L. B. CRITTENDEN.

RAILROAD CAR.

No. 66,467. Patented July 9, 1867.

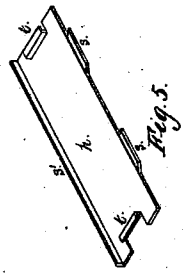

Fig. 5.

Fig. 4.

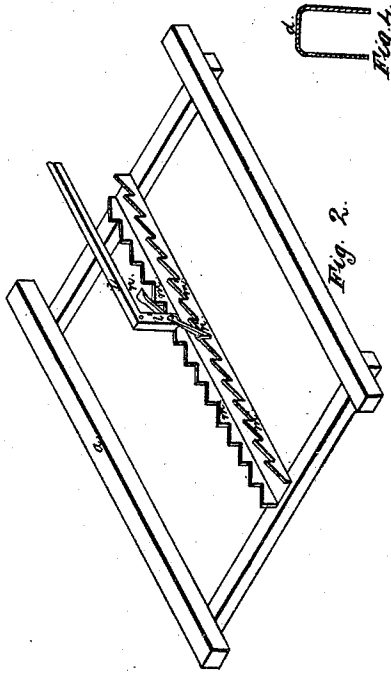

Fig. 2.

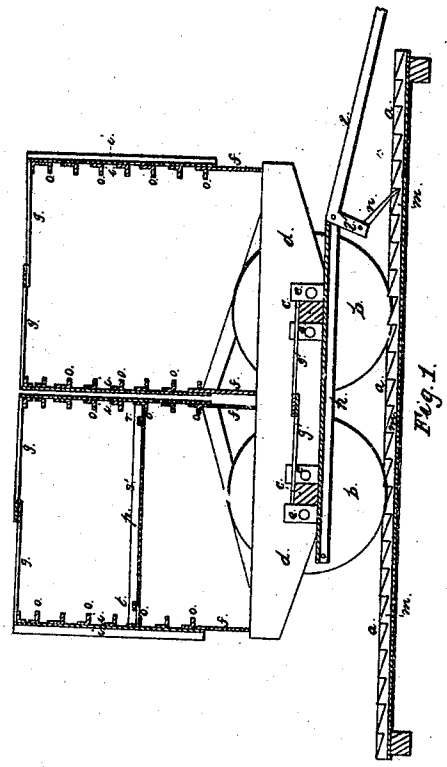

Fig. 1.

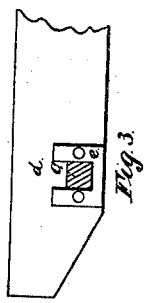

Fig. 3.

Witnesses.

W. D. Lewis

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United States Patent Office.

LYMAN B. CRITTENDEN, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 66,467, *dated July* 9, 1867.

IMPROVEMENT IN RAILROAD 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, LYMAN B. CRITTENDEN, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Cars for Drying Brick; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of my improved drying-car and track, such section being formed by a plane passing longitudinally through the car and track, midway between the opposite sides of each.

Figure 2 is a perspective view of a section of the track, together with the car tongue and double ratchet device for moving the car.

Figure 3 shows an end of one of the bearers of the car-frame resting on its axle, and illustrating my mode of strengthening such bearers.

Figure 4 is a cross-section of such bearer; and

Figure 5 shows in perspective the form of carrying or bearing trays which I commonly use in connection with my improved car in drying and hauling brick.

Like letters of reference indicate like parts.

The nature of my invention consists in the construction of a car for drying brick in an oven prepared for such purpose, such car being fitted with certain devices for convenience in loading brick thereon, and unloading them therefrom, in connection with a ratchet device for moving such car when heavily loaded.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and mode of operation.

a a are two parallel rails or bars of any known material, so laid as to make a track leading from the brick-machine or from the carriers connected therewith, to the drying-oven, or from the latter to the kiln. On this track the car shown in fig. 1 rests and operates for the purpose of being loaded and moved. The car-frame or body is supported by a truck consisting of the wheels *b*, attached to the axles *c*, on which axles, near their extremities, but inside the wheels *b*, rest the bearers *d*, consisting usually of plate or boiler iron bent transversely into an inverted U-shape, as shown in fig. 4, so as to secure additional strength without increase of weight. These bearers *d* I notch sufficiently to support the axles *c*, and in order that they be not seriously weakened thereby I strengthen the bearers *d* at such points by a U-shaped iron plate, *e*, securely riveted thereto. To the bearers *d* is attached the frame-work which supports the slides or trays loaded with brick. Such frame consists of cross-bearers or plates *f* or boiler or plate iron, extending across between the opposite ends of the bearers *d*, and at such points between the ends as may be desirable, and secured to the bearers *d* in any convenient way. To these cross-plates *f* the posts *i* are fastened, the latter being made of angle iron, and of sufficient number and weight to secure the requisite strength. Running horizontally across from one to another of these posts *i i*, and from side to side of the car, are the angle irons *o o*, so attached to such posts as to form projecting ledges on which to place the shelves or trays which carry the brick. Each of such ledges is so far separated from the one next above it or below it as to allow room between them for the free admission and circulation of hot air from the drying-oven, through the lattice-work thus made. Such arrangement for shelves or trays is carried to any required height, when, if necessary, further strength is secured by the braces *g*, running diagonally from one part of the framework to another. Similar braces *g'* connect and brace the axles *c* or other parts of the truck-frame. On each pair of the angle-iron ledges *o o* I place a series of trays of any desirable construction, but usually of the form shown in fig. 5, on which trays or shelves are placed the brick to be dried. Each such tray *p* has a flange, *s'*, on one edge, and projections *s* on the other, so that as the trays *p* are slid on to and along the ledges *o*, the projections *s* of one tray will come against the flange *s'* of the next tray. Thus interstices or openings are kept between the trays *p* to allow of the free circulation of the heated air among the bricks to be dried. At each end of the tray *p* I make handles *t*, for convenience of lifting or moving the tray *p*, which is especially necessary when the tray is loaded with brick. To the axles *c* I attach a draw-bar, *h*, to either end of which to bolt a tongue, *e*. Directly under such bar *h*, and securely fastened to the ties of the track, I place a double ratchet device, (as shown in fig. 2,) with one set of ratchet teeth, *m*, pointing in one direction, and the other set, *m'*, pointing in the opposite direction. The tongue *l* I make of the form of a bent lever, having an

arm, l', to which I attach two pawls n n', in such a way that one will operate against each set of ratchet teeth m m'. A good-sized car loaded with undried brick to its full capacity, in the manner above described, would be of so great weight as to be moved by hand, by the aid of only the ordinary appliances, with great difficulty, if at all. By the tongue and ratchet device described, I overcome this difficulty to a great extent. The car, tongue, etc., being in the position indicated in fig. 1, to run the car back, I drop the forward end of the tongue l down, which carries the pawl n back, and drops it behind one of the teeth m, the pawl n' being at the same time raised so as not to operate at all. Then by raising the tongue l the arm l' is thrown forward, it and the pawl n approach to a straight line, the distance between their opposite extremities is increased, and consequently the car is driven back. The tongue is again dropped, the pawl n takes another tooth, and the operation is continued. The tongue l is easily removable so as to be attached to either end of the bar h, or to be used with different cars. To move the car in the opposite direction, the pawl n' is used, the mode of operation being the same, but the operation being in a reverse direction. Or the tongue l may be attached to the other end of the bar h, and the operation be the same. The framework of the car, made as described wholly or chiefly of boiler plate or angle iron, secures the requisite strength, and is still sufficiently open to allow the heated air from the drying-oven or furnace to circulate among the bricks freely and dry them thoroughly. In ordinary use, I load the brick on to the trays p either by machinery or by hand, and as fast as they are loaded slide them on to and along the ledges o till the car is properly filled. I then run the car into the drying-oven, where the brick are properly dried. Thence they are removed to the kiln and unloaded in the same way. The use of the trays p, capable of being conveniently handled when loaded, enables me to move the undried bricks with less handling, and consequently, as they are in a plastic state, with less injury. The car-frame may be close instead of latticed, as described.

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

1. A close or latticed-work car-frame, mounted on trucks, such frame being made of boiler plate or angle iron, and furnished with angle-iron ledges, on which ledges to place brick-bearing shelves or trays, substantially as and for the purposes described.

2. The construction and use, in connection with such car, of a tongue, l, having an arm, l', the latter provided with one or more pawls, in combination with a corresponding central ratcheted rail, substantially as and for the purposes hereinbefore set forth.

3. The construction and use, in combination with a car for transporting and drying brick, of a metallic brick-bearing tray, having flanges or projections on either or both of its opposite edges, so that when such trays are placed side by side in the car, interstices or openings will be left between them for the free circulation of air, substantially as and for the purposes hereinbefore described.

In testimony whereof I, the said LYMAN B. CRITTENDEN, have hereunto set my hand in presence of—

LYMAN B. CRITTENDEN.

Witnesses:

A. S. NICHOLSON,

GEO. H. CHRISTY.