

R. WINANS.

3 Sheets—Sheet 1.

Dumping Car.

No. 5,175.

Patented June 26, 1847.

Fig. 1.

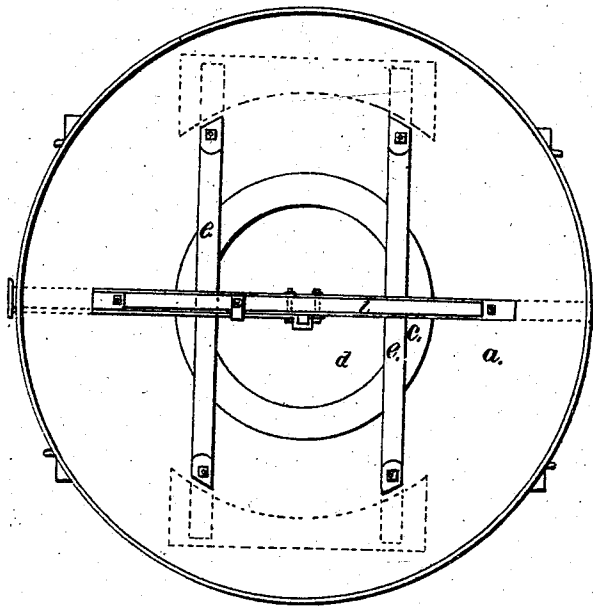
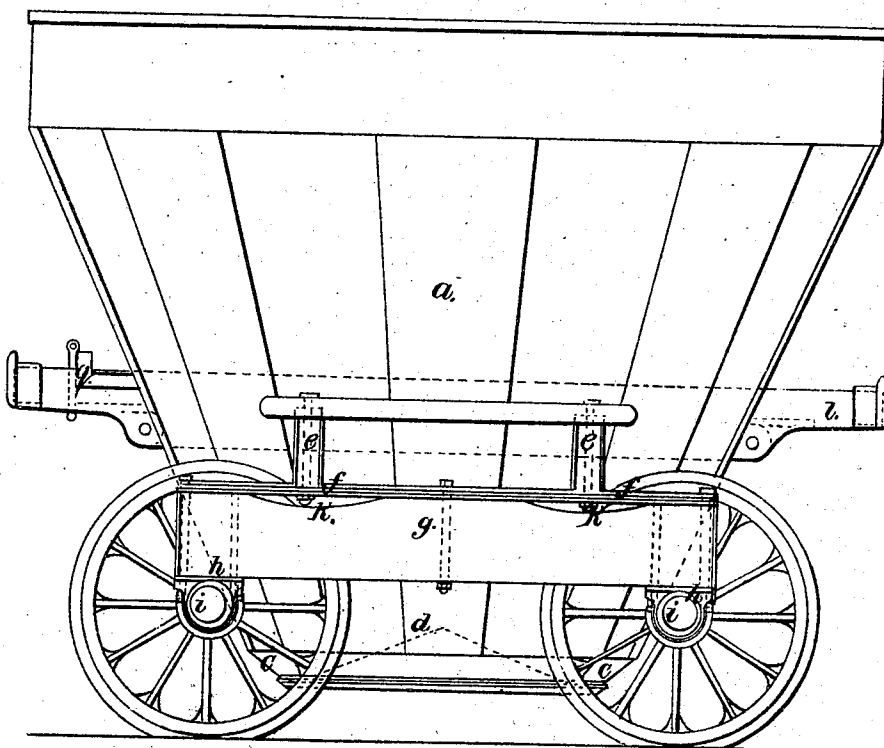


Fig. 2.



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Dumping Car.

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Fig. 3.

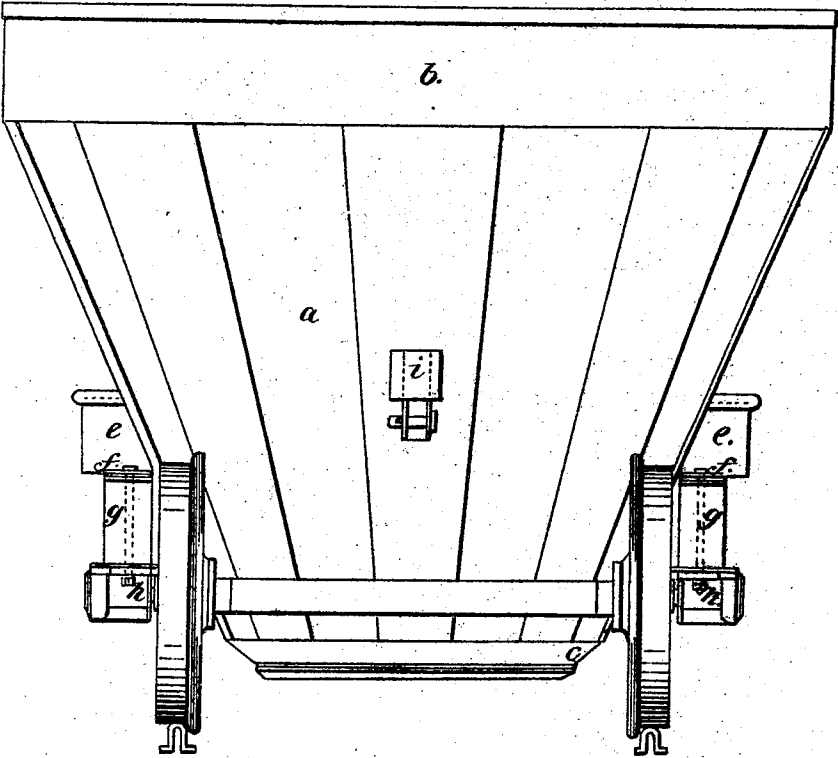
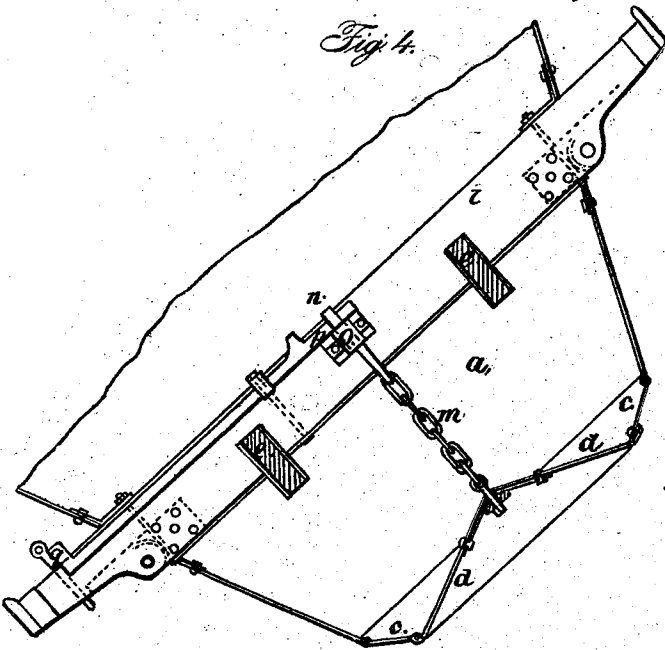


Fig. 4.



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Fig. 6.

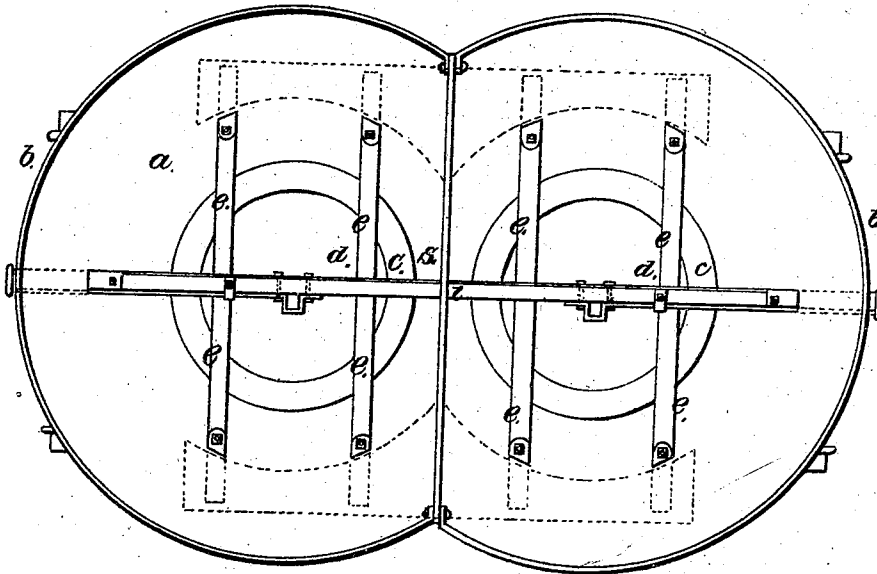
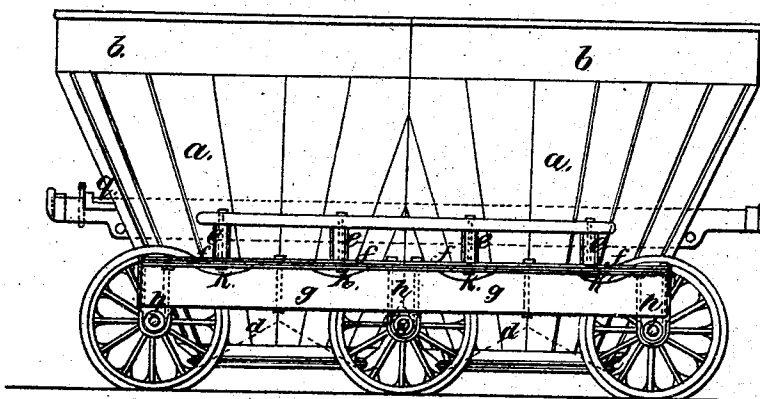


Fig. 5.



UNITED STATES PATENT OFFICE.

ROSS WINANS, OF BALTIMORE, MARYLAND.

CAR FOR TRANSPORTATION OF COAL, &c.

Specification of Letters Patent No. 5,175, dated June 26, 1847.

To all whom it may concern:

Be it known that I, ROSS WINANS, of the city of Baltimore and State of Maryland, have invented new and useful Improvements in Railroad-Cars, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of a car on my improved plan; Fig. 2, a side elevation thereof; Fig. 3, an end elevation of the same; and Fig. 4, a section of the body removed from the truck.

The same letters indicate like parts in all the figures.

The transportation of coal and all other heavy articles in lumps has been attended with great injury to the cars—requiring the bodies to be constructed with great strength to resist the outward pressure on the sides as well as the vertical pressure on the bottom, due, not only to the weight of the mass, but the mobility of the lumps among each other, tending to “pack,” as it is technically termed. Experience has shown that cars on the old mode of construction cannot be made to carry a load greater than its own weight, but by my improvement I am enabled to make cars of greater durability than those heretofore made which will transport double their own weight of coal &c.

The principle of my invention by which I am enabled to attain this important end consists in making the body, or a portion thereof, conical, by which the area of the bottom is reduced and the load exerts an equal strain on all parts, and which does not tend to change the form but to exert an equal strain in the direction of the circle. At the same time this form presents the important advantage by the reduced size of the lower part thereof to extend down within the truck and between the axles, thereby lowering the center of gravity of the load.

In the accompanying drawings (*a*) represents the body of the car made of sheet iron in the form of a frustum of a hollow cone, with the upper part (*b*) cylindrical. To the lower edge of this is secured a flange (*c*) which forms part of the bottom and against which the movable bottom (*d*) closes, as will be described hereafter. The body

of the car is connected with the truck by means of two cross bars (*e, e*) that pass horizontally through the conical part of it, with their ends resting on bar springs (*f, f*) on the top of the side pieces (*g, g*) of the truck, these being provided with boxes (*h, h*) of any desired construction in which run the journals of the wheel axles (*i, i*) the lower end of the conical part of the body passing down between the side pieces and the axles of the truck. The springs (*f, f*) are plates of steel secured at the ends and middle to the upper surface of the side pieces of the truck, and the bars (*e, e*) that pass through the body of the car are secured to the springs at points midway between their attachment to the side pieces of the truck, the upper surface of these being cut out as at (*k, k*) to give the requisite play to the springs. The draft bar (*l*) which forms the connection between the different cars of a train passes through the conical part of the body above the bars (*e, e*) and is firmly secured to them so as to relieve the body of the strain due to the draft. To this bar is also secured the movable bottom of the car which is provided with a chain (*m*) to the end of which is secured a latch piece (*n*) that passes through a staple (*o*) attached to the draft bar and is there secured by a bolt (*p*) that slides on the bar, the head or handle of the bolt being extended outside of the body, as at (*q*), so that when the car is to be emptied of its contents the bolt (*p*) is drawn which liberates the latch bolt and permits the movable bottom to fall by the weight of the coal, &c., resting on it.

When desired the principle of my invention can be modified to make the car double as represented in the plan Fig. 6 and elevation Fig. 5, plate 2. In this modification the circles of the two bodies intersect each other, and the union is formed between the two by the cord plate (*s*). In this construction there is space enough left between the two cones at the lower end for the middle pair of wheels, such cars being made with six wheels instead of the four used in the first example.

It will be obvious that car bodies constructed on the principle of my invention may be connected with, and supported on the truck without the bars passing through the body by having the supports bolted or otherwise secured to the outside or to hoops

embracing the whole circumference; but by these modifications a greater strain will be given to the body than by the arrangement above described.

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

1. Making the body of a car for the transportation of coal, &c., in the form of a frustum of a cone, substantially as herein described, whereby the force exerted by the
10 weight of the load presses equally in all directions and does not tend to change the form thereof, so that every part resists its equal proportion, and by which also the
15 lower part is so reduced as to pass down

within the truck frame and between the axles to lower the center of gravity of the load without diminishing the capacity of the car, as described.

2. I also claim extending the body of the car below the connecting pieces of the truck frame, and the line of draft, by passing the connecting bars of the truck frame and the draft bar through the body of the car, substantially as described.

ROSS WINANS.

Witnesses:

GEORGE W. WHISTLER, Jr.,

JOHN B. EASTER.