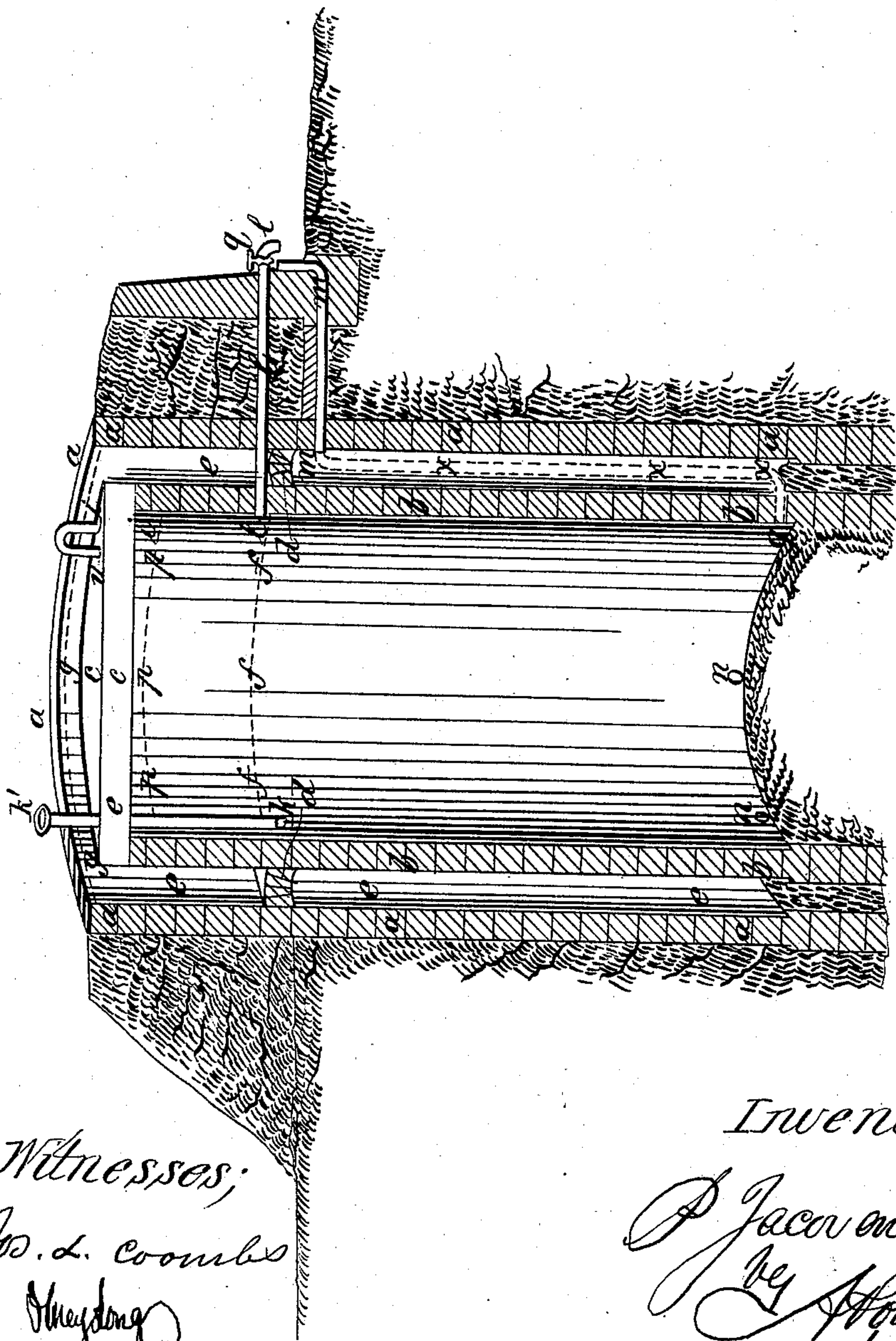


P. Jacorenco,

Oil Tank.

N^o 55,970.

Patented June 26, 1866.



Witnesses;
Jos. L. Coombs
May 20 1866

Inventor;
P. Jacorenco
By A. H. H. H.
his atty.

UNITED STATES PATENT OFFICE.

PAUL JACOVENCO, OF BUCHAREST, WALLACHIA.

IMPROVED PETROLEUM-TANK.

Specification forming part of Letters Patent No. 55,970, dated June 26, 1866.

To all whom it may concern:

Be it known that I, PAUL JACOVENCO, of Bucharest, in Wallachia, but now temporarily residing in Paris, in the Empire of France, have invented certain new and useful Improvements in Tanks for Preserving Petroleum and other Oils; and I hereby declare that the following is a full, clear, and exact description of the same.

To construct a stationary reservoir of large dimensions a cylindrical excavation of a size proportionate to the quantity of oil to be stored is dug in the ground. The depth of the cave should be about two-thirds of the height of the reservoir. The bottom of the cave is rendered impermeable to water by means of clay or cement, and the sides are properly protected by a cylindrical wall, which is also water-proof.

In the drawings, *a a a a* represent, in vertical section, the cylinder, made of masonry, or, if desired, of metal or some other material suitable to hold water. *b b b b* are the side walls of a second and concentric cylinder, also impermeable to water. *c c c* are the ceiling (which is also made water-proof) to the interior cylinder. This ceiling or cover may be made of wood, iron, or may be made of arched masonry.

d d d is an annular arch dividing the space *e e e* between the two cylinders at about two-thirds of the height of the reservoir. This arch, too, is water-proof.

n n are openings whereby communication is established between the interior of the cylinder *b c b* and the annular space *e*. *m m r* is a bent tube communicating with the space *e* below the annular arch *d*. *l l l* is another tube, provided with a cock, *q*, communicating with the interior cylinder above the arch *d*. *k' k* is a tube fixed in the cover of the interior cylinder and descending to a level lower than the opening *r* of the tube *m m r*. *i i u* is a bent tube, open at both extremities, one of which is within the interior cylinder, while the other is below the level of the water around and above the interior cylinder.

In order to effect the storage of petroleum or other oil according to this invention, water is first poured into the interior cylinder through the tube *k' k* or through the tube *m m r*. Water may thus be introduced until the level *f f f*, which corresponds to the opening

r of the tube *m m r*, is reached. Water is then introduced into the annular space *e* above the arch *d* until it reaches the level at *g g g*, so that the extremity of the branch *u* of the bent tube *i i u* is submerged, thus preventing direct communication between the interior cylinder and the outer air, the object of which is to avoid evaporation and ignition of the inflammable gases which may escape when the reservoir contains petroleum. The oil intended to be stored is then poured into the interior cylinder through the opening *k'* of the tube *k' k*, and the water is expelled through the openings *n n* and the tube *m m r*. The oil, being lighter than water, will float on top the water, so that if the specific gravity of the oil be 0.850 and the height of the column of water in the interior reservoir—say from the openings *m n* up to the level *f f f*—be eight and one-half meters, then, in order to fill the reservoir with oil, it will have to rise to a height of ten meters—that is, come to the level *p p p*. The air compressed by the increase of the volume of liquid in the reservoir will escape through the pipe *i i u*.

To remove the oil from the reservoir or tank the cock of the tube *l l* is opened and the oil is allowed to flow out until it reaches the level of the tube *l l*. The flow of oil may, however, be continued by pouring water through the opening *r* of the tube *m m r*. Water is thus caused to take the place of the oil as fast as it is removed until all of the oil is thus taken out of the tank.

The arch *d d* may be dispensed with by using in lieu thereof an extension of the pipe *m m r*, as indicated in dotted lines and marked *x x y*. The openings *n n* are then, however, to be stopped up. The pipe *m m r* need not necessarily be carried down to the bottom of the reservoir, but may terminate at *z*.

The reservoir, as before stated, may be made of masonry or metal. Wood may be used in its construction, but then I prefer to give the tank a polygonal form.

The reservoir may be used for washing or cleaning the oils of certain foreign matters after having been subjected to chemical treatment. To this effect the ceiling may be arranged so as to allow a shower of water to drop on the oil.

The distinctive features of my improved tank or reservoir are, first, the oil is com-

pletely surrounded by water—*i. e.*, by two bodies of water having different levels, the one enveloping the body of oil at the sides and on top and the other supporting it; second, the walls of the tank or reservoir are rendered impermeable to oil, not by the impermeability of the material itself, but by the moisture and by the pressure of water upon the walls; third, the double reservoir or tank, the one to contain water, the other the oil; fourth, the contact of the oil with the water and the equilibrating of the oil by a column of water.

I therefore claim—

The herein-described apparatus for preserv-

ing or storing petroleum and other oils, the same consisting of two concentric cylinders, the space between them being divided by a transverse partition, and communicating with the interior cylinder by means of apertures, as described, in combination with pipes arranged for operation as and for the purposes set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

P. JACOVENCO.

Witnesses:

A. GRANSTROEM,

DAVID THOS. FULLER.