No. 889,176. PATENTED MAY 26, 1908.

W. A. BUCKNER.

VESTIBULE STOCK CAR.

APPLICATION FILED AUG. 22, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

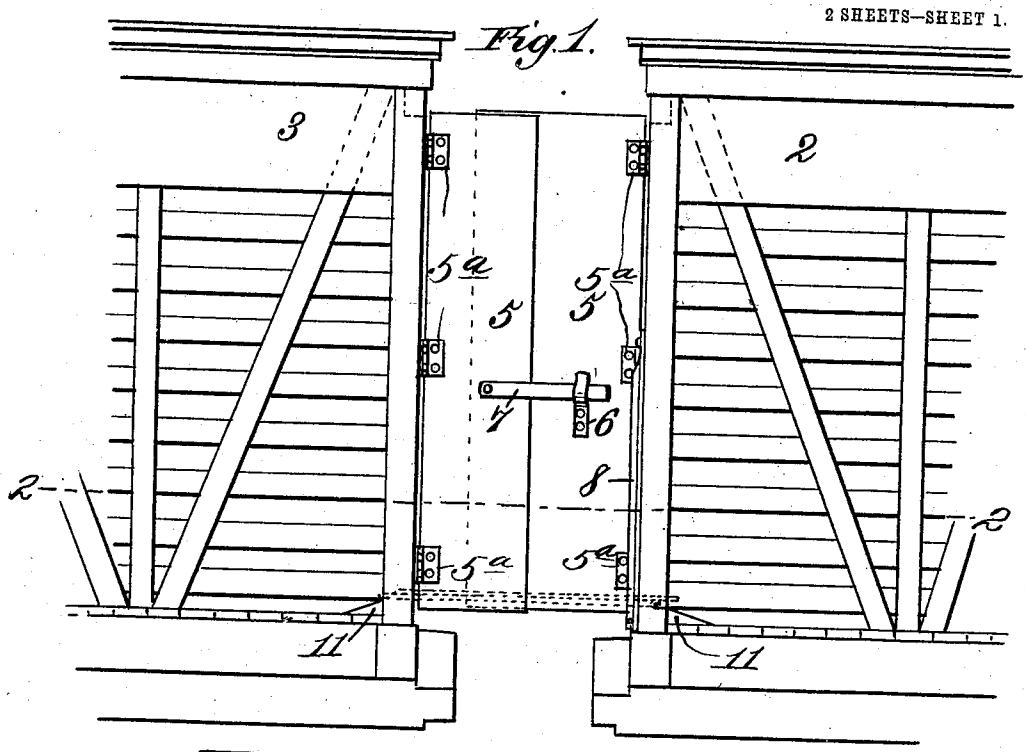
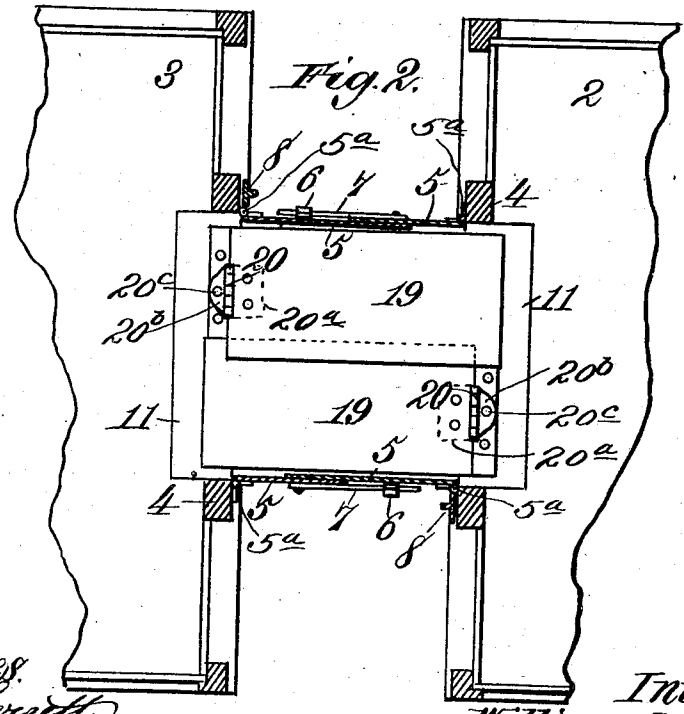


Fig. 2.



Witnesses.
Robt Everett,
W. B. Kelly

Inventor.
William A. Buckner.
By James L. Norris
Atty

THE NORRIS PETERS CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

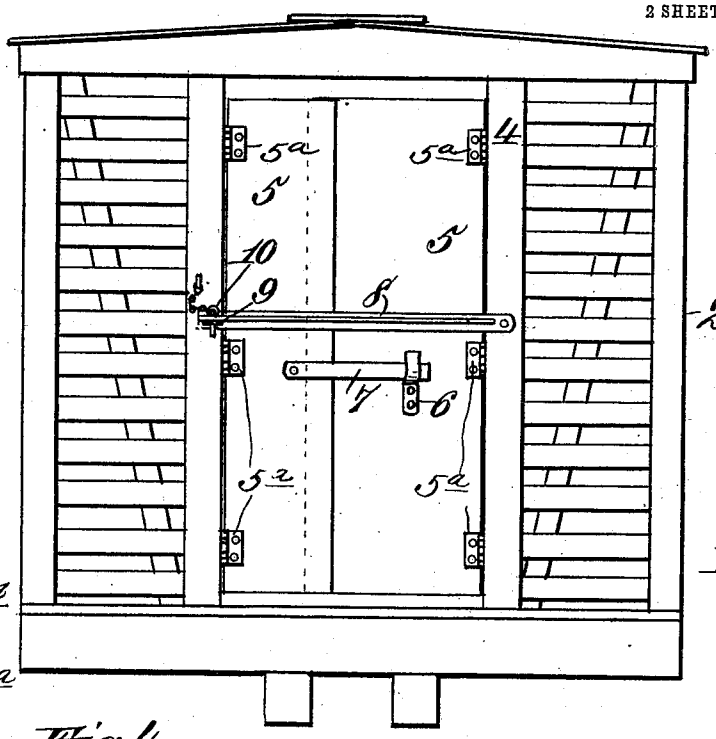


Fig. 5.

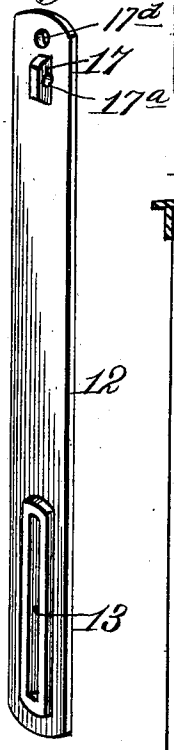
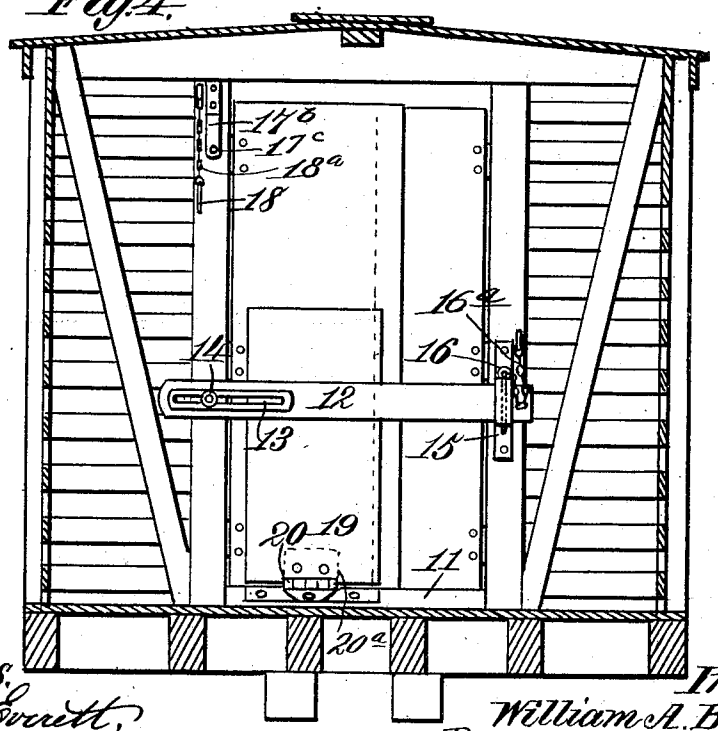


Fig. 6.



Fig. 4.



Witnesses,
Robert Everett.
H. B. Cook

Inventor.
William A. Buckner.
By James L. Norris
Atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM A. BUCKNER, OF DALHART, TEXAS, ASSIGNOR OF ONE-HALF TO WILLIAM R. SCOTT, OF OAKLAND, CALIFORNIA.

VESTIBULE STOCK-CAR.

No. 889,176. Specification of Letters Patent. Patented May 26, 1908.

Application filed August 22, 1907. Serial No. 389,725.

To all whom it may concern:

Be it known that I, WILLIAM A. BUCKNER, a citizen of the United States, residing at Dalhart, in the county of Dallam and State of Texas, have invented new and useful Improvements in Vestibule Stock-Cars, of which the following is a specification.

This invention relates to vestibule stock cars, and in some respects it is an improvement upon the invention disclosed in Letters Patent No. 769,128, granted to me on August 20, 1904, and to which reference may be had.

One of the objects of the present invention is to securely hold the doors comprising a vestibule in their open and closed positions in such a way that when said doors are open and when one of two coupled cars is moved relatively to the other no injury can result to the said doors.

The invention includes other advantageous features which with the foregoing will be fully set forth in the following description, while the novelty of said invention will be included in the claims succeeding said description.

In the drawings accompanying and forming a part of this specification I illustrate in detail one form of embodiment of my invention which, to enable those skilled in the art to practice said invention, and for this purpose alone, will be fully disclosed in said description.

Referring to said drawings: Figure 1 is a side elevation of the adjacent ends of two coupled cars equipped with vestibule means involving my invention. Fig. 2 is a horizontal sectional top plan view of the same, the section being taken on the line 2—2 Fig. 1. Fig. 3 is an end elevation of one of the cars shown in Figs. 1 and 2, and Fig. 4 is a cross sectional inside view of said car. Figs. 5 and 6 are perspective views both on an enlarged scale of certain bars hereinafter more particularly described.

Like reference characters refer to like parts throughout the several figures.

In Figs. 1 and 2 I have shown two stock cars, as 2 and 3, coupled together, and in Figs. 3 and 4, I have shown one of these cars, for example, the car 2. These stock cars may, except for the vestibule means constituting my invention, be of ordinary character, for which reason no extended description of the same is necessary.

I will describe in detail that part of the vestibule means which is connected with one of the cars, for example, the car 2 in Figs. 3 and 4, and this, as will be understood, will apply to the other car as in this respect the two are of duplicate construction.

In the end of the car 2 is a door frame 4, the opening of which is adapted to register or substantially register with the opening in the door frame of an adjacent car, as 3. To the sides of the door frame 4 I hinge doors as 5 of substantially similar construction, the hinges connecting the doors with the frames being denoted in each case by 5^a. When these doors are shut, as shown in Figs. 3 and 4, one is adapted to overlap the other. When, however, the doors are open, they extend at right-angles to the end of the car, as shown clearly in Figs. 1 and 2. Upon one of the doors 5, as, for example, that to the right in Fig. 3, I fasten in some suitable way, as by screws or rivets, an offset arm, as 6, coöperative with a lever, or hasp, as 7, pivoted upon the other door. In the present instance, the hasp or lever 7 is straight and is movable about a horizontal axis. By lifting the hasp or lever 7 out of engagement with the offset arm or keeper 6, the two doors 5 may be opened, provided a bar, as 8, is not in its operative position. The bar 8 is also straight and is pivoted to one of the sides of the frame 4, the other frame side being provided with a staple or equivalent device, as 9, to extend through a slot or opening in the free end of the bar 8 at which time a pin, as 10, flexibly connected with the door frame 4 can be passed through the staple 9 on the outside of the bar 8 to hold the latter in place. The bar 8 when in its operative position crosses the two doors and prevents them being swung open by stock striking against the doors or by a shifting load in the car 2.

To open the doors 5 the pin 10 will be removed from the staple 9 after which the bar 8 can be moved from off the staple 9 and then swung out of the way of the two doors. When this is done the hasp or lever 9 can be lifted out of the offset arm 6 to permit the opening of the two doors 5. If desired I may connect with the lower end of the pin 10 the familiar car door seal when said pin is in place. To the sill of the door frame 4 I fasten the plate 11 which extends downwardly and inwardly into the car at an angle

as shown clearly in Fig. 1. This guide plate 11 prevents cattle from tripping on the sill when passing from one car into another.

When the doors 5 are closed I prefer to extend across the door frame 4 interiorly of the car what I term a "bull bar" 12, which, when in its operative position, is horizontally disposed, as clearly shown in Fig. 4. Said bar 12 has near one end the longitudinally disposed slot 13 to receive a headed pin, as 14, carried by one of the upright members of said door frame. This pin 14 may consist of a bolt, screw, or some other suitable device. The opposite end of said bar 12 is adapted to extend through the arched portion of a keeper, as 15, attached also to said door frame. It will be understood that the pin 14 is mounted upon one side of said frame and that the keeper 15 is supported upon the opposite side of said frame. To hold the bar 12 in place a pin 16 may be provided, said pin being adapted to extend through the member 15 and also through a perforation 17[a] in a lug, as 17, on said bar 12. The pin 16 is flexibly connected with said door frame, as by a chain 16. When the bar 12 is in position, it serves as an effective barrier to prevent cattle in the car from coming in contact with the two closed doors and also with a flap hereinafter described. In view of the longitudinal slot 13, the bar 12 can be moved endwise without disconnecting it from the frame or other part with which it is operatively associated. In Fig. 4, as stated, said bar 12 is illustrated as occupying its working position. To permit the stock to pass from the car 2 to an adjacent car it is necessary that the bar 12 be moved out of the way, and, to accomplish this, the pin 16 is first removed after which the bar is moved in an endwise direction toward the left, in the present instance, until it is free of the keeper 15, at which time said bar is sprung upwardly, although this particular direction of movement is not essential. I have shown means, however, to hold the bar 12 when swung up out of the way, said means consisting of a keeper, as 17[b], and a pin, as 18. Said keeper and pin are connected to the same side of the door frame 4 which carries the pin 14, and, in the present instance, the pin 18 is flexibly supported, as by a chain 18[a]. When the bar 12 is swung up out of the way it is passed between the keeper 17 and frame following which the pin 18 is inserted into holes 17[c] and 17[d] formed in the keeper and bar respectively. When the car is not loaded with cattle or stock, but with some other commodity, the bull bar can be swung up out of the way to its vertical position and held in place by the keeper 17 and pin 18.

To the opposite ends of the car 2 I connect flaps, as 19, and for this purpose utilize hinges, as 20, one leaf 20[a] of each hinge being attached to a flap 19 and the other leaf 20[b] being swiveled or pivoted as at 20[c] to the sill of the frame 4. The flaps 19 are disposed in staggered relation, that is to say, they are at opposite sides of the longitudinal axis of the car. By this I do not mean that it is necessary that one flap at one end of the car be at one side of said axis while the opposite flap be at the opposite side of said axis, but that the longitudinal axes of the two flaps are located at opposite sides of the longitudinal axis of the car. The inner edge portion of a flap when the latter is dropped down to horizontal position is adapted to overlap the inner edge portion of the flap in similar relation on the adjacent end of a car coupled to the first mentioned car, said two flaps when in said relation forming the floor of a vestibule between the said cars. These flaps, as well as the doors to which I have previously referred, may be of wood or metal, or of composite construction, as deemed desirable. In view of the described relation between the two coöperating flaps when positioned to present a vestibule floor, stiffness of construction is obtained so that I may employ light sheet metal or wood in the making of said flaps. Each flap of each car when down is adapted to be supported by the door sill of the adjacent end of a car coupled to said other car.

In Figs. 1 and 2 I have shown the cars 2 and 3 coupled together, and the swing-down flap 19 of the car 3 is supported by the swing-down flap 19 of the car 2, the latter flap being supported by the sill of the car 3, so that the two flaps 19 present the floor of the vestibule between said cars 2 and 3. The doors 5 are all open, and when in this condition, the lever 7 of one of the doors of the car 2 will engage the offset arm 6 on the opposite door of the car 3 so as to hold the said two doors firmly at right-angles with respect to the two cars. These two doors which overlap at this time present one side of the vestibule between the two cars 2 and 3, the opposite side of the vestibule being formed by two similar doors of said cars, the doors being held against outward displacement by the lever 7 and arm 6. The position of one lever and arm with respect to the other lever and arm, however, is reversed. The levers and arms, therefore, serve double functions. On the one hand they prevent outward displacement of the two pairs of overlapping doors, while, on the other hand, they serve to fasten the doors closed. The levers 7 are straight, and they fit in offset arms so that, should one car be moved relatively to the other when the two cars are coupled, no injury can result, as in this case each lever 7 will move longitudinally with respect to a coöperating arm 6. When the flaps 19 are up they are situated between the overlapping doors 5 and the respective bars 12.

It will be evident that I provide two stock

cars having doorways formed of their adjacent ends and hinge doors to the opposite sides of each of said doorways. The doors of the two cars, when open, overlap one another. I provide fastenings for holding the doors in their open positions and which fastenings are in part utilized to hold the doors closed. The flaps 19, when down, are disposed between the coöperating open doors, as indicated clearly in Fig. 2.

It will be understood that when the flaps or aprons 19 are down to present the floor of the vestibule they overlap and that further these flaps or aprons are capable of up and down and lateral swinging movements. The advantage of this is that, while I can obtain sufficient lap to prevent the formation of gaps between the two flaps 19 when down and when the cars equipped with the same are on a curve, I can readily release one flap by the operation of the other. For example I might first bring the flap 19 on the left in Fig. 2 to an upright position, and then afterward swing it laterally to carry it free of the companion flap, after which the latter is swung up.

What I claim is:

1. The combination of two stock cars having doorways formed in their adjacent ends, two doors hinged on the opposite sides of each of said doorways and arranged when open to form the sides of a vestibule between said cars, and swing-down flaps disposed in staggered relation with respect to each other longitudinally of said cars, connected with the ends of the cars and adapted when down to be disposed between said doors to constitute the floor of said vestibule and to overlap.

2. The combination of two stock cars having doorways formed in their adjacent ends, two doors hinged on the opposite sides of each of said doorways and arranged when open to form the sides of a vestibule between said cars, swing-down flaps connected with the ends of the cars and adapted when down to be disposed between said doors to constitute the floor of said vestibule and to overlap, and oppositely disposed straight levers pivoted to one door of each car on the outside of the same, the other doors having offset arms also outside the same to receive said levers to hold the doors in right-angular relation to the ends of said cars.

3. A stock car having a doorway and a flap in operative relation with the doorway and mounted to swing up and down and also laterally.

4. A stock car having a doorway, a flap, and a hinge one leaf of which is connected with said flap and the other leaf of which is pivoted to the sill of the doorway for movement about a vertical axis, whereby said flap is capable of swinging up and down and also laterally.

5. A stock car having a doorway, a flap, and a hinge, one leaf of the hinge being attached to the flap and the other leaf thereof being pivoted to the sill of the doorway at one side of the longitudinal center of the car, to permit the flap to swing up and down and also laterally.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM A. BUCKNER.

Witnesses:
R. E. BROWN,
S. V. PADER.