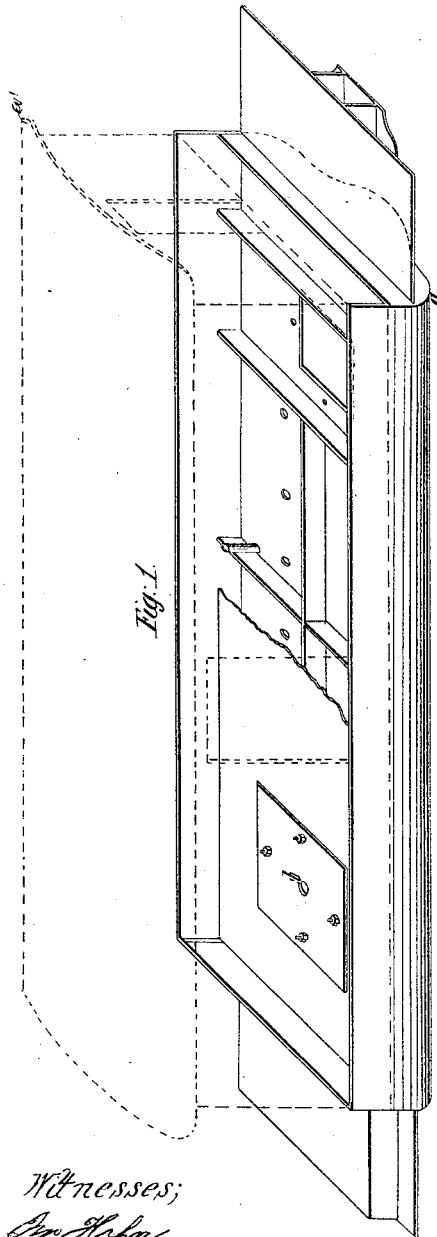


*J. F. Keeler,*

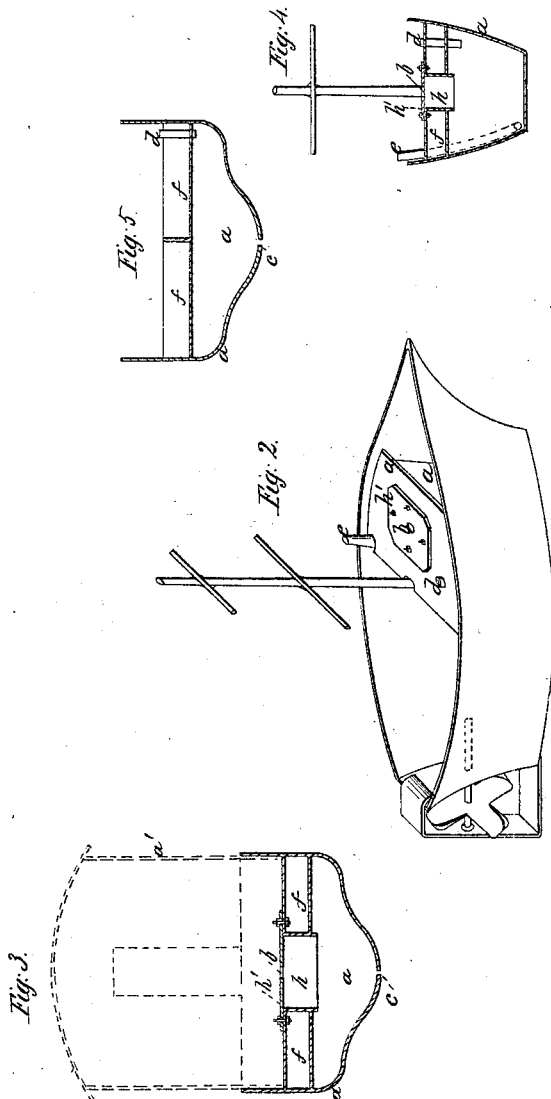
*Oil Tank.*

*No 53,451.*

*Patented Mar. 27. 1866.*



*Witnesses;*  
*Geo. H. H. H.*  
*Geo. Schmitt*



*Inventor;*  
*Geo. F. Keeler.*

# UNITED STATES PATENT OFFICE.

JOEL F. KEELER, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN PORTABLE TANKS FOR OIL, &c.

Specification forming part of Letters Patent No. 53,451, dated March 27, 1866.

*To all whom it may concern:*

Be it known that I, JOEL F. KEELER, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Mode of Constructing and Using Portable Tanks for the Transportation of Liquids in Bulk and other Freight; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing closed tanks (when combined with some vehicle for transportation, such as railway-cars, wagons, steamships, or other vessels) with a hatchway or closely-covered opening of sufficient size for the reception of ordinary freight, in addition to the ordinary man-hole always made in such closed tanks, and also with an inlet-pipe for the admission of steam for the purpose of cleansing the tank after the liquid transported in the tank shall have been drawn or pumped out. I also usually construct it with an outlet-pipe for blowing out the vapor and impurities resulting from steaming.

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

I construct my tanks in every known form and of every known material or combination thereof; but I usually prefer to make them of iron, either as a part of the transporting-vessel, as seen at *a*, or independently of the vessel or car, holding it firmly in place by any known mechanical means. I provide them with the ordinary man-hole and cover *b*, and, in order to fit them for carrying liquids in bulk and for being cleansed by steam after the liquids are withdrawn, and then reloaded with other freight, I also provide them with a steam-inlet tube or pipe, *d*, and outlet-pipe *e*, in combination with a hatchway, *h*, and close cover *h'*, all of which are constructed, closed, and opened in the usual manner, and by known mechanical means.

In order to leave space for the expansion of liquids that are particularly affected by temperature, and at the same time preventing the liquid substance from surging by reason of the

rolling or pitching of the vessel or car, I construct the tank with a double cover, made up of an upper and lower plate with a space between sufficient for such expansion, the lower plate being perforated with small holes *g g*, that permit the fluid in the tank to expand slowly through, but not to rush through suddenly. The tank is usually filled up to the lower plate of the cover. When the car or vessel has reached its destination the liquid is either drawn or pumped out in the usual way.

In order to cleanse the tank of the liquid or its perfume, I introduce steam, either common or superheated, or heated air, for the purpose of liquefying or vaporizing the residuum of the liquid and forcing it from the tank, which I do by means of the inlet and outlet pipes *d* and *e*.

The importance of my invention, especially to the transporters of petroleum, can hardly be overestimated. Cars have been constructed for carrying that article in bulk on land and vessels for carrying it on water; but they have hitherto been unable to bring return freights with profit, because such cars and vessels have not been adapted to bringing such return freights in the same space occupied by the out going petroleum. My invention remedies that defect by providing the means necessary for cleansing the tank perfectly from even the odor of the petroleum, and also for receiving and discharging ordinary dry freight.

I am aware that hatchways have been used from time immemorial in the construction of vessels, and that steam has been used for cleansing purposes. I do not, therefore, claim the hatchway or the steam-pipe under all circumstances or for all uses.

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. The hatchway *h h'*, in combination with the steam-pipe *d*, or their equivalents, in the construction and use of portable tanks.

2. The hollow cover *f*, constructed and used substantially in the manner and for the purposes described.

JOEL F. KEELER.

Witnesses:

IGN. HAHN,  
TOS. SCHMITT.