(No Model.)

J. MONTGOMERY.

STOCK CAR.

No. 387,246. Patented Aug. 7, 1888.

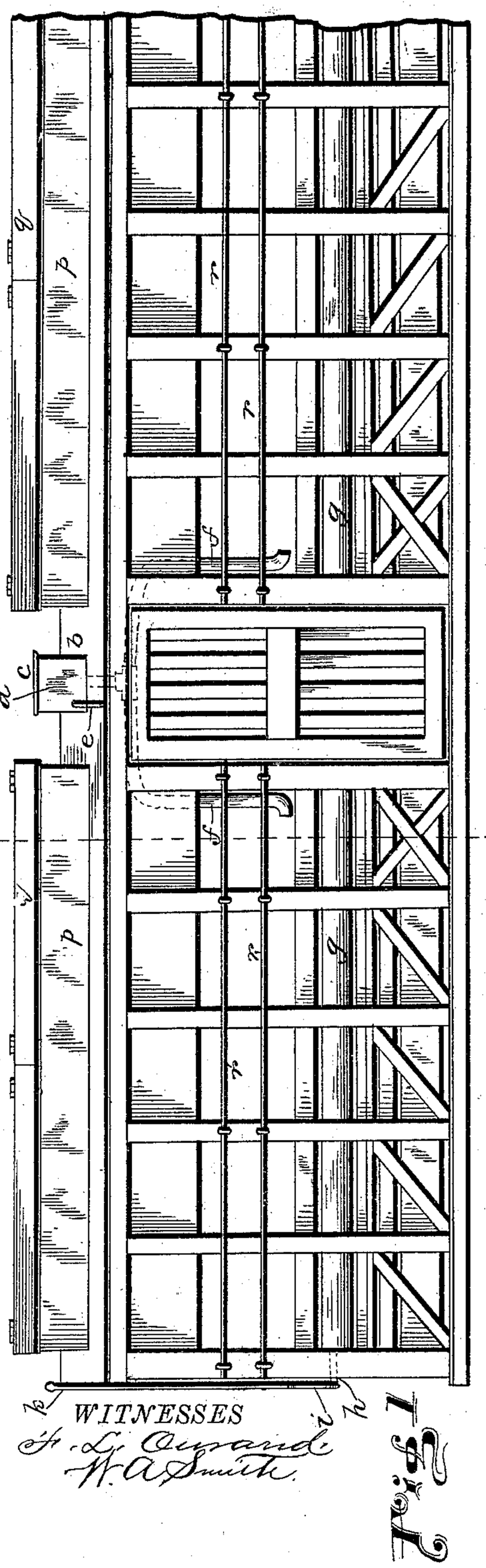

Fig. 1.

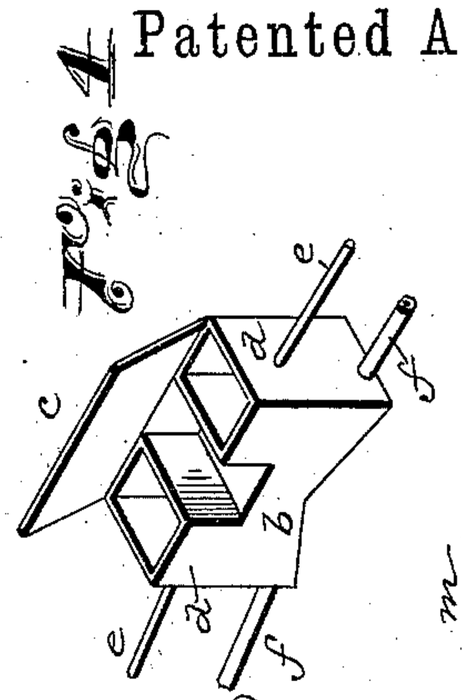

Fig. 2.

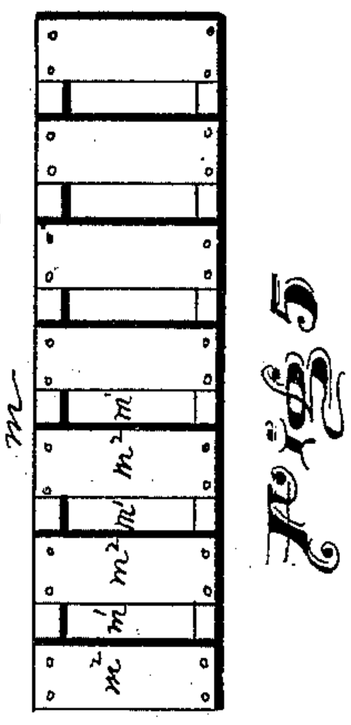

Fig. 4.

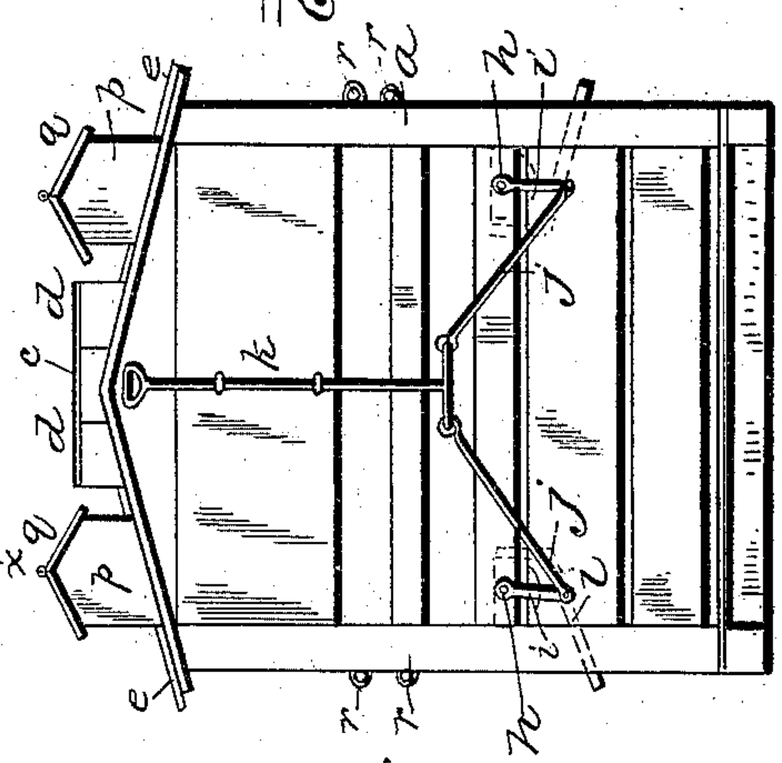

Fig. 3.

WITNESSES

H. L. Durand

W. A. Smith.

INVENTOR

James Montgomery

by Wm. H. Pinckel

his Attorney

UNITED STATES PATENT OFFICE.

JAMES MONTGOMERY, OF EAST MILLSTONE, NEW JERSEY.

STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 387,246, dated August 7, 1888.

Application filed April 4, 1888. Serial No. 269,598. (No model.)

To all whom it may concern:

Be it known that I, JAMES MONTGOMERY, a citizen of the United States, residing at East Millstone, in the county of Somerset and State of New Jersey, have invented a certain new and useful Improvement in Stock-Cars, of which the following is a full, clear, and exact description.

The object of this invention is to provide for the conversion of ordinary live-stock railway-cars, such as are in common use in the United States to-day, into what are sometimes called "palace stock-cars"—that is to say, cars which are supplied with facilities for feeding and watering the cattle in the cars in transit, thus obviating the necessity of unloading at railway stock-yards to feed and water the animals and again loading them into the cars.

In accordance with my invention I provide a water-tank of peculiar construction in the center of the roof of the car, and by branch pipes therefrom conduct the water from such tank to troughs arranged along the sides of the car between the ends and the doors, (which latter are on opposite sides of the car and midway between its ends,) the trough being arranged to be operated from the ends of the car. I also provide folding hay-racks on the inside of the car, and above these racks and on the roof of the car I arrange bins to feed the hay to the racks. These racks are of peculiar construction, as will appear further on.

My invention consists in the several parts and the details of their construction, combination, and arrangement, hereinafter more particularly set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of the body of a common stock-car supplied with my improvements. Fig. 2 is an end view of the same. Fig. 3 is a vertical cross-section taken in the plane of line *x x*, Fig. 1. Fig. 4 is a perspective view of the water-tank, and Fig. 5 is a plan view of the rack.

The body *a* of the car will be assumed to be of the usual construction, and to it my appliances are secured, as I will now proceed to set forth. A water-tank, *b*, is arranged in the roof over the doors, (which in common stock-cars are in the sides and opposite and midway between the ends of the car.) Openings are made in the roof on either side of the ridge-pole, but without cutting the ridge-pole or impairing it in anywise, to admit of the arrangement of this water-tank, so that its outer portions and cover *c* will be on a level with the running-board on top of the car.

As shown more in detail in Figs. 3 and 4, the water-tank is constructed with a bottom sloping in opposite directions from a median line, so as to be self-draining. At its two ends it has columns *d d*, which project upwardly on each side of the ridge-pole of the car and form inlets into the tank, whereby it may be filled with water, as by the apparatus set forth in my concurrent application for Letters Patent entitled "Apparatus for Supplying Trains of Stock-Cars with Water." These inlets are provided with the hinged cover before mentioned. Overflow-pipes *e e* extend from these columns down the slant of the car-roof to its eaves, so as to prevent overflow and carry away splash. From the lower ends of the bottom branch pipes *f f* lead to the water-troughs *g*, to fill them from the tank or receiver. If four water-troughs are used, the branch pipes will be in equal number; but if two troughs only be used, then but two branch pipes will be employed. I prefer to curve the ends of the branch pipes into a nearly horizontal plane, so as to conduct the water into the troughs with the least possible splash. This may be accomplished by adding to these pipes any suitable nozzles or elbows or spouts. The water-troughs extend from the doors to the ends of the car and on both sides of the car where four troughs are used; but when only two troughs are employed, one may be on the far side, at the right of the drawings, and the other on the near side, at the left of the drawings, or vice versa. The troughs are arranged preferably to be operated together, and to this end, where four are used, they may be connected in pairs by extending their journals *h* through the ends of the cars, rigidly affixing to such journals the cranks *i*, and connecting these cranks by links *j* with a common rod, *k*, which may be arranged vertically in bearings or eyes on the ends of the car, and extend up to within easy reach of a train-hand on the car-roof, so that by pull-

ing up the rod the troughs may be rotated or tilted, and thus be emptied of their contents, and by lowering the rod the troughs may be arranged to contain water. Of course, if only one trough is used, but a single crank and link will be employed. It will be observed that this trough-operating mechanism serves also to retain the troughs in the positions they may be given. Each trough is arranged, by preference, in a gutter, *l*, which pitches outside the car, and so throws out of the car all splash and all waste from the troughs. These gutters have the vertical "protection-boards" *l'*, to preserve the troughs from injury by the surging and crowding of the animals and by piling in bulk freight. The bottoms of the gutters and the protection-boards are united and braced, and the whole secured to the car-sides by the metal brackets *l²*. I will not here enter into a more detailed description of these troughs, inasmuch as they constitute part of the invention fully set forth in my concurrent application for patent entitled "Improvement in Stock-Cars, A."

It is proper to remark here that this invention is not limited to any special construction of trough, aside from the operating mechanism therefor.

The water tank or receiver and the troughs are made, by preference, of metal.

Four hay-racks, *m*, may be arranged on the sides of the car, or, instead of four, two only may be employed, and in the latter case one will be on one side—say the near side—to the left of the door in the drawings, and the other on the far side, to the right of the door in the drawings. These racks will be hinged at their lower ends, as at *n*, to the sides of the car, so as to be capable of being folded up flat against the sides of the car, in which position they are held by hooks *o* when not in use or when the car is to be used for inanimate merchandise. The racks are further provided with lips *n'*, which engage stops *n²*, depending from the roof of the car, to support the racks in the inclined position shown for use. The roof of the car over these hay-racks is cut away and replaced by hay-bins *p*, into which hay is introduced and from which it falls into the racks as the animals eat it. These bins have doors *q*, which fold back and uncover their interior, so as to facilitate loading the bins with hay.

The preferred form of hay-rack is shown in Fig. 5, and its peculiarity is this, that the spaces *m'* between the uprights *m²* are about half the width of the adjacent uprights. The object of this construction is to offer great resistance to the animals pulling out great quantities of hay at a time and wasting it. Where there are small slats or uprights and the spaces are large, this facility of wasting hay is very great; but by putting in the wide uprights or slats and reducing the width of the intermediate spaces it is decreased to a minimum.

Common stock-cars may be equipped with my feeding and watering appliances at comparatively slight cost and with very slight alterations of the cars, as is obvious.

The application of my appliances in nowise impairs the utility of the cars for return freight of inanimate objects, such as packaged goods, lumber, rails, and so on.

If the common car to be supplied with my appliances has not the "horn-rods" *r r*, so called, I prefer to add them, for they enable horned cattle more readily to get at the troughs for drinking, the horns passing these rods easily to the outside of the car.

Prior to this invention it has been proposed to provide a stock-car with a double roof, so as to make a hay-bin, the inner roof being made with slats and intervening spaces of equal width and combined with a register-slide of like construction, which may be moved across this slatted inner roof to contract the spaces or openings to prevent the cattle from pulling out an excess of hay, and so wasting it. The object of this construction, while the same as mine in making the rack of wide slats and narrow openings, is attained by obviously different means; and, moreover, the use of the said construction requires the reconstruction of the car-roof, while my hay-rack may be applied to any ordinary car in use without alterations of the car; hence I limit myself with respect to the hay-rack to one which is capable of being so applied and folded back against the side of the car when not in use, and which is a single frame.

It is quite common in stock-cars to provide the drinking-troughs with a water-shed; but, so far as I am aware, these water-sheds are only useful when the troughs are tilted to discharge the water—that is to say, they do not contain the troughs while in use for drinking purposes, so as to catch the splash made by the drinking animals, and hence do not at all times and for all purposes receive the troughs. I therefore limit my invention in this particular to a gutter or water-shed which contains the trough wholly, and so receives the splash and the outturned water therefrom.

What I claim is—

1. A water-tank for use in stock-cars, consisting of a vessel having its bottom slanting in opposite directions from a median line or plane, discharge-pipes leading from the lower levels thereof, and inlet-columns adapted to straddle the ridge-pole of the car-roof, and overflow-pipes leading down from the said inlets, substantially as described.

2. Water appliances for application to ordinary stock-cars, comprising a tank or receiver straddling the ridge-pole and suspended within the car from its roof and over the doors, distributing-pipes leading from such tank each side of such car and terminating in spouts or outlets, and drinking-troughs, over which said spouts are arranged and into which they discharge the water, substantially as described.

3. The hay-rack *m* for cars, having fixed slats *m²*, of about twice the width of the fixed

openings m' between them, so as to impede the withdrawal and consequently prevent the waste of hay, and fixedly hinged at its lower end to the side of the car and adapted to fold up flat against the side of the car, and provided with a lip, n', to engage stationary stops n^2, depending from the car-roof, to hold the rack in position for use, substantially as described.

4. The gutter composed of the vertical protection-boards l', slanting bottoms, and braces l^2, for connecting the protection-boards and bottoms and securing them to the sides of the car, in combination with the drinking-trough, arranged wholly within said gutter and having its journal projecting through the ends of the car, and provided with a crank, an operating-rod, and a link connecting the crank and rod, whereby the trough may be tilted within the gutter to discharge its contents and again be brought and held in position for use, substantially as described.

In testimony whereof I have hereunto set my hand this 30th day of March, A. D. 1888.

JAMES MONTGOMERY. [L. S.]

Witnesses:

J. W. MONTGOMERY,

FREDDIE G. COHEN.