

(No Model.)

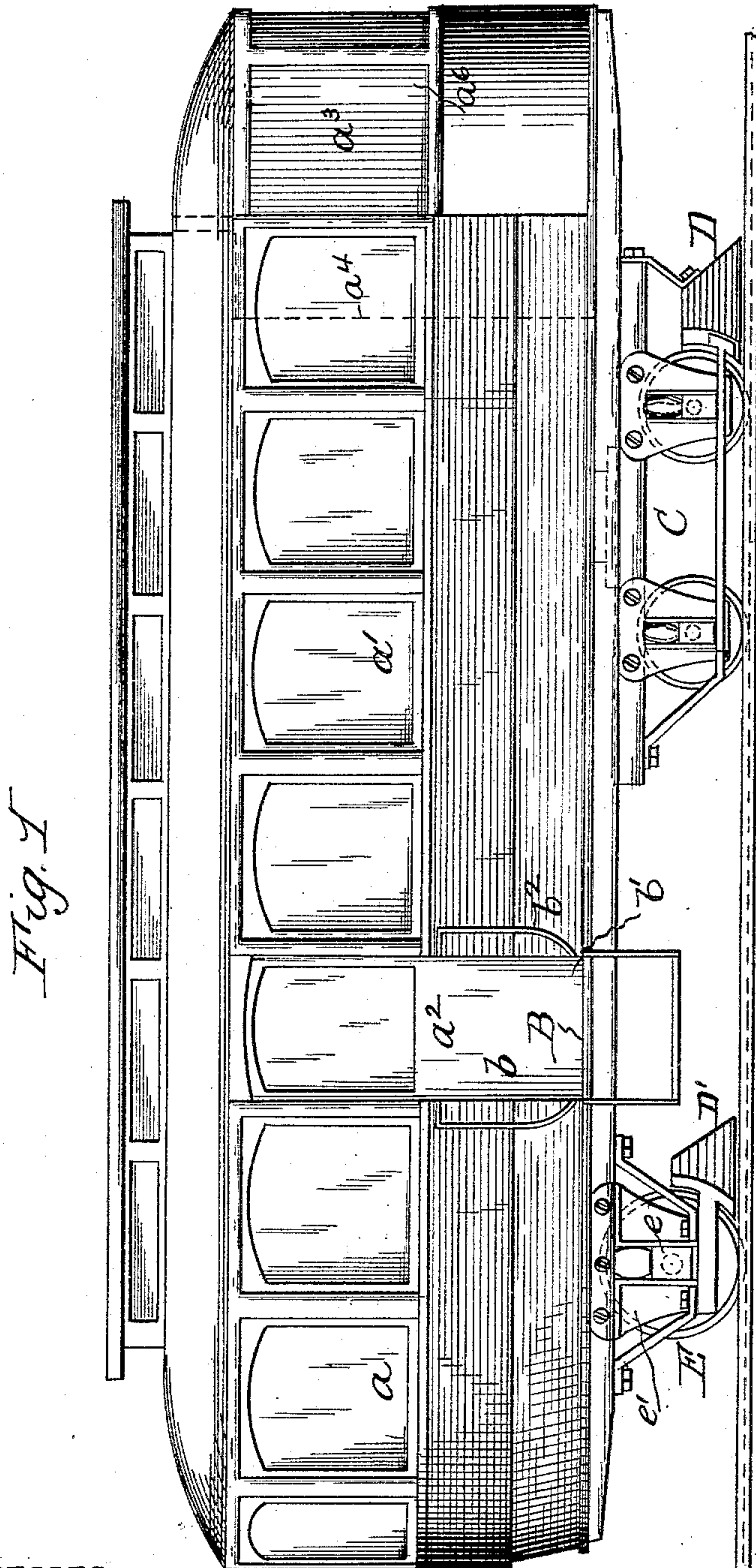
6 Sheets—Sheet 1.

J. A. BRILL.

RAILWAY CAR.

No. 378,428.

Patented Feb. 28, 1888.



WITNESSES:

Wm Howard Horn. A

M. W. Walker.

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(No Model.)

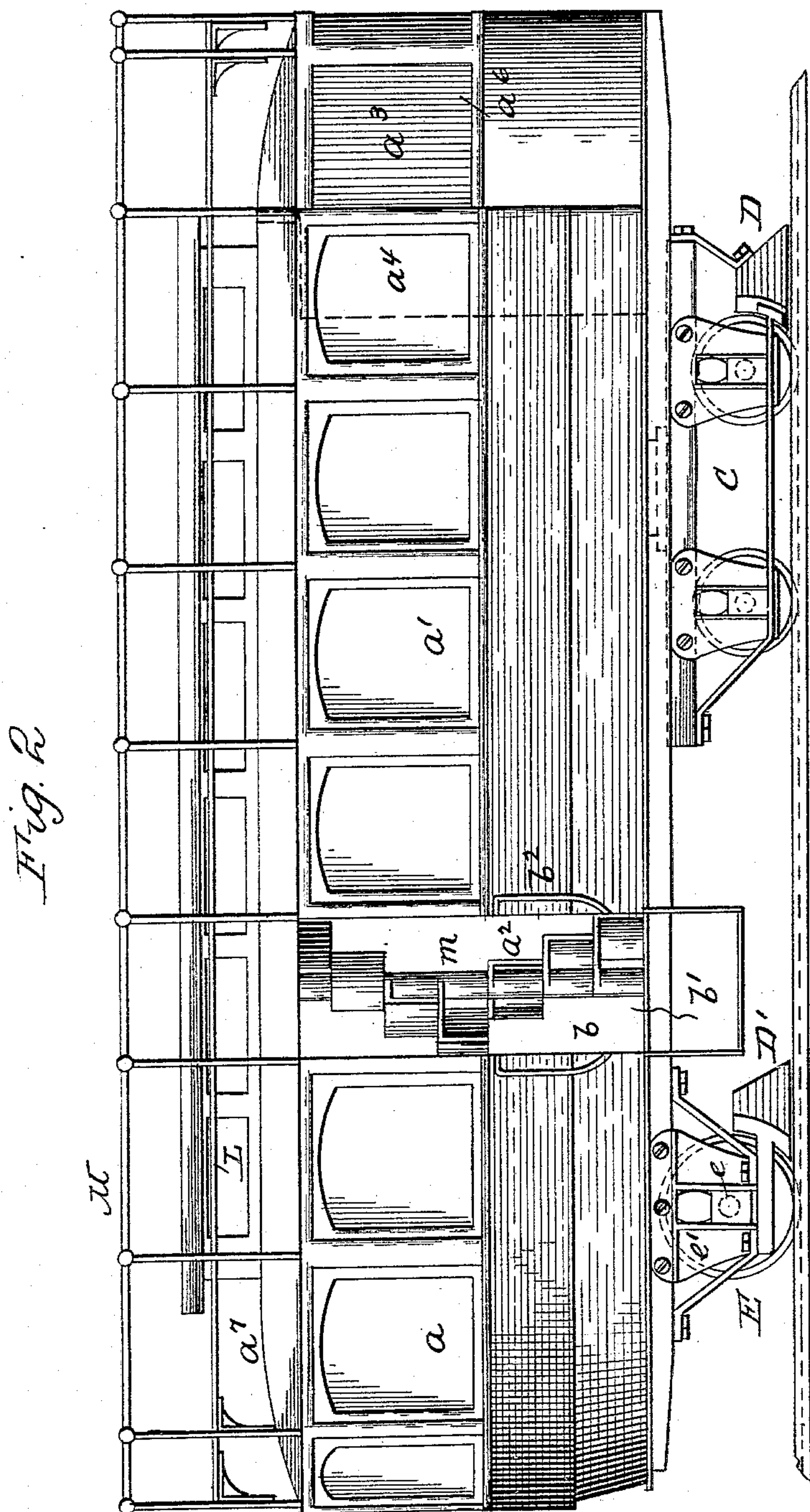
6 Sheets—Sheet 2.

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Patented Feb. 28, 1888.



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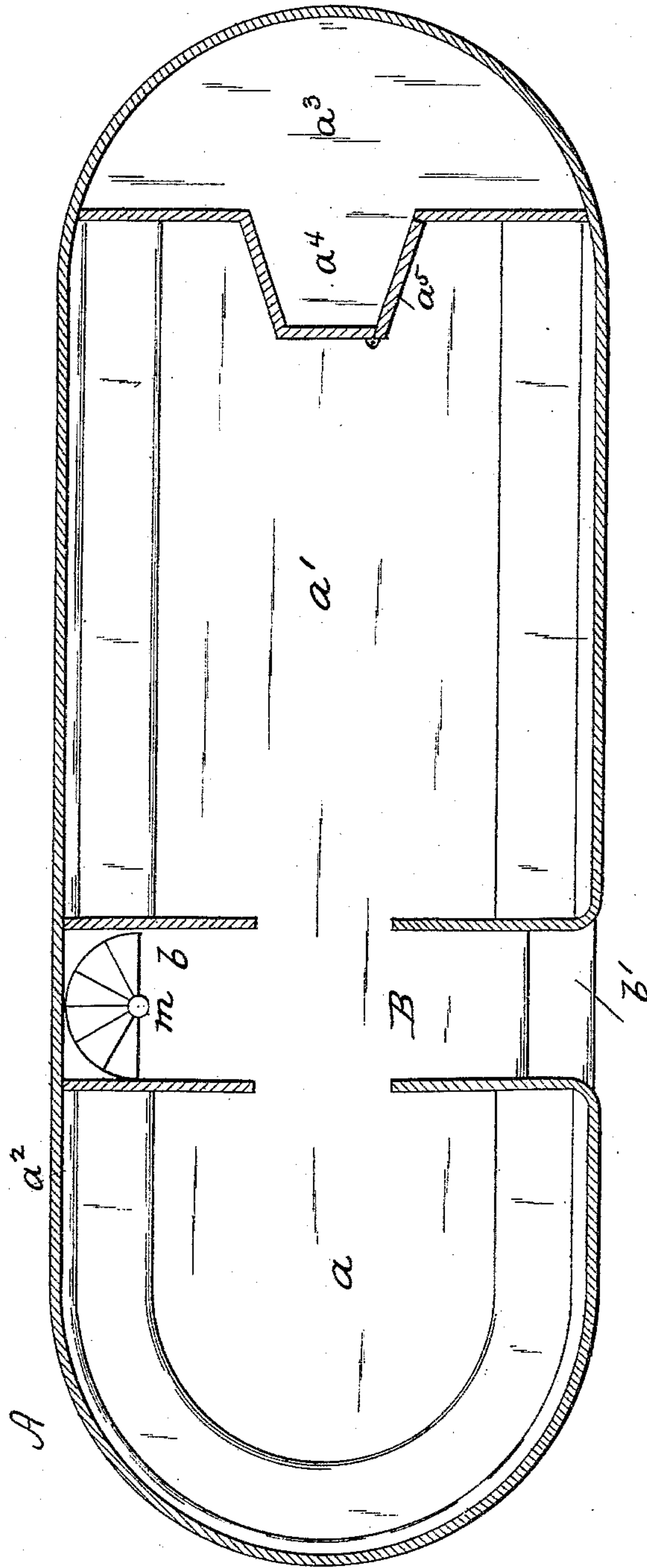
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Fig. 3



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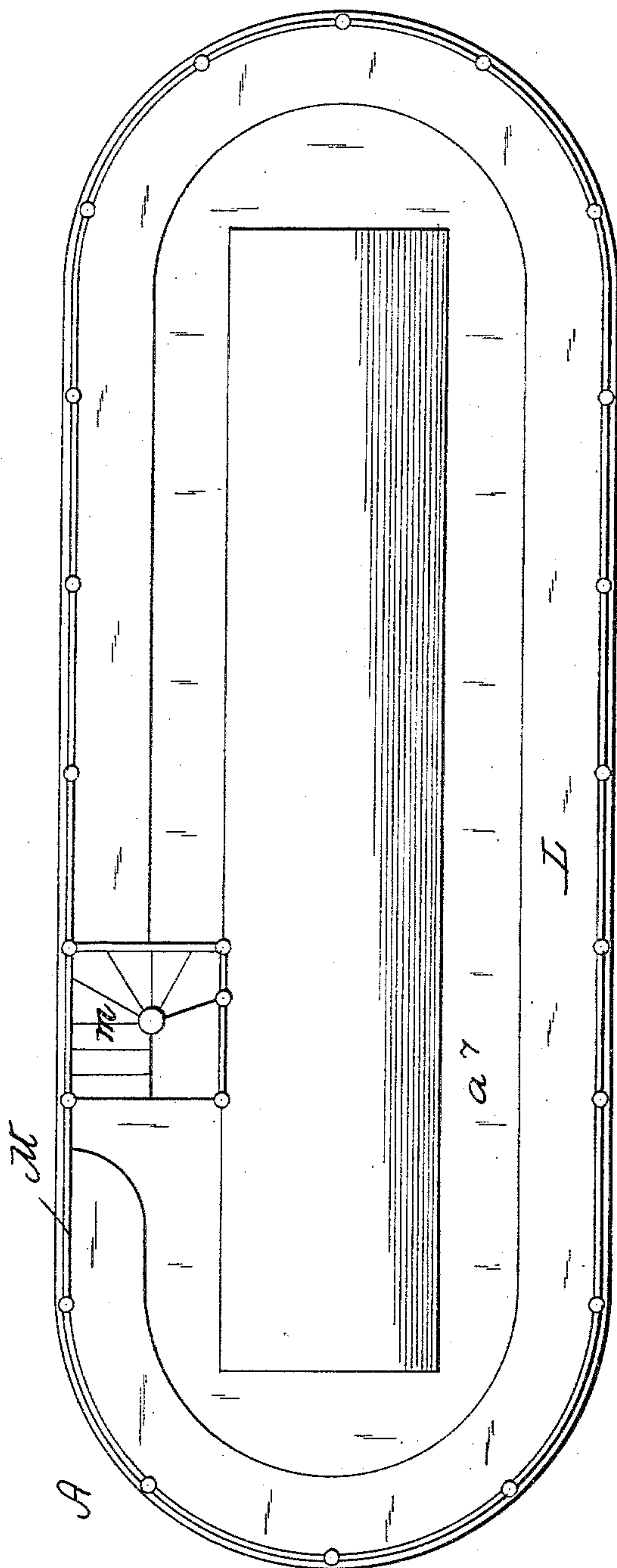
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Fig. 4



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(No Model.)

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J. A. BRILL.

RAILWAY CAR.

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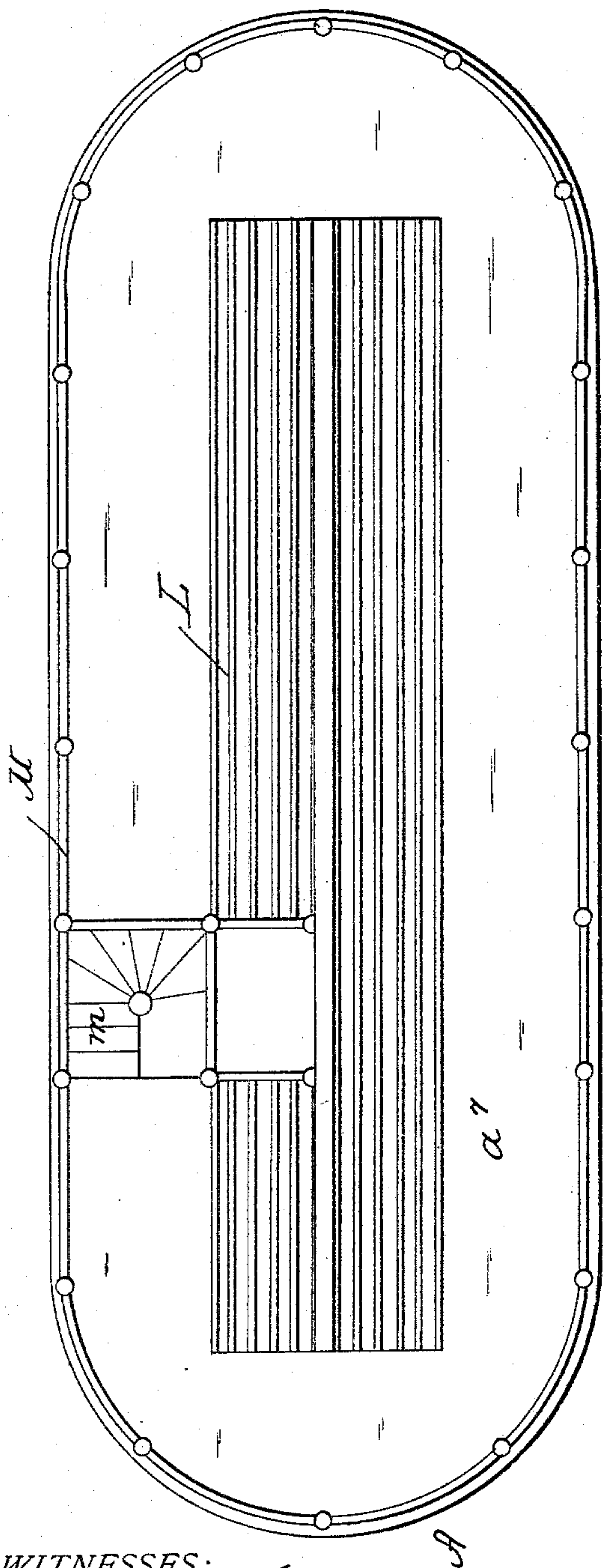


Fig. 5

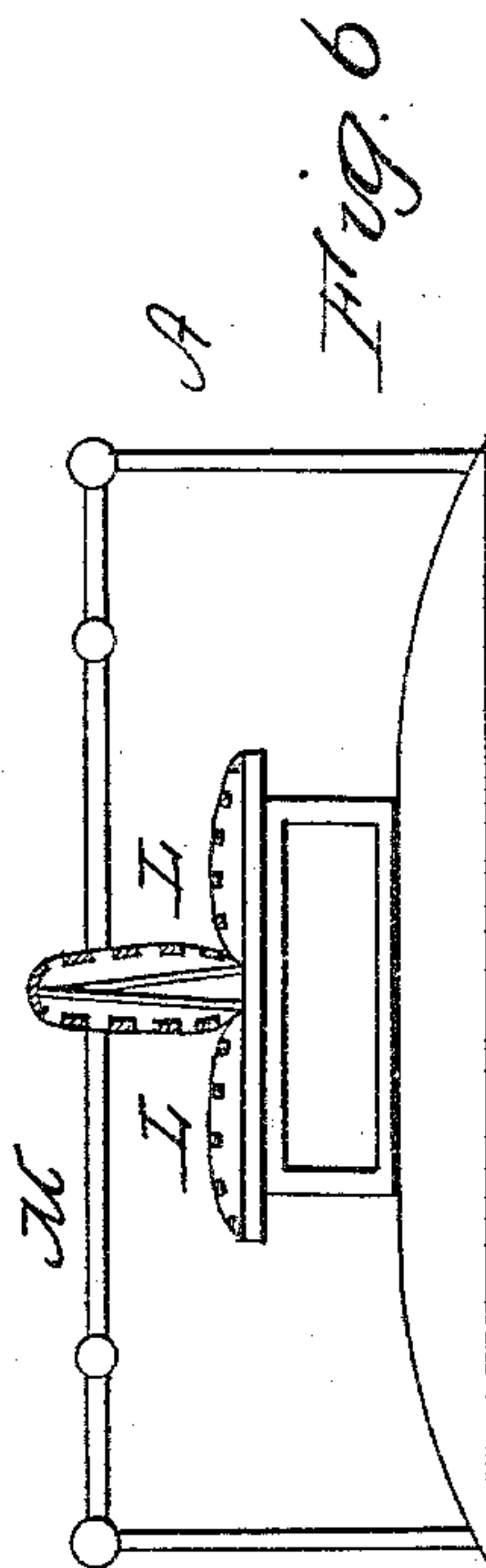


Fig. 6

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(No Model.)

6 Sheets—Sheet 6.

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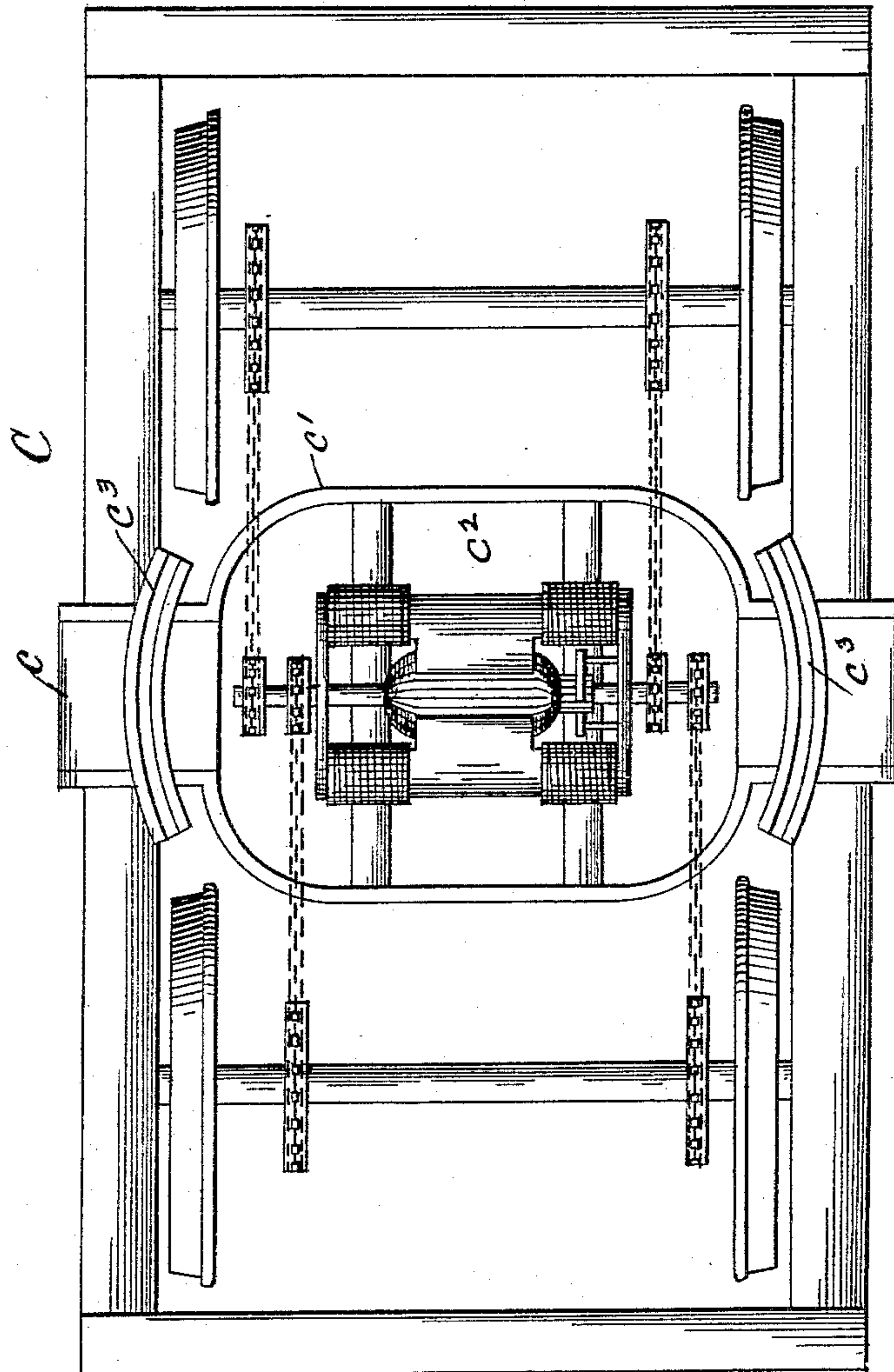


Fig. 7

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UNITED STATES PATENT OFFICE.

JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 378,428, dated February 28, 1888.

Application filed November 18, 1887. Serial No. 255,480. (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 certain new and useful Improvements in Railway-Cars, of which the following is a specification, reference being had therein to the accompanying drawings, wherein—

Figure 1 is a side elevation of a street-railway or other car having two separate apartments with intervening platform and running-gear at each end of the car, embodying my improvements. Fig. 2 is a like view showing a double-decked car and a stairway leading from the roof to the platform located between said two separate apartments. Fig. 3 is a horizontal section through the center of the car-body. Figs. 4 and 5 are plans of the roof of the car shown in Fig. 2, illustrating different arrangements of the seats on the roof. Fig. 6 is a vertical section, partly in elevation, of Fig. 5; and Fig. 7 is a plan of forward truck for the car, showing central opening in the bolster, an electric motor supported in said opening, and driving mechanism between the motor-shaft and axles for the truck.

My invention has relation, generally, to railway-cars, and particularly to that form of street-railway cars having two separate apartments—one at each end of the car—and an intervening platform communicating with both said apartments, one of which is designed for use as a smoking-apartment. As heretofore constructed, so far as I am aware, this form of street-car has been provided with one pair of wheels in front of and another pair of wheels to the rear of the intervening platform, with the axle-boxes therefor secured to the car-body. This construction of car, however, necessitates the use of a short length of car, in order that both pairs of wheels may be brought close enough together to admit of easy turning of curves; but the use of these short-length cars is objectionable on account of their limited seating capacity, and hence when made longer both pairs of wheels have been located in advance of said intervening platform. This last-described location of both pairs of the wheels causes an undue overhanging of the rear part of the car, and consequently an undue vertical vibration of the rear end of the same,

which results in the lifting of the front wheels more or less from the tracks, and the consequent liability of the car to jump or run off of the track as it is propelled. Again, in both of these described constructions of cars the intervening platform is open at both ends or sides, which is objectionable on account of danger incurred by passengers getting off of the car on the side next to an up or down track of a double-track road.

My invention has for its object to avoid the above-described objections, or to so construct and arrange its running-gear that the car may be made of any desired length, that vertical vibration of the ends of the car and liability of the car to run off the tracks is avoided, or both ends of the car are equally supported and the car turns or travels on the curves of a road with the ease and facility of the usual form or length of street-car, and hence my improved car is especially adapted for use upon cable-motor railways and upon electric railways of either of the forms now in use—to wit, that embracing storage-batteries on the car for supplying a current to the motor, or that in which the motor on the car is in a loop-circuit from underground conduit-conductors or from overhead wires.

My invention has for its further objects to provide the car or its platform with only one side opening for the passengers, so as to avoid danger of accident in getting off of and entering the car upon double-track railways; to provide an inclosed apartment for the gripman or engineer of a size sufficiently large for his requirements without encroaching upon the seating capacity of the forward apartment, and to make the car a convenient double-decked car.

My invention accordingly consists of the combinations, constructions, and arrangements of parts, as hereinafter described, and pointed out in the specification and claims.

A represents the body of the car, which is divided into two passenger-apartments, *a* and *a'*, with a vestibule or platform, B, between said apartments. The apartment *a* is preferably smaller than *a'*, and is located at the rear of the car, so that it can be used as a smoking-apartment without offense to the passengers in the apartment *a'*.

The platform or vestibule B is closed at one

side, a^2 , of the car-body, as shown at b ; or said side a^2 is unbroken from end to end, so that passengers can only get off and onto said platform at its open side b' , at which suitable hand-rails, b^2 , are provided, as desired; hence upon double-track railways all danger of accident to passengers getting on or off the car may be avoided by locating the open end b' of the platform at or on the outer side of the cars.

Near the forward end of the car is located a preferably four-wheeled truck, C, of any suitable construction and having any suitable pivotal connection with the car-body; but I prefer that form of truck shown and described in United States Letters Patent No. 365,669, and dated June 28, 1887, wherein the bolster c , though continuous from side to side of the truck-frame, is divided and united by an open or skeleton casting or frame, c' , or is so made that it has a large central opening, c^2 , as shown more plainly in Fig. 7, and also combined pivot and rub plates c^3 near each end of the bolster, to bring the weight or pressure of the car as near to the wheels as possible in order to enhance the traction of the same upon the rails and more effectually maintain the wheels upon the tracks and secure easy riding.

The truck C is provided with a suitable guard or fender, D. At or near the rear end of the car is preferably located a single pair or set of wheels, E, the axle-boxes e for which are mounted in pedestals e' , secured to the car-body in the manner usually done for street-railway cars, and to axle-box or a saddle therefrom is secured a fender or guard, D', both said fenders D and D' pointing in the same direction and being located in advance of the respective running-gear for which they serve as guards or fenders.

The car constructed and provided with running-gear, as above described, has both ends equally supported, and vertical vibration of same and consequent liability of the car to run off the track is avoided under even the heaviest and most unbalanced weight in the car, and the truck C admits of the car turning or traveling a curve with ease.

As the truck C has the open bolster, (shown in Fig. 7,) a grip may be suspended within the same, as illustrated in said mentioned patent, to adapt the car for cable-motor railways; or a suitable electric motor may be located within said bolster-opening, and have a drive chain, belt, or other like connection with one or both axles of the truck, as indicated, to electrically propel the car.

The current for the motor may be supplied from storage-batteries on the car or from either underground conduit or overhead line-wires.

To maintain full seating capacity of apartment a' and yet give ample space or room for the engineer to work the various brake, grip-actuating, or electric-switch levers without interference on the part of the passengers, the usual front platform of the car is inclosed to provide a small apartment, a^3 , from the rear side of which and between the seats projects

an angular recess, a^4 , as shown more plainly in Fig. 4. This angular recess extends from the floor to the top of the car, and is in line with the swing or movement of the said actuating-levers. As the recess a^4 extends into the aisle of the car and does not interfere with or take up any of the seating capacity for apartment a' , it follows that such extension or recess may be of any desired depth required by the movement of said levers. This recess is provided with a door, a^5 , in one of its sides for egress to and ingress from the engineer's apartment a^3 , which preferably has sliding sashes a^6 , so that they can be dropped in fair weather and raised during cold or inclement weather.

When the car is a double-decked car, or has seats L upon the roof a^7 , arranged as shown either in Figs. 4 or 5, the roof is suitably railed or inclosed, as shown at M, and a spiral or other suitably-constructed stairway, m , is erected at the closed side or end b of platform B, and leads to the roof a^7 of the car, as shown more plainly in Figs. 2, 4, and 5. The stairway m , being so located, is entirely out of the way of the passengers in the car and in getting off or onto the car.

As it is obvious that the details of construction and the configuration of parts of the car or its design and style may be greatly varied without departing from the spirit of my invention, I do not limit myself to the same as shown.

What I claim is—

1. A railway-car having separate passenger apartments a and a' and intervening vestibule-platform, B, having closed side b and open side b' , substantially as set forth.

2. A railway-car having separate passenger-apartments a and a' and intervening vestibule-platform, B, and an inclosed engineer's or driver's apartment, a^3 .

3. A railway-car having separate passenger-apartments a and a' , an intervening vestibule-platform, B, and an inclosed engineer's apartment, a^3 , having recess or projection a^4 extending into the aisle of the car between the seats, substantially as set forth.

4. A railway-car having at its front end an engineer's apartment provided with a rearwardly-extending recess, a^4 , in the aisle of the car between the seats, substantially as set forth.

5. A railway-car having side seats extending from end to end of the car, and at its front end an engineer's apartment provided with an angular recess, a^4 , extending into the aisle of the car between the seats, substantially as set forth.

6. A railway-car having separate apartments a and a' , intervening vestibule-platform, B, communicating with both of said apartments, an engineer's or driver's apartment, a^3 , in advance of apartment a' , a four-wheel truck pivoted to the car-body in front of platform B, and a pair of wheels having axle-box pedestals secured to the car-body to the rear of platform B, substantially as set forth.

7. A railway-car having separate apartments *a* and *a'*, intermediate vestibule-platform, B, having closed side *b* and open side *b'*, and running-gear in advance of and to the rear
5 of said platform, and part of said running-gear having a truck-frame with pivotal connection with the car-body, substantially as set forth.

8. A railway-car having apartments *a* and *a'*, intervening vestibule-platform, B, running-gear in front of and to the rear of said platform, and fenders D D', for said running-gear, both said fenders pointing in the same direction and located in advance of their respective running-gear, substantially as set forth.

15 9. A railway-car having apartments *a* and *a'*, intervening vestibule-platform, B, having closed side *b* and open side *b'*, and a stairway

on said platform adjacent to said closed side *b* and leading to the roof of the car, substantially as set forth. 20

10. In combination with a car-truck, a bolster running from side to side of the truck-frame, and having a large central opening or frame, an electric motor supported within said bolster-space, and driving mechanism between 25 the motor-shaft and one or more axles of the truck, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. BRILL.

Witnesses:

R. S. REED,

S. W. BROADBENT.