Dec. 20, 1949 G. R. THOMPSON 2,491,911

CONVERTIBLE CHAIR BED COMBINATION

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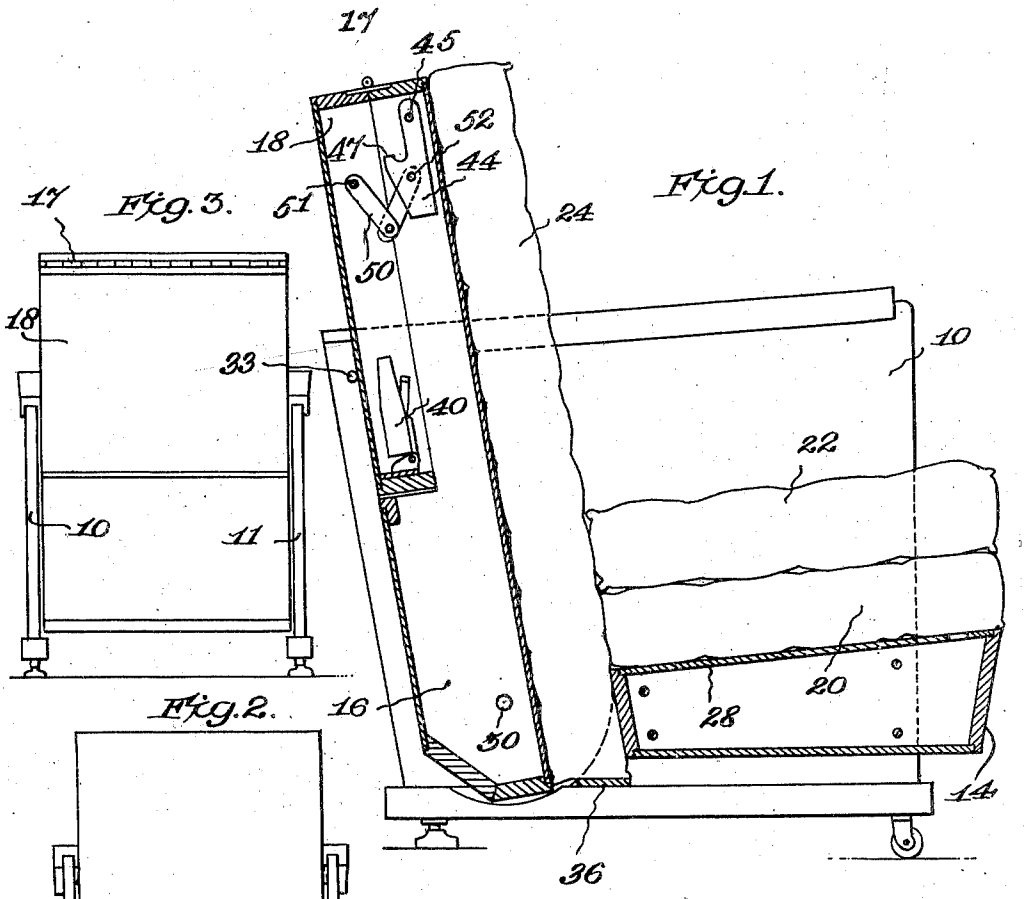


Fig. 1.

Fig. 3.

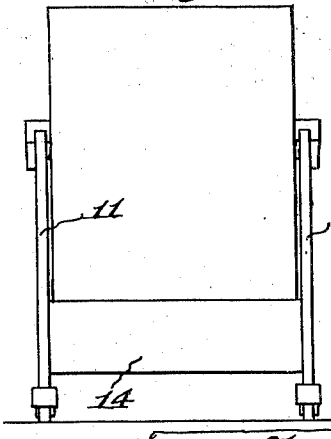


Fig. 2.

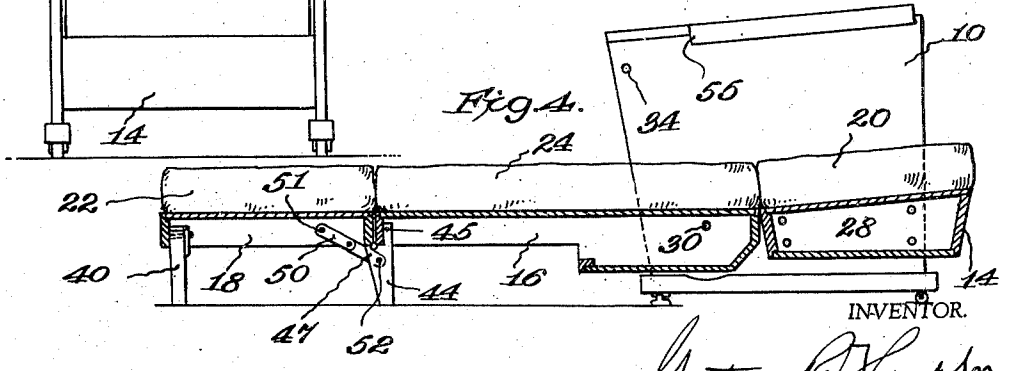


Fig. 4.

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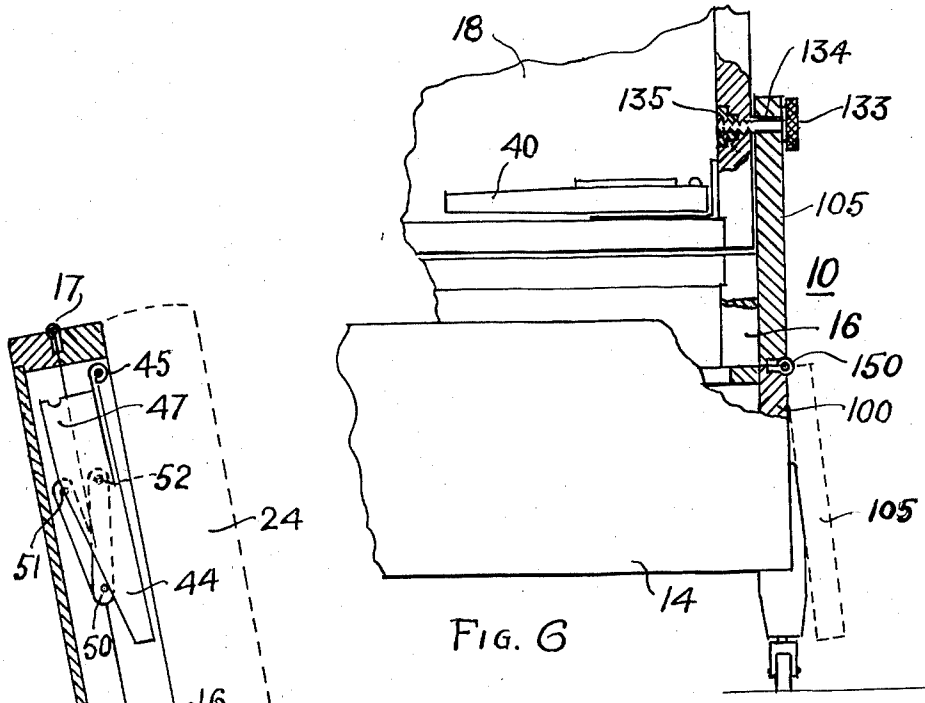


FIG. 6

FIG. 5

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CONVERTIBLE CHAIR-BED COMBINATION

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2 Claims. (Cl. 155—47)

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This invention relates to a convertible chair-bed combination, and provides improvements therein.

With present-day small apartments and houses, a living room is often used for sleeping. It is desired that the furniture of such a room have the appearance and character of living room furniture. Draped couches or divans are much used in such rooms as a sofa by day and a bed by night. It is often desired to have additional sleeping accommodations in such places and also in dwellings and apartments where space is not restricted. The need for occasional or additional sleeping furniture is usually met by foldable beds or cots, which are ordinarily kept in storage space and brought out and set up when the need for them arises.

From the standpoint of both convenience and service, for regular as well as occasional use, it is much better to have a piece of sleeping furniture which can serve as daytime furniture as well (as a chair or sofa), be presentable in a living room and bear little if any resemblance to a bed and much resemblance to a comfortable chair or sofa when used as a chair or sofa. Withal, it is highly desirable that such a piece of furniture combine in the highest degree the functional character of a chair or sofa and the normal appearance of a chair of esthetic design, when used as a chair or sofa, and also serve satisfactorily its function as a bed, when used as a bed. Ruskin's comment on buildings, "We require from buildings, as from men, two kinds of goodness; first, doing their practical duty well; then that they be graceful and pleasing in doing it," is equally applicable to furniture of the character of the present invention.

The present invention provides a bed-chair combination which is utilitarian in a full sense, both as a chair and as a bed, with the functional parts so contrived as to be of a pleasing and conventional appearance as a chair or sofa. The structure is strong. It is simple, and convertible from a chair to a bed and vice versa in the simplest way.

Two embodiments of the invention are illustrated in the accompanying drawing, wherein—

Fig. 1 is a vertical section view of the bed-chair combination (the cushions are in side elevation) with the parts positioned as a chair.

Fig. 2 is a front elevation.

Fig. 3 is a rear elevation.

Fig. 4 is a vertical sectional view (with the cushions in side elevation) with the parts positioned as a bed.

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Fig. 5 is a vertical sectional view of a second embodiment, which, in use as a chair is armless, and which in use as a bed, does not have armrests projecting upward beside the sleeper.

Fig. 6 is a view in front elevation at one side of the chair and showing the parts in section.

Referring to said drawings, numerals 10 and 11 designate side pieces, 14 a seat-section, 16 a back-section, and 18 an extension-section. Numerals 20, 22, 24 designate three cushions.

The side-pieces 10 and 11 are fastened in any suitable way to the seat-section 14. As shown in Figs. 5 and 6, the side pieces may be rearward extensions 109 (101) of or at the sides of the seat-section 14, with upwardly extending parts 105 (106) at the rear of the seat-section. The seat-section may be of the width of an easy chair or of sofa width. Advantageously, the seat-section has the form of a box, with a removable lid 28, which may serve for the storage of coverings. To avoid projections above the level of the cushions when the parts are in bed-use position, the upwardly extending parts 105, (106) may be hinged at the level of the upper edge of the seat-section 14, as indicated at 150.

The back-section 16 is pivoted to the side-pieces 10 and 11, as indicated by numeral 30, behind the rear panel 14' of the seat-section 14 and with the front or top of the back-section, in the vertically inclined position of the back-section, a distance equal to approximately the thickness of the cushion 24, so as to allow the cushion 24 to extend down into the space behind the seat-section and rest against the back-section 16 when the parts are positioned for use as a chair.

The extension-section 18 may be pivoted to the top of the back-section 16 as indicated at 17 and folds flat against the back of the back-section in the chair position of the parts.

The back-section 16, (and also the extension-section 18, in the form of embodiment illustrated in Figs. 1–4) is supported in vertically inclined position by suitable means, one form of which may be readily removable rod 33 extending across the face of the extension-section and seated at its ends in holes 34 in the side pieces 10 and 11; or, as shown in Figs. 5 and 6, a thumb-screw 133 passing through a hole 134 in the part 105 of the side pieces 10, 11 and engaging a nut 135 in the extension section 18, may be used for the purpose.

The upwardly extending parts 105, (106) of the side sections 10, 11 in the form of construction illustrated in Figs. 5 and 6, serve for supporting the back-section 16 in chair use position. When the upwardly extending parts 105, (106) are

hinged, as described above, they may be turned downwardly on hinges 150, and thus be below the cushions, as shown in dotted lines Fig. 6, and provide a bed without any obstructions at the sides.

The extension-section 18 is of approximately the same area as the seat-section 14, and by this means the cushion 22 for the extension-section may rest or be disposed on cushion 20 on the seat-section, when the device is being used as a chair. The seat of a comfortable chair is about twenty inches deep, and conformable thereto, the seat-section 14 and the extension-section 18 are each about twenty inches long. A comfortable bed is about seventy-six inches long, and conformable thereto, the back-section 16 is made about thirty-six inches long, which, with the two twenty-inch sections 14 and 18 gives an overall length of about seventy-six inches. In Figs. 5 and 6, the back section is about 30 inches long. A width of about twenty-four inches for the sections 14, 16 and 18 is adequate for a single bed use, and a width of about forty-eight inches for sofa-double-bed construction.

The disposition of the pivoted end of the back-section 14 close to the lower edges of the side pieces 10 and 11 and of the lower end of cushion 24 in the space behind the seat-section 14, gives a low silhouette to the combination with the parts positioned in the form of a chair conformable to a chair of pleasing appearance.

A slat 36 at the lower part of this space behind the seat-section 14, Fig. 1, may be provided for supporting the lower end of the cushion 24 when resting against the back-section 16 in its raised position. In Figs. 5 and 6, cushions 20 and 24 may be mounted on a base or frame incorporated in the cushions (not shown), on which are ribs 140 which fit inside the seat-section and back-section and hold the cushions against displacement.

Foldable legs 40 (one at each side), may be provided for supporting the extension-section 18 when positioned for use as a bed. Fittings for foldable card-table legs sold by Sargent Hardware Company are suitable. To relieve the hinge of the weight of the body on the back-section 16, in horizontal bed-use position it is advantageous to support the adjacent ends of sections 16 and 18 and to have the supporting means automatically moved into supporting position when the back-section 16 is lowered and the extension-section extended in horizontal position, so that omission to move the supporting means to supporting position through inadvertence is avoided. Such means are provided by legs 44 (one on each side) pivoted to back-section 16, as indicated at 45, having a shoulder 47 constructed and arranged to extend under the adjacent ends of sections 16 and 18, as illustrated best in Figs. 4 and 5. A hinged link or strap 50 is pivotally connected to extension-section 18, as indicated at 51, and to the leg 44, as indicated at 52. By this construction and arrangement, the legs 44 and the shoulders 47 thereon are automatically pulled through an angle of 90° to supporting position as the extension-section 18 turns on hinge 17 in moving from the contiguous (chair-use) position, Figs. 1 and 5, to the extended (bed-use) position, Fig. 4.

Operation: In the chair-use position of the parts of the combination, the back-section 16 has a vertically inclined position on pivot 30, extension-section 18 has a position on hinge 17 close against back-section 16, and the sections 16 and 18 are held in such vertically inclined position against backward or downward movement by suitable means, as the rod 33, Fig. 1, or the thumb-screw 133, Fig. 6, supported in the side pieces 10 and 11 contacting the extension-section 18, and may also be held against forward movement by suitable means, as the abutments 55 on the side-pieces. The two equally or substantially equally dimensioned cushions are resting, one on top of the other, on the seat-section 14. The cushion 24 extends into the space behind seat-section 14 and between the latter and the back-section 16 and rests in inclined position against the back-section 16.

For bed use, the lower end of cushion 24 is pulled out of the space behind the seat-section 14, the extension section is swung on hinge 17 to extended position, links 50 automatically pulling legs 44 and the shoulders 47 to a supporting position under the hinged ends of back-section 16, and extension-section 18, legs 40 are turned outwardly to position to support the extended end of extension-section 18, and the back-section 16 (and extension-section 18) are lowered around pivot 30 until legs 40 and 44 contact the floor. When the back-section 16 is lowered, its end below pivot 30 fills the gap or space behind the seat-section previously occupied by the lower end of cushion 24. The cushion 24 is laid on back section 16 and cushion 22 on extension-section 18, and a full-length cushioned bed is provided. A minimum of simple mechanism is required to make the conversions, and a minimum acquaintance with particular mechanism to be used to make the conversions is required. A useful chair-bed combination is provided, contrived to possess close resemblance to a chair, and be pleasing and presentable as a part of the furnishings of a tasteful living room.

In the embodiment illustrated in Figs. 5 and 6, the operation of the parts, in both chair-use and bed-use is the same as previously described. Hinged parts 105 may be turned down in bed-use and a bed with no obstructions above the cushions is provided.

This application is a continuation in part of application Serial No. 610,301, filed August 11, 1945, which was formally abandoned.

What we claim is:

1. A convertible chair-bed combination comprising side-pieces, a seat section to which said side-pieces are connected, a back-section turning on a pivot fixed on each of said side-pieces, a removable cushion for said back-section, and an extension section hinged to the back of said back-section at its upper end, said seat section having a rear transverse panel and said side pieces extending rearwardly of said panel and providing, between said rear panel and the rearward parts of said side pieces, a space in which said back section and removable cushion are located, said seat and extension sections being of about equal length and said back-section being of substantially greater length than said seat section, said back-section in a vertically inclined (chair-use) position being spaced from and extending downwardly behind said rear panel of said seat section, and providing, between said rear panel and the lower end of said back-section, a space for said removable cushion, means on the rearward extension of said side pieces for holding said back-section in a vertically inclined position, and a plurality of legs for supporting said back-section and extension in a horizontal position.

2. A convertible chair-bed combination, according to claim 5 wherein certain of said legs are

pivotally connected to said back-section and have shoulders extending beneath the adjacent end of both said back-section and extension section when such legs are turned to a position to support the sections in horizontal position, and wherein links connect said such legs and said extension section and act to automatically pull said such legs to supporting position when said extension section is turned on its hinge to a position in extension of said back section.

GUSTAVE R. THOMPSON.

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