Jan. 4, 1955 J. KRONHEIM 2,698,648

CONVERTIBLE CHAIR AND BED STRUCTURE

Filed Dec. 21, 1950 3 Sheets-Sheet 1

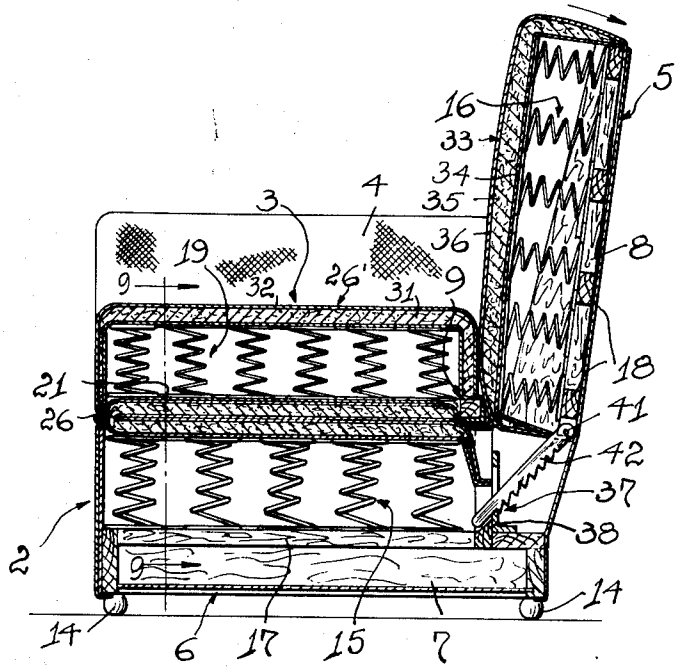


FIG. 1

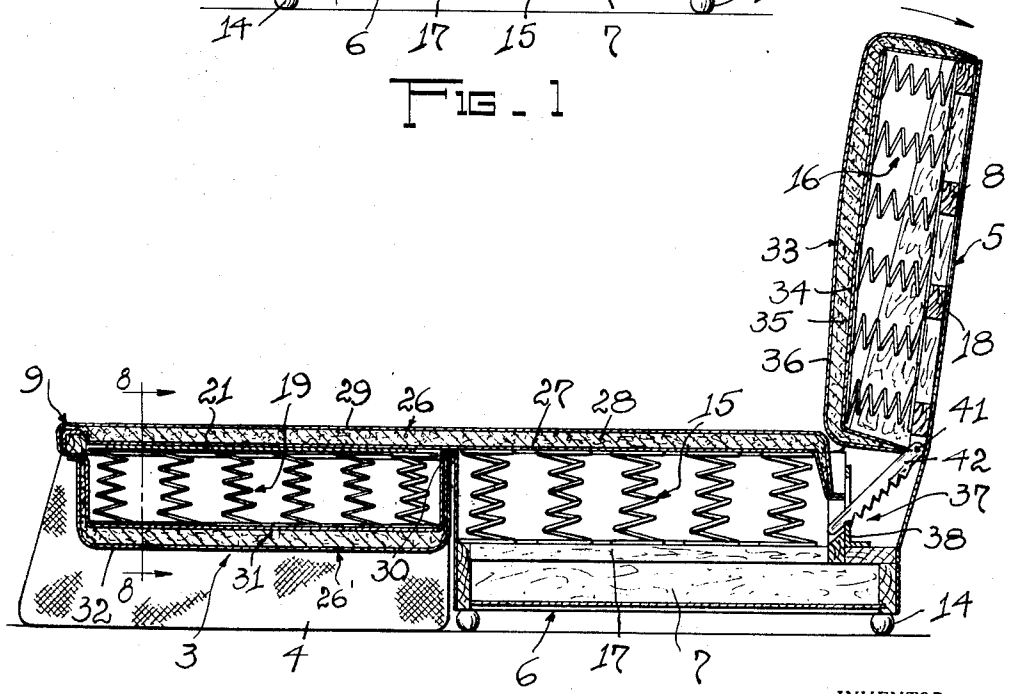


FIG. 2

INVENTOR.
JACOB KRONHEIM
BY
Gustav A. Wolff
ATT.

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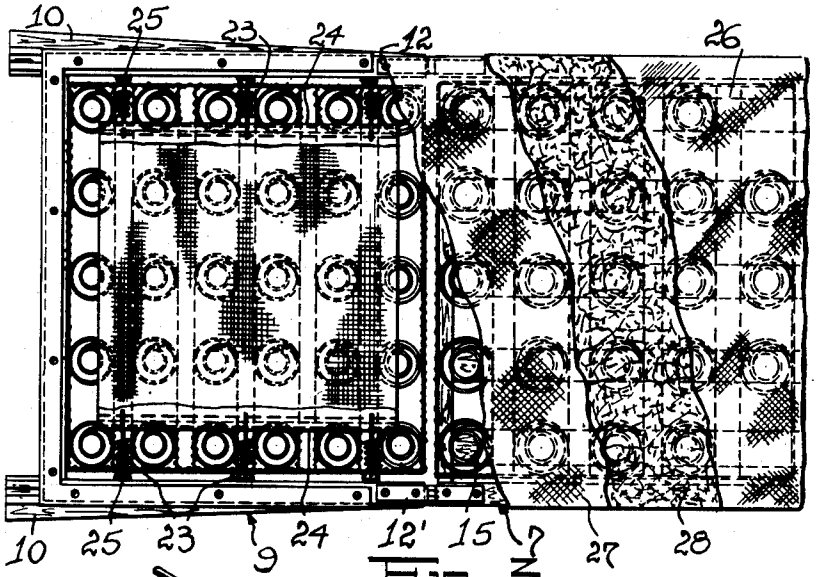


FIG. 3

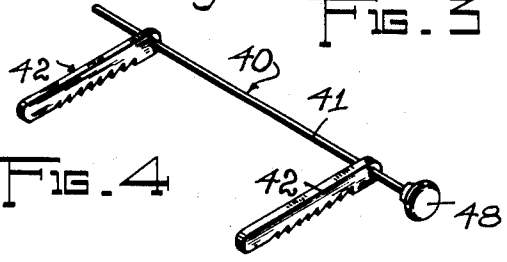


FIG. 4

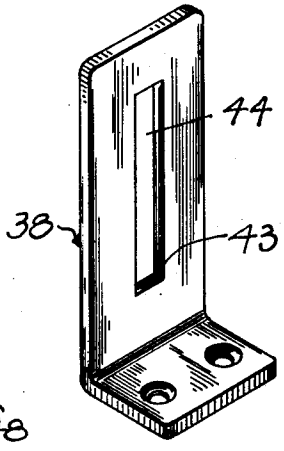


FIG. 7

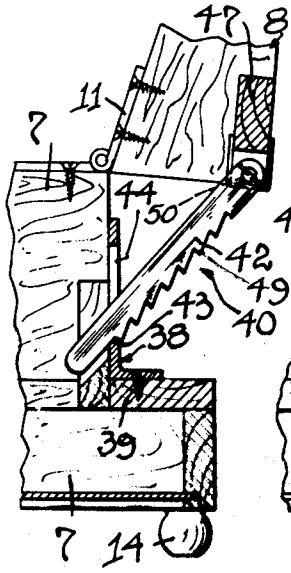


FIG. 5

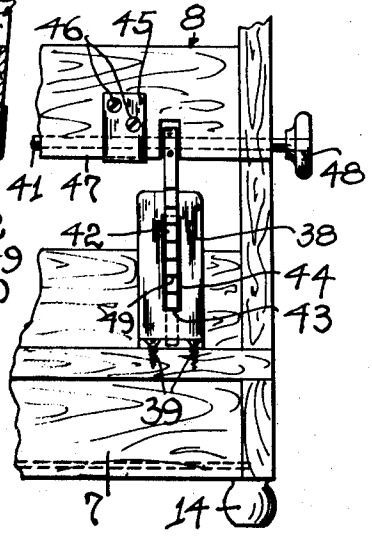


FIG. 6

INVENTOR.
JACOB KRONHEIM
BY
Gustave A. Wolff.
ATT.

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CONVERTIBLE CHAIR AND BED STRUCTURE

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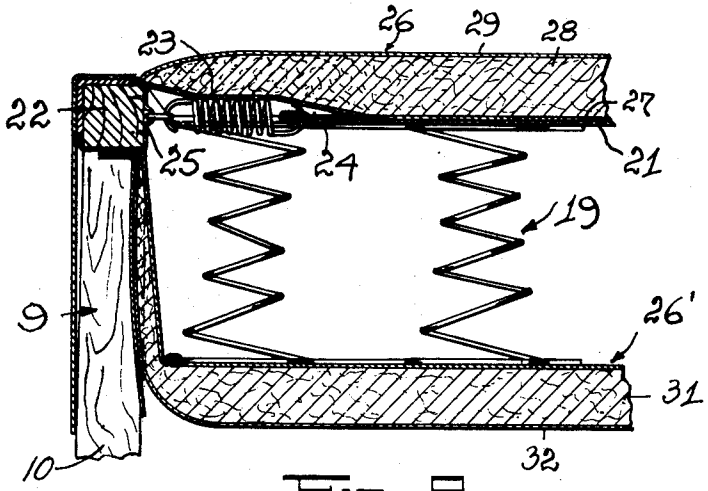


FIG. 8

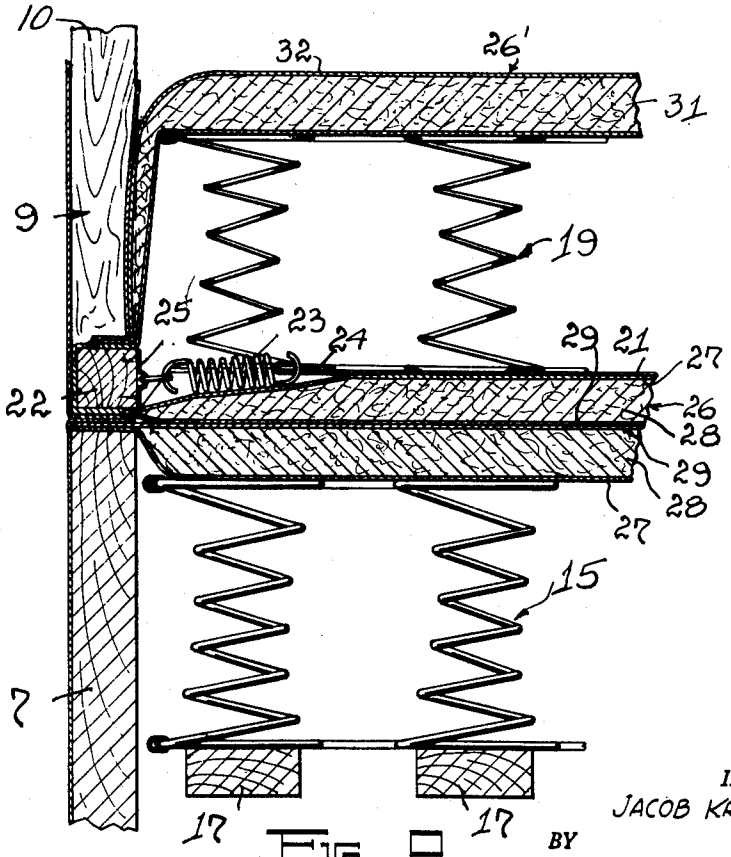


FIG. 9

INVENTOR.
JACOB KRONHEIM
BY
Gustave A. Wolff
ATT.

United States Patent Office

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CONVERTIBLE CHAIR AND BED STRUCTURE

Jacob Kronheim, Shaker Heights, Ohio, assignor of one-half to Ernie E. Schwartz, Cleveland Heights, Ohio

Application December 21, 1950, Serial No. 202,045

3 Claims. (Cl. 155—49)

The present invention relates in general to upholstered furniture articles such as chairs and sofas and, more particularly, to articles of this type adapted to be readily and easily converted to studio or full-sized beds.

The primary object of the invention is the provision of a convertible piece of upholstered furniture which embodies a sectional frame assembled from three open frame sections hinged to each other and three differently yielding spring constructions individually supported by said frame sections, two of the spring constructions being assembled from individual, relatively stiff coil springs and rigidly mounted on adjoining sections of the sectional frame and the third one of the spring constructions being assembled from individual relatively soft coil springs and axially, yieldingly shiftably supported by the other frame section.

Another object of the invention is the provision of a convertible piece of upholstered furniture of the type described above in which the spring construction assembled from relatively soft coil springs is supported by and attached to an auxiliary, yielding supporting member arranged cross-wise of the frame section which member mounts such spring construction so that the convertible piece of furniture forms in folded up condition a chair structure, the seat of which embodies a relatively soft top cushion and in unfolded condition a bed structure embodying an elongated, bed-like resting surface.

With the above and other incidental objects in view, the invention has other marked improvements and superiorities which radically distinguish it from presently known structures. These improvements and superior characteristics embodying certain novel features of construction are clearly set forth in the appended claims, and a preferred form of embodiment of the invention is hereinafter shown with reference to the accompanying drawings forming part of the specification.

In the drawings:

Fig. 1 is a longitudinal sectional view through a convertible piece of furniture constructed in accordance with the invention;

Fig. 2 is a longitudinal sectional view similar to Fig. 1 with the cushion portion unfolded;

Fig. 3 is a fragmentary plan view of the opened-up convertible piece of furniture showing the upholstery partly broken away to disclose the spring construction in the front and middle sections of the convertible piece of furniture.

Fig. 4 is a perspective view of the ratchet member assembly adjustably holding the back support in position;

Fig. 5 is a fragmentary sectional view showing the ratchet member in engaged position;

Fig. 6 is an end view of Fig. 5;

Fig. 7 is a perspective view of one of the locking members to be engaged by one of the ratchet members of the ratchet member assembly;

Fig. 8 is an enlarged fragmentary cross-sectional view taken on line 8—8 of Fig. 2; and

Fig. 9 is an enlarged, fragmentary, cross-sectional view taken on line 9—9 of Fig. 1.

Referring now more specifically to the drawings disclosing a practical embodiment of the invention reference numeral 2 denotes an upholstered arm chair structure with a cushioned seat member 3 having arm supports 4 and a back rest member 5. The arm chair structure includes a frame 6 assembled from three frame sections, a seat supporting or main frame section 7, a top or back rest forming frame section 8, and a cushion or foot support forming frame section 9 provided with side frame members 10 forming the arm support 4 of the chair structure.

The frame sections are foldably connected with each other by hinges 11, 11' and 12, 12' which connect frame section 8 and frame section 9 with frame section 7 resting on legs 14. The three frame sections support spring constructions of different yielding action. Thus frame sections 7 and 8 rigidly mount spring constructions 15 and 16 assembled from relatively stiff individual coil springs which constructions are seated on and secured to slats 17 and 18 bridging the respective open frame sections and frame section 9 yieldingly supports a spring construction 19 assembled from relatively soft coil springs which construction is seated on and attached to a fabric bottom member 21 yieldingly stretched by springs 23 between the side rails 22 of frame section 9, springs 23 tensionally connecting the reinforced side portions 24 of the fabric bottom member with brackets 25 attached to the inner faces of said side rails.

Fabric bottom member 21 is arranged to seat the spring construction 19 when the arm chair structure is in folded up condition to permit springing action of spring construction 19 and cooperation of such spring construction with the fabric bottom member and spring construction 15 supported on slats 17 of the seat supporting main frame section 7. When the arm chair structure is unfolded and forms an elongated bed-like resting surface, the frame section 9 is in inverted position and rests on arm supports 4 and spring construction 19 being suspended from the fabric bottom member 21 which supports the loads placed on the foot section of the resting surface.

Frame sections 7 and 9 are covered by a pad-like covering 26 consisting of an elongated sheet of burlap 27 extending in opened up position of the chair structure over spring construction 15 and fabric bottom member 21, a layer of padding material 28, and a cover sheet 29 which is drawn around spring construction 19 and secured at 30 to the bottom face of burlap sheet 27. This burlap sheet 27 as is customary is secured to the larger cover sheet 29, the side and transverse edges of which are attached to the side and transverse rails of frame sections 7 and 9 to cover their exposed outer faces. In addition there is provided a covering 26' for spring structure 19, which covering includes padding material 31 and a covering 32 attached to the bottom face of burlap sheet 27 and the front and side rails of frame section 9 and adjacent the front of section 7. The frame section 8 is covered by a pad-like covering 33 which is secured to the four rails of said frame section and consists of a sheet of burlap 34 stretched over the spring construction 16, a layer of padding 35 and a cover sheet 36.

The frame section 8 which, as described above, is hinged to seat supporting or main frame section 7 by hinges 11, 11' is adjustably held in inclined position with respect to frame section 5 by a releasable ratchet arrangement 37 including two laterally spaced L-shaped slotted brackets 38 attached to the rear end rail of the frame section 7 by screws 39, and a pivotally supported ratchet member 40 embodying a pivotally supported horizontal rod 41 and spaced ratchet bars 42 rigidly supported by said rod in spaced relation with respect to each other which ratchet bars extend through elongated slots 44 in brackets 38 and cooperate with the lower edges 43 of the slots. The horizontal rod 41 of ratchet member 40 is pivotally disposed in an elongated groove 50 in the lower edge of rail 47 and properly held in such groove by brackets 45 secured by screws 46 to lower rail 47. Horizontal rod 41 carries at its one end a knob 48 to facilitate rotation of said rod and effect release of ratchet bar teeth 49 from gravity engagement with edges 43 of elongated slots 44.

Having thus described my invention what I claim is:

1. A convertible, upholstered piece of furniture adapted to be used as a seat and bed structure comprising a seat supporting frame, two frame sections hinged to opposed ends of said seat frame, spring constructions assembled from relatively stiff individual springs rigidly supported by said seat supporting frame and one of said two frame sections, a spring construction assembled from relatively soft individual springs on the other one of said two hinged

frame sections, a sheet of fabric attached to one face of the latter spring construction and spring members secured to said fabric and the side rails of said other one of said two frame sections for stretching said sheet of fabric between said side rails, said sheet of fabric arranged to yieldingly support the last named spring construction when the convertible upholstered piece of furniture in folded up condition is used as a seat structure and to form a yielding supporting surface when the convertible upholstered piece of furniture is in unfolded condition and used as a bed structure.

2. A convertible upholstered piece of furniture as described in claim 1, including padded covering means for the top face of the spring structure of the seat supporting frame and the bottom face of the spring construction assembled from relatively soft individual springs when the piece of furniture is in a folded up condition, said padded covering means being folded around said latter spring construction and extending over the under surface of the sheet of fabric when the piece of furniture is in an unfolded condition.

3. A convertible upholstered piece of furniture adapted to be used as a seat and bed structure, comprising a seat supporting frame, two frame sections hinged to

opposed ends of said seat supporting frame, spring constructions, assembled from relatively stiff individual coil springs rigidly supported by said seat supporting frame and one of said two frame sections, a spring construction assembled from relatively soft coil springs on the other one of said two frame sections, and a fabric member yieldingly stretched by springs between the side rails of the said other one of the two frame sections, said fabric member being attached to said soft coil spring construction and adapted to yieldingly support same in folded up condition of the piece of furniture.

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