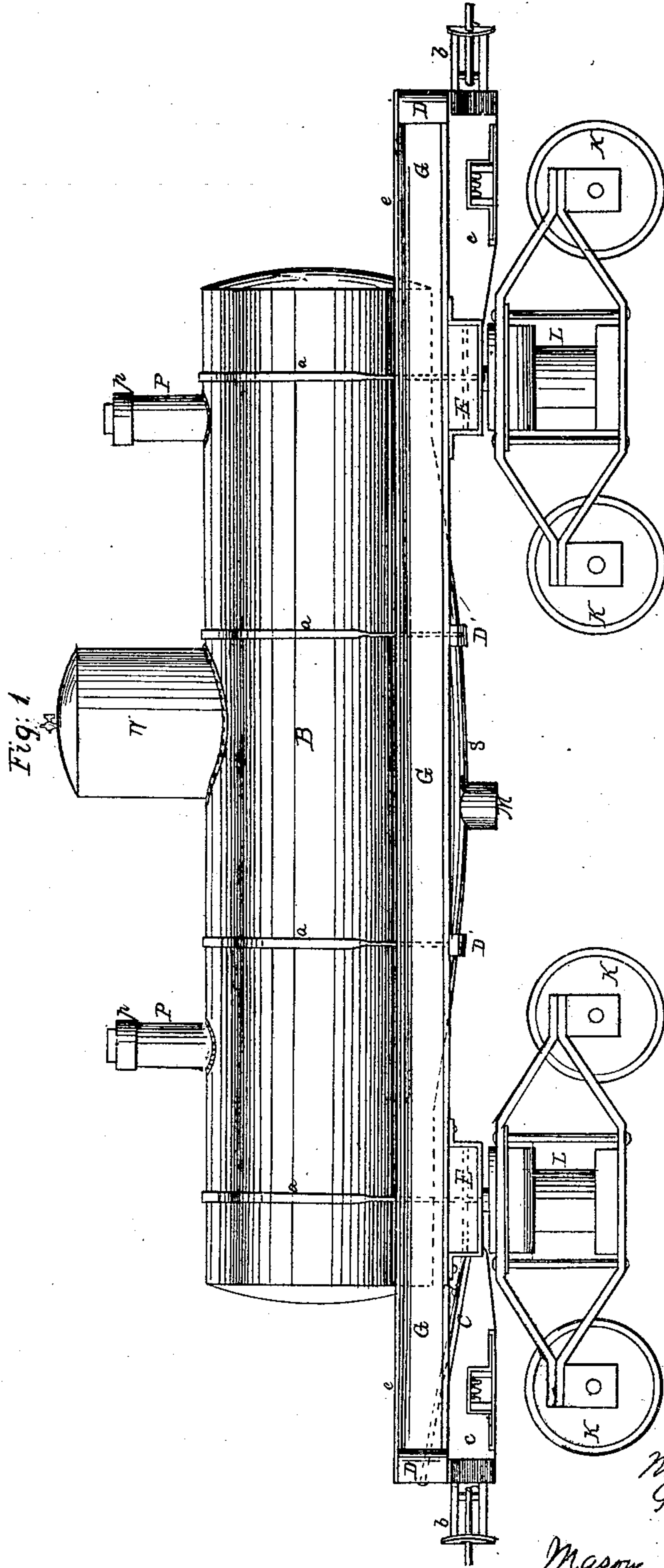


G. W. ILGENFRITZ & M. SCHALL.
OIL TANK CAR.

No. 79,573.

Patented July 7, 1868.



Witnesses.
R. W. Campbell
Crosby & Co.

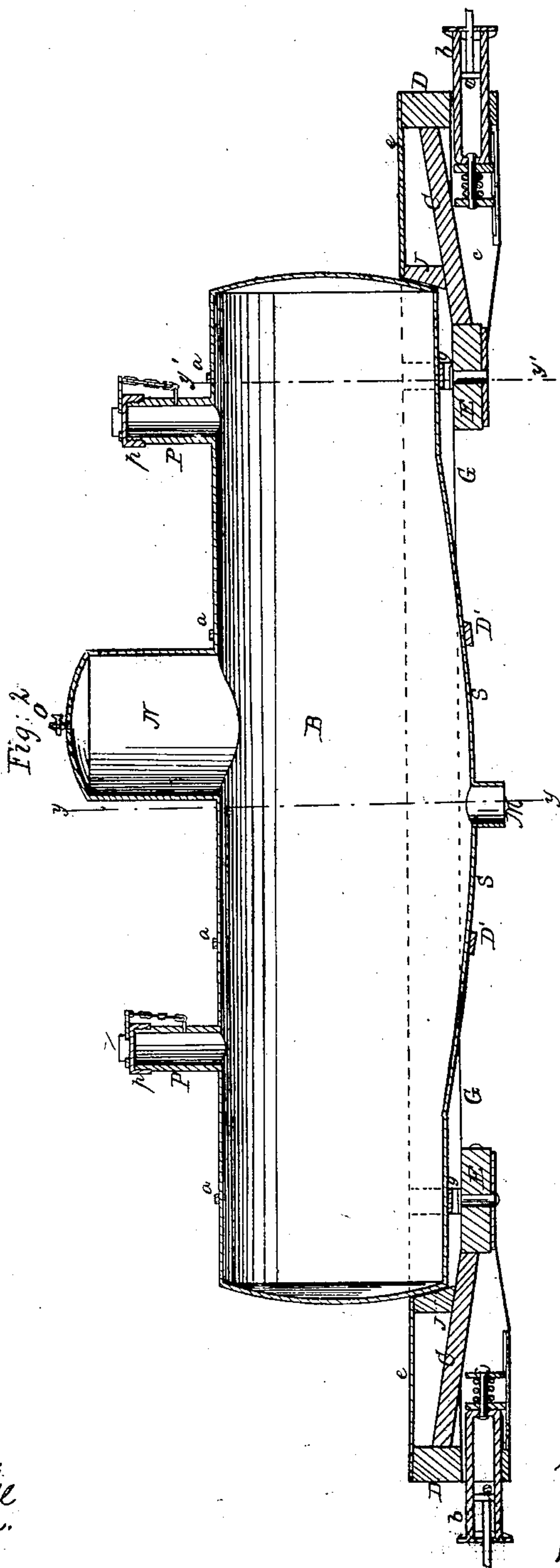
Inventors:
Michael Schall
Geo. W. Ilgenfritz
by
Mason Russell Lawrence

G. W. ILGENFRITZ & M. SCHALL.

OIL TANK CAR.

No. 79,573.

Patented July 7, 1868.



Witnesses.
R. Campbell
Crosby.

Inventors
Michael Schall
Geo. W. Hagenbach
by
Mason H. H. H. H. H.

G. W. ILGENFRITZ & M. SCHALL.
OIL TANK CAR.

No. 79,573.

Patented July 7, 1868.

Fig. 3.

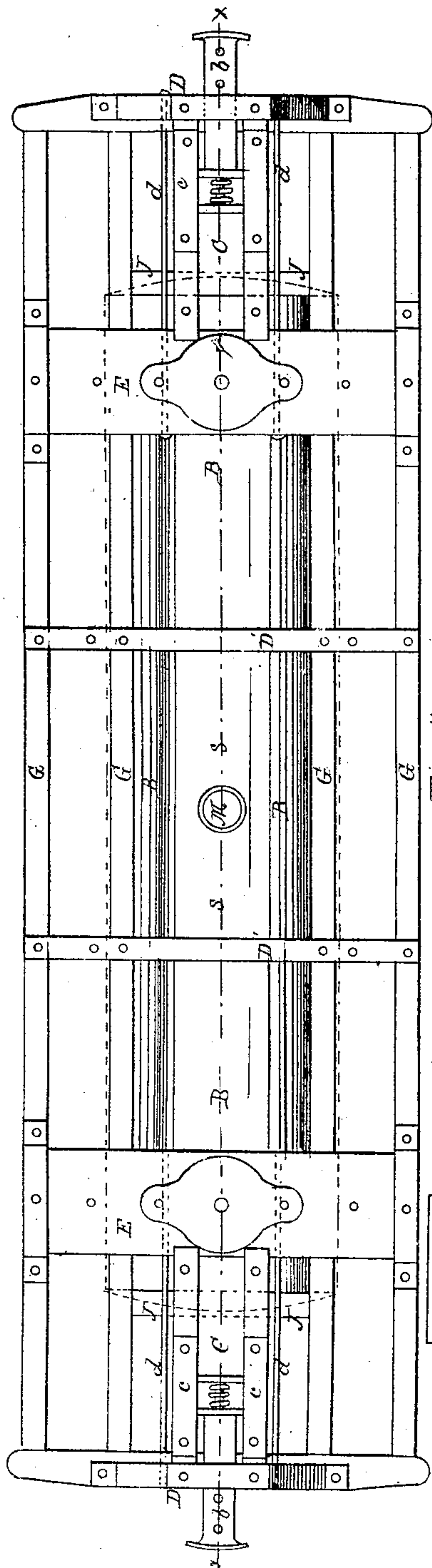


Fig. 4.

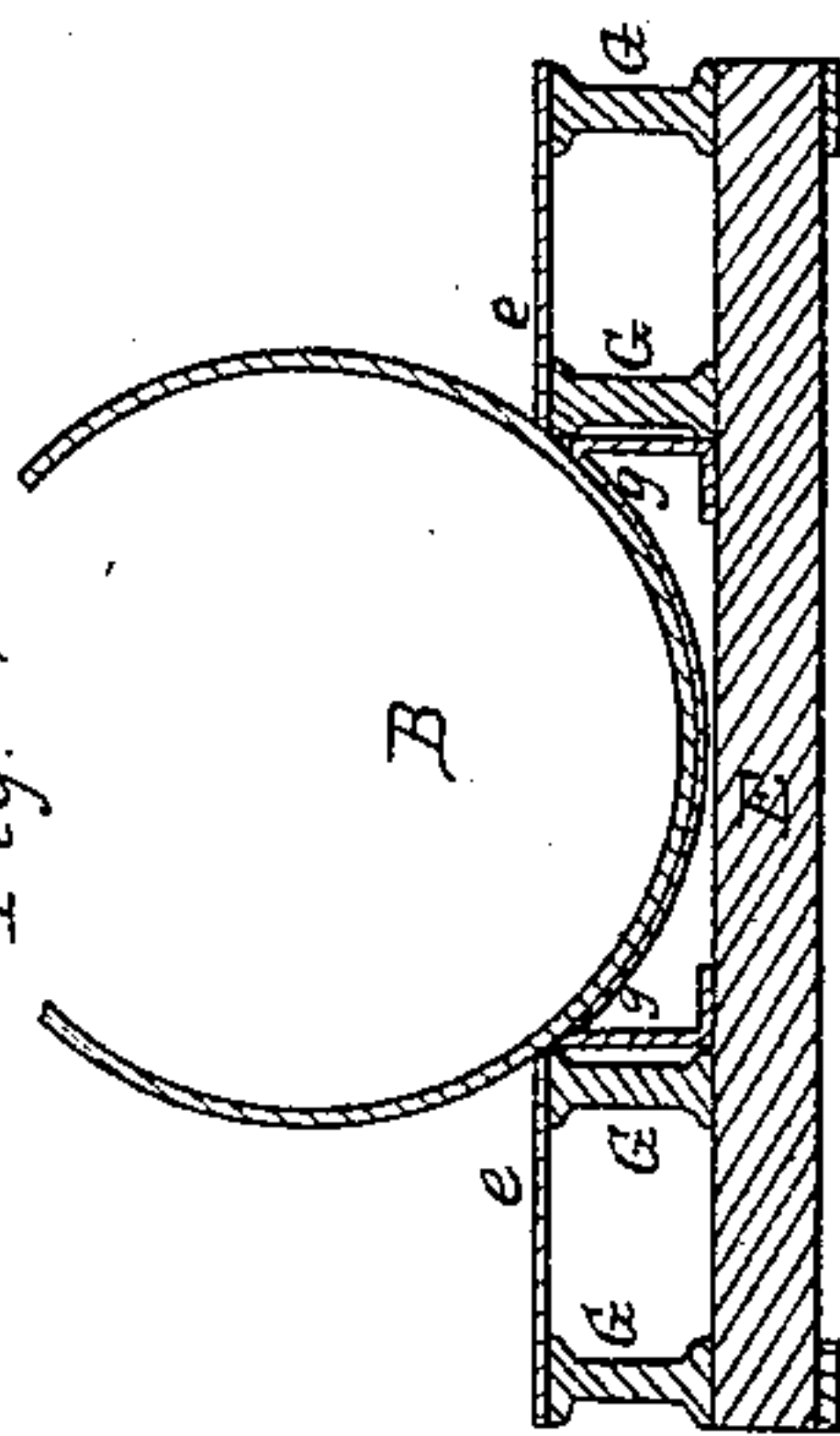
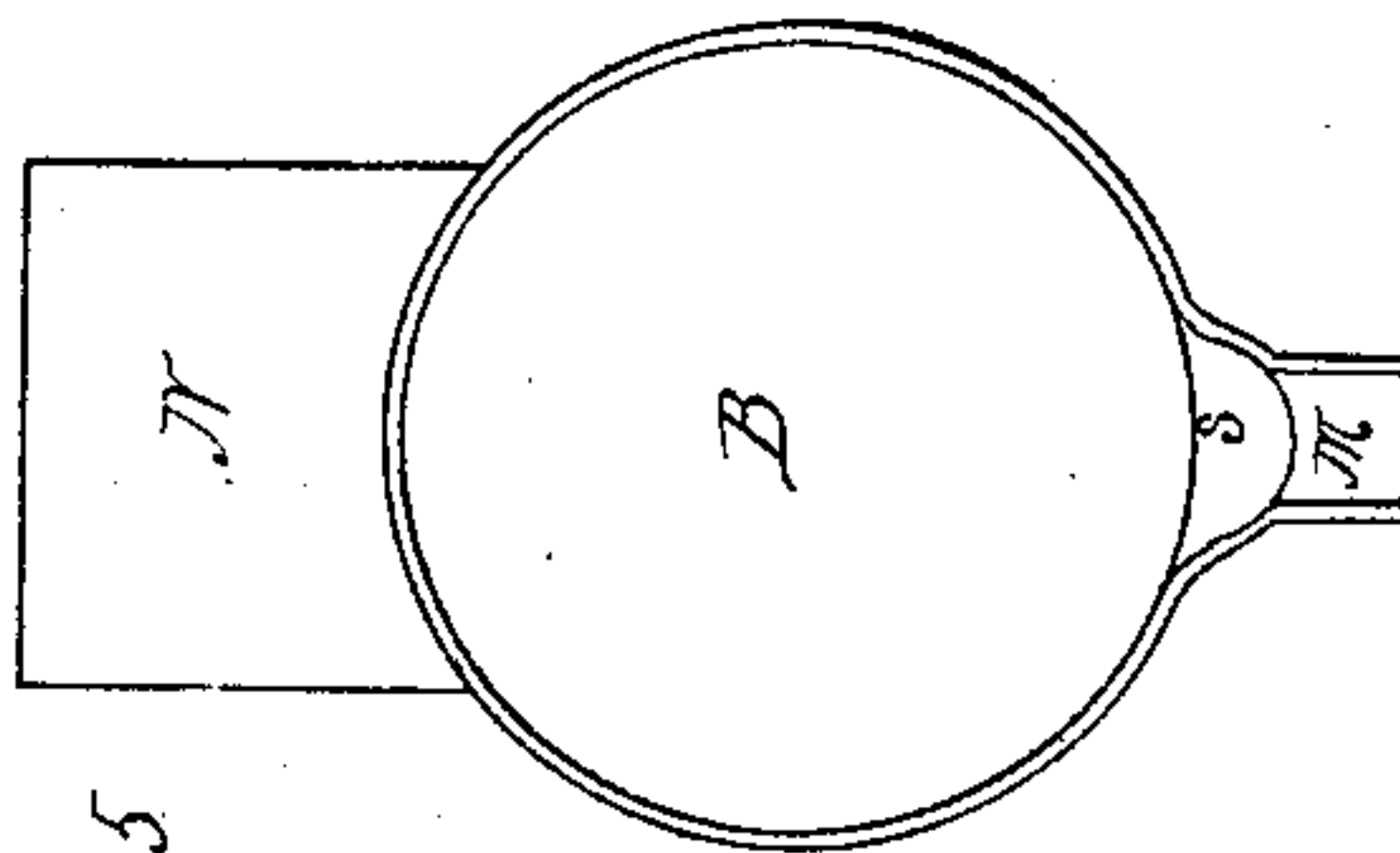


Fig. 5.



Witnesses.
R. H. Campbell
C. W. Schafer.

Inventors.
Michael Schall.
Geo. W. Ilgenfritz
by
Malcolm Fenwick Hammer.

United States Patent Office.

GEORGE W. ILGENFRITZ AND MICHAEL SCHALL, OF YORK, PENNSYLVANIA.

Letters Patent No. 79,573, dated July 7, 1868.

IMPROVED OIL-TANK CAR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, GEORGE W. ILGENFRITZ and MICHAEL SCHALL, of York, in the county of York, and State of Pennsylvania, have invented a new and improved Mode of Constructing Oil-Tank Cars; and we do hereby declare that the following is 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 an elevation of one side of the improved oil-tank and car.

Figure 2 is a longitudinal section, taken in a vertical plane through the oil-tank and car-bed, with the trucks removed.

Figure 3 is a bottom view of the car-bed and its oil-tank, with the trucks removed.

Figure 4 is a transverse section, taken through the tank and car-bed, in the vertical plane indicated by red line $y' y'$ in fig. 2.

Figure 5 is a section through the oil-tank, taken in the vertical plane indicated by red line $y y$ in fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on the construction of tanks and cars for the purpose of safely and economically transporting oil and other liquids from one point to another by railroad.

Our invention is designed more particularly for the transportation of coal-oil upon railroads, but it is equally useful for the transportation of other liquids.

It consists in so constructing, bracing, and arranging a car-bed, for receiving a cylindrical oil-reservoir, that such reservoir or tank can be arranged so low that the weight of the liquid in it will be brought in close proximity to the road, instead of being above a car-bed, which is considerably elevated from the roadway, thereby causing the car to cling closer to the track, and greatly lessening the danger of running off, as will be hereinafter described.

It also consists in so constructing the tank or reservoir for containing the oil or other liquid that it shall possess great strength, and allow of the ready withdrawal of the oil, and the carrying with it of all sediment, for which purpose the bottom of the tank is depressed or bellied both laterally and longitudinally, so that all the liquid and foreign substances in the tank can be drawn off, which could not be done with a straight-bottom tank.

To enable others skilled in the art to understand our invention, we will describe its construction and operation.

In the accompanying drawings, fig. 1, we have represented our improved car-bed and tank, mounted upon two trucks, K L, which may be constructed in any suitable well-known manner.

The car-bed consists of four or more longitudinal sills, G G G G, which may be made of wood or metal, and arranged in planes parallel to each other, at proper distances apart. These sills are united firmly at their extremities to transverse pull-timbers D D, and braced and tied together at intermediate points between said timbers D D by means of the bolsters E E and transverse bars D D. The bolsters E may be constructed of wood or metal, and if made of the latter they would consist of bars or plates, suitably stayed and strengthened by diagonal braces bolted between the two plates forming each bolster. The bolsters are bolted upon the bottoms of the longitudinal sills, and the two intermediate ones are placed at such a distance apart as to allow the oil-tank B to come between them, and rest upon chairs $g g$. These chairs are of such form as to receive snugly upon them, and afford firm wide seats for the cylindrical portions of the ends of the tank B, and they are bolted down upon the upper sides of the bolsters E, as shown in figs. 2 and 4.

The transverse tie-bars D D, which are bolted to the bottoms of the sills G, between the bolsters E, serve as supports for the depressed or bellied portion of the tank, on both sides of the centre thereof.

At the extremities of the tank B, and framed in between the two intermediate sills G G, are transverse pieces J J, which form seed abutments and stays for the tank, to assist in preventing longitudinal thrust and displacement, and directly beneath these stays are inclined braces, C C, shown in figs. 2 and 3, which incline

toward the middle of the length of the car-bed or body, and which are framed between the pull-pieces D D and bolsters E E.

These braces and stays have rods, *d d*, arranged on their sides, which pass through the pull-pieces D D, and through the bolsters, and serve as means for tying said parts firmly together, and forming a very strong frame, which will offer great resistance in case of collision.

The two longitudinal timbers *c c*, which are arranged in the middle of the width of the car-bed, at each end thereof, and which are framed between the bolster and pull-piece, serve to form a box, in which the buffer or draw-bar *b*, and its spring, work, as shown in figs. 1, 2, and 3.

The flooring, *e*, on top of the car-bed, may be sheet iron or planking, firmly secured down upon the sills G in any suitable manner.

It will be seen, from the above description of the car-bed, that provision is made for supporting the cylindrical tank B upon the two bolsters E E by means of cradles or chairs *g*, which conform to the circular form of the said tank at and near its extremities. It will also be seen that the bottom of the tank B is embedded into the car-bed or body, so as to extend beneath the same, and between the intermediate longitudinal sills G G. This will bring the weight of the tank and its contents nearer the plane of the truck-wheels than has hitherto been attained, and of course greatly lessen the liability of the load throwing the car off the track.

The tank B is made of a cylindrical form, with its bottom, S, extended downward from points near each end to a draw-off pipe M, as shown in figs. 2 and 5.

This bellying of the tank will cause all its liquid to run out at the pipe M, carrying with it any sediment which may have settled upon its bottom. This tank B is constructed with an elevated dome, N, on top of it, and at or near the middle of its length, which forms an expansion-chamber for receiving the gases rising from the surface of the liquid in the tank. In the top or dome of this gas-chamber is a cock, O, for allowing the escape of the gases when desired. On each side of the gas-chamber, and on top of the tank B, is a pipe, P, which is provided with a screw-cap, *p*, or other suitable tightly-fitting cover. These pipes P are the passages through which the tank is filled, and they should rise so high above the tank that in the act of filling it the foam shall not rise in them before the tank has been properly filled.

By means of the straps *a* the tank is held down firmly in place upon its bed. The ends of these straps *a* are passed down through the bolsters E E and cross-ties D D, and provided with screws upon their ends for receiving nuts, by which to tighten the straps and keep them tight.

In practice, the pipe M, at the centre of the bellied bottom of the tank, will be provided with a suitable draw-off cock. Also, a railing will be provided upon the platform for the protection of persons riding thereon.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A metallic tank B for railroad oil-cars, formed by bellying a cylindric tube midway between its ends and on its lowest side, and furnishing this tube with heads, a small filling-gauge, passage or passages, a safety-dome, and a discharge-passage, which latter is at the convergent point of the bellying or lowest portion of the tank, all substantially as described and for the purpose set forth.

2. The construction of the car-bed or platform, so as to receive the tank or reservoir B between its sills G and upon chairs *g g*, which are located below the top of said bed or platform, substantially as described.

3. A railroad oil-tank car-bed, having a depressed tank, B, upon it, and inclined brace and stay-pieces C applied to its ends, substantially as described.

GEO. W. ILGENFRITZ,
MICHAEL SCHALL.

Witnesses:

JOHN A. WILSON,
ARTHUR KING.