

J. B. SHAFER.

Stock Car.

No. 29,409.

Patented July 31, 1860.

Fig. 1.

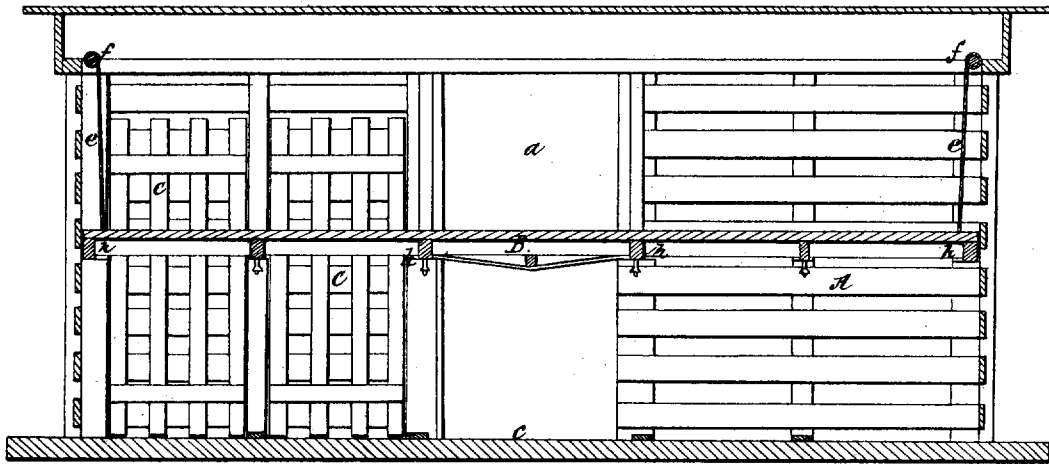


Fig. 2.

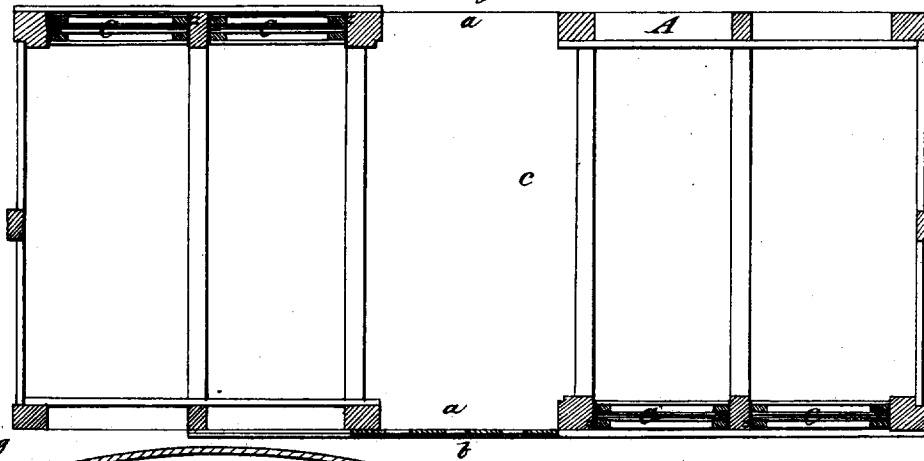


Fig. 3.

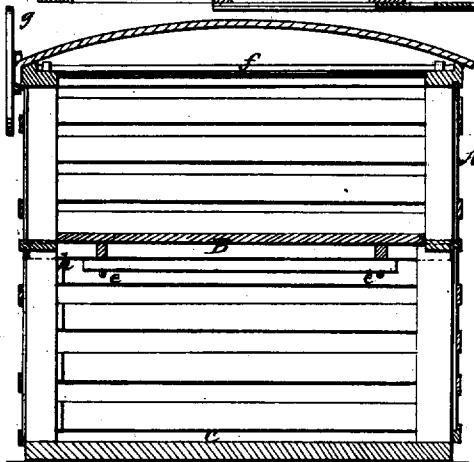
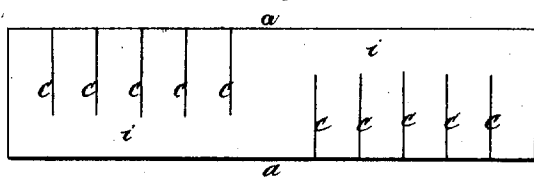


Fig. 7.



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Fig. 5.

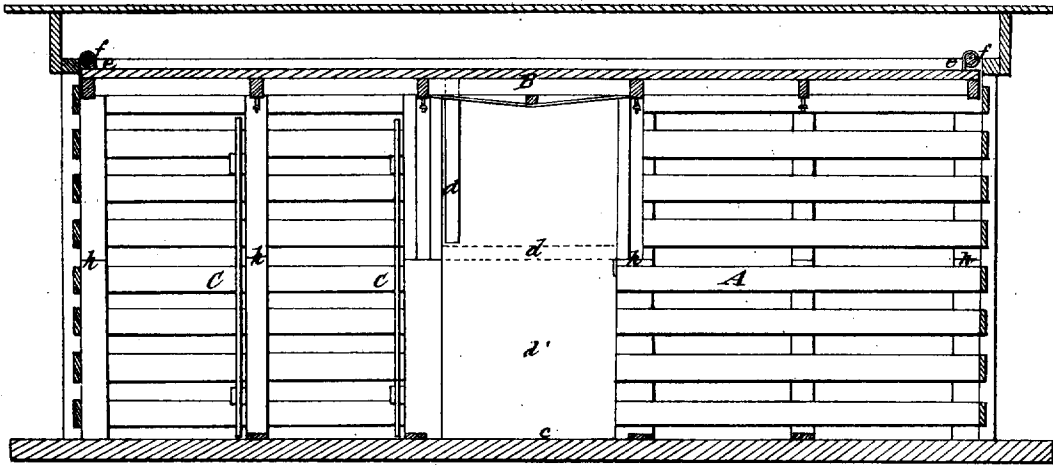


Fig. 4.

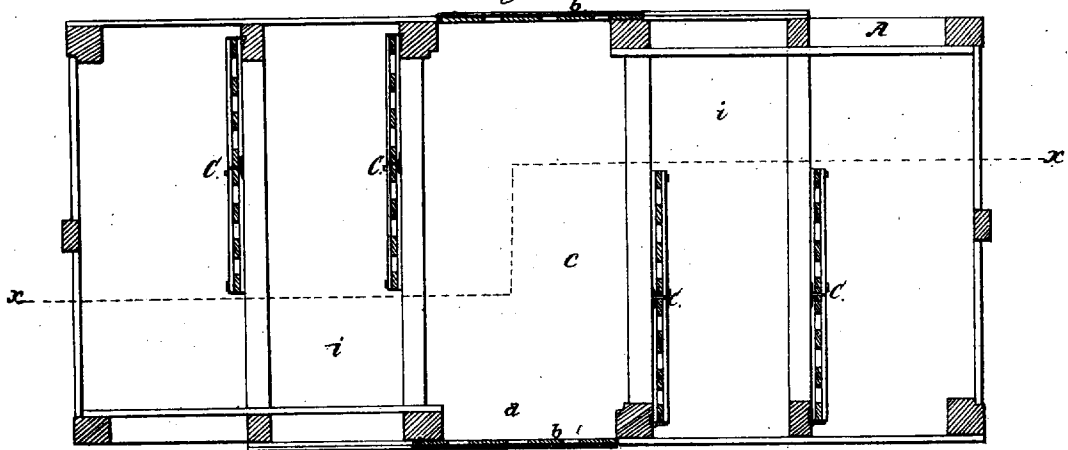
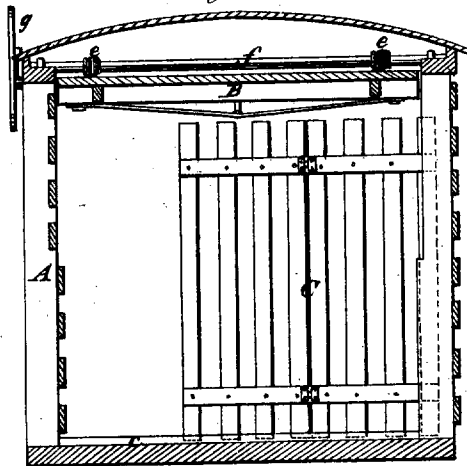


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN B. SHAFER, OF GRAFTON, VIRGINIA.

RAILROAD CATTLE-CAR.

Specification forming part of Letters Patent No. 29,409, dated July 31, 1860; Reissued May 2, 1871, No. 4,368.

To all whom it may concern:

Be it known that I, JOHN B. SHAFER, of Grafton, in the county of Taylor and State of Virginia, have invented a new and useful
5 Improvement in Cars for the Transportation of Cattle or other Live Stock upon Railroads, Suitable also for the Carriage of Freight; and I do hereby declare that the following, taken in connection with the accompanying drawings, is so full and clear a description thereof as that others practically acquainted with the building and working of cattle-cars generally may make and use this my invention.
15 The present railroad stock cars in common use are, by reason of their construction, unsuited to the transportation of all kinds of stock. Thus, there are cars built expressly for horned cattle and mules. These
20 should be both moderately lofty and free from intermediate posts or other objectionable and hurtful obstructions in their interior, the same also presenting an open or uninterrupted space for conveniently packing away and carrying many kinds of
25 freight when not required for the transportation of cattle. Again, there are stall rack cars suitable for the conveyance of horses, and, as a third division, double-decked cars,
30 which are expressly designed for hogs, sheep, and so forth. This varied construction has ordinarily required a large number of cars to do a comparatively small business in the stock line, and as, in many districts
35 at certain seasons of the year, one description of stock is shipped more extensively than are other kinds, and each description of stock the principal trade in its turn—as, for instance, horned cattle or mules at one
40 season, hogs or sheep at a different period, and horses at another—it is no unusual circumstance for large numbers of one or more kinds of stock cars to be standing idle and exposed to decay. Such a variety and occasional use not only involves a heavy pecuniary outlay in cars for conveying stock, loss by interest of money sunk, necessary repairs, and in many other ways, but there frequently is experienced great inconvenience
50 in supplying the stock trade with cars, as the trade is governed by the “market,” which is very irregular. Sometimes all the cars belonging to a road could be profitably employed in shipping exclusively, or mainly,
55 either horned cattle, or hogs or sheep, and

so forth, were said cars suited by their construction to convey such different kinds of stock, but this not being the case, it has been usual to keep on hand extra cars of one or more kinds for one or more descriptions of stock to meet a “rush” in trade of a particular or more than one kind of stock.

The object of my invention is to obviate these many inconveniences and to afford increased facility to shippers of live stock, likewise a great advantage to railroad companies, also largely reducing expense and the number of cars required for the stock carrying business and freight trade of a road, by so constructing a car as that it shall be readily convertible into one or other of the three kinds of car known as “double deckers,” “cattle” or “freight car,” and “stall rack.” And my invention consists in effecting this result or these results by the employment, in connection with a car body of open-work construction, of a raising and lowering intermediate or middle deck proper, and of folding and unfolding stalls arranged to operate independently of the adjustable middle deck but for action in concert with it substantially as hereinafter described.

In the accompanying drawings Figure 1 represents a longitudinal sectional elevation of a car body with my improvement applied to it and showing the stalls as closed and the adjustable middle deck in its down position to form a “double decker”; Fig. 2 represents a horizontal section of the same, and Fig. 3 a transverse vertical section thereof. Fig. 4 represents a horizontal section of said car body with my improvement attached, assuming the middle deck to be raised and the stall partitions extended; Fig. 5 a longitudinal vertical section taken as indicated by the line $x x$ in Fig. 4, and Fig. 6 a transverse vertical section with the middle deck and stalls as indicated in Figs. 4 and 5. Fig. 7 is a diagram in illustration of the arrangement of the stalls or as I prefer to arrange them.

The car body (A) is here shown of ordinary open-work construction and is of course designed to be mounted on a truck or trucks of the usual or any suitable kind. On either side of it, and preferably at or about the middle, are openings (a) extending from top to bottom or thereabout of the car, to permit of the ingress and egress of

stock or freight. These openings may be closed, on either side, by a pair of sliding gates (*b*) arranged one above the other and serving as independent doors, the one to the lower floor (*c*) and the other to the middle deck (B) when this latter is down, or serving unitedly as one door when the car is not adjusted to form a "double decker," said upper and lower doors being separated by a hinged bar (*d*), that may be raised from its position shown in dotted lines Fig. 5 to the position it is represented as occupying by black lines in full, same figure.

The middle floor or deck (B) is shown as made to slide up to the roof of the car (or it may be arranged to lower to the bottom or floor of the car) by means of ropes or chains (*e*) near either corner and wound up by cross shafts (*f*), operated by hand wheels (*g*) on the outside of the car, a reverse movement of the shafts (*f*) of course serving to lower said deck. I do not confine myself however to any particular mechanism for raising and lowering the middle deck.

After the middle deck (B) is raised to the roof, the car is ready for receiving horned cattle and mules, there being no objectionable intermediate posts or other similar obstructions in the body of the car to endanger the cattle injuring themselves when the car is in motion, and the car, when thus adjusted presenting a clear open space in the interior for the stowage of freight when the car is not required to transport stock and the trade of the road suggests such use of it. The sleepers, sills, and other parts of the middle deck all go up with the latter when being raised to the roof, consequently are out of the way, and the independent stalls or stall partitions, hereinafter described, remain shut up against the sides of the car, and are therefore equally out of the way. This middle floor (B) need not necessarily be any heavier than the stationary ones now in use, and it should be so braced as that it will not give way. Thus, it forms a middle deck proper of a solid character, and is totally distinct from the stall partitions (C).

The frame of the car is or may be made with double posts at each end, and in the middle on each side of the doors, between which posts the sleepers of the middle deck are made to slide and guide the latter in its vertical movement. Fastenings may be used to prevent the car from spreading. When the middle deck is raised, it may be locked by suitable bolts or other fastenings, also the hoisting mechanism be provided with ratchet or other locking contrivances. When said middle deck is let down to its place, it is made to rest on shoulders (*h*) of the posts or framework, which gives to it a solid bearing.

The stall partitions (C) are preferably so

arranged as to fit nicely into the sides of the car between the posts of its frame, and are hinged or otherwise equivalently connected to the sides of the car to swing or open and close vertically and each partition made in sections hinged together so as to fold the one section upon the other to facilitate the partitions shutting close up against the sides of the car. Figs. 1-2 and 5-6, represent these stall partitions in their closed and open conditions. When extended, they may be fastened in their open positions by bolts or other suitable fastenings and be similarly secured when closed. To admit of opening the stalls or stall partitions, the middle deck (B) is first raised to the car roof; and it will be observed that, when the car is used as a "double decker," the stall partitions are but little if any liable to be "fouled" by the hogs or sheep under transportation, and that, shutting against the sides of the car, they are exposed to the most thorough ventilation, so that when required to form stalls for horses they will be in a measure clean and free from smell. These stall partitions (C) are shown arranged on opposite sides of the car at opposite ends, as clearly shown in Fig. 4 and in the diagram Fig. 7, in which latter there are represented to be five stalls on either side, but there may be more or less than five, as desired. The object of thus arranging the stalls is to equalize the load on either side of the car, or, in other words, to effect a balance. This will be readily seen by taking into consideration the crosswise position of the stalls and necessary alley or passage space (*i*) to the stalls, and that were the stalls all on one side of the car and the passage thereto on the other, the car, when loaded, would necessarily be depressed or weighted more on one side than the other. A transverse position of the stalls is preferable in the transportation of horses.

It often happens that a drover, in transporting a load of cattle, has or takes along with him his horse, which he cannot send by rail in the ordinary cattle car along with the cattle, and to engage a horse car for the purpose is very expensive. This difficulty may here be obviated, as, after the middle deck is raised, one of the end stall partitions may be extended for the accommodation of the horse and the rest of the car left free from any stall division for the cattle. These latter, and the more prominent advantages before named, or either of them, in addition to the facility with which the present stock cars in ordinary use can be altered to give to them the novel character of this my improvement, and the little expense attendant upon applying the invention, combine to make the latter a thing of great practical utility.

Now having described my invention, I

claim as new and useful in cars for the transportation of live stock or live stock and freight on railroads—

- 5 1. The combination, with the car body, of a raising and lowering middle deck proper and suitable hoisting machinery thereto, in such manner as that the car may readily be converted from a "double decker" into a
10 "freight" car free from division into stall apartments, or projecting arrangement of partitions into stalls, substantially as specified.
2. The combination, with the raising and

lowering middle deck to the car, of inde- 15
pendent stalls or stall partitions hinged or otherwise equivalently connected to the car on opposite sides of it, at opposite ends, and for operation in connection with the adjust- 20
able middle deck, but distinct therefrom, substantially as and for the purpose or purposes specified.

In testimony whereof, I have hereunto subscribed my name.

JNO. B. SHAFER.

Witnesses:

EDM. F. BROWN,

A. GREGORY.