(No Model.) 4 Sheets—Sheet 1.

T. CLARKE.

Railway Car.

No. 239,446. **Patented March 29, 1881.**

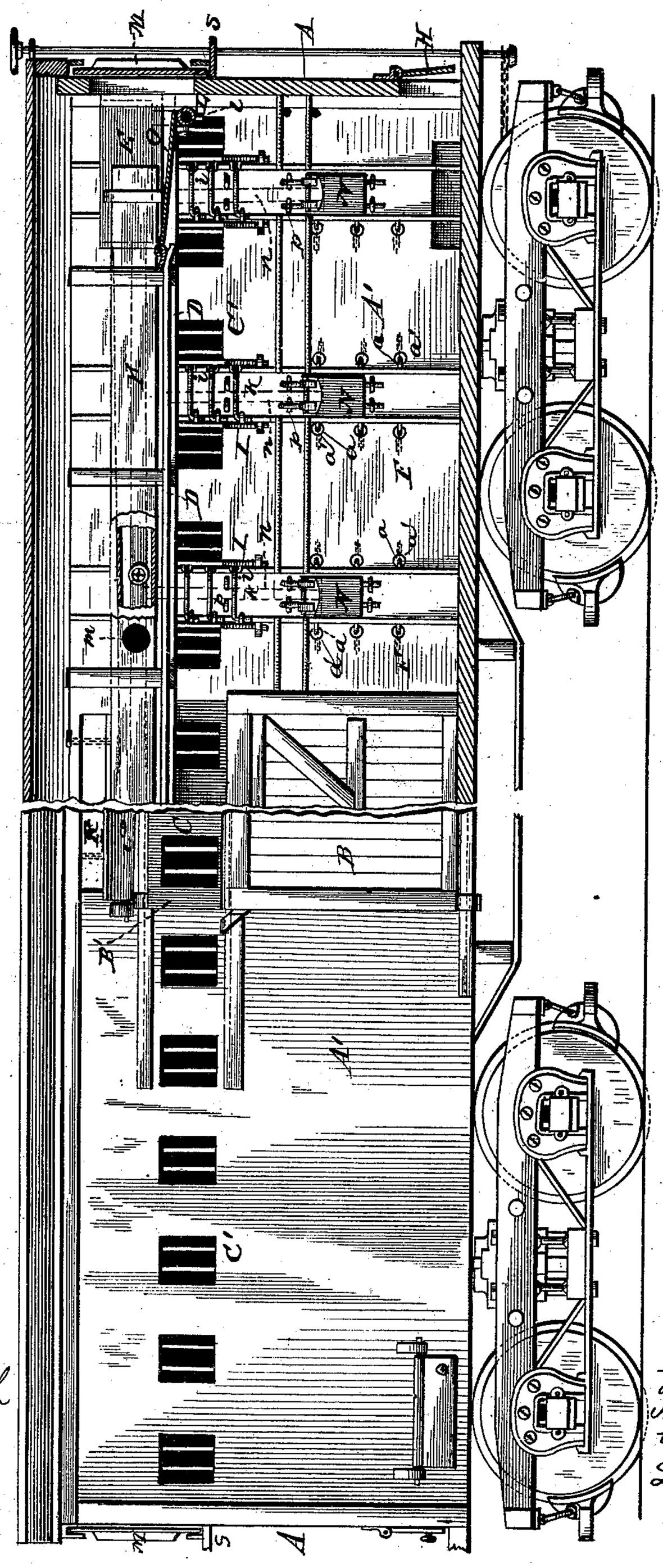

Fig. 1.

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T. CLARKE.

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Fig. 2.

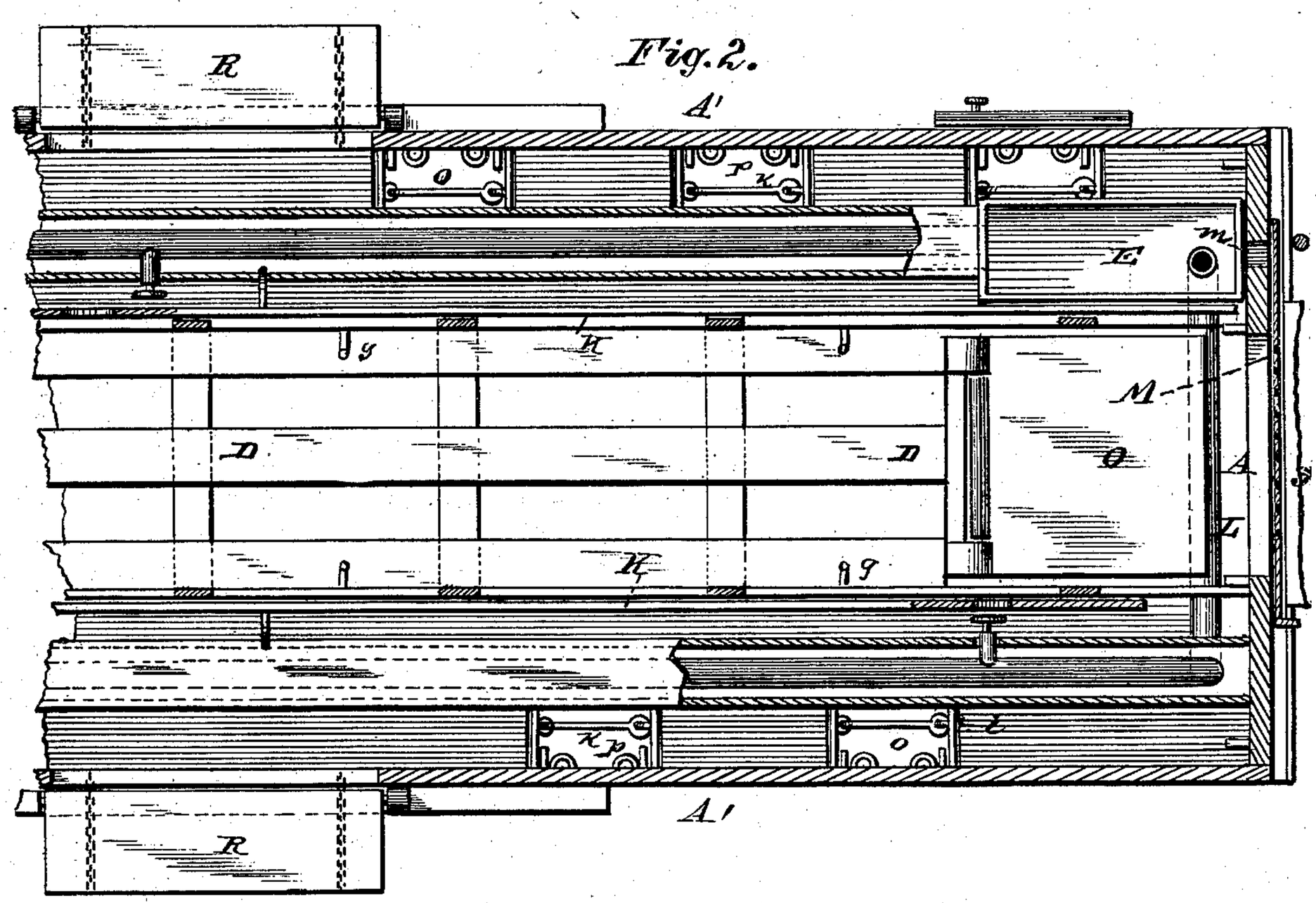
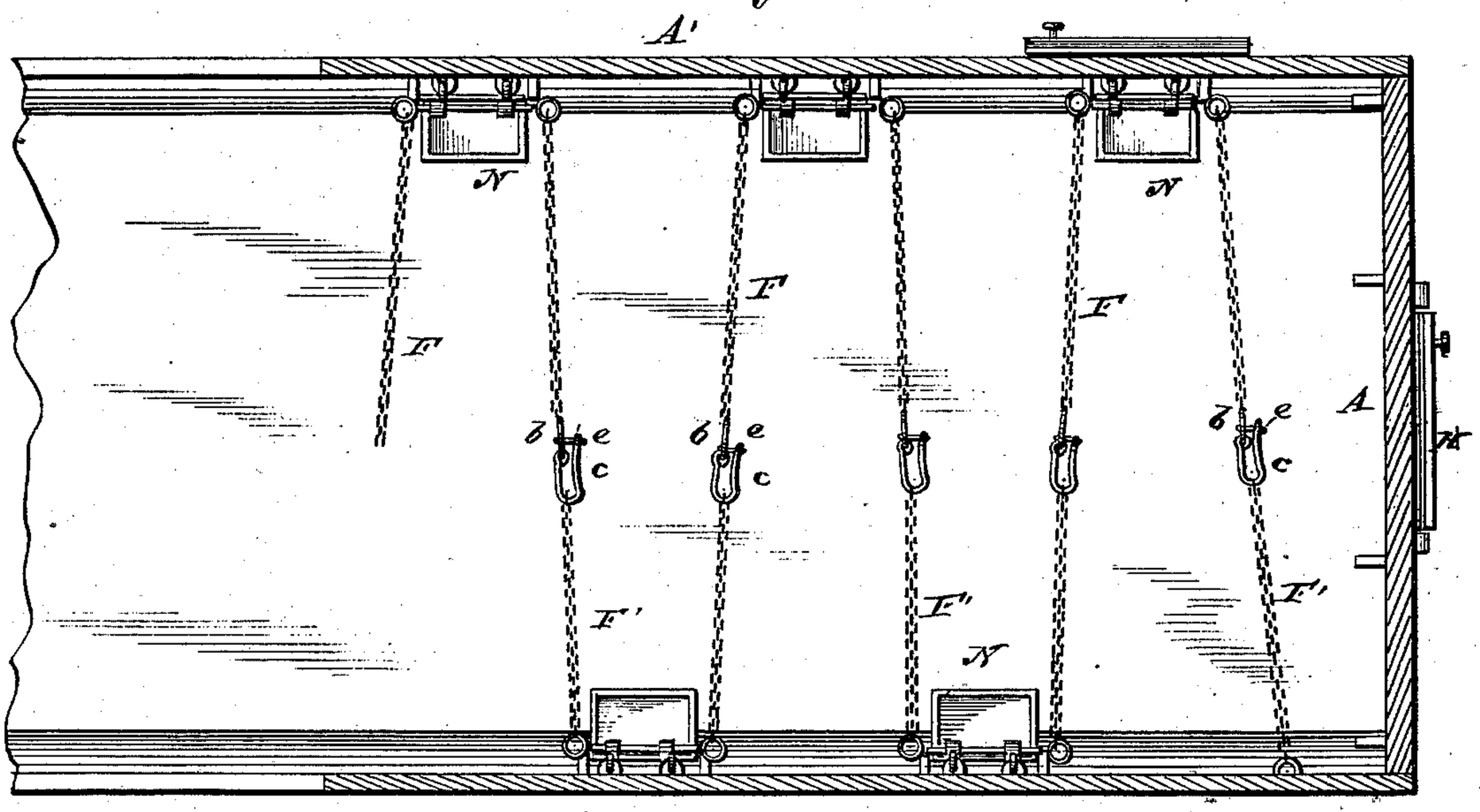


Fig. 3.



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(No Model.) 4 Sheets—Sheet 3.

T. CLARKE.

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Fig. 4.

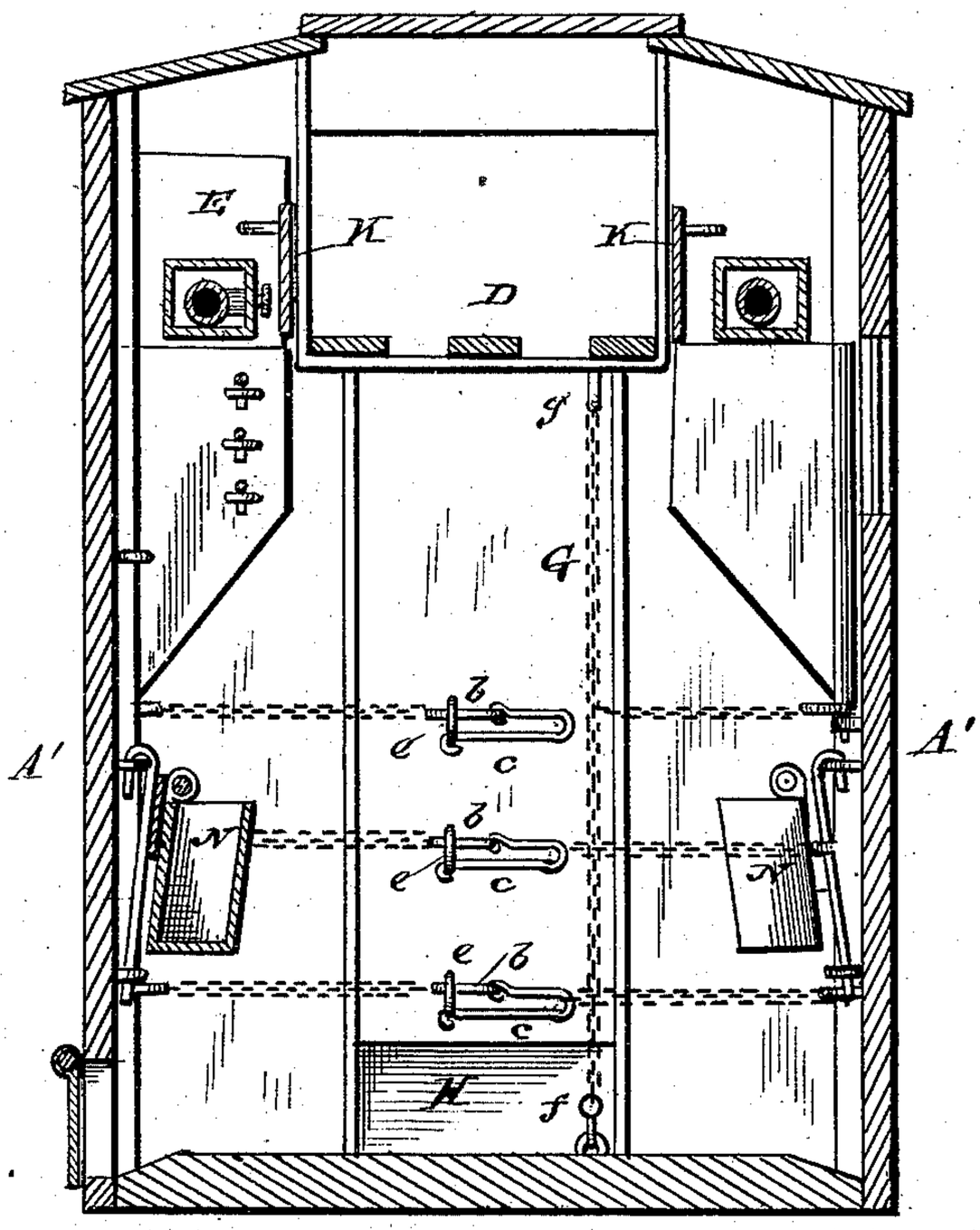
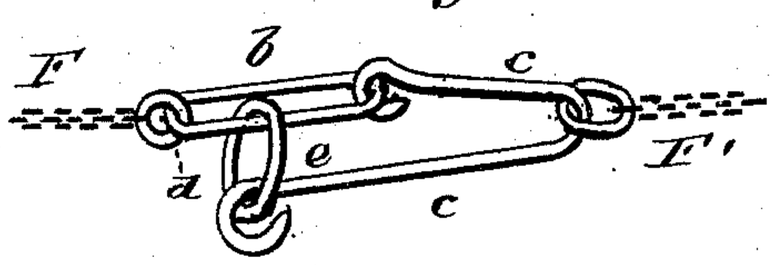


Fig. 7.



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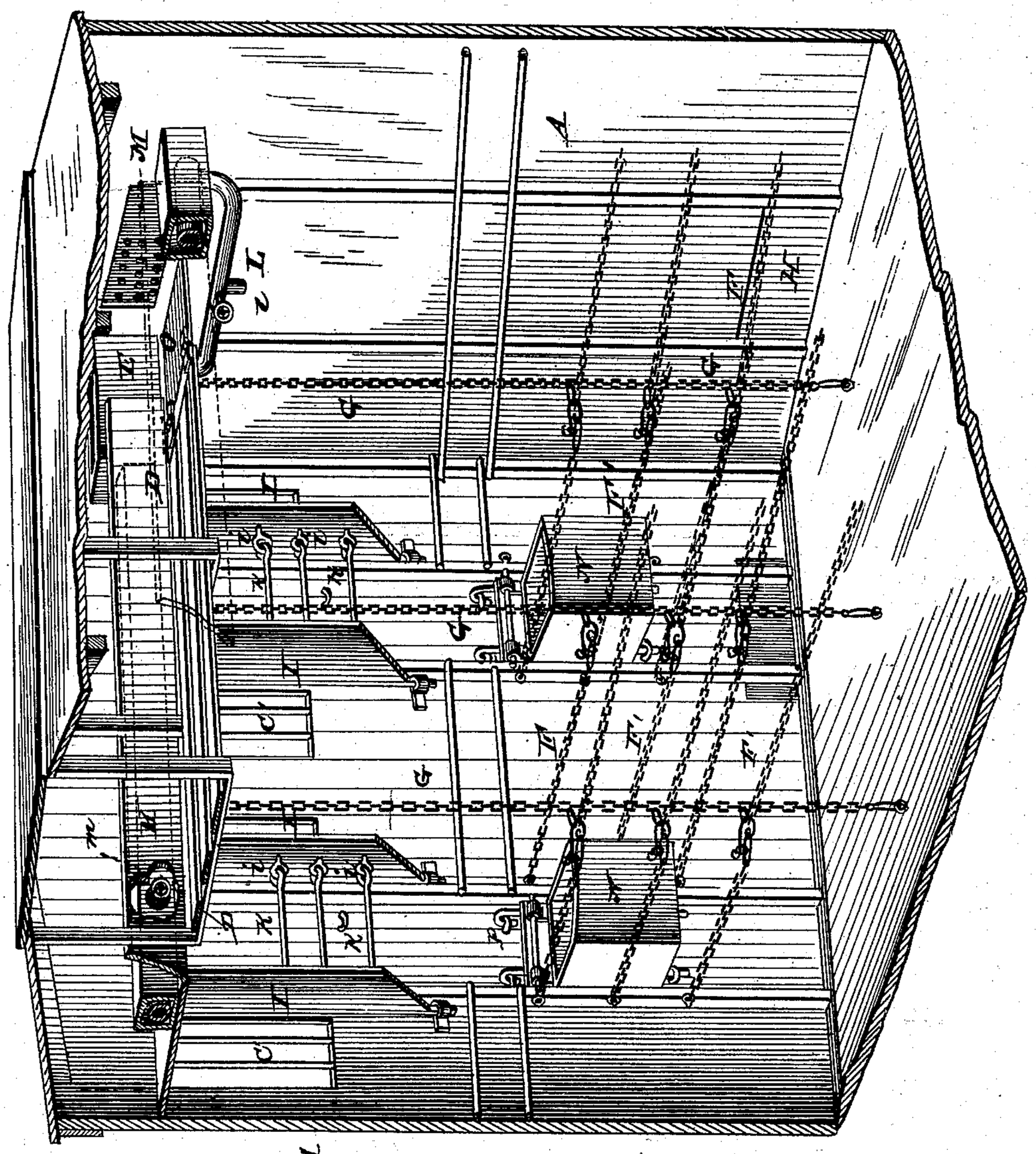
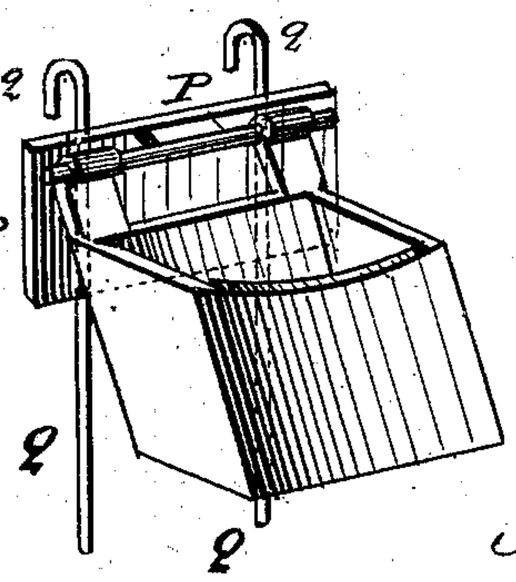


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS CLARKE, OF TRURO, NOVA SCOTIA, CANADA.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 239,446, dated March 29, 1881.

Application filed February 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS CLARKE, of Truro, in the Province of Nova Scotia and Dominion of Canada, have invented certain new and useful Improvements in Box and Cattle Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to freight-cars; and it consists in the construction and arrangement of parts of a car which may be converted at will into a closed box-car or into a cattle-car, substantially as hereinafter more fully set forth.

In the annexed four sheets of drawings, Figure 1, Sheet 1, represents a side elevation, partly in longitudinal vertical central section, of a freight-car embodying my improvements. Fig. 2, Sheet 2, is a plan view of the upper compartment of the car. Fig. 3 on the same sheet is a plan of the lower or stall compartment of the car. Fig. 4, Sheet 3, is a vertical transverse section. Fig. 5 is a perspective view of one of the water buckets or troughs detached, showing the bucket in a partly-tilted position for emptying its contents. Fig. 6 is a similar view of one of the stalls, and Fig. 7 is a detail view of the device for connecting and tightening the meeting ends of the chains which divide the stalls.

Similar letters of reference indicate corresponding parts in all the figures.

In stock or cattle cars as heretofore constructed it has been usual to construct the sides and ends of the cars of slats or longitudinal bars secured upon stanchions supporting the roof of the car; but by this construction the car is made useless for any other purpose, and cannot be used for grain or other merchandise which requires a closed car or box-car for its transportation.

The object of my invention is to construct a box-car suitable for any kind of merchandise, which is adapted to be transformed into a cattle-car when desired, so that one car will answer the objects and purposes of two.

To this end I construct the body of the car with closed ends and sides, as shown at A and A′, the sides being provided with sliding doors, each of which is made in two parts or sections—to wit, a lower solid part, B, and an upper part, B′, which is made with windows or apertures C. The upper part, B′, slides in ways in the top of the lower part, B, so that they may be operated (that is, opened or closed) independent of one another.

The car is divided by a horizontal floor or partition, D, into an upper and lower compartment, the upper compartment containing the water-tanks E and affording storage-room for hay or other feed, while the lower compartment may be divided into stalls by a system of chains or ropes, the arrangement of which will be fully understood by reference to Figs. 3, 4, and 6 of the drawings, which I shall now proceed to describe.

In opposite walls or sides of the car are secured bolt-eyes *a* and hooks *a′*, which are placed diagonally to one another, and afford means of attachment for chains or ropes, each of which is made in two parts, (denoted by F and F′,) their meeting ends being connected by the coupling, which is shown more clearly in Fig. 7 of the drawings. If ropes are used, I make the long end F with a series of chain-links at one end for hooking it upon the hooks or hooked bolts *a′*, by means of which the slack may be taken up and the cords or chains stretched taut from one side of the car to the other.

To still further tighten the ropes or chains F F′, which subdivide the lower compartment into stalls, I employ a coupling consisting of a long link, *b*, which is attached to the end of either of the ropes or chains (as the case may be) F or F′, and has a bent lever, *c*, at its outer end, the long arm of which is inserted through a ring or link, *d*, at the end of the rope or chain section opposite. By turning this arm or lever *c* against the link *b* it will tighten the chains, the leverage being sufficient to overcome any slack, and the end of the lever is prevented from unlocking so as to disconnect the chains F F′ by means of a ring or link, *e*, which slides upon the long link *b*, and is slipped over the outer end of the long lever-arm *c*, which has a button or enlargement at its outer end, to prevent the ring *e* from slipping off accidentally.

To still further increase the rigidity of the stall ropes or chains F F′, I employ stringers

G, made of cords or chains, the upper ends of which are attached to alternate sides of the platform, which constitutes the central part of the floor of the upper compartment or roof of the lower or stall compartment. In other words, the animal being placed in its appropriate stall, with its head toward the narrowest part of the stall, or between the converging ends of the dividing ropes or chains, the stringer G on his left will be near the neck, while the stringer G on the opposite side is near the rump part of his body. The stringers G G are inserted through the links or eyes at the outer ends of the short sections F′, and attached at their lower ends by snap-hooks *f*, or other suitable fastening devices, to eyebolts secured in the floor of the car.

When the car is to be used as a box-car, the chains or cords F F′ are unhooked from the sides of the car and the stringers G from its bottom, and suspended from hooks *g* in the roof of the lower compartment, where they are out of the way, and yet at the same time are easily accessible when it is desired to convert the car into a cattle-car.

Both the sides and ends of the car-body are provided with hinged doors H, which impinge upon the floor, and may be bolted from the inside when closed. When open, these doors are secured in place by a suitably-constructed catch or hook on the outside of the car, so as to allow for the free circulation of air, which is one of the main requisites of a successful cattle-car. These doors also serve for cleansing the interior of the car, and for loading it with timber, rails, or other freight when it is to be used for the transportation of freight.

Between each of the sliding doors on the sides of the car, close up under the roof of the lower compartment, I place a pair of hinged shutters, I, cut off obliquely at their lower ends, and provided on one side with eyes or staples *i*, and on the opposite side with long hooked arms *k*, of a length corresponding to the distance between each pair of shutters, so that, by placing the shutters parallel to one another and at right angles to the sides of the car, each pair of shutters is connected by the hooked arms *k*, as shown in Fig. 6, by which means I form a feed-rack for containing hay, straw, or other fodder, which may be placed into the rack through an aperture or opening made in the floor of the upper compartment, on opposite sides of its central platform. When the car is to be used as a closed box-car, the arms *k* are unhooked and the shutters are turned back in opposite directions against the sides of the car, so as to close the barred windows C C′, the shutters being bolted or otherwise suitably locked when in their closed position.

On each side of the second story or compartment, above the horizontal partition D, I arrange the water-tanks E E, which are inclined vertically in opposite directions, and connected at opposite ends by pipes L, provided with faucets *l*. These tanks may be filled from one or both ends of the car through inlets *m*, which may be closed by the sliding doors M, through which access is had from either end of the car to the upper story. Each of the tanks E has a series of downward-projecting pipes, *n*, extending down along the sides of the car, and provided with suitably-arranged stop-cocks, through which the buckets N may be filled with water when desired. In order to prevent tampering with the stop-cocks or faucets when the car is not in use as a stock-car, and also to guard, in a measure, against freezing, I employ a sliding shield, K, made in two or more sections, which, when pushed to one side, will cover and protect the faucets, while, when pushed in the opposite direction, the faucets are uncovered, so that access may be had to them by the attendant when it is desired to turn on the water. The sliding shield or guard K may be secured in its closed position by a padlock or any other suitable contrivance.

At each end of the central platform of the upper compartment is a hinged trap-door, O, by raising which access may be had to the faucets *l* when it is desired to empty the tanks. This trap-door also serves as a means of access from the upper to the lower compartment of the car, and whenever it is desirable for the attendant in charge to enter any one of the stalls to release or otherwise attend to an animal, he may do so through the feed-apertures *o* in the floor of the upper story, using the eyebolts *p*, from which the water-trough is suspended, as steps to get down or up.

The water-buckets N, of which there is one for each stall, are hinged at their upper end to a plate, P, to which are attached two parallel rods, Q, having hooks *q* at their upper ends. By inserting the projecting lower ends of rods Q into the lowermost set of eyebolts *p* and hooking the hooks *q* into the set or series of eyebolts next above, the buckets will be held firmly, but removably, in their proper position, and by hinging the buckets to plates P in the manner described they may be upset or tilted without removing them from their fastenings whenever it is desired to empty them for cleansing or other purposes.

When the car is used as a closed box-car, the buckets are shifted up to the uppermost set or series of eyebolts *p*, close under the roof, so as to close the apertures *o*, and at the same time be out of the way, the rack sides or shutters I being folded back out of the way, in the manner already described.

The sides of the upper compartment are provided with hinged doors R, for loading hay or other feed, which is pushed down into the feed-racks below as occasion requires. The attendant occupies the middle part, between the water-tanks, from which he can manipulate the water-supply, feed-supply, and has access to both ends of the car and to each individual stall, in the manner described.

The car is made with a flat top or roof, so that the brakemen may easily pass from one

car to another through the length of the train without having to pass through the upper compartment. The attendant in charge of the cattle may pass from one car to another through the sliding doors at each end of the upper story, outside of each of which there is a platform, S, affording a foothold, and this platform also serves as a station for the brakeman in operating the brake, the vertical rod of which need not extend up over the roof.

The advantages of a car of this construction are too obvious to require further elucidation. Being convertible into either a closed box-car or a cattle-car, it answers the purposes of two separate cars. Thus it may carry cattle on one trip, or in one direction, and carry merchandise on the return trip, instead of going back empty. The vertical stringers G brace and support the stall ropes or chains F F′, preventing the lowermost rope from slipping up over the back of the animal when it lies down in its stall, and by making the central platform of the upper story of slats, as shown in Fig. 2 of the drawings, as well as by the feed-apertures *o*, the upper compartment serves the purpose of ventilating the lower part of the car, the end doors of the upper story being provided with openings or air-holes to maintain a current of air through the compartment.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a cattle-car, the combination of the horizontal cords or chains F F′, for dividing the car into separate stalls, vertical stringers G, connected to and bracing said horizontal cords or chains, and the combined coupling and tightening device composed of the parts *b*, *c*, *d*, and *e*, substantially as and for the purpose herein shown and specified.

2. The combination, with the parallel water-tanks E E, inclined vertically in opposite directions, and having the connecting-pipes L, inlets *m*, and discharge-pipes *n*, of the sliding guards K K, set on edge and adapted to cover and protect the inlets to the tanks, as well as the tanks themselves for their entire length, substantially as set forth.

3. In a railway-car, the upper floor or horizontal partition, D, provided with trap-doors O at opposite ends, sliding doors M, and the feed-apertures *o*, arranged on opposite side of the central slatted platform, substantially as set forth.

4. The detachable water and feed buckets N, hinged to plates P, provided with parallel hooked rods Q Q, substantially as and for the purpose herein shown and described.

5. In a railway-car, the hinged shutters I, provided with the eyes *i* and hooked rods or arms *k*, for converting them into feed-racks, substantially as and for the purpose herein shown and set forth.

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

THOMAS CLARKE.

Witnesses:

AUGUST PETERSON,

L. C. YOUNG.