No. 868,472. PATENTED OCT. 15, 1907.

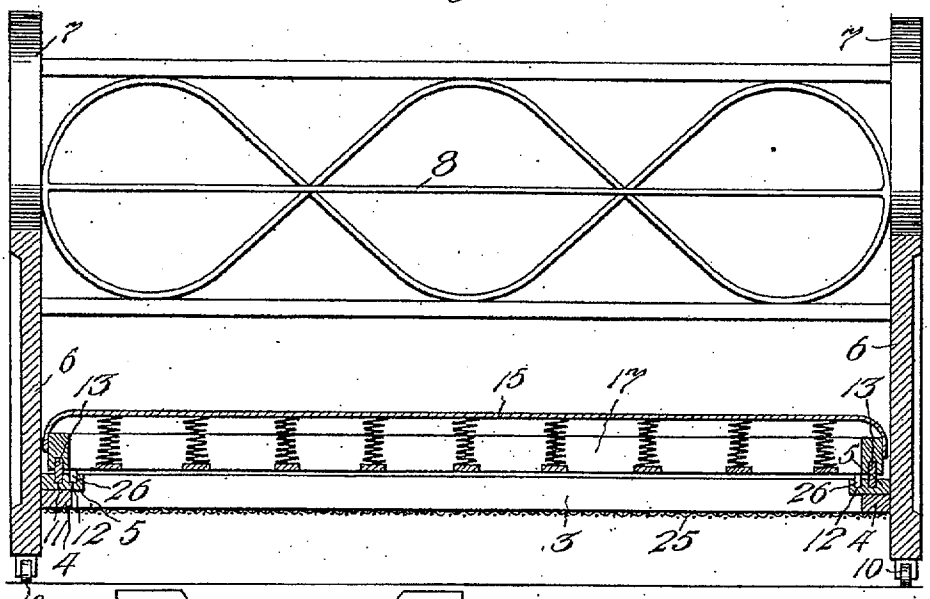
A. M. PADMORE.

DAVENPORT.

APPLICATION FILED APR. 6, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



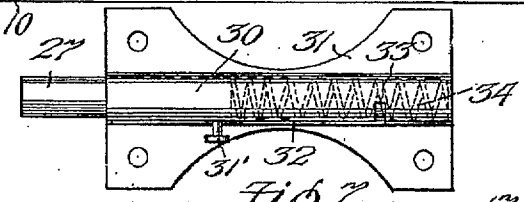




Fig. 7.

Fig. 5.

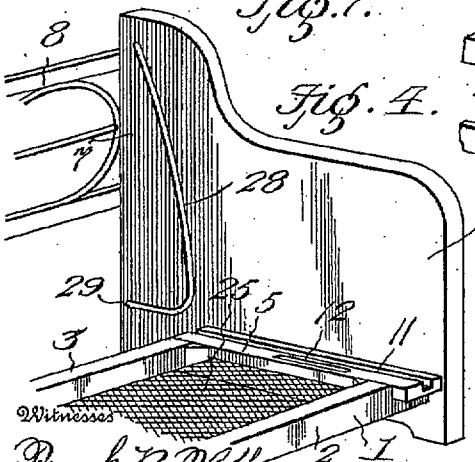
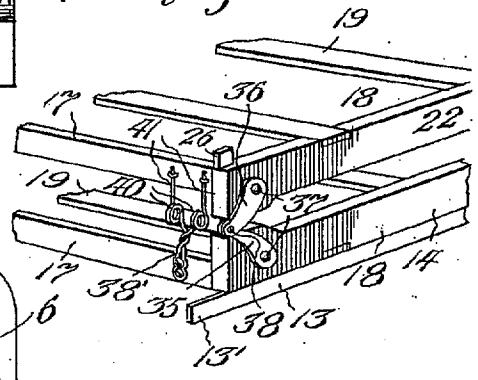



Fig. 4.

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2 SHEETS—SHEET 2.

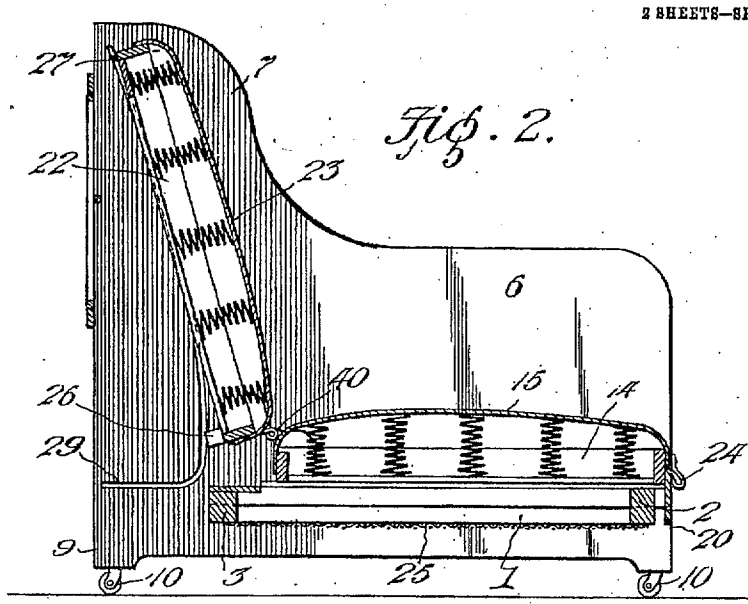


Fig. 2.

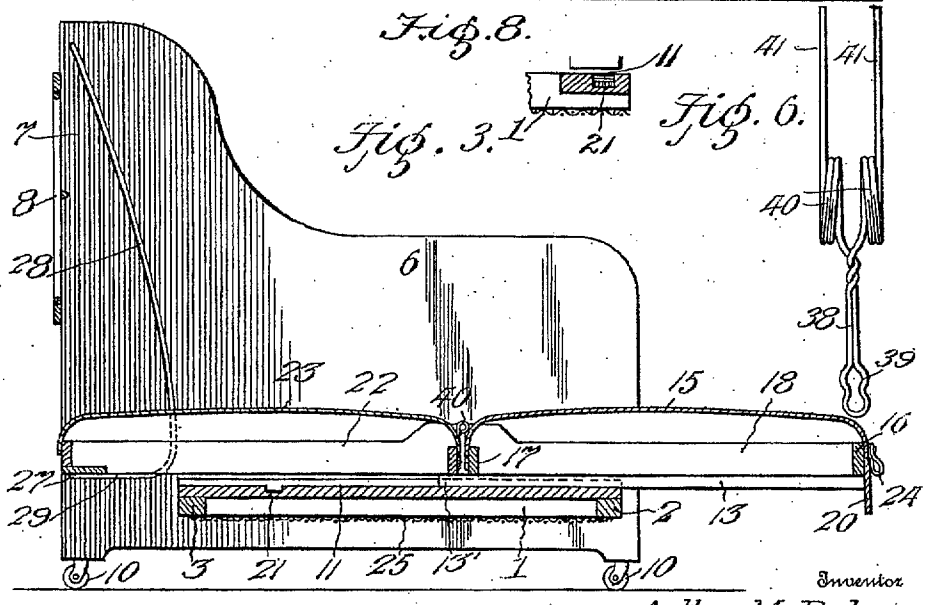


Fig. 8.




Fig. 3.




Fig. 6.

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# UNITED STATES PATENT OFFICE.

ARTHUR M. PADMORE, OF CHICAGO, ILLINOIS.

## DAVENPORT.

No. 868,472. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed April 6, 1907. Serial No. 366,771.

*To all whom it may concern:*

Be it known that I, ARTHUR M. PADMORE, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Davenports, of which the following is a specification.

This invention relates to sofas of the davenport type, and particularly to a convertible bed and sofa, the object in view being to provide a construction wherein the back and seat portions of the davenport may be drawn out and adjusted to lie in the same plane to transform the davenport into a bed, and wherein provision is made for facilitating and securing convenience in the adjustment of the parts and to afford ready access thereto for cleaning and repairs.

In the accompanying drawings,—Figure 1 is a vertical transverse section through the davenport with parts arranged to form a bed, as on line *x*—*x* of Fig. 3. Fig. 2 is a vertical front to rear section with the parts in normal position to form a sofa. Fig. 3 is a similar view, showing the seat and back sections adjusted to form a bed. Fig. 4 is a fragmentary perspective view of one of the end portions of the main frame, showing the guideways in the standards and the bottom thereof. Fig. 5 is a similar view of the back and end frames, showing the same folded for convenient storage or transportation. Fig. 6 is a view of one of the hinge-springs. Fig. 7 is a view of one of the guide rods or bolts. Fig. 8 is a detail illustrating the form and arrangement of the locking seat in the longitudinal guideways in the frame.

Referring to the drawings, the numeral 1 represents the main or bottom frame of the davenport, which is of oblong rectangular form and comprises front and rear rails 2 and 3 and end rails 4, upon which latter are arranged track rails 5, the parts being connected and braced in any preferred manner. To the rails 4 are secured the arms or sides 6, which may be of any desired form and construction, said sides or arms having rear extensions 7 constituting supporting posts or standards for a back-frame 8. The front and rear ends of the sides 6 terminate in short depending legs 9 carrying casters 10. It will be understood that the back frame 8 may be of ornamental construction and serves to form a head portion when the adjustable seat and back are drawn out to convert the davenport into a bed.

I do not desire to restrict myself to the specific form of the sofa or davenport shown, or to the specific shape or mode of constructing and connecting any of the aforesaid parts thereof, as these may be modified so long as the frame structure is adapted to support the seat and back for adjustability in the manner hereinafter described.

Each track rail 5 is provided with an outer longitudinal grooved guideway 11 and a shorter grooved inner guideway 12. The outer grooved guideways 11 of the two track rails receive guide rails or runners 13 carried by the end rails of the frame 14 of the seat 15, which frame corresponds in form and dimensions with the main frame 1 and comprises front and rear rails 16 and 17 and end rails 18, the said front and rear rails being reinforced between the end rails by transverse bottom slats 19. A joint-concealing strip 20 is provided upon the front rail 16 to lap over the front rail 2 of the frame 1 and conceal the joints between them when the seat is in its normal position. The runners 13 project in the form of extensions 13′ beyond the rear rail 17 to engage locking seats or recesses 21 formed in the bottom wall of each guideway 11, for a purpose hereinafter described.

The frame 22 of the back 23 corresponds in construction to the seat frame, and its parts are correspondingly numbered. These frames may be upholstered in any preferred style, and upon the front rail of the seat frame a pull-strap or handle 24 is provided to permit the same to be conveniently adjusted in a forward direction to convert the davenport into a bed.

Secured to the under side of the frame 1 is a guard screen 25 to prevent the entrance of dust and vermin to the upholstered portions.

The davenport may be provided at the back or beneath the bottom frame 1 with a wardrobe box or compartment to receive the bedding. I have not shown this box or compartmnet, as the same does not form part of the present invention and may be constructed in any of the forms employed in convertible sofas of this type.

At the lower or forward ends of the side rails of the back frame 22 are short guide rails or runners 26 adapted to seat and slide in the inner guide grooves 12 in the track rails 5 in the back and forth adjustments of the seat and back to form the sofa or bed. At the sides of the upper end of the back frame are guide rods or bolts 27 of the construction shown in detail in Fig. 7, said bolts being arranged to project and travel in guide grooves 28 formed in the standards 7. These guide grooves extend downwardly and forwardly on a curved line from the upper rear ends of the standards to a point adjacent the rear ends of the track rails 5 and are provided at their lower ends with horizontal rear extensions or terminals 29. The rods or bolts engaging these grooves support the upper portion of the back in proper position and guide the same in its adjustment. Each rod or bolt 27 is mounted to slide in a longitudinal casing 30 on a bracket plate 31 passing to the upper rail of the frame and carries a knob or operating device 31, the stem of which extends at right angles thereto through a longitudinal slot 32 in the casing, which slot is provided at its inner end with a lateral locking offset 33 into which the stem may be

turned to lock the rod or bolt in retracted position. A spring 34 is inclosed in the casing between the inner end wall thereof and the bolt and serves to hold the same normally projected with its outer end seated in the groove 28. Upon retracting and locking both the bolts in retracted position the back frame will be released from engagement with the grooves 28 and may be folded downwardly over upon the seat frame 14, for the convenient removal of these parts from the main frame.

The seat and back frames 14 and 22 are hingedly connected for movement in unison, the end rails of said frames carrying leaves or hinge members 35 and 36 pivotally connected at one end therewith, as at 37, and coupled at their opposite ends by a pintle pin 38, thus allowing the frame 22 to have free swinging movement on the frame 14 in its different adjustments. The frames are also connected by coupling springs operating both as hinges and means for facilitating the adjustment of the back to decrease the amount of power required in manipulating the same. A pair of these coupling springs is employed and are attached to the rear rail of the seat frame and the lower front rail of the back frame adjacent the sides of said frames. As shown in Figs. 5 and 6, each of said hinge-springs is formed of a single piece of stout spring wire, the central portion of the wire being folded and twisted to form a main attaching arm 38 provided with one or more eyes 39, the ends of the wire thence being bent to provide spring coils 40 and extended beyond the coils to form opposing attaching arms 41. The arm 38 of each spring is secured by suitable fastenings passed through the eyes 39 to the rear rail of the frame 14, while the arms 41 are fastened to the lower rail of the frame 22, thus disposing the spring coils 40 between the meeting ends of the frames, the coils exerting pressure on the arms 41 to normally swing them outwardly or away from the arm 38.

Fig. 2 shows the parts in their normal positions to form a davenport-sofa, while Figs. 1 and 3 show the seat and back drawn out to convert the sofa into a bed.

When an outward pull is exerted upon the strap 24, the seat will be slid outward upon its runners 13 which travel in the guideways 11, and motion will at the same time be communicated to the back, whose guide members 27 will travel downwardly and forwardly in the guideways 28, thus permitting the back to swing outwardly and forwardly until its runners 26 fit into the guideways 12 and said back assumes the position over the main frame 1 ordinarily occupied by the seat 15, which latter will project forwardly nearly its full width beyond said frame, the extensions 13′ of its runners still, however, remaining in the forward ends of the guide grooves 11 and holding the seat in position. It will be observed that these extensions are long enough to project under the forward end of the back, so that the latter will bear thereon and thus hold the seat from tilting downwardly and outwardly. When the parts are adjusted to the stated positions, the guides 27 on the back will aline with the horizontal grooves 29, thus allowing the seat and back to be slid rearwardly to the position shown in Fig. 3, whereby the normally upper end of the back is permitted to extend to a position beneath the back-frame 8, allowing a greater portion of the seat to rest upon the main frame to secure a better support. In this operation the weight of the back causes the spring arms 41 to swing toward the arms 38 against the resistance of the coils 40, by which the pressure of the springs will be utilized to assist in maintaining the back in a properly reclining position. The runners 26 on the back sliding in the grooves 12 facilitate the adjustment of the parts, and it will be understood that when the seat and back are drawn forward to bring the guides 27 into the lower ends of the grooves 28 the parts may be restored to normal position by inward pressure in which the rails 13 slide back in the grooves 11, while the guides 27 travel upwardly in the grooves 28, the runners 26 clearing or moving out of the guideways 12 in the upward swinging movement of the back. If desired this restoration of the parts to normal position may be more conveniently accomplished by tilting the seat 15 upwardly until the extensions 13′ of its runners bear at their rear ends against the bottom walls of the grooves 11, whereby the forward end of the back will be elevated, thus lifting the runners 26 out of the grooves 12, enabling the back to be shifted to normal position at a slight expense of energy. The amount of power required in this operation is decreased by the use of hinge-springs, which, as soon as the guides 27 reach the lower ends of the grooves 28, tend to expand and exert upward lifting pressure on the seat. When the parts are in normal position the seat may be tilted up to a vertical plane and held in such position by engagement of the runner extensions 13′ with the recesses 21, whereby the bottom of the seat frame will be exposed and the main frame 1 uncovered to permit the parts to be more conveniently cleaned or repaired.

The mode of hingedly connecting the seat and back frames permits the same to be conveniently folded in parallel relation, as shown in Fig. 5, for convenience in storage and transportation. When these parts are so folded the arms of the springs lie in the same plane and the coils serve to maintain the frame in folded relation.

Having thus described the invention, what is claimed as new, is:—

1. In a davenport-sofa-bed, the combination of a main frame having longitudinal and vertical guideways, the vertical guideways being provided with horizontal rear extensions at their lower ends, a seat having runners to travel in the longitudinal guideways, and a back hinged to the seat at its normally lower end and provided at its normally upper end with guides to travel in the vertical guideways and their horizontal extensions.

2. In a davenport-sofa-bed, the combination of a main frame having longitudinal and vertical guideways, the vertical guideways being provided with horizontal rear extensions at their lower end, a seat having runners to travel in the longitudinal guideways, a back provided at its normally upper end with guides to travel in the vertical guideways and their horizontal extensions, and hinge connections between the normally lower end of the seat and rear end of the back, including spring means for maintaining the parts in a prescribed relation.

3. In a davenport-sofa-bed, a main frame provided at the sides thereof with main and auxiliary guide grooves, and having side arms provided at the rear thereof with vertical guide grooves having horizontal rear extensions at their lower ends, a sliding seat having runners engaging the main guide grooves, and a back hinged at its normally lower end to the rear end of the seat and provided with guides to engage the auxiliary grooves and having at its normally upper end guides to travel in the said vertical grooves and their horizontal extensions.

4. In a davenport-sofa-bed, a main frame provided at the sides thereof with main grooves having seat recesses and parallel auxiliary grooves, said frame also being provided with side arms provided at the rear with vertical grooves having horizontal rear extensions at their lower ends, a sliding seat provided with runners engaging the main groove and having rear extensions to coöperate with the seat recesses, and a back hinged at its normally lower end to the rear end of the seat and provided with guides to engage the auxiliary grooves and having at its normally upper end guides to travel in the said vertical grooves and their horizontal extensions.

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

ARTHUR M. PADMORE.

Witnesses:
D. WOLVERTON,
CYRUS B. WOOLVERTON.