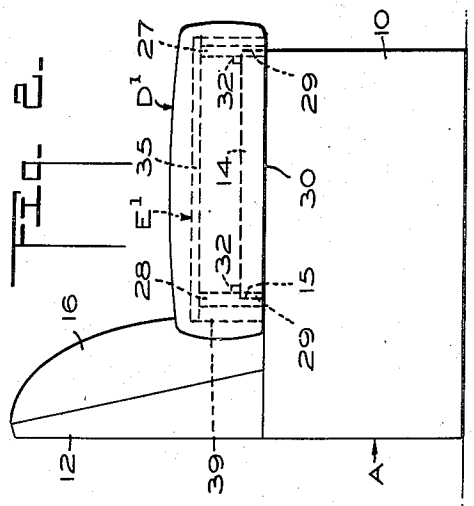
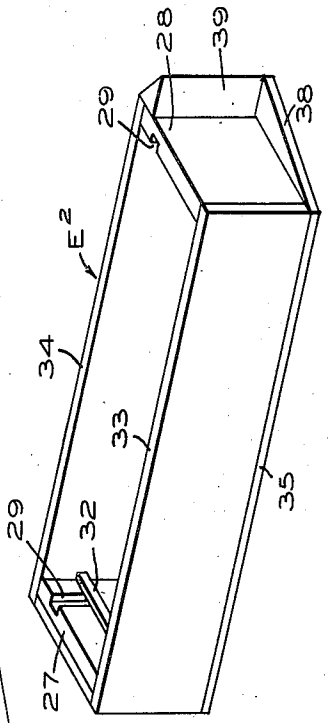
Dec. 2, 1952 P. SPAGNOLI 2,619,657

CONVERTIBLE SEAT-BED

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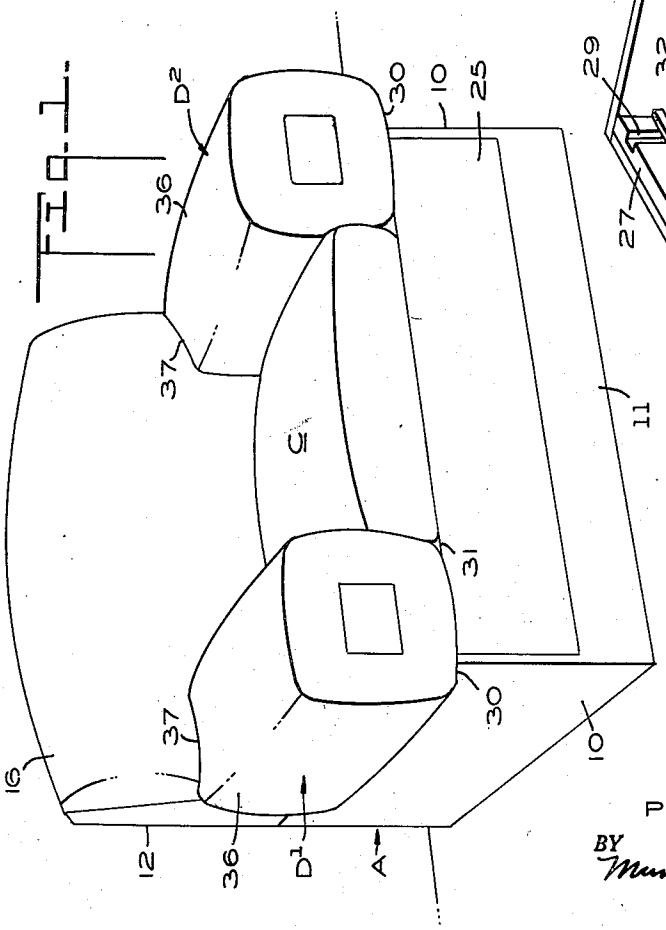


FIG. 3.

FIG. 4.

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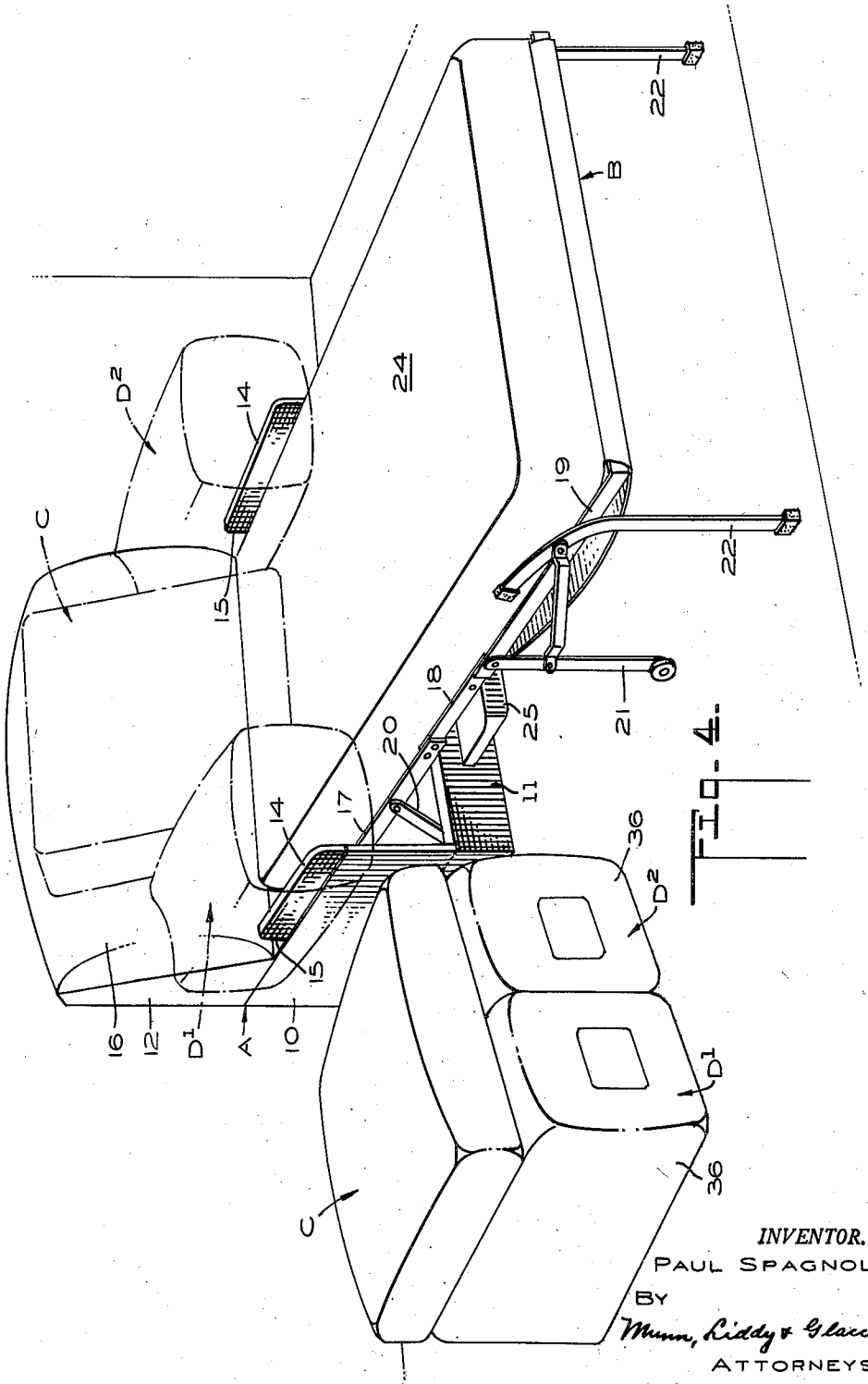


FIG. 4.

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FIG. 2.

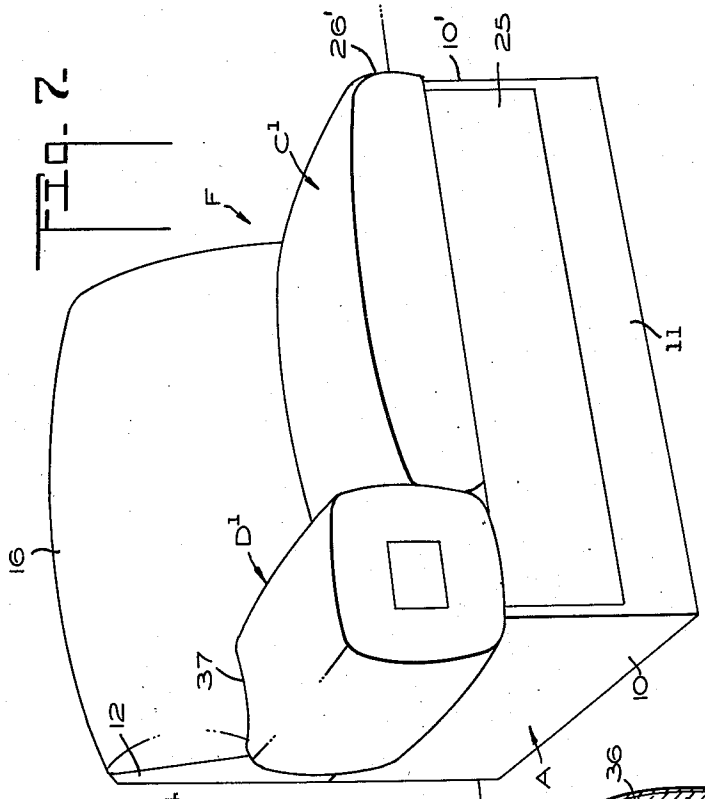


FIG. 5.

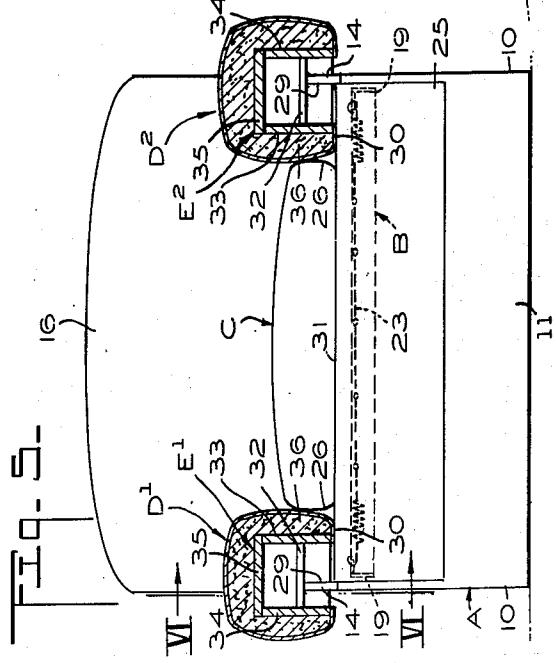
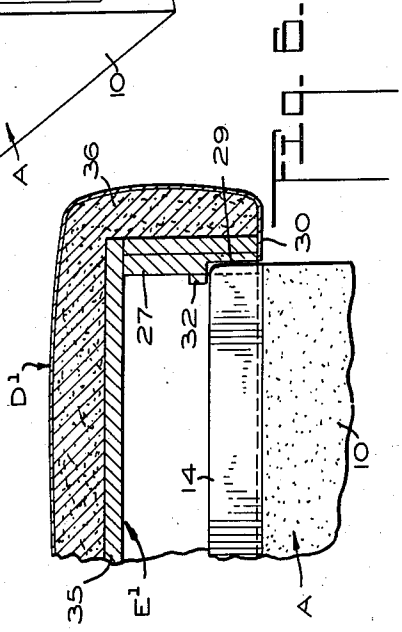


FIG. 6.



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UNITED STATES PATENT OFFICE

2,619,657

CONVERTIBLE SEAT-BED

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Application July 23, 1951, Serial No. 238,105

4 Claims. (Cl. 5—52)

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The present invention relates to improvements in a convertible seat-bed. It consists of the combinations, constructions and arrangement of parts, as hereinafter described and claimed.

It is proposed in this invention to provide a dual-purpose article of furniture that is correctly proportioned and comfortable to an occupant, regardless of its employment as a seat or bed. Broadly speaking, this objective is accomplished by providing the convertible seat-bed with a removable arm rest or rests.

When this furniture is being utilized for a seat, the arm rests are mounted thereon so as to reduce the overall width of the seat proper, thus rendering the article more form-fitting to the occupant and promoting the comfort thereof. Upon detaching these arm rests, a wider width of bed is afforded.

Moreover, this seat-bed is provided with a comfortable spring-edge seat proper, upon converting the article of furniture into a seat. When thus utilized, the arm rests preclude the occupant from sitting directly over rigid portions of the bed-supporting frame; contrawise, the occupant must be seated over a spring section of the bed.

As a still further object, I propose to provide arm rests that may be applied readily to the main frame of the seat-bed, or easily detached therefrom. The detached arms and the cushion provided for this furniture are adapted to be stacked on the floor to serve as a bed-side seat.

The generic term "seat," as used herein, is sufficiently broad to include a chair, sofa, sectional sofa, chesterfield, or any other thing similarly used. Furthermore, the word "bed" is intended to include any article of furniture, regardless of its length or width, which is intended to be used for resting or sleeping in or on. Several variations of my convertible "seat-bed' will be disclosed as the specification continues.

Another object of my invention is to produce an article of the character described, which is simple in construction, durable and efficient for the purpose intended.

Other objects and advantages will appear as the details are set forth. The novel features of the invention will be pointed out in the appended claims.

Drawings

For a better understanding of the invention, reference should be had to the accompanying drawings, forming part of this application, in which:

Figure 1 is a perspective view of my convertible chair-bed, with parts arranged in chair-forming position;

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Figure 2 is a side elevational view of this same chair-bed;

Figure 3 is a perspective view of a box-like frame used on the interior of the removable arm rests;

Figure 4 discloses this chair-bed in solid lines as being opened up for use as a bed, while the dot-dash lines indicate the arm rests and cushion arranged to provide a chaise longue;

Figure 5 is a front elevation view of the chair-bed, with the arm rests shown in transverse section to disclose the interior construction thereof;

Figure 6 is a fragmentary vertical sectional view taken along the plane VI—VI of Figure 5; and

Figure 7 is a perspective view of one part of a sectional sofa.

While I have shown only the preferred forms of my invention, it should be understood that various changes, or modifications, may be made within the scope of the annexed claims without departing from the spirit thereof.

Detailed description

Referring now to the embodiment of my invention, as shown in Figures 1 to 6, inclusive, I have illustrated a convertible chair-bed, which includes a main or seat frame A and a bed frame B. In Figure 1, the parts of the bed frame have been folded into the confines of the main frame, producing a chair; while Figure 4 discloses the bed frame as being extended from the main frame for employment as a bed.

In its structural features, the main frame A includes a pair of spaced-apart side panels **10**, which are interconnected by a front rail **11** and a back **12**. Extensions **14** are formed as parts of these panels and rise therefrom. The rear edges **15** of these extensions terminate in spaced relation ahead of a spring section **16** mounted on the back (see Figures 2 and 4). This section near its lateral edges curves both vertically and horizontally. Of course, the main frame may be upholstered with suitable material so as to enhance its appearance.

The bed frame B is conventional in construction. In Figure 4, this frame has been shown as including lateral or side members **17**, **18** and **19**, which are articulated together. When the bed is extended, links **20** and legs **21—22** constitute supports for the bed frame. The usual spring section **23** (see Figure 5) is carried by the bed frame so as to sustain a mattress **24** thereon.

As suggested in Figure 5, the lateral members **19** are rigid and disposed adjacent to the inner

surfaces of the side panels 10 when the bed frame and its mattress are moved into the confines of the main frame. A closure plate 25 is carried by the bed frame members 18 and is disposed immediately above the front rail 11 upon folding the bed into a chair.

It will be noted that a reversible innercoil cushion C is adapted to be placed on top of the folded bed frame to overlie the spring section 23. In actual practice, this cushion does not have sufficient distance to extend entirely between the side frame members 19, but is dimensioned to support an occupant with comfort. Right and left arm rests D1 and D2, respectively, are detachably connected to the extensions 14. These arm rests extend inwardly over portions of the confines of the main frame A to overlie the rigid members 19. Thus, the arm rests preclude an occupant from sitting directly over the frame members 19.

As clearly illustrated in Figure 5, the arm rests bridge the spaces between the panel extensions 14 and the opposing sides 26 of the cushion C. These rests are placed adjacent to opposite sides of the occupant so as to afford good support to the occupant and to give a narrow appearance to the seat. However, a bed of a width greater than the distance between the opposing edges 26 of the cushion is desired in order to give comfort thereto. Upon removal of the arm rests, this wider bed may be extended from the main frame A, as shown in Figure 4. This bed may have a width substantially coextensive with the distance between the side panels.

Although a single bed has been selected for illustration, the main frame A could be made to accommodate a three-quarter or a full width bed. In these events a sofa would be provided upon folding the bed into the confines of the main frame.

The arm rests D1 and D2 are removably secured to the extensions 14 of the side panels by telescopic connections. For this purpose, inverted box-like frames E1 and E2 are provided on the interiors of the arm rests D1 and D2, respectively. These frames are identical with each other, excepting for the fact that the frame E1 is right-handed and the frame E2 left-handed. The frame E2 has been turned upside down and reversed end-for-end in Figure 3 to disclose its construction to better advantage.

Each of these arm rest frames defines front and rear end members 27 and 28, respectively, which are arranged in spaced-apart relation with one another. The confronting faces of these end members are fashioned with vertical grooves 29 therein, which are adapted to telescopically receive the end portions of the extensions 14 of the side panels 10 when the arm rests are telescoped downwardly over these extensions (see Figures 2, 5 and 6).

The lengths or heights of these grooves are dimensioned to limit further downward movement of the arm rests when their underneath surfaces 30 are disposed substantially flush with the top edge 31 of the closure plate 25, as clearly shown in Figure 5. Transverse cleats 32 may be fixed to the end members 27—28 to limit the downward telescoping movement of the arm rests with respect to the extensions of the side panels.

Moreover, the box-like frames E1 and E2 have inner and outer side walls 33 and 34, respectively. Upon applying the arm rests to the panel extensions, as in Figure 5, the inner side walls 33 face toward the sides 26 of the cushion C. A top board 35 is fastened to the wall members 27—28 and 33—34 of the box-like frames. Upholstery material 36 is secured over the frames E1 and E2. However, the normal underneath faces of these frames are opened so as to permit the arm rests to be telescoped over the side panel extensions 14 (see Figure 5).

The arm rests thus provided have curved ends 37 abutting the spring section 16 of the back 12. These ends are curved both vertically and horizontally so as to conform to the curvatures of the lateral portions of the back spring section and merge thereinto without interruption. In order to obtain the proper compound curvatures of the ends 37, the top board 35 has a triangular-shaped extension 38 projecting beyond the rear member 28, and the latter is further provided with a triangular block 39 extending therefrom. The upholstery material is extended over the curved ends 37.

In Figure 4, the chair-bed has been illustrated in its bed-forming position. It will be found convenient to place the arm rests D1 and D2 on the floor of the room, as shown by their full-line positions in this view, and to place the cushion C on the top thereof. This will provide a comfortable seat of proper height alongside of the bed.

When it is desired to convert the opened chair-bed into a chaise longue, the arm rests D1 and D2 may be replaced on the extensions 14, as suggested by dot-dash lines in Figure 4. Also, the cushion C may be placed in substantially upright position against the spring back 16, as indicated by dot-dash lines in this same view. It is quite obvious that a board (not shown) could be supported across the dot-dash arm rests in Figure 4 to provide a table for an individual occupying the chaise longue.

Turning now to Figure 7, I have disclosed the right-half part F of a sectional sofa therein. This article of furniture is very similar to the chair-bed shown in Figure 1, excepting for the fact that it employs only the arm rest D1, while omitting the other arm rest. Like reference numerals have been applied to corresponding parts. The cushion C1 in Figure 7 has been made slightly wider than the cushion C in Figure 1 so that its edge 26' will come flush with the side panel 10'. Otherwise, the construction and operation of the sectional sofa are identical with the chair-bed. The left-hand part of a sectional sofa would be provided by having the arm rest on the opposite side from that shown in Figure 7.

When the part F of the sectional sofa is opened up it will provide a bed. Of course, when both parts of a sectional sofa are used, twin beds will be afforded.

Summary of operation

Assuming that the chair-bed occupies its folded position, as illustrated in Figures 1, 2 and 5, it will be apparent that the innercoil cushion C overlies the spring section 23 of the bed frame B. Thus, an occupant seated on this cushion will be afforded a yielding support, with the arm rests D1 and D2 disposed adjacent to opposite sides of the occupant. Inasmuch as the arm rests are positioned above the rigid lateral members 19 of the bed frame, the occupant will be precluded from contact with these members as the the cushion yields.

When it is desired to convert this article of

furniture into a bed, the arm rests D1 and D2 are removed from the extensions 14 of the side panels 10 by merely moving the arm rests upwardly. Thereafter, it will be found convenient to place the detached arm rests in side-by-side relation with each other on the floor of the room, and then arrange the cushion C on the top thereof, as shown by solid lines in Figure 4. Now the bed frame B may be extended from the main frame A until it occupies the position disclosed in Figure 4. At this time, the mattress 24 is supported on the frame B, thus providing a bed that extends substantially the entire width between the side panels 10.

As previously pointed out, the main frame A and the bed frame B could be dimensioned to support a three-quarter or a full-width mattress, within the spirit of this invention.

In converting this article of furniture from a sleeping surface into a seating surface, regardless of its width, the frame member 19 is raised and swung rearwardly so as to overlie the frame member 17, the mattress being doubled back upon itself during this movement. Now the folded bed frame is pushed rearwardly into the confines of the main frame A, restoring the closure plate 25 into the position shown in Figure 1. Next the arm rests D1 and D2 are telescoped downwardly over the panel extensions 14. The cushion C is placed on top of the mattress-supporting frame so as to extend between the arm rests, thus completing the operation.

In the event that a chaise longue may be desired, the chair-bed is opened up, and then the arm rests D1—D2 are replaced on the panel extensions 14, as suggested by the dot-dash lines in Figure 4. The cushion C may be disposed in substantially upright position between the arm rests so as to bear against the spring section 16 of the back.

The part F of the sectional sofa shown in Figure 7 will open up into a bed in exactly the same manner as the chair-bed previously described. In this case, however, only a single arm rest is provided on each part of the sectional sofa.

It will be apparent that the cushion C could be made of sufficient width to extend between the side panels 10. In this event the underneath surfaces 30 of the arm rests would abut the top of the cushion when they are telescoped downwardly over the extensions 14. Moreover, the cushion C may be of any desired construction and need not be provided with inner coils. Any and all widths and lengths of mattresses may be used to accommodate one or more persons.

I claim:

1. In a convertible seat-bed of the character described: a main frame including a side panel; the latter having an extension rising therefrom; this extension defining upright front and rear edge portions; and an arm rest provided on its interior with an inverted box-like frame having an opening in its bottom; the arm rest frame

defining spaced-apart end members having confronting faces; these faces being fashioned with vertical grooves made to telescopically receive said upright edge portions of the extension when the arm rest is telescopd downwardly thereover; the grooves defining walls abutting said upright edge portions of the extension to preclude the applied arm rest from moving fore and aft relative to the extension; the arm rest being detachable from the extension when the former is lifted upwardly relative to the latter.

2. The combination as defined in claim 1, in which means are provided on the end members of the arm rest frame to limit downward telescoping of the latter over the extension.

3. In a convertible seat-bed of the character described: a main frame including a side panel; a back member provided on this frame, and having a lateral section curved both vertically and horizontally; and an arm rest detachably supported on the panel; this arm rest having a rearmost end curved both vertically and horizontally for conforming to the corresponding curvatures of the lateral section of the back member so as to merge thereinto without interruption, when this end of the arm rest is butted endwise against said section; the applied arm rest being supported on the side panel with its rearmost end abutting said back member section.

4. In a convertible seat-bed of the character described: a main frame including a side panel having an extension rising therefrom; this extension defining upright front and rear edge portions; a back member secured to the main frame, with the rear edge portion of the extension disposed ahead of the back member; and an arm rest provided on its interior with a frame having an opening it its bottom; the arm rest frame defining spaced-apart end members having confronting faces; these faces being fashioned with vertical grooves made to telescopically receive said upright edge portions of the extension, when the arm rest is telescoped downwardly thereover; these grooves defining walls abutting the upright edge portions of the extension to preclude the applied arm rest from moving fore and aft relative to the extension; the applied arm rest having a rearmost end butted endwise and held up against the back member to merge thereinto without interruption.

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