J. W. CAMPBELL.

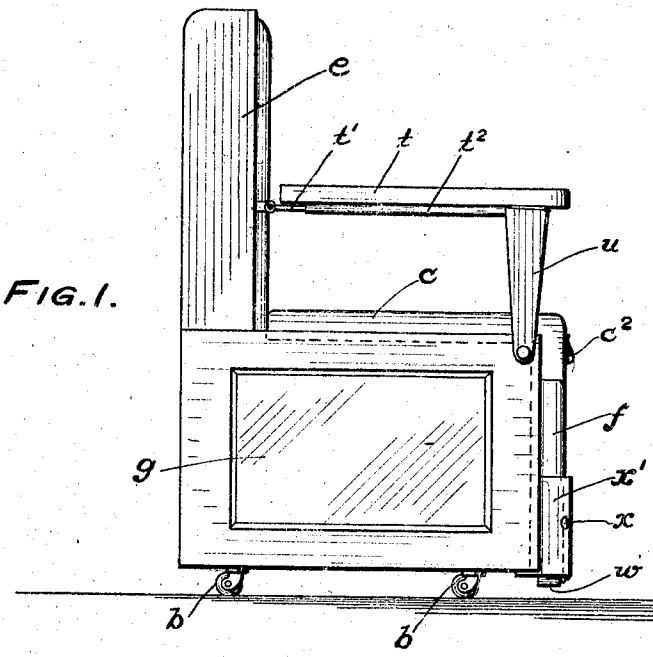
CONVERTIBLE BED AND SOFA.

APPLICATION FILED AUG. 28, 1908.

911,205. Patented Feb. 2, 1909.

2 SHEETS—SHEET 1.

FIG. 1.



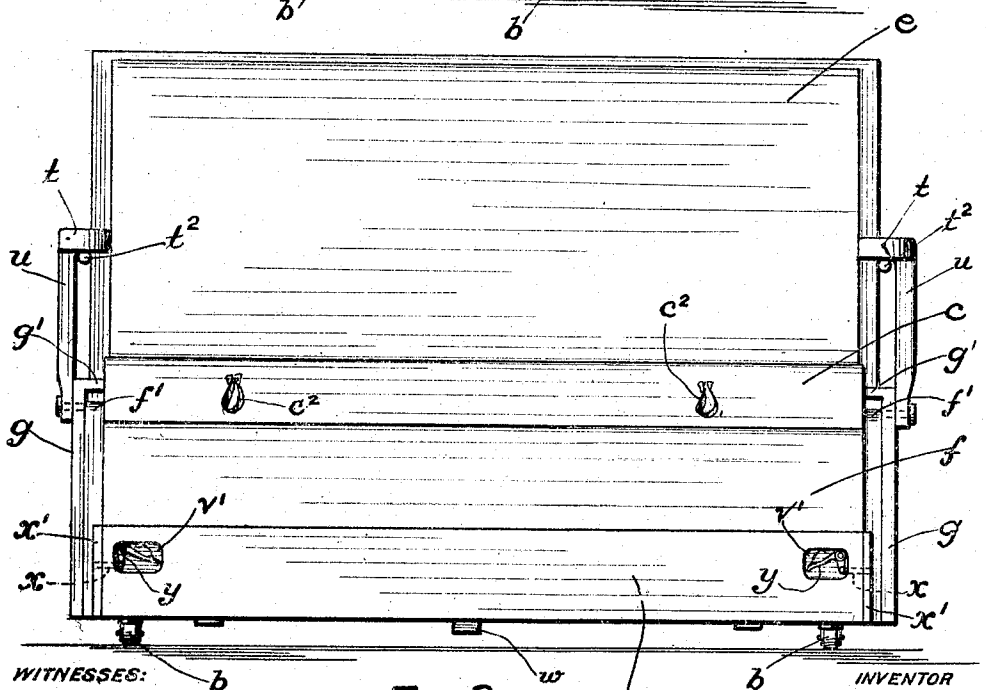


FIG. 2.

WITNESSES:

C. M. Urian

E. E. Wall

INVENTOR

John W Campbell

BY Harding & Harding

ATTORNEYS

J. W. CAMPBELL.

CONVERTIBLE BED AND SOFA.

APPLICATION FILED AUG. 28, 1908.

911,205.

Patented Feb. 2, 1909.

2 SHEETS—SHEET 2.

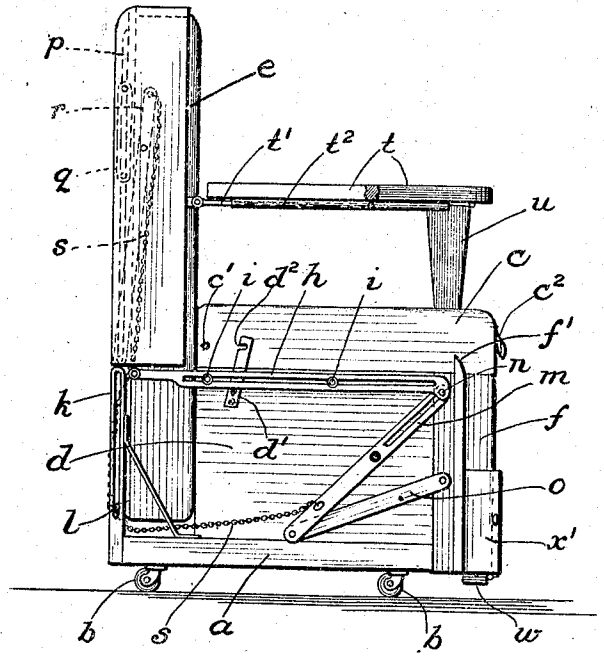


FIG. 3.

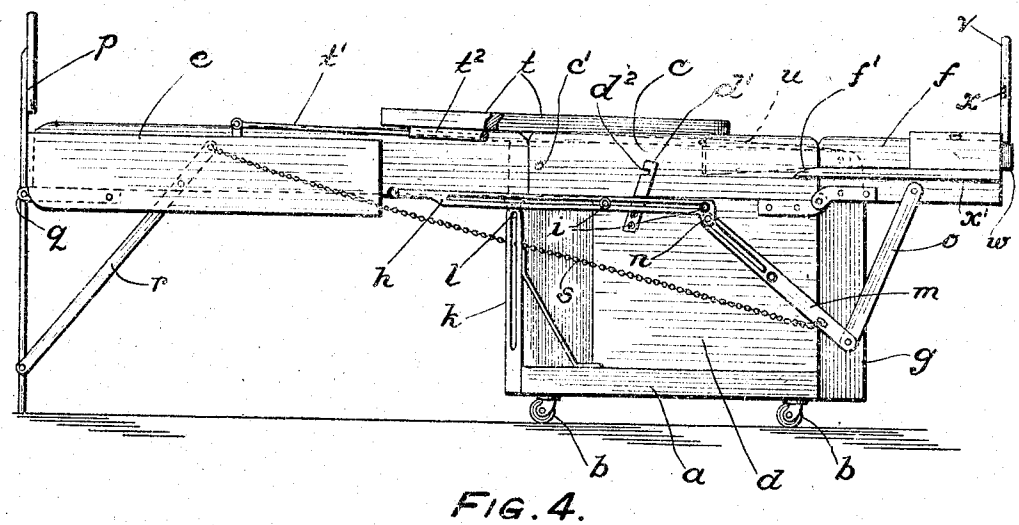


FIG. 4.

WITNESSES:

A. M. Uriam

E. E. Wall

INVENTOR

John W. Campbell

BY

Harding & Harding

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN W. CAMPBELL, OF PHILADELPHIA, PENNSYLVANIA.

CONVERTIBLE BED AND SOFA.

No. 911,205. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed August 28, 1908. Serial No. 450,644.

To all whom it may concern:

Be it known that I, JOHN W. CAMPBELL, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Convertible Beds and Sofas, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object to provide a structure comprising movable parts so constructed that the structure may be readily converted from a sofa to a bed or vice versa and to accomplish this result by mechanism that will be actuated by the simple act of depressing or lifting the frame of the structure forming the back of the sofa.

The invention also has for its object to provide mechanism that will operate smoothly and with certainty and that will be simple and durable.

The invention consists of the general and specific construction and arrangement of parts hereinafter described and particularly claimed.

In the drawings: Figure 1 is a side view of the structure when converted into a sofa. Fig. 2 is a front view of the same. Fig. 3 is a side view of the same, with the side plates removed and part of the arm rest in section. Fig. 4 is a side view similar to Fig. 3 except that the parts have been folded to form a bed.

The main parts of the structure, exclusive of the interconnecting operating mechanism, comprise: first, the central frame or main body including the base pieces *a*, supported on the casters *b*, and the box-frame *d* supported on the base pieces *a;* second, the seat *e* supported on the box-frame *d;* third, the pivotally mounted back frame *e;* fourth, the pivoted front frame *f;* fifth, the side plates *g* secured to the box-frame *d;* sixth, the arm rest *t*, *u*, pivotally connected to the central and back frames; and seventh, the rear frame *p*, comprising a headboard and legs and pivoted to the back-frame. The means by which the front and back frames are supported from the main body will be explained in connection with the description of the interconnecting operating mechanism. This last named mechanism is primarily supported on the sides or ends of the main body and inside the side plates *g*, which serve to conceal such mechanism. The said mechanism is duplicated at opposite sides or ends of the main body, and the description of one set of this mechanism will suffice. In Fig. 3 the structure is shown in side elevation with one of the side plates removed to disclose such mechanism, which will now be described.

i, *i*, are headed pins secured to the upper part of the box-frame *d*. Slidably supported on these pins is the slotted bar *h*. The frame *e* is pivotally secured to the rear end of the slotted bar *h*. Secured to the rear of the base piece *a* is an upright slotted guide frame *k*, within which extends a pin *l* secured to the frame *e*. It will be understood that as the frame *e* is depressed from the position shown in Fig. 3 to that shown in Fig. 4, the pin *l* will move upwardly in the slot of the guide frame *k*, while the slide-bar *h* will slide rearwardly on the pins *i*, *i*.

The front frame *f* is pivoted to the box-frame *d* at the latter's upper front corner. Pivoted between its ends to the box-frame *d* is a lever *m*, whose upper slotted end engages a pin *n* on the front of the slide bar *i*. The lower end of the lever *m* is connected, by a link *o*, with the front frame *f*. It will be understood that as the frame *e* is depressed and the slide-bar *h* pulled rearwardly as above described, the frame *f* will move from the vertical or pendent position shown in Fig. 3 to the horizontal position shown in Fig. 4 by means of the lever and link connection just described.

To support the free end of the frame *e* when it is swung into its depressed position, there is provided a rear frame *p* connected to and supported from the frame *e* by means of levers *q*, *r*, pivoted on both frames. The longer of these levers, *r*, is pivoted to the frame *e* between its ends, and to the end of this lever extending beyond its pivot is fastened a chain *s*, which chain extends under the pin *l* and is attached at its other end to the lever *m* between the latter's pivot and point of attachment to the link *o*. It will be understood that as the lower end of the lever *m* swings forwardly in the depression of the frame *e*, as before described, the chain will be pulled forwardly, thereby swinging the frame *p* from the position shown in Fig. 3 (in which it lies flat against the back of the frame *e*) to the position shown in Fig. 4 in which it stands upright

and acts both as a support for the free end of the overhanging frame *e* and as a head rest for the bed.

Pivoted to the frame *e* is a rod *t'* that enters and slides within a tubular guide t^2 secured to the side arm *t* of the arm rest. The bar *u*, also forming part of the arm rest, is hinged at its upper end to the arm *t* and pivoted at its lower end to the side-plate *g*. As the frame *e* is depressed, as above described, the arm *t* slides along the rod *t'* and rides over and rests upon the inwardly projecting ledge *g'* of the side plate *g* while the bar *u* swings down over the outer face of the side-plate.

The frame *c* forming the seat of the sofa, rests loosely on the box-frame *d* and is prevented from moving sidewise by the ledge *f'* on the frame *f*, which ledge extends rearwardly a short distance beyond the frame *f*. Before conversion from bed to sofa, the frame *c* should be lifted off to prevent the frame *e* binding against the frame *c* in raising the frame *e*.

The frame *f* has hinged to it the footboard *v*, which when folded out rests against a stop *w* on the frame. When the footboard *v* is folded flat against the frame *f*, as when the structure is converted into a sofa, a spring pressed pin *x* enters an orifice in a side piece *x'* secured to the frame *f* and holds the foot-board in its folded position. To facilitate the unfolding of the foot-board, I provide the same with a recess *v'* at each end. In this recess a lever *y* is pivoted to the footboard and a lever *y'* is secured to the lever *y* and pivoted to the pin. As the operator places his finger ends in the recess *v'* preliminarily to unfolding the foot-board *v*, he presses against the lever *y*, thereby withdrawing the pin *x* from its recess and unlocking the foot-board.

The box-frame *d* is preferably open at the top, so that its interior may be used for storage purposes. At each side, projecting upward from the frame *d*, is a plate *d'* having a notch d^2 extending forwardly from its rear edge and forming a recess adapted to receive a pin *c'* projecting laterally from the rear part of the seat *c* when the said seat is pulled forwardly by means of the loops c^2 therein. When the seat is thus pulled forwardly, it may be swung upwardly and backwardly on the plates *d'* as a pivot, thus enabling the back frame *e* to be swung forwardly in converting the contrivance from a bed to a sofa, and also permitting access to be had to the interior of the box-frame *d*.

Having now fully described my invention, what I claim and desire to protect by Letters Patent is:—

1. In a convertible sofa and bed, in combination, a central frame, two members on the central frame, one slidable on the central frame and the other fixed, and a back frame pivoted between its ends on said slidable member and slidably engaging, below its pivot, said fixed member.

2. In a convertible sofa and bed, in combination, a central frame, a removable seat adapted to rest thereon, a front frame pivotally attached to the central frame, a member slidable on the central frame, a member fixed on the central frame, a back frame pivoted on the sliding member and movable in a guideway on the fixed member, and connections between the sliding member and the front frame for operating the latter.

3. In a convertible sofa and bed, in combination, a central frame, a bar slidable thereon, an upright frame secured to the central frame, and a back frame pivoted on the sliding bar and movable in a guide in the upright frame.

4. In a convertible sofa and bed, in combination, a central frame, front and back frames pivotally supported thereon, a rear supporting frame pivotally mounted on the back frame, intermediate mechanism between the front and back frames by which the pivotal movement of the back frame actuates the front frame, and a connection extending between and connected to said intermediate mechanism and the rear supporting frame by which the operation of the intermediate mechanism actuates the rear supporting frame.

5. In a convertible sofa and bed, in combination, a central frame, a bar slidable thereon, an upright frame secured to the central frame, and a back frame pivoted on the sliding bar and movable in a guide in the upright frame, a front frame pivoted on the central frame, a lever pivotally connected with both the sliding bar and the central frame, and a link connecting said lever and front frame.

6. In a convertible sofa and bed, in combination, a central frame, a bar slidable thereon, an upright frame secured to the central frame, and a back frame pivoted on the sliding bar and movable in a guide in the upright frame, a front frame pivoted on the central frame, a lever pivotally connected with both the sliding bar and the central frame, a link connecting said lever and front frame, a rear supporting frame, a lever by which the same is pivoted to the back frame, and a flexible connection between said two levers.

7. In a convertible sofa and bed, in combination, a central frame, a back frame pivotally connected therewith, an arm rest comprising a bar pivoted on the central frame and an arm pivoted on the bar, a guide on said arm, and a rod pivoted on the back frame and slidable longitudinally of said arm on said guide.

8. In a convertible sofa and bed, in combination, a central frame, two members on the central frame, one slidable on the central frame and the other fixed, a back frame pivoted on said slidable member and slidable on said fixed member, and a folding arm rest pivotally connected to the central frame and slidably connected to the back frame.

9. In a convertible sofa and bed, in combination, a central frame, a back frame pivotally mounted thereon, a rear frame, comprising legs and a head-board, pivotally supported on the back frame, a front frame pivotally supported on the central frame, a foot-board pivoted to the front frame, a folding arm rest pivotally connected to the central frame and back frame, intermediate mechanism between the back and rear frames whereby one operates the other and a connection from said intermediate mechanism to the rear frame whereby the latter is operated.

10. In a convertible sofa and bed, in combination, a central frame, a back frame pivotally mounted thereon, a rear frame comprising legs and a head-board, a front frame pivotally supported on the central frame, levers pivoted on the back frame and pivotally attached to the rear frame at different distances from the lower end of the latter, a lever connected with and adapted to be operated by the back frame in its movement on the central frame, and a connection between the last named lever and one of the first named levers whereby the rear frame is operated.

11. In a convertible sofa and bed, in combination, a central frame, a back frame movable thereon into either a vertical or horizontal position, levers pivotally mounted on the back frame on different axes, a rear frame to which said levers are also pivoted and which is supported thereby, and mechanism connected to and actuated by the back frame and connected to one of said levers, whereby in the folding of the back from its vertical to its horizontal position the rear frame is pulled into a vertical position to support the back.

12. In a convertible sofa and bed, in combination, a central frame, pins thereon, a slotted guide bar slidable on said pins, an upright bar having a vertical guideway, a back frame pivoted to the rear of the slotted bar, and a pin on the back frame engaging said guideway.

13. In a convertible sofa and bed, in combination, a central frame, two members on the central frame, one slidable on the central frame and the other fixed, a back frame pivoted on said slidable member and slidable on said fixed member, a pin on the front of the sliding member, a lever pivoted between its ends having a slotted upper end engaging said pin, a front frame pivoted on the central frame, and a link connecting the lower end of said lever and the front frame.

In testimony of which invention, I have hereunto set my hand, at Philadelphia, on this 25th day of August, 1908.

JOHN W. CAMPBELL.

Witnesses:
HENRY GROSS,
A. M. URIAN.