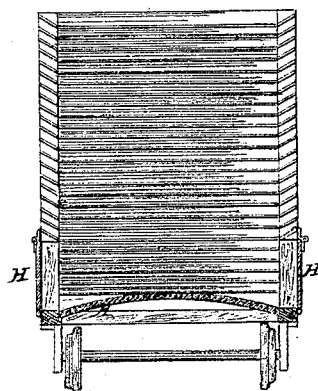
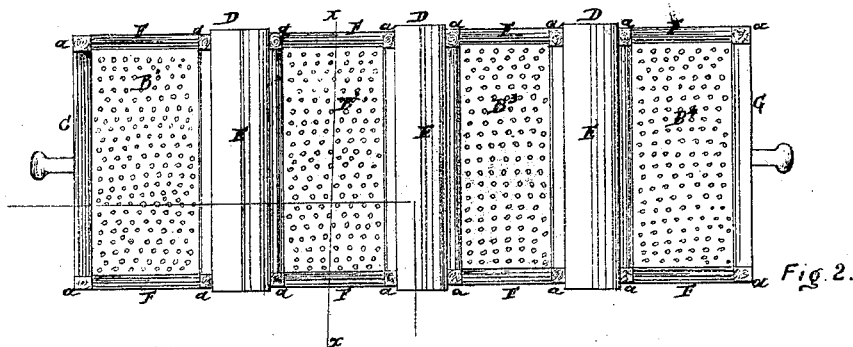
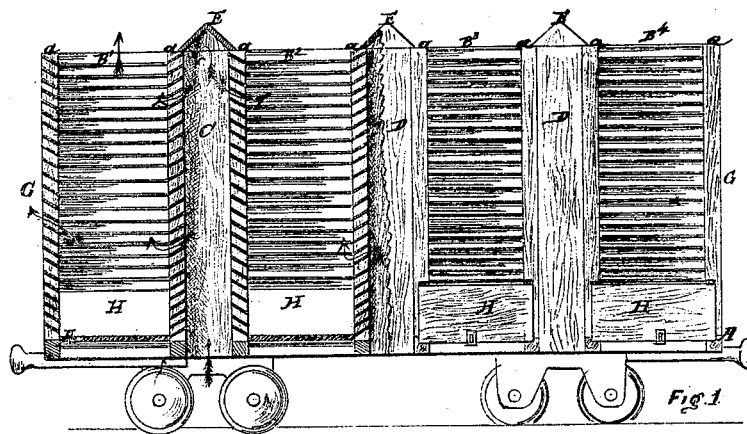


### Improvement in Grain-Drying Cars.

Patented May 9, 1871.



**Witnesses**

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# United States Patent Office.

CHARLES S. DOLE, OF CHICAGO, ILLINOIS.

Letters Patent No. 114,534, dated May 9, 1871.

## IMPROVEMENT IN GRAIN-DRYING CARS.

The Schedule referred to in these Letters Patent and making part of the same.

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

Be it known that I, CHARLES S. DOLE, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in "Railway Cars for Drying Grain;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being made to the accompanying drawing, which, together with the letters and figures of reference marked thereon, forms part of this specification, and in which—

Figure 1 is a side view of a car constructed according to my invention, being partly in section;

Figure 2 is a plan or top view of the same; and

Figure 3, an end or cross-section on line *xx* of fig. 2.

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

### *General Description.*

My invention relates to a car made with several compartments, divided by hollow or double partitions, arising from the platform or floor of the car. These several compartments are made with perforated sides or of slat-work.

The hollow partitions are open at the bottom through the floor of the car, and are closed at the top.

Grain to be dried is placed in this car, the several compartments being filled, and the car run into an oven or kiln, the heated air of which arises into the hollow partitions and passes through the perforated or slat-work sides thereof in among the grain, whereby it is effectually dried, after which the car may be removed into the cool air to an elevator.

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

A is the platform or floor of the car, which may rest upon the ordinary trucks.

This platform supports a number of uprights, *a*, which form part of the superstructure.

The car is made into several compartments, B<sup>1</sup> B<sup>2</sup> B<sup>3</sup> B<sup>4</sup>, the division being preferably made across the car.

C are the hollow partitions or flues for the admission of air, which separate the several compartments.

These flues are made to open through the platform of the car, and are constructed at the sides of slat-work, so arranged that the grain placed in the compartments B<sup>1</sup> B<sup>2</sup> B<sup>3</sup> B<sup>4</sup> cannot pass through into the flues, but yet affording free passage for the air from the flue into the grain.

These sides may also be made of perforated metal if thought preferable, or of wire-netting, the object being always to so construct the flues as to allow of

the air passing into the grain while the grain is held from entering the flue, but I prefer to make them of slats.

The ends of these partitions or flues are closed, as at D, and said flues are likewise closed at the top, as at E, so that the heated air, to effect its escape from the flue, must pass through the slat-work or perforated sides into the grain.

The compartments B<sup>1</sup>, &c., are open at all sides, the ends, as at F, being made perforated or of the slat-work, and the sides being constituted, of course, by the partitions, excepting the two outer or end compartments B<sup>1</sup> B<sup>4</sup>, where the ends of the car G G form one side of each; these ends are likewise made perforated or of slat-work.

The tops of said compartments are left entirely open, while the bottom or platform beneath the said compartments is perforated or pierced with numerous holes, so that a portion of the hot air may pass directly thereinto from beneath.

The platform of the car A is made with a double incline or crown, as seen in fig. 3; and a door or trap, H, is provided at each end of each of the several compartments, by means of which the grain is withdrawn from the car when desired.

This platform may be made with a single incline extending from one side to the other, if preferred, when a single trap or door, H, at the lower side of each compartment, will suffice.

The grain is loaded into the car from above; the covers of the flues or partitions being made in a roof-shape or double incline no grain lodges therein.

This car may be run up to an elevator and loaded, after which it may be conveyed to the oven or drying-kiln, constructed with a track running into the same; after it is dried the car may be run out into the open air and allowed to cool, and then run to another elevator to be stored, all without handling the grain but twice, once to load and once to unload.

I may also make my car with the platform A continuous, but perforated with numerous holes, and the hollow partitions may be made movable upon this platform, in which case the sides and ends of the car are made independent of the partitions, but otherwise similarly constructed.

When constructed of slats it may be desirable that they should be pivoted or hinged, so that they may be closed when the car is run out of the oven or kiln and over a rough track, which would be likely to shake the grain out if the slats were not closed.

It will be readily understood that the car above described is not, strictly speaking, such a railway car as would be adapted to the transportation of grain to any great distance, as in ordinary freight-cars, as this would be impracticable without a roof, because of the

exposure of the grain to the action of the weather; but for carrying grain from one elevator to another the want of a roof will not be of damage ordinarily to the grain.

If the car is to be used for ordinary railway purposes in addition to its office as a drier and cooler, any ordinary removable roof may be applied; but I do not contemplate in general any such use.

Having thus fully described the construction and operation of my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The vertical compartments B<sup>1</sup> B<sup>2</sup> B<sup>3</sup> B<sup>4</sup>, with sides constructed to hold the grain and allow free ad-

mission of air, when separated one from the other by hollow partitions or flues in a car for drying grain, substantially as specified.

2. The car for drying grain, herein described, made with a perforated platform, A, and several compartments B<sup>1</sup> B<sup>2</sup> B<sup>3</sup> B<sup>4</sup>, separated by vertical flues or hollow partitions, the sides of which are constructed to allow the air to circulate through the grain contained in the car, substantially as specified.

CHAS. S. DOLE.

Witnesses:

L. L. COBURN,  
JNO. W. MUNDAY.