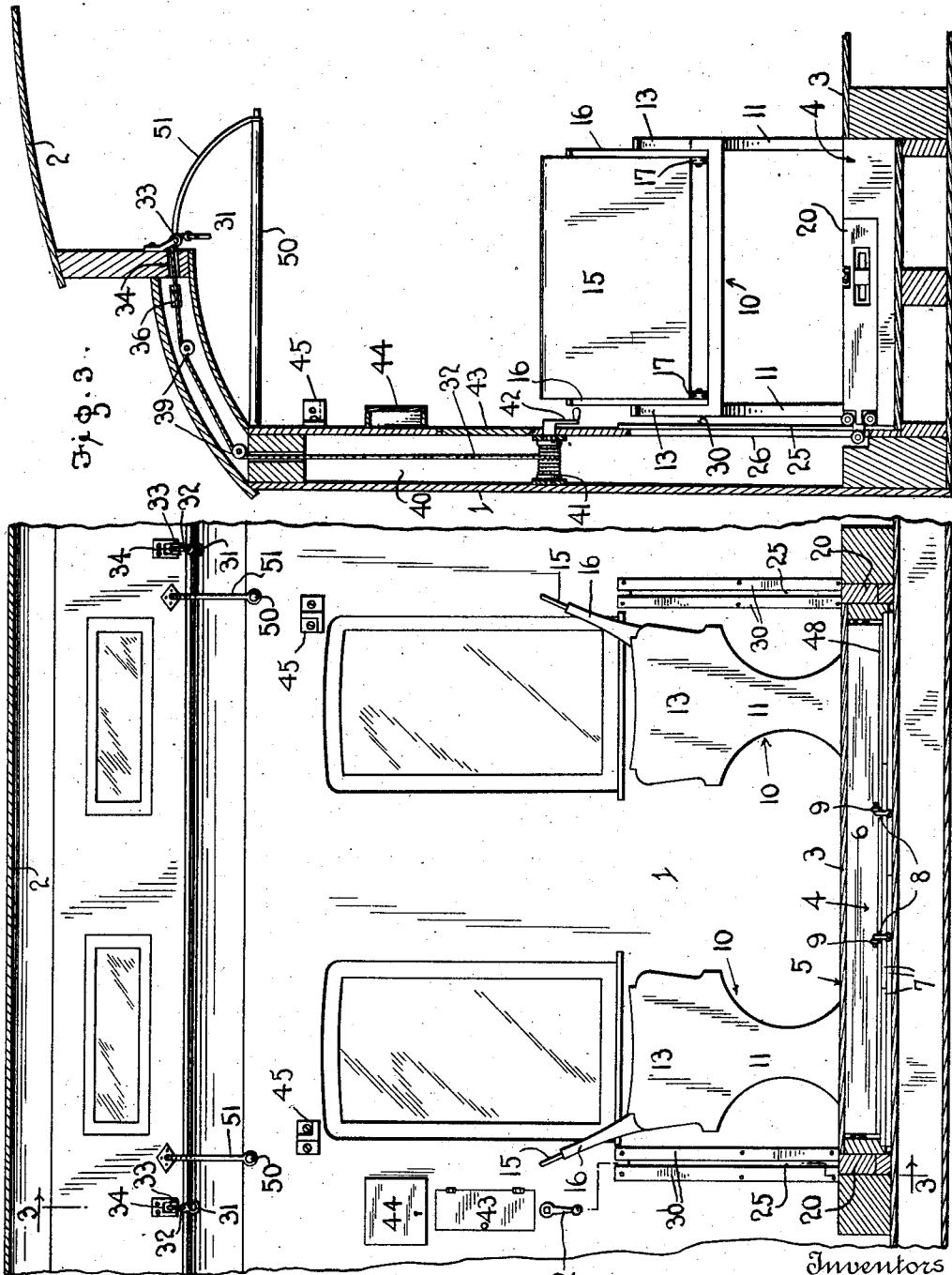


J. DOMANOWSKI & M. WÓJCIK.
 COMBINED BERTH AND SEATS FOR RAILWAY CARS.
 APPLICATION FILED JULY 13, 1911.

1,010,876.

Patented Dec. 5, 1911.

4 SHEETS—SHEET 1.



Witnesses
 L. B. James
 L. O. Hilton

Fig. 1.

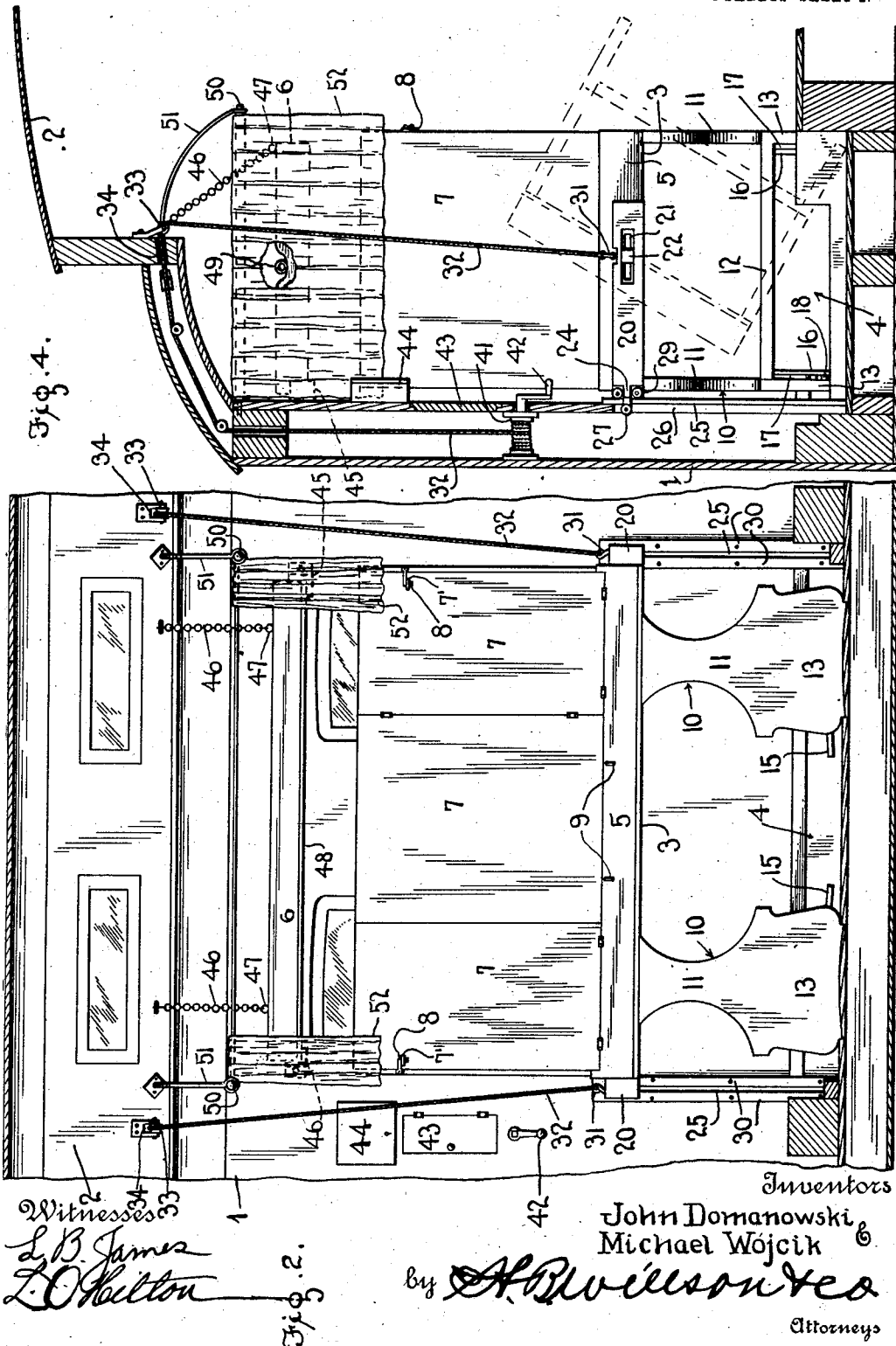
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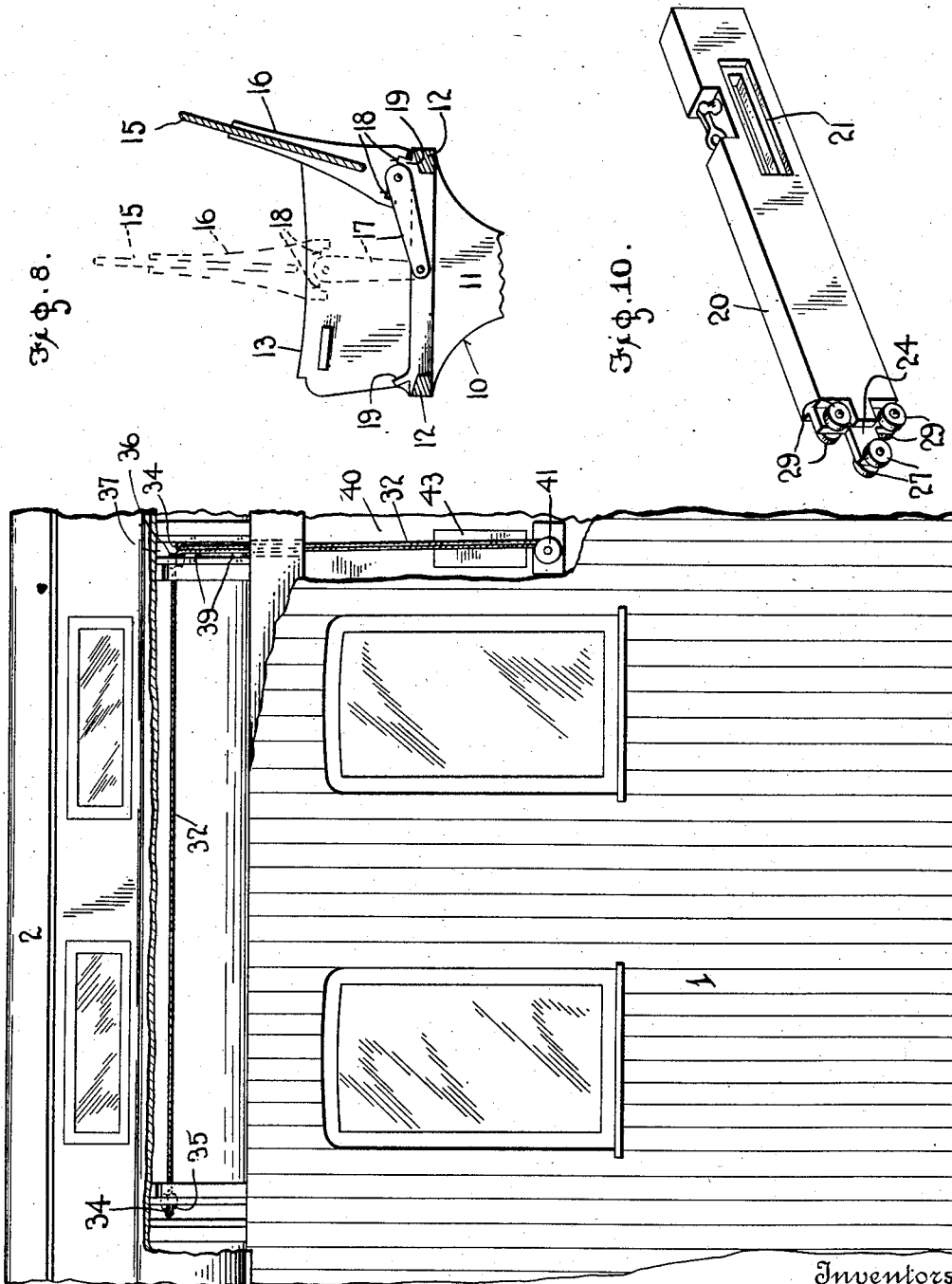


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Fig. 5.

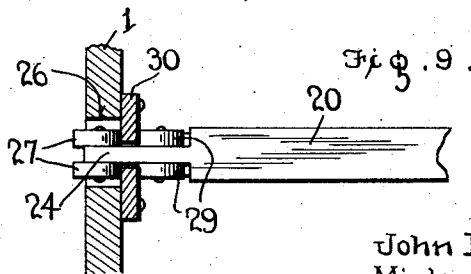
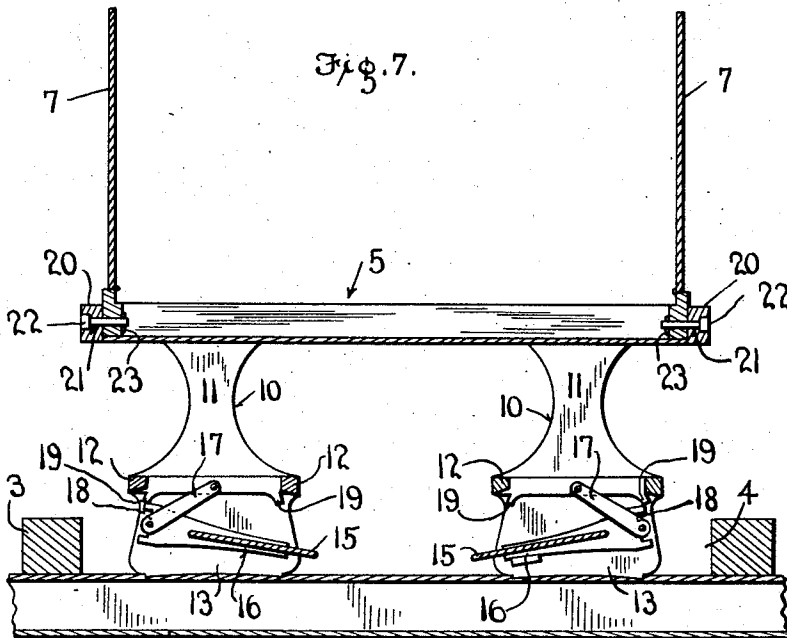
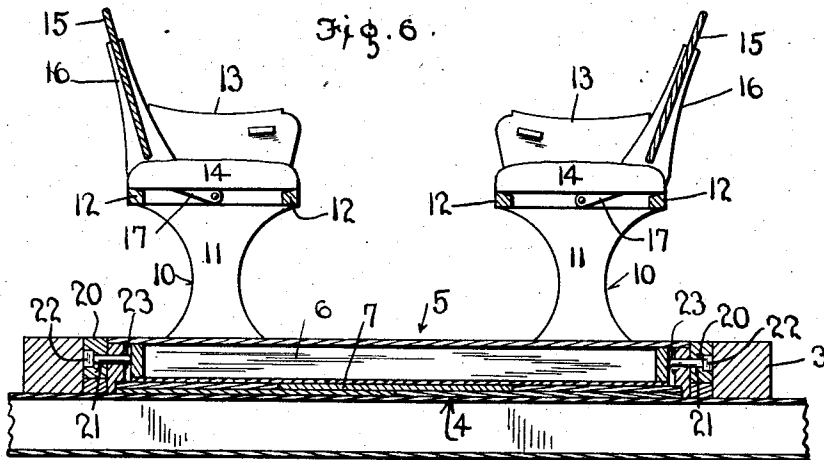
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UNITED STATES PATENT OFFICE.

JOHN DOMANOWSKI AND MICHAEL WÓJCIK, OF SACRAMENTO, CALIFORNIA.

COMBINED BERTH AND SEATS FOR RAILWAY-CARS.

1,010,876.

Specification of Letters Patent.

Patented Dec. 5, 1911.

Application filed July 13, 1911. Serial No. 638,320.

To all whom it may concern:

Be it known that we, JOHN DOMANOWSKI, a citizen of the United States, and MICHAEL WÓJCIK, a subject of the Czar of Russia, residing at Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Combined Berths and Seats for Railway-Cars; and we do 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.

This invention relates to improvements in combined berths and seats for railway cars.

One object of the invention is to provide a combined lower berth and seats for sleeping cars which may be readily converted from a berth to seats or vice versa and in which when the seats are in position the berth will be entirely hidden.

Another object is to provide an improved means for inclosing the lower berth when in operative position and to provide an upper berth adapted to be supported in an operative position above the lower berth and to be placed within the latter when not in use.

With these and other objects in view the invention consists of certain novel features of construction and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a vertical longitudinal section through a portion of a car showing the application of the invention and illustrating the seats arranged in operative position; Fig. 2 is a similar view with the berths arranged in operative position; Fig. 3 is a vertical cross section on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 2 showing in dotted lines the manner in which the seats and lower berth are turned to bring the same into operative and inoperative positions; Fig. 5 is an outer side view of a portion of the car with parts broken away and in section. Fig. 6 is an enlarged vertical longitudinal section through the seats and berths showing the position of the parts when the seats are in use; Fig. 7 is a similar view showing the position of the parts when the berth is in use; Fig. 8 is an enlarged cross sectional view of one of the seats showing the construction and arrangement of the back supporting mechanism; Fig. 9 is a

detail longitudinal sectional view through a portion of one side of the car showing the manner in which the seat and berth lifting bars are slidably engaged therewith; Fig. 10 is a detail view of one of the seat and berth lifting bars.

Referring more particularly to the drawings, 1 denotes the side, 2 denotes the top and 3 the bottom or floor of a railway car which may be of the usual or any desired construction. In the floor of the car below each section or pair of seats is formed an opening 4 which is of sufficient size to receive the lower berth 5. The lower berth 5 comprises a rectangular oblong box of suitable size to form a double bed and of sufficient depth to receive the cushions or other form of mattress and to receive the upper berth 6 when said berths are in inoperative positions.

Hinged at their lower edges to the ends and outer side of the berth are a series of panels 7 which are adapted to swing upwardly to vertical positions and to be secured in these positions to form an inclosing screen for the berth. The end panels of the screen are provided with hooks 8 which when the panels are in operative position are adapted to be engaged with keepers 7' on the end panels of the front of the berth whereby said end and front panels are secured together and supported in operative position. The intermediate panel of the outer side of the berth is preferably hinged to the inner edge of one of the end panels of the outer side of the berth thus permitting said intermediate panel to be swung to open and closed positions to provide access to the berth. When not in use the front or outer side panels are adapted to be folded down onto the berth after which the end panels are folded down onto the side panels and the hooks 8 engaged with the keepers 9 secured to the outer side of the berth as shown thereby fastening the panels in closed position onto the berth. When the berth is in an inoperative position the same is disposed in the opening 4 in the floor of the car and the outer side of the bottom of the berth when in this position lies flush with the floor of the car and provides a floor over the opening which receives the berth.

Secured to the outer side of the bottom of the berth are seats 10 each of which comprises supporting standards 11 connected at their upper ends by bottom supporting bars

12 and having arranged on their upper ends, arms 13. Secured to the bars 12 are bottoms 14 which may be of any suitable construction. The seats 10 are provided with
 5 suitable backs 15 to the ends of which are secured end bars 16. The lower ends of the bars 16 project below the edge of the back and are pivotally connected to the one end of links 17. The other ends of the links 17
 10 are pivotally connected to the inner sides of the upper ends of the standards as shown. By thus pivotally and loosely connecting the backs of the seats to the standards 11, said backs may be swung from one side to
 15 the other and thus reversed to permit the seats to face in either direction. In order to support the backs in proper position, we provide the lower projecting ends of the end bars 16 with pairs of notches 18 one
 20 of which is arranged on each side of the links 17 and said notches are adapted to be engaged with back supporting lugs 19 formed on the upper ends of the standards 11 adjacent to the inner sides of the arms 13
 25 as shown. When the notches of the end bars are thus engaged with the lugs 19 the backs will be supported at the proper angle and may be readily shifted from one side of the seat to the other to permit the seat to
 30 face in either direction. When the parts are arranged for using the berth the backs are folded down against the bottoms of the seats and the latter form legs or supports for the lower berth and when arranged for
 35 this use the arms 13 rest on the sub floor of the car and thus together with the standards 11 provide substantial supports for the berth which, when not in use forms a support for the seats as hereinbefore described
 40 and clearly shown in the drawings.

In order to readily lift the berth and seats to a sufficient extent to permit the same to be turned to bring either the berth or seats to operative position, we provide lifting
 45 bars 20 in which near their outer ends are formed slots or elongated passages 21 with which are slidably engaged the headed rectangular ends of short pivot bolts 22 on the inner cylindrical ends of which are revolubly
 50 supported the ends of the lower berth. The bolts 22 are preferably held in position by cotter pins 23 inserted through their inner ends as shown. On the inner ends of the bars 20 are formed reduced extensions
 55 24 which are adapted to slidably engage vertically disposed guide slots 25 which communicate with guide passages 26 formed in the adjacent sides of the car as shown. On the reduced inner ends of the bars are revolubly mounted inner guide rollers 27 while
 60 on the opposite sides of the bar and disposed in recesses 28 are revolubly mounted outer guide rollers 29. When the bars are in operative position the inner guide rollers
 65 27 engage and travel on the inner side wall

of the passage 26 adjacent to the opposite sides of the slot 25, while the outer rollers 29 travel on suitable guide strips 30 secured to the inner side of the car and are spaced apart to form the slots 25.

Adapted to be connected to the bars 20 by means of hooks 31 are the lower ends of berth and seat lifting cables 32 which extend upwardly and pass over guide pulleys 33 mounted in suitable brackets on the side
 75 of the upper portion of the car as shown. The cables after passing over the pulleys 33 pass through openings 34 in the inner side of the upper portion of the car and the cable at one end of the berth passes around
 80 a guide pulley 35 arranged in a suitable passage formed between the inner and outer walls of the top of the car and from said pulley 35 extends to a pulley 36 arranged in a guide passage 37 through which the cable
 85 at the opposite end of the berth extends after passing through the opening 34. When said cables are thus brought together they extend outwardly through the passage 37 and over grooved guide rollers 39 and thence
 90 downwardly through a guide passage 40 formed between the inner and outer walls of the adjacent side of the car and are connected at their lower ends to a winding drum 41 revolubly mounted in the lower
 95 portion of the passage 40 and having one end of its shaft projecting through the inner wall of the car and squared to receive a wrench or crank handle 42 which is adapted to be engaged therewith to revolve the drum
 100 in the proper direction for winding up the cables 32 and thus lifting the berth and seats to the proper elevation to permit the same to be turned in the lifting bars 20 to which the hooks on the lower ends of the cables are
 105 connected thus permitting the berth and bars to be reversed or turned to bring either of the same to operative and inoperative position as hereinbefore described. In the inner walls of the car adjacent to the pas-
 110 sage 40 is formed an opening through which access may be had to the winding drum 41, said opening being closed by a suitable door 43 as shown. Above the door 43 and secured to the inner wall of the car is preferably arranged a tool box 44 in which the
 115 crank handle or wrench 42 and any other tools or mechanical parts may be kept.

The upper berth 6 is in the form of a rectangular frame of slightly smaller size
 120 than the frame of the lower berth to permit said upper berth to be placed in the lower berth when not in use. The upper berth is detachably secured at its ends near its rear side to two supporting lugs 45 arranged on
 125 the inner side of the car at a suitable position and preferably immediately above the tops of the windows in the side of the car. The outer edge of the upper berth is supported in position by means of supporting
 130

members shown in the form of chains 46 which are suitably connected to the inner side of the top of the car and are adapted to be engaged with eyes or loops 47 secured to the outer side of the upper berth as shown. The frame forming the upper berth may be provided with a bottom 48 of any suitable or desired material. Secured to the opposite end bars of the upper berth frame are eyes or loops 49 to which are adapted to be connected the hooks 31 of the lower ends of the cables 32 whereby said cables may be employed for raising and lowering the upper berth to its operative and inoperative positions.

Secured at their inner ends to the side of the car above the ends of the upper berth are outwardly projecting curtain supporting bars or poles 50 having reduced outer ends which are engaged with eyes formed in the outer end of curved pole supporting rods 51 the upper ends of which are secured to the inner side of the car as shown. With the poles 50 are adapted to be engaged curtains 52 which extend down to the upper ends of the screen panels of the lower berth and thus screen the upper berth. The curtains extending along the front or outer side of the upper berth are supported on a rod or wire connected with the ends of the poles 50 as shown.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention claimed.

Having thus described our invention, what we claim is:

1. A combined berth and seats for railway cars comprising a lower berth adapted to be lowered into an opening in the floor of the car when in an inoperative position, seats secured to the bottom of the berth and adapted to be supported by the latter when in an operative position and to form supports for said berth when the latter is in an operative position, and means to raise and lower said berth and seats to permit the same to be changed to operative and inoperative positions.

2. In a railway car a floor having formed therein below each section or pair of seats, an opening, a lower berth adapted when not in use to be lowered in an inverted position into said opening thereby closing the latter and forming a floor for the same, seats secured to the bottom of the berth and adapted to be supported thereby in operative position and to form supports for the berth when the latter are in an operative position,

backs loosely hinged to said seats and adapted to be reversed to permit the seats to face in either direction, lifting bars having formed therein longitudinal slots, berth supporting bolts slidably engaged with said slots and adapted to pivotally support the berth whereby the latter may be swung around thereon to operative and inoperative positions, means to slidably connect the inner ends of said bars to the adjacent sides of the car, hoisting cables adapted to be connected to said bars, said cables extending upwardly and outwardly through the top and side of the car, a winding drum revolvably mounted in the side of the car and adapted to receive said outer ends of the cables whereby the latter are wound and unwound on and off said drum and said berth and seats thus raised and lowered to permit the same to be turned to operative and inoperative positions.

3. A combined berth and seats for railway cars comprising a rectangular box adapted to form the body or frame of the berth, seats secured to the bottom of said box and adapted to be supported thereby in an operative position and to form supports for the box when the latter is arranged to form the berth, said seats comprising supporting standards, bottoms secured to the upper ends of said standards, arms also secured to said standards, backs having secured to their ends the downwardly extending end bars, said end bars having in their lower ends pairs of notches, links to connect the lower ends of the bars with said standards of the seat whereby the backs may be swung backward or forward to permit the seat to face in either direction, back supporting lugs formed on the upper ends of said standards and adapted to receive the notches in the lower ends of the end bars whereby the backs are supported in operative positions, and means to raise and support said berth and seats while the same are being reversed to bring either one or the other thereof to an operative position.

4. A combined berth and seats for railway cars comprising a rectangular box adapted to form the frame or body of the berth, seats secured to the bottom of said box and adapted to be supported thereby when said seats are in an operative position and to form supports for the berth when the latter is in an operative position, a series of screen panels hingedly connected to the berth and adapted to be folded inwardly to an inoperative position to cover the berth and means to lift and support said berth and seats while the same are being turned to bring either one or the other thereof to an operative position.

5. A combined berth and seats for railway cars comprising a rectangular box adapted to form the body or frame of the berth,

seats secured to the bottom of said box
whereby the latter when in an inoperative
position forms a support for the seats and
whereby said seats are adapted to form sup-
5 ports for the berth when the latter is in op-
erative position, means to raise and lower
said berth and seats and to support the same
in position to be turned to bring one or the
other into operative position, an upper
10 berth comprising a frame having a bottom,
means to removably support the same in po-
sition above the lower berth when the lat-
ter is in an operative position, said upper
berth being adapted to be placed within the

lower berth, a series of hinged panels adapt- 15
ed to screen the lower berth, curtain sup-
porting poles arranged above the upper
berth and connected to the upper portion of
the car, and curtains adapted to be support-
ed on said poles to screen said upper berth. 20

In testimony whereof we have hereunto
set our hands in presence of two subscribing
witnesses.

JOHN DOMANOWSKI.
MICHAEL WÓJCIK.

Witnesses:

J. MINTUS,
ARTHUR H. McCURDY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
