(No Model.) 2 Sheets—Sheet 1.

J. A. BRILL.

CAR SEAT CONSTRUCTION.

No. 566,131. Patented Aug. 18, 1896.

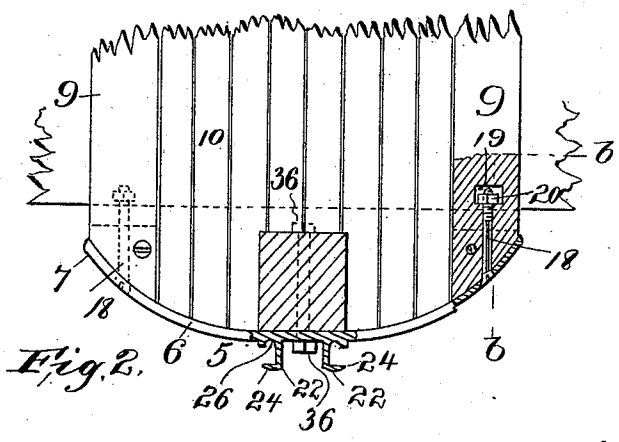

Fig. 2.

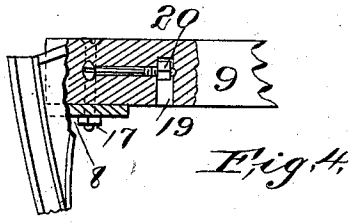

Fig. 4.

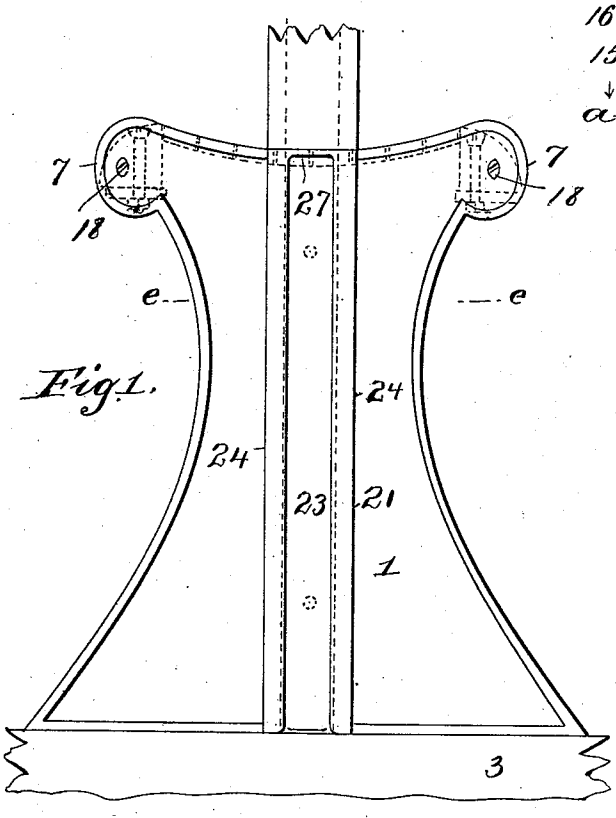

Fig. 1.

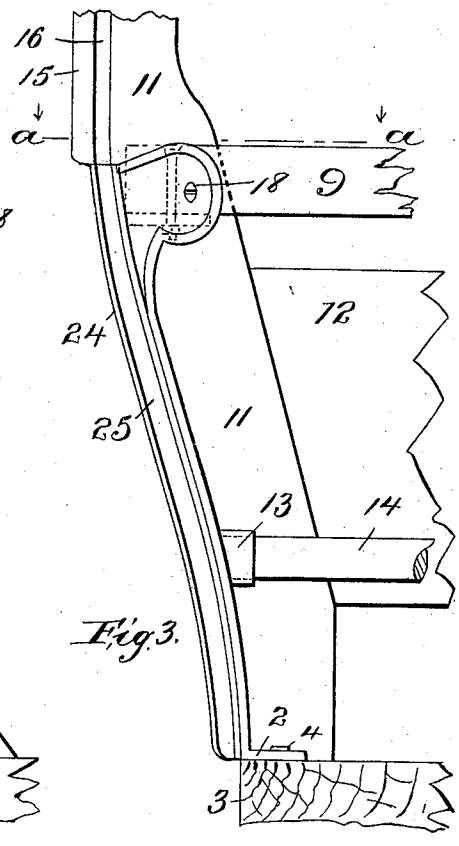

Fig. 3.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. A. BRILL.

CAR SEAT CONSTRUCTION.

No. 566,131. Patented Aug. 18, 1896.

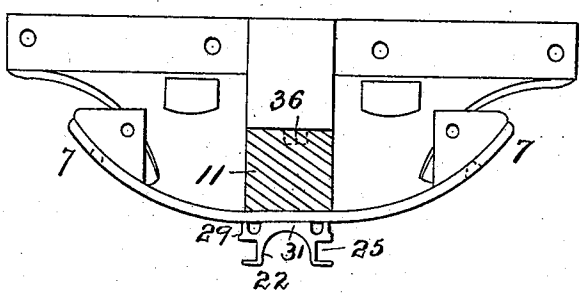

Fig. 6.

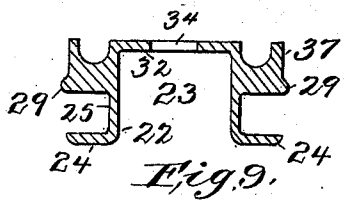

Fig. 9.

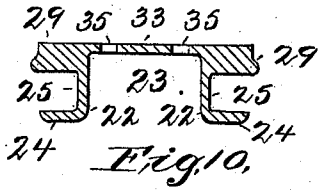

Fig. 10.

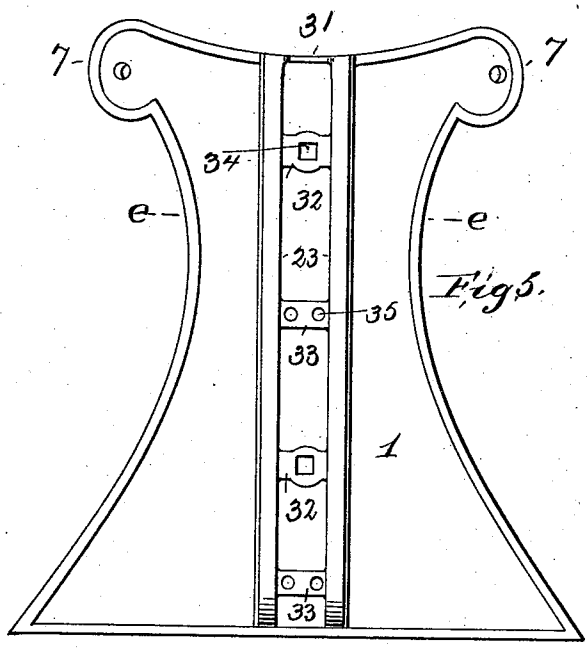

Fig. 5.

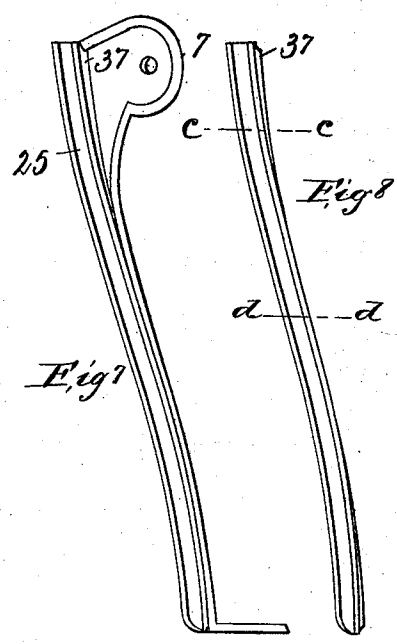

Fig 8

Fig 7

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UNITED STATES PATENT OFFICE.

JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

CAR-SEAT CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 566,131, dated August 18, 1896.

Application filed February 26, 1896. Serial No. 580,833. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BRILL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have made certain new and useful Improvements in Car-Seat Constructions, of which the following is a specification.

My invention relates to car-seat constructions in which a panel at the seat end is employed.

My invention has for its object to provide an improved panel for supporting the seat ends, more specially in open cars wherein curtains or the like are used to close the sides of the cars when necessary; and to this end my improvements consist in this regard in providing the exterior of the panel with a guideway or channel alining with a guideway or channel formed in the roof-stanchions in which the ends of the curtains or appurtenances thereof move, so as to allow of the curtain being lowered directly to the flooring of the car exterior of the seat end and panel, and in this regard my invention embodies a construction wherein such groove or channel is formed either integrally with or detachably from the exterior of the panel.

My invention also consists in the combination, with the guideway for the curtain on the exterior of the seat end, of the stanchion, provided with an alining groove both exterior to the panel and to the seat end, so that the curtain will be entirely exterior to the seat end and to the panel when lowered.

My invention also embodies the novel construction of the panel itself, wherein the top of the panel is formed on a curve, the convex side of which is exterior, the ends or ears on the top of the panel being curved inwardly, and the ends of the seat-frame being likewise cut or curved to conform to the concave inner portion of the panel, whereby ingress and egress to the aisle between the seats is made more easy and without the disagreeable results arising from contact of the passenger's body with the end of the seat when the same extends as far as the outer limits of the panel and forms a sharp corner at the entrance to the aisle.

My invention also resides in the construction and the combination of parts hereinafter described, and further pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of a seat end and a panel embodying my improvements, the car-sill and roof-stanchion being broken away. Fig. 2 is a plan view of Fig. 1, showing a fragment of the seat end and the method of attaching the seat-rails to the panel, said view being partly in section. Fig. 3 is a side elevation of Fig. 1. Fig. 4 is a fragmentary view, partly in section, taken approximately on the line *b b*, Fig. 2. Fig. 5 is a side elevation of my improved panel provided with a detachable exterior rib carrying a curtain-groove; Fig. 6, a plan view, partly in section, of the panel, with the detachable rib secured thereto, showing the method of securing the panel and rib to the stanchion; Fig. 7, a side elevation of Fig. 5; Fig. 8, a side elevation of the detachable rib; Fig. 9, a transverse sectional view, enlarged, taken approximately on the line *c c*, Fig. 8; and Fig. 10, a like view taken approximately on the line *d d*, Fig. 8.

Similar numerals of reference indicate corresponding parts throughout the several views.

In the construction of street-cars, and especially that class designed for use in summer, wherein the seats run transversely of the car, it has been usual to employ a cast-iron panel (substituted for the wooden ones theretofore employed) for supporting a seat structure to which the side rails of the seats and the roof-stanchions were secured. In the use of these panels, so far as I am now acquainted with the art, the stanchions were entirely within the outer perpendicular limits of the panels, and the grooves in the sides of the stanchion in which the curtain bars or runners moved commenced or ended at the seat-level and were entirely within the outer limits of the panel, so that when the curtain was brought down to its lowest point the space between the seats at the opening of the aisle was entirely unprotected, or the stanchion was so combined with panels made of separable parts that it (the panel) extended to or near the sill on the exterior of the panel-sections, the curtain-groove being in such exterior or exposed portion of the stanchion.

In these prior constructions, where metal or wooden panels were employed, the exterior surface of the panel longitudinally and at the top was plane or straight, so that it formed with the seat end a sharp corner, which contracted the entrant opening of the aisle to that of the space between the slat-rails and formed an obstruction against which passengers would strike on entering or leaving the car.

It is the object of my invention to provide a construction wherein the usual metal panel can be employed and to provide means for enabling the curtain to be lowered directly to the floor of the car, and also to increase the facility of exit or entrance to or from the aisle of the seats.

In carrying out these improvements I employ the following construction:

At 1 in the drawings is indicated an imperforate or otherwise formed cast-metal panel of any desired shape, but preferably that shown herein, provided with an inwardly-extending flange 2, which rests upon the outer longitudinal sill 3 of the car-frame, bolts 4 or other means being used to secure the panel through the flange to the sill.

The construction of the panels, &c., on both sides of the car being the same, the description of one will answer.

The panel herein illustrated has a contracted waist or central section, as indicated approximately at *e e*, Fig. 1, the bottom flaring outwardly and the sides being curved. From approximately at the line *e e* upward the panel is rounded inwardly, as shown most clearly at 5, Fig. 2, the top 6 having outwardly-extending ears 7, which take the same curve as the curved top portion just before described.

Inwardly-extending lugs 8 are formed on the panel at the rear of the ears 7, and these lugs support the side rails 9 of the seat, which together with the intermediate planking 10 (which may be either boards or other suitable seat construction, as desired) are conformed at their ends to meet the inward curve of the top of the panel, as shown in Fig. 2.

The roof-stanchion 11, which may be secured to the sill in the usual or any desired way, passes upwardly from the sill centrally of the panel, its inner face being cut or formed to conform to the inner surface of the panel, passing up through the boards 10 to the roof, and between the stanchions on both sides of the car extends a foot-board 12, between which and the parts composing the seat proper a saddle usually extends for supporting the seat intermediate of the panels, as shown more clearly in the patent to G. M. Brill, dated April 23, 1895, No. 538,036, to which cross-reference is here made.

The panel may be provided with inwardly-extending lugs 13, between which and like lugs on the panel on the other side of the car foot-rests 14 extend. It is also usual to employ tie-rods extending between the stanchions on both sides of the car under the seat to tie the stanchions together, and as these and the seat construction generally form no part of my present invention I have not illustrated the same.

The stanchion at the point where it is designed to leave the seat-level, which preferably takes the conformation of the top of the panel, as shown in Fig. 1, is provided with an offset 15, in which a curtain-groove 16 is formed on both sides, the offset extending over the top of the panel. It is also usual to employ bolts 17, passing vertically through the lug 8, and a side rail 9 to secure the rail in place thereon, and to bind the panels on both sides together it has been usual to employ bedstead-bolts 18, the head of which is exterior to the ears 7, the bolt passing therethrough and into a channel in the end of the rail, a slot 19 being formed in the under side of the rail to provide access to the nut 20 on the bolt, by means of which the panels are secured firmly to the rails 9. To continue the groove 16 downward to the level of the car-flooring and exterior to the panel, I provide on the exterior of the panel centrally thereof a rib 21, which, although I preferably cast integrally with the panel, may be formed so as to be detachable therefrom, as hereinafter described. This rib, preferably as wide as the stanchion, is constructed by forming two outwardly-extending flanges 22, which form between them a central external groove 23 for a purpose hereinafter described, and from the outer limits of the flanges 22 are further flanges 24, extending at right angles to the flanges 22, suitably rounded exteriorly, which flanges 24 form with the outer surface of the panel, which is preferably slightly enlarged at this point, a groove or channel 25, alining with the groove or channel 16 in the offset 15 of the stanchion 11, and forms a substantial continuation of the stanchion channel or groove down to the car-flooring, all of these parts forming the rib integrally with themselves and with the panel.

Adjacent the inner portion of the flanges 22, and opening into the grooves 25, I form grooves 26 in the body of the panel for the purpose of affording space within which a rope may lie when employed in conjunction with the curtain-rod, such rope having lately come into use in conjunction with car-curtains, and in which groove the rope can lie without interfering with the movement of the curtain-pole in the grooves 25.

Each rib 21 on each of the panels on the same side of the car contains one of the two grooves in which the ends of the curtain-rods extending between the adjacent stanchions may operate.

The top of the channel 23 is closed by a cross plate or web 27, Fig. 1, cast integrally with the rib, and the bottom of the channel may likewise be closed, if desired. This channel 23 affords a place for the location of bolts, screws, and the like, which may be used for

the purpose of tying the stanchions together from the exterior of the panel, or tying both the panels and the stanchions together, and also to permit of the passage of screws therethrough, to affix the panel directly to the stanchion, in either case the heads of the bolts or screws (indicated by dotted lines, Fig. 1) being amply protected against injury from the exterior and the thickness of the metal at this point reduced to lessen the weight.

By the foregoing construction I obviate many of the difficulties incident to the use of the panels having plane exteriors, and those wherein the panel is of composite construction with exterior stanchions. I bring the points of connection of the ends of the seat-rails with the opposing panels closer to each other to increase the mouth or entrance to the aisle, so as to facilitate ingress and egress therefrom and prevent annoying contact with the corners which was present in prior constructions, and I further provide means economically made and expeditiously assembled for permitting the curtain to be lowered directly to the bottom of the seat or to the car-flooring, thereby giving ample protection to passengers.

I am aware that it is not new to provide a groove in a stanchion running to the car-flooring so that the curtain could be lowered directly to the car-floor, but in that case the stanchion was either the sole support for the seat, or the seat was pivoted between the stanchion, or there were two stanchions or side posts as wide as the seat, or there was a composite panel with exterior stanchions, but I believe myself to be the first to have employed in the construction of car-seats a panel with an intermediate stanchion, the panel supporting the seat about or at each side of the stanchion, combined with an alining groove on the stanchion and panel and exterior to the panel for taking the ends of the curtain-pole down to and below the top of the seat or to the flooring, the panel being intermediate of the grooves and stanchion. Instead, however, of casting the rib containing the curtain-grooves integral with the panel, I may form it separately therefrom and provide means for detachably securing it to the panel. This latter construction, which I will now describe, forms the subject-matter of another application filed by me on the 27th day of May, 1896, Serial No. 593,208, and to which cross-reference is made, and which I do not claim herein.

The rib detached from the panel is illustrated in Figs. 8, 9, and 10 and enlarged in the two latter figures. It is preferably cast in one piece, having the same flanges 22 forming the exterior channel 23, and the flanges 24, together with the flange 29, answering for the central portion of the panel 1 when the rib is integrally formed therewith, forming the grooves 25. These parts are preferably connected at the top by an integrally-formed cross-piece 31 and between the ends by integrally-formed cross-bars 32 33, formed with holes 34 35, the holes 34 being used for the passage of bolts 36 for securing the rib, panel, and stanchion together, as illustrated in Fig. 6, which bolt 36 may extend to the opposite stanchion and form a tie-bar, the holes 35 enabling screws to be used to directly connect the rib to the exterior of the panel independent of the bolts 36. At the top of the rib the rear of the flange 29 is provided with an offset 37, bringing the groove 25 clear of the top 6 of the panel, as shown more clearly in Fig. 7, the back of the flange 29 being cast with a groove 38, coextensive with the offset, and passing to nothing as it merges into the rear of the rib 29, as shown in Fig. 8 at line *c c*. This detachable rib can be used on panels not previously provided therewith, and which have been in use.

Instead of forming the groove 16 in the stanchion, it may be formed by juxtaposed strips, a split tube, &c., and secured to the stanchion in any desired way.

It is apparent that changes and modifications can be made in the structure herein described without departing from the spirit of my invention.

Having described my invention, I claim—

1. A seat-panel having a rib thereon and exterior thereto, and a groove in the rib, substantially as described.

2. A seat-panel having an integrally-formed rib on its exterior, and a groove in the rib, substantially as described.

3. A seat-panel having a curved exterior, and a rib secured on the exterior of the panel, having a groove, the rib following the contour of the panel, substantially as described.

4. A seat-panel having a perpendicularly-disposed rib, formed on the exterior of the panel *x x*, and parallel grooves on each side of the rib, substantially as described.

5. A seat-panel having a rib exterior thereto, a channel as 23 in the exterior of the rib, a stanchion at the rear of the panel, and a bolt, as 36, securing the panel and stanchion together, the head of the bolt lying within said channel, substantially as described.

6. A seat-panel having an integrally-formed rib on its exterior, and a groove in the rib following the contour of the panel, substantially as described.

7. A seat-panel having a perpendicularly-disposed exterior rib formed integrally with the panel, and having a groove on each side, between its outer face and the panel, the grooves following the contour of the panel, substantially as described.

8. A seat-panel having an exterior rib, a groove in the side of the rib, and a channel in the exterior of the rib, substantially as described.

9. A seat-panel having an exterior rib, and a groove in the sides of the rib, and a channel in the exterior of the rib between the grooves, substantially as described.

10. A seat-panel having an exterior perpendicularly-disposed rib following its con-

tour, parallel grooves in the sides of the rib, and a central channel on the exterior of the rib between the grooves, substantially as described.

11. A seat-panel having an exterior rib, a groove inside of the rib, and a channel opening into the grooves, substantially as described.

12. A seat-panel having an exterior and integrally-formed rib, a groove in the rib opening out of its side, and a channel in the base of the rib, opening out into the groove, and coextensive therewith, substantially as described.

13. A single-piece seat-panel having formed thereon the outwardly-extending flanges 22, the flanges 24 extending at an angle from the flanges 22, and forming with the panel grooves 25, substantially as described.

14. A seat-panel having the outwardly-extending flanges 22, the flanges 24 extending at an angle from the flanges 22, forming with the panel grooves 25, and a channel 23 formed by the flanges 22, substantially as described.

15. A seat-panel having the outwardly-extending flanges 22, the flanges 24 extending at an angle from the flanges 22, forming with the panel grooves 25, a channel 23 formed by the flanges 22, and a cross piece or pieces 27 connecting the flanges 22, substantially as described.

16. In a car, the combination with a seat-panel and a roof-stanchion, of a grooved rib on the exterior of the panel, alining with a groove in the stanchion, both being exterior to the seat end, substantially as described.

17. The combination with the car-sill and seat-panel, of means for supporting a suitable seat construction on the panel, a grooved stanchion passing from the sill up through the seat, and means for guiding a curtain up and down formed on the exterior of the panel, the panel being interposed between said means and the stanchion, substantially as described.

18. The combination with the panel, seat, and stanchion, of a guideway for a curtain formed in or on the stanchion, and on the exterior of the panel and extending below the seat-level, the panel being interposed between said stanchion and guideway on the panel, substantially as described.

19. The combination with sill, and panel, of the stanchion extending upwardly from the sill at the rear of the panel, an offset on the stanchion extending over the panel, a groove in the offset, and a groove on the exterior of the panel alining with the groove in the offset, substantially as described.

20. The combination with the sill, and panel, the panel having an exterior grooved rib, of the stanchion at the rear of the panel having an offset extending over the rib, and a groove in the offset alining with the groove in the rib, substantially as described.

21. The combination with the sill and panel, the panel having an exterior projecting rib, parallel grooves formed on each side of the rib, of the stanchion at the rear of the panel having an offset projecting over the rib, and grooves formed on each side of the stanchion alining with the grooves in the rib, substantially as described.

22. The combination with the sill and panel, the panel having an exterior projecting flanged rib, parallel grooves formed on each side of the flanges, a cross-plate extending between the ribs, of the stanchion at the rear of the panel having an offset projecting over the rib, and grooves formed on each side of the offset alining with the grooves in the rib, substantially as described.

23. The combination with the sill and panel, the panel having an exterior projecting flanged rib, parallel grooves formed on each side of the rib, a cross-plate extending between the flanges, a channel in the face of the rib, a stanchion at the rear of the panel having an offset projecting over the rib, grooves formed on each side of the offset alining with the grooves in the rib, and means for securing the panel in place passing through the channel into the stanchion, substantially as described.

24. The panel having a top portion segmentally disposed in a horizontal plane and formed integrally therewith, substantially as described.

25. The combination with the car-sill of the panel extending upwardly from the sill, the sides at the tops of which are curved inwardly on a horizontal plane, and a seat end secured to the panel within the curved top, substantially as described.

26. The combination with the car-sill, of the panel extending upwardly from the sill, the top of the panel being curved to form a segmental exterior, and a seat having a concentrically-disposed end secured to the panel within its segmental top, substantially as described.

27. A seat-panel having an outwardly-projecting and inwardly-curved ear at its top, combined with a seat having a side rail, curved at its end, and secured to the inner side of said ear, substantially as described.

Signed at the city of Hot Springs, county of Madison, and State of North Carolina, this 12th day of February, 1896.

JOHN A. BRILL.

Witnesses:
H. T. RUMBOUGH,
ENOSS VERLENDEN.