(No Model.) 2 Sheets—Sheet 1.

A. W. STREET.

APPARATUS FOR SPRINKLING WATER UPON HOGS.

No. 444,143. Patented Jan. 6, 1891.

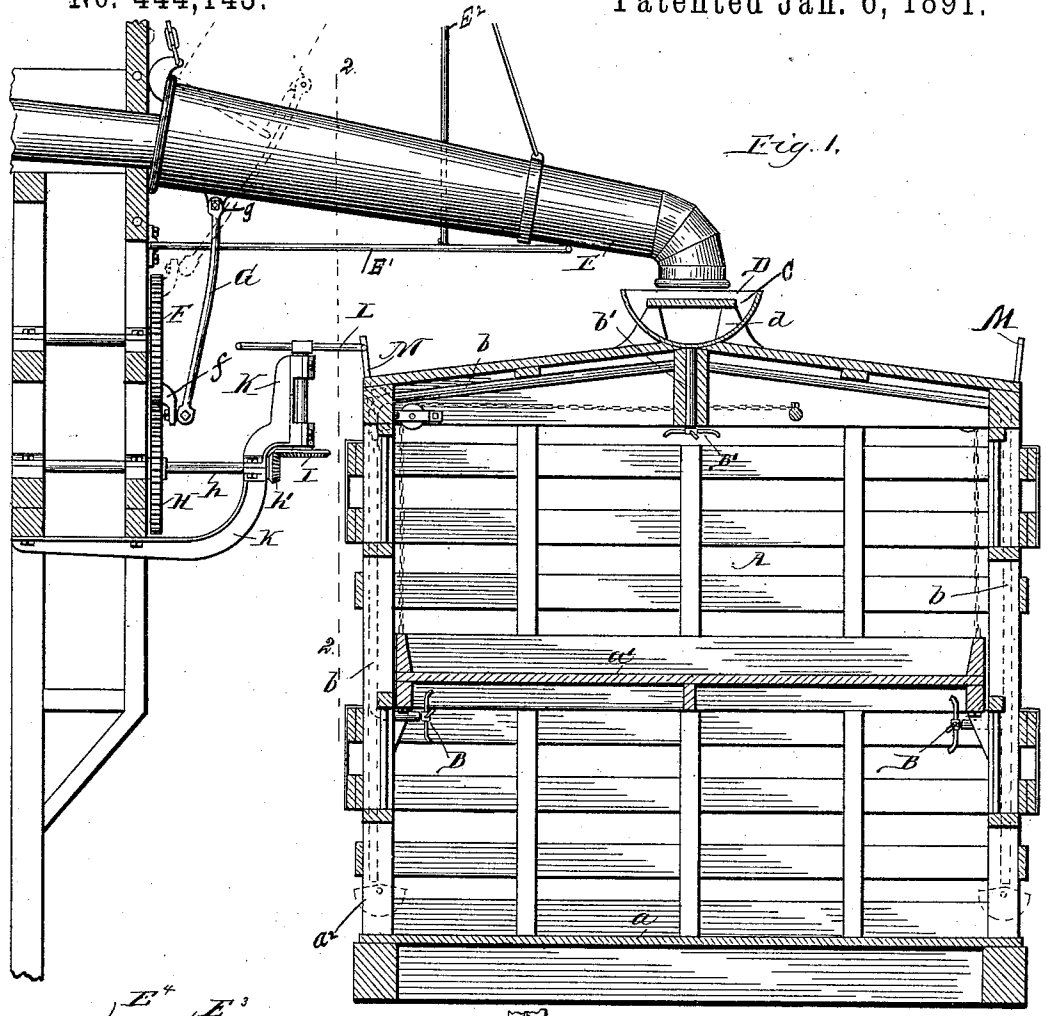


Fig. 1.

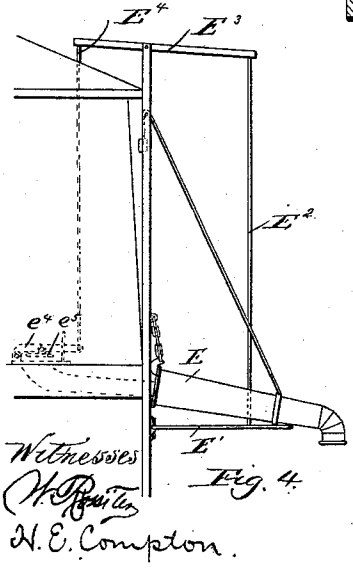


Fig. 4.

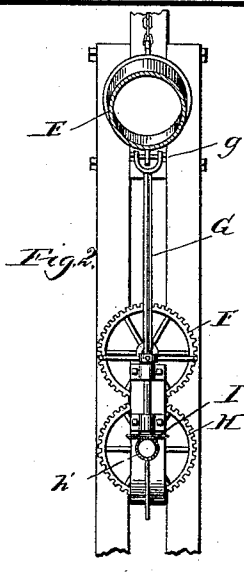


Fig. 2.

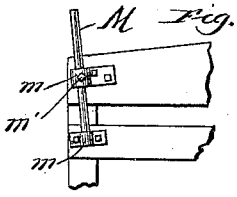


Fig. 3.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

A. W. STREET.

APPARATUS FOR SPRINKLING WATER UPON HOGS.

No. 444,143. Patented Jan. 6, 1891.

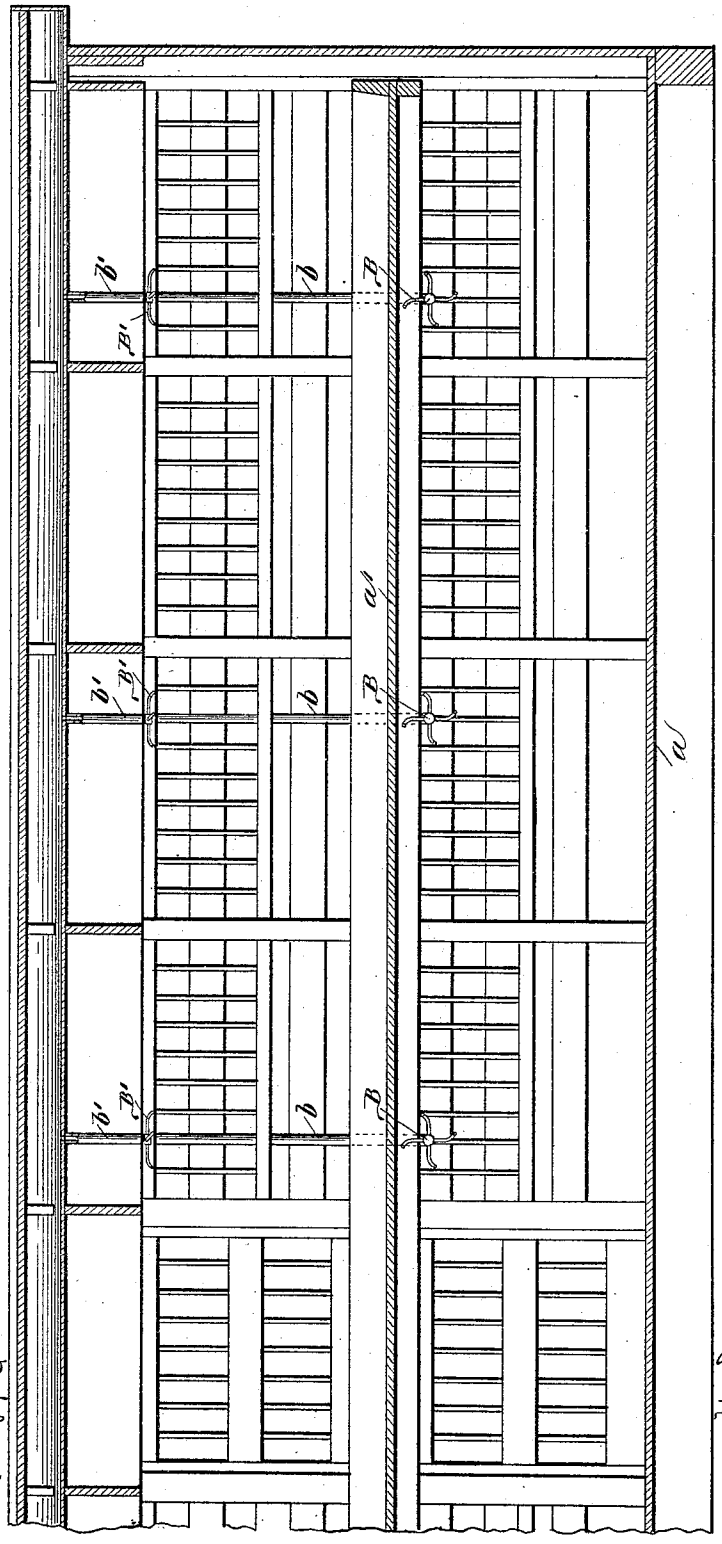


Fig. 5.

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UNITED STATES PATENT OFFICE.

ARTHUR W. STREET, OF CHICAGO, ILLINOIS.

APPARATUS FOR SPRINKLING WATER UPON HOGS.

SPECIFICATION forming part of Letters Patent No. 444,143, dated January 6, 1891.

Application filed July 24, 1890. Serial No. 359,821. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. STREET, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Sprinkling Water upon Hogs, which improvements are applicable in part to other purposes, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The transportation of hogs by railway is usually effected in what are known as "double-decked" cars, and the hogs are huddled together in such numbers upon the decks of the car that it is almost impossible for the hogs in the central portions of the car to reach the watering-troughs at the sides of the car. A source of great loss in the transportation of hogs is due not merely to death from thirst, but in warm weather to the intense heat, which causes also a great shrinkage or loss in weight of the stock.

My present invention has for its object to provide means whereby, without the necessity for stopping the train and without the necessity of an attendant, water from a suitable way-station tank can be delivered into suitable troughs upon the cars to be afterward sprinkled over the hogs.

To this end my invention consists in the various novel features of construction hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is an end view of a double-deck stock-car having features of my invention applied thereto, the tank for admitting water to the car, and apparatus for controlling the flow of the water from the tank being also illustrated. Fig. 2 is a view in vertical section on line 2 2 of Fig. 1. Fig. 3 is a detail end view of the car, showing a projecting arm. Fig. 4 is a view in side elevation of an elevated tank. Fig. 5 is a view in vertical longitudinal section through the car.

A designates the body of a car, having a floor a and a central deck a', this deck being preferably provided with suitable mechanism, whereby it may be raised and lowered in well-known manner. At the sides of the car suitable watering-troughs a^2 may be provided, if desired. At convenient distances along one or both sides of the car are placed the spray-nozzles B, which serve to deliver the supply of water onto the hogs within the lower compartment of the car, these nozzles B being connected by supply-pipes b with a main supply-trough C upon the top of the car.

In the upper portion of the car, beneath the roof thereof and at convenient distances apart, are arranged the spray-nozzles B′, whereby water will be sprinkled upon the hogs within the upper compartment of the car, the nozzles B′ being connected by suitable supply-pipes b' with the trough C. The trough C may be of any suitable shape and construction, and preferably is extended from end to end of the car. By preference, also, this open-topped trough is located at the center of the car-roof, and the running-board D, over which the train-hands pass, may be located within the trough, being sustained therein upon suitable standards d.

The trough C will have its ends closed and will be of convenient height to receive the water from the spout E of a suitable elevated water-supply tank. It will thus be seen that when water is admitted from the spout E into the trough C of the car it will pass by the delivery-pipes b and b' to the spray-nozzles B and B′, and will be distributed by these nozzles over the hogs within the upper and lower compartments of the car.

While I regard the construction above described as very effective for spraying the water upon the hogs, I do not wish to be understood as claiming such construction in this application, as the invention relates to the mechanism for controlling the supply of water to the elevated troughs, as will hereinafter more fully appear.

In order to automatically throw the spout into position to discharge water into the trough C and to automatically cause the flow of water from the tank through the spout E, I prefer to provide the mechanism next to be described. The spout E of the water-supply tank will be so sustained that its outer end can be raised and lowered, and this spout will be counterweighted in well-known manner in order to permit it to be readily operated. An effective form of apparatus for raising and lowering the spout may consist of a gear-

wheel F, having a lug *f* projecting laterally therefrom, to which lug will be connected by a swivel-joint an arm G, the opposite end of which arm will be attached by a loose joint, as at *g*, to the spout E. Hence it will be seen that as the gear-wheel F is rotated it will cause the arm G to move up and down, and consequently raise and lower the spout E. With the gear-wheel F will engage a pinion H, carried by the shaft *h*, to the outer end of which is keyed a beveled pinion *h'*, that engages with a beveled gear-wheel I on the lower end of a short vertical shaft that is journaled within a suitable bearing at the outer end of the bracket K. Upon the upper end of this short vertical shaft is also fixed the spider-arms L, preferably four in number, these arms being extended outwardly in such position that they may be struck by a suitable projection upon the car in order to effect the rotation of the arms L and of the shaft and parts connected therewith. The rotation of the arms L may be conveniently effected by simple arms or projections M, preferably one at each corner of the car, these arms being movably sustained within the loops or straps *m*, so that they can be raised to the elevated position shown or lowered to such position that they will not effect the movement of the spider-arms L. A suitable set-screw *m'* may be employed to hold the arms M in elevated position; or these arms or projections may be arranged in any other suitable manner adapting them to contact with and operate the projecting arms L.

In making up a train of stock-cars the arms M at the front end of the front car of the train and the arms M at the rear end of the rear car will be held in raised position, so that when the train reaches an elevated tank of the character described one of the front arms M will contact with one of the spider-arms L and will cause this arm to move and turn the gear-wheel I a quarter of a revolution. This movement of the gear-wheel I will, through the beveled pinion *h'* and shaft *h*, impart a half-revolution to the pinion H, and through this pinion H a half-revolution will be given to the wheel F, thereby causing the arm G to swing downward the tank-spout E to the position shown by full lines in Fig. 1. At the same time, also, as the spout E is swung to its lowermost position it will contact with the swinging arm E', which, through the medium of the rod E^2 and pivoted lever E^3 and rod E^4, lifts the pivoted lever e^4, that carries the valve e^5, (shown by dotted lines in Fig. 4,) thereby permitting the flow of water from the tank through the discharge-spout. Hence it will be seen that as the train passes the supply-tank water will flow through the tank-spout E into the several troughs C of the train, and from these troughs C it will pass by the delivery-pipes *b b'* to the spray-nozzles B B', and will thus be sprinkled upon the stock within the cars.

While I have shown what I regard as a convenient means for effecting the delivery of water into the trough C, I do not wish my invention restricted to this precise mechanism, since obviously the shifting of the tank-spout E and the operation of the valve for controlling the flow of water from the tank may be effected in other convenient ways.

In case it is desired to simply employ the trough C to admit water to the usual water-troughs a^2, perforations may be made in the delivery-pipes *b*, adjacent to the spray-nozzles B and B'. It will thus be seen that my invention affords a simple and effective means for admitting water to the storage-troughs of the cars, whereby the necessity for a stoppage of the train to turn on and off the supply of water is avoided, and it will be understood, however, that features of the invention may be employed without its adoption as an entirety. For example, the water may be delivered into the troughs C by other convenient means than that shown.

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

1. The combination, with a stock-car having a suitable trough to receive water, of a tank-spout, a valve for controlling the flow of water through said spout, a suitable projection or arm upon the car, and intermediate mechanism whereby the arm or projection upon the car can operate said valve, substantially as described.

2. The combination, with a stock-car having a suitable trough to receive water, of a movable tank-spout, a valve for controlling the flow of water through said spout, a suitable projection or arm upon the car, and intermediate mechanism whereby the arm or projection upon the car can operate said valve and move said spout into position for delivering the supply of water into the troughs on the car, substantially as described.

3. The combination, with a stock-car having a suitable trough to receive water, of a tank-spout, a valve for controlling the flow of water through said spout, a suitable projection or arm upon the car, a series of movable arms adjacent to the tank, a valve for controlling the flow of water through the tank-spout, and connecting mechanism between said valve and said movable arms, substantially as described.

4. The combination, with a stock-car having a suitable trough to receive water, of a vertically-movable tank-spout, a valve for controlling the flow of water through said spout, a suitable projection or arm upon the car, projecting arms adjacent to the tank, and gear mechanism connecting said projecting arms with said valve and with said movable tank, substantially as described.

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Witnesses:
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