

H. LEE.

Improvement in Stock-Cars.

No. 132,088.

Patented Oct. 8, 1872.

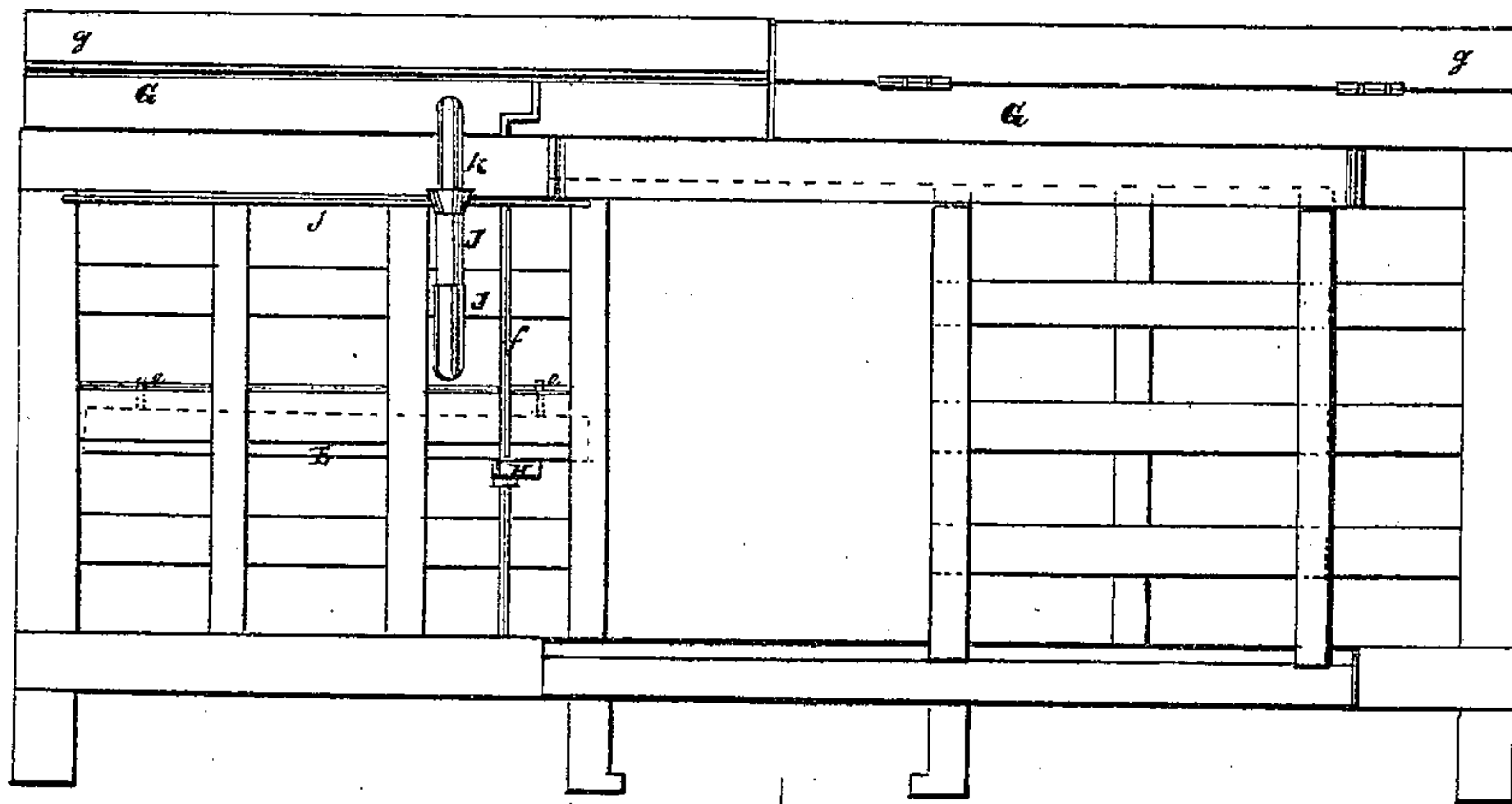


Fig. 1.

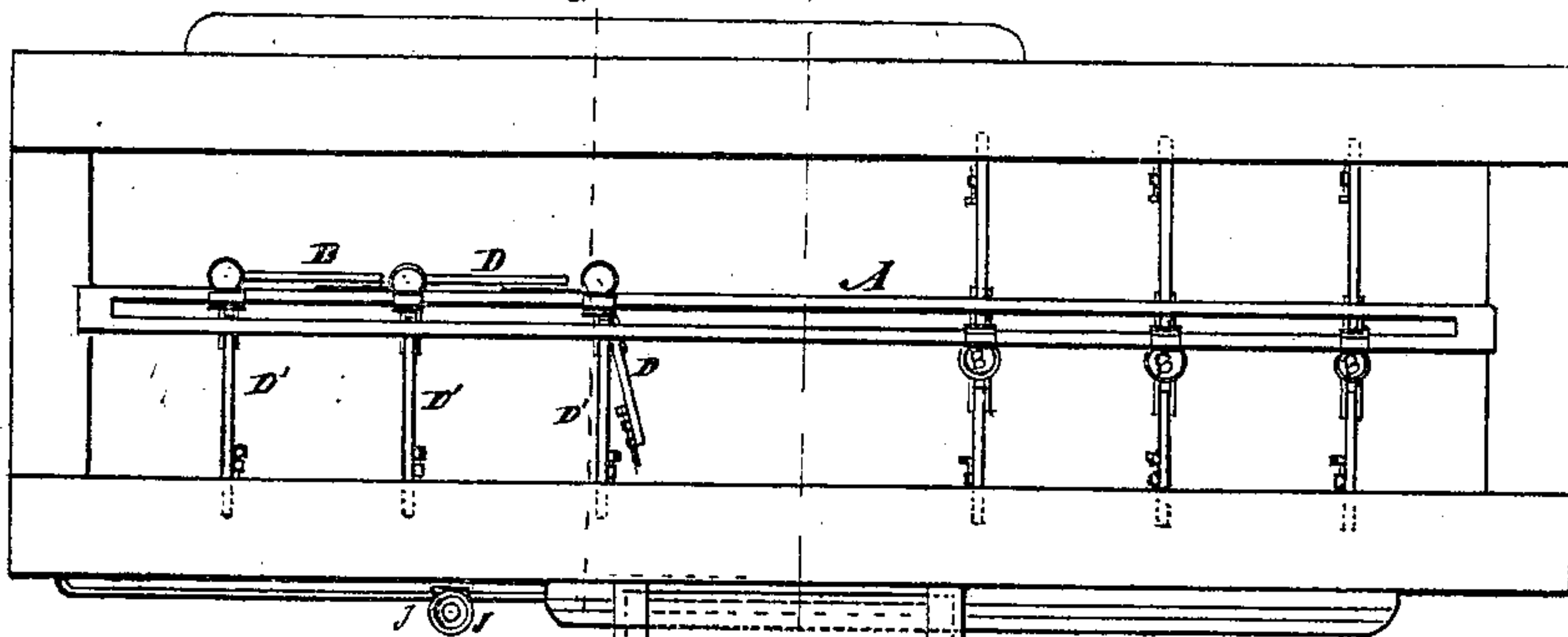


Fig. 2.

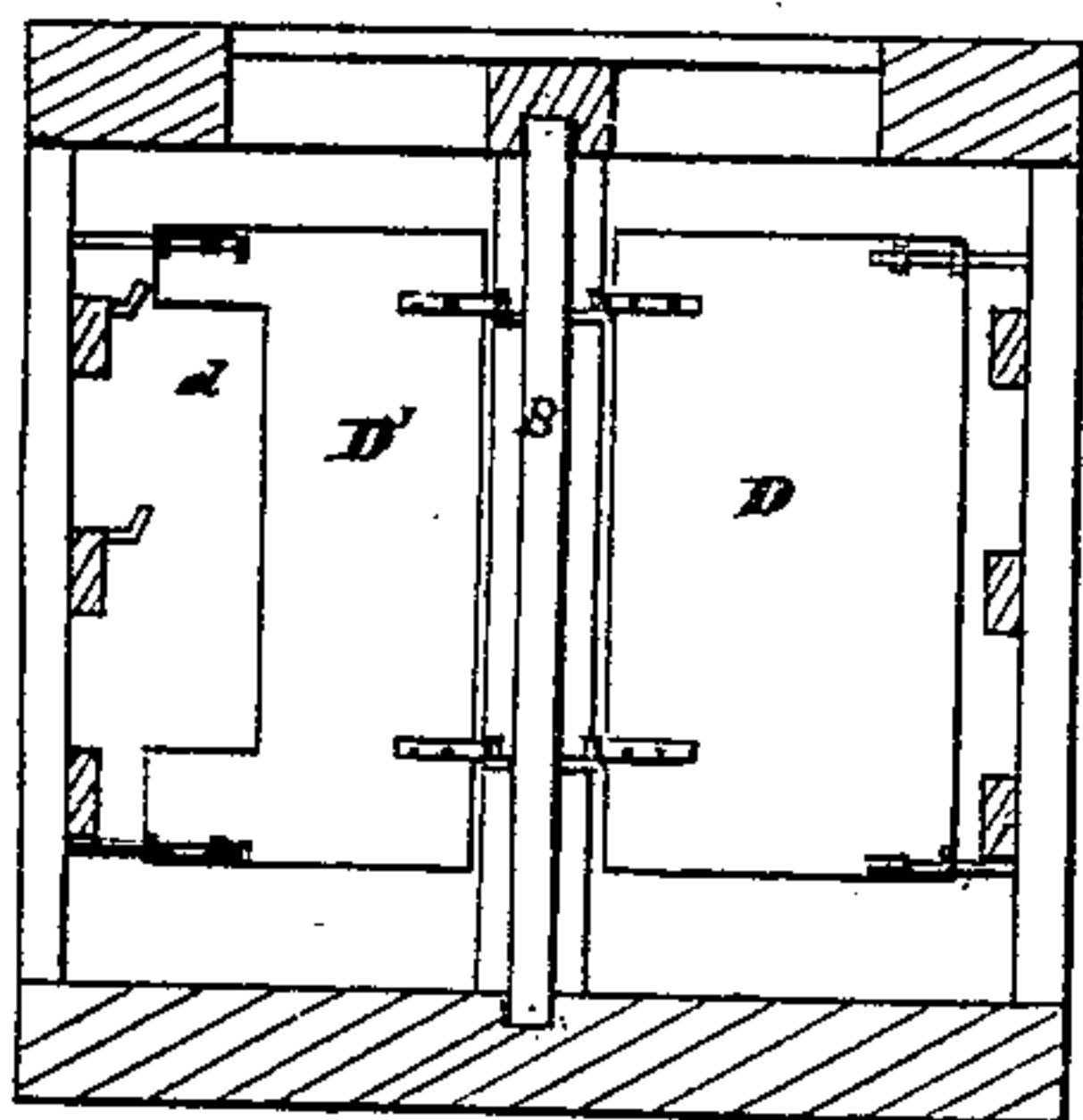


Fig. 4.

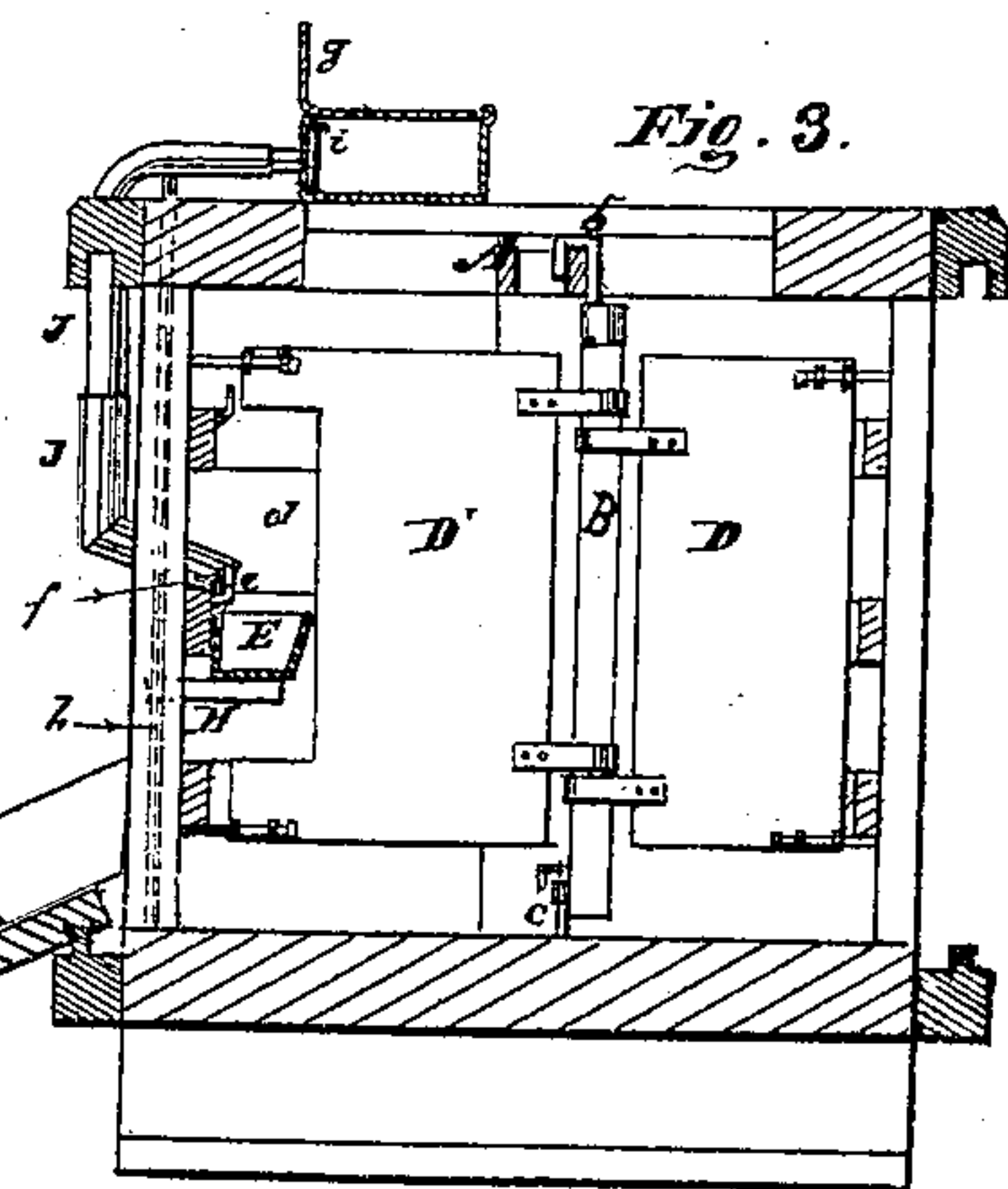
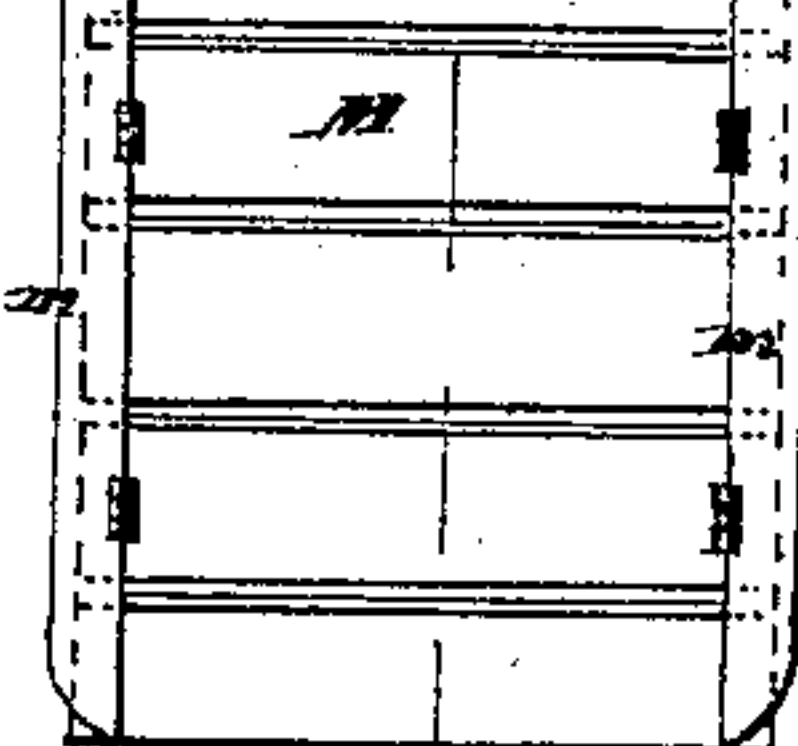


Fig. 3.

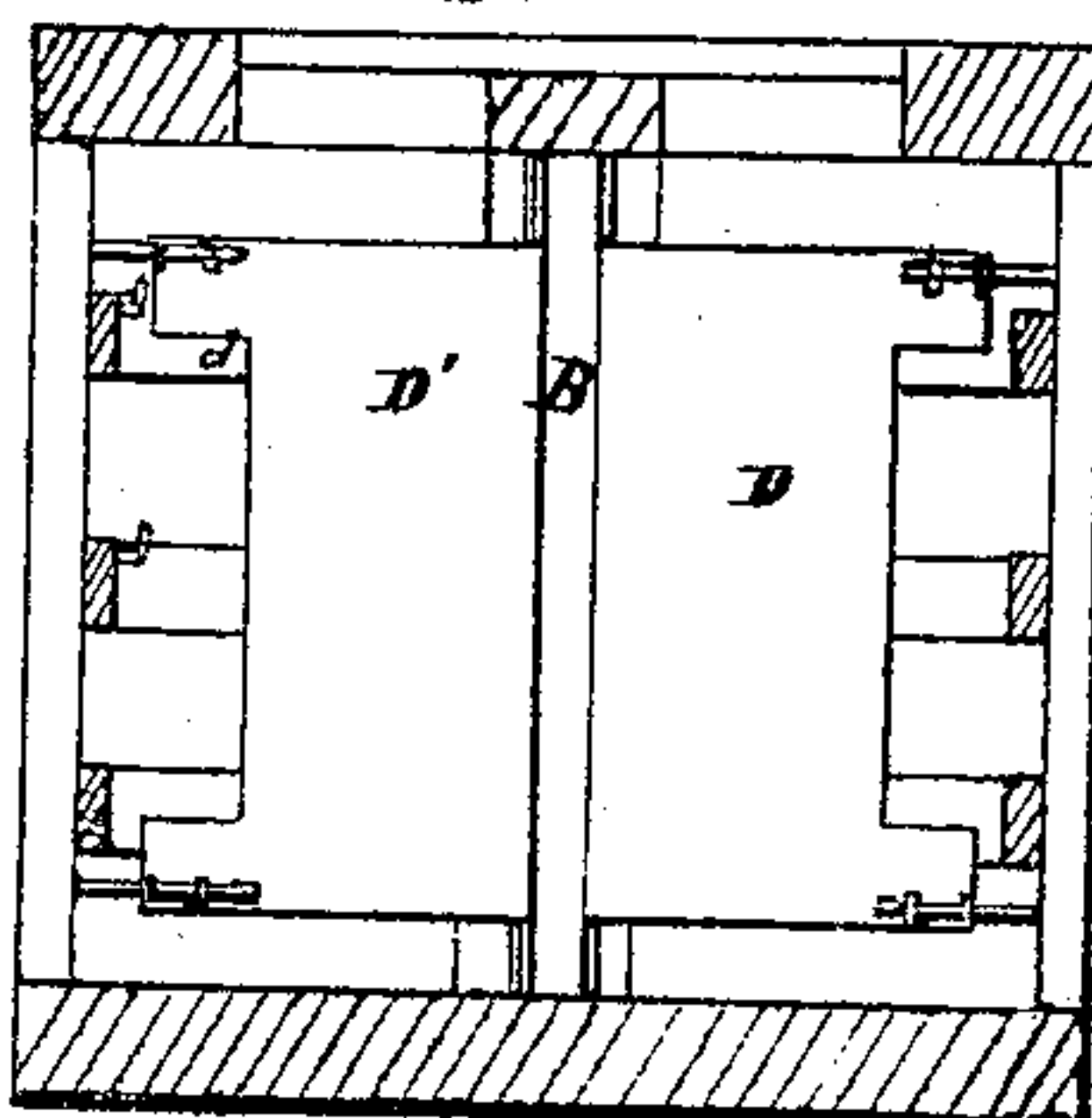


Fig. 5.

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# UNITED STATES PATENT OFFICE.

HUGH LEE, OF BELOIT, WISCONSIN, ASSIGNOR OF ONE-HALF HIS RIGHT TO  
J. BRITAN, OF SAME PLACE.

## IMPROVEMENT IN STOCK-CARS.

Specification forming part of Letters Patent No. 132,088, dated October 8, 1872.

### *To all whom it may concern:*

Be it known that I, HUGH LEE, of Beloit, in the county of Rock and State of Wisconsin, have invented a certain Improvement in Stock-Cars, of which the following is a specification:

My invention relates to railway cars for conveying stock, the object being the comfort of the animals while being conveyed by rail, and economy in the construction and reduction of dead-weight of the car, and the safety from injury to the persons loading or discharging vicious animals; and my invention consists: First, the gates revolving in grooves around the center posts or rods, or hinged to the opposite sides of the center posts or rods by pintles or similar contrivance, so as to form stalls either half length or full length, and passageways along either or both sides of the car for the ingress or egress of the animals. Second, the longitudinal and vertical adjustable feed and drinking troughs, capable of being adjusted to suit various-sized animals. Third, the longitudinal and vertical adjustable pipes for conducting food and drink to the troughs above mentioned. Fourth, the adjustable supporting-stirrups for sustaining the feed and drinking troughs. Fifth, the cleated detachable gangway with hinged side boards arranged to be stowed away beneath the car, and affording, when drawn out and adjusted, a passage for the cattle to board the car.

### *Description of the Drawing.*

Figure 1 represents a side elevation of a car constructed according to my invention, the trucks and running-gear being removed. Fig. 2 is a top or plan view of the same with the gangway drawn out, and the upper deck partially removed. Fig. 3 is a section on the line *x x* of Fig. 2, the upper deck being replaced. Figs. 4 and 5 are similar sections of a car to exhibit different methods of hanging the partition or stall-gates.

Like letters of reference made use of in the several figures indicate like parts.

To enable those skilled in the art to make and use my invention, I will proceed to describe the same with particularity, making use in so doing of the aforesaid drawing.

### *General Description.*

Secured to the deck-timbers of the car is a single or double guideway, *A*, passing above the backs of the animals along the whole length of the car centrally. From this guideway, by means of flat hooks *b*, or rollers, if preferred, are supported the vertical gate-sustaining posts *B*, provided at the bottom with bolts *c*, which may be shot into the car-floor to steady the said pillars or posts in position. To these movable posts are hinged, by one of several methods, hereafter indicated, the gates *D D'*, two gates to each post, of a sufficient width when extended to reach the sides of the car, to which they may be connected by proper bolts, forming stalls to receive the animals to be transported.

Now, when it is desired to load the animals they are driven in at one of the central side doors. The stalls at one end of the car are thrown into the position shown at the left hand of Fig. 2 of the drawing. The animal proceeds along the open aisle to the last stall, into which it is driven and the gate closed, and so on until all the stalls are filled in succession, the stalls being closed as fast as filled. At no time is there more than a single stall open, and the closing of each stall opens the succeeding one, as will be readily understood upon reference to Fig. 2 of the drawing before mentioned. This provides effectually for the safety of the persons engaged in loading the animals. Where double ways *A* are employed the center gate-posts and their attached gates are to be distributed about equally upon the ways, which are placed parallel and so far apart as to allow the gates and center posts riding upon the ways to pass each other without interference.

When freight is to be carried in the cars the gates may be swung around and placed in a line through the center of the car; or they may be moved into either end of the car flatwise along the ways, being opened at right angles to the ways. A recess, *d*, is formed in the free edge of the gate *D'*, so that they will swing clear of the feed and drinking troughs at whatever height they may be placed along the sides of the car; and if desired a vertical-



ly-sliding gate may be attached to the side of the gates *D'*, above the recess, to slide down and close the recess and enter the trough, so as to divide the interior of the trough into compartments corresponding to the stalls, preventing the animal from striving to get the food in an adjoining stall.

The feed and drinking troughs are made both longitudinally and vertically adjustable, as follows: The troughs *E*, one for each end of the car, are placed preferably upon opposite sides of the car, and immediately under the water-tanks *G* carried upon the deck. The troughs are provided along their length with several eyes or loops, *e*, projecting above the rear upper edge. A rod, *f*, is passed through these eyes from end to end, and this rod rests in cleats attached to the car at different elevations, thus elevating and lowering the trough to suit different kinds of animals. The trough may be swung up or down, or moved fore and aft upon the rods to accommodate the position of the stalls. It will be understood that a trough may be made for each separate stall, or they may be made singly, as shown, without breaking continuity. The troughs are to be supported by the rods resting and oscillating in the cleats, and they may have additional support by means of stirrups *H*. The vertical shaft *h* of the stirrup is to rest in a socket secured to the side or floor of the car, and passes up through the deck of the car outside of the water-tanks, so that it may be turned in any direction. The horizontal arm or stirrup *H* is adjustable upon the vertical arm, and is turned by the shaft and brought under the bottom of the trough, or may be swung around against the side of the car, so as to be out of the way of the heads of the animals when the trough is swung upward or downward.

The pipes *J*, through which both feed and water are conveyed from the deck to the troughs, are made longitudinally adjustable by means of a way, *j*, upon which the pipe is hung, and upon which it slides fore and aft, and are made vertically adjustable, or shortened by telescoping, to suit the height of the trough. By means of the fore-and-aft adjustment food and water may be conveyed to any part of the trough. A flexible hose, *k*, communicates between the water-tanks *G* and the funnel mouth of the pipes *J*. The aperture in the tank opening into the hose is furnished with a slide-valve or gate, *i*, to shut off the supply, as desired.

The interior of the car may be divided into any available number of adjustable or permanent stalls, and the single or double ways *A*, center posts, lips, or rollers, hereinabove described, may be dispensed with in the following manner: The heel and upper end of the gates may be secured to the floor and deck of the car by pivots and sockets, as is shown in Fig. 5 of the drawing, so that the gates may swing or oscillate near the center of the car to form stalls, either half length or full length, as cir-

cumstances may require, and passage-ways upon either or both sides of the car for the egress or ingress of the animals, as hereinabove described; or the center posts or rods to which the gates are attached, as above described, may be permanently fixed in a line through the center of the car; or they may slide in grooves formed in the floor and deck of the car, in a line through the center, so as to form stalls and passage-ways, as described. The water-tanks *G*, of metal or wood, are to be secured to the deck of the car, about six inches from the sides. They extend from the front and rear ends of the car, and from the right and left hand corners to about the center of the doors. These tanks may be connected by means of a pipe, if desired, passing above or below the deck from one tank to the other. The tanks are furnished with hinged lids, to the outer edge of which are attached vertical back supports *g*, so that the lids afford convenient seats for the attendants upon the roof of the car. In case of transporting mounted troops, these seats may afford place for the troopers whose animals are carried in the car below. A cleated gangway, *M*, having folding side rails *m*, is carried beneath the car-floor just below the door, and may be withdrawn and adjusted to position, as shown at Fig. 3 of the drawing, when desired for the passage of the animals to or from the car, being always at hand.

The method of loading and unloading the animals is, at length, as follows: Adjust all the center posts and their attached gates upon the ways at about proper distances apart to form stalls, with the hip-gates *D* standing at right angles to the shoulder-gates *D'*, which latter stand across the car. Half-length stalls and a passage-way along the side of the car are thus formed for the ingress of the animals, the entrance to each half stall being closed by the hip-gate of the stall beyond, except two half stalls—one at each end of the car—which are open. When animals have been driven through the passage-ways into these open stalls, swing around the gates which close the entrance to the adjoining half stalls, and fasten them to the sides of the car by the sliding bolts. The adjoining half stalls are now open for the reception of other animals. In this way all the animals may be quickly and safely loaded, and no animal can turn in the passage-way to injure the person loading them, nor can any animal get into other than the stall designed for it. To discharge the animals, open the car-doors, and two of them will be liberated; then swing around the shoulder-gates *D'* in succession, beginning at the side of the car-doors, so that they will stand longitudinally with the car. A passage-way is thus formed for the egress of the animals in succession.

Having thus fully described the construction and operation of my invention, what I claim, and desire to secure by Letters Patent, is—



1. The hip and shoulder gates D D', hinged by any proper contrivance to the central vertical posts B riding upon the way A, forming stalls and passage-ways along either or both sides of the car, substantially as specified and shown.

2. The gates D D', pivoted near the center of the car or sliding in grooves formed in a line through the center of the car, substantially as set forth and shown.

3. The feed and drinking troughs E and pipes J, made vertically and longitudinally adjustable, substantially in the manner specified.

4. The revolving adjustable stirrups H, to give additional support to the drinking and feeding troughs E, in combination with said troughs, substantially as specified.

5. The cleated gangway M with folding side pieces m, arranged to be stowed beneath the car, substantially as specified.

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Witnesses:

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