Sept. 17, 1957 E. D. SMITH 2,806,514

CHAIR CONSTRUCTION

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FIG. 1

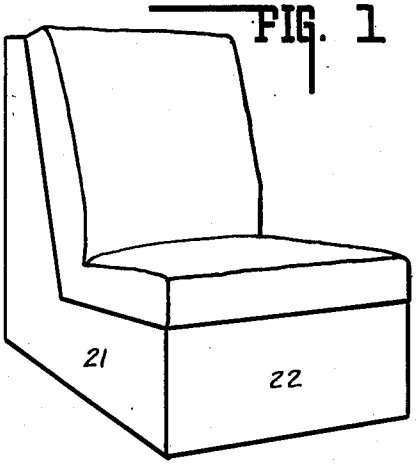


FIG. 2

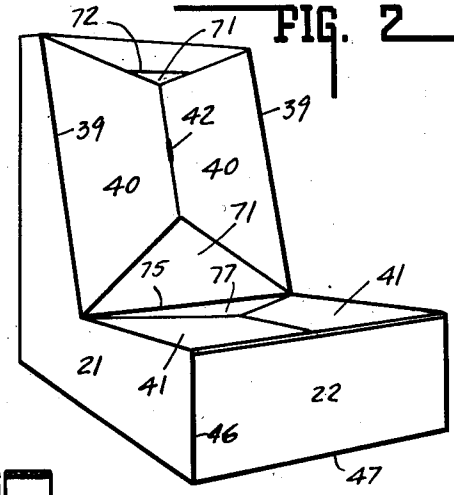


FIG. 8

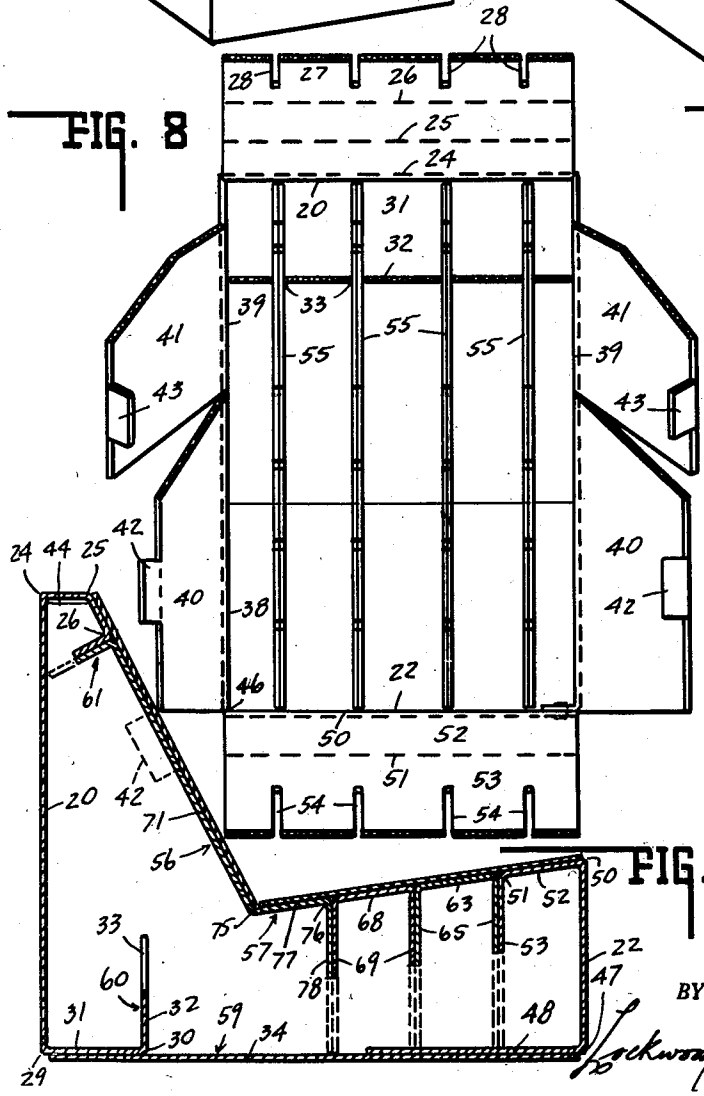


FIG. 7

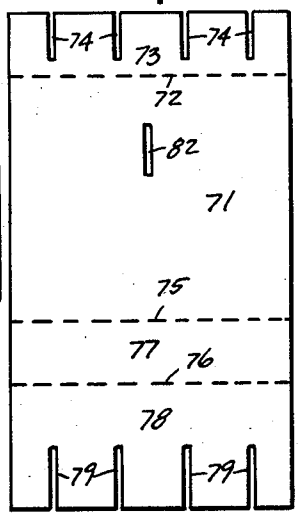


FIG. 9

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CHAIR CONSTRUCTION

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FIG. 3

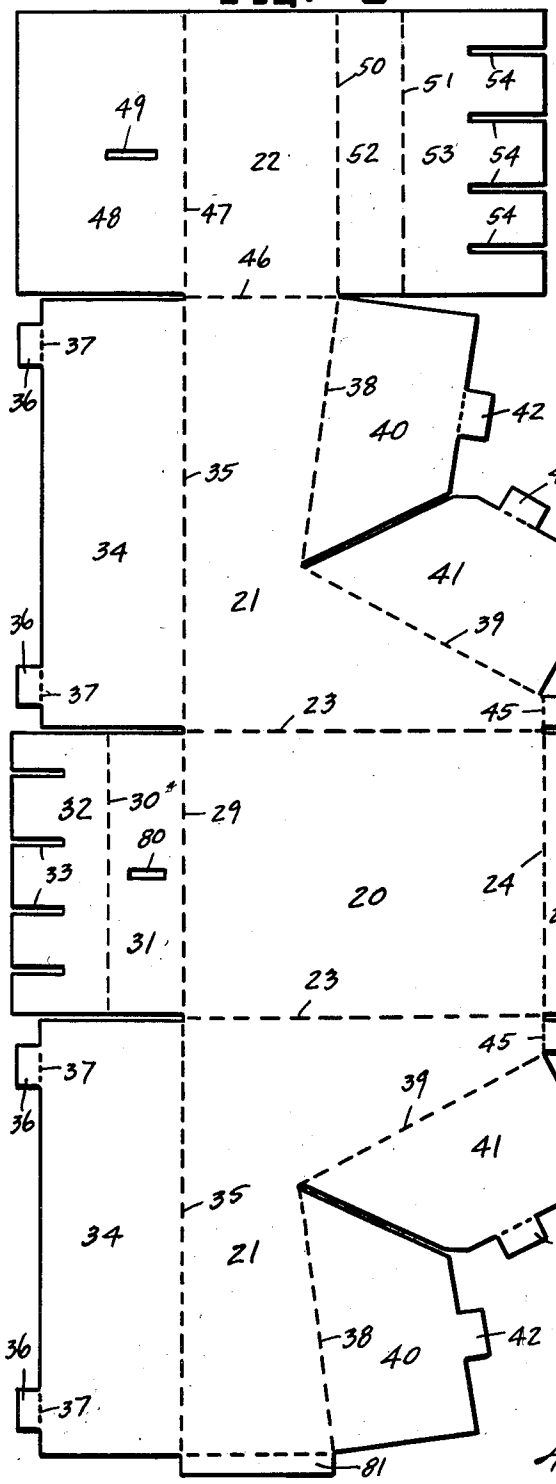


FIG. 4

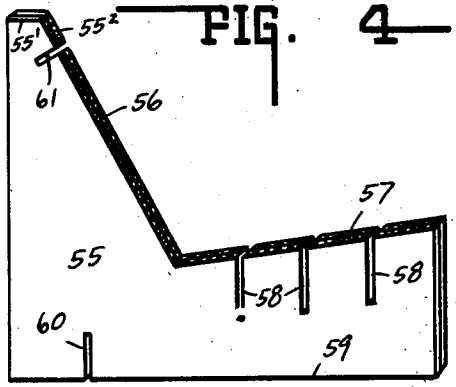


FIG. 5

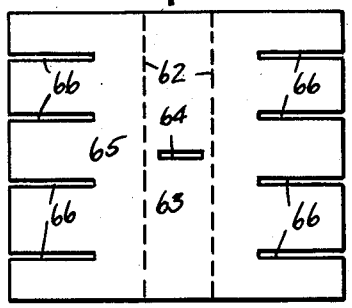
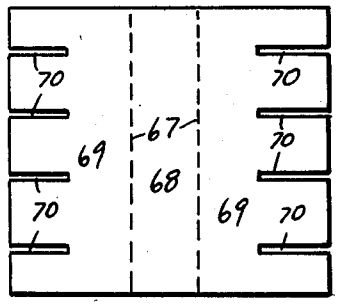


FIG. 6



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CHAIR CONSTRUCTION

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FIG. 10

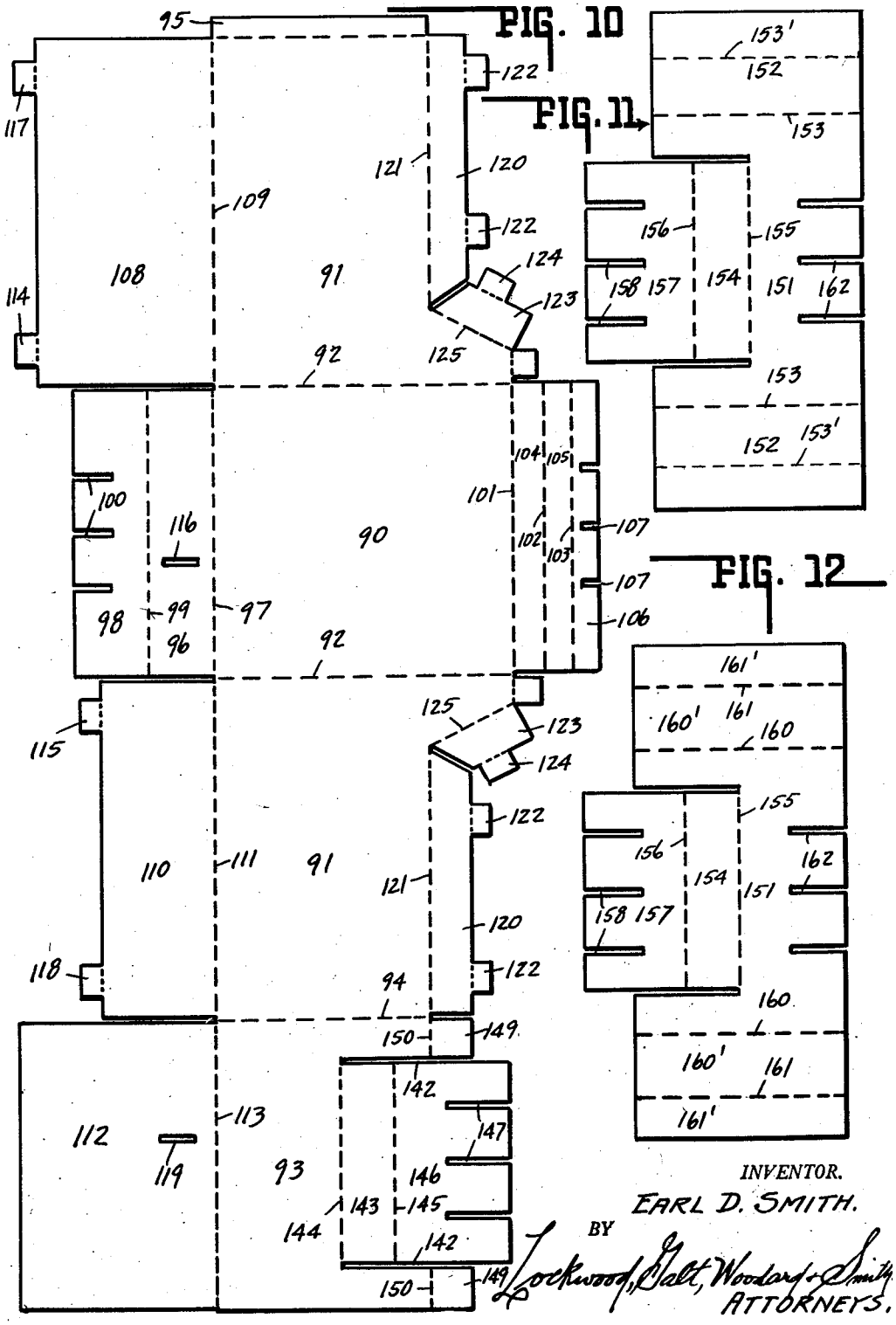


FIG. 11

FIG. 12

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FIG. 13

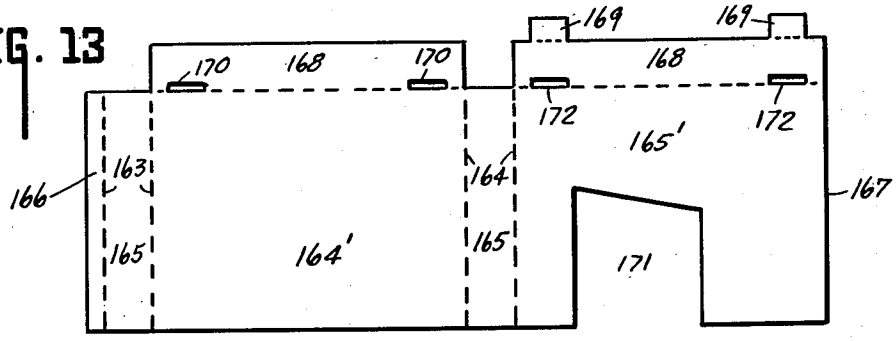


FIG. 14

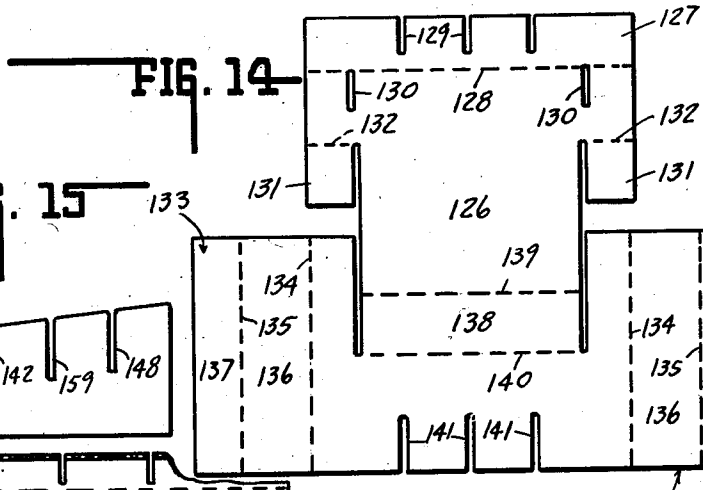
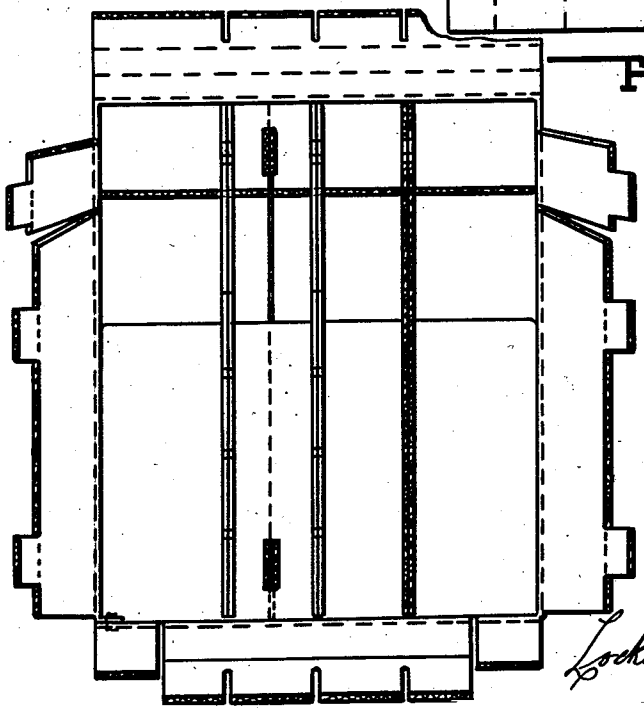


FIG. 15

FIG. 16



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CHAIR CONSTRUCTION

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FIG. 17

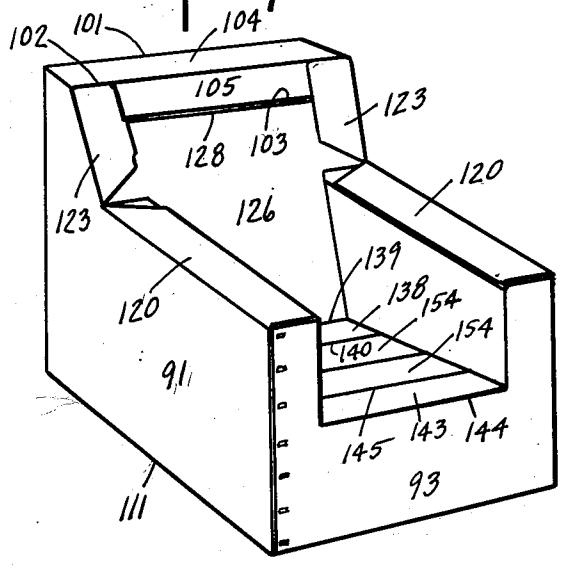


FIG. 19

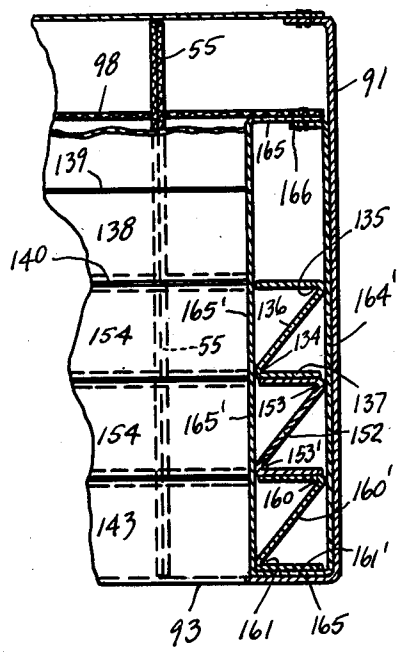
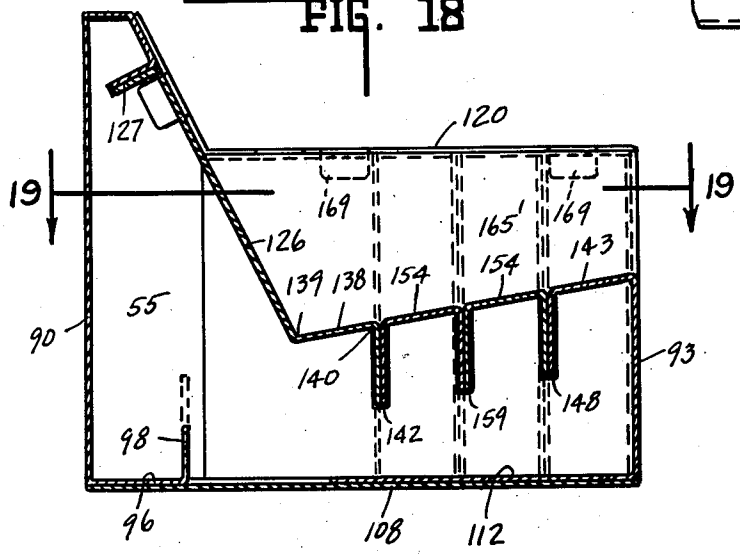


FIG. 18



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United States Patent Office 2,806,514 Patented Sept. 17, 1957

2,806,514

CHAIR CONSTRUCTION

Earl D. Smith, Indianapolis, Ind.

Application November 22, 1952, Serial No. 321,983

8 Claims. (Cl. 155—191)

This invention relates to an article of furniture, particularly to a seat or chair construction.

The invention has particular reference to articles of furniture, such as seats, chairs, settees, etc., formed of comparatively light inexpensive material, such as heavy cardboard, corrugated fibre board or the like, the present invention involving improvements upon the construction disclosed in my copending application Serial No. 189,865, filed October 12, 1950 now Patent No. 2,707,514, granted May 3, 1955.

The present invention, while involving general principles disclosed by my copending application, brings about an article of furniture which may be readily assembled by those ordinarily unfamiliar with such procedures which accomplishes a rigidity in its final or set-up form impossible of attainment in the structure disclosed by my copending application and which involves the use of a minimum of separate parts in its completed structure.

A further object of the invention is to provide a seat or chair structure involving prefabricated parts capable of being folded upon one another in such manner as to compose a comparatively small, light and compact package in knock-down form, the advantages of which are obvious, and which may be readily set-up and the parts easily but securely locked together by simple and efficient means to provide a strong, durable and yet extremely light seat or chair structure.

The several objects here set forth, together with others which will appear as the description proceeds, are accomplished by means of the structures hereinafter fully described, claimed and disclosed by the accompanying drawings, wherein:

Fig. 1 is a perspective view of an armless chair structure constructed in accordance with the invention and as showing the same as it will appear in final set-up form with seat and back cushions applied thereto and enclosed by a conventional slip cover,

Fig. 2 is a similar view with the slip cover and back and seat cushions removed,

Fig. 3 is a plan view of a card or fibre board blank cut and scored in such manner as when in set-up condition, to constitute the frame or body of the chair shown in Figs. 1 and 2,

Fig. 4 is a perspective view of one of the reenforcing panels or risers used in the chair assembly,

Fig. 5 shows a blank so cut and scored as, when in proper set-up position, to constitute a filler or seat brace member,

Fig. 6 is a similar view of another form of filler member,

Fig. 7 shows a blank of such proportion and so cut and scored as to constitute, when in set-up position, a back brace or backing sheet for the completed chair,

Fig. 8 is a top plan view looking down upon the chair in partly assembled condition,

Fig. 9 is a vertical longitudinal sectional view taken through the chair in its complete set-up condition,

Fig. 10 is a view similar to Fig. 3 and disclosing a blank of such proportion, shape and scoring as when in final set-up position involves a chair frame of modified construction,

Fig. 11 is a plan view of a blank which when in proper set-up and applied position constitutes a seat and arm support for the chair of Fig. 10,

Fig. 12 is a similar view of another seat and arm support employed in carrying out the invention,

Fig. 13 is a plan view of a blank which when properly folded and assembled constitutes the arm section for the improved chair,

Fig. 14 discloses a blank so cut and scored as when properly folded and assembled in the frame structure constitutes the rear section of the arm chair,

Fig. 15 is a side elevation of one of the reenforcing or supporting webs or panels to be employed in the chair assembly,

Fig. 16 is a top plan view, parts broken away, showing the chair of this modified construction in partly assembled form,

Fig. 17 is a perspective view of the arm chair as it will appear when fully set up or assembled,

Fig. 18 is a longitudinal sectional view taken through the improved chair when fully assembled, and

Fig. 19 is a fragmentary horizontal sectional view taken through one of the arms of the chair to show the filler arrangement.

The structure disclosed by Figs. 1 to 9 inclusive is a chair involving integral seat and back rest portions without arms. The body or frame is cut from a single blank of relatively thin corrugated or fibre board; the configuration of the blank and the scorings thereon enabling the same to be properly bent or folded part upon part and so interlocked as when in properly set-up position to provide a substantially rigid bottom or seat portion with an integral back equally as rigid and strong. The frame has arranged therein risers, webs or panels, formed preferably of the same material of which the body is constructed, and so interlocked with parts of the frame and other elements involved in the completed structure as to be maintained in sturdy upright position to bear generally the weights and stresses to which the article of furniture will be subjected. Moreover, the body frame and the several parts which go together in the completed article of furniture are so assembled and tied in with one another as to resist and sustain any lateral strains to which the furniture piece may be exposed.

In carrying out this form of the invention, the blank is so cut as to provide a back section or panel **20**, side sections **21**, and to one of the latter is attached the end panel or section **22**.

As will be observed from Fig. 3, the back section or panel is of substantially rectangular form, the sides of which are defined by the lines of scoring indicated at **23** and separating the said panel from the said side elements. The upper end of this back section is provided with three lines of spaced parallel transverse scorings indicated at **24**, **25** and **26** respectively, the line of scoring **26** defining the connecting line with the flap **27** having inwardly extending spaced parallel slots **28**. The opposite end of the back is provided with transverse spaced scoring lines **29** and **30**, the space between the said lines providing a bottom panel member **31**. The end element **32** constitutes a spacer member or web having spaced parallel slots **33** extending inwardly from the extreme outer edge thereof a predetermined distance and in parallel alignment with the recesses **28** at the opposite end of this panel member.

The side members **21**, as has been heretofore stated, connect with the back member **20** upon the parallel scored lines **23**, and each of said side members carries a bottom flap **34** connected with the end members by

the scoring lines 35. These flaps extend throughout the width of the end panels, each being of a breadth substantially equal to one half the width of the chain bottom. Each of these bottom flap members has projecting from its outer edges locking tabs 36 connected to their respective flaps by the scoring lines 37.

The opposite or forward portions of the side panels 21 are scored on lines 38 and 39 to provide wings 40 and 41 respectively, foldable upon the said lines. The flaps 40 and 41 are each provided in their outer or forward edges with tabs 42—43 for purposes to be hereafter detailed. Each of the end sections at its upper portion and near its juncture with the back section 20 is also provided with a tab 44 constituting a top side lock foldable upon the scoring line 45.

The end panel 22 is connected with the adjacent side member 21 along the scoring line 46, the said scoring line being parallel with scorings 23. This panel is also scored along line 47, the said scoring line being in alignment with scorings 35 of the side panels and 29 of the back member. The flap 48 provided by the line of scoring 47 constitutes a bottom flap and is provided with a substantially centrally arranged opening 49 disposed transversely thereof.

The end panel 22 near its opposite side is provided with spaced parallel lines of scoring 50 and 51, the same being parallel with the line of scoring 47, the space between scoring lines 50—51 providing a front seat brace 52. The flap 53 beyond the line of scoring 51 constitutes a web provided with spaced parallel slots 54 extending inwardly from the free end of the said web.

The blank here described, when properly folded or bent along the lines of fold as will be hereinafter set forth, constitutes the main frame or housing for the seat structure. It will be observed that the lines of scoring 38 and 39 of the side wings define the planes of the seat and back supports of the chair when in proper set-up position. These lines of scoring will be at such angles relative to one another as to provide a proper inclination to the seat as well as the back to afford an easy and comfortable reclining position for the chain occupant.

The frame here described receives in spaced parallelism a plurality of web members 55, as shown more in detail in Figs. 4 and 9 of the drawings. These web members may be single plies of relatively thin corrugated or fibre board, or may be of double thickness to lend additional strength and rigidity to the structure. These web members, in side elevation, are of substantially the same configuration and size as the side panels 21 defined by the scoring lines 23, 35, 38 and 39. Each of the web members thus provides a back rest edge indicated at 56 and a seat supporting edge 57 both having inclinations corresponding to the lines of fold 39 and 38 respectively of the side panels. Any number of web members 55 may be employed in the chair construction, four being employed in the present instance. Each of these web members has provided therein slots 58 extending inwardly from the seating edge 57 a predetermined distance and perpendicular to the bottom edge 59 of the said web members. Each of the web members, near the rear and bottom thereof, also is provided with an inwardly extending slot 60 disposed perpendicular to the bottom edge 59, while a similar slot 61 extends inwardly of the back supporting edge 56 of each web member near the top thereof and perpendicular to the said edge 56.

Figs. 5 and 6 of the drawing illustrate filler members to be used in the chair assembly to constitute the seat portion thereof to sustain the chair occupant. The filler member of Fig. 5 is formed of the same material of which the other parts heretofore described are constructed, is of rectangular form of substantially the proportions shown, and is provided near its mid-portion with transverse lines of scoring indicated at 62. These lines of scoring provide a transverse mid-portion or seat brace indicated at 63, and at a point substantially midway the sides of said member is a transverse slot indicated at 64. The wings, arms or webs 65 lying outside the scoring line 62 are each provided with spaced parallel slots 66 entering from the free ends thereof and the slots of these webs are in longitudinal alignment with one another.

The filler member or support of Fig. 6 is also of rectangular shape having transverse lines of scoring 67 to define a mid portion brace or seat element 68 with lateral wings or webs 69 also provided in their outer edges with slots 70; the slots at one end of the filler being aligned with those in the opposite end.

Another element utilized in the improved chair construction is the backing element shown in Fig. 7. This element comprises a panel to constitute a backing sheet 71 to rest against the forward edges 56 of the web members 55. The main body of this backing sheet is provided near its upper end with a transverse scoring line 72 providing a flap 73 between the said line and the adjacent end of the sheet. This flap 73 is provided with spaced parallel slots 74 extending inwardly from the free edge thereof a predetermined distance. These slots correspond in number and in spacing with the web members 55, also with the slots 28 of the front flap, 33 of the bottom web 22, 66 of the filler member of Fig. 5, and 70 of the filler of Fig. 6. The backing sheet 71 is also provided near its opposite end with a pair of spaced parallel transverse scoring lines 75 and 76 providing between them a seat element represented at 77. That end of the backing sheet beyond the line of scoring 76 constitutes a web 78 having slots 79 extending inwardly from the free end thereof. These slots 79, it will be observed, are aligned with the slots 74 at the opposite end of the backing sheet or panel, and are equal in number and spacing with the web members 55.

In assembling the chair structure, the blank shown in Fig. 3 is folded or bent along the lines of scoring 23 until the side panels 21 are disposed at substantially right angles to the back section 20. The end panel 22 will then be bent along its line of scoring 46 until it is disposed at right angles to its supporting section 21, the outer end of the said panel being secured in any desired manner to the flap 81 on the free end of the companion side panel 21. The bottom panel section 48 carried by the end panel 22 will then be bent along its line of scoring 47 at right angles so as to constitute a part of the chair bottom. The bottom panel member 31 is then bent along the scoring line 29 within the frame until the panel 31 is at right angles to the back 20. The web 32 attached to the bottom panel 30 is then bent along the scoring line 30' until it is perpendicular with the bottom panel 31. The bottom flaps 34 will then be bent along the scoring line 35 until they are at right angles to their supporting side sections 21 with their free edges in meeting engagement in the median line of the frame, whereupon the tabs 36 are bent upwardly along their lines of scoring 37. Those tabs 36 adjacent to the rear end of the chair will pass through the transverse slot 80 in the bottom panel member 30 to assist in securing the bottom flaps 34 firmly in position as well as to hold the bottom panel member 30 in proper position. The tabs 36 near the opposite end of said bottom flaps will coincide with and extend through the transverse slot 49 constituting a part of the end panel 22 to thus lock these elements securely together. The substantially L-shaped web members 55 are then inserted in spaced parallel relationship longitudinally within the frame. The slots or recesses 60 near the rear end of each web member interengage with the slots or recesses 33 in the upstanding web member 32 near the adjacent end of the frame. The top of the back member 20 is then bent along its lines of fold 24, 25 and 26. The strip defined by fold lines 24 and 25 overlies the upper edges 55' of the web members 55, while the panel between fold lines 25—26 overlies the

portions 55^2 of the front edges **56** of the web members, while the flap **27** extends inwardly of the edge **56** with its slots **28** in interlocking engagement with the slots **61** in the adjacent edges of the web members **55**. It will be understood that the frictional contact between these various elements will hold them securely together and against casual displacement.

The panel **52** forming a part of end panel **22** is then bent inwardly along the line of fold **50** until it lies in flat contact with and is supported by the upper edges of the spaced web members **55**. The web **53** is bent downwardly along fold line **51** with the slots **54** in the outer edge thereof in interlocking engagement with the adjacent slots **58** in the upper edges of the web members **55**. It will be understood that the length of the web from its fold line **51** to the extreme end of the web equals the distance between the upper edges of the webs **55** and the bottom of the said webs at the outermost recess or slot **58**. The slots **54** and **58** are of such depth as to enable these cooperating webs to interfit or interengage with one another and to equally sustain between them such weights or pressures as are transmitted to the chair seat. The filler member illustrated in Fig. 5 is then bent along its lines of fold **62** into substantially inverted U-shape. The width of the panel portion **63** of this filler member is substantially equal to the distance between slots **58** in the web members **55**, and the webs **65** of the said filler member are then passed downwardly so as to receive the spaced slots **58** of the web member **55**. It will be understood that when properly inserted the panel portion **63** of the filler member will rest upon the upper edges of the web members **55** and the lower edges of the webs **65** of the filler member will rest upon the bottom of the frame. The back panel member shown in Fig. 7 is then applied. The upper end of this panel is bent along its line of fold **72** so that the flap portion **73** thereof is disposed in substantially right angles to the body of the back brace and the recesses or slots **74** are forced into interlocking engagement within recesses or slots **61** in the upper and forward edges of the web members **55**. The body portion **71** of this back panel lies flush against and is supported by the inclined forward edges **56** of the web members. The line of fold **75** in the back panel occurs at the juncture of the edges **56—57** of the web members, and the panel portion **77** is bent along line **75** forwardly to constitute a seat portion resting upon the upper edges of the web members **55**. The breadth of the panel section **77** is substantially equal to the distance between the intersection of edges **56—57** and the adjacent slot **58**, and the web portion **78** of the back panel extends downwardly with its slots **79** interengaging with the adjacent slots **58** of the web members **55**. The wings **41** of the side members **21** are bent along their lines of fold **39** until they lie flat upon the body **71** of the back panel, and the tabs **43** are inserted in the slot **82** midway the sides of the panel **71**. The seat wing members **40** are then bent along their lines of fold **38** until they lie flat upon the upper faces of the filler members, whereupon the tabs **42** are bent inwardly and are inserted through the slot **64** of the panel member **63** of the filler member.

When the main blank or frame is folded in the manner described, with the several auxiliary parts properly inserted and interlocked, the furniture element will provide integral seat and back portions rigidly trussed so as to readily withstand weights, stresses and strains. It will be observed that the substantially L-shaped web members are securely locked in spaced parallelism within the frame and against any opportunity for movement toward or away from one another. Moreover, these web members are reenforced by the web or leg portions of the filler members which are provided with slots to cooperate in locking engagement with the corresponding slots of the web members. The front end seat brace, when locked in proper seated engagement by the wings or flaps **40**, maintain the webs **65** against any tendency to move in

an upward direction at the forward end of the chair or seat. The interlocking engagement between the slots **33** of the upstanding body web and the corresponding slots **60** at the lower end of the web members **55** insures rigid connection between these parts at the rear of the chair and at the lower part thereof. The interengagement of the panel element between lines of fold **24—25** and **26** at the upper end of the chair back, together with the interengagement of the flap **27** with the forward edges of the web members **55** insures rigid connection between the frame itself and the web members **55** at their upper ends. This particular construction and arrangement brings about an interengagement of parts such as to distribute over a number of elements all weights, stresses and strains to which the article of furniture may be subjected.

The front seat brace **52** is of a breadth corresponding to the inner width of the chair and the filler members shown in Figs. 5 and 6 are of the same width so that when properly folded and assembled within the frame they will snugly fit therein with their several slotted webs interengaged with the spaced upstanding web members **55**. Inasmuch as these webs extend throughout the depth of the seat portion, they will all contribute in sustaining the weights to which the seat will be subjected. The interlocking arrangement of the longitudinal and transverse supporting webs brings about a rigid cellular construction capable of offering substantial resistance to pressures from any direction.

When the chair is fully assembled with the parts interlocked as here described, it will be understood that cushions of approved construction and design may be applied to the seat and back rest portions, after which the entire article of furniture may be enclosed in a suitable slip cover thus producing a pleasing appearance.

Figs. 10 to 19 inclusive of the drawing disclose a blank and various parts to interfit therewith in the production of a chair having arms, the same principle of construction, reenforcement and interlocking engagement of the various parts being present in this further development. The proportions of the back, sides and front, as well as the auxiliary elements to be assembled within the frame have been varied to such extent as to provide arm rests and the necessary reenforcing and supporting elements associated therewith.

In this form of the invention the back panel is indicated at **90** and integrally formed therewith are the side members **91** of identical construction, foldable forwardly and at right angles to the said back panel along the score lines **92**. Integrally formed with one of the side panels **91** is the front section **93** bendable along the score line **94**. The free extremity of the front member **93**, after being properly folded, may be permanently secured to the opposite side panel by being stapled or otherwise secured to a flap **95** at the corresponding extremity of the opposite side panel **91**. The back panel **90** at its lower end has a bottom section **96** foldable upon the score line **97**, and this bottom section carries the upright spacer **98** foldable along the score line **99**. This spacer or web corresponds in all respects to the web **32** as shown in Fig. 3 of the drawings except that it is provided wtih three slots **100** disposed in parallelism at the outer edge thereof. The opposite end or top of the back panel is provided with transverse score lines **101**, **102** and **103** providing panel sections **104**, **105** and **106**. The free edge of panel **106** is provided with inwardly projecting slots **107** aligned with the slots **100** at the opposite end of the back panel. The panel sections **104**, **105** and **106** correspond in all respects to the blank of Fig. 3 to constitute the top lock and finish for the chair back.

The L-shaped web member shown in Fig. 15 of the drawings correspond in all respects with similar members **55** shown in Fig. 4, except as to size. These webs, three in number, are assembled and interlocked within the chair frame in substantially the same manner heretofore described. A bottom flap **108** as shown in Fig. 10 is integral

with one of the side sections 91 and is foldable with respect thereto along the score line 109. The other side panel 91 has a bottom flap 110 integral therewith and foldable with respect to said side along the score line 111. The front member 93 also carries a bottom panel indicated at 112 foldable upon the front panel along the line 113. When the sides, bottom flaps and panels are properly folded with respect to one another, the tabs 114 and 115 on bottom flaps 108 and 110 respectively, will be projected through the slot 116 in bottom section 96, while tabs 117 and 118 on the outer edges of bottom flaps 108 and 110 respectively will pass through and interlockingly engage in slot 119 in the bottom panel member carried by the front section 93.

The side panels 91 constitute the sides as well as the arm panels of the chair of this development, and each has an arm rest section 120 at its upper end foldable along the line of scoring 121. The outer edge of each section carries spaced locking tabs 122. Each side section is also provided with an angularly disposed wing 123, these wings having tabs 124 at their outer ends. The angularity of these wings, determined by the score line 125, corresponds with the angularity of the chair back.

The back supporting section to be assembled with this form of chair is shown in Fig. 14. This section includes the back panel 126, the upper end of which is provided with a flap 127 foldable along the score line 128 in a rearward direction. This flap is provided with spaced parallel slots 129 extending inwardly from its free edge, corresponding in number with and adapted to interlockingly engage with the filler webs 55 within the frame. This back section also has slots 130 near its outer edges spaced inwardly from its rear end and parallel with the recesses or slots 129. Arm flaps 131 are connected to the back support near the upper portion thereof along the score lines 132. The lower portion of the back support panel is broadened somewhat to provide wings represented generally at 133. These wings are provided with longitudinal lines of scoring 134 and 135 arranged in parallelism so as to provide panels 136—137 to constitute, when properly folded, upstanding Z-shaped webs lying immediately beneath and supporting the arm rest sections 120 of the sides 91. The back supporting section also provides a seat panel 138 defined by score lines 139—140, the said seat panel 138 being disposed at the rear of the seat when in proper assembled position. The lower edge of the back panel is provided with spaced parallel slots 141 to engage and interlock within slots 142 in the L-shaped filler webs 55.

The front panel 93 of the body frame is so cut at its forward end as to provide a forward flap 146 defined at its sides by slots 142 spaced apart a distance equal to the breadth of the chair seat. This flap projects forwardly from the panel 93 and is to be bent upon score lines 144 and 145 to provide a front seat brace or support 143. The free edge of the flap 146 is provided with inwardly extending spaced parallel slots 147 equal in number with the web members 55 and so positioned as to interengage and interlock with slots 148 of said web members when bent in downward direction. When so folded and interlocked, the free end of flap 146 will rest upon the chair bottom, the bases of slots 147 will be in engagement with the bases of said slots 148, and the front seat brace will be disposed in flat supporting engagement with the upper edges of the forward ends of said webs 55. The side portions of the front panel 93 are provided with arm flaps 149 foldable along score lines 150, equal in breadth with the chair arms.

In Fig. 11 of the drawings a blank filler section is illustrated, and comprises a substantially rectangular panel 151, the end portions of which comprise supporting webs 152 which are angularly folded on the score lines 153 and 153' in Z-shape fashion (see Fig. 19). The webs thus are provided the entire depth of the chair arm and underlie the arm rest sections 120 when the latter are folded inwardly thereof. The distance between fold lines 153 is equal to the breadth of the chair frame when in set-up position. This filler member is also provided with a central filler section 154 corresponding to the width of the chair seat, bendable upon score lines 155 and 156. The outer end of this filler constitutes a web 157 having slots 158 extending inwardly from its free edge in parallelism and so positioned as to overlie the web members 55 and to interengage with the slots 159 in the upper edges thereof.

In Fig. 12 there is illustrated another filler section substantially similar in all respects to the filler member of Fig. 11 and with like numerals except for the score lines. It will be observed, however, that panel 151 and web 157 are slightly larger in Fig. 12 in order to compensate for the inclination of the seat portion (see Fig. 18). By folding the filler ends angularly in Z-shaped fashion upon the lines 160—161, supporting webs 160'—161' are provided the entire depth of the chair arm and underlie the arm rest sections 120 when the latter are folded inwardly thereof. Each of the filler members shown in Figs. 11 and 12 are provided in their outer edges with spaced inwardly directed slots 162 to interengage with the underlying seat web or brace 55, as will be understood.

Each chair arm is provided with a stabilizing filler member formed of the same material of which the other components of the chair are constructed, a blank of which is shown clearly in Fig. 13. This blank is of substantially rectangular form and is provided with pairs of spaced parallel transversely disposed score lines 163 and 164, the spaces between each pair of said lines constituting end members 165 and the portions 164' and 165' constituting side panels. The depth of these filler members corresponds to the height of the chair arm, and when the blank is folded upon the score lines 163—164 a substantially box-like construction is formed. The tab portion 166 formed at one end of the body overlaps the opposite edge 167 of the blank and may be secured thereto by stapling or any other desired means to maintain the filler in substantially box-like form when in properly assembled position. The upper edges of the structure thus formed are provided with arm rest flaps 168 to overlie one another when folded inwardly from their body portions; one of said flaps having outwardly projecting tabs 169 thereon to engage and interlock in recesses or openings 170 in the opposite side member. The side panel 165' of each arm filler is provided with an angular walled recess 171 to straddle the underlying web sections of the filler members disclosed in Figs. 10 and 11. The upper end of the arm filler is also provided with slots 172 to receive tabs 122 of the arm rest sections 120. It will be understood that the depth of the arm filler corresponds to the depth of the chair arm, and rests at its lower end upon the bottom of the frame within the same. This filler encloses the upstanding wing web members of the filler members heretofore described, and the parts thus interfitted and interlocked assure not only a stable chair arm, but also adequate means for maintenance of the supporting webs at all times properly interengaged with one another.

The arm chair is here described as having an arm at each side as is usual in such articles of furniture. However, the invention contemplates an arrangement whereby a pair of separate and distinct chairs may be placed together side to side in such manner as to provide a settee or lounge. In such event, the chair sections would be provided with one arm only upon outer opposite sides of the chair. The two sections thus constructed, placed edge to edge with their armless sides in abutting relationship, provides an adequate settee or sofa equal in breadth to the breadth of two chairs. When the chair frames and their cooperating parts are in proper set-up positions, cushions may be placed upon the seat and back portions thereof, after which the entire body

may be covered with a properly fitted cover to present a pleasing appearance and to obscure the chair frame from view. In instances where the settee arrangement is carried out, each chair or unit may be provided with its individual cover cut and fitted properly thereover, or the assembled chair frames may be provided with a single cover of sufficient size to adequately cover the assembled units so as to present the appearance of a unitary structure.

I claim:

1. In a seat construction, a frame formed of stiff sheet material providing back, bottom, side and front members, a plurality of upright members of stiff sheet material resting at their lower edges on said bottom and arranged in spaced relationship within said frame and extending from the front to the rear thereof, the said upright members having slots extending inwardly from the upper edges thereof and in spaced relationship, a front seat brace extending from the upper edge of said front member inwardly of said frame and resting upon the upper edges of said upright members, a flap depending from the inner edge of said front seat brace, and said flap having slots extending inwardly from its lower end aligned with the slots of said uprights and in interlocking engagement therewith.

2. In a seat construction, a frame formed of stiff sheet material providing back, bottom, side and front members, a plurality of upright members of stiff sheet material resting at their lower edges on said bottom and arranged in spaced relationship within said frame and extending from the front to the rear thereof, the said upright members having slots extending inwardly from the upper edges thereof and in spaced relationship, seat braces extending inwardly of said frame from the front and rear thereof and resting upon the upper edges of said upright members, flaps depending from the inner edges of said braces and resting upon said bottom at their lower edges, filler members comprising substantially inverted U-shaped panels interposed between said seat braces with their bight portions resting upon the upper edges of said uprights, the legs of said members reaching to and resting upon said bottom, and said flaps and said legs having slots extending inwardly from their lower ends aligned with the slots of said uprights and in interlocking engagement therewith.

3. In a seat construction, an outer frame comprising sections formed of stiff sheet material foldable with respect to one another to provide back, side, bottom and front panels, a front seat brace extending from the forward edge of said front panel and projecting within said frame, a flap projecting from said front seat brace and foldable thereon within said frame in spaced parallel relationship with said front section and having its end resting upon said bottom, the depth of said flap being such as when resting upon said bottom to support said front seat brace in substantial parallelism with said bottom, said flap having spaced slots extending inwardly from the lower end thereof, upright members corresponding in number with said slots arranged within said frame resting upon the bottom thereof of equal height at their forward ends with said front panel and disposed beneath and in supporting engagement with said front seat brace, said uprights having slots extending inwardly from their upper edges and spaced from the forward ends of said uprights a distance substantially equal to the breadth of said brace, the material of said uprights and flaps defining said slots enabling said uprights and flaps to interengage with one another, seat members engaged with and supported by said uprights, means within said frame to hold said uprights in spaced parallelism and against lateral movement, and means for securing said panels in assembled relationship.

4. In a seat construction, an outer frame comprising sections formed of stiff sheet material foldable with respect to one another to provide back, side, bottom and front panels, a front seat brace extending from the forward edge of said front panel and projecting within said frame, a flap projecting from said front seat brace and foldable thereon within said frame in spaced parallel relationship with said front section and having its end resting upon said bottom, the depth of said flap being such as when resting upon said bottom to support said front seat brace in substantial parallelism with said bottom, said flap having spaced slots extending inwardly from the lower end thereof, upright members corresponding in number with said slots arranged within said frame resting upon the bottom thereof of equal height at their forward ends with said front panel and disposed beneath and in supporting engagement with said front seat brace, said uprights having slots extending inwardly from their upper edges and spaced from the forward ends of said uprights a distance substantially equal to the breadth of said brace, the material of said uprights and flaps defining said slots enabling said uprights and flaps to interengage with one another, seat members comprising panels equal in length to the breadth of said seat brace, seat flaps depending from the longitudinal edges of said panels, said seat flaps engaged with said bottom when said panels are resting upon said uprights, said flaps having spaced slots therein to receive said uprights, and means to hold said uprights in spaced parallelism and against lateral movement.

5. In a chair construction, a frame formed of stiff sheet material providing back, bottom, side and front members, a plurality of upright web members of stiff sheet material resting at their lower edges upon said bottom arranged in spaced parallel relationship within said frame extending from the front to the rear thereof and up into the back of said frame, a front seat brace extending from the upper edge of said front member inwardly of said frame and resting upon the upper edges of said upright members, a flap depending from the inner edge of said brace and resting upon said bottom at its lower edge, said flap having slots extending inwardly from its lower end and in line with the slots of said upright members and in interlocking engagement therewith, filler members arranged within said seat section and resting upon the upper edges of said upright members, a back supporting section arranged within said frame covering the front back portion thereof and extending into said seat and resting upon the upper edges of said upright web members, transverse supporting members within said frame engaged with said upright web members to maintain the latter in parallelism, the upper edges of said transverse members terminating in the same plane with the upper edges of said upright web members, said front back section and certain of said filler members having slots therein, wings integral with said side sections and foldable upon said front back panel and upon said front seat member and said filler members, and tabs on said wing members engageable in the slots of said front back panel and said filler member.

6. In a chair construction, a frame formed of stiff sheet material providing back, bottom, side and front members, a plurality of web members arranged in upright spaced relationship within said frame and having portions thereof extending into the back portion of said frame, a front seat brace extending from the upper edge of said front member inwardly of said frame and resting upon the upper edges of said web members, a flap depending from the inner edge of said brace and resting upon said bottom at its lower edge, said flap having slots extending inwardly from its lower end and in line with the slots of said web members and in interlocking engagement therewith, means for maintaining said web members in spaced parallelism, a hollow arm member arranged within said frame at one side thereof resting upon said bottom and terminating at its upper end in the same plane with said arm, filler members resting upon said upright supporting members and having webs extending

laterally therefrom and within said arm sections, flaps at the upper end of said arm sections foldable in flat engagement upon the upper edges of said webs, and an arm flap on said frame side coextensive with the arm and engageable over said arm sections.

7. In a chair construction, a frame formed of stiff sheet material providing back, bottom, side and front members, a plurality of upright webs of stiff sheet material resting at their lower edges on said bottom and arranged in spaced relationship within said frame and extending from the front to the rear thereof, a front seat brace extending from the upper edge of said front member inwardly of said frame and resting upon the upper edges of said upright webs, a flap depending from the inner edge of said front seat brace and resting upon said bottom at its lower edge, said flap having slots extending inwardly from its lower end aligned with the slots of said upright webs and in interlocking engagement therewith, laterally disposed web members within said frame interengaged with said first mentioned web members to hold the latter in spaced parallelism, the upper edges of said laterally disposed members and said webs disposed in the same plane, a side section within said frame and having one side engaged with the side of said frame, said section having its upper end terminating in the same plane with the upper edges of said arm, filler members arranged within said frame and resting upon the upper edges of said upright web members, web portions projecting laterally from the ends of said filler members and into said arm section, said web members resting at their lower edges upon said bottom and terminating at their upper edges in the plane of the corresponding edge of the arm, flaps on said arm section foldable and resting upon the upper edges of said arm web members, said flaps having slots therein, and an arm rest integral with said side and foldable over said flaps, and tabs on said arm rest engageable in the slots of said flaps.

8. In a seat construction, a frame formed of stiff sheet material providing back, bottom, side and front members, a plurality of upright members of similar material resting at their lower edges on said bottom and arranged in spaced relationship within said frame and extending from the front to the rear thereof, a front seat brace extending from the upper edge of said front member inwardly of said frame and resting upon the upper edges of said upright members, a flap depending from the inner edge of said front seat brace and resting upon said bottom at its lower edge, said flap having slots extending inwardly from its lower end aligned with the slots of said upright members and in interlocking engagement therewith, the said upright members having slots extending inwardly from the upper edges thereof and in spaced relationship, a front seat brace extending from the upper edge of said front member inwardly of said frame and resting upon the upper edges of said upright members, a flap depending from the inner edge of said front seat brace and resting upon said bottom at its lower edge, and said flap having slots extending inwardly from its lower end aligned with the slots of said uprights and in interlocking engagement therewith.

References Cited in the file of this patent

UNITED STATES PATENTS

1,712,412	Westerman	May 7, 1929
1,930,173	Lauth et al.	Oct. 10, 1933
2,031,477	Gianninoto	Feb. 18, 1936
2,049,659	Parrott	Aug. 4, 1936
2,100,979	Rowe	Nov. 30, 1937
2,361,875	Sachs	Oct. 31, 1944