Jan. 11, 1944. B. E. JONES 2,338,814

SOFA

Original Filed July 31, 1940 7 Sheets-Sheet 1

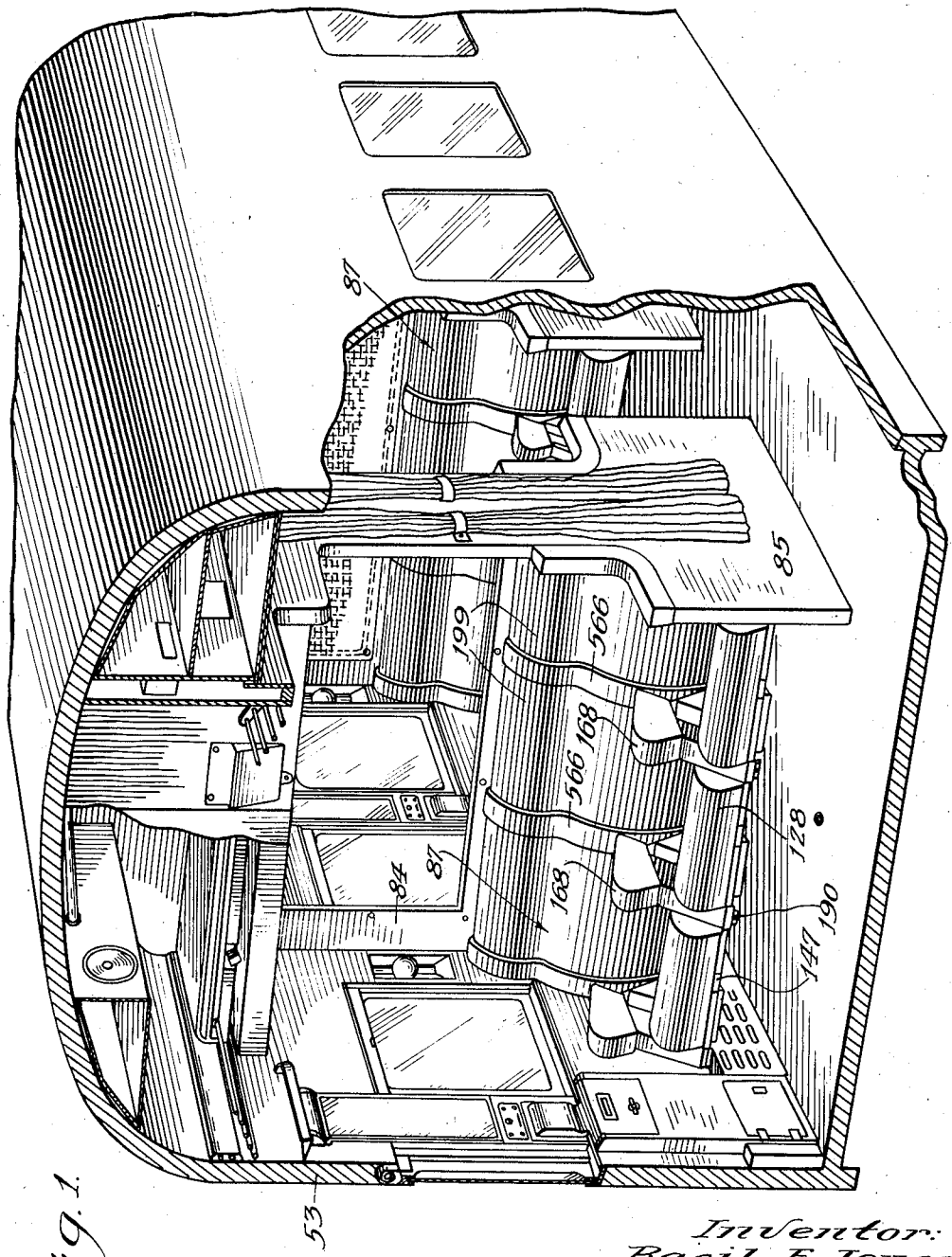


Fig. 1.

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Original Filed July 31, 1940 7 Sheets-Sheet 2

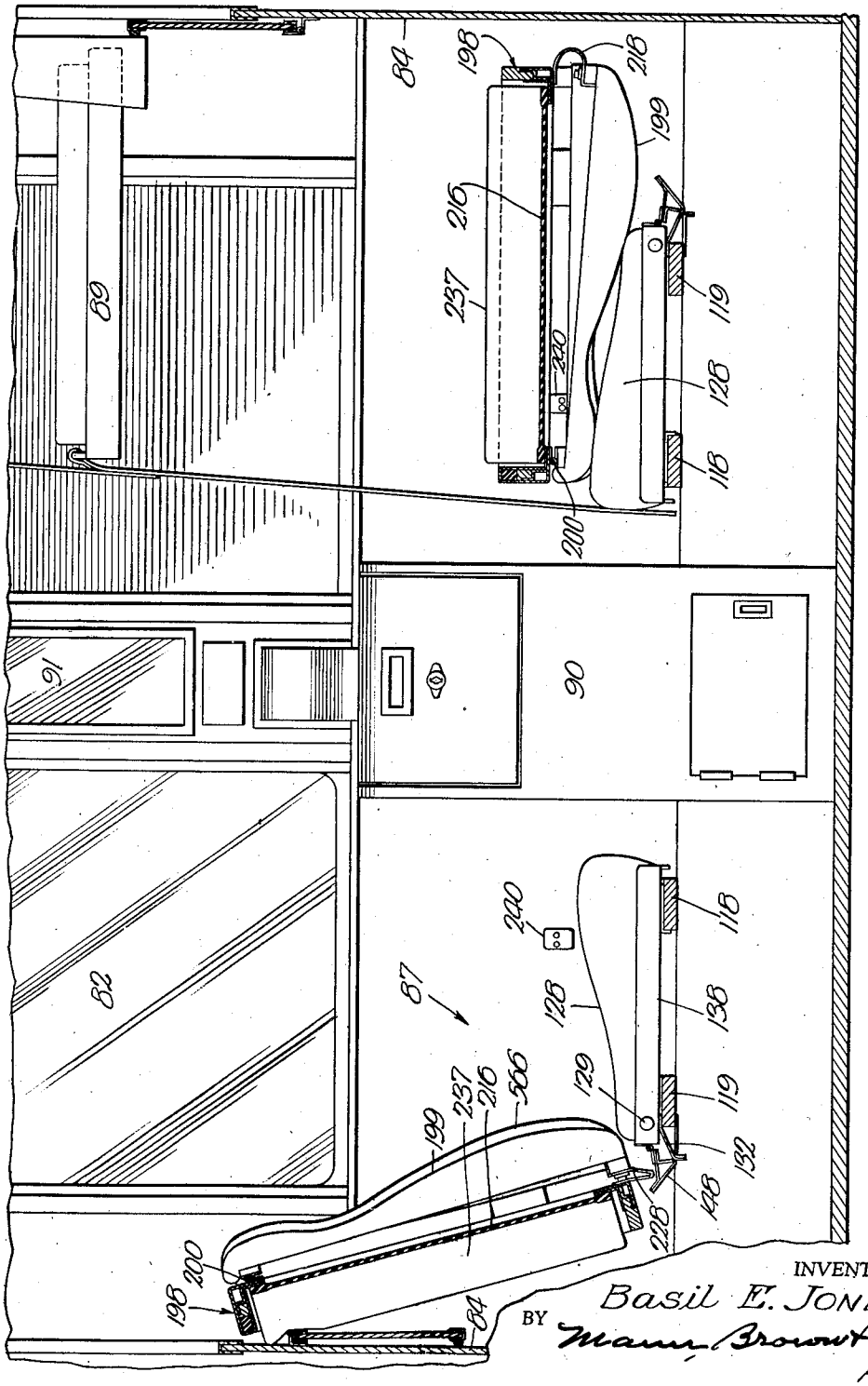


Fig. 2

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Original Filed July 31, 1940 7 Sheets-Sheet 3

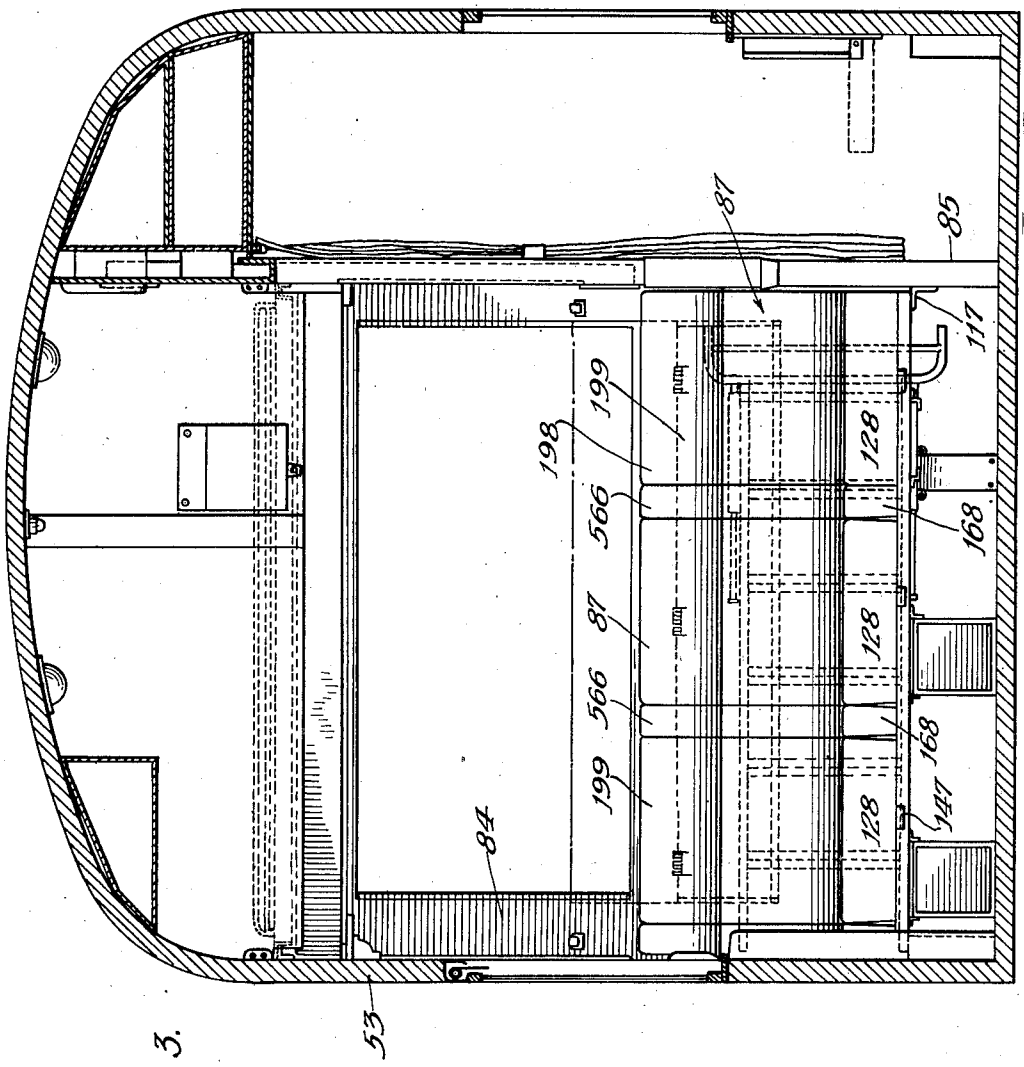


Fig. 3.

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Original Filed July 31, 1940 7 Sheets-Sheet 4

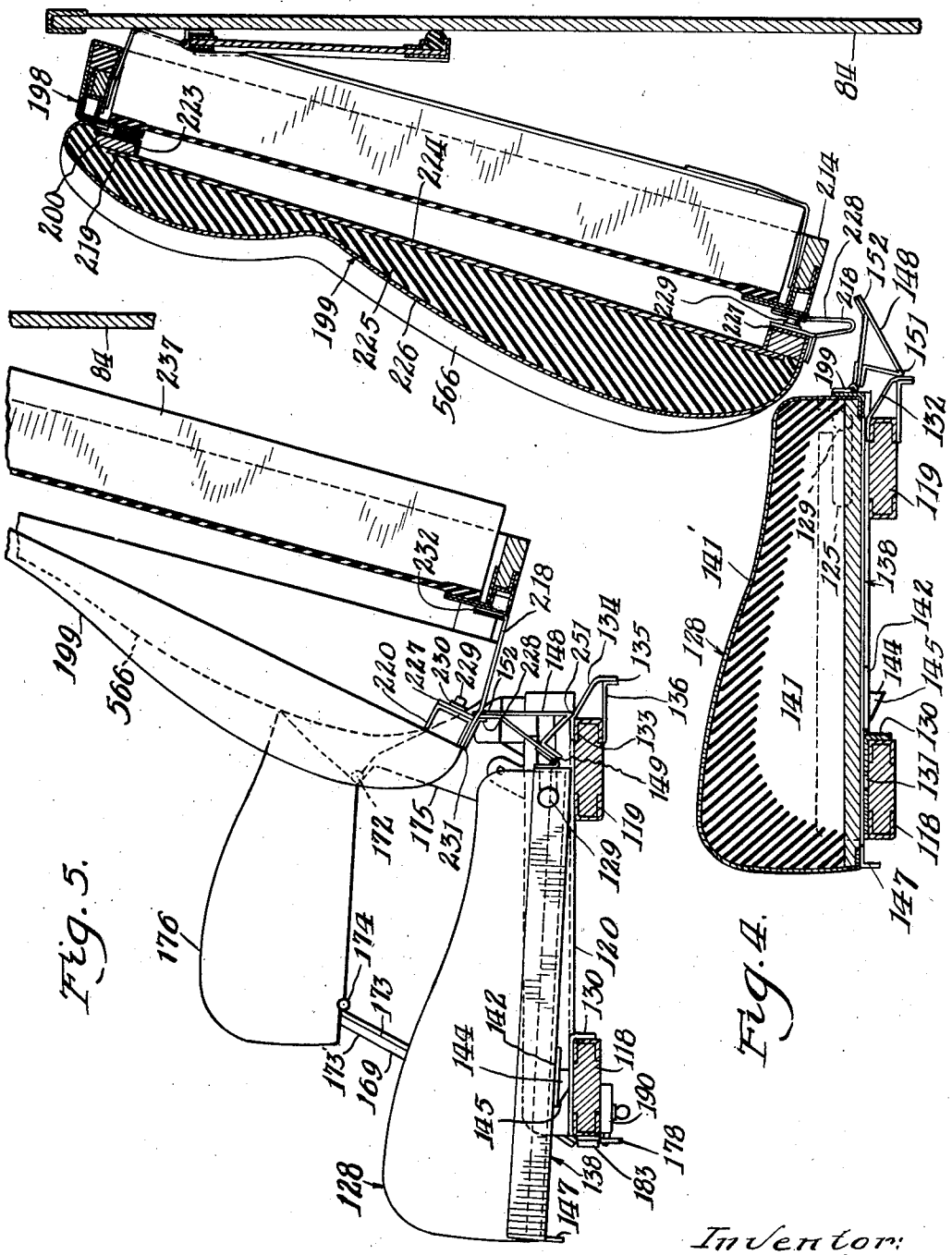


Fig. 5.

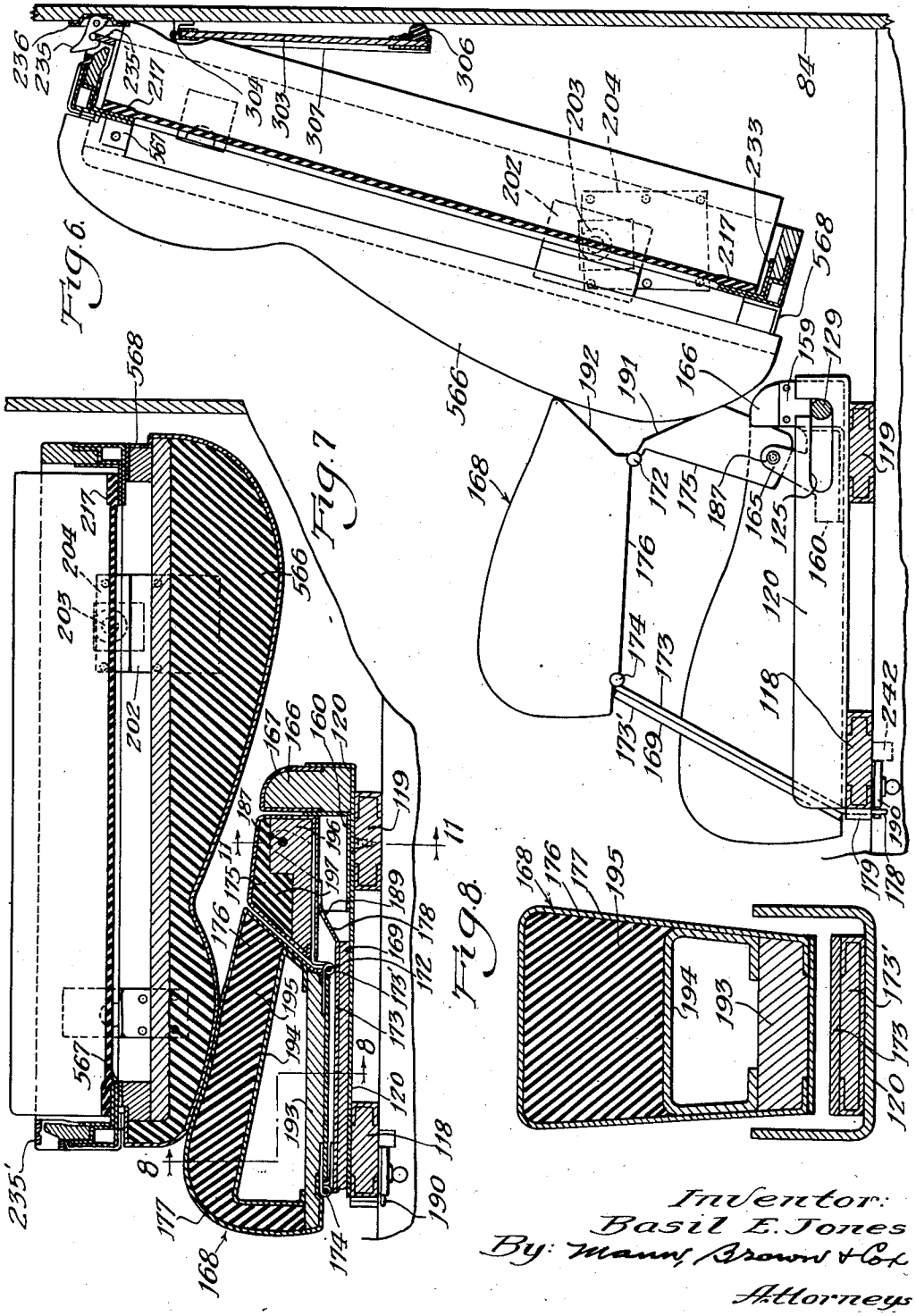
Fig. 4.

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Original Filed July 31, 1940 7 Sheets-Sheet 5



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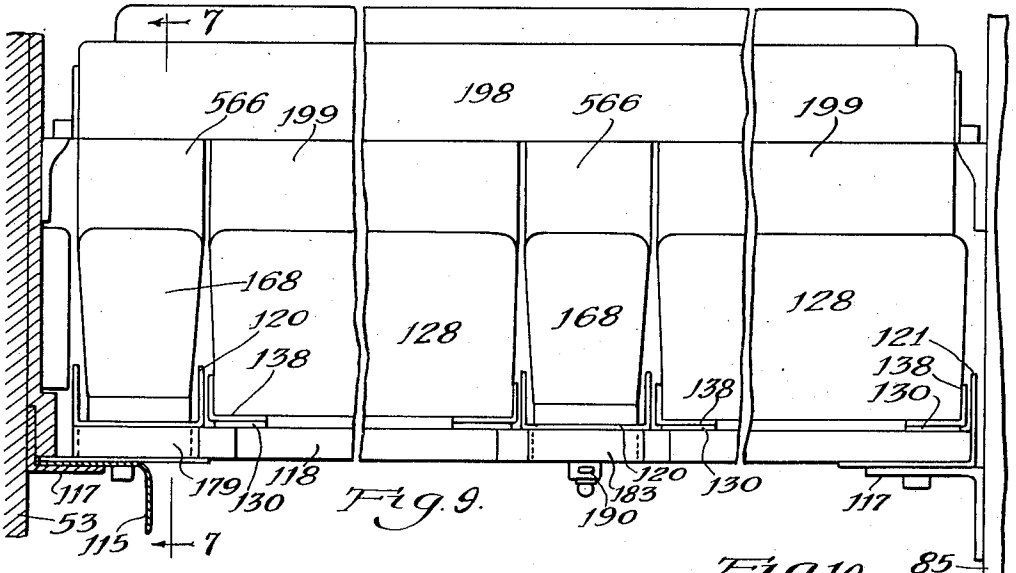
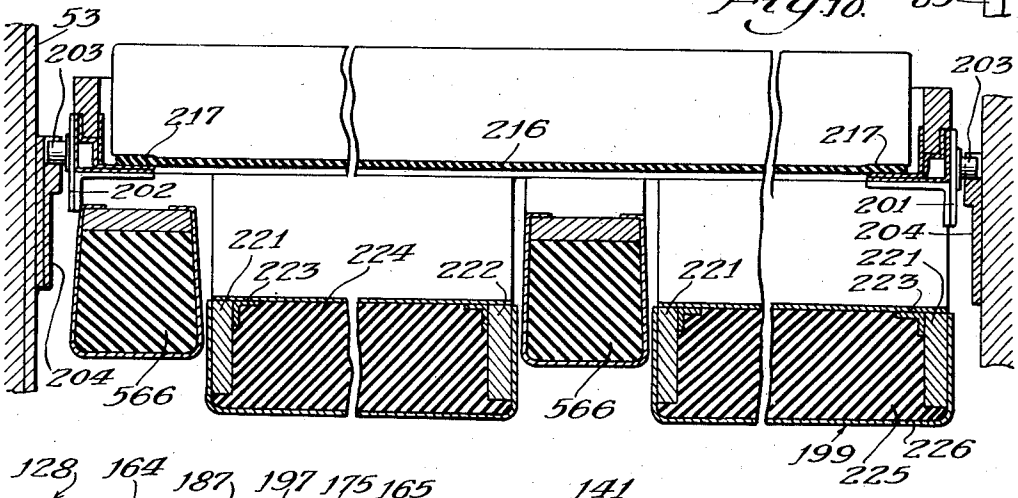


Fig. 9.

Fig. 10.



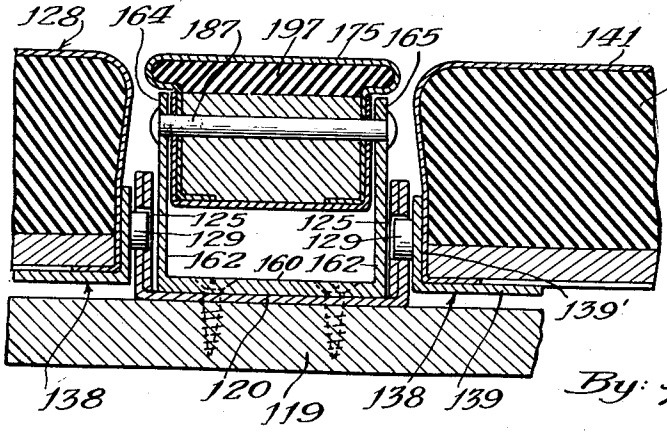


Fig. 11.

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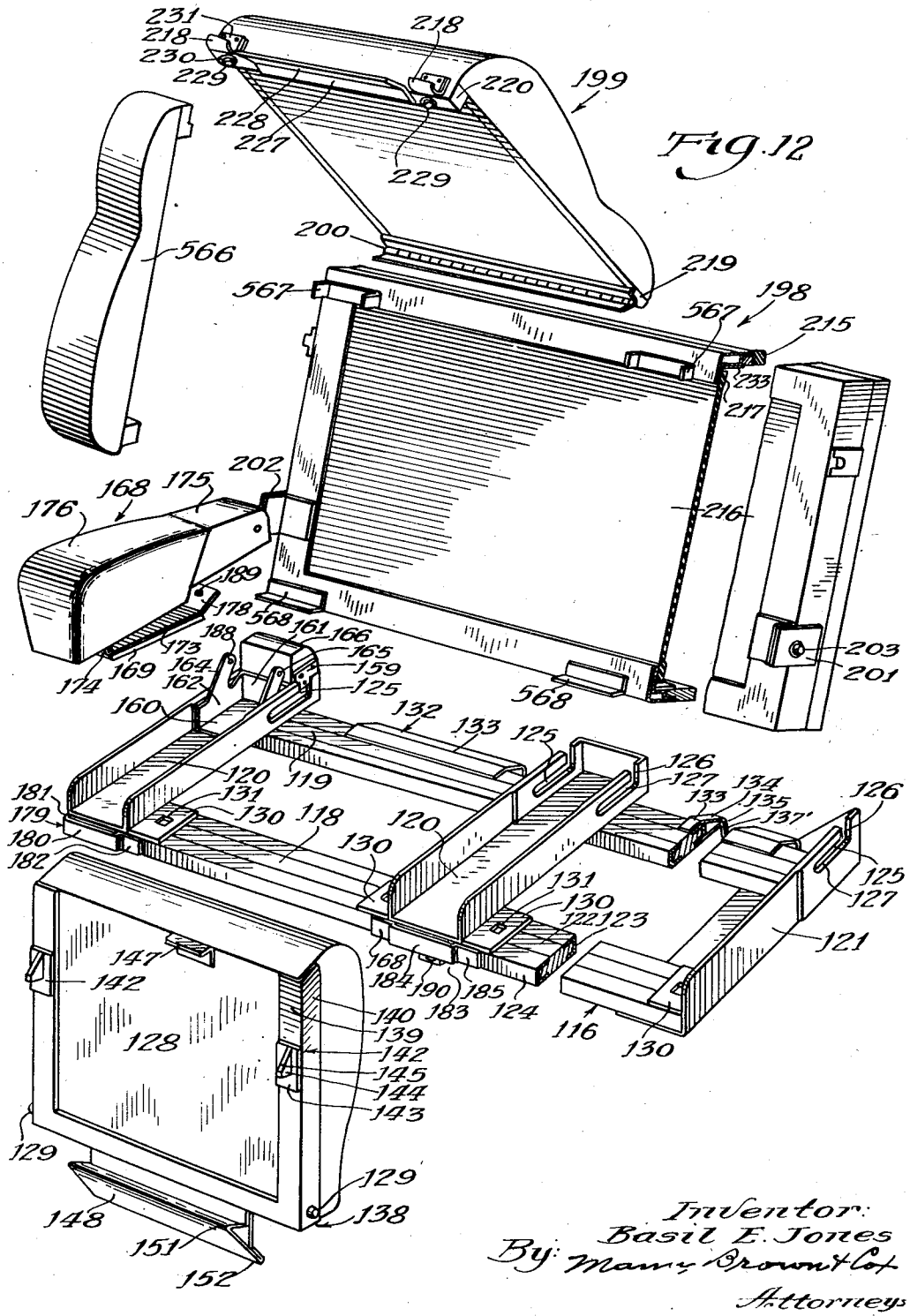


Fig. 12

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Patented Jan. 11, 1944

2,338,814

UNITED STATES PATENT OFFICE

2,338,814

SOFA

Basil E. Jones, Flossmoor, Ill., assignor to The Pullman Company, Chicago, Ill., a corporation of Illinois

Original application July 31, 1940, Serial No. 348,670, now Patent No. 2,323,620, dated July 6, 1943. Divided and this application November 12, 1940, Serial No. 365,293

16 Claims. (Cl. 155—5)

The present invention relates to an adjustable sofa adapted to assume upright and reclining positions and one which can readily be converted into a comfortable bed. The sofa as shown herein, is divided up into three individual seats, but obviously this number may be smaller or larger, as the requirements may dictate.

The invention herein disclosed is particularly well suited for use in a railway passenger car. A new type of service has recently been introduced to the traveling public involving cars in which separate rooms are provided to accommodate three or more occupants. Berths are arranged in each room in tiers of three. A car of this type is known as a "coach-sleeper" and its primary purpose is to furnish a maximum amount of comfort to the greatest possible number of passengers per car.

Inasmuch as the requirements of each individual seat occupant differ from those of his neighbor, his seat ideally should be as nearly functionally independent from his neighbor's as possible. If he desires to assume a semi-reclining position, he should be able to regulate his seat without in any way annoying or disturbing the comfort of the occupants of the adjoining seats. This condition is made possible by the present invention.

The sofa forming the subject matter of the present invention is strong and sturdy and each of the seats is individually adjustable entirely independently of the adjoining seats. The seat and back portions are both adjustable so as to properly regulate the angularity between these two members to suit the requirements of the individual occupant and the adjusting operation may be simply performed. Only one hand is required to perform the operation and the seat and back portions move together.

Adjustable arm rests are provided on both sides of each individual seat and these members, when in inoperative position, are lowered into spaces in the seat portion of the sofa. When so placed, the arm rests are flush with the seat cushion. These members are easily and quickly moved from one position to another.

The operation of converting the sofa into a bed is performed with the greatest of ease. The arm rests are folded into a position flush with the seat cushion and the back portion is lowered horizontally to form a comfortable, roomy bed.

The above constitute some of the principal objects and advantages of the present invention, others of which will become apparent from the following description, in which

Fig. 1 is a fragmentary perspective view of the car showing a three and a six passenger room made up for day use, and the relationship of the rooms with respect to the car aisle;

Fig. 2 is an enlarged longitudinal sectional view through a portion of the car, showing a six-occupant room with one of the sofas in its daytime position and the other horizontally disposed as a bed;

Fig. 3 is a vertical transverse sectional view taken through the car, showing the arrangement of seats in one of the rooms with the room made up for day use;

Fig. 4 is an enlarged vertical sectional view taken through one of the convertible sofas;

Fig. 5 is a vertical sectional view corresponding to Fig. 4, but showing the arm rest in position for day use and showing the seat moved to the reclining position;

Fig. 6 is a vertical sectional view taken through the sofa, showing one of the arm rests in position for day use and the means for fastening the sofa back in the daytime position;

Fig. 7 is a vertical sectional view through the convertible sofa, taken on the line 7—7 of Fig. 9 and showing the sofa back folded down for nighttime use;

Fig. 8 is an enlarged vertical sectional view taken through the arm rest on the line 8—8 of Fig. 7;

Fig. 9 is a fragmentary vertical transverse sectional view through the room portion of a car, showing in front elevation the convertible sofa in condition for night use;

Fig. 10 is a vertical sectional view taken lengthwise through the convertible sofa back when it is in its lowered position for nighttime use;

Fig. 11 is an enlarged vertical sectional view taken through a portion of the convertible seat on the line 11—11 of Fig. 7; and

Fig. 12 is an exploded perspective view of the convertible seat, showing the elements making up the complete assembly.

This application is a division of the copending application of Peter Parke, James K. Tully, Leif Andersen and Basil E. Jones, Serial No. 348,670, filed July 31, 1940.

Specific embodiments of the present invention are selected for the purpose of complying with section 4888 of the Revised Statutes. Obviously many modifications may be made without departing from the scope of the present invention.

General Organization

The present invention is particularly well suited for use in a railway passenger car. For that reason, it is shown as applied to a passenger car in which numerous rooms are provided, each having one or more sofas incorporating the present invention. The sofa is shown at 87 and is convertible into a bed (see Fig. 1). Adjoining rooms are separated from each other by partitions 84.

Specific Details

Convertible sofa

The sofa in each room is arranged to provide three comfortable seats, with or without arm rests, depending upon the requirements of the individual occupant. Each seat may be individually adjusted to an upright or semi-reclining position to suit the needs of the occupant.

The sofa is supported on a frame, generally indicated at 116 in Fig. 12, secured to the side wall 83 of the car and to an aisle partition 85 (Fig. 3) by brackets 117 (Figs. 3 and 9). Bosses 242 project down from the frame through holes in the brackets. This frame comprises a pair of spaced parallel beams 118 and 119 (Fig. 12), extending the full length of the sofa, connected by a plurality of channel-shaped guide members 120 and an angle end guide member 121, all of which guide members extend crosswise with respect to the two beams 118 and 119. The angle member 121 is used on the end of the sofa frame adjacent to the aisle side, while the channel members are used in intermediate positions and on the car wall side of the sofa frame.

Each of the beams 118 and 119 comprises a wooden core 122, bound on its sides by metal channel members 123 and 124. The seat guides 120 and 121 are fastened to the beams 118 and 119, and are so spaced that a seat cushion fits between two adjoining seat guide members.

The upwardly extending sides of the guide members are provided with slots 125, having downwardly extending portions 126 and horizontal portions 127. A seat cushion 128 fits between contiguous sides of adjoining seat guide members, and trunnions 129 on the sides of cushions 128 fit in the slots 125 of the guide members.

Directly adjacent to each guide member on the forward beam 118 of the frame 116 is a seat slide 130, which is an angle member extending across the top of beam 118 and bending downwardly against the inner side of the beam. In the top horizontal flange of the seat slide 130 is a slot 131. These seat slides are provided on each side of the seat cushion area between adjoining seat guide members.

At the back of the frame on the rear beam 119 is a seat back catch slide 132 of irregular shape, having a horizontal portion 133 extending over the top of beam 119, a downwardly and rearwardly inclining portion 134, and a vertical portion 135. An angle member 136 is fastened to the inner side of the vertical portion 135 of the slide and has a horizontally extending flange 137 engaging the lower face of beam 119 and a vertical flange 137' engaging the inner face of the vertical portion 135 of the seat back catch slide 132.

The cushion 128 is supported on a frame 138 including angular members having a horizontal flange 139 and a vertical flange 140. These angular members extend along the sides and across the back of the cushion. The cushion itself may be of any suitable type with or without springs, but, as shown, it is made of sponge rubber, which inherently has the necessary resilient properties to provide a comfortable seat. This sponge rubber cushion, shown at 141 in Fig. 4, is covered with a suitable upholstering material 141', and the cushion as a unit is carried in the frame 138.

On the bottom face of the horizontal flange 139 of each angle member 140, along each side of the cushion, is a seat slide stop 142 comprising a plate 143 secured to the flange 139, and a downwardly projecting lug 144 having an inclined surface 145. When the seat is in its normal upright position the cushion 128 is in place between the contiguous sides of the seat guide members 120, or, in the case of the end cushion, between the upright flange of the end seat guide member 121 and the contiguous flange of intermediate guide member 120.

Referring to Fig. 4, the seat is supported on the seat slides 130 underneath the front end of the cushion and on the rear beam 119 of the sofa frame. The seat slide stops 142 assume a position directly behind the seat slide 130 in the space between the two beams 118 and 119.

When the seat is moved to the semi-reclining position shown in Fig. 5, the seat cushion 128 is pulled forward, during which time the lug 144 on each seat slide stop 142 engages its corresponding seat slide 130. As the cushion is moved forward the inclined surface 145 of lug 144 moves along the seat slide 130, raising the forward edge of the cushion. As the cushion is pulled further forward the lug moves across the top surface of the seat slide 130 until it fits into notch 131 in this surface. The seat cushion is thus moved to the semi-reclining position of the seat. An angle grasp 147 is secured to the underneath face of the seat cushion 128 directly adjacent to the front edge thereof, and this grasp provides means for manipulating the seat cushion.

Along the back edge of the seat cushion 128 is a seat back catch 148, hinged at 149 to the upwardly extending flange 140 of the cushion frame 138. This seat back catch has a heel portion 151, which engages the vertical, inclined and horizontal upper surfaces of the seat back catch slide 132 (Figs. 4 and 5) during the movement of the seat cushion from the normal position shown in Fig. 4 to the semi-reclining position shown in Fig. 5.

When the seat is in its normal position the seat back catch is substantially horizontal, as shown in Fig. 4, with the heel 151 engaging the vertical surface of the seat back catch slide 132. As the cushion 128 is moved forward the heel 151 rides up the inclined surface 134, causing the seat back catch to rotate in a counter-clockwise direction about the pivot point of hinge 149, thereby raising the seat back catch. When the seat cushion 128 assumes the semi-reclining position shown in Fig. 5, the heel 151 of the seat back catch is supported on the horizontal surface 133 of the slide 132, and the seat back catch thereby assumes a substantially vertical position (shown in Fig. 5). Extending outwardly from the end of the seat back catch is an arm 152.

Referring to Figs. 4 and 5, when the seat cushion 128 is being adjusted from the upright position to the inclined position the trunnion 129 moves from the rear of slot 125, as shown in Fig. 4, to the forward end of the slot, as shown in Fig. 5. The extremities of the slot 125 limit the movement of the seat cushion 128. To entirely remove the cushion the trunnion is moved

to the rear of the slot and then raised through the vertical portion 126 of the slot. A plate 159 (Fig. 12) is secured to each end of block 166 and blocks the opening at the top of slot 125. This plate must be removed before the seat cushion can be removed.

The channel-shaped seat guide members 120 serve as casings into which arm rests 168 are folded (see Fig. 12). In each of these guide members 120 is a channel-shaped arm rest support bracket 160, having a rear flange 161 and two side flanges 162 and 163 (Fig. 12). Extending upwardly from the side flanges are projecting arms 164 and 165. The arm rest support bracket is spaced from the end of the seat guide member 120, and, as best shown in Fig. 7, a block 166 is inserted between the support and the end of seat guide member 120. This block is upholstered at 167 (Fig. 7) in any suitable manner.

The arm rest 168 (Fig. 12) fits between the upwardly extending flanges of the channel guide member 120, and comprises back, intermediate and front members 175, 176 and 169, respectively. The back and intermediate members 175 and 176 are hinged together at 172 (Fig. 7), and the intermediate and front members 176 and 169 are hinged together at 174.

The intermediate member 176 serves as the arm support when the arm rest is in its raised position, the back and front members 175 and 169, respectively, supporting the intermediate member in its raised position. The back member 175 serves to close the space between the seat cushions directly in back of the intermediate arm rest member 176 when the arm rest is folded into the seat guide member 120. The front member 169 folds back underneath the intermediate member when the arm rest is lowered into the guide 120.

The forward member 169 comprises a plate 173, to the outer face of which is secured a block 173'. Suitable upholstering material covers this block. The free end of the front plate 173 is provided with a flange 178 extending beyond the block 173' at an angle with respect to the plane of the plate 173.

The intermediate arm rest support member 176 comprises a base 193 (Fig. 7) on which is mounted an irregularly shaped supporting member 194. Sponge rubber 195, or other suitable cushion material, covers the supporting member 194.

The back member 175 of the arm rest 168 comprises a supporting block 196, on which is secured a cushion 197 of rubber or the like.

Suitable upholstering material, indicated at 177, covers the back and intermediate members.

Referring again to Fig. 12, adjacent to the end of the frame, along the front edge of beam 118 of the seat frame and directly below the channel-shaped seat guide member 120, is an end arm rest support bracket 179. This bracket is an angle member having a front flange 180 and a side flange 181, the latter of which is secured to the end of beam 118. The front flange 180 of the bracket has an outwardly offset portion 180', spaced from the beam 118 across the area directly below the seat guide member 120, and is secured to the forward flange of beam 118 along the flange 182.

Directly below the intermediate channel-shaped seat guide members 120 are intermediate arm rest fastening brackets 183, having an intermediate outwardly offset portion 184 spaced from the forward edge of beam 118, directly below the seat guide member 120, and flanges 185 and 186 extending beyond the ends of the intermediate portions 184 and secured to the forward edge of beam 118.

As best shown in Fig. 6, the arm rest 168 is provided with trunnions 187 on the opposite sides of the back member 175, which are journaled in slots 188 in the upper ends of projections 164 and 165 on the arm rest support bracket 160. When the arm rest is in position for use, it is raised out of the seat guide member 120 with the intermediate arm rest cushion member 176 spaced in horizontal relationship above the seat and the back and front members 175 and 173, respectively, extending substantially vertically downward from the intermediate member. The projecting flange 178 on the end of plate 173 is inserted in the opening in bracket 179 (in the case of the end arm rest), or in bracket 183 (in the case of an intermediate arm rest support).

As best shown in Fig. 12, a slot 189 is placed in flange 178 of the arm rest 168, and when the arm rest is in position for use a dead-bolt 190 (Fig. 6) is moved forward and inserted in slot 189 to lock the arm rest in position. This dead-bolt may or may not be used.

The arm rest 168 is lowered into the seat guide member 120 by first unlocking the dead-bolt 190 and raising the flange 178 of the plate 173 out of the arm rest support bracket. Then, as shown in Fig. 7, the plate 173 is folded under the end and intermediate sections 175 and 176 of the arm rest 168, and the assembly is lowered into the seat guide member 120.

The forward edge of the back member 175 of the arm rest 168 is inclined at 191, and the rear end of the intermediate member 176 is similarly inclined at 192, so that when the arm rest is in place in the seat guide member 120 these two inclined surfaces become complementary to each other, so that there is only a slight crack between the intermediate and the back members 176 and 175, respectively.

When the arm rest is not in use and is folded into the seat guide member 120, the top surface of both the intermediate and the back members 176 and 175, respectively, are flush with the seat cushion and the front edge of the intermediate member 176 is flush with the front edge of the seat cushion, so that in effect, when in its collapsed position, the arm rest forms a part of the seat cushion.

The sofa back is best shown in Figs. 4 to 7 inclusive, and includes a lower berth member 198 to which is hinged each seat back cushion 199 by means of a hinge 200. Between adjoining seat back cushions is a spacer 566, supported on the lower berth member 198 by a bracket 567 and an angle bar 568 at the opposite ends, respectively, of the spacer. The lower berth member has trunnion brackets 201 and 202 along the opposite sides thereof, each of which carries a trunnion 203. To the car side wall 53 and the aisle partition 85 are secured pivot brackets 204 (Figs. 6 and 10), in which the trunnions 203 are journaled. In this manner the lower berth member or sofa back 198 is pivoted about a horizontal axis so that it can assume an upright position, shown in Fig. 4, or it can be rotated to a horizontal position, shown in Fig. 7.

As best shown in Fig. 4, the seat back cushion 199 is hinged to the berth member 198 and, pivoting about the hinge 200, may be moved away at the bottom from the lower berth member 198

to assume the position shown in Fig. 5. Straps 218 limit the amount of this movement.

The seat back cushion is made up of framing members 219 and 220 at the top and bottom, respectively (Fig. 4), and 221 and 222 (Fig. 10) along the sides of the seat back.

A frame made up of angle members 223 is secured to the framing members 219–222 inclusive. To this frame is secured a sheet 224 (Fig. 4), which completes the frame for the seat back.

To the frame is secured sponge rubber 225, or other suitable resilient material, to give the necessary cushioning to the seat back, and upholstering 226 may be used to cover the rubber.

Extending downwardly from the lower edge of the seat back is a bracket 227, which projects below the seat back at 228. To the inner face of the bracket is attached a bumper 229, which is covered by a bumper shield 230.

A strap retainer 231 is secured to the bottom face of the framing member 220, and a second strap retainer 232 secures the other end of the strap to the lower edge of the lower berth frame.

When the seat is in its upright position the seat cushion 128 and the back 199 assume the position shown in Fig. 4, with the seat back catch 148 substantially horizontal. As the seat cushion 128 is moved forward, as previouly described, to assume the semi-reclining position, the seat back catch rotates counter-clockwise about the hinge 149, and the arm 152 of the catch engages the bracket 228 extending downwardly from the lower edge of the seat back 199. As the forward movement of the seat cushion 128 proceeds this arm pulls the lower edge of the seat back 188 forward, rotating the seat back about its hinge 200. When the seat has been moved to its semi-reclining position, shown in Fig. 5, the seat back catch 148 assumes a vertical position, and the arm 152 on the end thereof supports the lower edge of the seat back 199 away from the berth frame 198, the straps 218 limiting the degree of movement of the seat back 199.

When the sofa back, which includes the lower berth frame 198 and the seat back 199, is in its daytime position, it is held against the room partition 84 (Fig. 6) by a latch 235, pivoted to a latch case 236, the latter of which is secured to the room partition 84. Latch 235 engages a keeper 235′ situated on the upper edge of the berth frame adjacent to each end thereof. When the sofa back and berth frame are rotated to the horizontal position shown in Fig. 7, they form a berth 239. This rotation of the sofa back and berth frame can be accomplished only when the seat cushions and backs are disposed in their upright positions, because only then is each seat back catch 148 disposed out of the path of the corresponding seat back, thus permitting this movement.

I claim:

1. An adjustable seat comprising a frame having a pair of spaced horizontal beams, one across the front of the seat and the other across the back, a seat cushion supported on the beams, a downwardly projecting lug adjacent to each side of the seat cushion on the underneath face forwardly of the center line thereof, the seat being slidable forward and backward on the frame, the lugs being disposed in the space between the beams when the seat is in its backwardmost position and being supported on the front beam when the seat is in its forwardmost position to raise the forward edge of the seat cushion, a seat back pivoted adjacent to its lower end to a support, means to lock the seat back, a cushion on the back and normally resting against the back, a horizontally pivoting hinge at the top of the back cushion securing said cushion to the seat back so as to allow the back cushion to pivot away from the seat back, and a seat back catch on the seat cushion adjacent to its rear edge adapted to engage the lower edge of the seat back cushion when the seat cushion is moved forward to move the seat back cushion outwardly at its lower edge away from the seat back, the seat back catch being at all times out of engagement when the seat cushion is in its backward position so that the back when unlocked may be moved independently of the seat and said back cushion being brought into engagement only when the seat is moved forward.

2. An adjustable seat comprising a frame having a pair of spaced horizontal beams, one across the front of the seat and the other across the back, a seat cushion supported on the beams, a downwardly projecting lug adjacent to each side of the seat cushion on the underneath face thereof forwardly of the center line, the seat cushion being slidable forward and backward on the frame, the lugs being disposed in the space between the beams when the seat cushion is in its backwardmost position and being supported on the front beam when the seat is in its forwardmost position thereby raising the forward edge of the seat cushion, a seat back, a cushion on the back, a horizontally pivoting hinge at the top of the back cushion securing said cushion to the seat back so as to allow the cushion to pivot away from the seat back, a seat back catch hinged to the seat cushion adjacent to the rear edge thereof and normally assuming a horizontal position when the seat cushion is in its backwardmost position on the frame, a seat back catch slide on the rear beam of the frame, the catch having means cooperating with the slide to move the catch to a substantially vertical position when the seat cushion is moved to its forwardmost position, and means on the lower edge of the seat back cushion cooperating with the catch to move the seat back cushion at its lower edge away from the seat back when the seat cushion is moved to its forwardmost position.

3. A seat comprising a horizontal frame and a seat back frame, a removable seat cushion on the horizontal frame, a back cushion hinged about a horizontal axis to the seat back frame adjacent to the top edge of the back cushion, a seat guide member on the horizontal frame on each side of the seat cushion having an upwardly extending flange closely adjacent to the seat cushion, the flange of each guide being provided with a horizontal slot adjacent to the rear end of the guide, a trunnion projecting outwardly from each side of the seat cushion adjacent to the rear edge thereof, each trunnion fitting into the slot in its corresponding seat guide and permitting limited forward and backward movement of the cushion with respect to the horizontal frame, a downwardly projecting lug on the lower face of the seat cushion adjacent to each side thereof and forwardly of the center line of the cushion, the lugs extending below the plane of the top face of the horizontal frame when the seat is in its backward position, a seat slide on the horizontal frame adjacent to the top and forward edge thereof and in the path of each lug, the lugs being supported

on the slides when the seat is in its forwardmost position thereby elevating the forward edge of the seat cushion, and a member hinged to the seat cushion at the rear thereof normally out of engagement with the back cushion when said cushion is in its backward position, but cooperating with the horizontal frame to pivot into engagement with the back cushion when the seat cushion is moved forward to thereby move the back cushion forward at the lower edge thereof.

4. A seat comprising a horizontal frame and a seat back frame, a movable seat cushion on the horizontal frame, a back cushion hinged about a horizontal axis to the seat back frame adjacent to the top edge of the back cushion, a seat guide member on the horizontal frame adjacent to each side of the seat cushion having an upwardly extending flange closely adjacent to the seat cushion, the flange of each guide being provided with a horizontal slot adjacent to the rear end of the guide, a trunnion projecting outwardly from each side of the seat cushion adjacent to the rear edge thereof, each trunnion fitting into the slot in its corresponding seat guide and permitting limited forward and backward movement of the cushion with respect to the horizontal frame, a lug projecting downwardly from the lower face of the seat cushion adjacent to each side thereof and forwardly of the center line of the cushion, the lugs extending below the plane of the top face of the horizontal frame when the seat is in its backward position, a seat slide on the horizontal frame adjacent to the top and forward edge thereof and in the path of each lug, the lugs being supported on the slides when the seat is in its forwardmost position thereby elevating the forward edge of the seat cushion, and means associated with the seat cushion to move the back cushion forwardly at the lower edge thereof when the seat cushion is moved forward.

5. A sofa including a frame, a pair of seat cushions spaced apart on the frame, an arm rest between the cushions and including an intermediate member, a downwardly extending back member hinged to one end of the intermediate member, and a downwardly extending front member hinged to the other end of the intermediate member, a support bracket on the frame between the cushions at one end of the space, means for pivotally mounting the back member adjacent to its free end to the support bracket, means adjacent to the end of the space opposite to the support bracket for holding the free end of the front member, the arm rest being adapted to be folded into the space between the cushions, the front member folding against the underneath face of the intermediate member.

6. A sofa comprising a seat portion and a back, the seat portion comprising a horizontal seat support, an upwardly opening channel on the support disposed with its sides extending transversely of the sofa, a seat cushion movably mounted on the support and disposed alongside the channel and closely adjacent to one of the sides of the channel, the last mentioned channel side forming a seat guide member, a second seat guide member adjacent to the other side of the seat cushion and cooperating with the first seat guide member to guide the seat cushion in forward and backward movements and restrain the seat cushion against sidewise movement, a second seat cushion positioned inside the channel with the sides of the channel disposed along the sides of the said second cushion, the top surfaces of said two seat cushions being substantially flush with each other, the second seat cushion having a portion movable to an elevated position above the channel in substantially parallel relationship with the first seat cushion so as to constitute an arm rest, and retractable means for supporting the said second seat cushion portion in said elevated position.

7. A sofa comprising a seat portion and a back, the seat portion comprising a horizontal seat support, an upwardly opening channel on the support disposed with its sides extending transversely of the sofa, a seat cushion on the support disposed alongside the channel and closely adjacent to one of the sides of the channel, the last mentioned channel side forming a seat guide member, a second seat guide member adjacent to the other side of the seat cushion, a horizontal slot in each of said guide members adjacent to its rear edge, a trunnion projecting from each side of the seat cushion into the corresponding slot in its adjacent guide member, the cushion having limited forward and backward movement on the frame, the trunnions riding in the slots during said movement and the seat guide members preventing sidewise movement of the seat cushion, a second seat cushion positioned inside the channel with the sides of the channel disposed along the sides of the said second cushion, the top surfaces of said two seat cushions being substantially flush with each other, the second seat cushion having a portion movable to an elevated position above the channel in substantially parallel relationship with the first seat cushion so as to constitute an arm rest, and retractable means for supporting the said second seat cushion portion in said elevated position.

8. A seat comprising a horizontal frame and a seat back frame, a support for the back frame, horizontal pivot means for mounting the back frame on the support, means to lock the back frame, a movable seat cushion on the horizontal frame, a back cushion hinged about a horizontal axis to the seat back frame adjacent to the top edge of the back cushion, a seat guide member on the horizontal frame adjacent to each side of the seat cushion having an upwardly extending flange closely adjacent to the seat cushion, the flange of each guide member being provided with a horizontal slot adjacent to the rear end of the guide member, a trunnion projecting outwardly from each side of the seat cushion adjacent to the rear edge thereof, each trunnion fitting into the slot in its corresponding seat guide member and permitting limited forward and backward movement of the cushion with respect to the horizontal frame, a lug projecting downwardly from the lower face of the seat cushion adjacent to each side thereof and forwardly of the center line of the seat cushion, the lugs extending below the plane of the top face of the horizontal frame when the seat cushion is in its backward position, a seat slide on the horizontal frame adjacent to the top and forward edge thereof and in the path of each lug, the lugs being supported on the slides when the seat cushion is in its forwardmost position thereby elevating the forward edge of the seat cushion, and means associated with the seat cushion to move the back cushion forwardly at the lower edge thereof when the seat cushion is moved forward, the said seat back frame when unlocked being rotatable downwardly about its pivot

mounting means with the seat back cushion disposed on top of the seat cushion in a horizontal position, the rear side of the seat back thereby forming a bed.

9. An adjustable seat unit comprising a seat portion, a back, the seat and back being movable between positions corresponding to upright and reclining positions of the occupant, and a member hinged to the seat and being out of engagement with the back when the seat is in its position corresponding to occupant-upright supporting position, means actuating the hinged member when the seat is moved toward its reclining position so as to pivot said member into engagement with the back to thereby move the back to its reclining position in response to movement of the seat.

10. A sofa including a supporting frame, an upwardly opening channel member on the frame, a seat cushion movable on the frame and disposed closely adjacent to one of the upwardly extending flanges of the channel member, said flange guiding a side of the seat cushion in forward and backward movements and restraining the seat cushion against sidewise movement in one direction, a second cushion having a portion pivotally mounted in the channel member and another portion adapted to be disposed in spaced relation above the channel member a suitable distance to serve as an arm rest for the seat occupant, and means for supporting said other cushion portion in this elevated position, the second cushion portions being foldable into the channel member with the top thereof disposed substantially flush with the seat cushion so that in its lowered position the second cushion serves as a continuation of the seat cushion.

11. A sofa having a seat and a pivoted back, a support for the seat, a pivoted support for the back, means to lock said back support, the seat being movable on its support forward and backward with respect to the back, means cooperating with the seat and its support for raising the forward edge of the seat when the seat is in the forwardmost position so that the seat slopes downward from the front to back, horizontal pivot means about which the sofa back support pivots, and means connected to the seat adapted to engage the back to incline the back when the seat is moved to its forwardmost position, said means being out of engagement with the back when the seat is in its backward position so that the lower part of the back support when unlocked may be moved backwardly about said pivot means independently of the seat and said means being brought into engagement with the back only when the seat is moved forward.

12. A sofa including a supporting frame, an upwardly opening channel member on the frame, a seat cushion movable on the frame and disposed closely adjacent to one of the upwardly extending flanges of the channel member, said flange guiding a side of the seat cushion in forward and backward movements and restraining the seat cushion against sidewise movement in one direction, a second seat cushion in the channel member having a portion adapted to assume a position in spaced relation above the channel member a suitable distance to serve as an arm rest for the seat occupant, and means for supporting the second cushion portion in this elevated position including a downwardly extending cushion portion pivoted to the first named portion of the second cushion adjacent to one end thereof and to the channel member, a second downwardly extending member pivoted to the first named portion of the second cushion adjacent to its other end, and means for removably holding the free end of the second downwardly extending member, the second downwardly extending member being adapted to fold against the underneath face of the first named portion of the second cushion and to be retained in the channel member under the first named portion of the second cushion when the said cushion portions are disposed in said channel.

13. A seat including a supporting frame, a seat cushion movable on the frame, a guide member on each side of the cushion to guide the seat cushion in its movement and to restrain the cushion against sidewise movement, one of said guide members comprising an upwardly opening casing, one side of which serves as one of said guides, a second seat cushion in the casing having a portion adapted to assume a position in spaced relation above the casing a suitable distance to serve as an arm rest for the seat occupant, and means for supporting the second cushion portion in this elevated position including a downwardly extending member comprising a cushion portion pivoted to the first named portion of the second cushion adjacent to one end thereof and to the casing, a second downwardly extending member pivoted to the first named portion of the second cushion adjacent to its other end, and means for removably holding the free end of the second downwardly extending member, the second downwardly extending member being adapted to fold against the underneath face of the first named portion of the second cushion and to be retained in the casing under the first named portion of the second cushion when the said portions are disposed in said casing.

14. An adjustable seat unit comprising a seat portion adapted to be moved from a rear position corresponding to upright position of the occupant to a forward position corresponding to reclining position of the occupant, a back unit including a member mounted on a horizontal pivot above its bottom about which pivot the back unit may be folded down over the seat portion, means to lock said unit, said back including also a cushion portion hinged adjacent to its upper edge to said member and adapted to move forward in its lower portion when the seat portion is moved forward, and an element movably mounted on the seat portion for engaging the back cushion portion when the seat portion is moved forward and thereby move the lower portion of the back cushion portion forward, said element being movably mounted to move out of engagement with the back cushion when the seat portion is in its rear position so as to permit the lower portion of the back unit to swing rearwardly when the back unit is unlocked and folded about said pivot down over said seat portion.

15. A seat comprising a seat portion and a pivoted back, means for supporting the seat portion for sliding motion horizontally forward and backward, elevating means for raising the forward edge of the seat portion when it is in its forward position so that the seat portion inclines downwardly from front to back, means cooperating with the seat portion during its forward movement for moving the seat back outwardly at its lower edge, and means on the seat support and engaging the elevating means for locking the seat portion in its forward position.

16. An adjustable seat unit comprising a seat portion, a movable back frame, means to lock the back frame, a movable cushion on the back frame, the seat and back cushion being movable between positions corresponding to upright and reclining positions of the occupant, and a member associated with the seat adapted to engage the back cushion when the seat is moved from its occupant-upright to its occupant-reclining supporting position, said member being out of engagement with the back frame and back cushion at all times when the seat and back cushion are in their occupant-upright supporting positions so that the back frame when unlocked and back cushion may be moved independently of the seat and said member being brought into engagement with the back cushion only when the seat is moved forward, said member being adapted to support the back cushion when the latter is in its reclining position.

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