A. P. ODELL.

Oil-Car.

No. 163,515. Patented May 18, 1875.

Fig. 1.

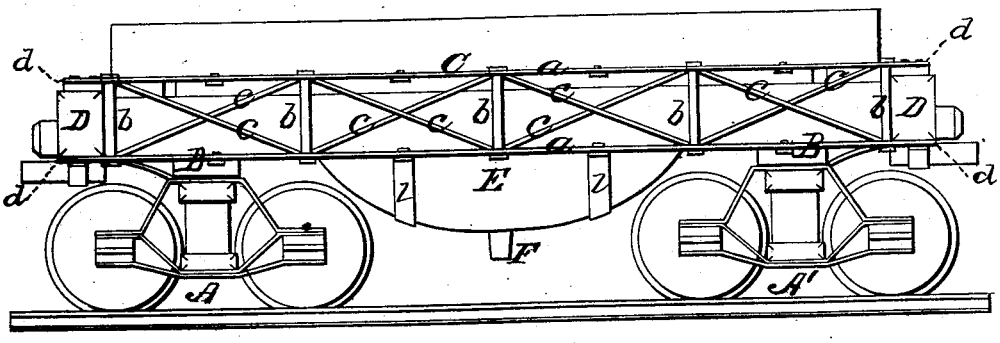


Fig. 2.

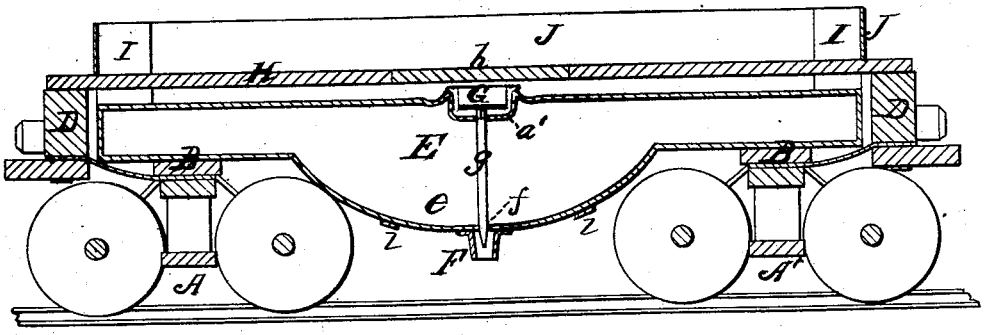
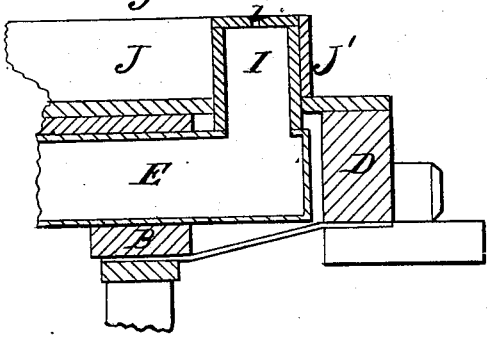


Fig 3



WITNESSES

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UNITED STATES PATENT OFFICE.

ALBERT P. ODELL, OF OIL CITY, PENNSYLVANIA.

IMPROVEMENT IN OIL-CARS.

Specification forming part of Letters Patent No. **163,515**, dated May 18, 1875; application filed January 2, 1875.

To all whom it may concern:

Be it known that I, ALBERT P. ODELL, of Oil City, in the county of Venango and State of Pennsylvania, have invented a new and valuable Improvement in Bulk-Oil Cars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side elevation of my oil-car. Fig. 2 is a vertical longitudinal sectional view of the same, and Fig. 3 is a sectional detail view.

This invention has relation to improvements in cars which are designed for transporting oil in bulk. The object of the invention is to construct a car adapted for transporting oil which shall also be applicable to other purposes, and to provide adequate means for supporting the weight of the oil in the tank and the superstructure thereon. To this end the nature of invention consists in suspending an oil-tank below the floor of an ordinary freight-car by means of a truss; also, in the construction of the parts, as will be hereinafter more fully set forth.

In the annexed drawings, A A′ designate two railway-trucks of the usual construction, in connection with which I propose to show the use and application of my improved oil-tank. B designates a strong wooden bolster, to which the trucks A A′ are pivoted in any suitable manner, upon which are rigidly secured compound trusses C. These trusses consist of two strong metallic bars, *a*, of suitable rigidity, transversely braced by rods *b* and diagonals *c*, and they are arranged upon bolsters B parallel to each other. The ends of bars *a* terminate in a broad plate, *d*, between which is arranged, at each end of the trusses, a transverse end beam, D, the same being rigidly secured in position by means of suitable bolts. The trusses C and end bars D constitute the frame-work of the car-body. E designates an oil-tank, made of any suitable metal, which is of the same length and width as the space bounded by trusses C and end bars D, and is adapted to be snugly received between them, as shown in Fig. 1, with its lower surface resting upon bolsters B, and its upper surface flush, or nearly so, with the upper horizontal surface of trusses C. This tank is provided with an enlargement, *e*, with a view to increasing its capacity, situated between the trucks A A′, and extending downwardly between the same, as shown in Fig. 2, to which enlargement, and preferably in a central position, is secured an eduction-pipe, F, communicating with the interior of the tank by means of an aperture, *f*, cut through the wall of the enlargement of circular form. This opening is closed by an endwise-movable rod, *g*, having a tapering lower end, adapted to be received into the said opening and held in a vertical position by means of a guide, *a′*, through which it passes. When this rod is raised its lower end escapes from aperture *f*, and allows the oil to escape through eduction-pipe F. Oil is introduced into the tank by means of an opening in the upper part of the tank, which is closed by a screw-cap, G, the lower flat surface of which bears forcibly against the upper end of rod *g* when it is screwed home, thereby effectually preventing the casual escape of the said rod from its seat *f*. It has been a frequent cause of complaint in loading oil-cars that allowance must always be made for expansion of the oil under a higher temperature, and that, consequently, where close tanks are used they cannot be filled to their full capacity, both because of the said expansion and of the generation of gases during transportation.

I remedy this by supplying the tank with supplemental chambers or domes I, opening into the interior of the same, as shown in detail in Fig. 3, and preferably at the corners or angles of the said tank, into which the oil will ascend during its expansion, thereby relieving the body of the tank of strain, whereby it is frequently rendered leaky. The upper horizontal surface of these chambers is provided with a perforation, *i*, through which gases will be allowed to have exit into the open air.

In practice the end bars of the frame may be rounding or circular, or they may be vertical to the two trusses, as shown in the drawings. I may also cause the vertical height of the tank to be slightly less than the distance between the bars *a* of the trusses, in which case I propose to floor the upper horizontal

surface of the tank, access being had to screw-cap G by means of a removable trap-door, *h*, cut through the floor H. In this manner the oil-car is converted into a flat, which may be used for many purposes, such as the transportation of machinery too bulky to be put into a box-car.

By securing to the floor H upright sideboards J and endboards J′, the flat is converted into a gondola, well adapted for transporting coal, sand, gravel, or other like substances.

With a view to supporting the enlargement *e* of the tank against sagging under the weight of oil accumulating therein, I have made use of strong metallic straps *l*, rigidly secured to the lower bars *a* of trusses C, which straps closely embrace the said enlargement, and extend transversely from side to side of the car-frame, thereby affording the tank adequate support, and enabling it to resist downward displacement.

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

1. The combination, with an ordinary freight-car, of a truss and an oil-tank, suspended below the floor of the car by the truss, all substantially as and for the purpose set forth.

2. The combination, with an oil-tank, of the car-floor H, having trap-door *h* and raised sides and ends J J, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALBERT P. ODELL.

Witnesses:

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J. Q. A. WELLER.