

M. THOMSON.
SOFA BEDSTEAD.
APPLICATION FILED MAR. 16, 1912.

1,036,746.

Patented Aug. 27, 1912.

3 SHEETS—SHEET 1.

Fig. 1.

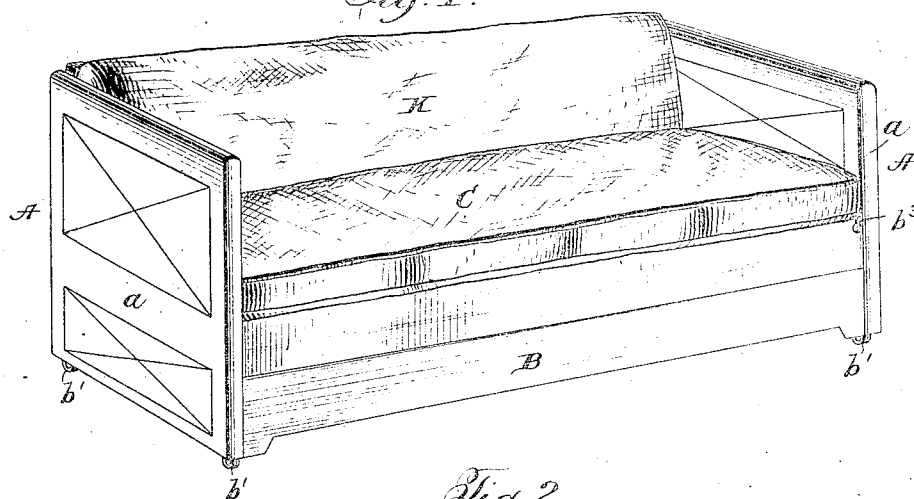
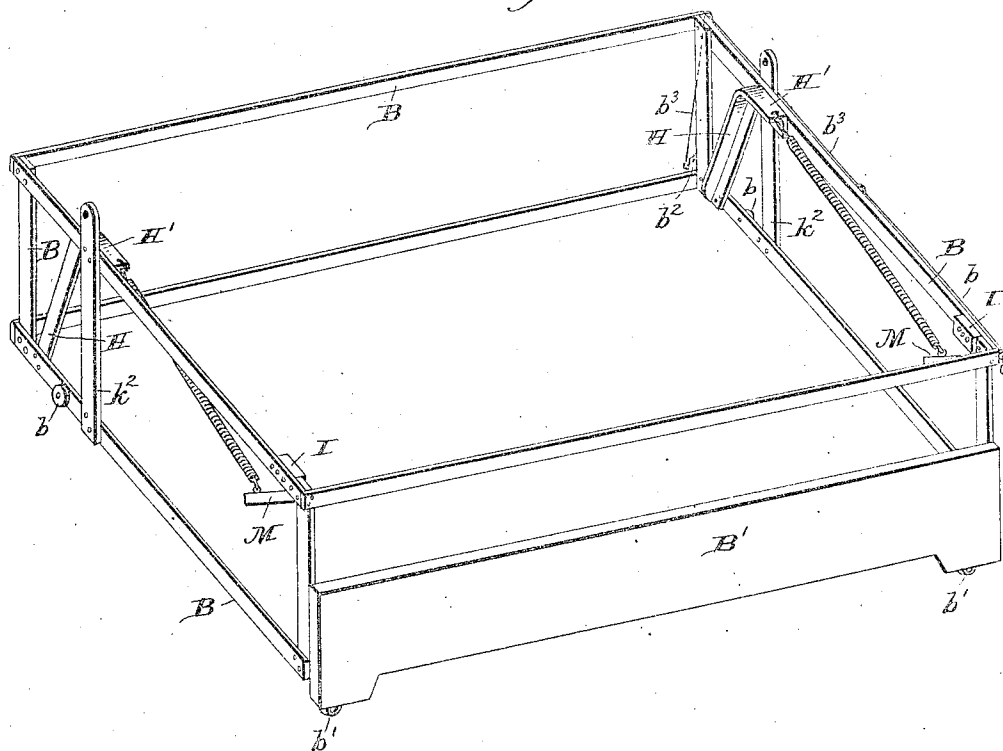


Fig. 2.



Witnesses:

Jas. E. Hutchinson:
Chas. T. Tilly.

Inventor:

Maitland Thomson

By J. E. Ray Jr. Attorney.

M. THOMSON.
SOFA BEDSTEAD.
APPLICATION FILED MAR. 16, 1912.

1,036,746.

Patented Aug. 27, 1912.

3 SHEETS—SHEET 2.

Fig. 4.

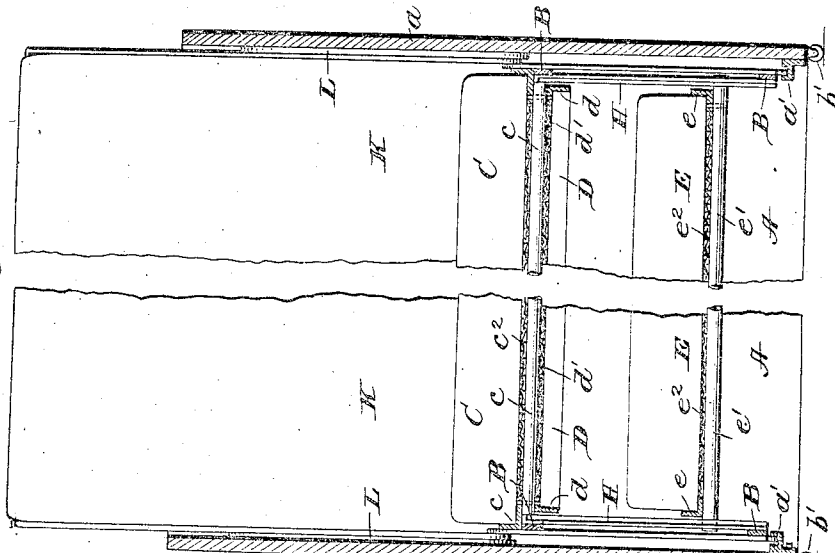
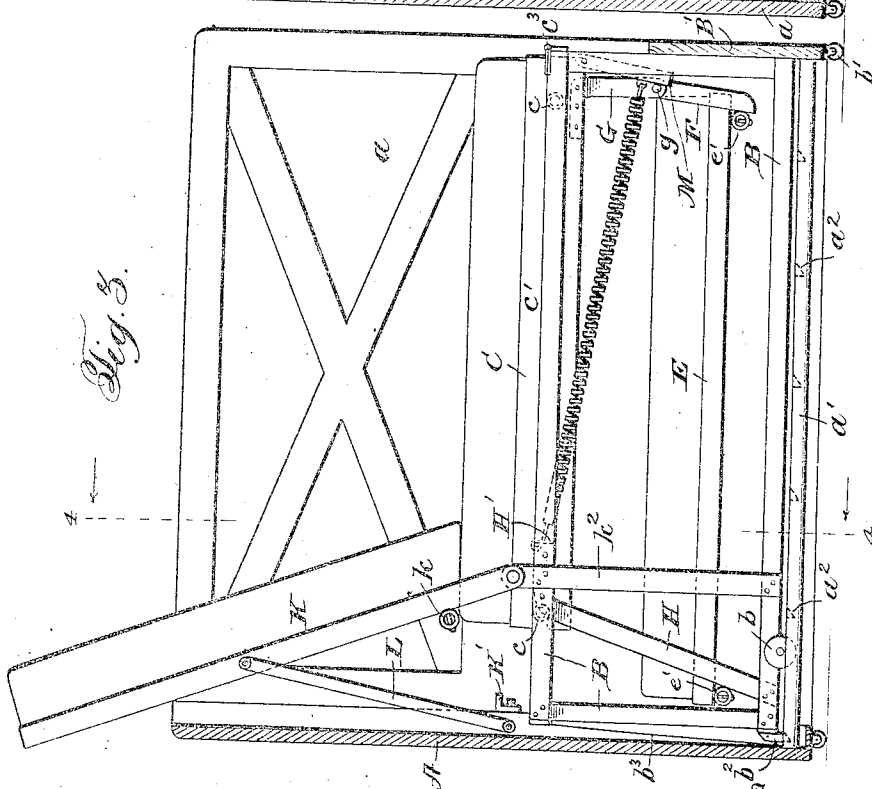


Fig. 5.



Witnesses:

Jas. E. Hutchinson,
J. W. Puley

Inventor:

Maitland Thomson,
By J. Enos Ray Jr. Attorneys

M. THOMSON.
SOFA BEDSTEAD.

APPLICATION FILED MAR. 16, 1912.

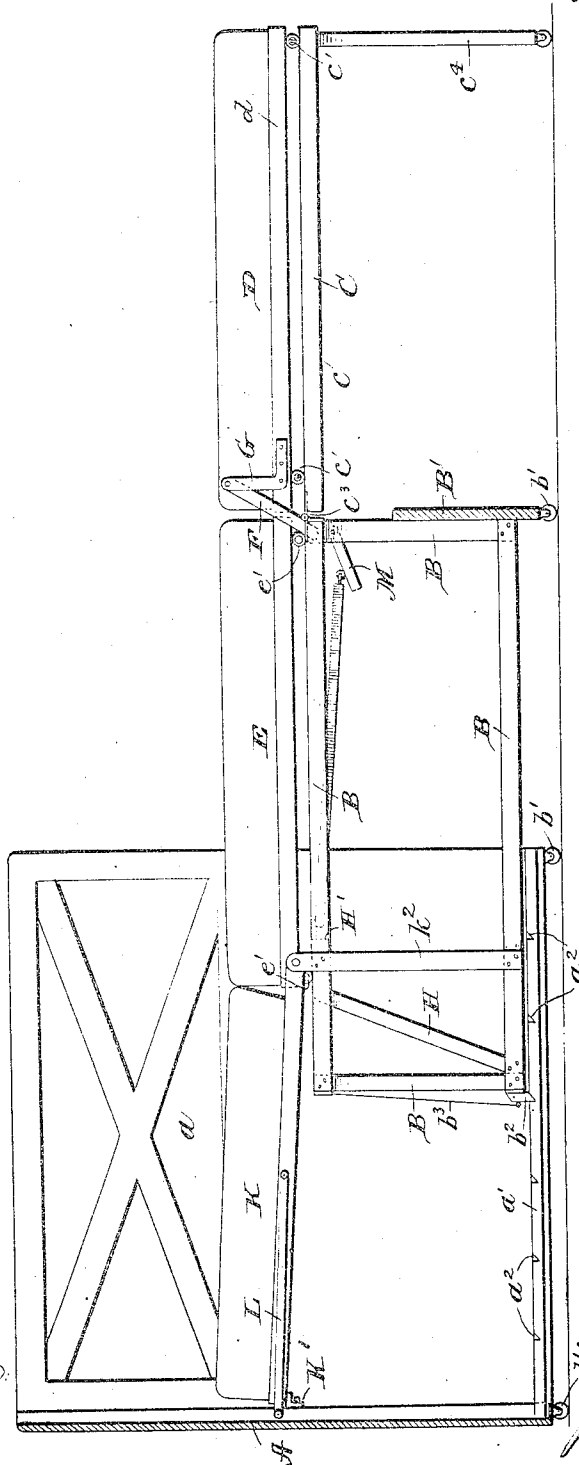
1,036,746.

Patented Aug. 27, 1912.

3 SHEETS—SHEET 3.

Fig. 5.

Witnesses
Jas. L. Hutchinson
Geo. S. Bailey.



Inventor
Maitland Thomson
J. Enos Ray Jr.
Attorney

UNITED STATES PATENT OFFICE.

MAITLAND THOMSON, OF RED BANK, NEW JERSEY.

SOFA-BEDSTEAD.

1,036,746.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed March 16, 1912. Serial No. 934,273.

To all whom it may concern:

Be it known that I, MAITLAND THOMSON, a subject of the King of Great Britain, residing at Red Bank, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Sofa-Bedsteads, of which the following is a specification.

This invention relates to an improvement in sofa bed steads and the object of the present invention is the provision of an improved device of this character in which the bed sections are of a length to form a bed of standard length and are withal so constructed and arranged as to fold within the body of a sofa of normal width and length.

A further object of the invention is the provision of a sanitary device of this character, all of the parts being so constructed and arranged that ready access may be had thereto for the purpose of cleaning the same.

A further object of the invention is the provision of a simple and efficient device of this character, the parts of which may be readily brought into position to form a bed, when desired, and may be readily restored to their normal positions to form the sofa.

A further object of the invention is the provision of a device of this character, the head section of which may be supported at various angles relative to the other bed sections.

Other objects of the invention will be apparent from the detailed description hereinafter, when read in connection with the accompanying drawings forming a part hereof, wherein a convenient embodiment of the invention is illustrated and wherein like characters of reference refer to similar parts in the several views.

In the drawings: Figure 1 is a perspective view of the device folded to form a sofa; Fig. 2 is a perspective view of the carriage removed from the main frame of the sofa bedstead; Fig. 3 is a cross section of the device when folded, parts being shown in elevation; Fig. 4 is a section taken on line 4-4 of Fig. 3, and Fig. 5 is a side elevation showing the device in its extended position, parts being shown in section.

Referring now more particularly to the drawings, A designates the main frame of the device which is conveniently formed of metal and comprises side pieces *a a* which

are connected in any suitable manner and which constitute the side frames of the sofa. Secured to the inner portions of the sides *a a* of the main frame adjacent the lower ends thereof are horizontally disposed runways *a'* which are conveniently formed of channel iron, the outer flange of the channel iron forming one of said runways being provided with a plurality of notches *a''* in the edge thereof for a purpose to be hereinafter more particularly set forth. Positioned between the side pieces *a a* of the main frame A is a carriage B which is conveniently in the form of an open frame formed of angle iron or other suitable material. The carriage B is provided adjacent the rear end thereof with a pair of rollers *b* which are adapted to run in the guide ways *a'* secured to the lower portions of the side pieces *a a* of the main frame A. Secured to the front end of the carriage B is a panel of wood or other suitable material B' and mounted in the lower portion of said panel are a plurality of casters *b'* which are adapted to rest directly upon the floor and support the forward portion of the carriage B. In the normal position of the carriage, the panel B will lie between the front edges of the side pieces *a a* of the main frame and will constitute the front of the sofa. From the construction just described, however, it will be noted that the carriage may be moved outwardly on the rollers *b b* and casters *b' b'* to occupy a position in front of the main frame A of the device. Pivotaly secured in any desired manner to the rear portion of the carriage B is a pawl *b''* which is adapted to ride over the edge of the guide ways *a'* in which are formed the notches *a''* the pawl being adapted to engage said notches as the carriage is drawn outwardly so that the carriage may be held in any desired position. To operate the pawl *b''*, a suitable cord *b'''* which extends from the pawl over suitable guides to the front portion of the carriage *b*, so that the end thereof is readily accessible for manipulation when it is desired to withdraw the pawl *b''* from engagement with the notches *a''* in the guide ways, as is clearly shown in Figs. 1 and 2.

Supported directly upon the upper edges of the sides of the carriage B is a seat frame C said frame conveniently comprising tubular end pieces *c c* and a frame *c'* of angle

iron which is bolted to said tubular end pieces. Supported by said frame *c'* is a spring fabric *c''* which constitutes, when the said frame is in normal position, the seat of the sofa. Secured to the underside of the seat frame C and normally positioned between the side walls of the carriage B is a bed section D which is conveniently formed of a frame *d* of angle bars, the ends of which are bolted or otherwise secured to the tubular cross pieces *c c'* of the seat frame C. Carried by the frame *d* of the bed section D is a spring fabric *d'* of any suitable type. The seat frame C is pivotally connected at its forward edge to the forward edge of the carriage B by suitable hinges *c''* so that the seat frame may be swung to a horizontal position in front of the carriage B, which will bring the bed section D carried by said seat frame to a horizontal position with the spring fabric *d'* thereof uppermost. The seat frame C is adapted to be held in this position by suitable legs *c'* which are pivotally secured to the inner surface of the rear wall of the frame *c'*. When not in use, the legs are folded to lie flat against the rear wall of the frame *c* of the seat frame C, so that when said seat frame is returned to its normal position, the legs will be concealed by the usual seat cushion which is adapted to be positioned upon the top of the spring fabric *c'* of the seat frame C.

E designates a supplemental bed section which is normally positioned within the open frame of the carriage B. The supplemental bed section comprises a frame *e* conveniently formed of angle bars and tubular cross bars *e' e'* bolted or otherwise secured to the ends of said frame, said cross bars being of such a length that the ends thereof project for a slight distance beyond the side bars of the frame *e* of the bed section. The frame *e* of the bed section E is provided with a spring fabric *e''* of any suitable character upon which is adapted to be positioned a mattress of any suitable character. Pivotal secured to the forward portions of the side bars of the frame of the bed section E just in advance of the front cross bar *e'* of said bed section are a pair of upwardly extending levers F F. The levers F F are pivotally supported intermediate the ends thereof so that the front bars *e'* of the bed section E serves as a stop to limit the forward movement of said levers on their pivots. Rigidly connected to the side bars of the frame *d* of the supplemental bed section D adjacent the forward ends thereof, and depending therefrom when the bed section is in its normal position are a pair of arms G G, the lower ends of which are connected by suitable pivot pins *g g*, said pivot pins being conveniently extended laterally for a slight distance. The projecting ends of the rear cross bars *e'* of the bed section E rest upon the

edges of inclined rail members H H which are secured to the inner surfaces of the sides of the open frame of the carriage B, adjacent the rear end thereof, said rail members comprising forwardly inclined portions which extend from the top to the bottom of the sides of the open frame of the carriage B and terminate at their upper ends in forwardly extending horizontally disposed portions H', the upper edges of which are positioned in substantially the plane of the upper edges of the sides of the open frame of the carriage B. Secured to the inner surfaces of the sides of the open frame of the carriage B adjacent the front ends thereof are short supporting members I I, the upper edges of which are positioned in substantially the plane of the upper edges of the sides of the open frame of the carriage B. With this construction, when the seat frame C is swung on its hinges to bring the bed section B carried thereby uppermost, the links F F will just be moved rearwardly on their pivots and the supplemental bed section E will be raised in the open frame of the carriage B. As the seat frame C is swung over to a horizontal position, the projecting ends of the front cross bar *e'* thereof will be drawn onto the supporting members I I heretofore referred to. During this movement of the supplemental bed section E the projecting ends of the rear cross piece *e'* thereof will travel on the rail members H H and will, when the bed section has been moved to its proper position, rest upon the horizontally disposed portions H' H' of said rail members. It will thus be seen that the supplemental bed section is supported at both its forward and rear ends on fixed supporting members which are carried by the open frame of the carriage B.

K designates the back of the sofa which is also adapted to constitute the head section of the bed. The back K comprises a frame which is conveniently formed of angle iron, the side bars of which are bolted or otherwise secured, adjacent their lower ends, to a suitable cross piece. The frame *k* of the back K is provided with a suitable spring fabric which terminates at some distance from the lower ends of the side bars of the frame so as to provide sufficient space to permit the passage of the seat frame C as the same is swung on its hinges. The lower ends of the sidebars of the frame of the back K are pivotally connected in any suitable manner to supports *k'' k''* which project upwardly from the sides of the open frame of the carriage B adjacent the rear end thereof.

L L designate a pair of links, the upper ends of which are pivotally connected to the side bars of the frame *k* of the back K intermediate the ends thereof, and the lower ends of which are pivotally connected in

any suitable manner to the main frame A of the device. From this construction, it will be seen that as the carriage B is drawn out of the main frame A, the back K will be gradually lowered and that when the carriage is in its extreme outermost position, said back will have been moved to a substantially horizontal position, so that the spring fabric thereof will lie in substantially the plane of the spring fabrics carried by the bed frames D and E after said bed frames have been brought into operative position in the manner heretofore described. To support the free end of the back K when the same has been brought to substantially a horizontal position, fixed supports K' K' are secured in any suitable manner to the fixed frame A upon which the free end of the back section is adapted to rest. From the construction heretofore described, it will be apparent that by partially withdrawing the carriage B from the main frame A, the back section K, which constitutes the head section of the bed, can be maintained at any desired angle relative to the bed sections D and E thus rendering the bed particularly useful for invalids.

I have conveniently provided means which will assist in overcoming the weight of the bed section E when it is desired to convert the device from a sofa to a bed. To this end, a pair of pivotally supported levers M M are provided in the forward portion of the open frame of the carriage B, the lower ends of which are adapted to lie, when the parts are in normal position, directly in front of the laterally extending portions of the pivot bolts g g which connect the arms G G and the links P P. Interposed between the free ends of the levers M M just referred to and the ends of the horizontally extended portions H' H' of the track members H H are a pair of heavy coil springs which are normally under tension so that they serve to draw the levers M M into engagement with the laterally extending portions of the pivot bolts g g and thus serve to assist in elevating the bed section E when the seat frame C is swung on its pivot. When the parts are again folded to form a sofa the pivot bolts g g will engage with the levers M and return the same to their normal positions, again placing the coil springs under tension. The cushions which are provided for the seat frame C, the bed section E, and the back K are all removable so that access may be readily had to all parts of the device to clean the same.

It is believed that the operation of the device will be apparent from the detailed description herein.

I claim:—

1. In a sofa bedstead, a main frame, a forwardly movable carriage normally posi-

tioned between the side portions of said frame, a seat frame supported by said carriage and normally forming the seat frame of the sofa, and movable to a position in front of the carriage to form the lower bed section, a back frame normally forming the back frame of the sofa and movable when the carriage is moved out of the main frame to a position to form the head bed section, and a supplemental bed frame adapted to fit between the back frame and seat frame when the carriage bed is extended.

2. In a sofa bedstead, a main frame, a carriage movably supported between the side portions of said main frame, a combined seat and bed frame supported upon said carriage and pivotally connected adjacent the front thereof to said carriage so as to swing to an inverted position in front of the carriage, a back frame pivotally connected to said carriage adjacent the rear end thereof, a supplemental bed frame normally positioned below the combined seat and bed frame, and means for elevating the supplemental bed frame when the combined seat and bed frame is swung to its inverted position.

3. In a sofa bedstead, a main frame, a carriage movably supported between the side portions of said frame, a combined seat and bed frame supported upon said carriage and pivotally connected adjacent the front thereof to said carriage, so as to swing to an inverted position in front of the carriage, a back frame connected at its lower end to the rear portion of the carriage, a link connection between said back frame and said main frame, a supplemental bed frame normally positioned below the combined seat and bed frame, and means for raising said supplemental bed frame to a position between said back frame and said combined seat and bed frame when the combined seat and bed frame is swung to an inverted position in front of the carriage.

4. In a sofa bedstead, a main frame, a forwardly movable carriage normally positioned between the sides of the main frame, a combined seat and bed frame pivotally connected at the front portion thereof to said carriage, so as to swing to an inverted position in front of the carriage, a supplemental bed frame normally positioned below the combined seat and bed frame, connections between said combined seat and bed frame and said supplemental frame for elevating the supplemental bed frame as the combined seat and bed frame is swung to its inverted position, fixed supporting members carried by the carriage and adapted to underlie the front and rear portions of the supplemental bed frame to support the same in its elevated position, an upwardly extending back frame pivotally connected at its lower end to said carriage adjacent

the rear end thereof, and means for supporting said back frame in its elevated and lowered positions.

5 In a sofa bed stead, a main frame, a forwardly movable carriage normally positioned between the sides of the main frame, a combined seat and bed frame pivotally connected at the front portion thereof to said carriage, so as to swing to an inverted
10 position in front of the carriage, a supplemental bed frame normally positioned below said combined seat and bed frame, connections between said combined seat and bed frame and said supplemental frame for
15 elevating the supplemental bed frame as the combined seat and bed frame is swung to its inverted position, fixed supporting members carried by the carriage and adapted to underlie the front and rear portions of the
20 supplemental bed frame to support the same in its elevated position, an upwardly extending back frame pivotally connected at its lower end to said carriage adjacent the rear end thereof, a link pivotally connected
25 at its upper end to said back frame above its connection with the carriage and at its lower end to said main frame.

6. In a sofa bed stead, a main frame, a carriage movably supported between the side
30 portions of said main frame, an upwardly extending back frame pivotally connected at its lower end to the rear portion of the carriage, a link connection between said back frame and said main frame, and means
35 for holding said carriage at various positions of adjustment.

7. In a sofa bed stead, a main frame having its end portions provided with runways, one of said runways being provided with a
40 plurality of notches in the outer wall thereof, a carriage positioned between the side portions of said frame and provided with rollers movable in the runways carried thereby, a pawl carried by said carriage and
45 adapted to cooperate with the notches in the outer wall of said runway to hold the carriage in various positions of adjustment, an upwardly extending back frame pivotally connected at its lower end to the rear
50 portion of said carriage, and means for supporting said back frame.

8. In a sofa bed stead, an open frame, a combined seat and bed frame pivotally connected at the front portion thereto to said
55 open frame so as to swing to an inverted position in front of the open frame, a supplemental bed frame normally positioned below the combined seat and bed frame, a pair of arms depending from the front portions of said combined seat and bed frame, a pair of links pivotally connecting the lower

ends of said arms with the front portion of the supplemental bed frame, rigid supporting members carried by the open frame and adapted to underlie the front and rear portion of the supplemental bed frame to support the same in its elevated position. 65

9. In a sofa bed stead, an open frame a combined seat and bed frame pivotally connected at the front portion thereof to said
70 open frame so as to swing to an inverted position in front of the open frame, a supplemental bed frame normally positioned below said combined seat and bed frame, said supplemental bed frame being provided
75 with members projecting laterally from the rear end thereof, a link connection between the combined seat and bed frame and the front end of said supplemental bed frame, for raising the supplemental bed frame
80 when the combined seat and bed frame is moved to its inverted position, fixed supporting members carried by the open frame and adapted to underlie the members projecting laterally from the rear end of the
85 supplemental bed frame to hold the same in its elevated position, said supporting members including inclined rail members extending downwardly therefrom and positioned to underlie the laterally projecting
90 members of the supplemental bed frame when said frame is in its lowered position.

10. In a sofa bed stead, an open frame, a combined seat and bed frame pivotally connected at the front portion thereof to said
95 open frame so as to swing to an inverted position in front of the carriage, a supplemental bed frame normally positioned below said combined seat and bed frame, a pair of arms depending from the front portion of
100 said combined seat and bed frame, a pair of links pivotally connecting the lower portions of said arms to the forward end of the supplemental bed frame, means carried by the open frame and adapted to underlie the supplemental
105 bed frame to support the same in its elevated position, a lever pivotally supported in the open frame and positioned in rear of one of the links connected to the front ends of the supplemental bed frame, said
110 lever and link being provided with portions adapted to contact as the lever is moved rearwardly, and a spring tending to normally move said lever rearwardly and shift said link. 115

In testimony whereof I affix my signature in presence of two witnesses.

MAITLAND THOMSON.

Witnesses:

H. W. REYNOLDS,
JOSEPH LAKE.