

S. H. Ingalls,

Oil Tank.

N^o 39,446.

Patented Aug. 4, 1863.

Fig. 5

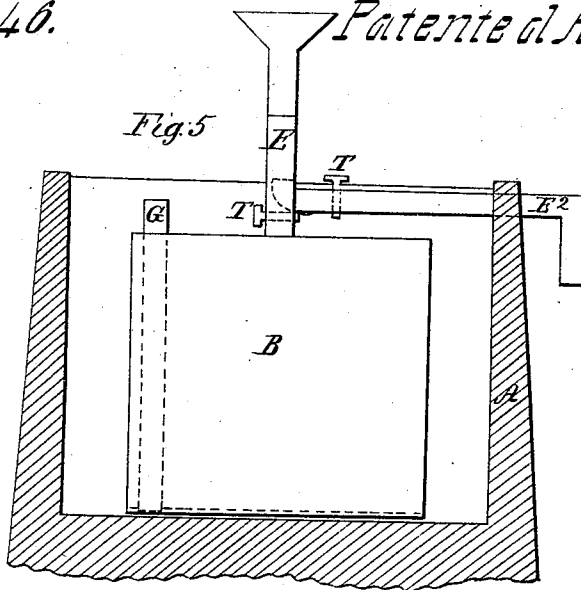


Fig. 3

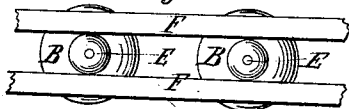


Fig. 4

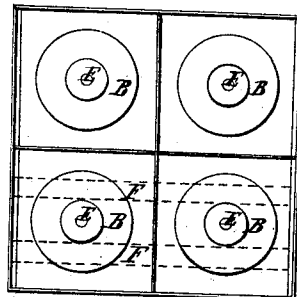


Fig. 1

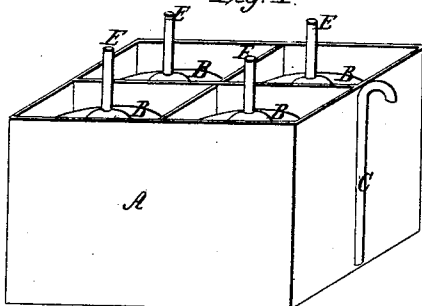
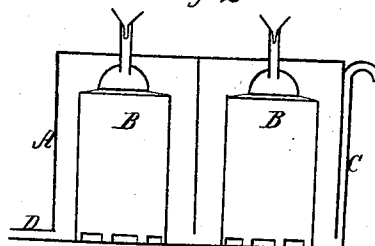


Fig. 2



Witnesses;

W. B. Damer

Samuel M. Chambers

Inventor;

S. H. Ingalls

UNITED STATES PATENT OFFICE.

SETH H. INGALLS, OF NEW BEDFORD, MASS., ASSIGNOR TO HIMSELF,
JOSHUA K. INGALLS, AND WM. S. SAMPSON, OF NEW YORK, N. Y.

IMPROVEMENT IN OIL-TANKS.

Specification forming part of Letters Patent No. 39,446, dated August 4, 1863.

To all whom it may concern:

Be it known that I, SETH H. INGALLS, of the city of New Bedford, county of Bristol, and State of Massachusetts, have invented a new and useful method of holding petroleum and other oils, also naphtha and other products of distillation containing essential oils; and I hereby declare the following to be a full and exact description thereof, reference being had to the drawings hereto attached and forming part of this specification, and in which—

Figure 1 is a perspective view. Fig. 2 is a section. Figs. 3 and 4 are top views. Fig. 5 is a sectional view of tank and reservoir, showing more particularly the best plan for receiving and discharging the oils.

A is a reservoir. B is an inverted tank. C is a waste-pipe or overflow. D is a supply-pipe. E is a receiving and discharging pipe. E² is a branch of E. T T are stop-cocks, and F is a beam holding down tank.

The nature of my invention consists in providing a tank or holder for oils submerged in water, and in so arranging the introduction and discharge of the oil as to keep the tank always full by the action of the water which is kept around the sides and even above the top of the tank to give entire security against fire, and which is allowed to flow into the tank when oil is being discharged and allowed to escape when oil is being introduced into the tank.

I construct my reservoir A of mason-work, earth-work, wood, or metal, of dimensions considerably larger than is required for the oil I purpose to hold, and with compartments, if deemed desirable. Near the bottom I provide a supply pipe or conduit, D, and a waste pipe or conduit, C, leading from a certain distance below the surface, so that any oil collecting upon the surface may be prevented from escaping through this outlet.

I construct my tank B of metal or of wood or of masonry, with a pipe, E, for the introduction and discharge of oil. The tank is furnished with a pipe, G, communicating from outside of top nearly to the bottom, for the ingress or egress of water as oil is being introduced or discharged. One or more tanks thus constructed are placed in the reservoir or in each compartment thereof, into which the

water is allowed to flow until the tank is nearly or wholly submerged. The oil is then introduced, displacing the water in the tank nearly to the bottom. To discharge the oil I arrange a branch, E², from the pipe E, near the surface of the water in the reservoir, the water thus being made to sustain the oil compactly against the top of the tank until the oil is entirely discharged without pump or siphon, and without leaving at any time any space for accumulation of gases, and I arrange the stop-cocks T T, when deemed desirable, below the water-level, as well as the branch pipe E², so as to shut off all communication between the oil and the atmosphere, so as to preclude all danger from fire. I hold the tank down by anchors or by beam F, as shown in Fig. 3.

It is obvious that the tanks may be made in compartments as well as the reservoir, or that a number of tanks may be placed in one compartment, or that compartments in the reservoir may be entirely dispensed with, or that tanks of this construction may be placed in any basin of water or natural pond, and secured in position by suitable frame-work; but such modifications I have not deemed necessary to describe more minutely, as they would readily suggest themselves as exigencies requiring them might arise. By my invention I am thus enabled to hold oils secure against leakage, and against danger from fires.

The great loss by the leakage and evaporation of petroleum and naphtha is well known to the public, as well as the destructive fires and explosions which have resulted from the want of a secure method of storing, except at great expense.

The use of common barrels for holding these oils is open to many objections, among which is their cost, liability to leakage, extent of ground they occupy, and inflammable character. Metal barrels and cans are still more costly and scarce less objectionable in other respects.

No large metal or wood tanks have yet been so constructed as to prevent fully the loss by evaporation or danger from accumulations of gas or vapor arising from these oils, and which are highly explosive.

I am aware that patents were granted to H.

P. Gengembre and to George W. Howard, bearing date February 18, 1862, for methods of adjusting the hydrostatic pressure by means of a skirting, so as to hold oil on water. I therefore do not claim anything embraced, substantially, in those inventions; but

What I do claim is—

1. The tank arranged, substantially as specified, for the purpose of holding oils, &c., under water, so as to sustain the oils against the top of the tank by the pressure of water, and

thereby prevent all possibility for accumulation of gases or vapors and all danger of fire or explosion therefrom.

2. The method, substantially as specified, for introducing and discharging the oils by hydraulic force.

SETH H. INGALLS.

Witnesses:

W. ST. DAME,
SAMUEL M. CHAMBERS.