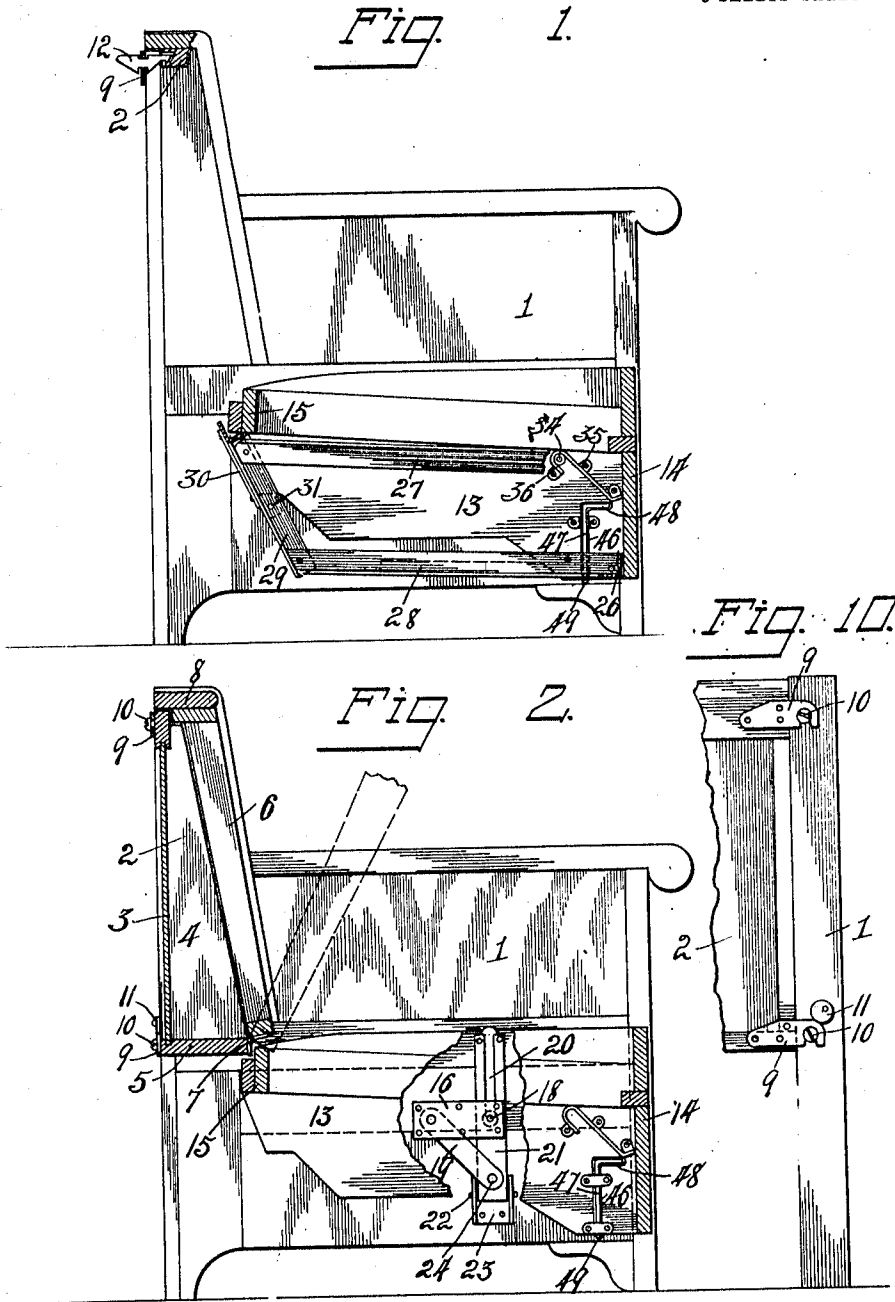


A. C. KLOPPING.
BED DAVENPORT.
APPLICATION FILED JULY 16, 1910.

Patented Apr. 18, 1911.

3 SHEETS—SHEET 1.

990,145.



WITNESSES

G. H. Bills.

M. G. Gaskell.

INVENTOR.

Adolph C. Klopffing.
By Owen & Owen,
His attys.

990,145.

Fig. 3.

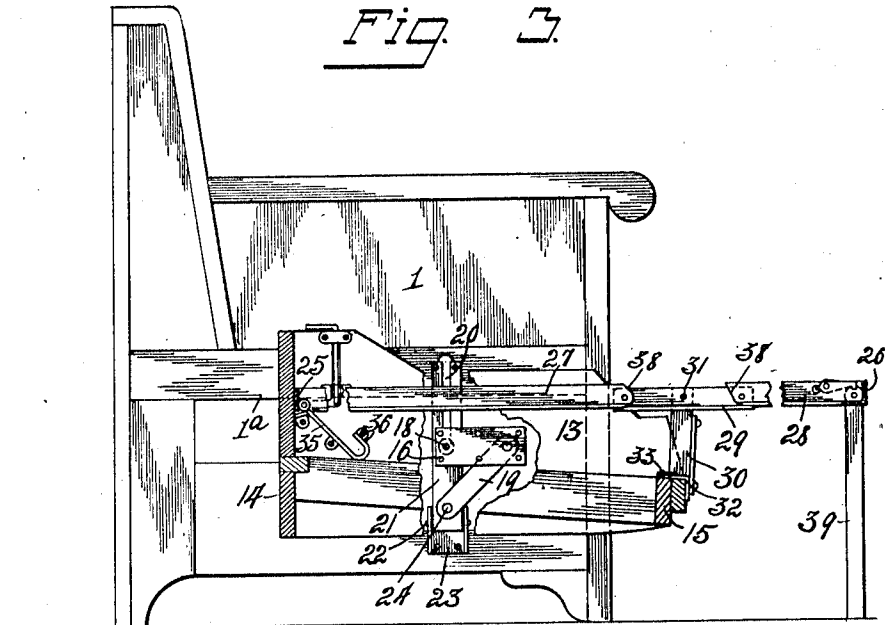
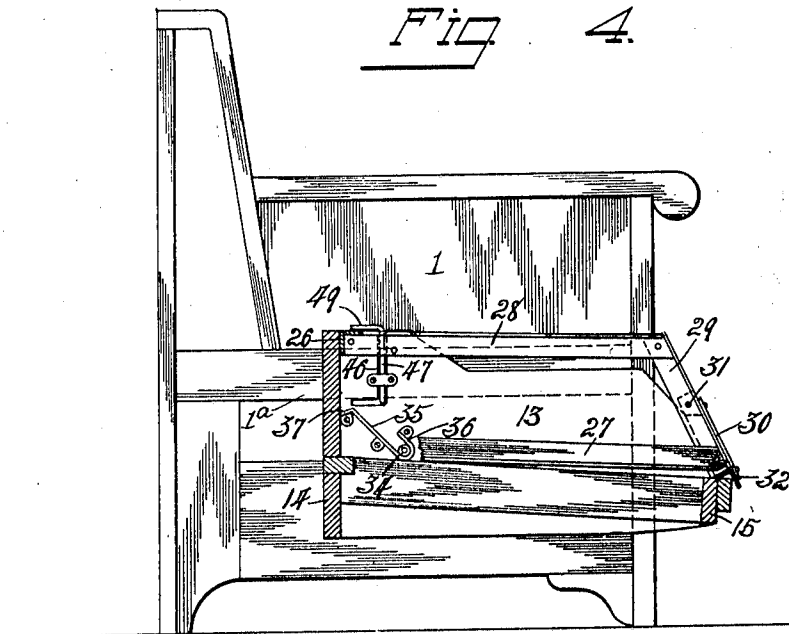


Fig. 4.



WITNESSES:

G. H. Bills.
M. G. Gaskell.

INVENTOR.

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3 SHEETS—SHEET 3.

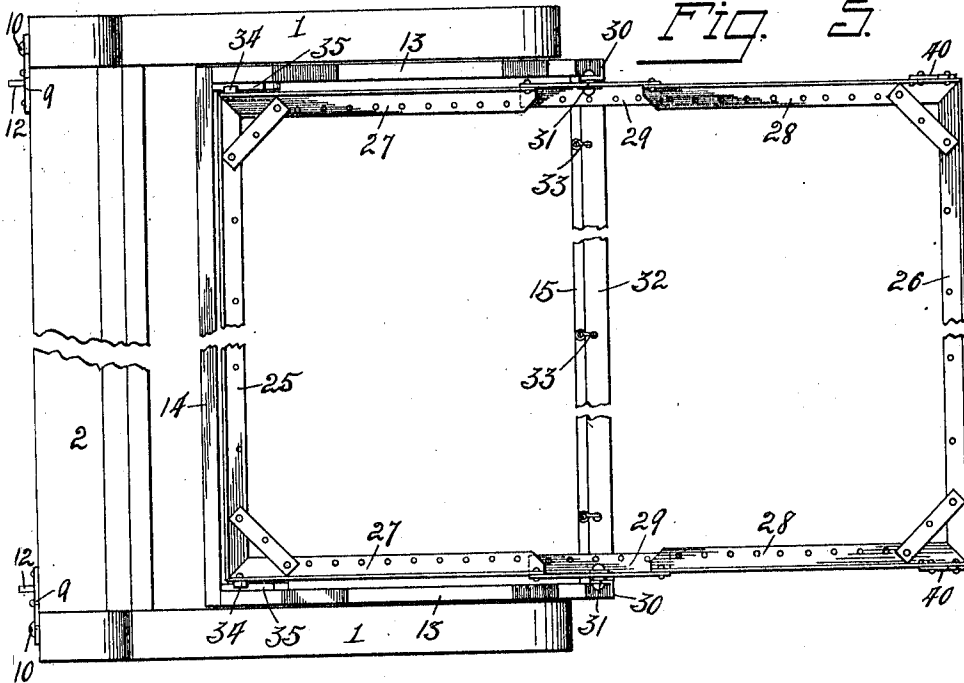
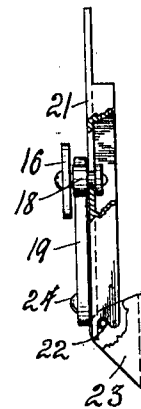
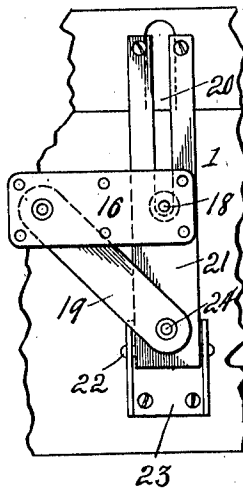
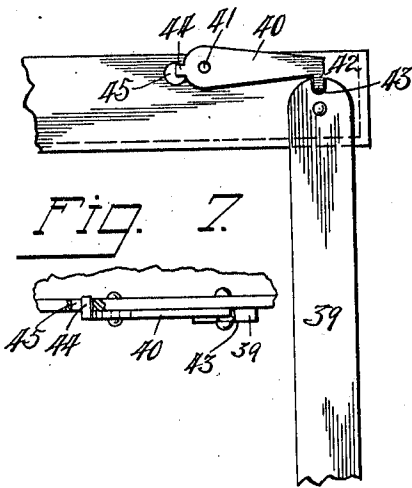


Fig. 6.

Fig. 8.

Fig. 9.



WITNESSES:

C. H. Bills
M. G. Gaskell.

INVENTOR.

Adolph C. Kopping
By Owen & Owen,
His attys.

UNITED STATES PATENT OFFICE.

ADOLPH C. KLOPPING, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO THE TOLEDO PARLOR FURNITURE COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

BED-DAVENPORT.

990,145.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed July 16, 1910. Serial No. 572,233.

To all whom it may concern:

Be it known that I, ADOLPH C. KLOPPING, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Bed-Davenport; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to the class of furniture in which a bed is combined with a davenport or sofa, and which is commonly known as a bed-davenport.

The object of my invention is to simplify and improve upon articles of this character, whereby to cheapen the cost of manufacture, and render the operation thereof easier and more efficient, and to enhance the practicability and commercial value thereof in other ways, as will hereinafter be more fully explained.

A further and important object of my invention is to provide an article of this character, which is capable of being easily and quickly knocked down and the parts thereof packed in compact form for the purpose of shipment or storage, and which is also capable of being easily and quickly set up by persons inexperienced in such work, and which, when set up, is strong and durable in its construction.

A further object of my invention is the provision, in a sofa davenport, of a sectional bed-frame which is foldable in such manner as to hold a mattress and bed-clothes in compact state within the davenport seat and to require a minimum of space above the floor for a turning of the seat. With the sofa davenports heretofore used difficulty has been experienced in so constructing the foldable bed-frame thereof as to enable the seat to turn freely without the bed-frame striking the floor and at the same time to keep the seat low enough for persons to comfortably sit thereon.

The invention is fully described in the following specification, and a preferred embodiment thereof illustrated in the accompanying drawings, in which,—

Figure 1 is a vertical cross-section of the

davenport frame and seat and bed portion in closed position with portions broken away. Fig. 2 is a similar view thereof with the bed parts removed from the seat portion and with a seat part broken away. Fig. 3 is a similar view with the seat inverted and the bed parts unfolded, portions being broken away. Fig. 4 is a similar view with the seat inverted and the bed parts in folded position. Fig. 5 is a plan view thereof with portions broken away and the bed portion in unfolded or open position. Fig. 6 is an enlarged detail of an outer end portion of the bed frame with its supporting leg locked in supporting position. Fig. 7 is a top plan view of the same. Figs. 8 and 9 are enlarged side and edge views of the pivotal seat supporting parts, and Fig. 10 is an end portion of the rear side of the davenport frame.

Referring to the drawings, 1, 1 designate the two ends of the davenport, and 2 the back thereof, which back is made hollow to provide a convenient compartment for the storage of pillows, bedding and the like, and comprises the rear side 3, the opposing ends 4, the bottom 5, and the front frame 6, to which the back upholstery (not shown) is secured. The front frame 6 is hinged at its lower edge to the forward edge of the bottom 5, as at 7, to adapt the upper portion of such frame to be swung forwardly to render access to the interior of the compartment, as is apparent. The top or head rail 8 is carried by the frame 6 and, when such frame is closed, fits over the upper edge of the rear side 3, and coöperates with the upholstered front frame to give the back a finished appearance.

The back 2 is provided at the ends of its rear side with upper and lower sets of plates 9, the outer ends of which project from the back and are hook-shaped to adapt them to hook over registering screws 10 or other suitable means, which are carried by the ends at the rear edges thereof and coöperate with the plates 9 to secure the back to the ends 1 and thus rigidly unite such ends, as is apparent by reference to Fig. 10. Eccentric buttons 11 are pivotally carried by the ends 1 in position to coact with the ends of the lower plates 9 to prevent their disengagement from the screws 10 when such buttons are turned in one position, as shown. Latches 12 are carried by the two

upper plates 9 and coact with the upper portion of the front frame 6 to secure the same in closed position, as shown in Fig. 1.

The seat frame of the davenport comprises the opposing ends 13, 13, the front 14 and the back 15, the back being of much shallower form than the front 14, as shown. Secured in central position to the outer side of each end 13 is a plate 16 which carries a stud 18 at one end portion thereof and has a link 19 pivotally attached at one end to the opposite end portion thereof, as indicated. The stud 18 works within a slot 20 provided longitudinally in the upper end portion of the guide bar 21 which is secured in vertical position to the inner side of the associated end 1 of the davenport frame. This bar is shown in the present instance as being of channel form with the lower ends 20 of its flanges notched to receive and rest upon a horizontal pin or bar 22 which connects the flanges of the channel form of bracket 23 that is secured to the associated end 1, the upper end of such bar being screwed or otherwise suitably secured to the end 1, as indicated. The stud 18 is intended to have vertical sliding movements in the slot 20 and is prevented from lateral withdrawal therefrom by the provision of a flange on its free end for coacting with the inner marginal wall of the slot. The link 19 pivotally attaches at its lower end to the lower end portion of the guide-bar 21, as indicated at 24.

35 When the seat is in its normal or closed position, as indicated in Figs. 1 and 2, the plate 16 is disposed horizontally with its stud 18 in advance of the point of connection of the link 19 thereof. To invert the position of the seat frame, the front end of the same is lifted which raises the stud 18 in the slot 20 a sufficient height to permit the pivotal point of connection of the plate 16 and link 19 to pass under such stud so that the continued turning of the seat frame will cause it to assume an inverted position as shown in Figs. 3 and 4 with the stud 18 disposed to the rear of the point of connection of the plate 16 and link 19, as is apparent. To return the seat frame to its closed position, the turning movement of such frame is reversed.

The seat frame carries the bed frame which comprises the inner and outer end bars 25 and 26, the side bars 27 projecting rigidly outward from the ends of the bar 25, the side bars 28 projecting rigidly inward from the ends of the bar 26, and the bars 29 which are pivotally connected at their ends to the inner ends of the bars 27 and 28, whereby, when opened up, to combine to form a rectangular bed frame, as shown. The bed frame bars are preferably of angle iron with one flange of each projecting inwardly and perforated to permit

the attaching of a suitable webbing (not shown) thereto, and have their other flanges projecting upwardly. The bars 29 are pivoted at their centers to the upper ends of uprights 30, as at 31, which uprights, when the seat is in inverted position, rise from a connecting cross-bar 32 that is hinged to the rear side 15 of the seat frame, as at 33, for limited vertical swinging movements. The purpose of pivoting the uprights 30 to the seat frame is to permit the uprights and attached bars 29, which stand parallel thereto when folded, to incline from the pivotal point 31 toward the front piece 14 of the seat, thus making the distance between the corners or points formed by the connected ends of the bars 28 and 29 and the turning pivot of the seat less than would otherwise be the case. The saving in space which is made possible with this construction is found in practice to be of very considerable importance.

The outer or rear ends of the bars 27, 27 are each provided at their outer sides with a roll 34 which travels upon an inclined track or flange 35 secured to the inner side of each end 13 of the seat frame adjacent its front side. The lower end of the track or flange 35 when the seat frame is in inverted position is shown in Figs. 3 and 4 as turned upwardly, as at 36, to stop the downward movements of the rolls 34 therein and the upper ends of such tracks or flanges are inclined downwardly in a direction opposed to the incline of the major portions of such tracks, as shown at 37, and meet the front side 14 of the frame whereby to provide a firm support for the rolls 34 when resting thereon in the unfolded position of the bed frame, as shown in Fig. 3. Each bar 29 is secured at its ends to the outer sides of the adjacent ends of the bars 27 and 28 and such latter bars have adjacent ends of their vertical flanges cut in inclined planes relative to the links of the bars, as shown as 38, to adapt such ends to coact with the horizontal flanges of the bars 29 to limit the folding movements of such bars, as indicated in Figs. 1 and 4. By reference to these figures, it will be noticed that when the bed frame is in folded position the bars 27 and 28 are disposed substantially in parallel positions, one over the other, with the outer end bar 26 abutting or substantially abutting against the lower inner portion of the seat front 14, and with the rolls 34 disposed within the turned ends 36 of the tracks 35. The bars 29 stand parallel with the uprights 30, their closing movements relative to the uprights being limited by the inwardly projecting flanges of such uprights, and such bars 29 and uprights together stand in inclined position, as shown in Figs. 1 and 4.

To unfold the bed frame from the posi-

tion shown in Fig. 4, the operator takes hold of the bar 26 and swings it upwardly and outwardly to the position shown in Figs. 3 and 5, which movement of the bar 26 and its attached bars 28 causes the uprights 30 to be moved to vertical position, the bars 29 to turn on their pivots to horizontal position and the inner end of the bars 27 to be elevated to the horizontal plane of the bars 28 and 29, while the rear ends of the bars 27 are elevated to such plane by the rolls 34 moving upwardly on the inclined tracks 35.

The outer ends of the bed frame bars 28 have the upper ends of supporting legs 39 pivoted thereto which legs hang by gravity in vertical or frame supporting position when the frame is opened up, as shown in Figs. 3 and 6. To prevent a closing of the legs when in this position, the bars 28 have dogs 40 pivoted thereto, as at 41, with their outer ends provided with lugs 42 for fitting into notches 43 in the upper ends of the legs 39. The oscillatory movements of the dogs 40 are limited due to the lateral projecting of ears 44 from the inner ends of the dogs and into openings 45 in the frame bars, as shown in Figs. 6 and 7.

Mounted in angled slots 46 provided in one or both of the seat frame ends 13 is a lock-bar 47 the ends 48 and 49 of which are bent at right angles to each other and to the major or central portions of the bar, as indicated in Figs. 1, 2, 3 and 4. The bar 47 is adapted to be turned to position the end 49 over the outer or free end portions of the bars 28 when in the folded position shown in Fig. 4, whereby to support such end of the frame within the seat frame when the seat frame and folded bed frame are in closed position, as shown in Figs. 1 and 2. The opposite angled end 48 of the lock-bar 47 is adapted to be turned outwardly from the frame ends 13 to project under a registering shoulder or inwardly projected portion 1^a of the ends 1, as indicated in Figs. 3 and 4, thus locking the seat frame against turning to closed position. When the end 48 of the bar 47 is in locked engagement with the part 1^a, the opposite end 49 thereof is free from locking engagement with the bed frame.

It is thus apparent that I have provided a combination bed and davenport which is capable of being easily and quickly converted from a davenport into a bed by inverting the position of the seat frame and then unfolding the bed frame parts, and also that I have provided an article of such class which is capable of being easily and quickly set up or taken down by inexperienced persons, thus facilitating the shipping of the same in compact form and materially saving on the cost of transportation. To set up the davenport, it is only necessary to attach the ends of the back 2 to the frame ends 1, 1 by engaging the plates 9 with the screws

or other coacting means 10 after which the eccentric buttons 11 are turned to lock the lower plates 9 against disengagement from the coacting screws 10. The seat frame with inclosed bed frame may now be quickly secured in position within the davenport frame by engaging the lower ends of the guide bars 21 with the supporting pins 22 of the bracket 23 and securing the upper ends of such bars to the ends 1 by screws or in any other suitable manner. This being done, the article is in condition to be used either as a davenport or as a bed, as is apparent.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. A sofa bed frame, a pivoted and overturning seat in said frame, uprights pivoted to said seat, and a bed-frame in three sections carried by the seat and adapted to be folded to form a closed receptacle under the seat and to form an expanded bed bottom when unfolded, the intermediate sections of the bed frame being pivoted to said uprights and adapted to stand in inclined planes therewith when the bed frame is folded.

2. In an article of the class described, a sofa frame, a pivoted and overturning seat mounted in said frame, a bed frame comprising three sections, the intermediate section being shorter than the outer sections and the whole being capable of folding to form a closed receptacle under the seat and of being expanded to form a bed, uprights pivoted to an edge of the seat for limited swinging movements and having their free ends pivoted to said intermediate bed-frame sections intermediate their ends, said intermediate bed-frame sections and the uprights standing in parallel relation and in an inclined plane when the bed-frame is in folded position.

3. In an article of the class described, a sofa-frame, a pivoted and overturning seat mounted therein, a bed-bottom carried by said seat, and adapted to be folded to form a closed receptacle under the seat and to form an expanded bed-bottom when unfolded, and uprights pivoted to the seat for limited swinging movements relative thereto and pivotally supporting a part of said bed-bottom, said uprights swinging inwardly upon a folding of the bed-bottom and standing inclined from a vertical plane and in substantial parallelism with parts of the bed bottom.

4. In an article of the class described, a sofa-frame, a pivoted and overturning seat mounted therein, a sectional bed-frame car-

ried by the seat and adapted to be folded to form a receptacle thereunder, said bed-frame comprising end sections and intermediate sections, standards pivotally carried by the seat adjacent an edge thereof and pivotally supporting said intermediate sections, said end sections being disposed one above the other when the bed-frame is folded and the intermediate sections standing in substantial parallelism with said standards and inclining therewith to place the point of connection of the intermediate sections to the outer end section at a point which is nearer the front side edge of the seat than is the point of connection of the intermediate sections to the inner end section of the bed-frame.

5. In an article of the class described, a sofa-frame, a pivoted and overturning seat mounted therein, a bed-frame comprising opposite end sections of substantially equal length and intermediate sections pivotally connecting such end sections, said sections being capable of folding to form a closed receptacle under the seat and of being unfolded to form an expanded bed-bottom, standards pivoted to the lower portion of the rear edge of the seat and pivotally attached to said intermediate bed-frame sections intermediate their ends, the end sections of the bed-frame when folded being adapted to stand in substantial parallelism one over the other, and the intermediate sections being adapted to stand lengthwise of the standards and inclined with the standards to place the inner end sections more remote from the front of the seat than the outer end section of the bed-frame.

6. In an article of the class described, a frame having members, vertically slotted guide bars secured to said end members, a plate associated with each of such members and having a stud working in the slot therein, a link pivotally attached at one end to each of such plates at a distance from said stud, and having its other ends pivotally anchored to the lower end portion of the bar, a seat frame having its ends secured to said plates, and a foldable bed frame carried by said seat frame.

7. In an article of the class described, a frame having opposing ends, brackets secured to said ends, vertical bars removably mounted at their lower ends on said brackets and having their upper end portions slotted and attached to the associated frame end, a plate associated with each bar and having a flanged stud working in the slot therein, a link pivotally anchoring each plate to its associated member, a seat frame having its ends secured to said plate, and a foldable bed frame mounted in said seat frame.

8. In an article of the class described, the

combination with a reversible seat frame, of a bed frame foldably carried thereby, bed frame comprising opposing end members, side bars projecting from the ends of each of such members, bars pivotally connecting the free ends of such side bars, means carried by the seat frame and pivotally supporting said connecting bars adjacent their centers, rolls carried adjacent the outer ends of the side bars of one seat, and inclined tracks secured to the seat frame ends for said rolls to travel on, said tracks each having one end formed to limit the movement of the rolls therein in one direction and to support the rolls when the bed frame is in folded position.

9. In an article of the class described, the combination with a frame having end members, of a seat frame mounted between such end members for turning movements relative thereto, standards carried at the rear side of the seat frame adjacent its ends for pivotal movements relative thereto, a bed frame foldably carried by said seat frame and comprising side bars pivoted to said standards for limited swinging movements relative thereto, and end portions pivoted at their inner ends to the ends of said side bars, rolls carried at the sides of one of said end portions adjacent its outer end, inclined tracks carried by the seat frame ends for guiding the movements of said rolls, said tracks each having an end turned upon itself to limit the movements of the rolls in one direction therein.

10. In an article of the class described, the combination of a frame, a seat frame mounted for semi-circular turning movements within such frame, a bed frame foldably carried within such seat frame and a locking bar journaled in a portion of the seat frame and having its ends bent at right angles to each other and to the axis of the bar, one of said ends being adapted to be turned to coact with the bed frame to retain it in folded position within the seat frame and the other of said ends being adapted to cooperate with a registering portion of the davenport frame when the seat frame is inverted whereby to lock the seat frame in such inverted position, the bed frame engaging end of such bar being released from engagement with the bed frame when the opposite end thereof is in locking engagement with the davenport frame.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

ADOLPH C. KLOPPING.

Witnesses:

C. W. OWEN,

M. G. GASKELL.