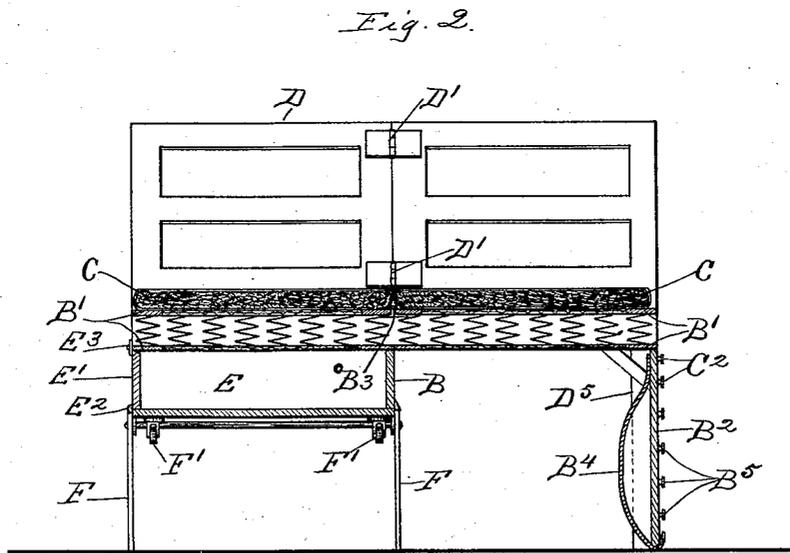
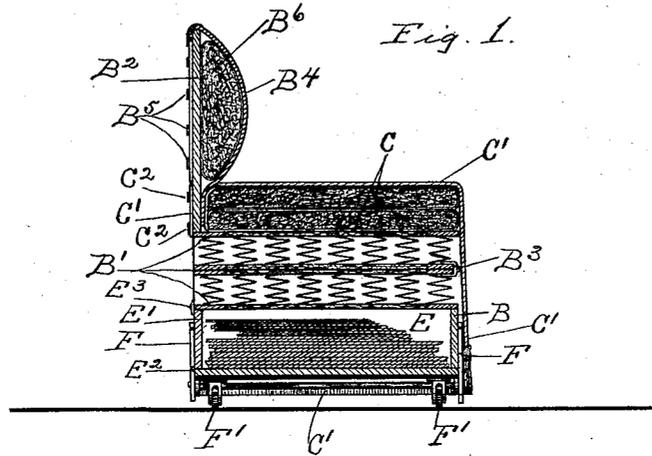


E. S. SMITH.
CONVERTIBLE FURNITURE.

No. 533,925.

Patented Feb. 12, 1895.



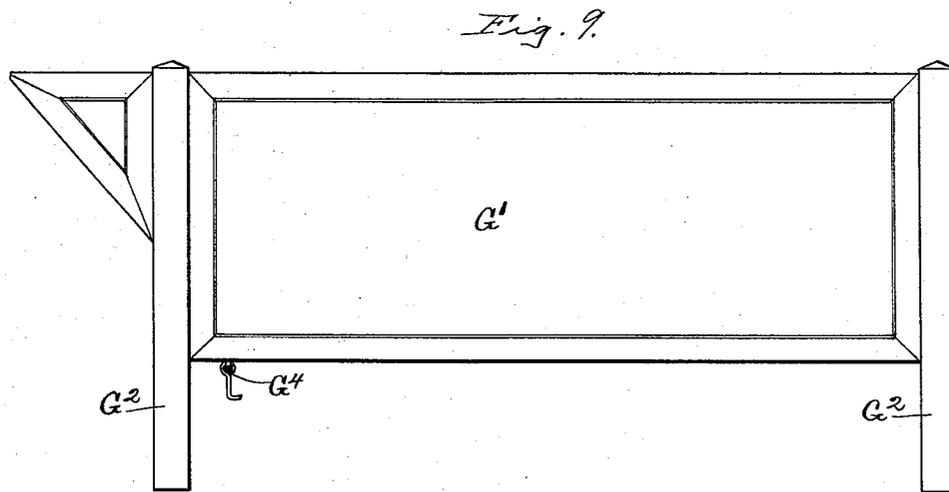
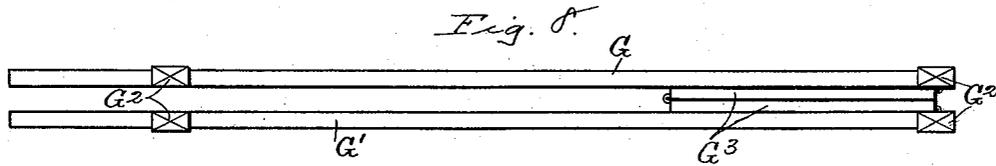
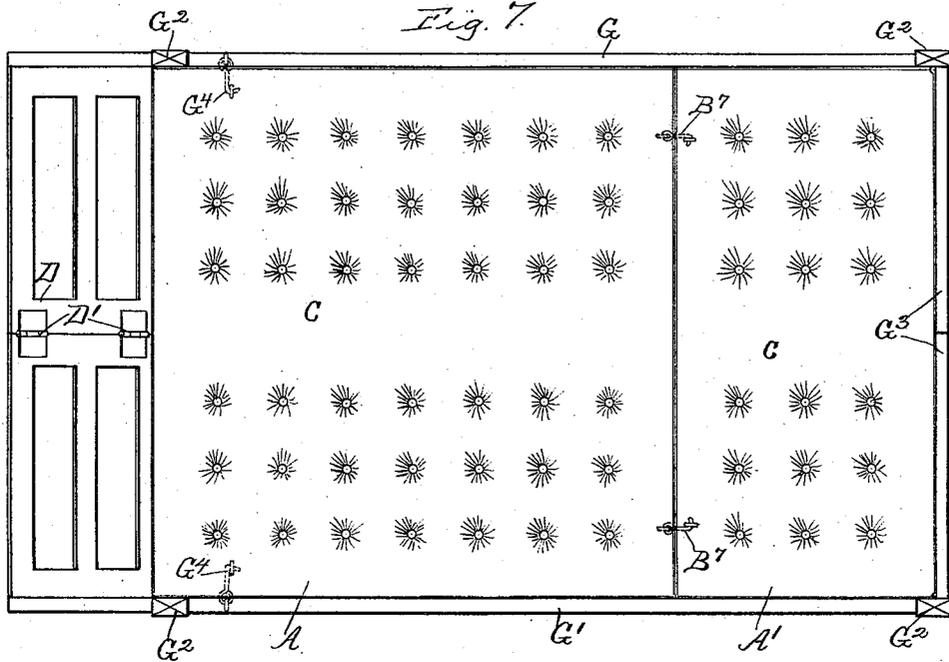
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UNITED STATES PATENT OFFICE.

ELIZABETH S. SMITH, OF TROY, NEW YORK.

CONVERTIBLE FURNITURE.

SPECIFICATION forming part of Letters Patent No. 533,925, dated February 12, 1895.

Application filed June 10, 1893. Serial No. 477,201. (No model.)

To all whom it may concern:

Be it known that I, ELIZABETH S. SMITH, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Convertible Furniture, of which the following is a specification.

My invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a vertical cross-section of my improved article of furniture convertible into a folding-bed. Fig. 2 is a similar view of one of the folding-bed sections formed from such an article of furniture. Fig. 3 is a vertical longitudinal section of the bed-sections joined together to form a complete bed. Fig. 4 is a rear elevation of one end of my improved convertible article of furniture. Fig. 5 is an edge view of a portion of the collapsible head-rest showing a folding support hinged thereto. Fig. 6 is a horizontal cross-section taken on the broken line 6-6, in Fig. 3, of the supporting seat or socket for the folding support shown in Fig. 5. Fig. 7 is a top plan view of the folding-bed inclosed by a removable folding guard-frame. Fig. 8 is a top plan view of the guard-frame removed from the bed and folded together. Fig. 9 is a side elevation of the same.

The objects of my invention are to form a sectional folding-bed, the sections of which can be removed from each other and each converted into a complete article of furniture; and to make use of portions of the bedding material to form removable cushions for the articles of furniture.

Referring to the drawings, A—, A'— represent two sections of the folding-bed, each adapted to form a separate article of furniture complete in itself, one section being of greater length than the other as shown in Fig. 3. The longer section is adapted to form a lounge or sofa, and the shorter section a chair.

The two bed-sections are substantially alike in vertical cross section, as are the articles of furniture into which they are convertible, the sectional views, shown in Figs. 2 and 1, illustrating respectively views in vertical cross-section of either folding-bed-section, and the article of furniture formed therefrom.

The sofa or chair consists of a supporting-base B—, a seat-supporting spring-frame B'— and a back-rest B²—. The spring-frame is extensible, comprising two sections hinged together at B²— along their front edges to fold one upon the other. The lower spring-frame section is fixed upon the supporting-base; and the upper section supports the back-rest which is secured to the oscillatory end of such section and adapted to swing with the same from the position shown in Fig. 1, to that shown in Fig. 2 when the spring-frame is extended, in which latter position the back-rest is inverted and rests upon the floor forming a support for the oscillatory end of the upper spring-frame section. The spring-frame, as shown in Fig. 1, supports the removable mattress C—, comprising two parts folded one upon the other, which forms the seat or cushion.

The cushion or mattress is secured in position by the detachable flexible covering C'— which incloses both mattress and spring-frame, and takes the place of the usual upholstered covering for such articles of furniture. The ends of the covering C'— extend around the ends of the back-frame and are provided with buttonholes adapted to receive the buttons or studs, C²— on the back-frame, whereby the covering is detachably secured in position.

When it is desired to convert the furniture into a bed, the detachable covering is unbuttoned from the back-frame and with the extensible mattress is removed. The spring-frame can then be opened or extended to the position shown in Fig. 2, whereupon the mattress may be extended and superimposed upon the open spring-frame in position to form a bed, as shown in Fig. 2.

The back-rest B²— consists of a frame provided on its front side with a flexible covering B⁴— permanently secured along its longitudinal edges to the frame to which its end-edges are detachably secured. Such end-edges

extend around the ends of the frame and are buttoned upon the studs B⁵— on such frame. Between the back-frame and its flexible covering is inclosed and supported the removable cushion B⁶— consisting of a pillow or other article of bedding which is easily accessible for removal when the end of the flexible covering is unbuttoned.

It is undesirable and inconvenient to have a dwelling room occupied by an article of furniture large enough to form of itself a bed.

By constructing the furniture in the manner above described, the bed may be made up of sections, being composed of a chair and a sofa, or two small sofas, detachably secured together, end to end. In Fig. 3, I have shown a sofa and chair so placed and secured together by the hook-and-eye connection B⁷—, for which any known detachable connection may be substituted when desired. I provide an end of one of the bed-sections, intended to be the head of the bed, with a removable collapsible head-rest D—, which serves to economize in the length of the bed-sections, and also to support the pillow or pillows in a slightly elevated position. The head-rest consists of a folding skeleton-frame hinged in the middle at D¹— and having one end or section of such frame provided with folding supports D²— hinged thereto at one end at D³— and adapted to fold upon such section when out of use. The other end of each support is insertible in and fits a socket in a bracket D⁴— secured upon the supporting base of the sofa. The other section of the head-rest frame is supported by a standard D⁵— resting upon the floor and having its upper end flaringly beveled at D⁶— to fit a dove-tailed slideway in the head-rest frame, as shown in Fig. 3.

The beveled end D⁶— can be easily removed from the slide way when the head-rest is removed from the bed, leaving the skeleton frame free to be folded.

The standard may be provided with a folding arm D⁷— when desired, to form a supplemental support for the head-rest to which it may be detachably secured by a dove-tailed connection D⁸— similar to that at D⁶—.

The supporting base B— of the chair or sofa is hollow forming a receptacle E— for articles of bedding not otherwise disposed of in converting the folding-bed into an article of furniture. The receptacle formed in the base of the sofa can also be made to contain the head-rest when folded into its most compact form. Such receptacle is closed by a door E¹— which is hinged to the base at E²— to open outwardly, and may be locked by a button E³—.

When the extensible spring-frame is formed of sections hinged together to fold one above and upon the other, as shown, if such frame is, when folded or doubled, of proper height for a sofa or chair, it will, when unfolded or extended, be lower than is desirable for the spring-frame of a bed. To compensate for this difference in height, I provide the base B— with folding legs or supports F— upon

which the base may rest in an elevated position when the bed is in use; and which may be folded up to allow the base to rest upon its ordinary supports or casters F¹— in a lower position when the article is in use as a chair or sofa.

In Fig. 7, I have shown the folding-bed inclosed by a removable folding guard-frame whereby the bed is adapted for the use of children; and is protected from drafts.

G—, G¹— are the side-boards or walls of the frame provided with supporting posts or legs G²—, and connected together at the foot end of the bed only, by the folding end-piece G³— jointed in the middle and hinged at the ends to the respective side-boards. The other ends of the side-boards are not permanently joined together; but when in use are detachably connected by means of suitable hook-and-eye connections G⁴— between the side-boards and opposite sides of the bed.

By having permanent connections between the side-boards at one end only, the other ends of the side-boards may be separated to permit the guard-frame to be applied to the bed from the end, avoiding the necessity of raising the frame and inclosing the bed therewith by placing the frame in position from above, as is necessary when the side-boards are joined together at both ends.

When not in use, the guard-frame can be removed and folded together in the form shown in Fig. 8.

I am aware that hair, excelsior and the like have been placed on a spring frame and inclosed by a flexible covering secured at one part thereof by buttons and do not claim such matter. It is essential to my improvement in this particular not only that the covering and frame be provided with button holes and studs respectively or with like devices but also that the hair, excelsior, or the like, if used, should be suitably inclosed by a separate cover to form an article of fixed form such as a pillow or mattress. I am also aware that a sofa has been made of right and left hand sections combined with a removable central section and with extension connecting-slides whereby the central section could be removed to be used as a chair and the remaining end sections pushed together to constitute a shorter sofa. Such sections were each provided with a folding wire frame with pivoted legs which frames when opened were continuous with like frames fixed in the sections to constitute a bed support, the ends or arm rests of the sofa being made to unfold to constitute head and foot rests. Such device lacks the spring frame and mattress and other important features of my improvement and it is too complex and weak for my purposes. I am further aware that a lounge or sofa has been provided with a spring frame consisting of a fixed end of a movable or hinged section adapted to be opened widthwise of the lounge to form a bed, and also that in a similar lounge a folding spring frame

covered with a mattress sufficiently light to be folded with the frame, the folding section of the lounge being upholstered and such upholstering inverted and not used in the bed; and such matters are not of my invention.

It is characteristic of my improvement that the reversible upholstered back of the chair or lounge is adapted to the combined height of the folded spring frame and superposed folded mattress; and also that a suitably covered removable bolster is combined with such reversible back so that said bolster can be utilized when the back is reversed to form a bed support; and also that special folding supports are combined with a chair or lounge base so that when these articles are connected and combined to constitute a bed the height of the latter is made equal to that of said base and superposed spring frame and mattress whereby a desired or suitable height of the bed is secured.

It is further characteristic of my improvement that in any use or adjustment of the spring frames and mattress sections all the springs and the entire mattress are in use no part being dormant and that they have such form and can be so combined with their supports that they can be properly disposed to to that end.

I am aware that a folding hinged frame having a removable end, the whole being supported on casters and adapted to stand on the floor around a cot or other bed is not new and I do not broadly claim such device.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a folding bed having special supports to compensate for variations in the combined thickness of spring and mattress sections, the combination of two sections each convertible into a complete article of furniture and having a folding spring frame on a supporting base and a folding mattress, and detachable connections for securing the sections together end to end, the folding mattress being removable and the folded spring frame adapted to support the folded mattress, said spring frame having secured to its oscillating end a back rest adapted to act as a leg when the spring frame is unfolded, all substantially as set forth.

2. In a folding bed comprising sections adapted for use as separate articles of furniture a section comprising in itself a folded spring frame, a back rest B² for a chair or other article of furniture said rest being adapted

for use as a bed support, a cover B⁴, and a removable upholstered bolster B⁶, substantially as set forth whereby said bolster may be used either in the chair or in the bed.

3. In a folding bed the combination of two sections each convertible into a complete article of furniture and having a widthwise-folding spring frame and a similarly folding superposed mattress and detachable connections for securing the sections together end to end, the folding mattress being removable and the folding spring frame adapted to support the folded mattress, whereby the latter can be suitably supported upon the former whether folded or open, and a back piece such as B² attached to the spring frame and adapted for use as a rest when the parts are folded and the mattress superposed, and for use as a leg or support when the spring frame is unfolded, a base for supporting a section when its mattress and frame are folded and the former superposed, and folding supports approximately equal in length to the combined thickness of the folded mattress and folded frame whereby the height of the bed and of the chair or other converted article is made practically the same, substantially as set forth.

4. In a folding bed convertible into furniture, the combination with a supporting base, a folding spring frame having one section supported by the base, and a support for the other spring frame section, of a collapsible head rest extending across the end of both sections of the spring frame, folding supports secured to one section of the head rest, seats on the supporting base for the free ends of the folding supports, a removable supporting standard, and detachable connections between the upper end of the standard and the other section of the head rest, substantially as set forth.

5. In combination with a bed, a guard frame consisting of a pair of side boards, an end piece hinged to and joining the side boards at one end thereof and adapted to fold inwardly, detachable connections as G⁴ holding the side boards closely to the bed, and a removable head rest situated at the open end of the frame, substantially as set forth.

In testimony whereof I have hereunto set my hand this 5th day of June, 1893.

ELIZABETH S. SMITH.

Witnesses:

FRANK C. CURTIS,
A. E. DELANEY.