

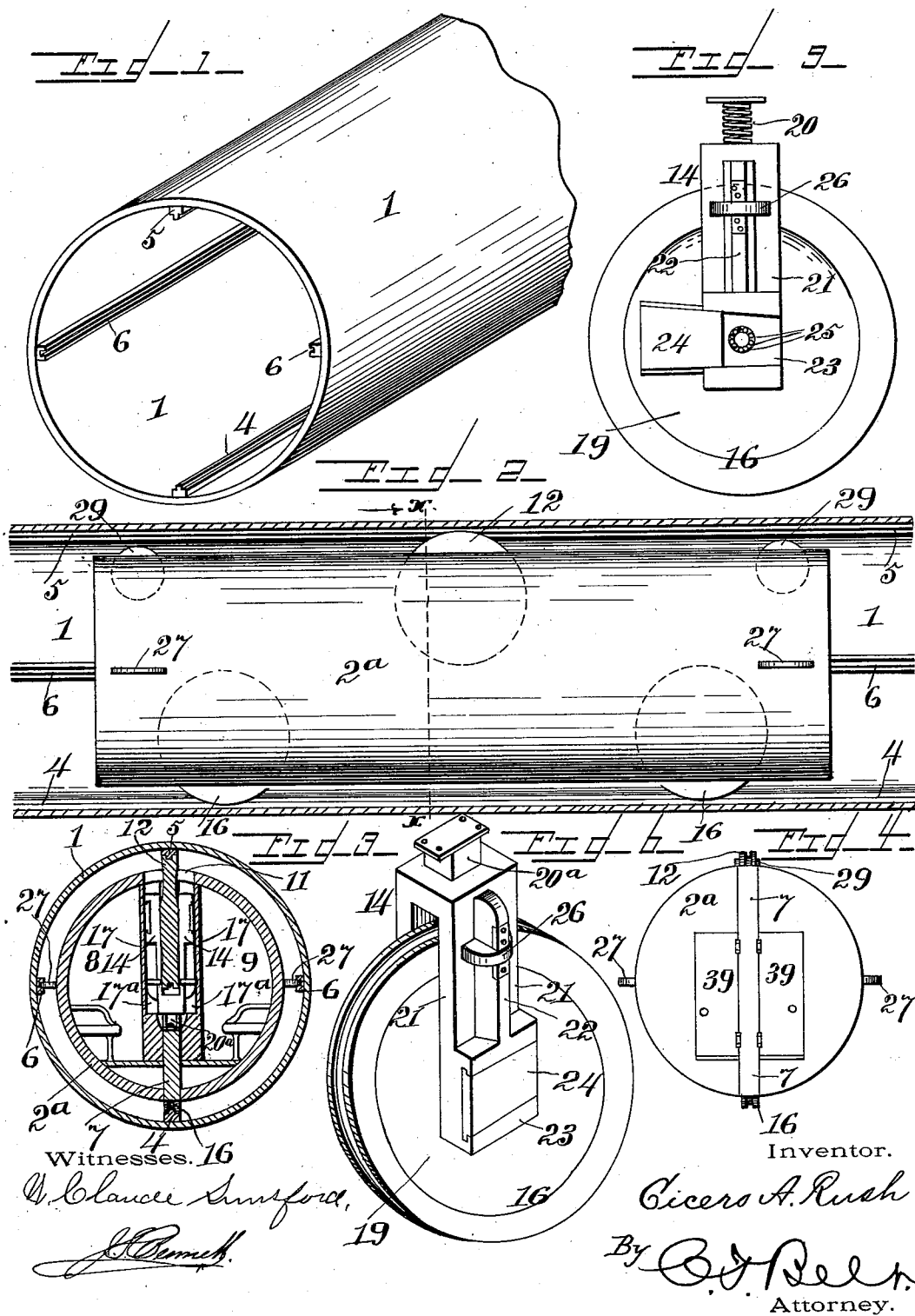
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3 Sheets—Sheet 1.

C. A. RUSH.
CAR FOR PNEUMATIC RAILWAYS.

No. 549,936.

Patented Nov. 19, 1895.



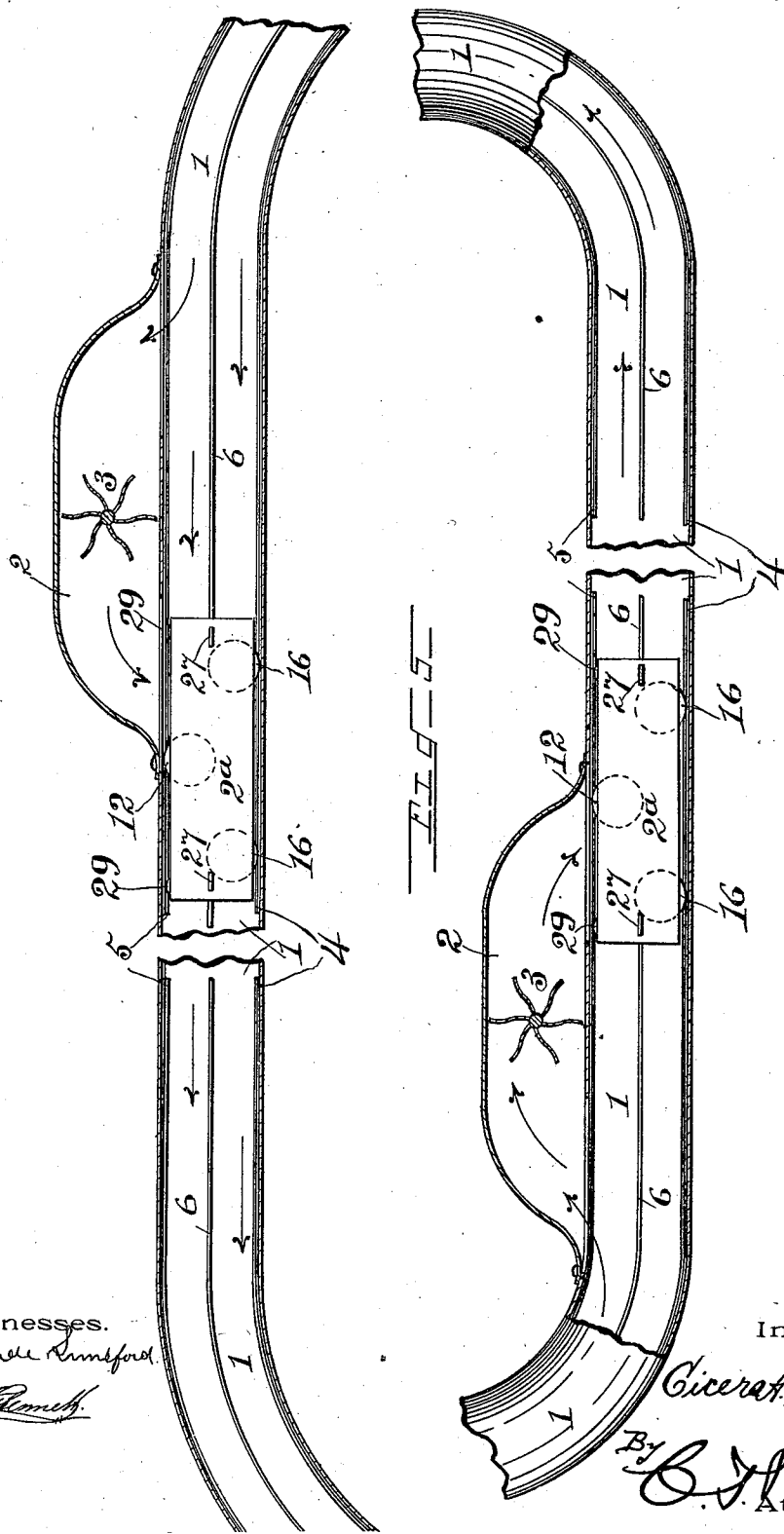
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Witnesses.
W. Blaine Sumford.
[Signature]

Inventor.
Cicero A. Rush
By *[Signature]*
Attorney.

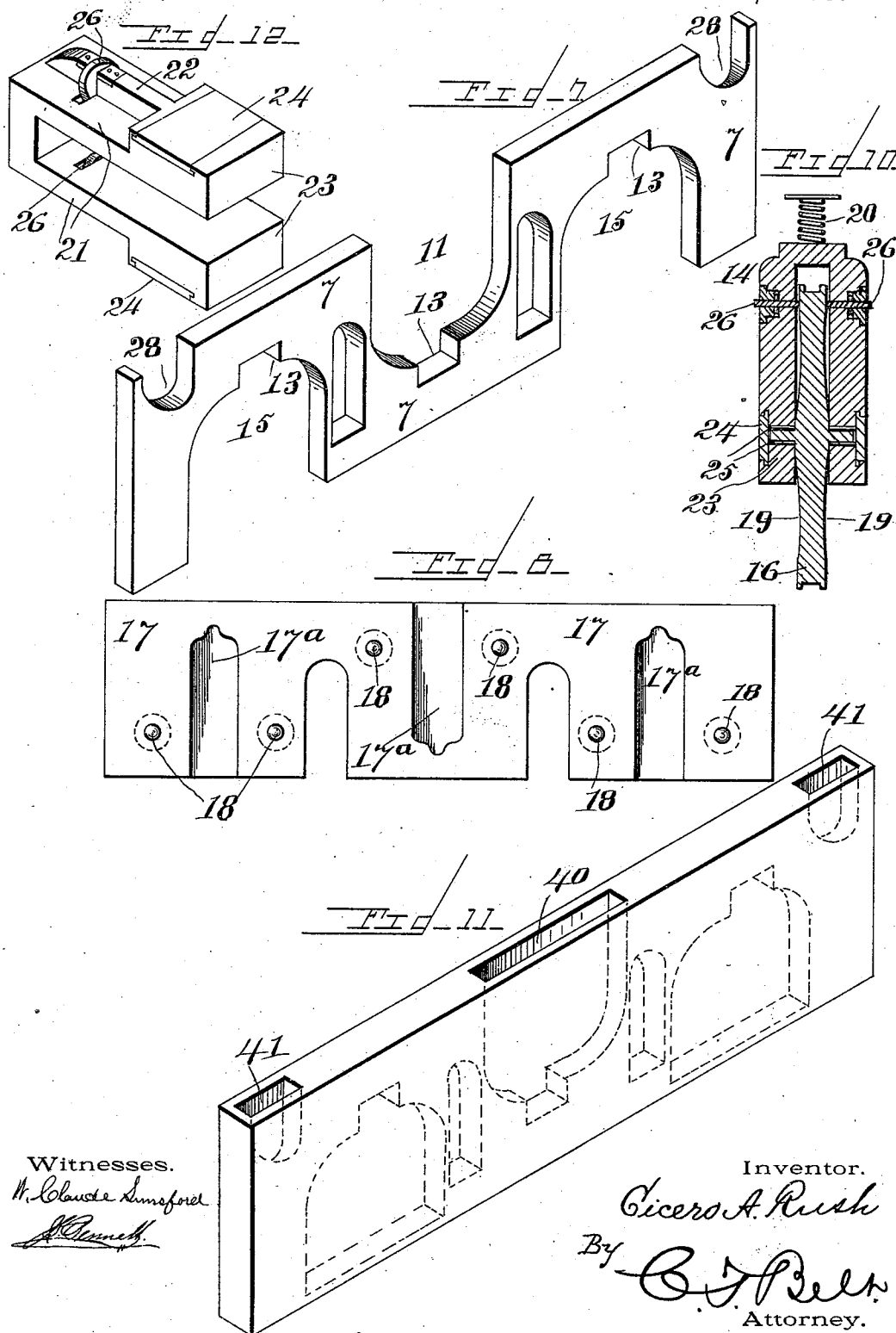
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Patented Nov. 19, 1895.



Witnesses.
W. Claude Sanford
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UNITED STATES PATENT OFFICE.

CICERO ALONZO RUSH, OF KAUFMAN, TEXAS.

CAR FOR PNEUMATIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 549,936, dated November 19, 1895.

Application filed January 18, 1895. Serial No. 535,398. (No model.)

To all whom it may concern:

Be it known that I, CICERO ALONZO RUSH, a citizen of the United States, residing at Kaufman, in the county of Kaufman and State of Texas, have invented certain new and useful Improvements in Cars for Pneumatic Railways, of which the following is a specification.

This invention relates to the class of pneumatic railways, and particularly to an air-tube and car of peculiar construction.

The object of the invention is to provide a car especially adapted for the said tube, the same being constructed with track-wheels in the central line of the cars.

A further object of the invention is to provide a double car divided lengthwise centrally by a partition-wall, through which communication may be had between a car-section—that is, between the double car within the same—and to provide each end portion of this double car with a door.

A still further object of the invention is to provide the dividing-wall or car-partition with track-wheels, one projecting above the car and two below the car.

The invention consists in the novel construction and arrangement of parts, as defined in the claims.

Other objects and advantages will be revealed in the following specification and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is an enlarged perspective view of the track-tube, partly broken away, ready to receive a car. Fig. 2 is a longitudinal section of Fig. 1 with one double car in position. Fig. 3 is a cross-section of Fig. 2 on the line *x x*. Fig. 4 is an end view of the double car. Fig. 5 shows a miniature plan of my system, partly broken away in section. Fig. 6 is an enlarged perspective view of one of the track-wheels with its hanger. Fig. 7 is a perspective view of the wall or partition. Fig. 8 is a side elevation of one of the inner car-casings. Fig. 9 is a side elevation of one of the wheels and its hanger, showing the journal-box partly open. Fig. 10 is a vertical section of Fig. 9. Fig. 11 is a modified form of the wall or partition. Fig. 12 is a perspective view of one of the hangers.

The same reference-numerals denote the same parts throughout the several figures of the drawings.

I do not deem it necessary to show more than a single track—that is, but one tube having one track is here shown and described. However, the tube may be made large enough to accommodate two tracks with partition-walls between them, or two tubes, such as the one shown, may be placed side by side.

In addition to the relay-fans some mechanism may be employed to create a suction at the end of the track-tube toward which the car is traveling. This being a common and well-known plan, it is desired not to encumber the application by setting forth the same.

The tube 1 and relay-fan tubes 2 are substantially air-tight, and the switches may have suitable means for shutting off the air therefrom when it is desired that a car should remain upon them.

The tube 1 has relay-fans 3, housed by the tubes 2, and is provided with a bottom rail 4 and a top rail 5, vertically opposite the bottom rail, so as to render the rails in perfect vertical alignment with each other. Centrally between the rails 4 and 5 are secured upon the sides of the tube 1 grooved guide-rails 6.

The car 2^a is adapted to be pneumatically propelled through the tube 1, and is of cylindrical form, having no trucks and axles; but the partition 7 divides the car lengthwise and vertically centrally from end to end into two parts or sections 8 and 9, making a double car, with suitable communications, if desired, through the said partition between the parts or compartments 8 and 9. The wall or partition 7 is cut away upon the top edge in its center at 11, in which the top wheel 12 is located. There is left in the cut-out 11 a shoulder 13, in which the wheel-hanger 14 is cushioned. The said partition 7 has near each end similar cut-outs 15 and shoulders for the wheel-hangers 14 and bottom wheels 16. These wheels and their hangers will be hereinafter more fully described. The inner car-casings 17 have cavities 17^a directly opposite the cut-outs 11 and 15 of the partition 7.

The wall or partition 7 and inner car-casing 17 are intended to be of sufficient thickness to completely house the said wheels and

their hangers, except the small portion of the wheels projecting outside of the car to travel upon the tracks 4 and 5. The sides of the inner car-casing 17 nearest the wheels 12 and 16 are provided with ball-bearings 18, which engage the shallow groove 19 in each wheel and keep them in perfect alignment at all times. These bearings are housed in concavities in the casing 17 and project slightly beyond the surface of the casing, where they are free to turn by the action of the grooved wheels.

The hanger 14 (only one is described, as they are all alike) is fork-shaped, having its head provided with a spring or cushion 20. From such head extend the arms 21 and central ribs 22, formed integral with each other, to an enlarged end, forming a journal-box 23. This box is provided with a slidable door 24 and roller-bearings 25, in which the wheel 16 is journaled. Near the said head of the hanger are journaled in the ribs 22 the rollers 26, having their axes at right angles to the axis of the wheel 16 and bearing upon said wheel outside of the groove 19 and near its periphery, which enables the said wheel to be revolved in perfect alignment with the hanger-head and cushion, without any part of the wheel coming in contact with the hanger except its hub. Upon each, outside of the compartments or car-sections 8 and 9, near their end, are journaled guide-rollers 27, which engage the grooved rails and assist in keeping the car in proper position in turning curves.

Each upper corner of the partition 7 has an are-shaped cut-out 28, in which are journaled between the compartments 8 and 9 bearing-rollers 29, which project very slightly beyond the outside of the car and not so much as the wheel 12. These rollers are provided so that in the unusual event of the car becoming unbalanced vertically they will check it. Each compartment or section 8 and 9 is provided with a suitable door 39 at the end, and each may have suitable light and ventilating openings, which are not shown. The car-tube 1 may also have similar light-openings.

It will be observed that the car is cylindrical and conforms closely to the shape of the tube, thus leaving but very little unoccupied space in the tube, and admits of employing a

larger car and smaller tube than have been before used.

It will be observed that the car's inner casing may be dispensed with and the wall or partition be made thick enough to completely house the parts inclosed by both the inner casings and the said wall, as shown in Fig. 11, by simply making cavities 40 and 41 from each edge into the wall for the said parts.

It will be further observed that the car only having three wheels not only enhances its simplicity, but reduces its expense very materially, while by its interior construction two separate and distinct cars are provided, or both may be thrown into one car.

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

1. The combination with a pneumatic railway car, of the partition wall provided with cutouts having shoulders, and the cushioned hangers carrying the track wheels in the cutouts and secured between the said shoulders, as set forth.

2. The combination with the wheel hanger having side ribs, of the roller bearings carried by the ribs and working through the sides of the hanger at right angles to the wheel axis, substantially as and for the purpose set forth.

3. The combination with a pneumatic railway car, of the inner car casings, the partitions forming the car sections, the track or car wheels located between the car sections, and the wheel bearings secured in the inner car casings upon each side of the wheel, as set forth.

4. The combination with a pneumatic railway car having a lengthwise central dividing wall, the inner car casing, the car or track wheels, the wheel hangers having roller bearings engaging the wheels with their axes at right angles to the axes of the wheels, and the ball bearings for said wheels located in the inner car casing, as set forth.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CICERO ALONZO RUSH.

Witnesses:

J. M. GASTON,
J. B. DUNCAN.