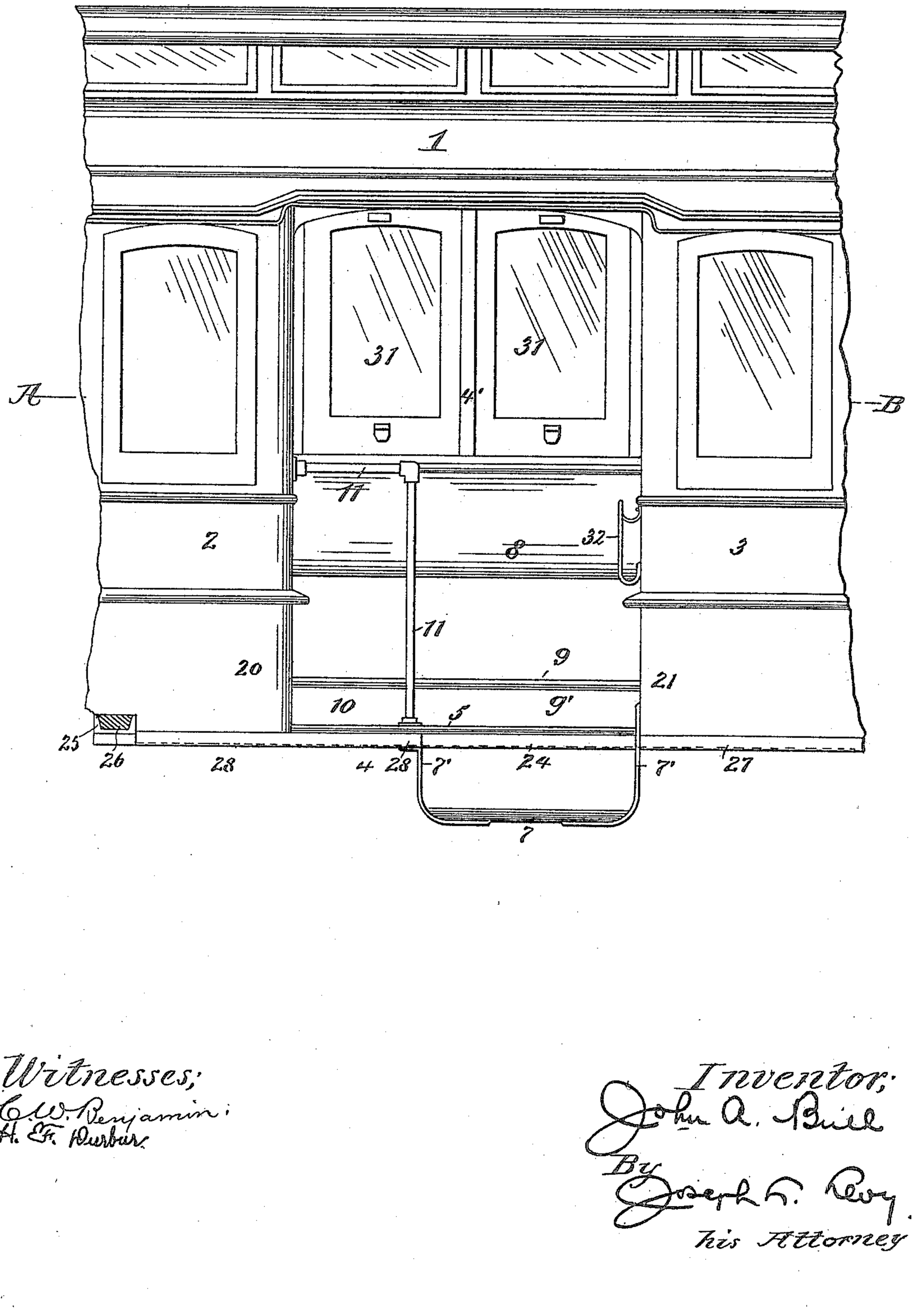
(No Model.) 5 Sheets—Sheet 1.

J. A. BRILL.

RAILWAY CAR.

No. 446,423. Patented Feb. 17, 1891.

Fig. 1.



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By Joseph G. Rosy.
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(No Model.) 5 Sheets—Sheet 2.

J. A. BRILL.

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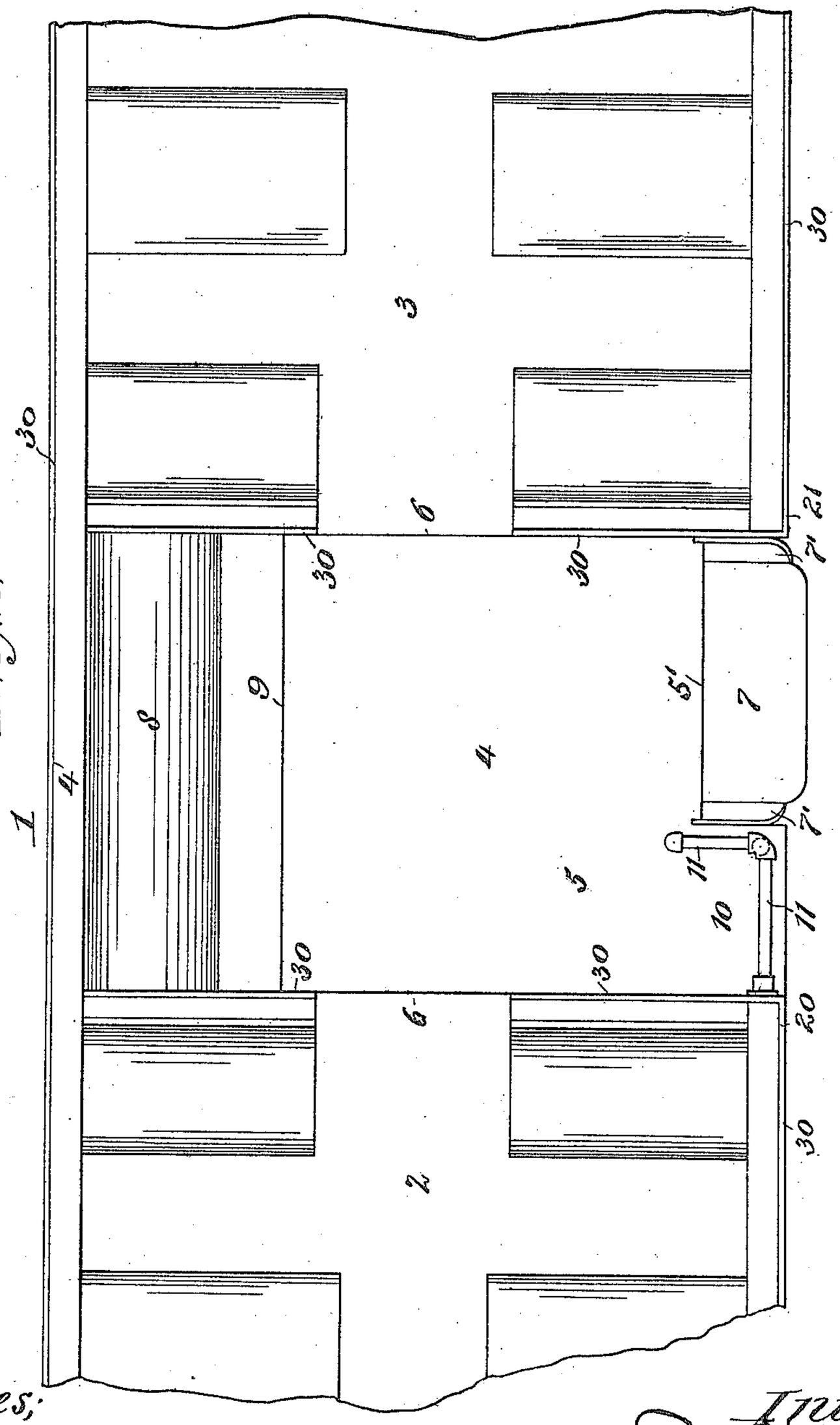
Fig. 2.



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(No Model.)

5 Sheets—Sheet 3.

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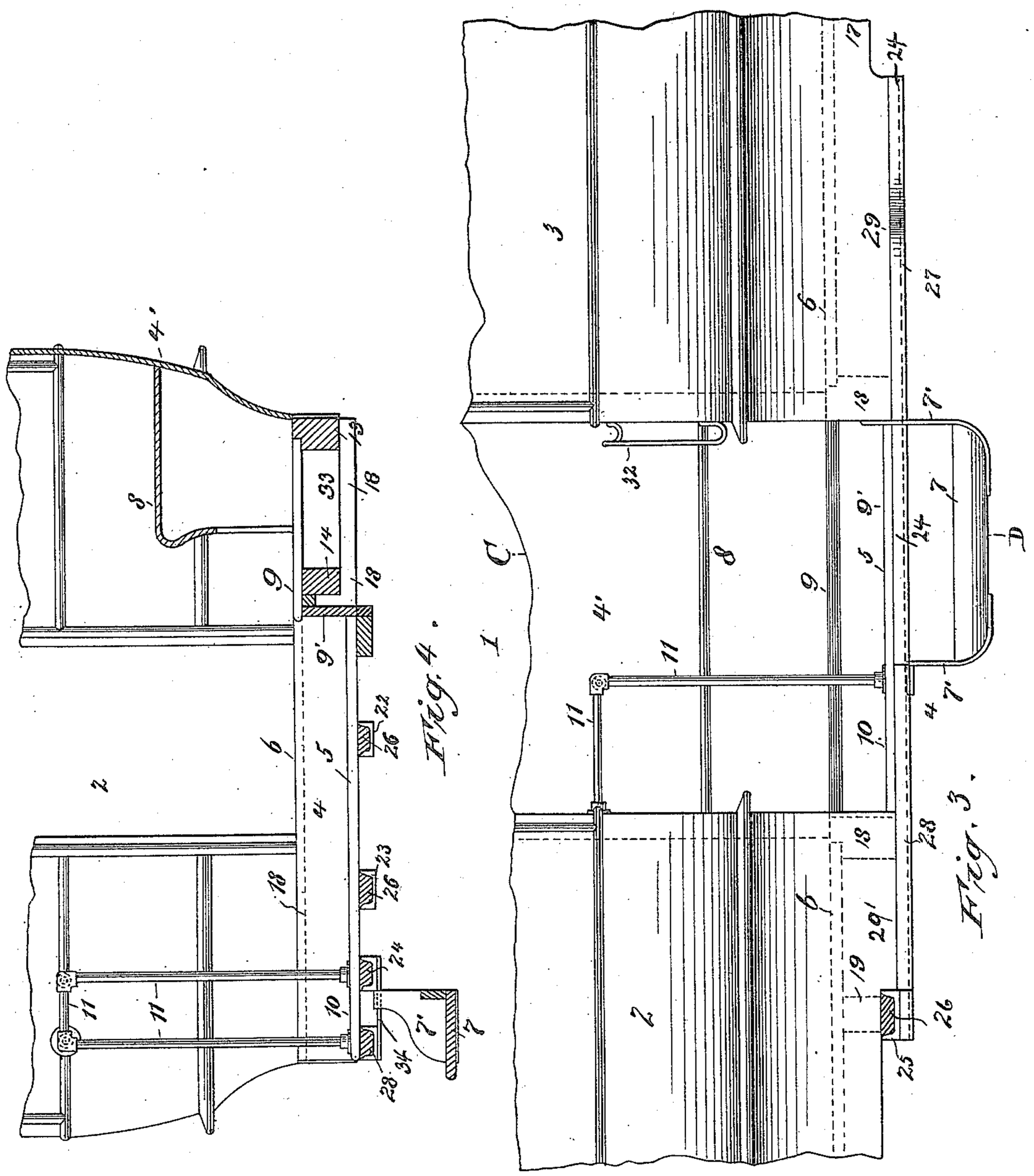

Fig. 3.

Fig. 4.

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(No Model.) 5 Sheets—Sheet 4.

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RAILWAY CAR.

No. 446,423. Patented Feb. 17, 1891.

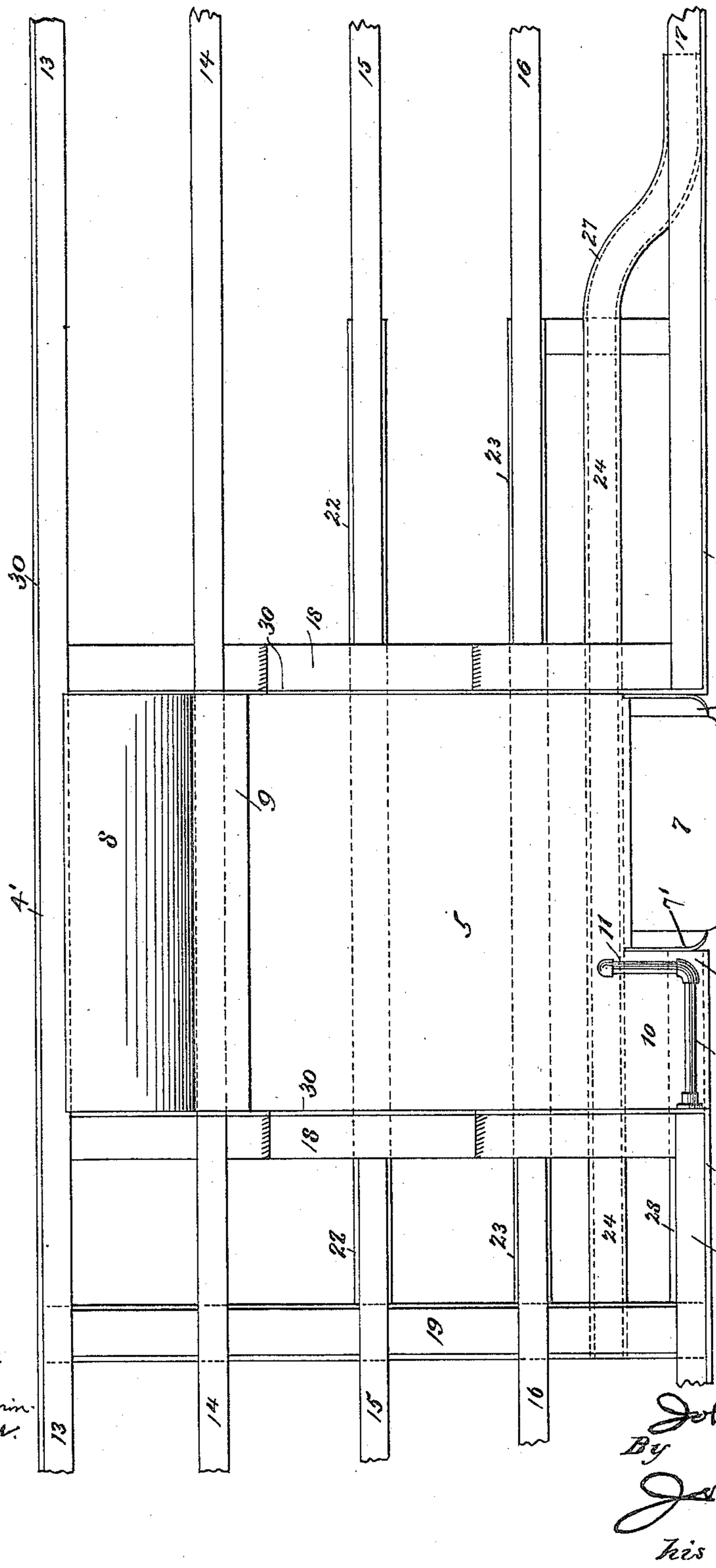

Fig. 5.

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(No Model.) 5 Sheets—Sheet 5.

J. A. BRILL.

RAILWAY CAR.

No. 446,423. Patented Feb. 17, 1891.

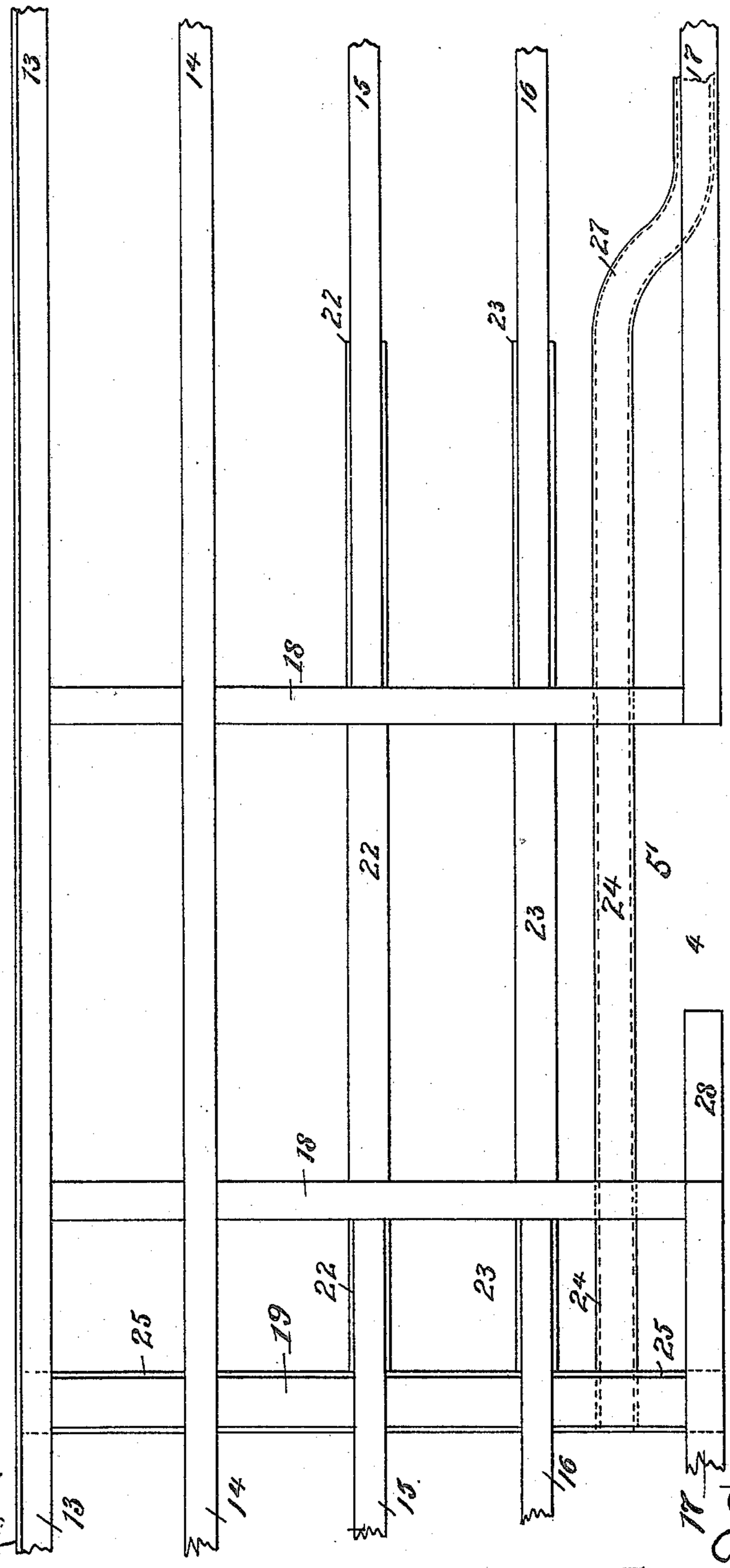

Fig. 6.

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his Attorney

UNITED STATES PATENT OFFICE.

JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 446,423, dated February 17, 1891.

Application filed November 14, 1890. Serial No. 371,447. (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 invented a new and useful Improvement in Railway-Cars, of which the following is a specification.

My invention has relation, generally, to railway-cars, and particularly to that form of street-railway cars having two separate compartments, one at each end of the car, and an intervening vestibule-platform communicating with both of said compartments, one of which is designed for use as a smoking-compartment. A class of car of this description is illustrated in a patent granted to me February 28, 1888, and numbered 378,428.

In my patent above referred to I have shown and claimed this general idea—that is, the idea of forming a car with separate sections or compartments at each end of the same, having an intervening vestibule-platform.

My invention herein, therefore, consists in improvements in this vestibule-platform and the method of trussing the same, hereinafter described.

In the drawings, Figure 1 is a side elevation of a car provided with my improved vestibule-platform, only that portion of the car contiguous to the platform being shown. Fig. 2 is a plan view taken on the lines A B, Fig. 1. Fig. 3 is a side elevation showing the relative position of the trussing. Fig. 4 is a side elevation taken on the line C D, Fig. 3. Fig. 5 is a plan view of the vestibule-platform, showing the trussing, the platform being shown in full. Fig. 6 is a plan view of the trussing of the platform.

In the drawings, 1 is the car, having separate compartments 2 and 3, with an intervening vestibule-platform 4 and a closed side 4′. As my invention relates solely to this vestibule-platform and the method of trussing the same, I shall not describe any of the peculiar characteristics of the car as a whole, as it is sufficiently well described in the patent above referred to. The flooring of the intervening platform is there made flush with the flooring of the compartments.

In my present case I have lowered the flooring 5 of the intervening platform, so as to make it a step lower than the flooring 6 of the compartments. This is plainly seen in Figs. 4 and 5. The lowering of the flooring of the intervening platform below the level of the car-floor proper enables the stepping-places to be brought much nearer to the level of the road-bed. This can be plainly seen in Fig, 4, where the foot-plate 7 is shown secured by hangers 7′ to and within the cut-away portion 5′ of the intervening platform and lowered a step below the same. This brings the means of exit and entry into the car nearer to the ground, and thereby facilitates the exit and entry of passengers, for if the platform were flush with the flooring of the car-body proper and a truck of ordinary construction having an electric motor or gripping appliance, such as has for some years been commonly used, were employed the flooring of the car would be located so high above the road-bed as to necessitate the use of several foot-plates, or one of extreme height, and in cars which are started and stopped very abruptly serious accidents might occur by reason of this. I therefore consider the means of exit and entry shown herein, which consists of the foot plate 7 and intervening platform 5, said platform being lowered, preferably, a step below the car-flooring, a very valuable feature.

It is the intention in cars of this class to provide one compartment for smoking and another compartment for general traffic; and it is also the intention to direct the exit and entry from and to this class of cars onto and from that side of the track directly opposite the other track, so that passengers in getting on and off will not be compelled to step onto the adjoining track, whereby they may be injured by passing cars. This feature is shown in my patent before referred to; but in that patent the free space at the closed end of the intervening platform is occupied by a spiral stairway. In this case I occupy said space by a seat 8 and a foot-flooring 9 for the same, the foot-flooring 9 being, preferably, flush with the flooring 6 of the car, the open space under the flooring 9 being covered by planking 9′. This seat may be occupied by parties desiring to smoke; or it may be occupied in warm weather by people desiring to sit in

the open air; or it may be occupied by a guard who shall superintend the entry and exit of the passengers.

As before stated, these cars are intended to be used upon cable or electric railways, whereon the speed of the cars is materially increased over the ordinary horse-railway method, and the necessity for carefully and expeditiously discharging and taking on passengers is very apparent. I therefore provide my intervening platform with a circumscribed space or inclosure wherein a guard or attendant may be located, who can superintend such entry and exit. This inclosure is shown at 10 in plan view, Fig. 5, front elevation in Fig. 3, and side elevation in Fig. 4. This inclosure may be constructed in any suitable manner, but is shown in the drawings as being circumscribed by and made up of the piping 11, united and secured to the floor 5 of the intervening platform in any desirable way.

It will be plainly seen that by the use of this inclosure the guard may stand so near the side of the car that he will not interfere with the exit or entry of the passengers upon the platform or into the doors 12 of the car, at the same time being able to enter and leave the inclosure freely.

As before stated, one part of my invention consists in the particular disposition of trusses for supporting the intervening or vestibule platform. In this case the usual longitudinal sills and transverse beams of the car-body cannot be advantageously used to support this form of platform, and in order to be able to properly support the lowered or depressed platform shown I have disposed the parts as will be hereinafter described.

In Fig. 6 is more clearly illustrated the trussing, and in which 13, 14, 15, 16, and 17 are the usual longitudinal sills of the car-body. The longitudinal sills 15 16 17 on the step side of the platform—that is, the side nearest which the step 7 is located—are increased in thickness in order to enable the platform to be depressed below the car-flooring. This increased thickness is shown at 29, Fig. 3, and this may be formed either by increasing the thickness of the longitudinal itself or by blocking it. By this means the tops of the longitudinals support the car-flooring and determine its location, whereas the enlarged ends of the longitudinals determine the depth of depression of the platform. The longitudinals on the side opposite the step may also be enlarged, as at 29′, or be blocked up, as before stated. Two of these longitudinal sills 13 and 14 extend their usual length, whereas the sills 15, 16, and 17 are stopped at the center or door sills 18, all of the sills being secured thereto in any suitable manner. At a suitable distance from the door-sill 18, at one side thereof, is located another transverse sill 19, which is secured to the longitudinal sills. By reason of the lowering of the flooring of the intervening platform the longitudinal sills 15, 16, and 17 must be disposed as shown, and the vestibule-platform and the car-body therefor are without support at that particular point where the said longitudinal sills are omitted, that point being between the longitudinal sill 14 and the door-sills 18.

In order to properly unite the ends or corners 20 21 of the compartments and securely support them, and, further, to provide means for supporting the depressed portion of the vestibule-platform, I provide longitudinal channel-beams 22, 23, and 24 and transverse channel-beam 25. These are disposed as follows: The channel-beam 25 is transversely disposed and is rigidly secured to the sill 19, composition 26 being placed, if desired, in the trough of the beam to arrest the decay of the wood when in contact with the iron, as may be done in all other cases where the iron and wooden beams are joined. Two other channel-beams 22 and 23 are rigidly secured to the channel-beam 25 at one end and to the longitudinal sills 15 and 16 at the other end. Another channel-beam 24 is rigidly secured at one end to the channel-beam 25 and is secured to the longitudinal sill 17 at its other end, being elbowed to permit it to pass under said sill 17, as shown at 27. In order to strengthen that portion of the platform upon which the guard-inclosure is located, a channel-beam 28 is disposed underneath it, and which is rigidly secured to the transverse channel-beam 25 at one end and to the door-sill at the other. The enlarged part 29 of the longitudinal sills, as seen in Fig. 3, brings them down level with the channel-beams, so as to permit all the channel-beams to be laid on the same plane, thus bringing all the longitudinal channel-beams level, the channel-beam 25 determining the depression at its point. The door-sills 18 and longitudinal sills form the means of supporting the car-flooring and elevated portion of the platform at this part of the car, and the channel-beams 22, 23, 24, and 28 form the means of supporting the depressed portion of the platform.

Thus it will be seen from the disposition of the beams above described, that I am enabled to provide a platform with one part elevated and the other part depressed, and with beams so disposed as to thoroughly support and strengthen the car-body at this point.

The closed side portion of the platform may be provided with windows 31, as shown in Fig. 1.

At 30 is shown the outer skin or covering of the car, and at 32 the hand-rail.

A transverse beam 33, secured to the longitudinals 13 14 and under the flooring 9, may be used so as to strengthen that portion of the platform.

The hangers 7′ for the step 7 may be secured to the car-flooring or to the cross-plate 34, Fig. 4, which cross-plate is secured to the channel-beams 24 and 28.

That end of the intervening platform upon

which the foot-plate 7 is located I term the "forward portion," while that end which is closed I term the "rear portion," and desire it to be so understood in the claims.

Of course various changes may be made in the parts heretofore described, and other and various changes may be made without departing from the spirit of my invention.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A railway-car having separate passenger-compartments and an intervening vestibule-platform, said intervening platform being located a step below the car-flooring, and a foot-plate secured to and located a step below said platform, substantially as described.

2. A railway-car having separate passenger-compartments and an intervening vestibule-platform, the rear portion of said platform being raised a step up, substantially as described.

3. A railway-car having separate passenger-compartments and an intervening vestibule-platform, the rear portion of said platform being raised a step up and provided with a seat, substantially as described.

4. A railway-car having separate passenger-compartments and an intervening vestibule-platform having a permanently-closed side and an open side and windows in said closed side, substantially as described.

5. A railway-car having separate passenger-compartments and an intervening vestibule-platform, the rear portion of said intervening platform being flush with the car-flooring and the forward portion a step below the said rear portion, substantially as described.

6. A railway-car having separate opposing passenger-compartments, an intervening platform a step below the car-flooring, a foot-plate secured to one corner of a portion of said platform and extending inwardly and from a compartment toward the opposing compartment, and an inclosure for a guard located at the opposite corner and occupying the remaining frontage of the platform, said inclosure having an inwardly-extending rail along the inwardly-extending edge of the platform, substantially as described.

7. A railway-car having separate passenger-compartments, an intervening vestibule-platform, said intervening platform being located a step below the car-flooring, and an inclosure for a guard located at one corner of the forward end of said platform, substantially as described.

8. A car having opposing compartments and a platform between them, said platform being located a step below the car-flooring, a foot-plate placed a step below the platform and extending from one of the compartments along the frontage of the platform, and an inclosure for a guard extending from about the edge of the foot-plate to the opposite compartment, substantially as described.

9. A car having separate passenger-compartments 2 and 3 and an intervening vestibule-platform 4, a portion of said platform extending inwardly from its outer edge, as at 5′, and longitudinally from one of the compartments, a foot-plate 7, suspended within said inwardly-extending portion and supported by the hangers 7′ a step below the platform, and an inclosure 10, occupying substantially the remaining frontage of the platform, circumscribed by the longitudinal and inwardly-extending rail 11, substantially as described.

10. A railway-car having separate passenger-compartments and an intervening vestibule-platform, the forward end of said platform having an inclosure for a guard at one corner, a cut-away portion at the other corner, and a foot-plate secured to the platform in front of the cut-away portion and substantially within the forward edge of said intervening platform, substantially as described.

11. A railway-car having separate passenger-compartments and an intervening vestibule-platform, one end or section of said platform being flush with the car-flooring, the other end or section being depressed a step below, a foot-plate located at one corner of the depressed section and a step below it, and an inclosure for a guard located at the opposite corner of the depressed section, substantially as described.

12. A railway-car the transverse and longitudinal sills of which are so arranged as to leave an aperture wherein a depressed platform may be located, and trussing for said platform and car, comprising the transverse channel-beam 25, and longitudinal channel-beams 22 23 24, secured to the channel-beam 25 at one end and to the longitudinal sills at the other, substantially as described.

13. A railway-car the transverse and longitudinal sills of which are so arranged as to leave an aperture wherein a depressed platform may be located, and a trussing for the said platform and car, comprising the transverse channel-beam 25, longitudinal channel-beams 24 28, the said channel-beam 28 being secured to the channel-beam 25 and one of the transverse sills and extending into said aperture, and a channel-beam 24 secured to the longitudinal sill 17 at one end and to the channel-beam 25 at the other, the said beams 24 28 being so arranged in relation to each other that the free space 5′ is left, substantially as described.

14. A railway-car having separate compartments and an intervening platform located between such compartments, with a system of trussing comprising longitudinal sills 18, which define the width of the platform, longitudinal sills 13 and 14, which support that part of the platform which is flush with the flooring of the car-body, and channel-beams 22, 24, 25, and 28, supporting the depressed portion of the platform, substantially as described.

15. A railway-car having separate passen-

ger-compartments, an intervening platform located between such compartments, a portion of the platform at the closed side being flush with the car-flooring and the remaining portion of the platform being located a step below the car-floor, and a system of trussing adapted to support and strengthen the car-flooring at this point, which comprises longitudinal sills passing under that part of the platform which is flush with the car-flooring and the car-flooring itself, the remaining longitudinal sills ending at the point where the sides of the platform are defined, and trusses suitably secured and located sufficiently below the said longitudinal sills of the car to permit the flooring of the platform to be placed upon it and still be a step below the car-flooring proper, substantially as described.

16. A railway-car the transverse and longitudinal sills of which are so arranged as to leave an aperture wherein a depressed platform may be located, and means for depressing the said platform below the car-flooring, comprising the longitudinal sills 15 16 17, having enlarged sections 29 on one side of the aperture and the transverse sill 19 and channel-beam 25 at the other side, substantially as described.

17. A railway-car the transverse and longitudinal sills of which are so arranged as to leave an aperture wherein a depressed platform may be located, and means for depressing the said platform below the car-flooring, comprising the longitudinal sills 15 16 17, having enlarged sections 29 29′ on each side of the aperture, substantially as described.

Signed at the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, this 12th day of November, 1890.

JOHN A. BRILL.

Witnesses:
THEO. H. M'CALLA,
GEO. GLAZIER.