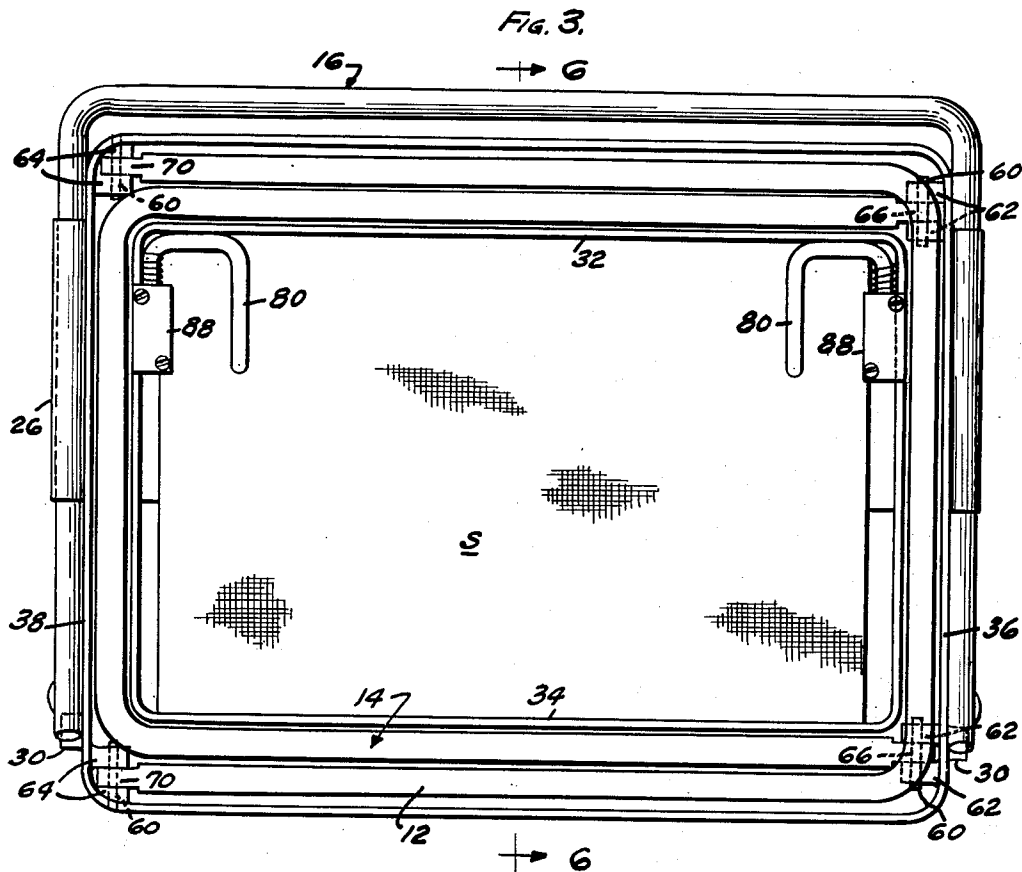
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3 Sheets-Sheet 2



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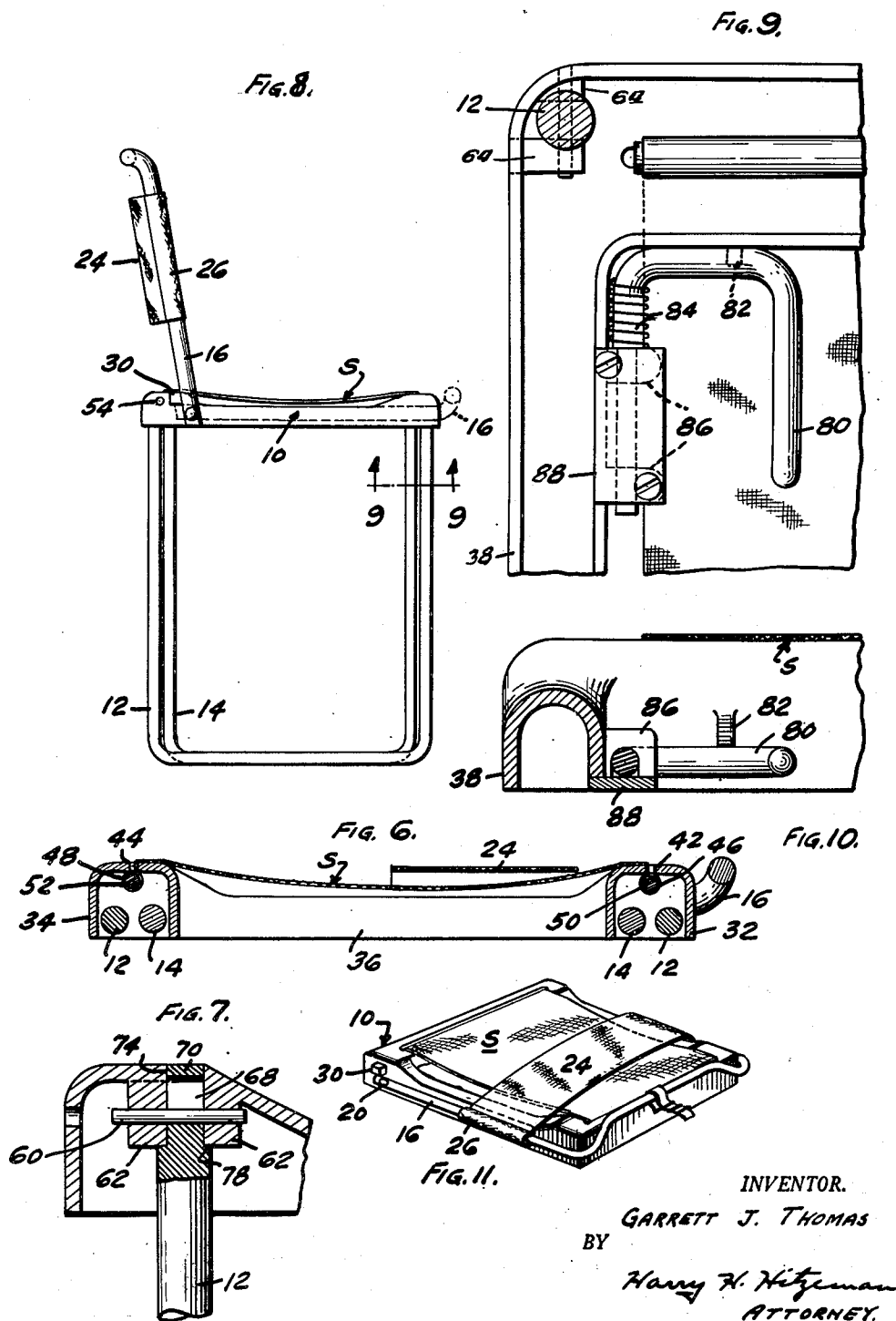
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3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE

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COLLAPSIBLE CHAIR

Garrett J. Thomas, Zion, Ill.

Application April 29, 1950, Serial No. 159,003

8 Claims. (Cl. 155-148)

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My invention relates to improvements in collapsible chairs or seats and similar devices.

My invention relates more particularly to a chair or seat of the type especially adapted for use by application to boat seats, bleacher seats or other places where the user is either a spectator at a sports event or a participant and desires to have a more comfortable seat and position than those normally provided at such events.

The principal object of the present invention is to provide a collapsible all-purpose chair of the type described, the chair having legs and a back rest all capable of folding so that in a folded or collapsed position the chair itself is of the approximate thickness of the seat frame.

A further object of the invention is to provide an improved collapsible chair of the type described having an improved construction whereby the legs or seat support are so connected to the seat frame that the frame itself forms a bracing for the legs.

A further object of the invention is to provide an improved construction of collapsible chair wherein the legs when collapsed are enclosed within the seat frame portion of the chair.

A further object of the invention is to provide a construction of collapsible chair of the type described including a novel and efficient manner of connecting a canvas seat to the seat frame.

A further object of the invention is to provide an improved construction of seat frame whereby the side walls of the same are sloped downwardly below the seat level for better comfort in sitting upon the same.

A further object is to provide an improved construction of collapsible seat or chair including novel attaching means for connecting the same to a boat seat, bleacher seat or similar flat support whereby the seat is used with the legs collapsed and folded within the seat frame.

Other objects and advantages will be more apparent from the following description wherein reference is had to the accompanying three sheets of drawings, upon which:

Fig. 1 is a front elevational view of my improved chair construction, with the side supports of the back rest broken away and foreshortened;

Fig. 2 is an enlarged fragmentary sectional view through the left hand corner of the seat and leg construction shown in Fig. 1, illustrating the manner in which the leg is disposed at an angle so that the weight of the chair and its occupant rather than being taken by the pivot of the leg is supported within the seat frame exclusively;

Fig. 3 is a bottom plan view of the collapsible

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chair in a collapsed position showing the manner in which the two leg sections are collapsed within the seat frame and the back rest is also collapsed within the plane of the same;

Fig. 4 is a fragmentary plan view showing the seat, seat frame, and a portion of the legs of the chair;

Fig. 5 is a fragmentary side elevational view showing the U-bolt sections for attaching the chair seat to a boat, bleacher or similar seat for use thereon;

Fig. 6 is a cross-sectional view through the chair in collapsed position taken on the line 6-6 of Fig. 3;

Fig. 7 is a cross-sectional view through the leg pivot and its support in the seat frame taken generally on the line 7-7 of Fig. 4;

Fig. 8 is a side elevational view on a reduced scale of the chair in position for use, showing the back rest and legs in the position they assume;

Fig. 9 is a fragmentary bottom plan view showing the detailed construction of the U-bolt seat fastening mechanism, taken on the line 9-9 of Fig. 8;

Fig. 10 is a front view of the parts shown in Fig. 9; and

Fig. 11 is a reduced perspective view of the chair completely collapsed with a strap fastener for fastening the back rest in collapsed position.

In the embodiment of the invention which I have chosen to illustrate and describe the same, I have shown a collapsible chair which may generally comprise a seat frame 10 supported by the U-shaped left leg or support member 12 and the similar U-shaped right leg or support member 14, the seat frame having a back rest 16 connected thereto. The back rest may include the U-shaped back rest frame 18 which is pivotally mounted at its lower ends on the pivot members 20 and 22 and a flexible canvas strip 24 formed with the loops 28 and 26 to be received by the side legs of the frame member 18.

The back rest in the position shown in Fig. 8 rests against stop members 30 which extend outwardly from the side walls of the seat frame member 10 to limit the raised angular position of the back rest and also form a stop to limit the downward movement of the back when it is folded as shown in dotted lines in Fig. 8 and in Fig. 11.

The seat frame 10 is preferably of cast metal and rectangular in shape, having a generally inverted channel shape in cross section. The front and back sides 32 and 34 have a generally flat upper surface and parallel vertical walls, while

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the side walls 36 and 38 are generally U-shaped, as best shown in cross-section in Fig. 10. The side walls have an angular portion 40 extending upwardly to meet the forward and back wall sections 32 and 34, the side walls being purposely lower than the front and back edges of the seat for a purpose which will presently be apparent.

I provide a canvas or similar flexible cloth seat S which is easily connected to the seat frame. For this purpose I provide the elongated slots 42 and 44 in the front and rear walls 32 and 34 of the seat frame respectively. The seat may be formed of a rectangular sheet of canvas having the loops 46 and 48 formed at the two ends of the same. The loop 46 may be threaded upon a wooden dowel or similar rod 50 and the sheet then inserted through the slot 42, the opposite end including the loop 48 pressed down through the slot 44 and a similar dowel pin 52 inserted in the back wall of the frame through a drilled opening 54 in the side wall thereof. In this manner it can be seen that the seat is easily and quickly attached to the seat frame and is incapable of loosening even though long and hard usage is given the chair. Because of the fact that the side walls 36 and 38 have their top below the plane of the end walls 32 and 34, the hard edges of the frame do not engage or contact the user and a very comfortable seat is thus provided.

The U-shaped legs or support members previously mentioned are adapted to be pivoted at their upper ends upon pin members 60 (see Figs. 2, 3 and 7), the pin members 60 being driven through an opening in the side walls of the seat frame and through suitable bosses 62 in the side wall 36 and bosses 64 in the side wall 38. Each of the U-shaped support members 12 and 14 have a reduced extension 66 which fits between the bosses 62 and is provided with an elongated slot 68 to receive the pivot pin member 60. Each of the support members 14 is provided with a reduced extension 70 which fits between the bosses 64 and has an elongated slot 72 to receive a pivot pin 60.

The four corners of the seat frame are provided with openings 74 which may receive the reduced ends or extensions of the support members 12 and 14 when the supports are in the position shown in Figs. 1 and 2, the support members thus support the seat frame by means of the extension in the opening 74 and by bearing against a side wall 76 of the seat frame. In addition, the upper edge 78 of each end of the support member bears against the lower edge of the bosses 62 and 64 respectively, so that when the U-shaped support members are in a seat supporting position no weight whatsoever is placed upon the pivot pins 60. Thus it can be seen that both the construction and the assembly of the supports to the seat frame are easily and quickly accomplished and the structure in use is exceptionally rigid and strong so that it will not easily become broken or out of order.

When it is desired to collapse the chair, the legs or support members may be pulled down on the pivot 60 by means of the elongated slot 68 and folded in the position shown in Fig. 3 and in dotted lines in Fig. 2. Thus the seat support members in a collapsed position are completely enclosed in and concealed within the seat frame member.

Means have also been provided for connecting or attaching the collapsible chair in the form of a seat to bleachers, boat seats, or other supports. This construction may include a pair of U-bolts

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80 normally held in horizontal position below the seat S against stops 82 by means of a coiled spring 84. The U-bolts are mounted in a pair of lug members 86 which extend inwardly from the side walls 36 and 38, being held therein by means of a plate 88 screw-threadedly connected thereto. When it is desired to connect the seat to a boat seat or other flat support, the U-bolts are swung to a 90 degree angle and connected as shown in Fig. 5 to the support.

From the above and foregoing description it will be clear to those skilled in the art that I have provided a collapsible chair which, due to the detail of construction, is exceptionally rugged and capable of much rough and hard handling without becoming broken or out of order. Due to the construction of the supports and the manner in which they lock with the seat frame in use, it can be seen that fragile pivots such as the comparatively small pins 60 can be used to pivot the same, and due to this construction and the shape of the seat frame, they can also be folded so that they are out of sight and collapsed within the seat frame when not in use.

It can also be seen that the back rest which is rigidly supported in either the closed or open position, is capable of collapsing or folding so that the entire seat or chair when not in use occupies a space approximately the size of the seat frame itself. For packing, carrying or shipping, this is of the utmost importance. The manner in which the seat itself is secured to the seat frame makes it possible to quickly and easily assemble the seats to the seat frames, and when the seat must be removed or replaced it can be seen that this is a comparatively simple and quick operation.

While I have illustrated one complete example of the physical embodiment of my invention according to the best mode which I have thus far devised, it will be understood that various changes and alterations may be made in the exemplified structure within the scope of the appended claims.

I claim:

1. A collapsible chair having a rectangularly shaped seat frame formed of an inverted channel-shaped member, a flexible seat secured thereto, a back rest pivotally attached to the sides of said seat frame at the back corners thereof and legs extending downwardly therefrom, and legs capable of being folded within said channel shaped member.

2. A collapsible chair having a rectangularly shaped seat frame formed of an inverted channel-shaped member, a flexible seat secured thereto, a back rest pivotally attached to the sides of said seat frame at the back corners thereof and legs extending downwardly therefrom, said legs capable of being folded within said channel shaped members of said seat frame, said legs being U-shaped frames pivotally connected by their ends in the corners of said frame.

3. A collapsible chair including a rectangularly shaped seat frame having an inverted channel shaped cross section, a flexible seat connected across the top of said seat frame, a pair of U-shaped support members pivotally connected to said seat frame and extending downwardly therefrom, a pivotally mounted back rest connected to the sides thereof, openings in the corners of said seat frame adapted to receive reduced extensions at the upper ends of said support members and shoulders on said support members below

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said extensions to support said seat frame thereon in use.

4. A combined collapsible chair or seat including a rectangularly shaped seat frame having downwardly directed channel shaped walls, pivots positioned in the four corners of said seat frame, U-shaped support members having their upper ends connected to said pivots, openings in the walls of said seat frame adjacent said pivots adapted to receive the upper ends of said support members, a back rest in the form of a frame having arm portions pivotally connected on opposite sides of said seat frame and U-shaped members connected on the inside of said seat frame capable of being swung down to form hook members to connect to a support member.

5. A combined collapsible chair or seat including a rectangularly shaped seat frame having downwardly directed channel shaped walls, pivots positioned in the four corners of said seat frame, U-shaped support members having their upper ends connected to said pivots, openings in the walls of said seat frame adjacent said pivots adapted to receive the upper ends of said support members, a back rest in the form of a frame having arm portions pivotally connected on opposite sides of said seat frame, and U-shaped members connected on the inside of said seat frame capable of being swung down to form hook members to connect to a support member, said U-shaped support members disposed at an angle outwardly from their upper ends to bear against the outer legs of the channel shaped walls of said seat frame whereby none of the weight on the chair is carried by said pivots.

6. A combined collapsible chair or seat including a rectangularly shaped seat frame having downwardly directed channel shaped walls, downwardly disposed bosses in the four corners of said seat frame, a pivot pin in each of said bosses, U-shaped support members having reduced upper ends and shoulders adjacent said ends, each of said ends having an elongated slot therein to receive a pivot pin, sockets in the top wall of said seat frame to receive the reduced upper ends of said U-shaped support members, said support members adapted to be pulled down to disengage the upper ends from said sockets to permit collapsing of said members.

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7. A combined collapsible chair or seat including a rectangularly shaped seat frame having downwardly directed channel shaped walls, downwardly disposed bosses in the four corners of said seat frame, a pivot pin in each of said bosses, U-shaped support members having reduced upper ends and shoulders adjacent said ends, each of said ends having an elongated slot therein to receive a pivot pin, sockets in the top wall of said seat frame to receive the reduced upper ends of said U-shaped support members, said support members adapted to be pulled down to disengage the upper ends from said sockets to permit collapsing of said members, and a back rest in the form of a frame having arm portions pivotally connected on opposite sides of said seat frame and a stop member adjacent said pivotal connection to limit the open or closed movement of said back rest.

8. A collapsible chair including a rectangularly shaped seat frame having downwardly directed channel shaped walls, a pivot pin adjacent each corner of the same, a pair of U-shaped support members mounted on said pivots at the corners of said seat frame, the upper end of each of said U-shaped support members having a slotted connection with its pivot, said seat frame having openings adjacent each of said pivots to receive the ends of said U-shaped support members to thereby take the weight of an occupant upon the seat frame instead of upon said pivots during use, said U-shaped support members when collapsed capable of lying inside of said channel shaped walls.

GARRETT J. THOMAS.

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