L. HETFIELD.

Coal-Car.

No. 217,286. Patented July 8, 1879.

Fig. 1.

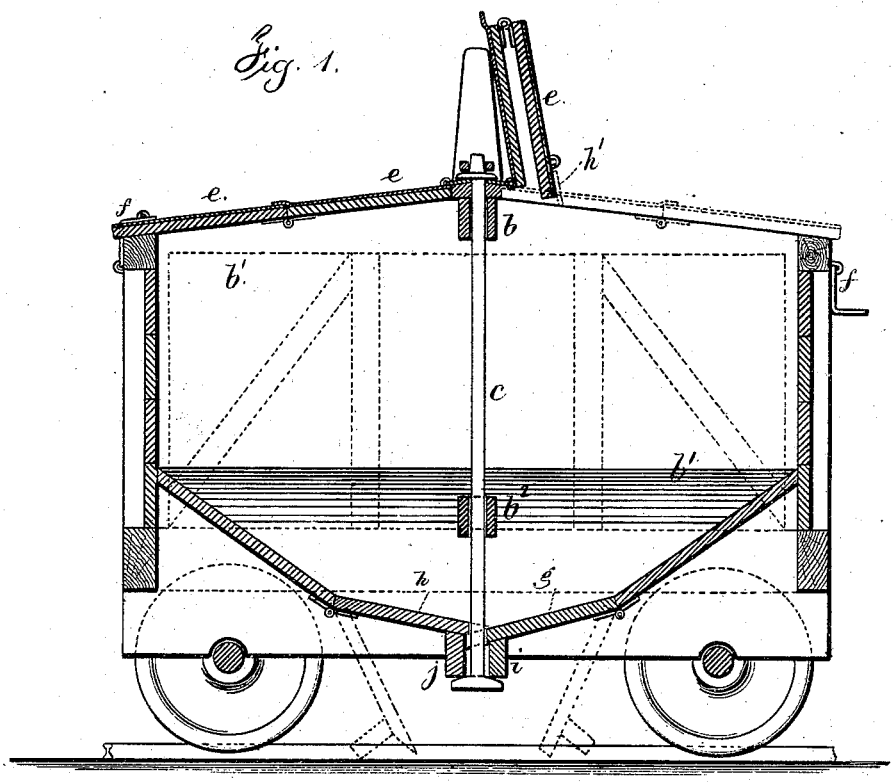
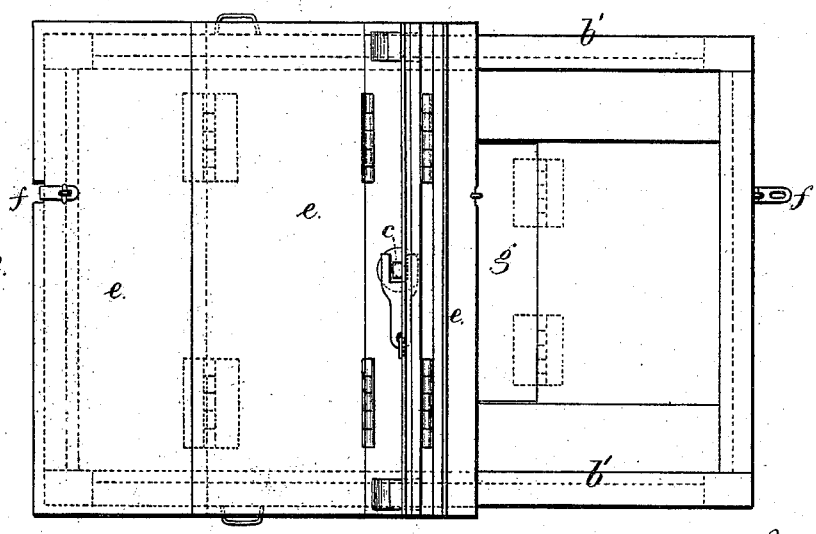


Fig. 2.



Witnesses

Chas. H. Smith

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UNITED STATES PATENT OFFICE.

LEVI HETFIELD, OF PLAINFIELD, NEW JERSEY.

IMPROVEMENT IN COAL-CARS.

Specification forming part of Letters Patent No. **217,286**, dated July 8, 1879; application filed March 5, 1879.

To all whom it may concern:

Be it known that I, LEVI HETFIELD, of Plainfield, in the county of Union and State of New Jersey, have invented an Improvement in Coal-Cars; and the following is declared to be a description of the same.

Coal-cars as at present constructed are very objectionable, from the fact that in winter-time the coal carried in the same is exposed to the elements, and the snow or rain that falls upon them, whether they are stationary or in transit, very often freezes and causes the mass to become almost solid or immovable; and in order to remove the coal from the cars it has to be broken up by the use of crow-bar and pickax, and in so doing the cars are often injured. As made at present the delivery-doors in the bottom of the coal-cars are not easily opened, but often have to be pried open.

My invention is made with a view to overcoming these difficulties; and consists of a coal-car having hinged adjustable covers, that can be raised out of the way when the car is being filled, and when let down said cover protects the coal and prevents rain or snow getting into the car.

My invention also relates to the delivery-doors at the bottom of the car.

In the drawings I have represented in Figure 1 my improved car by a vertical section, showing one cover up and the other cover down in full lines and one cover down in dotted lines, and showing the delivery-doors closed in full lines and open in dotted lines; and Fig. 2 is a plan of the same.

The coal-car is of the usual size, and is constructed with the bridge-pieces b b^2, inclined sides b^1, and turning-rod c, extending from said bridge down to and supporting the delivery-doors at the bottom.

The covers e are, preferably, made in two pieces, hinged together, and each section, in turn, hinged to the bridge-piece b, and when closed said covers incline by resting on the inclined sides b^1, and they are provided with lap-joints to shed the rain. I provide handles by which these covers can be raised and lowered, and I sometimes use a chain and pulley or an arm jointed and operated by a handle or wheel from a standard or frame placed on top of the car. These covers I have shown as made of wood covered with sheet metal. I do not limit myself to this, as I may use sheet metal or wood covered with some roofing material. I also provide said covers e with a clasp, f, so that they can be securely fastened down during transit; and there are also battens or strips of metal on the top of the covers e at the sides of and projecting beyond the edge of the flap of the cover next the ends of the car, as shown in the drawings by dotted lines at h', Fig. 1, so that when the covers are raised said strips will take a bearing upon the inclined sides of the car and hold the covers in place; and I provide upon the top of the covers e cleats or boards that will form a walk for brakemen or train-hands.

The delivery-doors g h are hinged at the sides to the body of the car, and made so that the door g laps over the door h; and said doors are provided with bearing-strips i j, fastened thereto, and said strips come above the T end of the rod c and rest thereon, thereby preventing the doors from falling open until the rod c has been given a quarter-turn, when both doors open instantly by the weight of coal, and the delivery is made instantaneous and perfect.

I am aware that coal-cars have been made with delivery-doors in the bottom; but, in consequence of their coming edge to edge, they are liable to swell and become jammed tight. By lapping the edge of one over the edge of the other this difficulty is prevented and the joint made close.

I am also aware that grain-cars have been made with hatches in the roof.

I am also aware that coal-cars have been made with covers that are hinged to the upper edges of the sides of the car, and turn outwardly and downwardly at the sides of the car. These, however, increase the width of the car when open and prevent easy access at the sides thereof.

I claim as my invention—

1. The delivery-doors g h at the bottom of the coal-car, hinged at their outer edges and lapping one upon the other where they come to-

gether, in combination with the T-ended rod *c*, upon which the doors are supported when closed, substantially as specified.

2. In a coal-car, the sides b^1, that are inclined at their top edge, in combination with the bridge-piece *b* and the folding covers *e*, hinged together and to the bridge-piece, and resting upon the top of the inclined sides b^1, for the purposes and substantially as set forth.

Signed by me this 28th day of February, A. D. 1879.

LEVI HETFIELD.

Witnesses:
JOHN H. VAN WINKLE,
WALTER L. HETFIELD.