

WILLIAM STARK, JOSEPH G. FISHER, & SIMEON FITCH.
Improvement in Railway Stock Cars.

No. 121,213.

Patented Nov. 21, 1871.

Fig. 1.

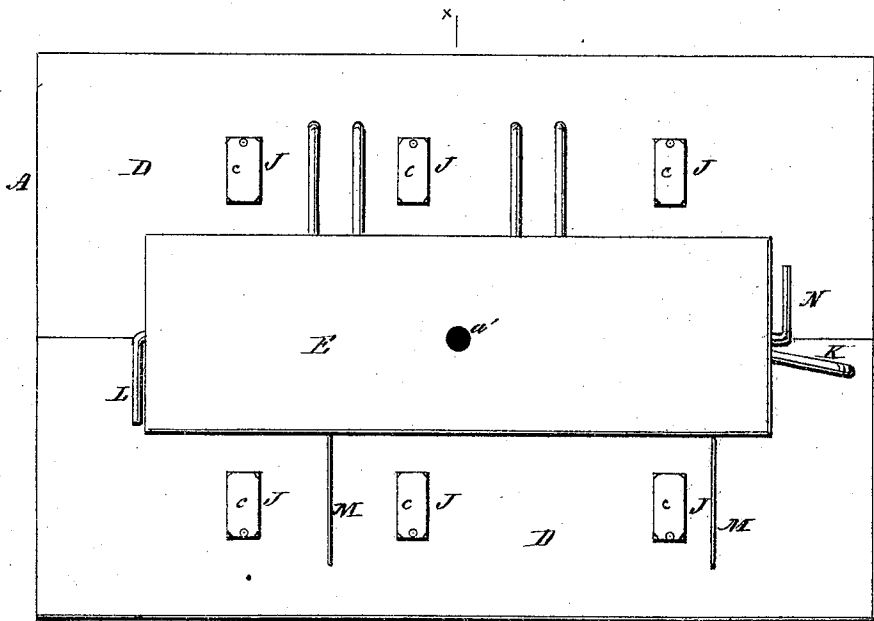
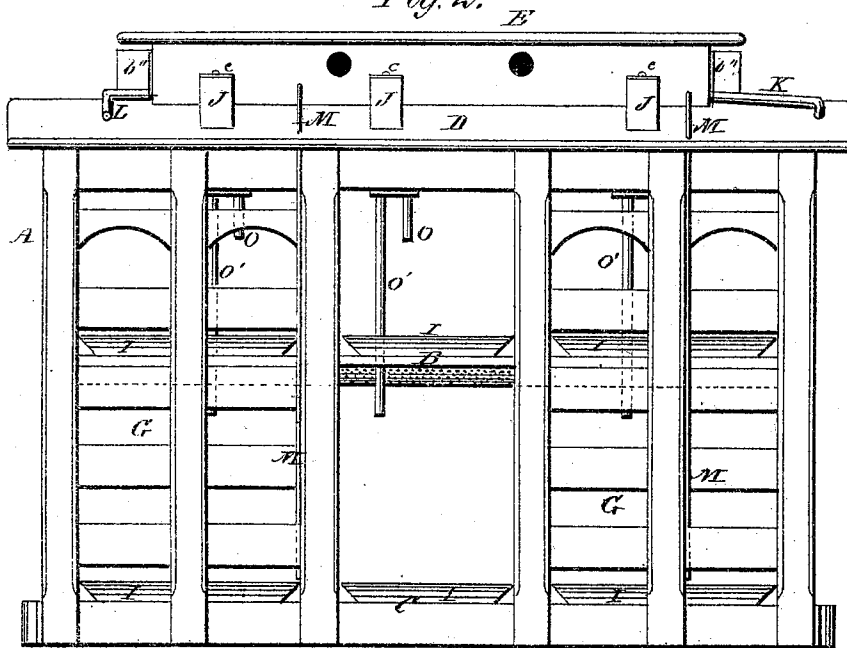


Fig. 2.



Witnesses.

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Fig. 3.

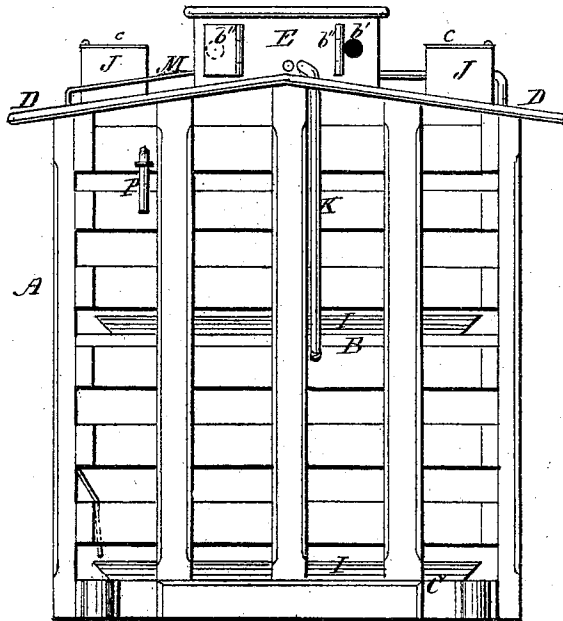
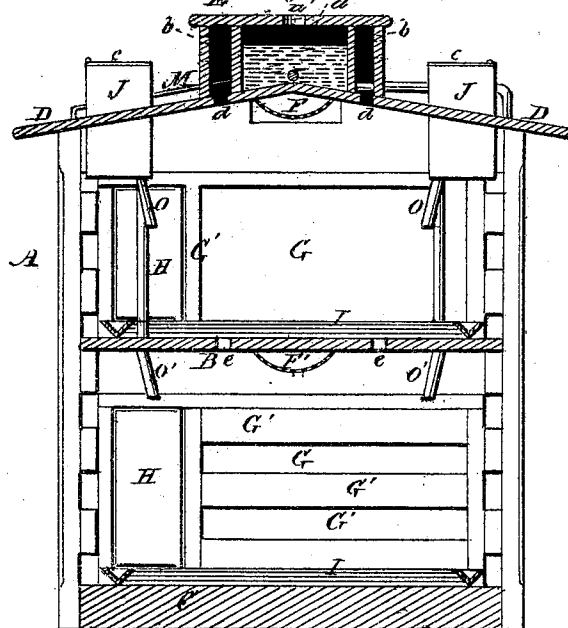


Fig. 4.



Witnesses.

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By Prindle & Ayer, Attys.

UNITED STATES PATENT OFFICE.

WILLIAM STARK, OF WHITE PIGEON, MICHIGAN, AND JOSEPH G. FISHER AND
SIMEON FITCH, OF TOLEDO, OHIO.

IMPROVEMENT IN RAILWAY STOCK-CARS.

Specification forming part of Letters Patent No. 121,213, dated November 21, 1871.

To all whom it may concern:

Be it known that we, WILLIAM STARK, of White Pigeon, St. Joseph county, Michigan, and JOSEPH G. FISHER and SIMEON FITCH, of Toledo, in the county of Lucas and in the State of Ohio, have invented certain new and useful Improvements in Stock-Cars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top-plan view of our car; Fig. 2, a side elevation of the same; Fig. 3, an end elevation of the same; and Fig. 4, a vertical cross-section on the lines *x x* of Figs. 1 and 2.

Like letters of like kinds denote corresponding parts in each figure.

The object of our invention is the construction of a car for the safe, convenient, and speedy transportation of swine on railways, in which car the animals may be watered, fed, and showered without stopping the train, and delivered in good, sound, and healthy condition; and it consists in the construction, within the interior of the car, of permanent partitions, and in the contrivances for watering, feeding, and ventilation, all as more fully hereinafter described.

In the drawing, A represents the entire car, constructed in the usual manner; B, the middle; C, the lower floor; and D, the roof of the same, upon which is placed the tank or reservoir E, divided longitudinally into three chambers, of which the central, *a*, is for water, and the sides, *b*, for air. Beneath the chamber *a* is placed the sprinkler F, extending longitudinally nearly the whole length of the car, and a similar sprinkler, F', is placed in corresponding position directly under the middle floor B. The car is divided laterally into a convenient number of compartments, G, by means of permanent partitions G', extending preferably less than the full height of the room where they are placed, and ingress and egress is had to and from these compartments by means of doors H, made of a single plank, pivoted in the top rail of the partition and in the floor of the car. Movable or permanent water-troughs, I, extend continuously entirely around each compartment against the sides thereof, and grain-bins J, provided with sliding covers *c*, are placed upon the roof of the car upon each side of the tank E, preferably two to each compart-

ment. Water is admitted into the chamber *a* through a suitable opening, *a'*, by means of which it may be filled at the watering stations, and from this chamber flows into the sprinkler F through a proper opening in the bottom of said chamber, and into the sprinkler F' through the pipe K, which connects one end of said chamber with the corresponding end of said sprinkler. A rod, L, is provided with suitable valves, so that when the rod is turned in one direction it suffers the water to flow into both of the sprinklers, and when turned in the other direction prevents any flow of water to either sprinkler. Pipes M lead from the water-chamber *a* to points over the troughs I, the flow of the water through which is governed by valves upon the rod N, which shut it off from all the pipes or suffer it to flow in all. Other pipes, O and O', lead from the grain-bins J, the pipes O leading to points over the floor B and the pipes O' to points over the floor C, the flow of the grain being governed by valves upon the rod P, by means of which the flow may be cut off or permitted.

The provision for ventilation consists in the openings *b'* in the chamber *b* for the escape of foul air, which openings have hinged doors *b''*, opening outward in the slots *d*, in the bottom of said air-chambers, for the admission of foul and heated air, and in proper openings *e* in the floor B.

The advantages possessed by our car, and by its component parts, are as follows, viz.: In the great increase of the traffic of transporting live stock on railways it has become necessary to have special cars constructed for the carriage of the varieties of stock. For this reason our car has two stories and two floors, so as to give greater capacity for swine. Again, the swine are divided into the two general classes of store hogs and fat hogs, and it is important that the two classes should be separated, as otherwise the store hogs will press upon, crowd, and overrun the fat hogs, and prevent them from obtaining food and water to their great injury. In addition, swine are so greedy, and so subject to thirst and hunger, that it is essential that they should all have constant and convenient access to water and food, which cannot be done if many of them are placed in the same compartment. For these reasons our car has separate compart-

ments divided by permanent partitions, each of which is provided with its proper door, and has its continuous troughs around the sides, and such provision, with regard to the feeding of the grain, that it is poured directly upon the floor of each compartment. Again, the animal heat from swine is very great, and as its tendency is to ascend, and it will not escape properly from the sides of the cars when in motion, we have arranged our system of ventilation through the chambers on the top of the car, by which means the desired object is attained, while we are able to retain the roof, and use the same car in extreme cold or stormy weather.

Without any change in construction our car is equally adapted for the carriage of sheep.

Having thus described our invention, and enumerated some of the advantages obtained by its peculiar construction, what we claim as new therein is—

1. The combination of the separate compartments G and the movable or permanent con-

tinuous water-troughs I, constructed and arranged substantially as described and shown.

2. The combination of the water-reservoir *a*, the pipe K, and the sprinklers F and F', constructed and arranged substantially as described and shown.

3. The combination of the air-chambers *b* and the water-reservoir *a*, constructed and arranged substantially as described and shown.

4. The compartment-car A, provided with a fixed middle deck, B, permanent partitions G', and continuous water-troughs I, constructed and arranged substantially as described and shown.

In testimony that we claim the foregoing we have hereunto set our hands.

WILLIAM STARK.
JOSEPH G. FISHER.
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Witnesses:

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