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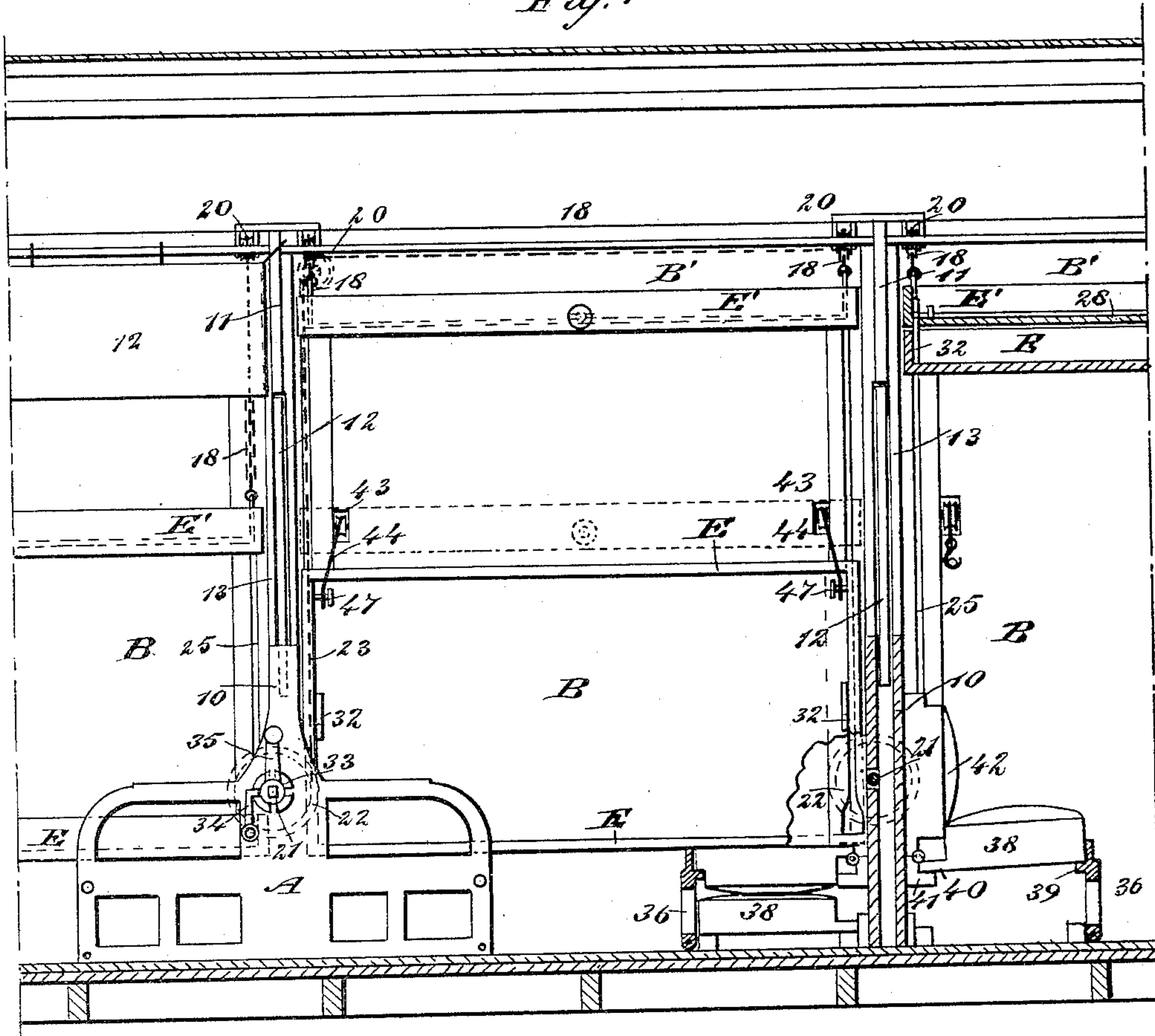
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W. SNECKNER.  
SLEEPING CAR.

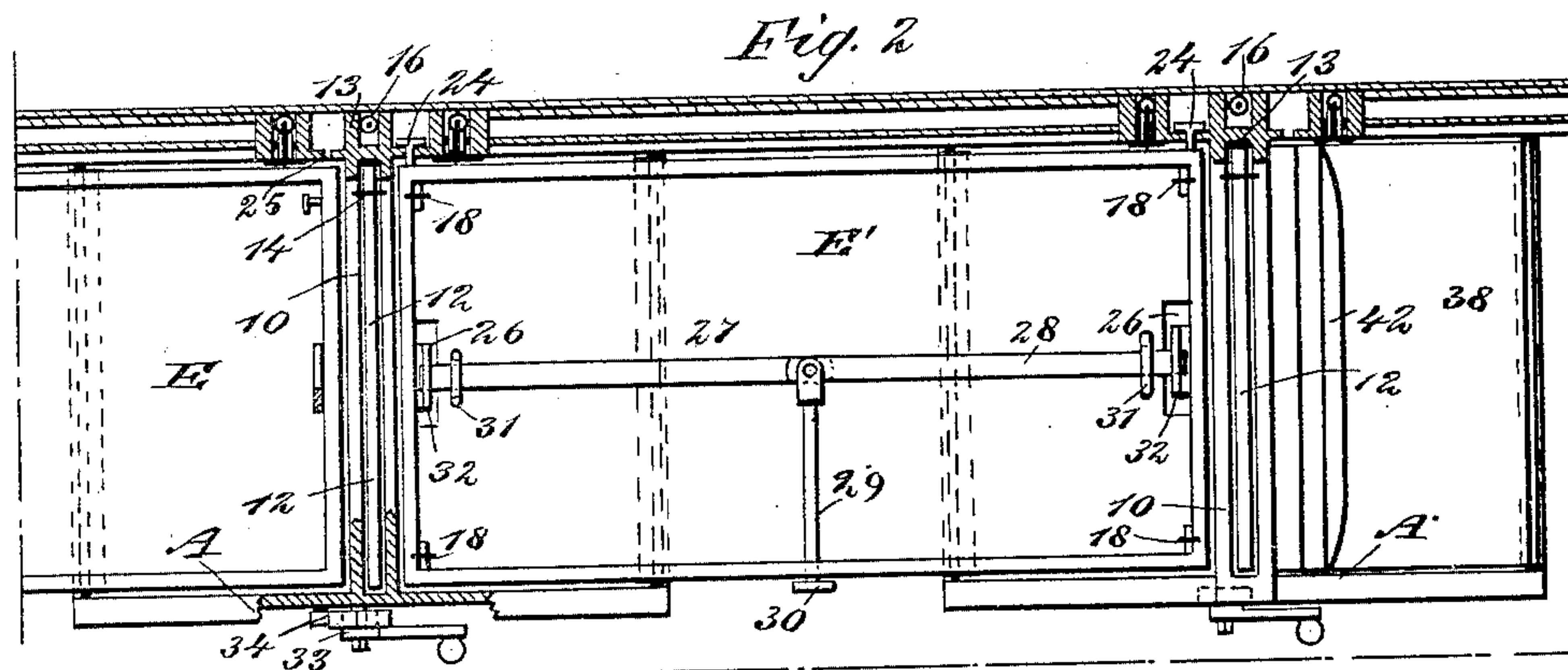
No. 477,157.

Patented June 14, 1892.

*Fig. 1*



*Fig. 2*



WITNESSES:

*Donn Twitchell.*  
*C. Sedgwick*

INVENTOR

*W. Sneckner*  
BY *Munn & Co*  
ATTORNEYS

(No Model.)

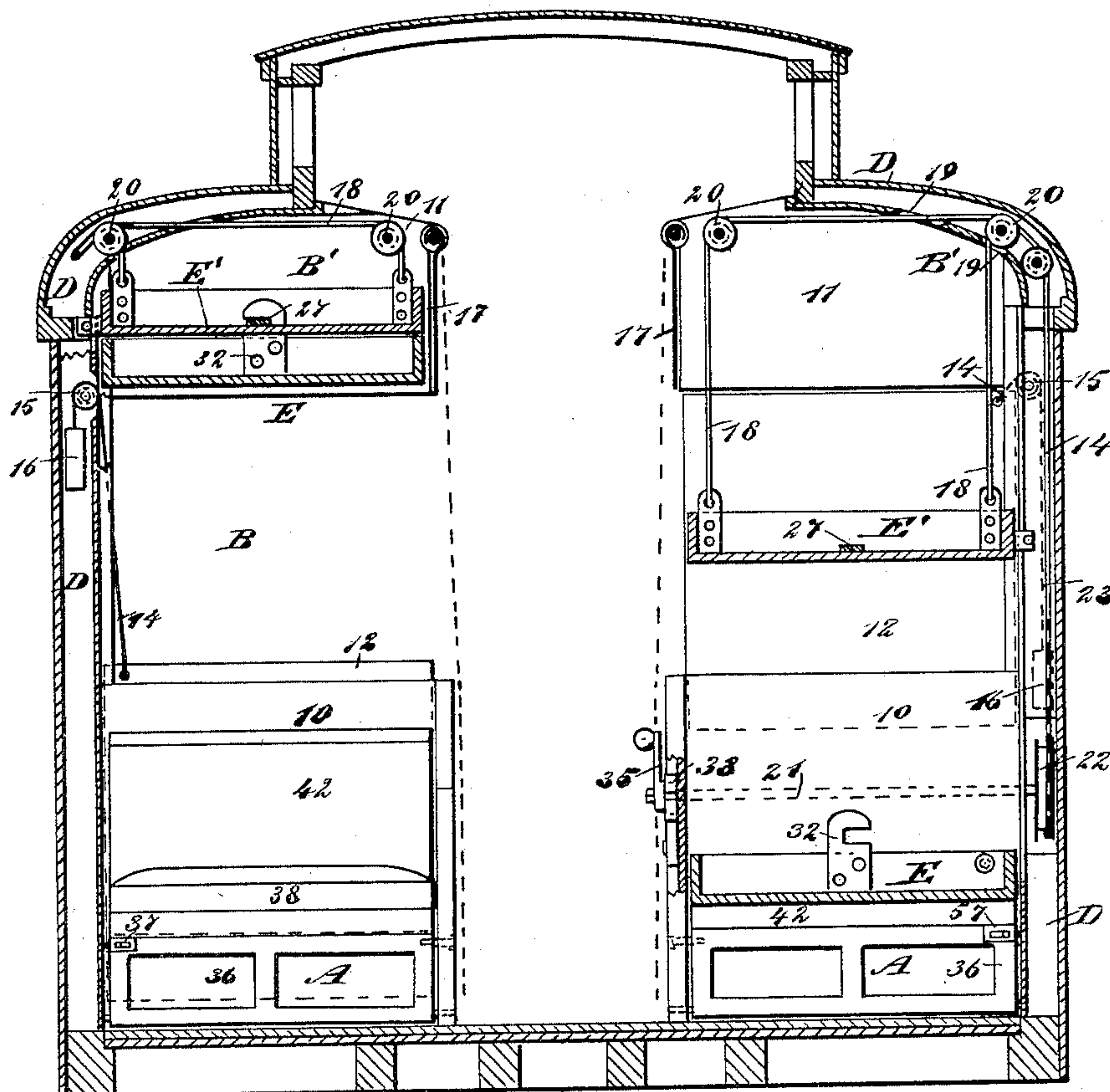
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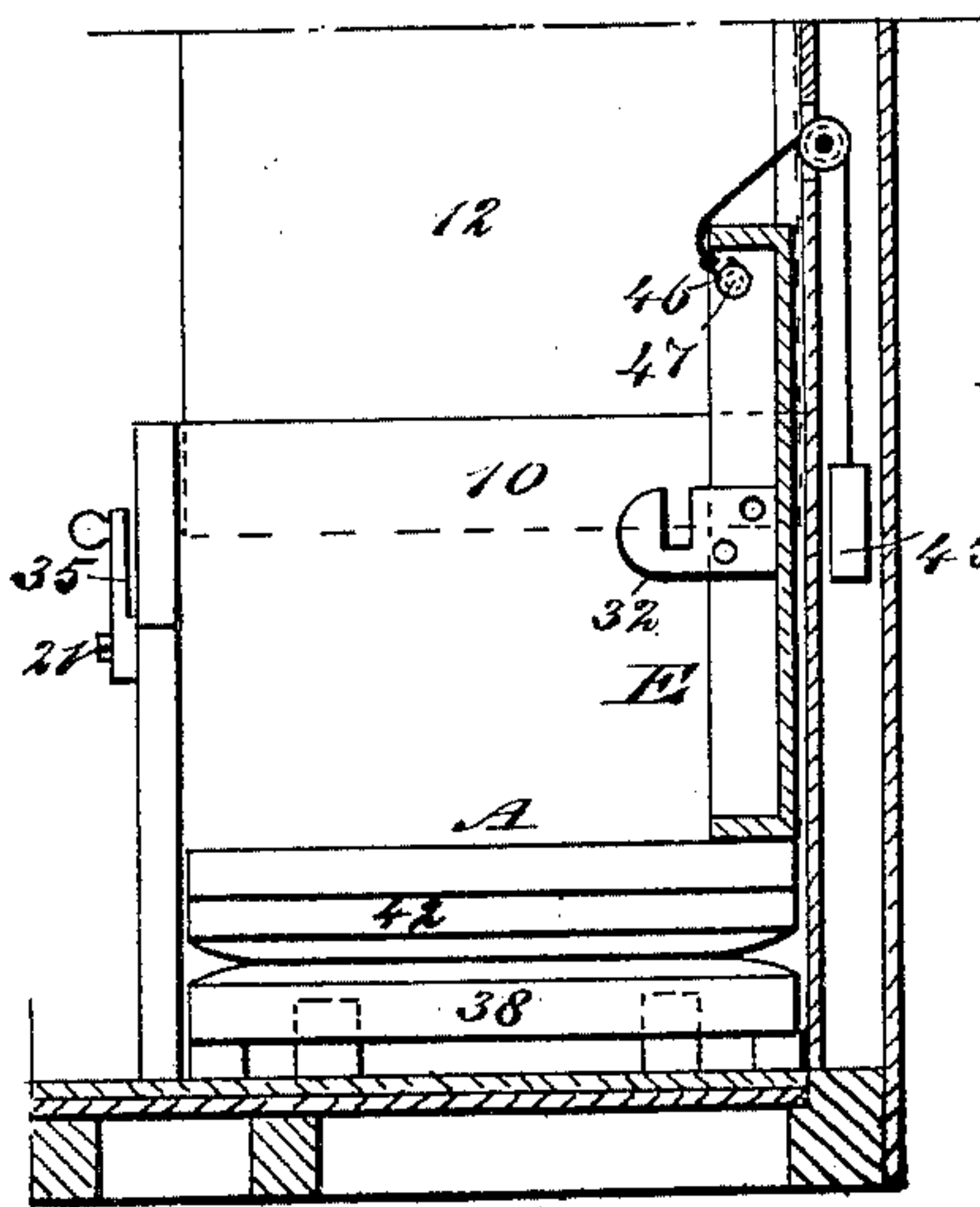
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*Fig. 3*



*Fig. 4*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM SNECKNER, OF NEW YORK, N. Y.

## SLEEPING-CAR.

SPECIFICATION forming part of Letters Patent No. 477,157, dated June 14, 1892.

Application filed July 20, 1891. Serial No. 400,095. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM SNECKNER, of New York city, in the county and State of New York, have invented a new and useful  
5 Improvement in Sleeping-Cars, of which the following is a full, clear, and exact description.

My invention relates to an improvement in the construction of sleeping-cars, and especially to the construction of the berths thereof.  
10

One of the objects of the invention is to provide a means whereby the upper berth of a section will be virtually suspended from the roof of the car and may be expeditiously and  
15 conveniently elevated to a close proximity to the roof and concealed when not in use or lowered to any desired point between the roof and the lower berth, and to an engagement with the latter when necessary.

Another object of the invention is to provide a mechanism whereby the upper berth when lowered to an engagement with the lower berth may be locked thereto and both  
20 berths elevated to the roof of the car and maintained in that position until needed. By this arrangement a maximum of head-room is obtained over the seats and the seats need not be employed as receptacles for the bedding as at present.  
25

A further object of the invention is to so construct the seats that the front will fold or may be removed from the sides, admitting of the cushion being lowered below the seat-line and to hinge the back, enabling it to be folded  
30 down, taking the place of the seat and presenting a table-surface for the lower berth to rest upon.  
35

It is also an object of the invention to provide for the elevating of the lower berth from  
40 its support upon the seats to a vertical position parallel and in engagement with the sides of the car and to maintain it in that position as long as desired, thereby enabling the seats to be used in dressing and undressing and affording room for convenient movement of the  
45 person.

In addition to the above-enumerated novel features each section is provided with stationary upper and lower partitions and a sliding  
50 panel in each of the lower partitions adapted for engagement with the upper partitions.

These partitions serve to separate the sections.

The invention consists in the novel construction and combination of the several parts, 55 as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference 60 indicate corresponding parts in all the views.

Figure 1 is a partial longitudinal section through a car having the improvements applied thereto. Fig. 2 is a horizontal section 65 through a portion of one side of the car, the said section being taken just above the lower partitions dividing the sections. Fig. 3 is a transverse section through the car; and Fig. 4 is a detail vertical section illustrating the 70 manner in which the lower berth may be placed in a vertical position to afford dressing room.

The seats A are arranged at each side of a fixed partition 10, constituting the lower division of the sections B of the car, a second fixed 75 partition 11 being secured to the sides and roof above each lower partition, and the latter partitions each containing a sliding panel 12, for which ways 13 are produced, as shown in 80 Figs. 1 and 2. The panels have cables or chains 14 attached, preferably, at their outer upper ends, and said cables are carried upward over pulleys 15, located near the top of the car and into a chamber D, formed between the outer and inner walls of the structure, 85 weights 16 being secured to the free ends of the cables, as is illustrated in Fig. 3. The chambers D extend the length of the car at each side and also the length of the roof at 90 each side of the clear story.

When the car is in use as a day-coach, the panels 12 are concealed in the lower fixed partitions and quite a space exists between them and the upper partitions; but when the 95 car is to be used for sleeping purposes the panels, assisted by the attached weights, are carried upward to and in connection with the upper partitions, thus rendering each section private, the front of the sections being closed 100 in the ordinary manner.

A fixed curtain 17 is placed at the top in



front of each section, extending downward about flush with the lower edge of the upper partition. These curtains, together with the upper partitions, define upper compartments 5 B', (best shown in Fig. 3,) in which both the upper and lower berths E and E' are located and practically concealed when not in use.

The berths constitute the prime feature of the invention. They are practically of rectangular shape, provided with closed bottom sections, and their side and end sections are of suitable height to accommodate the usual furniture.

The lower berth E when in use rests upon 15 two seats; but the upper berth E' is suspended by four cables 18, one of which is attached at each corner. These cables are carried upward through suitable openings 19 in the inner wall of the roof of the car and over pulleys 20 into the upper portion of the chambers D of the car-body. In the drawings the pulleys over which the cables located at the front of the berths pass are supported by the upper partitions of the sections, and the pulleys over which the other cables are carried 25 are located within the chambers D; but the location of the pulleys and the manner of leading the cables into the chambers D may be varied as demanded by the construction of the car-body and the character of the partitions employed for the sections.

Each upper berth is raised and lowered independently, and this is ordinarily accomplished in the following manner and as illustrated: A shaft 21 is provided for each section, journaled in suitable bearings at one side of a lower partition. One end of the shaft extends out into the aisle a short distance and the other end within the chamber 40 D, as shown in Fig. 3. A drum or pulley 22 is secured to each shaft within the said chambers and the cables attached to the upper berths are led down and attached to the drums, or a single cable 23 may be fastened to each drum, having the four cables of the upper 45 berth attached thereto. The upper berths are guided in their upward and downward movement and prevented from swaying laterally by attaching to their outer sides, near each end, a lug 24, the said lugs being preferably T-shaped, as illustrated in Fig. 2, and the shanks of the lugs are adapted to travel in grooves 25, formed vertically in the inner wall of the car-body, the heads of the lugs being 50 within the chambers D. Each lower berth is provided with an opening 26 in its bottom at each end, as is likewise best shown in Fig. 2, and two latch-bars 27 and 28 are longitudinally placed upon the bottom of each upper 55 berth, the said latch-bars extending over the openings 26 and terminating at the center of the berths, at which point they are pivotally connected with a rod 29, said rod extending through the outer side of the berth and having a head 30 formed at its outer extremity. 60 The outer ends of the latch-bars are spanned

by staples 31 or their equivalents, which staples serve to guide the bars in their movements. When the rod 29 is drawn outward, 70 the outer ends of the latches are carried inward away from the openings 26; but when the rod 29 is pressed inward the latches extend over the openings. These latches are adapted to enter keepers 32, secured to and projecting above the end sections of the lower 75 berths. By this arrangement a lower berth may be connected with the upper one and carried within the compartment B' of its section when not in use, and this is effected as follows: The rod 29 of the upper berth is drawn 80 outward, carrying the latches from over the openings 26, and the said berth is then lowered by manipulating the shaft 21 until it engages with the berth beneath it. When this occurs, the keepers of the lower berth will 85 have entered the openings 26 of the upper berth. The rod 29 is then pressed inward, restoring the latches to their normal position, whereupon the outer ends of the latches will engage with the keepers and the two berths 90 will be securely locked together. The shafts 21 are prevented from rotating when the upper berth has been carried to the desired location through the medium of keeper-plates 33, located, preferably, upon the seats A around 95 the shafts, which keeper-plates are provided with a series of recesses into which pawls 34 are entered, said pawls being also located upon the seats, as illustrated in Fig. 1, and the shafts are rotated through the medium of cranks 35, 100 if desired; but I desire it to be distinctly understood that any equivalent of the crank or the keeper-plate and pawl may be employed without departing from the spirit of the invention.

The construction of the seats A is peculiar, 105 the peculiarity consisting in the fact that the front sections 36 of the seats are hinged or pivoted at their lower edges to drop downward and provided with bolts 37 or equivalent locking devices to secure said sections in a vertical position when the seats are to be used. 110 The seat-bottoms 38 are removable and when in position their forward edges rest upon ribs 39, formed upon the upper inner surfaces of the sections 36, and extensions 40 are located 115 at the lower rear surfaces of the seat-bottoms, which are supported by shelf-extensions 41, attached to the partitions 10. The space back of the sections 36 and below the bottom line of the seats is open, and when a lower berth 120 is to be made up the bottoms of the seats are placed in these spaces, cushions up, the front sections of the seats being first let down. The backs 42 of the seats are hinged or pivoted at their edges, enabling them to be dropped, 125 cushions downward, to an engagement with the cushions of the bottoms and taking the place of the removed bottoms, as shown in the center section, Fig. 1, and in Fig. 4. As the rear faces of the seat-backs are of a hard material, they present a table-like surface upon 130 which the lower berths are supported. When



the seats are made up, the cushions of the bottom, by engagement with the back-cushions, hold the latter erect, as is illustrated at the right in Fig. 1.

5 It is very desirable in the construction of sleeping-cars to provide room for persons to conveniently dress and undress in the lower berths. This result is conveniently attained by the following means: In the side wall of  
10 each section of the car, preferably near each end wall, an opening 43 is produced in which openings pulleys are located. Cables 44 are passed over the pulleys into the chambers D, and weights 45 are attached to the lower ends  
15 of the cables, their upper ends, which extend out into the sections, being provided with an attached hook 46 or the equivalent thereof. These hooks serve to prevent the outer ends of the cables from passing over the pulleys,  
20 and are also adapted for engagement with pins 47 or their equivalents, secured one to each end of the lower berth at or near its side facing the outer wall of the car.

When it is desired to dress or undress or to  
25 have room in a section to readily move about, the cables 44 by means of their hooks are attached to the pins 47, and the lower berth is thereby raised, through the medium of the weights 45 and the assistance of the operator,  
30 to a vertical position in engagement and parallel with the side wall of the section, as is shown in the central section, Fig. 1, and in detail in Fig. 4. The berth may be readily  
35 restored to its normal position upon the seats by disengaging the cables 44 and permitting the berth to slide down to a horizontal position.

In the operation of the improvements, the berths being made up as illustrated at the  
40 left in Fig. 1 and it being desirable to carry them up out of the way so as to clear the section, the shaft 21 is manipulated in a manner to lower the upper berth until it rests upon the lower one, and, as heretofore stated, when  
45 this action takes place the latches 27 and 28 are manipulated to lock the two berths together. When this is accomplished, the shaft 21 is again revolved to wind up the cables attached to the upper berth and both berths are  
50 carried upward into the upper compartment B' of the section behind the curtain 17, as shown at the left in Fig. 3 and at the right in Fig. 1. The backs of the seats in the section are then thrown upward to a vertical position,  
55 the bottoms are lifted from their position within the frame, the front sections of the seat are locked to place, and the bottoms are placed in their proper position in the frame, as shown to the left in Fig. 1. When a sec-  
60 tion is to be made up for sleeping purposes, the bottoms of the seats are placed within the frames and their backs are lowered to a horizontal position. Both the berths are then lowered until the lower berth rests upon the  
65 seats, at which time the latches 27 and 28 are operated to release the upper from the lower berth, and the upper berth is then carried up-

ward to its proper elevation and the lifting mechanism is locked.

Having thus described my invention, I 70 claim as new and desire to secure by Letters Patent—

1. In the construction of a sleeping-car, an upper berth having vertical movement, a lower berth independent of the upper one, 75 locking devices capable of uniting the two berths, and an elevating mechanism connected with only one of the berths, substantially as described.

2. In the construction of a sleeping-car, the 80 combination, with an upper berth movable vertically in a horizontal position, of a lower and independent berth of equal size with the upper one and adapted for contact with the upper berth, a latch device carried by one 85 berth, keepers connected with the other berth, and a hoisting mechanism connected with only one of the berths, substantially as shown and described.

3. In the construction of a sleeping-car, the 90 combination, with an upper berth and an elevating mechanism connected therewith, of a support at the bottom of the car, a lower berth removable from its support and independent of the upper berth, and locking devices where- 95 by the two berths may be connected and disconnected, disconnected when in position for use and connected when in their storage position, as and for the purpose specified.

4. In the construction of a sleeping-car, the 100 combination, with an upper berth, cables attached to the berth near its corners, and an elevating mechanism connected with the cables and capable of operation from the aisle of the car, of a lower berth independent of 105 the upper one and of substantially equal size, the lower berth being adapted to rest upon the seats of a section, a latch located in the bottom of one berth, and keepers carried by the upper berth to be engaged by said latch, 110 substantially as described, whereby the upper berth may be manipulated alone or employed as a medium for raising or lowering the lower one, as set forth.

5. In the construction of a sleeping-car, an 115 inclosed chamber located in the roof-section of the car, an upper berth having vertical movement, a lower berth independent of the upper one, yet capable of a locking engage- 120 ment with the upper berth, and a hoisting mechanism connected with one of the berths, whereby the berths may be elevated through the medium of but one hoisting mechanism into the inclosed roof-chamber and main- 125 tained therein, as and for the purpose specified.

6. In the construction of a sleeping-car, the combination, with an upper berth provided with an opening in its bottom and in its ends and latches held to slide over said openings 130 and operated from the front of the berth, of a hoisting mechanism connected with the upper berth, a support located in the bottom of the car, a lower berth adapted for engage-



ment with the support, yet removable therefrom and independent of the upper berth, the lower berth being provided with keepers to enter openings in the upper berth, and latches  
5 carried by the upper berth for engagement with the keepers in the lower one, as and for the purpose set forth.

7. In the construction of a sleeping-car, the combination, with a support and a berth sus-  
10 tained by and yet removable from the support, of a lifting mechanism located in the car-body, a portion of the mechanism being located immediately above the berth, and a detachable connection between the lifting  
15 mechanism and the berth near one side of the latter, whereby the berth may be raised to a vertical position from its support and maintained in that position, providing room for dressing, &c., and whereby, also, the berth  
20 may be restored to its horizontal position, when desired, substantially as set forth.

8. In the construction of a sleeping-car, the combination, with a support and a berth re-  
movable from this support, of weighted cables  
25 attached to the berth at one side of its frame and means, substantially as shown and described, for releasing the cable from the berth when the latter is to be lowered to a horizontal position, the cables carrying it to a vertical  
30 position, as and for the purpose set forth.

9. In the construction of a sleeping-car, the combination, with the lower berth thereof removable from supports provided for it, of cables located partially within and partially  
35 without a chamber formed in the car-body, the said cables being provided with weights at their inner ends and a grappling device at their outer ends, the latter being adapted for attachment to the berth at one side thereof,  
40 whereby when the grapples are attached to the berth it will be carried from a horizontal to a vertical position substantially parallel with the wall of the chamber in which the actuating-weights are located, as and for the  
45 purpose set forth.

10. In the construction of a sleeping-car, a seat constructed with the front section removable from its frame, an interior chamber, a removable bottom, a hinged back, and a  
locking engagement between the back and the  
50 seat, whereby the back may be maintained in a vertical position, as and for the purpose specified.

11. In the construction of a sleeping-car, a seat constructed with its front section hinged  
55 to fall downward and provided with an interior chamber, a removable bottom capable of being stored in said chamber, and a back hinged at its lower end to drop downward as a substitute for the bottom, the said back be-  
60 ing supported by the front section when in the horizontal position, as and for the purpose set forth.

12. In the construction of a sleeping-car, the combination, with the lower partition of a  
65 section and an upper partition spaced therefrom and forming a portion of the roof-section, of a movable panel located in the lower partition and a hoisting device, substantially as shown and described, through the medium  
70 of which the panel may be made to engage with the upper partition, thereby connecting the upper and the lower partitions, as and for the purpose specified.

13. In the construction of a sleeping-car, the  
75 combination, with the lower partition of a section and an upper partition in vertical alignment therewith and constituting virtually a portion of the roof structure, of a panel loosely fitted in the lower partition and a weighted  
80 cable attached to the panel, whereby the said panel when desired may be elevated to an engagement with the upper partition and maintained in such position, as and for the purpose set forth.

WILLIAM SNECKNER.

Witnesses:

E. M. CLARK,

F. W. HANAFORD.