(No Model.)

2 Sheets—Sheet 1.

# R. G. PACE.

## STOCK CAR.

No. 313,759. Patented Mar. 10, 1885.

Fig. 1.

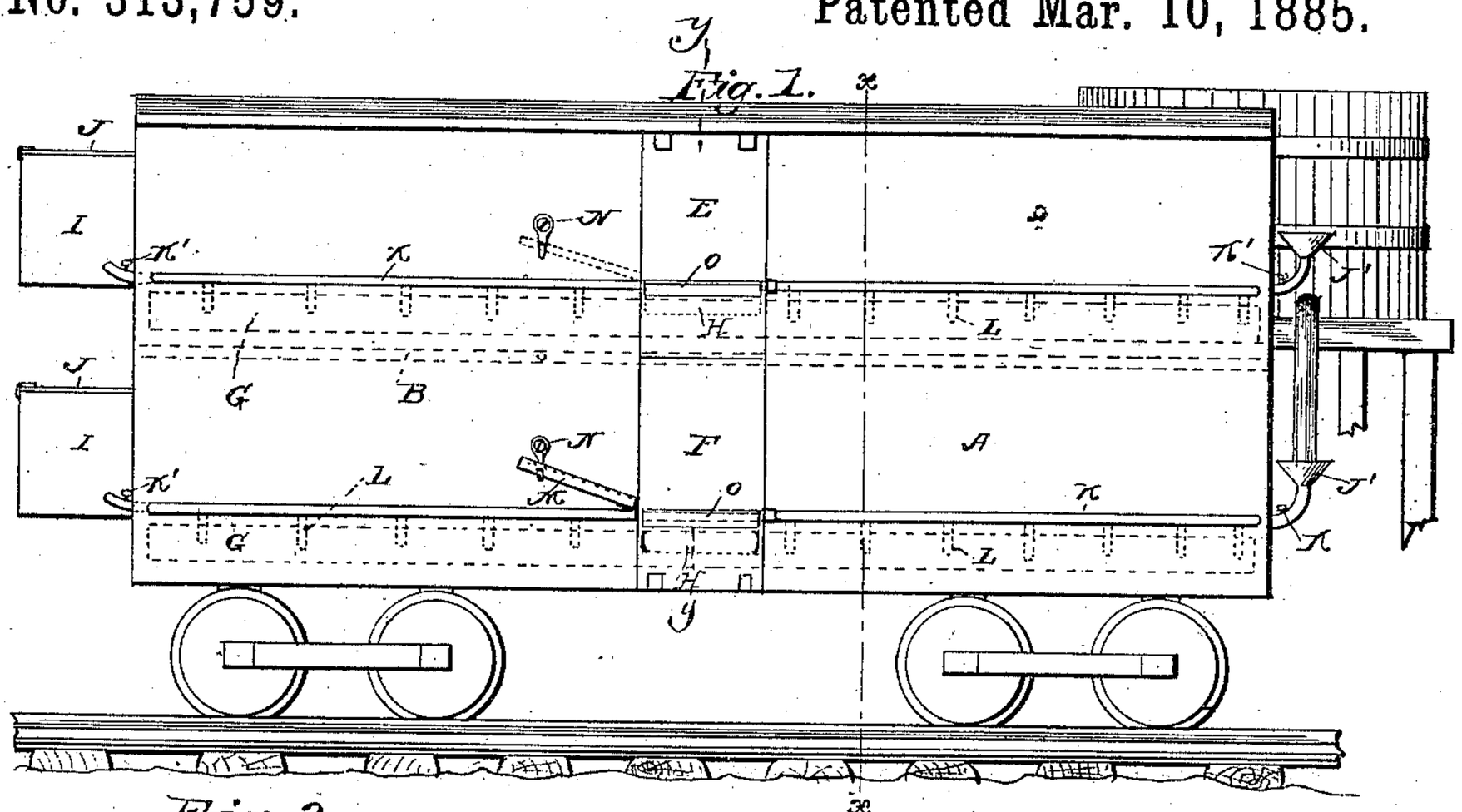



Fig. 2.

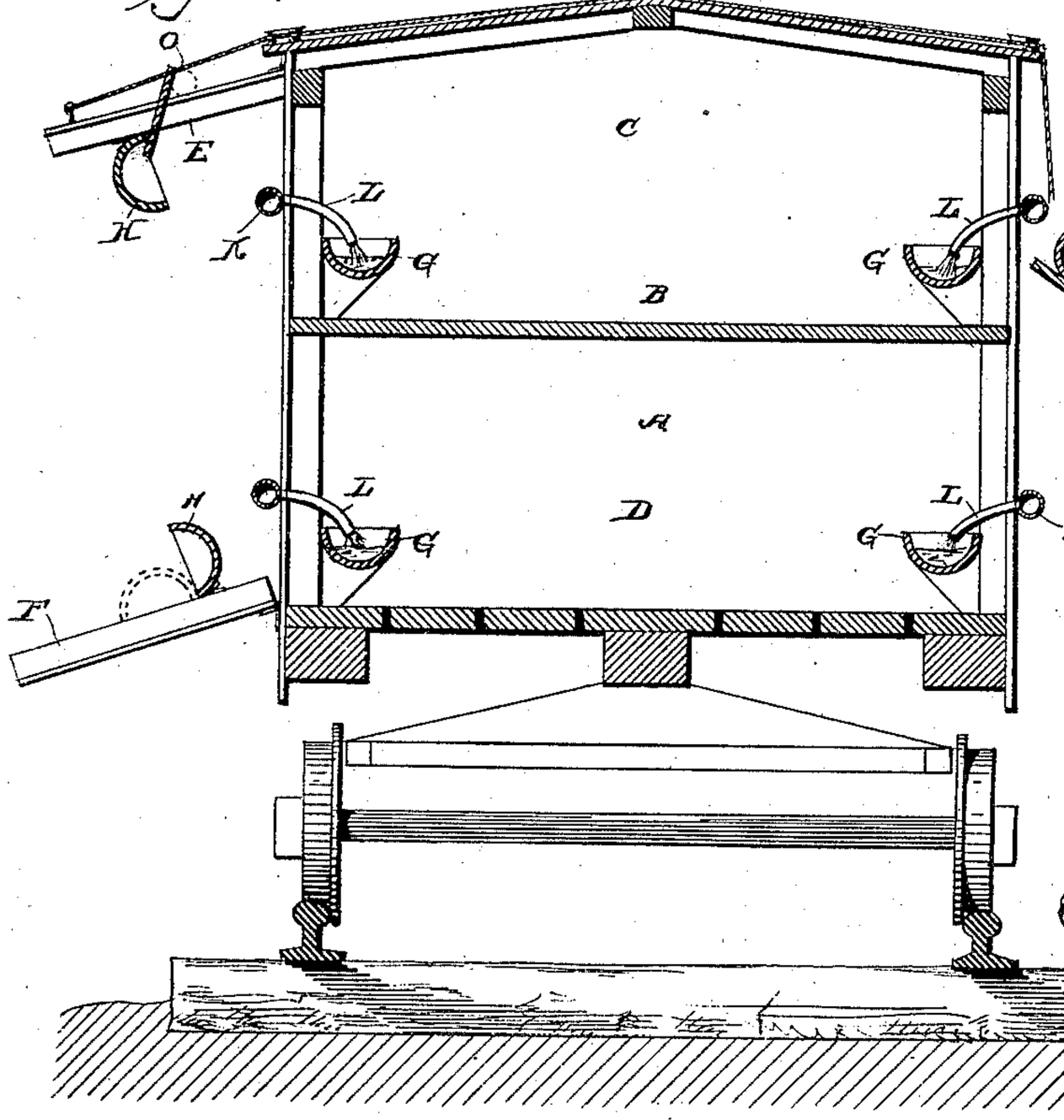



Fig. 3.

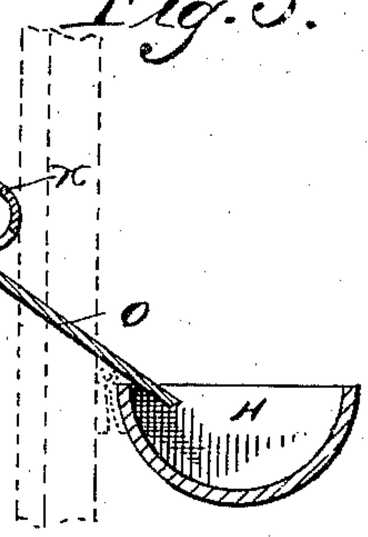
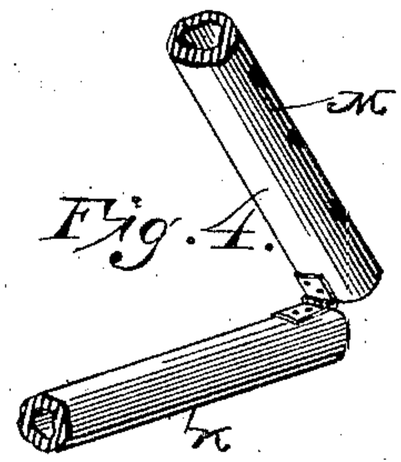



Fig. 4.




WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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## STOCK CAR.

No. 313,759. Patented Mar. 10, 1885.

*Fig. 5.*

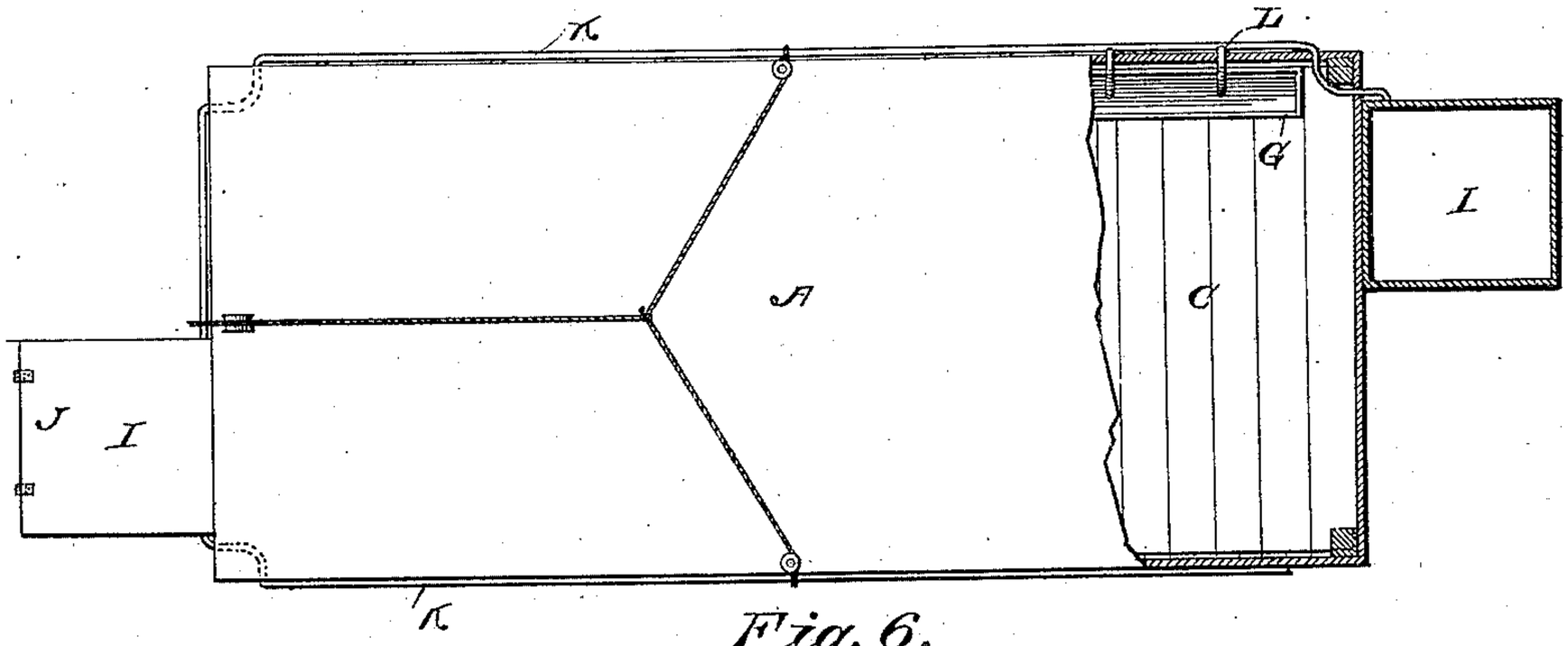



*Fig. 6.*

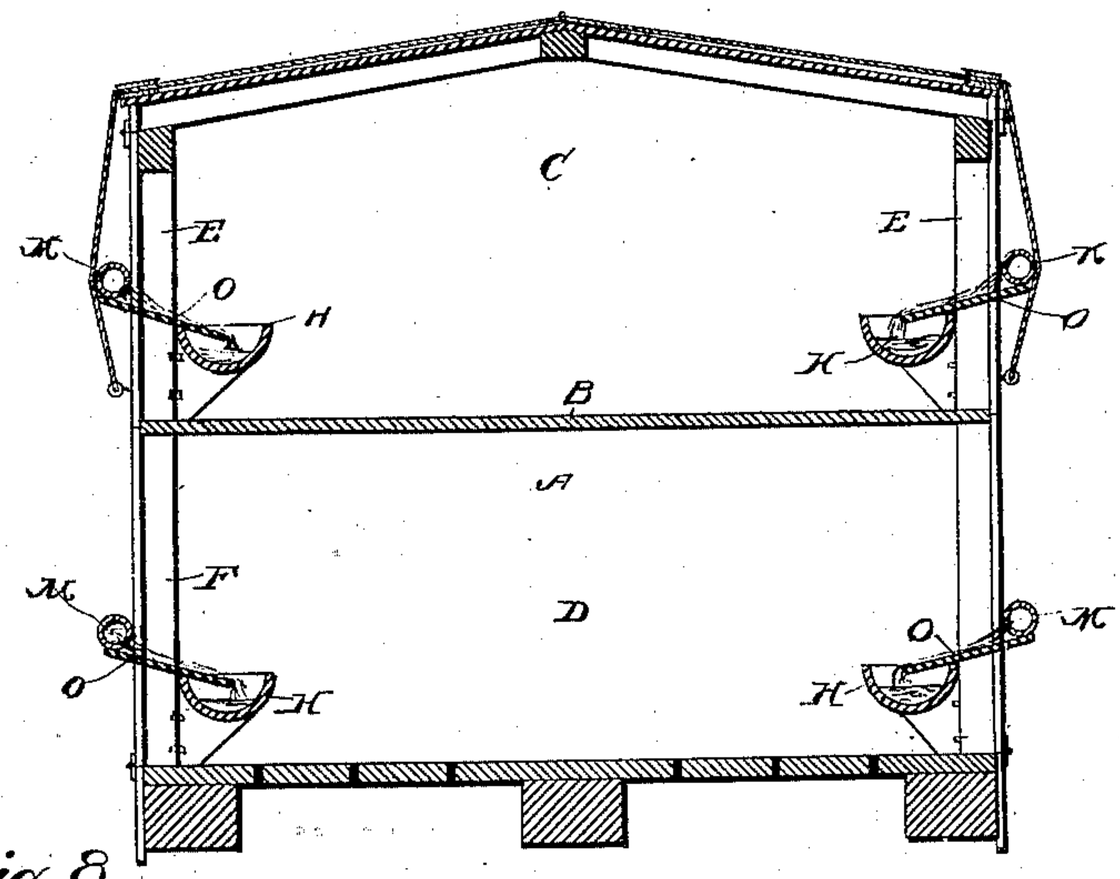
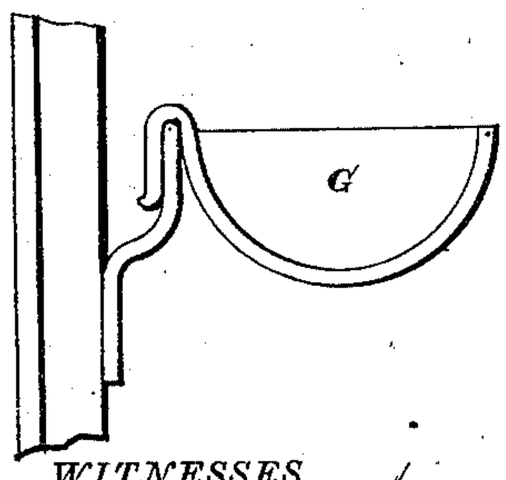
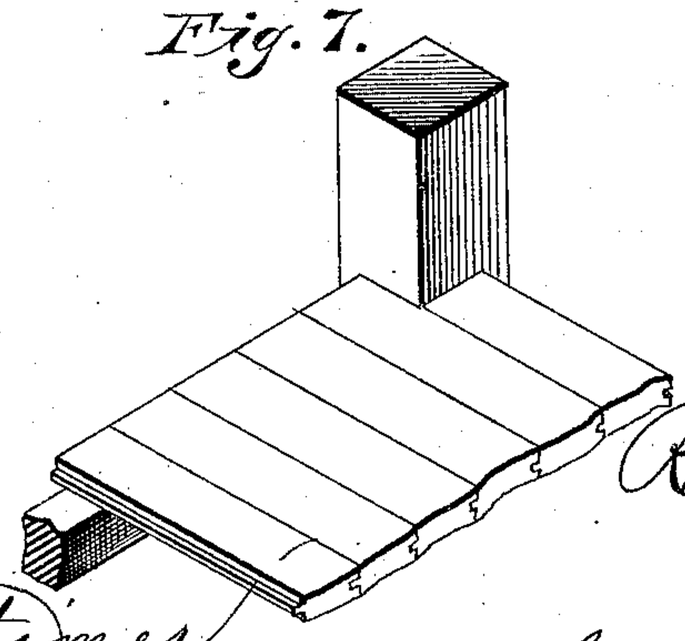



*Fig. 8.* *Fig. 7.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

ROBERT G. PACE, OF DANVILLE, VIRGINIA.

## STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 313,759, dated March 10, 1885.

Application filed November 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT G. PACE, a citizen of the United States, residing at Danville, in the county of Pittsylvania and State of Virginia, have invented a new and useful Improvement in Stock-Cars, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to stock-cars; and it has for its object to provide a device of this character which will utilize the space between the doors for the accommodation and feeding and watering of additional cattle, which will allow a supply of water to be carried by each car for a long trip, so that it will not be necessary to stop at each station for this purpose, and by means of which hogs, sheep, horses, and other cattle may be carried or transported in the "outgoing" trip, and merchandise on the "return" trip.

With these ends in view the said invention consists in certain details of construction and combination of parts, as hereinafter set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a stock-car embodying my improvements. Fig. 2 is a transverse vertical section of the same on the line *x x*, Fig. 1. Fig. 3 is a detail sectional view through one of the doors. Fig. 4 is a detail perspective view of the pipe-sections. Fig. 5 is a plan view of the car broken away at parts. Fig. 6 is a transverse section on line *y y*, Fig. 1. Figs. 7 and 8 are detail sectional views.

Like letters are used to indicate corresponding parts in the several figures.

Referring to the drawings, A designates the car-body, having the usual form, and constructed in the ordinary manner, the interior of the car being divided by a detachable floor, B, into an upper and lower compartment, C D, in which are accommodated the hogs, sheep, and other live stock of small size. In Fig. 7 I have shown this floor B as composed of a series of transverse strips or boards resting on ledges, or received in sockets provided in the inner faces of the sides of the car, so that after the hogs or sheep have been removed from the latter the strips or boards may be detached or separated and the car stocked with merchandise for the return-trip. However, I may make this floor permanent, or when constructing a car to be used for horses and large cattle I may dispense with the floor, as it would then be in the way. The floor of the lower compartment, D, may be either solid or perforated, as may be deemed desirable; but when the partition or floor B is used it should be constructed solid, or of strips closely fitting together, (see Fig. 7,) as it would defeat the object of the invention if water be allowed to trickle in any great quantity from the upper compartment into the lower one.

Near the center of each car are arranged the doors E F, one for the upper compartment and the other for the lower compartment. The upper door, E, is hinged at the top, and opens upward by any suitable arrangement of ropes and pulleys, (see Figs. 2, 5, 6,) which ropes may be operated either from the top of the car or at the ends, and the upper doors on opposite sides of the car may be connected together and operated simultaneously, as deemed desirable. The lower doors, F, are hinged to the bottom of floor of the lower compartment and open downward, and when extended open provide walkways or gangways over which the stock passes to or from the lower section or compartment of the car.

Both the upper and lower sections or compartments of the car are provided with water and feed troughs, Fig. 2, G, which extend from the ends of the car along the sides to the doors a sufficient distance above the floors of the two compartments to be within convenient reach of the cattle, &c. The ends of the troughs are closed to prevent the escape of the water or feed therefrom, and suitable waste-pipes (not shown) may be connected with the troughs to carry off the water as desired.

To the inner sides of the doors E F are secured short trough-sections H, having their ends closed, which trough-sections have no communication with the troughs proper, but are separate and independent therefrom. These sections H may be either hinged to the inner faces of the doors or detachable therefrom, as shown, and are braced in position in any suitable manner.

I I designate water tanks or reservoirs secured or upheld in any suitable manner to each end of the car, and provided with a hinged

cap or cover, J, to keep out dust, cinders, and the like therefrom. These tanks can be built on the ends of each car, of such capacity as to hold enough water to last for a "long run," and so constructed as not to interfere with the car-brakes, and arranged on either side of the car, so as not to be in too close proximity to the adjoining car coupled thereto, nor to its water-tank. By this arrangement the cars are provided with a sufficient supply of water, so that there will be no necessity of stopping at every station for the purpose of watering the stock. In some cases, however, it may not be found desirable to employ the water-cisterns, and to provide for this contingency I propose to use funnels (designated by the letter J') to connect with the pipe of the usual water-tanks erected at the various stations.

K designates the water-pipes, secured to the outside of the car-body, just above the feed and water troughs, and terminating at the car-doors, the ends of the pipes being curved and passing through the corners of the cars and connecting with the cistern, tank, or reservoir I or with the funnels J', whichever may be employed. The ends of the pipes K, where they attach with the tank or reservoir, are provided with stop-cocks K', to shut off the supply of water from the latter when the troughs are filled. Short curved branch pipes L are attached to the main pipes K and placed at and secured to each studding of the car, if so many are found desirable, the open ends of these branch pipes extending through the car and conveying the water from the main pipe into the troughs. The main pipe K at the doors has one of its branches closed and the other branch open, and this open branch has hinged thereto the perforated pipe-sections M, which, when thrown up out of the way, when it is desired to open the doors, are received in socket-plates N attached to the car-body. When these pipe-sections are thrown down in position, they communicate with the open branch of the main pipe K, so as to receive a supply of water therefrom, and are supported in this position by inclined chutes O, which extend through the car-doors and communicate with the trough-sections H. By this arrangement the streams or jets of water which issue from the perforated pipe-sections M are carried by the chutes into the trough-sections, so that the cattle which are accommodated in the space inclosed by the doors will be supplied with water.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the annexed drawings. Water being supplied to the main pipe K by either of the means stated, it issues from the short branch pipes L and fills the main troughs G, and, since the pipe-sections M are thrown down, communication is formed with said pipe-sections, to supply the trough-sections H, for the purpose hereinbefore stated. In this manner I utilize the space between the doors for the accommodation of an additional number of cattle, without in the least crowding those already in the car, and I also provide means for supplying this increased number with necessary feed and water. By having the water-pipes on the outside of the car, instead of inside, they are secure from damage by stock crowding against them, both when the train is in motion and when standing still. Besides, it is very difficult to handle the pipes when they are placed on the inside, and it is to obviate these and numerous other objections that have been advanced against the ordinary arrangement that I have devised the present improvements. The perforated pipe-sections extend only across the doors, and supply the trough-sections secured to the inside of the doors; but when opening the doors these pipes should be thrown up out of the way and received by the socket plates N; but before this is done the stop-cocks K' should be operated to shut off the supply of water to the main water-pipes. The detachable floor for the upper compartment of the car may be used on the outgoing trip of the train for supplying increased accommodations for hogs and sheep, removed at the destination of the train, the car cleaned, and used on its return-trip for merchandise, &c. If sliding doors are used on the cars, these trough-sections and pipe-sections cannot well be used. The object in having the hinged door is to accommodate four additional cattle or horses and a good many more sheep or hogs than could be done with the sliding door. If the sliding doors are used, as at present, then they would have to run on iron bars on the outside of the supply-pipes and outside of the "arms" also. The door (on slides) can be run from side to side, end to end, if desired, and the arms thus exposed on the inner side across the door, but directly against it, which would prevent its being damaged by stock coming in contact with it in transit. If the hinged doors are used, they can be hinged at the point where they strike against the second floor, which will allow the lower part of door to be raised for loading and unloading one floor at a time, securing the stock in the upper compartment until the lower compartment has been emptied, and vice versa. In case the construction shown in the drawings is employed, the trough-section on the lower door, F, would either have to be dispensed with, because hogs and sheep could not scramble over the fixed troughs, or they would have to be made detachable, substantially in the manner shown in Fig. 8 of the drawings, or hinged, as may be found desirable. The troughs on the inside of the car may be detachably hung in a similar manner, as found practicable.

My invention is simple in construction, adds to the efficiency of this class of stock-cars, and is of great utility and benefit for the purpose intended.

Having described my invention, I claim—

1. In a stock-car, the combination, with the car proper, having water-tanks built in or supported at the ends thereof, and provided with the feed and water troughs arranged entirely within the car and extending to the door-spaces, of the main water-pipes secured on the outside of the body, and provided with short branches secured to the studding or framework and extending through the car and communicating with the troughs, the ends of the main water-pipes connecting with the water-tanks, as and for the purpose set forth.

2. In a stock-car, the combination, with the car-body proper, provided with feed and water troughs extending from the ends of the body to the door-spaces, and the main water-pipes secured on the outside of the body, provided with short branches communicating with the troughs and terminating at the doors, of the said doors having trough-sections secured to the inside thereof, perforated pipe-sections hinged to one of the branches of the main water-pipes, and chutes communicating with the trough-sections, and adapted to support the pipe-sections, as set forth.

3. In a stock-car, the combination, with the car-body proper, provided with feed and water troughs G, and the main water-pipes K, having short branches L, of the doors having trough-sections H secured thereto, pipe-sections M, hinged or otherwise attached to the main water-pipes, and socket-plates N, for supporting the pipe-sections when thrown up out of the way, as and for the purpose set forth.

4. A stock-car having water-tanks built in or supported at the ends of the car, and provided with the feed and water troughs arranged within the same, in combination with the main water-pipes located on the outside, and having curved ends which pass through the corners of the cars, said water-pipes communicating with the troughs, as set forth.

5. In a stock-car, the doors provided with trough-sections on the inside, inclined chutes or boards passing through the doors from the outside to the trough-sections, and pipe-sections connected to the main water-pipes, and adapted to be supported by and deliver water to the chutes or inclined boards, from whence it is supplied to the trough-sections, as set forth.

6. In a stock-car, the doors provided with trough-sections secured thereto, and inclined chutes or boards arranged to deliver or carry the water discharged from the water-pipes down to the trough-sections, as set forth.

7. A stock-car having the water and feed troughs arranged within the same, in combination with the main water-pipes located on the outside, and having curved ends which pass through the corners of the car, said water-pipes communicating with the troughs, and pipe-sections hinged to the main pipe at the doors, and adapted to be thrown up out of the way and supported in that position, as set forth.

8. A stock-car having its doors hinged to swing upward, in combination with a set of ropes running over pulleys above the roof and connecting with the doors on opposite sides of the car, said ropes being operated from the ends of the car to open and close the doors, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ROBERT G. PACE.

Witnesses:
EDWARD G. SIGGERS,
W. N. MOORE.