

- [54] **PIECE OF FURNITURE FOR LYING AND SITTING**
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- [58] **Field of Search** 5/12, 18, 13, 21, 14, 28-30,
5/17, 36 R, 43
- [56] **References Cited**
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[57] **ABSTRACT**

The piece of furniture is convertible between a lying position and a sitting position and comprises a frame, a carriage, adapted to be moved out of and into the frame for the conversion of the piece of furniture from one position to the other, and first second and third cushions. The first and second cushions are adapted to lie on the lying carriage one behind the other in said position and one over the other in the sitting position. The third cushion is wedge-shaped and adapted to form a wedge-shaped bolster in the lying position and a back cushion in the sitting position. A support is provided adapted to carry the wedge-shaped bolster in the lying position and comprises two support members; articulatedly connected and adapted to be folded together to extend upright in the sitting position.

17 Claims, 3 Drawing Figures

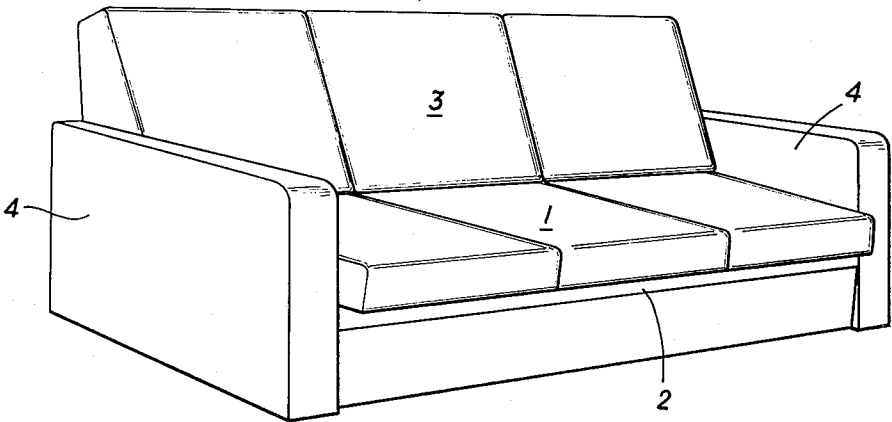


FIG. 1

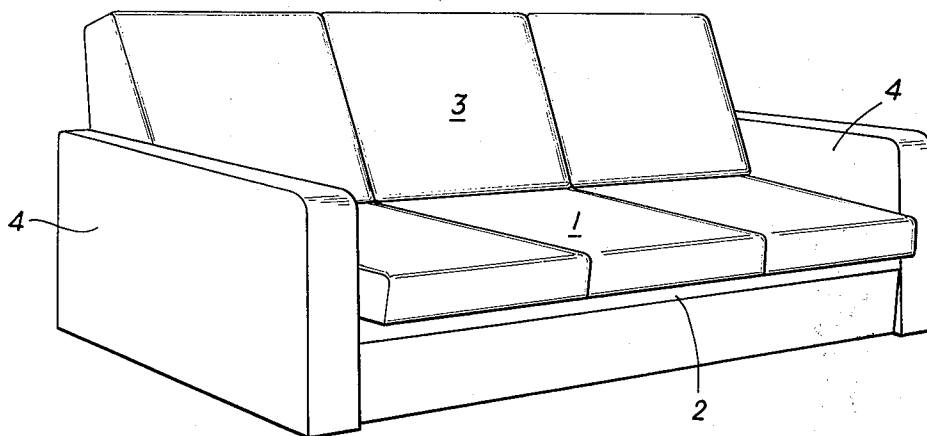


FIG. 2

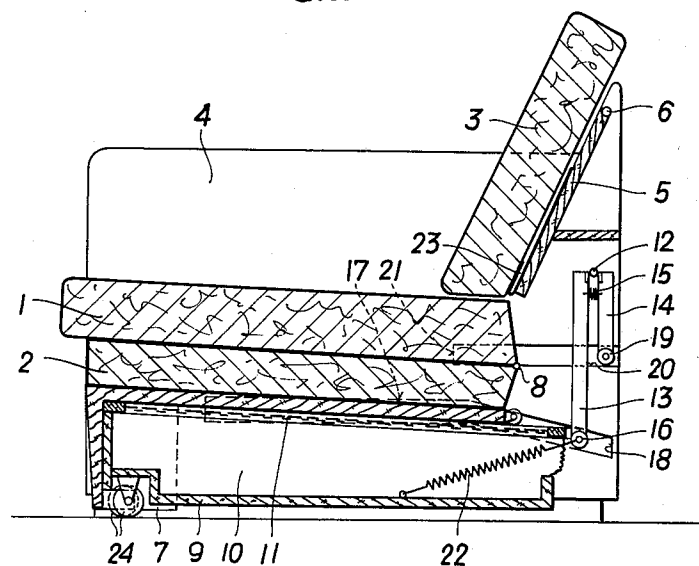
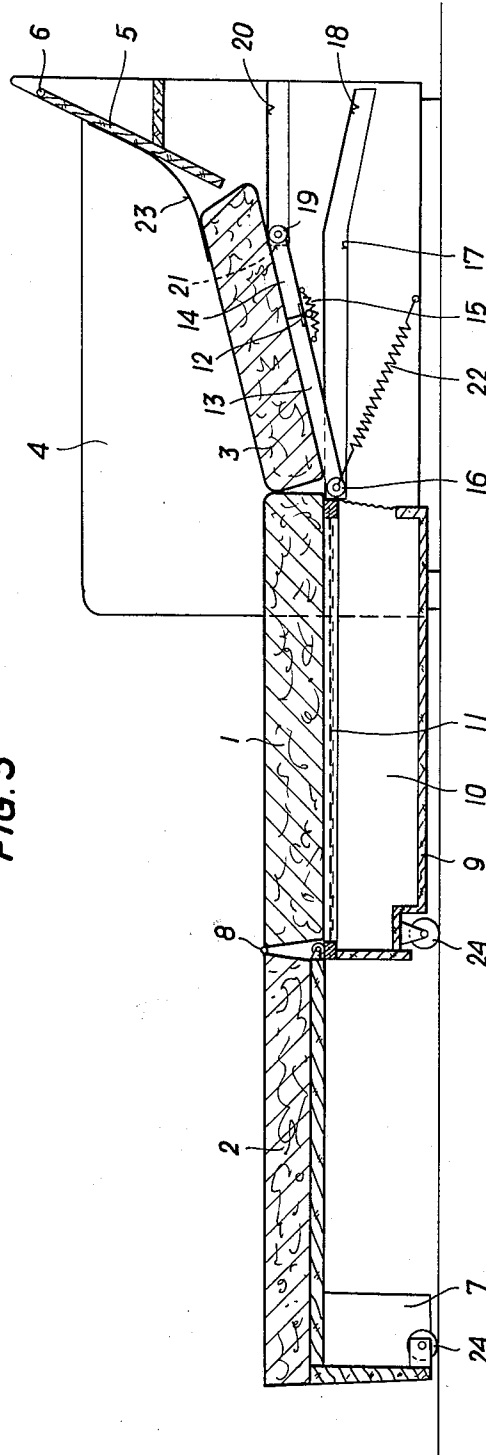


FIG. 3



PIECE OF FURNITURE FOR LYING AND SITTING

This invention relates to an article of convertible furniture having sitting and lying position with a frame, a carriage which is adapted to be extended out of the frame, and two cushions, which lie on said carriage one over the other in the sitting position and one behind the other in the lying position, and a third cushion a back rest in the sitting position and a wedge-shaped bolster in the lying position. The third cushion may be pivoted to the frame for movement between its two positions for use as a back cushion and as a wedge-shaped bolster. The support of the third cushion in the lying position is either not entirely satisfactory or the conversion requires that the cushion be laid aside and a support formed from a plurality of support members, which are articulatedly connected. If it is desired that the extension of the carriage results in an automatic shifting of these supporting members from the position occupied by them when the article of furniture is in the sitting position to their position when the article is in the lying position, additional linkages must be provided so that the construction is extremely complicated; the movable elements are liable to be deranged and their reliable function cannot always be ensured. Besides, the space required for the linkage results in an unsightly gap between the frame and the cushions.

It is an object of the invention so to improve the piece of convertible furniture described above so that it can easily be converted from its sitting position to its lying position, so that the piece of furniture is a simple structure, and so that it comprises a minimum of parts, particularly of hardware.

To accomplish this object, the invention provides that the structure for supporting the third cushion when used as a wedge-shaped bolster consists of two articulatedly connected support members, which can be folded together to assume an upright position when the piece of furniture is in the sitting position.

In a preferred embodiment of the invention respective guides are provided for the free edges of the two support members, the free edge of the forward support member is coupled to the extensible carriage, and the guide for the rear support member is provided with a stop which limits the movement of the rear support member. According to the invention the guide for the rear support member is disposed above the guide for the forward support member, and the latter guide serves to guide an inner part of the carriage. In an embodiment of the invention, this common guide for the forward support member and the inner part of the carriage may have a downwardly angled rear portion.

It is also a feature of the invention that the two support members are provided at their free edges with rollers or sliders for contacting the guides, can consist of grooves or rails, the rollers or sliders of the forward member serving also as rollers or sliders for the inner part of the carriage.

In another embodiment of the invention, the two support members are interconnected by springs or like means for folding the two support members together.

According to a feature of the invention, an inclined abutment, which is preferably hinged, is provided on the frame and serves to support the third cushion when the latter is used as a back cushion. That abutment may be connected by a fabric hinge to the rear side of the third cushion.

It is also a feature of the invention that a spring acts on the carriage, particularly at the points where the carriage is coupled to the support, and said the spring is connected at its other end to the frame and is stressed in the sitting and lying position.

The invention affords the advantage that the piece of furniture for sitting and lying enables a simple provision of a support for the third cushion when used as a wedge-shaped bolster and of an abutment for said cushion when used as a back cushion. When the carriage, which is extensible from the frame, is displaced from the sitting position to the lying position, and back from the lying position to the sitting position the support is automatically moved into its position supporting the wedge-shaped bolster and into its stowed-away position, respectively. The support is structurally simple and is mounted and guided by simple elements. It is important that a customary guide for the carriage can be used also to guide the lower or forward edge of the support so that for the purposes of the invention it is sufficient to provide the frame with an additional guide for the upper or rear edge of the support. Springs are provided at the articulated joint or hinge which connects the two members of the support, and between the carriage or the forward and lower edge of the support and the frame and assist the initiation of the conversion of the piece of furniture for sitting and lying from one position of use to the other so that only a small effort is required for the conversion.

Details of the invention will be explained more fully with reference to the accompanying drawing, which show diagrammatically and by way of example an embodiment of an article of furniture in accordance with the invention.

IN THE DRAWING

FIG. 1 is a perspective view showing the piece of convertible furniture in the sitting position,

FIG. 2 is a sectional view showing the article in the same position, and

FIG. 3 is a sectional view showing the article converted to the lying position.

In the embodiment shown, the article of furniture comprises three cushions 1, 2, 3. In the sitting position, the cushion 1 lies on the cushion 2 and the third cushion 3 rests on the cushion 1 and bears on a frame 4 by means of an inclined abutment 5 which connected to the frame 4 by a hinge 6. The cushion 2 is arranged on an outer part 7 of a carriage 7, 9, which is extensible from the frame 4. The cushion 2 is preferably firmly connected (fixed) to the part 7. The cushion 1 is hinged to the cushion 2 by a fabric hinge 8 and, when the article is in the lying position lies on an inner part 9 of the carriage. The inner part 9 of the carriage may define a space 10 for bedclothes which is closed by a cover 11. The latter contains a wire mesh insert and forms a support for the cushion 1.

A structure for supporting the third cushion 3 when the piece of furniture is in the lying position comprises two support members 13 and 14, which are interconnected by a hinge 12. The two support members 13 and 14 are also connected by a spring 15 or the like means, which tend to hold the two support members 13, 14 in the position shown in FIG. 2 or to move the two support members to said position when the piece of furniture is in the sitting position. The forward support member 13 is provided with rollers or sliders 16, which

roll or slide on a guide 17, which is provided on the frame 4 and serves to guide the inner part 9 of the carriage. The guide 17 may consist of grooves formed in the side members of the frame 4 or of rails provided on said side members, and may have a downwardly angled rear portion 18. The latter ensures that the cushions 1 and 2 are rearwardly inclined in the sitting position. The rear support member 14 carries at its free end also rollers or sliders 19, which cooperate with a guide 20, which may also consist of grooves or rails, which are provided in or on the side members of the frame 4. The guide 20 is disposed above the guide 17, 18 and may be provided at its forward end 21 with a stop for limiting the movement of member 19 to the position shown in FIG. 3. Alternatively, that end may be formed in itself as a limiting stop.

A spring 22 acts on the inner part 9 of the carriage, preferably on pins for mounting the common rollers 16 or on the common sliders. The other end of the spring 22 is secured to the frame 4. The spring 22 has such a length that it is stressed when the piece of furniture is in the lying position and in the sitting position so that the spring assists the initiation of the conversion movement in one direction and the other.

The third cushion 3 may be connected to the abutment 5 by a fabric hinge 23 or may be loose. Where a fabric hinge 23 is provided, the same may hold the third cushion 3 in position as a back cushion so that the cushions 1 and 2 which extend under the third cushion in the position for sitting can be freely extended forwardly. If the third cushion 3 is loose, it must be laid aside before the beginning of a conversion movement in one direction or the other.

During a movement of the carriage 7, 9 out of the frame 4 from the position shown in FIG. 2 to the position shown in FIG. 3, the support members 13, 14 are carried along because they are coupled to the inner part 9 of the carriage, and these support members are pivotally moved about the hinge 12 to an extended position whereby the spring 15 is stressed. During this operation, the rollers or sliders 19 move forwardly along the guide 20 until they have reached the end 21 of that guide. The third cushion 3 may then be swung back or replaced onto the support members 13, 14. The initiation of this conversion movement is assisted by the spring 22, which is stressed again toward the end of the conversion movement. That stress is such that the spring 22 alone cannot unintentionally return the carriage 7, 9. Means for locking the piece of furniture in the resulting position may be provided, if desired.

When the third cushion 3 has been swung up or laid aside and any locking means have been released, the opposite conversion may be initiated by pushing the carriage 7, 9 inwardly. This will be assisted by the stress of the spring 22. During this operation the rear rollers or sliders 19 of the support members 13, 14 move rearwardly on the guide 20 and are folded together by the action of the spring 15 to assume an approximately vertical position, shown in FIG. 2, when the push-in movement has been terminated. To facilitate the conversion movement the carriage may be supported on the floor in known manner by rollers or sliders 24. The outer part 7 of the carriage is supported by the inner part 9 and the latter is supported by the guide 17, 18.

The embodiment of convertible piece of furniture and lying which has been described and shown serves only for an explanation of the nature of the invention

and the latter is not restricted to details. For instance, the support members 13, 14 may be provided with upholstery.

It will be understood that the means for guiding the several parts of the piece of furniture are provided on both sides thereof. Each of the cushions 1, 2, 3 may consist of a single piece or, as indicated in FIG. 1, of three pieces, and the piece of furniture may alternatively consist of a reclining chair.

What is claimed is:

1. A piece of furniture convertible between a lying position and a sitting position and comprising a frame

a carriage including a pair of telescopingly interfitting carriage members adapted to be moved out of and into said frame for the conversion of the piece of furniture into said lying and sitting positions, respectively,

first and second cushions lying on said carriage one behind the other in said lying position and one over the other in said sitting position,

a wedge-shaped third cushion, which is adapted to form a wedge-shaped bolster in said lying position and a back cushion in said sitting position, and a support extensible to carry said wedge-shaped bolster in said lying position and comprising two support plate members, which are articulatedly connected and adapted to be folded together to extend upright in said sitting position, one of said support members being connected to said carriage, the other of said support members being guided on said frame.

2. A piece of furniture as set forth in claim 1 wherein: said support members include a forward support member and a rear support member,

each of said support members has a free edge,

first and second guide means are provided for guiding said free edges of said forward and rear support members, respectively,

said free edge of said forward support member is coupled to said carriage and guided therewith by said guide means, and

said second guide means are provided with a stop, which limits the movement of said rear support member.

3. A piece of furniture as set forth in claim 2, in which

said second guide means are disposed above said first guide means and

said carriage has an inner part, which is guided by said first guide means.

4. A piece of furniture as set forth in claim 3, in which said first guide means comprise a downwardly angled rear portion.

5. A piece of furniture as set forth in claim 3, in which

said support members are provided at said free edges with friction-reducing means in contact with said guide means and

said friction-reducing means of said forward support member serve to guide also said inner part of said carriage on said first guide means.

6. A piece of furniture as set forth in claim 5, in which said friction-reducing means consist of rollers.

7. A piece of furniture as set forth in claim 5, in which said friction-reducing means consist of sliders.

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8. A piece of furniture as set forth in claim 5, in which said guide means comprise groove means.

9. A piece of furniture as set forth in claim 5, in which said guide means comprise rail means.

10. A piece of furniture as set forth in claim 1, in which said two support members are interconnected by biasing means which tend to fold said support members together.

11. A piece of furniture as set forth in claim 10, in which said biasing means comprise spring means.

12. A piece of furniture as set forth in claim 1, which comprises an abutment connected to the frame and adapted to assume an inclined position and to support in said inclined position said third cushion as a back cushion in said position for sitting.

13. A piece of furniture as set forth in claim 12, in which said abutment is hinged.

14. A piece of furniture as set forth in claim 12, which comprises a fabric hinge connected to said abut-

ment and to the rear side of said third cushion.

15. A piece of furniture as set forth in claim 1, which comprises a spring, which at one end acts on said carriage and at the other end is connected to said frame and which is arranged to be stressed in said positions for lying and for sitting.

16. A piece of furniture as set forth in claim 15, in which

said support members consist of a forward support member and a rear support member, said carriage has a part which is coupled to said forward support member, and said spring acts on said part of said carriage.

17. A piece of furniture as set forth in claim 1, in which each of said support members has an upholstered surface arranged to face upwardly in said position for lying.

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