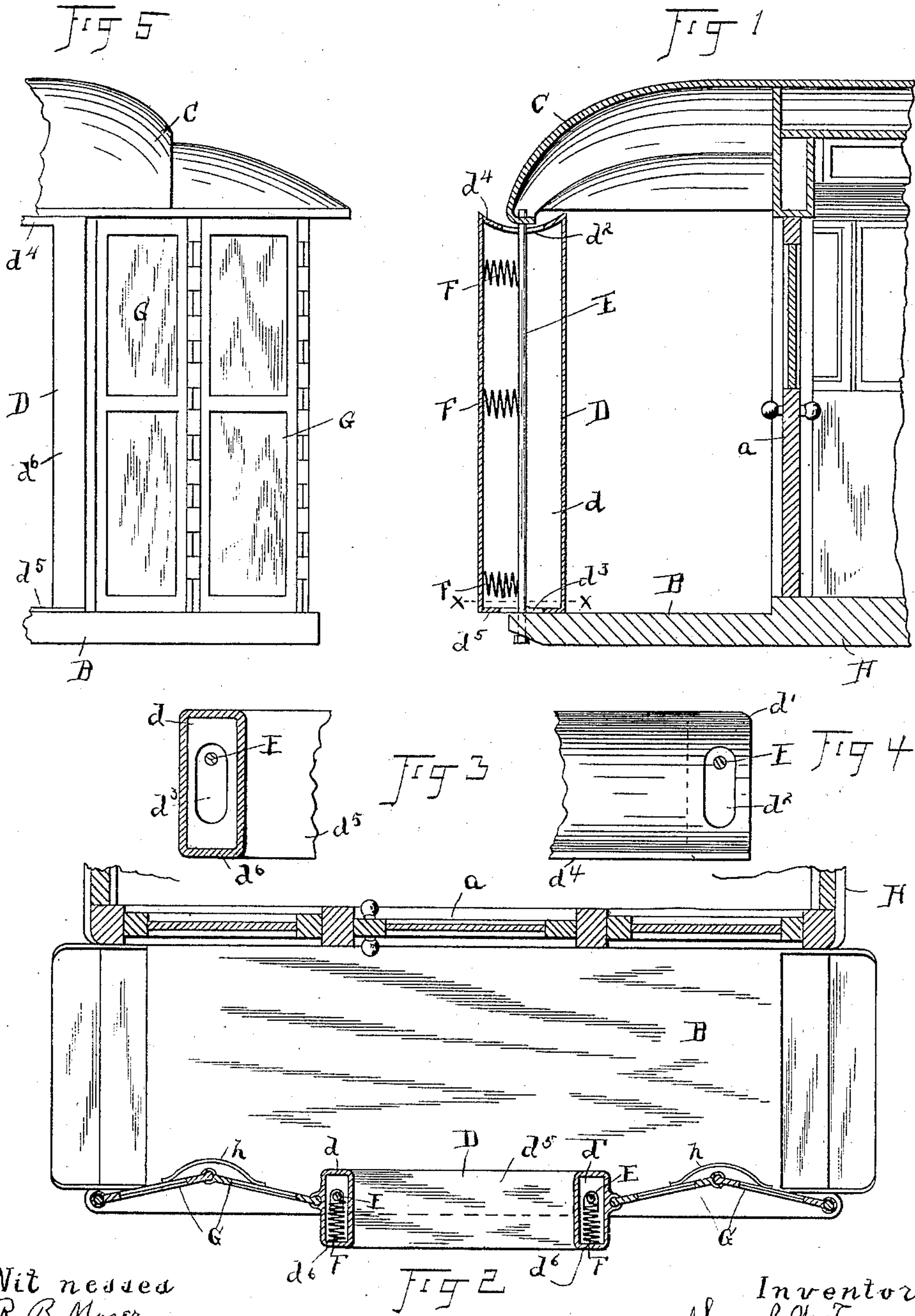


(No Model.)

S. W. TANNER.
VESTIBULE CAR.

No. 461,927.

Patented Oct. 27, 1891.



Wit needed
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UNITED STATES PATENT OFFICE.

SAMUEL W. TANNER, OF CLEVELAND, OHIO.

VESTIBULE-CAR.

SPECIFICATION forming part of Letters Patent No. 461,927, dated October 27, 1891.

Application filed July 20, 1891. Serial No. 400,169. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. TANNER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Vestibule-Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to vestibule-cars; and the object of the invention is to improve the passage connections between the vestibules of cars connected in train, so that the safety of passengers will be promoted and the construction of the vestibule mechanism simplified and improved.

To these ends the invention consists in a double-walled frame, or rather a frame having double-walled or hollow sides and plain ends and made up in a single rigid structure which is bodily and wholly movable or adjustable in response to the movements of the car according as the car is vibrated one way or another, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of one end of a car containing my improvement and showing a vertical sectional elevation of the said frame. Fig. 2 is a horizontal sectional view of the extreme end of a car-frame on about the plane of the platform and showing a plan of the platform and a cross-section of my improved closely-walled frame and of the hinged side panels connected therewith. Fig. 3 is a section of one side of the walled frame on line x , Fig. 1; and Fig. 4 is a plan view of one side of said frame, showing the slot in the top and part of the cross-connecting plate. Fig. 5 is a front elevation of two of the vertical panels which flank the vestibule-frame at the sides.

In the drawings, A represents, say, the rear cross-frame or end of a car, having the usual entrance a and platform or vestibule B, covered by the hood or bonnet C. These parts may be built in any well-known way and do not in themselves constitute my invention.

D represents a rectangular frame set between the platform B and hood C in line with the door or entrance of the car and made of

any suitable width, which may be greater or less than the width of the main door. This frame is peculiar and novel in that it has double walls d d' at each side extending the full length of the frame from top to bottom and a large opening d^2 in its upper end and a corresponding opening d^3 in its lower end. These double-walled hollow sides are connected at the ends by suitable cross-plates d^4 and d^5 or other suitable means, and the whole constitutes a single rigid structure adapted to accommodate itself to the curvatures in the road and to move back on one side or the other, or both, as the vibration or thrusts of the car may require, and to assume any other position incident to the movements of the car and requisite in a frame serving in this position.

The heavy or wide double walls give the requisite firmness and rigidity to the frame, displace the hitherto flexible connections, which I deem objectionable on many accounts, and afford a space in which the necessary spring connections can be advantageously made. Thus to support the frame in position I employ on each side a strong rod E, which connects the hood and the platform. These rods pass through the hollow sides at about the center thereof and through the slots or openings d^2 and d^3 at the end, by which the frame is given the necessary freedom of movement. Then in order that the frame may be held normally in proper relation to these rods and to the extremity of the car, so as to cover half-way the space to the next car in train, I introduce a series of spiral springs F, which are secured at one end against the inside of the face of the frame and at the other to the said rod. Two or more of these springs may be employed, and the frame has limited lateral and back-and-forth movement on the rods F, which may occur while the springs assert their tension in any of the positions it may assume. The weight of the frame rests wholly on the platform of the car, on which it is free to slide. The wide space between the walls on each side affords a wide facing d^6 for each wall, and when this facing is brought flatly against the facing of the opposite frame the cars may assume widely-opposite positions on the track, as sometimes occurs when two coupled cars swing suddenly

in opposite directions, and yet by reason of this great width keep the space between the two frames absolutely closed. This is an exceedingly important precaution, and since the two frames are rigid such width of facing is absolutely necessary to avoid danger or accident. Upon either side the said frame D is flanked by vertically-arranged panels G, two or more, pivoted together and to the said frame, and the outside supporting rods or parts H extending between the platform and hood. These panels have width enough to accommodate themselves to the lateral play of frame D, and in order that said frame may always keep its central position in respect to the sides of the car when under normal conditions I provide the middle joints of the said panels with cross-springs *h*, which exert a constant tension against the opening of the joint. Hence when the frame D has been forcibly borne to either side of the center it will, when the pressure is relieved, be moved back to proper position by the operation of these springs. I do not, however, wish to be understood as limited in the invention to the application of the springs *h* as here shown, for the reason that they might be placed or arranged in some other position and serve the same purpose; nor do I consider the invention limited to the exact arrangement of springs F as here shown, there being equivalent arrangements and constructions which might be suggested and which the invention is understood to cover.

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

1. In a vestibule-car, a frame forming part of the passage-way from one car to the other,

having rigid double-walled sides and a wide flat front bearing for the opposite frame, and springs bearing against said frame to keep it out in working position, substantially as described.

2. In a vestibule-car, a rigid double-walled frame set upon the platform and overlapping the same, and rods fixed at their ends and extending through between said walls to hold said frame in position, substantially as described.

3. In a vestibule car, a frame having rigid and closed double-walled sides with an open space between the sides, supporting-rods extending vertically through said open space, and springs within said walls bearing against said rods and the inside of said frame, substantially as described.

4. In a vestibule-car, a rigid frame having double-walled sides and openings in the ends of the walls, a supporting-rod extending through said openings and rigidly secured at its ends, springs between said frame and said rod to bear the frame normally outward, and flexible panels on the sides of said frame, substantially as described.

5. In a vestibule-car, a rigid double-walled frame movably supported on the platform of the car and overlapping the same, and springs between said walls to bear the frame outward, in combination with flexible panels pivoted to the sides of said frame, substantially as described.

Witness my hand to the foregoing specification this 30th day of June, 1891.

SAMUEL W. TANNER.

Witnesses:

H. T. FISHER,

H. L. MCLANE.