

No. 632,041.

Patented Aug. 29, 1899.

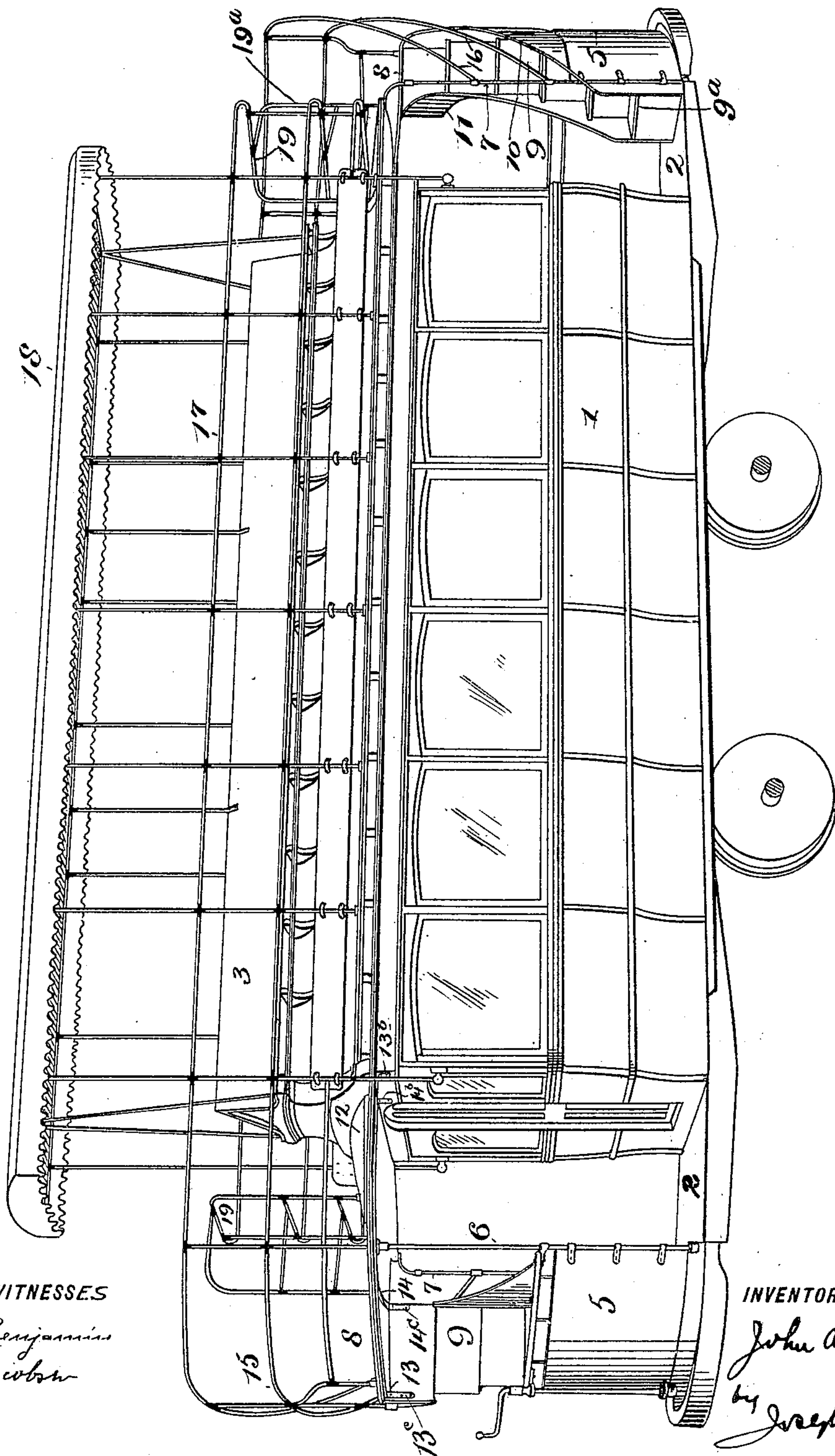
J. A. BRILL.
DOUBLE DECK CAR.

(Application filed Apr. 15, 1898.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1.



WITNESSES

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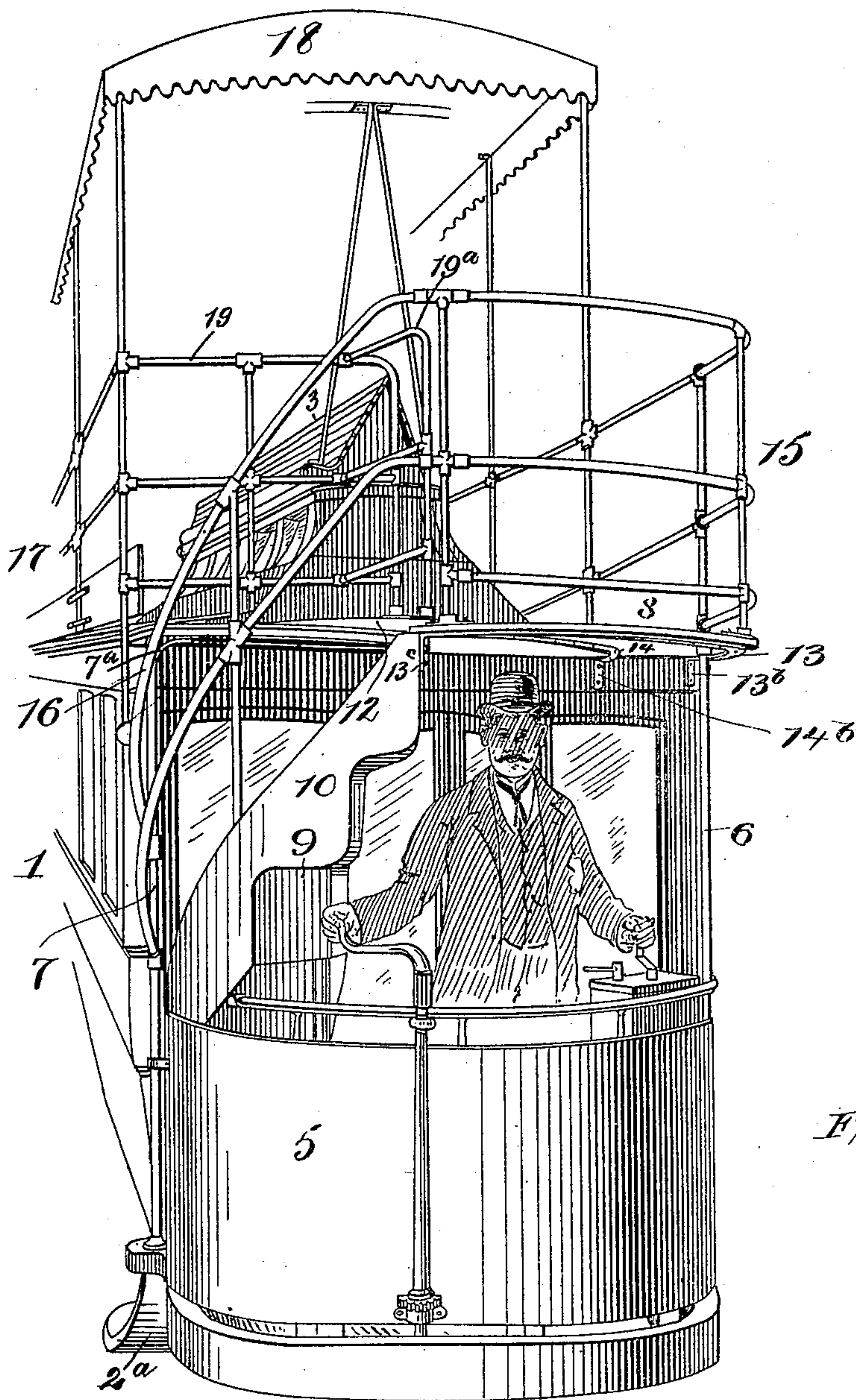


Fig. 2.

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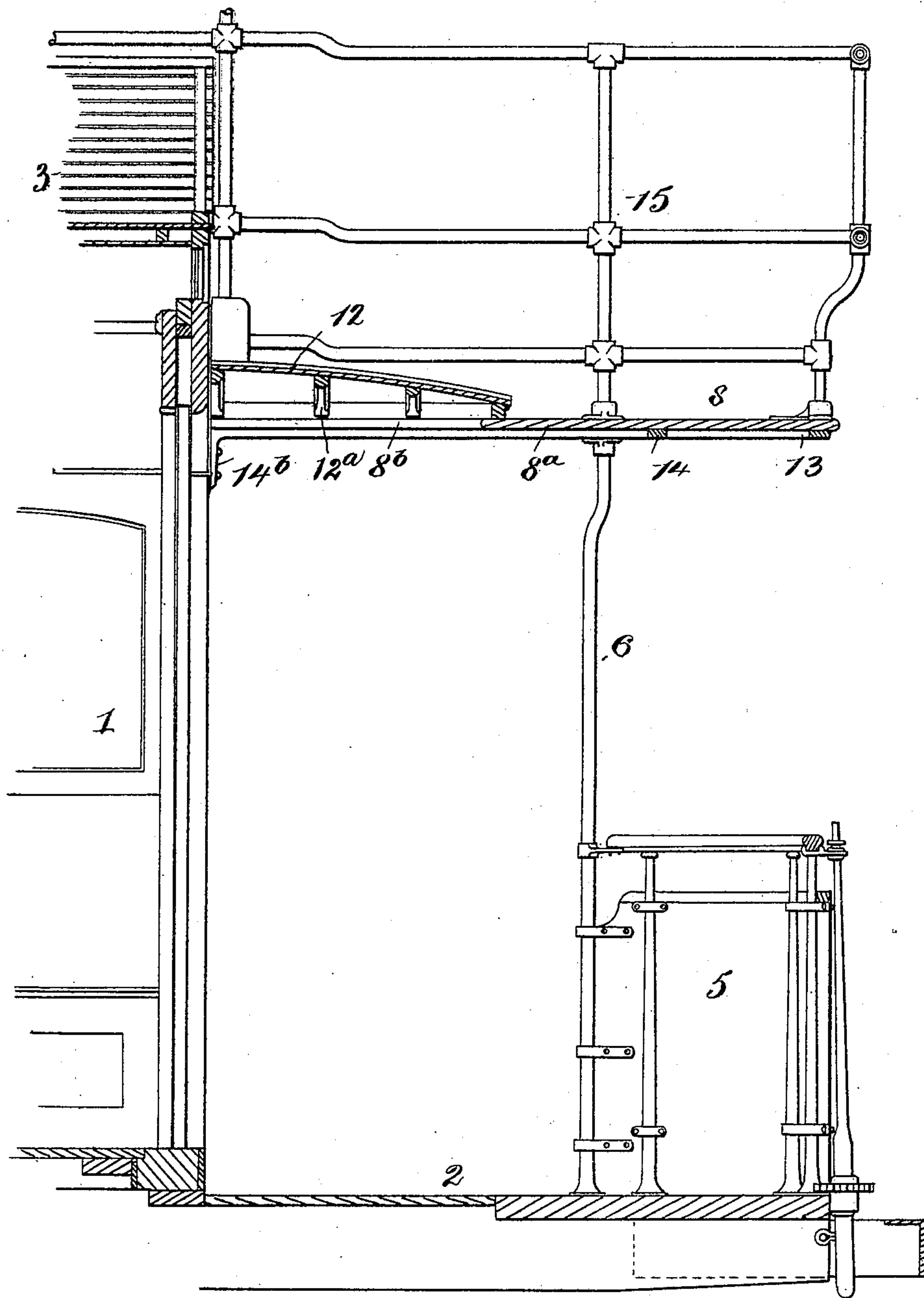
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WITNESSES

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Fig. 3

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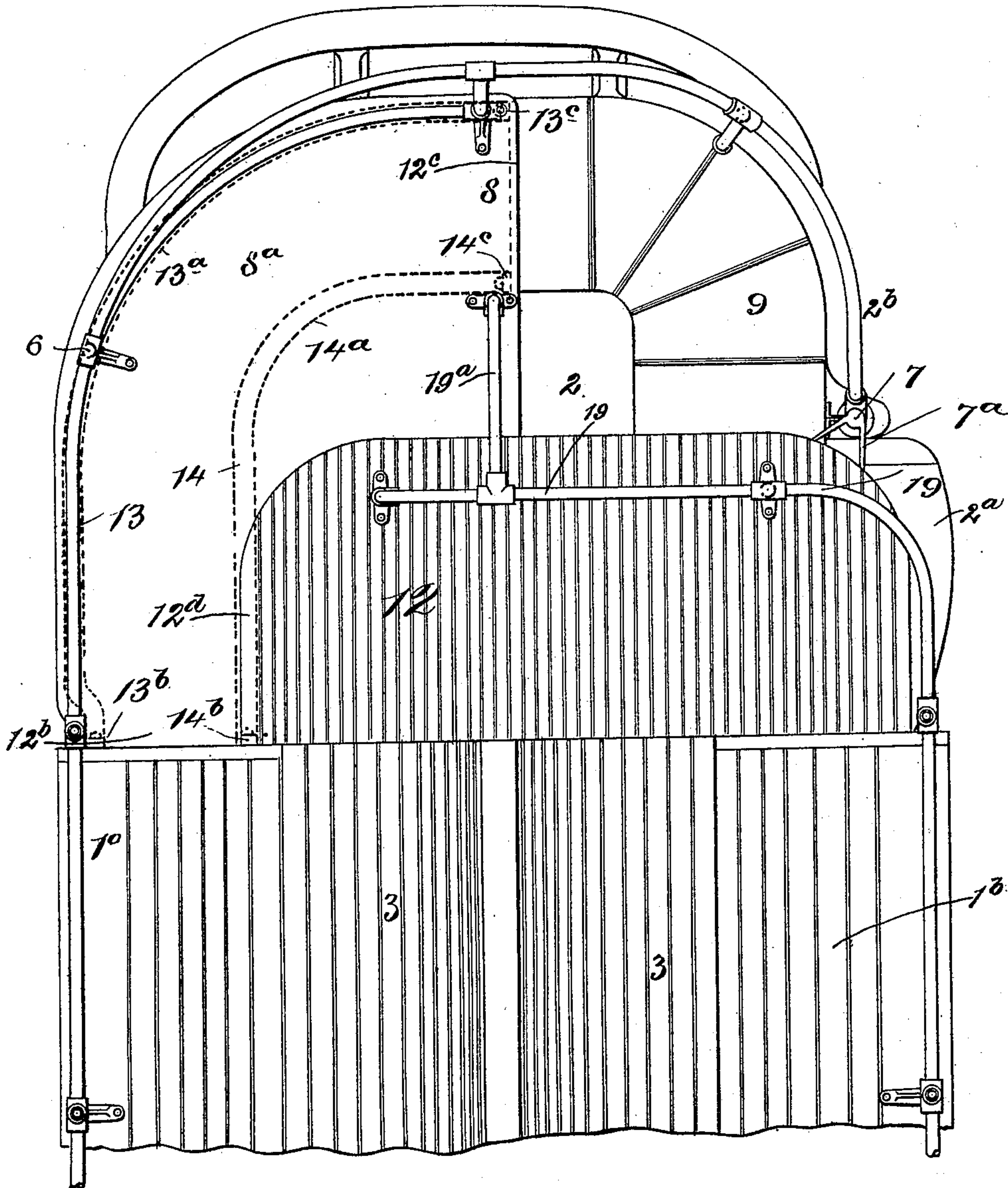


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

DOUBLE-DECK CAR.

SPECIFICATION forming part of Letters Patent No. 632,041, dated August 29, 1899.

Application filed April 15, 1898. Serial No. 677,646. (No model.)

To all whom it may concern:

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

My invention relates to the type of car having seats upon its roof, with steps leading thereto at one or both ends thereof from the platform or platforms; and the object of the invention is to arrange the steps in such manner that they will not interfere with the movements of the motorman or gripman, and also in such manner that they will protect him on one side and overhead and still not take up too much of the space of the platform. For this purpose I arrange the steps so that their lower ends shall be adjacent to the entrance to the platform, and from this point they pass upwardly and preferably on a line with the forward end of the platform, so that their upper ends shall be at the forward end of the upper platform or deck that is built over the lower platform.

Another portion of my invention relates to the overhead protection for the motor, grip, or brake man in cars of the double-deck class. In the ordinary type of car, where there are no steps leading to the roof, the platform-hood has been extended over the attendant's head; but in "double-deck" cars, so called, where there are steps leading up to the roof, the attendant has been obliged to stand out in front of the regular platform on a smaller platform in front of the stairway and without any covering, and in other cases he has been obliged to stand at the side of a stairway within the platform limits and without any covering, and in cases where the platform has not been extended to provide a place for the attendant the presence of the stairs on the platform has crowded the same, making traffic difficult to control, and the platform-hood, in order to provide space for the upper portion of the stairs, has been shorter than the outer extension of the platform, so that prior to my invention the attendant has not had an efficient overhead covering or the movements of passengers on the platform has been necessarily impeded, all of which defects are done away with by my improvements in this regard.

Another portion of my invention relates to the location of the stairs in relation to the entrance to the platform and to the dashboard, by means of which the entrance or exit of passengers to or from the car may be greatly facilitated and which avoids the necessity of the passenger crossing the platform to gain access to the stairs, and thus interfering with the attendant. To secure these ends, the lower step of the stairs is located closely adjacent the inner end of the dashboard, directly at one side of the entrance of the platform and above its step, and when the car is provided with two platforms, to allow of its being run in either direction without reversing, as shown herein, then I prefer, while the location of the stairway relative to the platform and dashboard is maintained as before described, that the stairs be located at diagonally opposite points or corners of the platform. When this latter construction is employed in cities where it is necessary to close the entrance to the platform at one side while allowing entrance to both platforms on the other side, crossing the platform to reach the stairs at one end may be necessary; but even this contingency can be avoided by using but one platform for entrance to or exit from the car. However, in any of these instances the attendant will be free from interference from the passenger. In my construction the sides of the stairs are presented toward the motorman, thus protecting him on one side, and the opening in the hood or upper deck is located directly over that portion of the platform on which the lower terminal of the stairs is located, thereby avoiding the necessity of the stairs crossing the entire platform or having its lower terminal located about centrally of the platform-space, as has been the previous practice.

Another object of the invention is to provide certain novel improvements in the construction of and support for the upper platform or deck of the car that leads to the seats on the top of the car.

The invention also consists in the novel details of improvement and the combination of parts that will be more fully hereinafter set forth, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a perspective view of a double-

deck car embodying my improvements. Fig. 2 is a front elevation thereof, partly in perspective. Fig. 3 is a vertical section through the forward end of the car and platforms; and Fig. 4 is a plan view thereof, the canopy being removed.

In the accompanying drawings, in which similar numerals of reference indicate corresponding parts in the several views, 1 indicates the body of a car, 2 are the platforms at the ends thereof, 2^a are the usual platform-steps depending from the sides of the platform, and 3 are suitable seats built upon the roof 4 of the car, all of which may be of usual or suitable construction, and the car-body may be mounted upon any suitable truck to be propelled by electricity, cable, or otherwise.

At 5 are dashboards at the ends of each platform, which may be suitably connected therewith, and which extend between the dashboard and the end of the car-body, and 6 7 are stanchions which rise from the platforms and assist in supporting the upper platforms or decks 8 that project over the lower platforms 2.

At 9 are shown the stairs, which are located, in the preferred construction, at the diagonally opposed corners of the platforms and which have a suitable number of treads, and they are shown provided with side walls 10 11, that lead from the platforms 2 to the upper platforms or decks 8, the top step not passing beyond the median line of the car, whereby the deck 8 is made immediately accessible without crossing the platform, and unobstructed space for the motorman is preserved. The lower ends of these stairs are shown located directly at the entrance of the platforms and contiguous to the dashboards 5. The lower step 9^a, extending transversely of the platform, faces inwardly and allows of the passenger immediately ascending the stairs without crossing the platform. These stairs lead forwardly and curve upwardly at substantially right angles to the longitudinal center of the car, where they are connected with the upper platforms or decks 8.

The platform 2 is at one corner or side preferably narrowed transversely, as at 2^b, Fig. 4, which allows of the step 2^a being contained entirely within the outer limits of the car and under the upper deck without reducing the width of the step-tread, thereby enabling the car to be used on very narrow streets.

The upper ends of the stairs 9 preferably do not pass beyond the longitudinal center of the car-body, and by these means the motorman or gripman is enabled to stand in the proper position upon the platform and somewhat beneath the stairs, well forward of the line of travel on the platform, the stairs providing him with substantial weather protection on one side.

The upper platform or deck 8 may be as to some features of the present improvements

suitably constructed; but I prefer the illustrated construction in which it is composed primarily of a suitable flooring 8^a, substantially segmental in form, and which extends as to its inner end 12^b from a passage-way 1^a on the top of the car adjacent to the seats 3 forwardly over the platform 2, the outer end of said flooring being located over the space between the limits of the dashboard 5 and substantially conforming in outline therewith, thereby affording overhead protection for the attendant, while its outer terminal 12^c presents a longitudinal edge to the stairway 9 at about the car-center.

The platform or deck 8 is shown as cut away at the part directly over the door of the car, as at 8^b, to give clearance to the entrance to the car-door, and a short hood 12 extends out from the car-body above the door over this cut-away part of the platform or deck 8 and also over the entrance to the platform and steps 2^a, (see Figs. 3 and 4,) to provide a riser leading to the flooring of the upper deck, which by its arched form and ribbing 12^a, which rests upon the deck 8, relieves the latter of a portion of the strain of travel, acts as a water-shed, and enables the deck to be made comparatively light consistent with strength.

The termination of the hood 12 and deck 8 at points less than the extension of the platform 2, as shown in Fig. 4, forms an opening at one corner of the upper deck in which the stairs are located, while the hood 12, having less width transversely than the platform 2, terminates at a point between the car center and side opposite the stairs, allowing the deck 8 to be led without interruption to the passage-way 1^a, as at 12^b, the end 12^d of the hood 12 forming an easy step from 12^b to said hood, to which access to passage-way 1^b can be had, the front and other end of the hood being railed in, as hereinafter described.

As will be noted, the deck 8 is located substantially at one side of the center-line of the car, is substantially segmental in form, its inner end 12^b leading to the passage-way 1^a, its outer end 12^c leading directly to or from the upper step of the stairs 9, thus connecting the upper deck of the car directly with the car on the side opposite the location of the stairs, while the hood 12 connects the deck 8 with the other passage-way 1^b, stanchions and rails, now to be described, confining the parts just described for safety and strengthening purposes.

From the stanchions 7 arms 7^a extend to the hood 12 to assist in supporting the same, as shown in Fig. 4, the other part of the hood resting upon the platform or deck 8. The flooring 8^a is partially supported by the stanchion 6, (see Fig. 1,) and said flooring is further supported and braced by means of bars 13 14, which extend from and are secured to the front wall of the body of the car and are also secured to the upper ends of the stairs 9. The shape of the bars 13 14 is shown in dotted lines in Fig. 4, where they extend for-

wardly from the car over the platform 2, and curve at 13^a 14^a, from whence they extend substantially at right angles to the longitudinal center of the car to the stairs 9. The rods 13 14 are shown provided at one end with feet 13^b 14^b, that are secured or bolted to the front of the car, and at their other ends said rods have feet 13^c 14^c, that are secured by bolts or screws to the stairs 9. By this means a substantial framing is formed upon which the upper platform or deck 8 may be built, while at the same time the stairs are braced and the whole structure is firmly united together.

Upon the upper platform or deck 8 a suitable railing 15 is mounted, and a railing 16 is provided for the stairs 9, which railings are shown composed of tubes and couplings in the well-known manner of forming such structures. Upon the top of the car suitable railings 17 are provided, and above them a canopy 18 is placed to protect the passengers. Upon the hood 12 is also mounted a railing 19, which has an extension 19^a, leading to the upper platform or deck 8, which not only completes the inclosure or guard, but also braces the deck 8.

I do not limit my invention to the precise details of construction shown and described, as they may be varied without departing from the spirit thereof.

Having now described my invention, what I claim is—

1. A car having an end or lower platform and a dashboard, roof-seats, steps leading to said platform between the car and dashboard, an added deck or upper platform, the added deck being substantially coextensive with the lower platform, and a stairway leading from the platform adjacent to its step and within the dashboard-line to the added deck on the same side, substantially as described.

2. A car having an end or lower platform, platform-steps, roof-seats, and a dashboard, an upper deck or platform extending from the roof over the platform and to the dashboard, a portion of one side and front of said deck being omitted between the lower platform-step and dashboard to form an opening, and a stairway leading from the lower platform from a point below the opening and terminating at the inner edge of said opening, substantially as described.

3. A car-body having a transverse end, a lower platform extending from said end, an upper platform or deck having a longitudinal edge disposed substantially at the longitudinal center of the car, and a stairway having a lower terminal located at the lower platform substantially parallel with the car end, and an upper longitudinally-disposed terminal located at said upper-platform edge, substantially as described.

4. In a railway-car, the combination of a body and platform, a dashboard, stairs disposed on one side of the center line and leading to the opening between the dashboard and the body, said stairs being curved forwardly

and inwardly toward the center line of the car, and an upper platform or deck to the center line of which said stairs lead between its inner and outer ends, substantially as described.

5. In a railway-car, the combination of a body and platform, a dashboard, stairs upon said platform having their lower step adjacent to the inner end of the dashboard and substantially parallel with the front wall of the car-body, said stairs extending forwardly of the car and being curved inwardly substantially in line with said dashboard, and an upper platform or deck to which said stairs lead, substantially as described.

6. In a railway-car, the combination of a body and platform, a dashboard, stairs mounted upon said platform and curved forwardly and upwardly toward the longitudinal center of the car, and an upper platform or deck having one edge substantially in line with the longitudinal center of the car and its outer edge coextensive with the dashboard, said stairs leading to said first-mentioned edge of said platform or deck, substantially as described.

7. In a railway-car, the combination of a body and platform, a dashboard and stairs leading from said platform forwardly and upwardly and toward the longitudinal center of the car, an upper platform or deck extending over the lower platform, said stairs leading to said upper platform or deck, said platform having a cut-away part over the door of the car, and a hood extending from the car-body over said cut-away part of said platform or deck, substantially as described.

8. A car having the platform 2 and upper deck 8 projecting from the roof at one side, a hood 12 likewise disposed from the car-roof at the other side, the deck 8 having a greater projection than the hood whereby an open space is left between the edge of the deck and end of the hood, and a stairway leading from the platform 2 below one transverse end of the hood to the projecting edge of said deck, substantially as described.

9. A car having a platform 2, the upper deck 8 extending from the roof coextensively with the platform at one side and terminating as to one edge at the car-center, a hood 12 extending outwardly from the roof to a lesser extent than the deck 8 and transversely over said deck and terminating between the car center and side, and a stairway leading from platform 2 under said hood to deck 8, substantially as described.

10. A car having a platform 2, an upper deck 8 having its inner terminal at one side of the car and its outer terminal adjacent the car-center, the hood 12 extending over a portion only of the platform and deck 8, and a stairway leading from platform 2 below the hood to the outer terminal of said deck, substantially as described.

11. A car having a platform 2, an upper covering for said platform comprising the hood 12 and deck 8, and a stairway leading from

platform 2 to one edge of deck 8, substantially as described.

12. A car having a platform 2, the segmental deck 8 foreshortened as to one side of the car, the hood 12 projecting over a portion only of the platform, and a stairway leading from the platform below the hood to the outer end of the deck 8, substantially as described.

13. A car having a hood 12 railed in at the front and at one end, an entrance onto the other end of said hood formed by the deck 8, a platform 2, and steps leading from platform 2 below the railed-in end of hood 12 to deck 8 at a point adjacent the car-center, substantially as described.

14. A car having an end platform 2 and a dashboard at the end of the platform, a hood 12 projecting from the car above and partially over the platform, and an upper deck extending outwardly from the hood 12 at a lower level and to the plane of said dashboard, substantially as described.

15. A car having end platforms and dashboards 5, upper decks extending over the platforms, said decks having their diagonally opposite front corners completely cut away over that portion of the platforms embraced within the dashboards and extending to the car-center line, and stairways having lower terminals transversely disposed and located within the diagonally-opposed ends of the dashboards, their upper terminals ending at the car-center-line edges of said deck-recesses, substantially as described.

16. A car having a lower platform 2, a dashboard at the outer end of the platform, a step leading to the platform and located between the car end and dashboard, an upper deck extending over the platform, and a stairway the lower terminal of which is located closely adjacent the side of the platform and inner end of the dashboard, the upper terminal of which is within the outer limits of the upper deck, substantially as described.

17. In a railway-car, the combination of a body and platform, a dashboard, stairs leading from said platform upwardly to about the center line of the car, an upper platform or deck, and supports therefor composed of bars extending outwardly from the body of the car to the upper part of the stairs, the bars supporting the said upper deck from below, substantially as described.

18. In a railway-car, the combination of a body and platform, a dashboard, stairs leading from said platform upwardly to about the center line of the car, an upper platform or deck, supports therefor composed of bars extending from the body of the car to the upper part of the stairs, and a stanchion leading from the lower platform to the upper platform or deck, substantially as described.

19. In a railway-car, the combination of a body and platform, a dashboard, stairs leading from said platform forwardly and upwardly, an upper platform or deck leading

from the top of the car, and supports for said platform or deck composed of bars extending forwardly from the body of the car, curved inwardly, and connected with the upper portion of the stairs, upon which supports the platform or deck is mounted, substantially as described.

20. In a railway-car, the combination of a body and platform, a dashboard, stairs leading from said platform forwardly and upwardly, an upper platform or deck leading from the top of the car, and supports for said platform consisting of bars having feet at one end secured to the body of the car and feet at the other end connected with the upper part of said stairs, said platform being mounted upon said supports, substantially as described.

21. In a railway-car, the combination of a body and platform, a dashboard, stairs leading from said platform forwardly and upwardly, an upper platform or deck leading from the top of the car, supports for said platform consisting of bars having feet at one end secured to the body of the car, and feet at the other end connected with the upper part of said stairs, said platform being mounted upon said supports, and a stanchion leading from the lower platform of the car to the upper platform or deck, substantially as described.

22. A car having the platform 2, upper deck 8, the bars 13, 14 secured to the under side of said deck, a stairway 9 resting at its lower end on the platform 2, the bars having feet 13^b, 14^b, 13^c, 14^c secured respectively to the car and stairway, substantially as described.

23. In a railway-car, the combination of a body and platform, a dashboard, stairs leading from said platform forwardly and upwardly, an upper platform or deck leading from the top of the car to said stairs, a hood extending from the car-body over a portion of said upper platform or deck, and a stanchion extending from the lower platform and connected with said upper platform or deck, substantially as described.

24. A car having a lower platform 2 provided with a recess 2^b, a step 2^a secured to the platform edge at said recess and substantially within the car-side line, a platform-hood or upper deck, and stairs leading from the platform closely adjacent the step 2^a to and within the limits of said hood, substantially as described.

25. A car having a platform 2, hood 12, and upper deck 8, stairs 9 leading from platform 2 to deck 8, a railing 19 around one side and the front of the hood 12, and an extension 19^a from railing 19 to deck 8 adjacent the inner edge of said stairs, substantially as described.

Signed at Philadelphia, Pennsylvania, this 13th day of April, 1898.

JOHN A. BRILL.

Witnesses:

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ANDREW K. CULVER.