No. 868,000. PATENTED OCT. 15, 1907.

D. T. OWEN.

COMBINED SEAT AND BED FOR RAILWAY COACHES.

APPLICATION FILED JULY 17, 1906.

2 SHEETS—SHEET 1.

Fig-1-

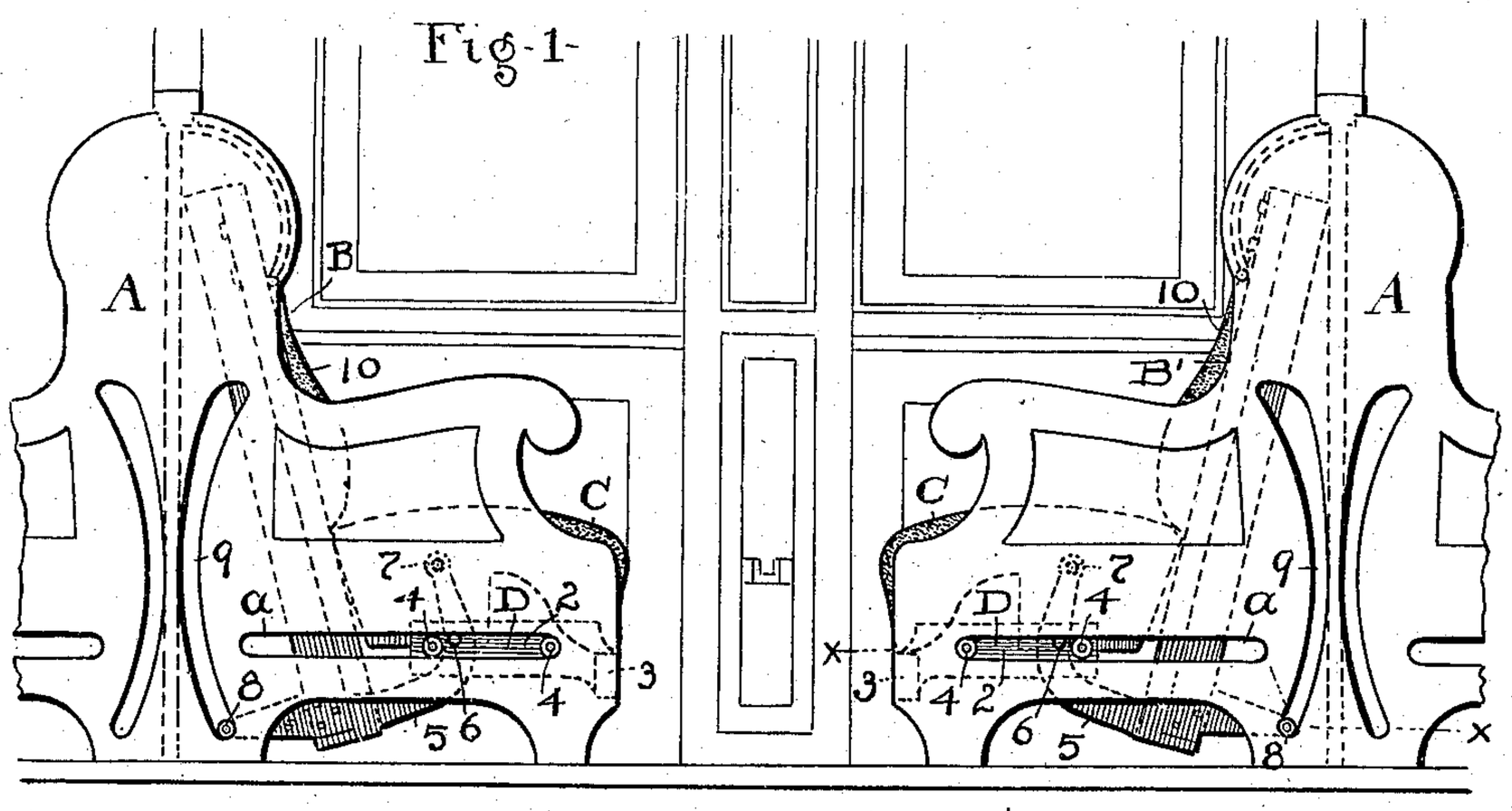


Fig-5

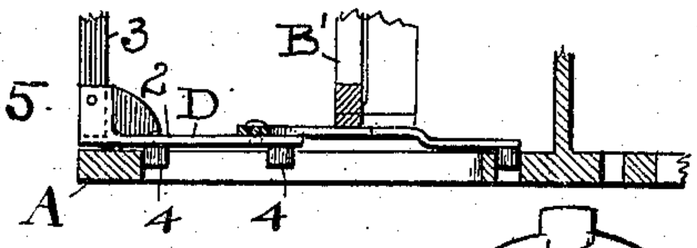
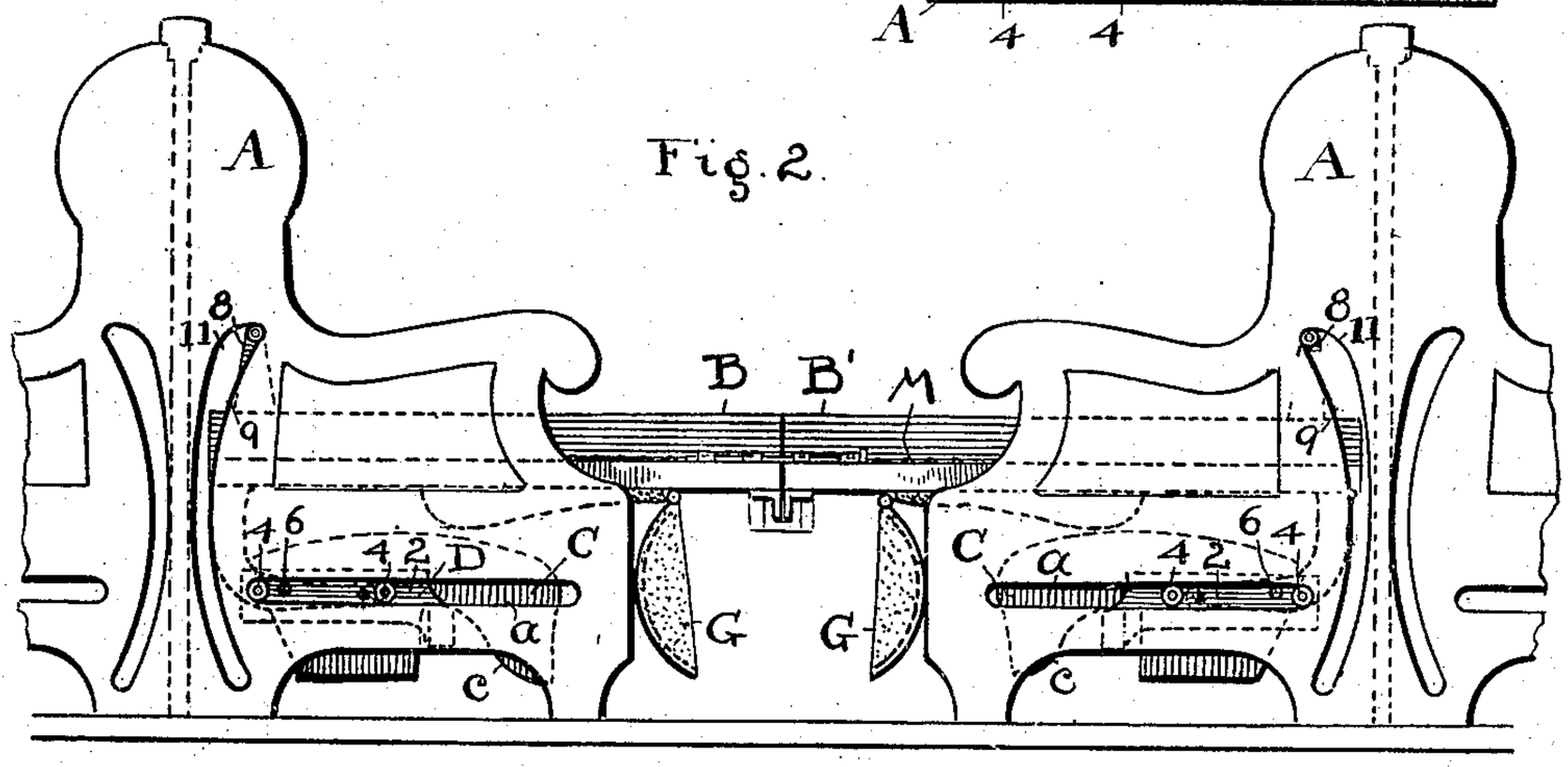


Fig.2.



ATTEST

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Fig. 3.

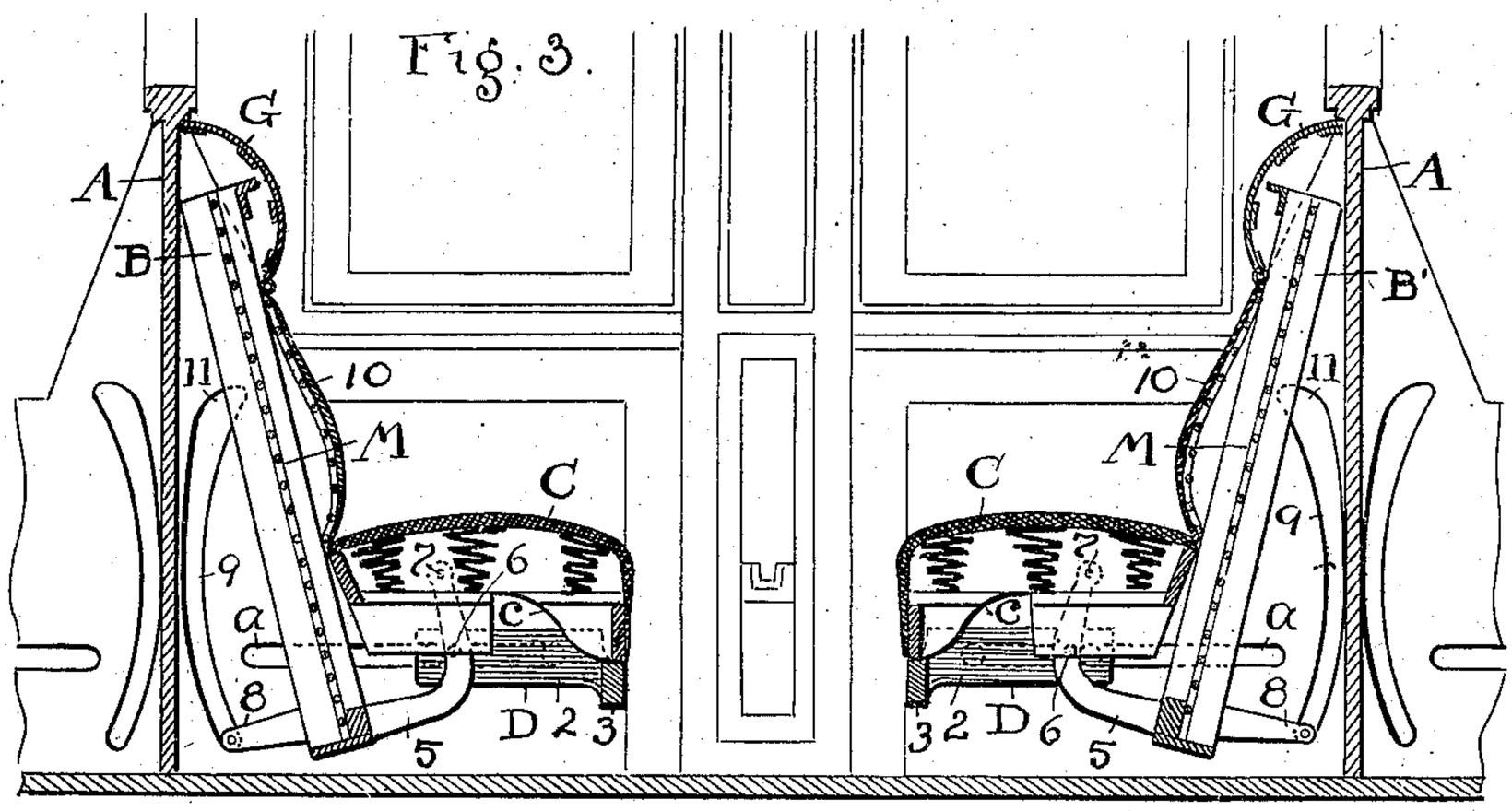
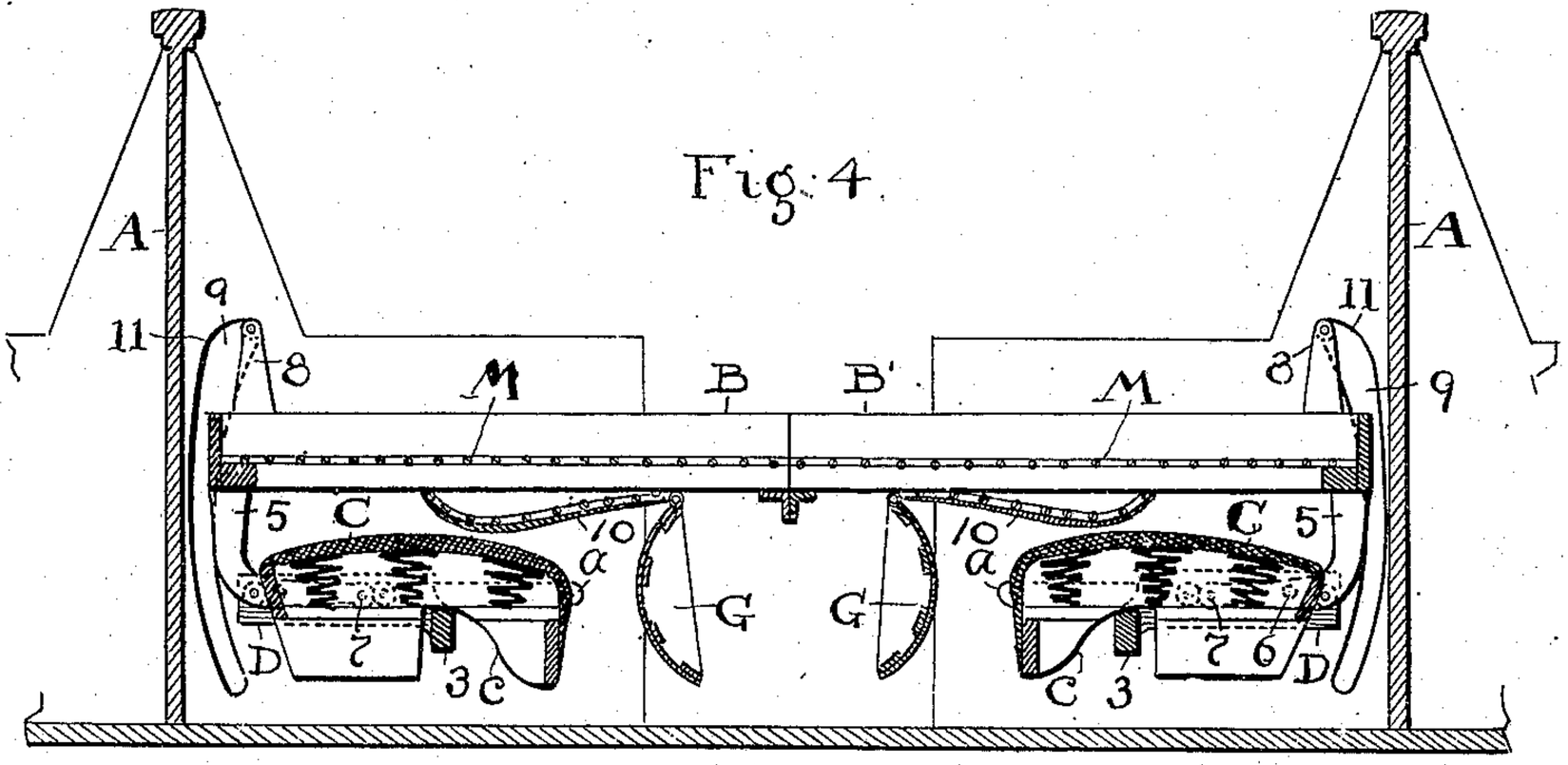


Fig. 4.



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UNITED STATES PATENT OFFICE.

DAVID T. OWEN, OF CLEVELAND, OHIO, ASSIGNOR TO THE D. T. OWEN COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

COMBINED SEAT AND BED FOR RAILWAY-COACHES.

No. 868,000. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed July 17, 1905. Serial No. 269,958.

To all whom it may concern:

Be it known that I, DAVID T. OWEN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in a Combined Seat and Bed for Railway-Coaches, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to combined seats and beds for railway coaches, and the invention consists in seats arranged oppositely and having each a section or half of a complete bed bottom in or upon the seat back adapted to be turned down to horizontal position over the back of the seat and with the opposite section forming a complete bed, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a plain side elevation of two opposed seats in a section of a coach and folded for day service. Fig. 2 is a like elevation of the same parts as in Fig. 1 except that the structures are converted into a bed. Fig. 3 is a vertical central sectional elevation of Fig. 1, and Fig. 4 is a vertical central elevation of Fig. 2. Fig. 5 is a horizontal section on line x, x, Fig. 1.

It is of course known to be old in the art to convert opposite car seats into beds by bringing the seats together in the middle of the bed and lowering the backs into horizontal position to form the ends of the bed and this is not my invention. But such constructions are well known, also, to be objectionable for beds because of the uneven and necessarily hard surface they give for the mattress, and for seats because the upholstered back must be made and kept as nearly flat as possible to make it tolerable as part of the bed. The result is that the structure is spoiled for both bed and seat because it is necessarily compromised in one case to make it at all usable in the other. Now, in my new design and arrangement of parts I avoid all such objections by providing seat and bed in wholly separate parts, and the plan is such in each case that an absolutely free range is afforded to make both the seat and the bed as comfortable and complete as if the other were not involved in the construction and change. Yet I have a convertible and combinable arrangement of parts, and these parts are so associated that when the seats are in use the bed wholly disappears, and when the bed is in use the seats wholly disappear, all as will now be seen.

Thus A represents the stationary interior frame work of the car to which my movable mechanism is brought, and B and B′ are combined bed and seat back frames exactly alike in all particulars but differently designated for convenience of reference.

C represents the seat or seat frame and D the slidable supporting frame for both the seat and frame B. In detail, frame D comprises side plates 2 and cross rail 3 rigidly united, and side plates 2 have preferably roller bearings 4 running in transverse tracks, channels or slots a in the stationary ends or uprights supporting the ends of the seats next to the aisle and formingpart of the general frame work A above referred to.

The ends of the seat frames C are provided with recesses having curved riding edges c adapted to slide up and down in cross rail or bar 3 as the seat is raised and lowered. When raised the seat rests directly upon this rail at its front, Fig. 3, and when the seat is down out of use it is carried forward up and down upon said rail, Fig. 4.

The combined bed and seat back frame B has a rigid substantially right angled arm 5 fixed thereto at each end at its front and bottom which is pivoted on the side of slide plate 2 at 6 near its angle or elbow, and has the seat frame pivotally connected with its front or otherwise free extremity at 7. At its rear and bottom said frame has at each end a projection or arm 8 running in a vertical segmentally curved slot, channel or other equivalent bearing 9, terminating at the bottom at such elevation from the floor as to afford a fixed rest for the back when down as in Fig. 1, and serving at its top or upper end to furnish a stop for the rotation and rest of said arm 8 when the back is down for a bed. Now, a more minute examination of the said parts will also disclose that when the parts are converted into a chair the seat is automatically but positively carried from its idle lowered position Fig. 4, where it is shown in Fig. 4 as out of use and out of the way, to its raised using position Fig. 3. By thus lowering the seat I not only make room for the bed with its wire mattress M free to cover the full length of the space between uprights A, but I get the seat down so low that said mattress can come low also, thus having comfortable sitting room on the bed for dressing without striking the head against the bed above. Furthermore, the construction and arrangements of said arms 5 and 8 and the other parts are such when the bed is down the entire length of space between uprights A is accompanied by the bed, thus making a bed fully six feet or more in length and affording the utmost room that may be needed for comfortable sleeping.

The length of the two frames B and B′ is the same and they are of such length and so supported that when drawn down into horizontal position they meet evenly at their inner ends and form a bed without a break that is perceptible to the user. The edges of the mattress come to the edges of said frames, and then to make them perfectly rigid with each other at this point any suitable locking mechanism may be employed, such as sliding bolts or the like in suitable keepers.

If desired, each bed section may carry its own cush-

ioning mattress, as there is abundance of room therefor as there is also for bedding behind the mattress when raised, but I may use this space for stowing away bedding including separate mattress sections.

It will be noticed that by making my bed and seat in this way I can give the upholstering 10 for the back proper of the seat any desired conformation or shape that comfort or taste may dictate and am not compelled to limit it to a flat surface as formerly, and the said upholstering also, like the seat, is turned entirely out of use and out of the way when a bed is made. This necessarily follows from the reversal or inversion of frame B on its fixed pivots 6. In this case the frame D runs back in channels *a* and accommodates itself to the arbitrary requirements of arms 8 in slots 9. The reversal or raising of the bed frames carries all the parts in the opposite direction and the seats are restored automatically to their original position.

At the top of each seat back I provide a hinged or pivoted head cushion or rest G. This part may be either folded or detached and is preferably used in this way to keep the meeting edges of the back B free for uniting or bringing together to make a bed. As shown said rests are fashioned to hood over and cover the edges of said frames when raised and complete the finish of the design of the seat in this respect.

As already indicated any suitable mattress or construction can be used for the bed in frame B, and so may any suitable support for the upholstering 10 on the front of said frame be employed.

The lowering of the seat C occurs before the back can come down over it, so that it is out of the way when the back gets down and sufficient space remains between them to prevent interference.

The upper end of slot 9 is enlarged somewhat to permit a free movement of arm 8 therein especially when the bed sections are brought together or separated at their meeting ends.

What I claim is:—

1. The combined couch and bed having an upholstered back and a bed on the rear thereof, and a head supporting part on the front of said back and adapted to overlap the upper edge thereof and to be suspended therefrom when the said back is down.

2. The seats and the back frames and bed mattresses for said back frames, horizontally slidable frames carrying said seat, and rigid angle arms for said back frames pivotally engaged with said sliding frames, and a pivotal engagement between said arms and said back frames whereby when the said back frames are lowered the seats are lowered to a horizontal plane parallel with the back frames.

3. The seats and the back frames finished on their front, and bed mattresses on the rear of said back frames, in combination with means to bring said back frames together at their ends to form a bed consisting of sliding supports and rigid arms on said frames pivotally mounted upon said supports, and vertically slotted frames and riding members for said back frames engaged therein.

4. The movable seat and back frame, and the stationary frame, in combination with means to operate said movable parts consisting of a slidable support in said stationary frame, rigid arms on said back frame pivoted on said slidable support and pivot connections at the end of said arms with the said seat, means to guide the said back frame in its operations, and said seat having riding engagement with said slidable support at its front.

5. A combined bed and couch comprising separate back and seat frames, and mechanism operatively connecting said parts adapted to lower the seat frame to a horizontal plane and invert and fold the back to a parallel plane over the same.

In testimony whereof I sign this specification in the presence of two witnesses.

DAVID T. OWEN.

Witnesses:
C. A. SELL,
R. B. MOSER.