

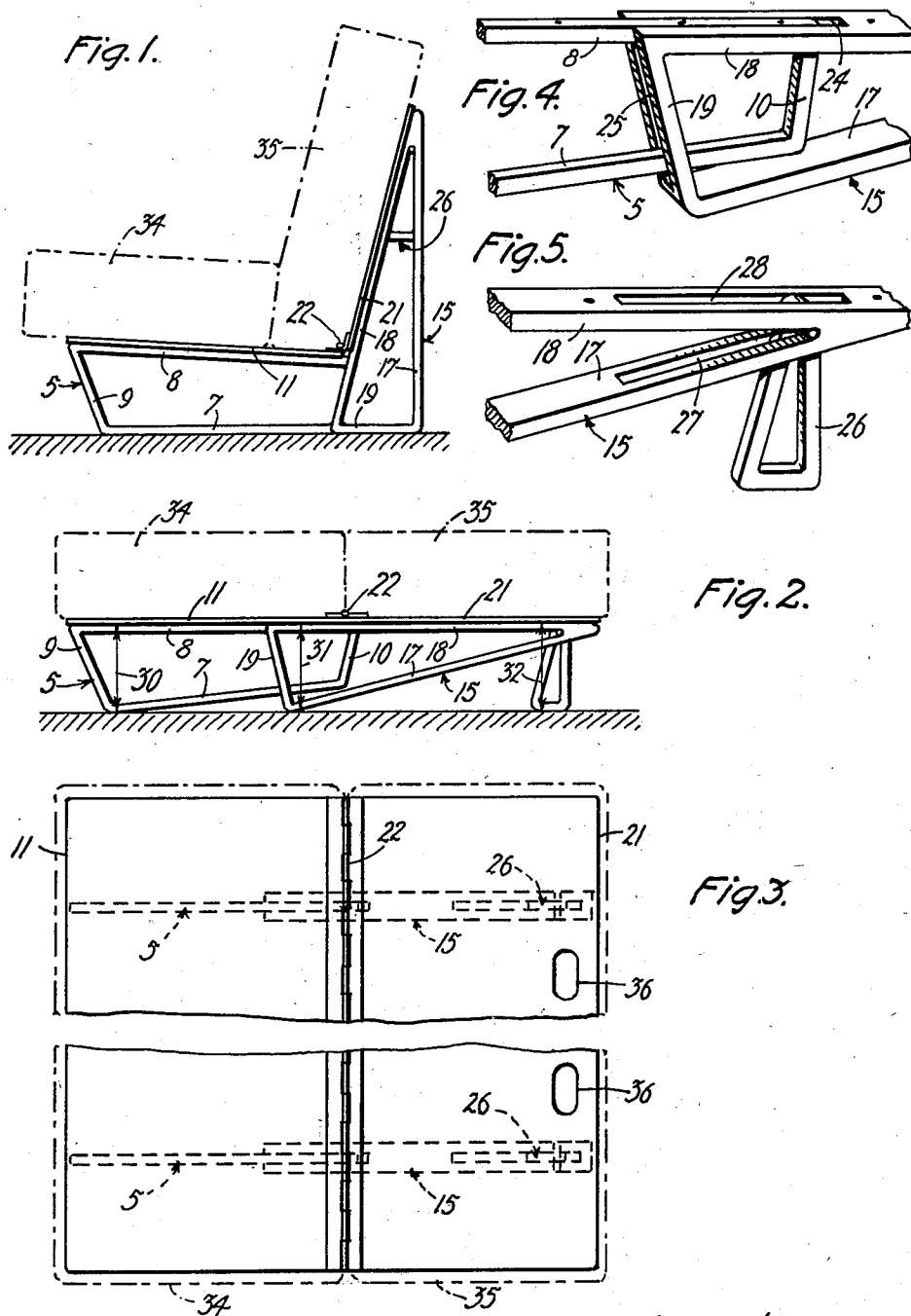
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A. C. ABAJIAN

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REVERTING BACK COUCH-BED

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Inventor:
Aram C. Abajian
by Robert Irving Williams
Att'y.

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REVERTING BACK COUCH-BED

Aram Christian Abajian, New York, N. Y.

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This invention relates to convertible couch-beds, and has for its object the production of simple, effective, inexpensive, and attractive means for supporting springs and/or mattresses in positions which will afford a maximum of comfort both when in the form of a couch and in the form of a bed, and which may be converted in either sense with a minimum of effort.

With the foregoing and other considerations in view, the invention contemplates the provision of front supporting frame means and rear supporting frame means which are in the form of triangles or truncated triangles, which have equal maximum transverse extents. The rear frame means carries leg means having an equal effective extent; and the frame means are hinged at the line of intersection of the planes (when the device is in the form of a couch) in which their upper portions lie.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is an end view of a couch-bed embodying the invention when in couch position;

Fig. 2 is a similar view thereof when in bed position;

Fig. 3 is a top view of the couch-bed when in bed position, certain of the parts being broken away;

Fig. 4 is a perspective detail view; and

Fig. 5 is another perspective detail view.

In the exemplified construction, the couch-bed comprises a plurality of front supporting frame means 5, each of which in the present instance is formed from a plurality of bars joined in the form of truncated triangles each having a base 7, an upper portion 8, a front connector 9, and rear connectors 10. The portion 8 is sloped rearwardly and downwardly so that the upper plane thereof converges toward the lower plane of the portion 7. The frame means 5 are interconnected by a longitudinal plate 11 in the present instance to complete the frame, altho it will be appreciated that the same may be connected longitudinally in any of a wide variety of desired manners. The couch-bed also comprises a plurality of rear supporting frame means 15 formed in the present instance by a series of bars, each bent into the form of a triangle to provide a substantially vertical rear portion 17, an upper portion 18 sloped rearwardly, and a base portion 19. The frame means 15 are connected longitudinally by a plate 21.

The front supporting frame means and the rear supporting frame means are so arranged that they may be freely swung between couch-supporting and bed-supporting position. In the present instance, the plates 11 and 21 are joined longitudinally by hinge means 22 which may be in the form of one or more sections of piano hinge. The bars 17, 18, and 19 of each rear frame means are wider than the bars of the front frame means and the bars 18 and 19 are bifurcated by slots 24, 25 wide enough to receive the rearmost portion of one of the frame means 5. Thus, in the couch position shown in Fig. 1, the bar 10 will be located in the slot 24 and may be substantially flush with the bar 18, whereas in bed

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position shown in Fig. 2 there will be appreciable overlap between the front frames 5 and rear frames 15.

At the upper ends of the rear supporting means 15 there are mounted leg means 26 adapted to support the rear of the device when in the form of a bed. In the present instance these legs are pivotally mounted on the frames 15 so that they can be moved out to protrude downwardly when the device is in the position of Fig. 2 and can be folded in, out of the way, when the device is in the position of Fig. 1; the frame bars 17 and 18 having slots 27 and 28 for this purpose. As will be seen from Fig. 1, when the device is in the form of a couch, it is supported on the portions 7 and 19. As will be seen from Fig. 2, when the device is in the form of a bed, it is supported on the corners where the portions 7 and 9 meet, the corners where the portions 17 and 19 meet, and the bottom of the legs 26.

It will be observed that, as indicated in Fig. 2, by the equidistant double arrows 30, 31, and 32, the maximum transverse extent of the front supporting means 5, the maximum transverse extent of the rear supporting means 15, and the effective extent of each leg 26 (e. g. the distance from the base of the leg to the top of the portion 18) are all equal, so as to provide a perfectly horizontal support when the device is in the form of a bed. On the other hand, when the device is in the form of a couch the inclined portions 8 and 18 provide for the maximum in sitting comfort. Spring-and-mattress cushions 34 and 35 are provided in the present instance to form a comfortable sitting or sleeping arrangement. The exemplified construction permits the cushions to extend over the sides of the frame in the manner shown in Fig. 3 when the device is in the form of a bed. Hand holes 36 are provided near the top edge of plate 21 for ready conversion from one position to the other of the couch-bed.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. In or for a convertible couch-bed, front frame means comprising an upper element providing forward and rearward points of support in an upper horizontal plane when the device is in the form of a bed and being inclined rearwardly and downwardly when the device is in the form of a couch, a lower element immovably connected to said upper element and being inclined rearwardly and upwardly and providing a base support at a forward point when the device is in the form of a bed and lying in a lower horizontal plane and providing a base support at forward and rearward points when the device is in the form of a couch; rear frame means comprising an upper element providing forward and rearward points of support in said upper horizontal plane when the device is in the form of a bed and providing an upwardly and rearwardly sloping back when the device is in the form of a couch, an element immovably connected therewith extending downwardly therefrom when the device is in the form of a bed and terminating at a distance measured perpendicularly to said upper plane which is equal to the maximum distance between the first-mentioned upper element and said lower element and extending rearwardly to form a base for said rear frame means when the device is in the form of a couch, said maximum distance being measured on perpendiculars to said upper plane extending thru said first-mentioned forward point; and means hingedly connecting said upper elements at points substantially in said upper plane rearward of the last-mentioned perpendiculars when the device is in the form of a bed and connecting said front frame means with said rear frame means at the rear of at least one point on said second-mentioned upper element when the device is in the form of a couch.

2. A couch-bed as set forth in claim 1 wherein said hinge is at the rear of the last-mentioned immovably-connected element when in bed position.

3. A couch-bed as set forth in claim 2 wherein said frame means provide a set of at least three major points of support from front to rear when the device is in the

form of a bed and a set of at least three major points of support from front to rear when the device is in the form of a couch, and wherein such frame means are provided at at least two longitudinally spaced positions.

4. A couch-bed as set forth in claim 3 wherein the rearmost of the points of support of the first-mentioned sets are provided by hinged legs.

5. A couch-bed as set forth in claim 1 wherein a supporting sheet for the rear of the couch-bed is provided, and wherein handle openings are provided therein.

6. A device as set forth in claim 1 wherein front and rear mattress means are provided.

7. A convertible couch-bed as set forth in claim 1, wherein there are provided cushions extending beyond corresponding portions of the frame when in bed position.

8. In a convertible couch-bed, rigid front supporting frame means comprising upper lateral frame elements extending in a plane sloping downwardly and rearwardly when the device is in the form of a couch and horizontally when the device is in the form of a bed and lower lateral frame elements extending below said upper frame elements and lying in a horizontal plane when the device is in the form of a couch and extending upwardly and rearwardly when the device is in the form of a bed, longitudinal frame elements, and transverse frame elements; rigid rear supporting frame means comprising lateral frame elements extending downwardly and forwardly when the device is in the form of a couch and horizontally when the device is in the form of a bed, lateral frame elements running generally beneath the last mentioned lateral frame elements when the latter are in horizontal position, and forming an acute angle therewith and extending more directly downwardly when the

device is in the form of a couch and upwardly and rearwardly when the device is in the form of a bed, longitudinal frame elements, and transverse frame elements; hinge means connecting said front supporting frame means and said rear supporting frame means; and leg means hinged to the upper rear portion of said rear supporting frame means.

9. A convertible couch-bed which comprises a plurality of front supports each comprising a pair of rearwardly converging upper and lower arms rigidly connected by a front arm which extends substantially vertically, hinge means carried by said upper arm, means connecting said front supports, a plurality of rear supports each comprising an arm mounted by one of said hinge means, an arm rigidly secured thereto and extending generally transversely therefrom, and an arm rigidly secured to the transversely extending arm and converging toward the hingedly connected arm, and leg means hinged to one of the last-mentioned converging arms at a point spaced from the first-mentioned hinge means.

10. A device as set forth in claim 9 wherein at least a portion of said front supports is staggered with respect to said rear supports.

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