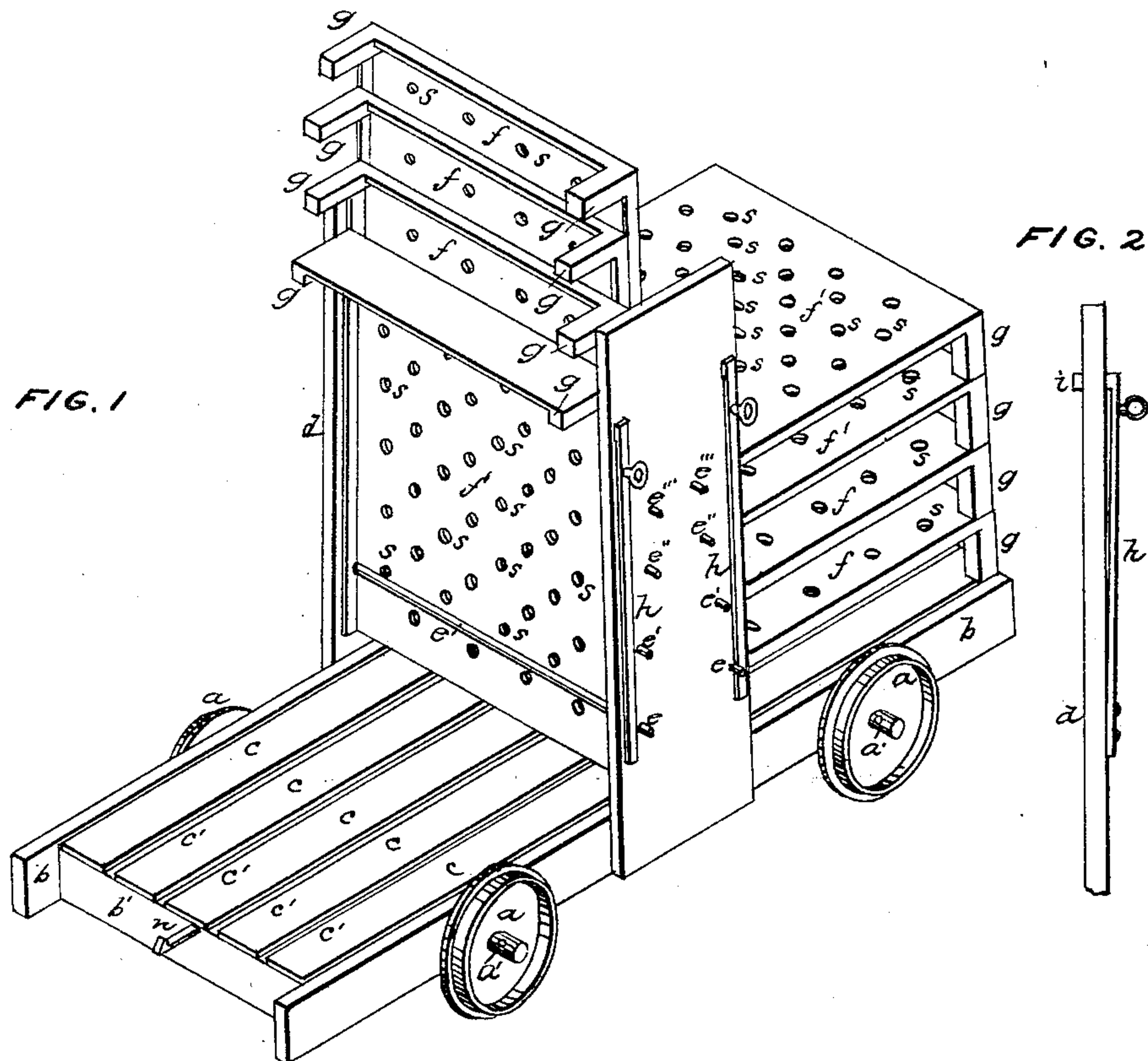


J. K. CALDWELL.

Brick Kiln.

No. 67,632.

Patented Aug. 13, 1867.



WITNESSES:

W. D. Lewis.  
W. B. Bushing.

INVENTOR:

John K. Caldwell  
by Bakewell & Co.  
Attorneys.

# United States Patent Office.

JOHN K. CALDWELL, OF PITTSBURG, PENNSYLVANIA.

*Letters Patent No. 67,682, dated August 13, 1867*

## IMPROVEMENT IN BRICK-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, JOHN K. CALDWELL, of the city of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Off-Bearing and Drying Brick-Cars; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved drying-car, with the hinged shelves of one end in a vertical, and of the other end in a horizontal position; and

Figure 2 is an edge view of one of the standards, showing the spring thereto attached.

Like letters in each designate similar parts.

The nature of my invention consists in the construction of an improved car for drying brick, fruit, grain, and other articles, which car has shelves hinged at one end, so as to occupy a horizontal, or so as to be placed in an upright position, for convenience and facility of loading.

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

For facility of moving my car into or out of an oven, or from place to place, I provide a truck and frame of any convenient construction, but commonly as shown in the drawings. I make it with wheels *a*, usually flanged to operate on a track, connect them by axles *a'*, on which, either inside or outside the wheels *a*, I rest the side bearers *b*. These I connect by any necessary number of cross-bearers *b'*, and thereon place slats *c*, of any desirable breadth, and with interstices *c'* between them, sufficiently wide and sufficiently numerous to allow of the free passage of air upwards through the bottom of the car. But other suitable openings or apertures may take the place of the interstices *c'*. From either side of the car, and attached to the bearers *b*, are upright standards *d*, in any desirable number. A series of shelves *f f'*, either made whole, or in longitudinal sections, and divided lengthways, is hinged to these standards *d* by rods *e e' e'' e'''*, each upper rod *e'''*, *e''*, &c., being the proper distance above and a little back of its next lower rod *e'' e'*, &c., so that the shelves, as at *f'*, may have a horizontal position one above the other, and be supported in place by the hinge rods *e e'*, &c., at one end, and by the legs *g* at the other, the legs of each upper shelf *g* resting on the shelf next below; and also so that, for convenience and facility in loading, the shelves may, as at *f*, be thrown into a vertical or upright position, the horizontal distance between two rods *e e'*, &c., being at least equal to the thickness of the shelves *f*, so as to provide room for raising the shelves successively to an upright position. To the outside of each of the standards *d* I attach a spring *h*, for each series or set of shelving *f* or *f'*. The upper end of this spring *h* has a catch, *i*, running through a slot in the standard *d*, bevelled on its outer face, so that as the shelves *f f'* are raised one after another, they may slip past the catch *i*, and there be retained, until by drawing back the spring *h* they are released and thrown down into a horizontal position as each successive one is loaded. Thus I commence by loading the bottom or lower shelf, the upper ones being retained in a vertical position, so as to be out of the way. The lower shelf being loaded, another is dropped down and loaded, the spring *h* being drawn back for that purpose, and so on successively till all the shelves *f f'* are loaded, when the car is ready for the oven. But I do not deem the spring *h* as always essential, since I sometimes dispense with its use, and arrange the rods *e e'*, &c., in the standards *d* in such a manner that the shelves *f f'*, &c., may, when raised to a vertical position, be thrown or fall backward over their respective centres, where they will be retained by force of gravity until let down for use. To allow the free circulation of the heated air of the oven among the bricks or other articles, I usually puncture the shelves *f f'* with any desirable number of holes or apertures *s s*, of such size, shape, or arrangement as will best secure the desired results. When loose or light articles, such as fruit or grain, are to be dried, ledges may be made along the outer edges of the shelves *f f'*, and the apertures *s e'* be made smaller, or closed with thin cloth, wire gauze, or other similar material, such as will prevent the articles to be dried from falling through, and still offer no serious resistance to the free circulation of the heated air of the oven. I have described the shelves *f f'* as hinged at the centre of the car. They may, however, be hinged at each end, and open or fold outward, or hinged only at one end, or hinged at any desirable point between the two ends, or longitudinally with the car, on either or both sides, or between the sides. The unhinged ends of such shelves should then, of course, be supported by legs *g*, or by other equivalent device. I do not confine myself, however,



in constructing the devices described, to any particular material, but use any suitable for such purposes. Two or more such cars I connect by couplings *n*, when desirable so to do.

The advantages of the car, as described, consist in its cheapness of construction, simplicity, ease of transportation when either loaded or unloaded, convenience for loading and unloading, and its durability. Bricks may be placed on to it as they are discharged from the machine, and then be conveyed directly to the oven, and, when dried, thence to the kiln without additional handling. Thus the liability of the bricks to injury is greatly lessened.

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

1. Hinging the shelves of a car for drying brick, fruit, grain, and other articles requiring such treatment, to an upright standard, or to upright standards, such standard or standards being attached to and supported by a truck or car-frame, substantially as and for the purposes hereinbefore set forth.

2. A spring, *h*, with a bevelled catch, *i*, attached to a standard, *d*, in combination with a shelf, or with shelves *f f'*, which it is designed and adapted to retain in an upright position substantially in the manner and for the purposes above set forth.

In testimony whereof I, the said JOHN K. CALDWELL, have hereunto set my hand.

JOHN K. CALDWELL.

Witnesses:

W. BAKEWELL,

A. S. NICHOLSON.