

J. Reese,

Oil Tank.

N^o 34,373.

Patented Feb. 11, 1862.

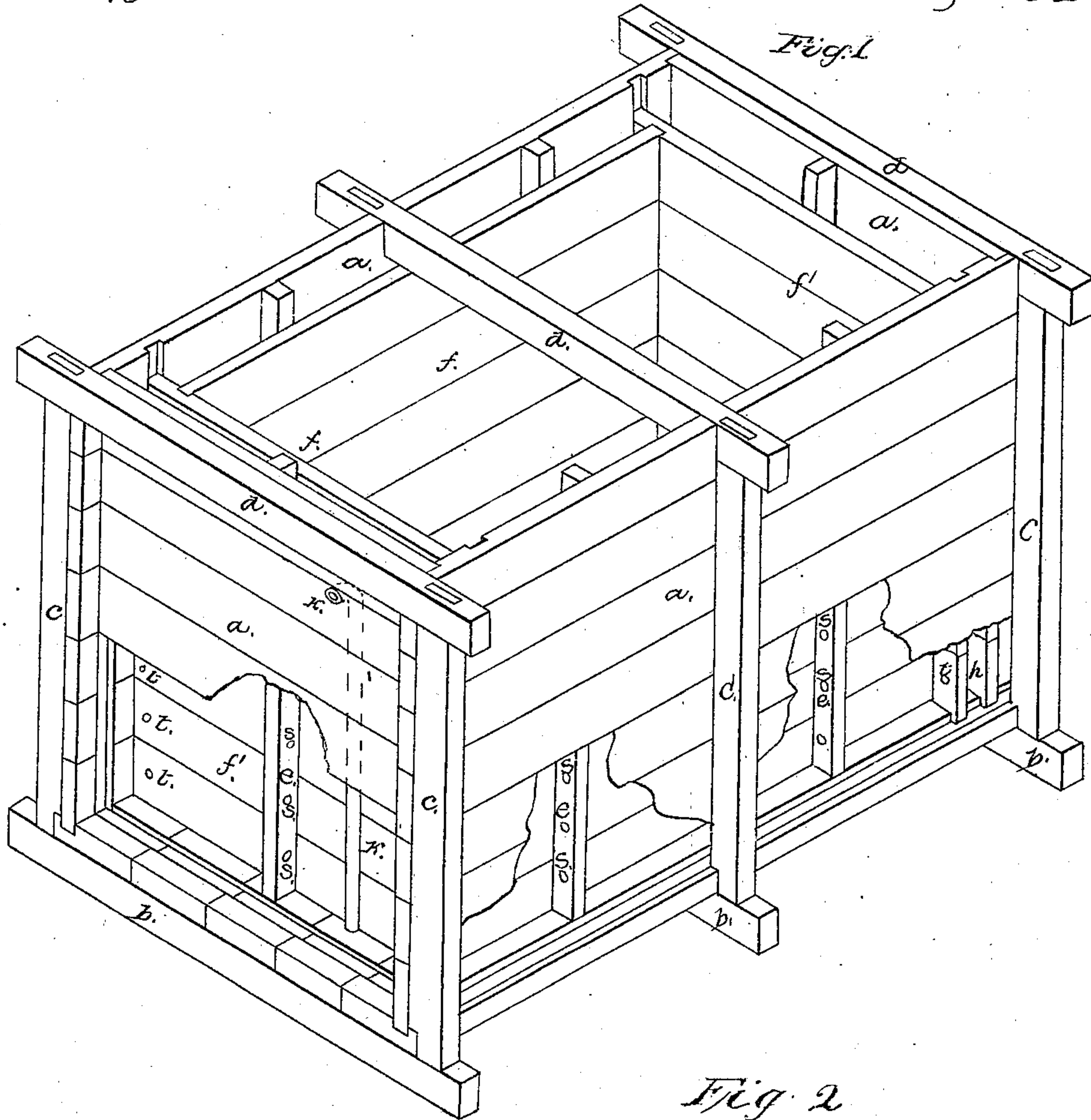
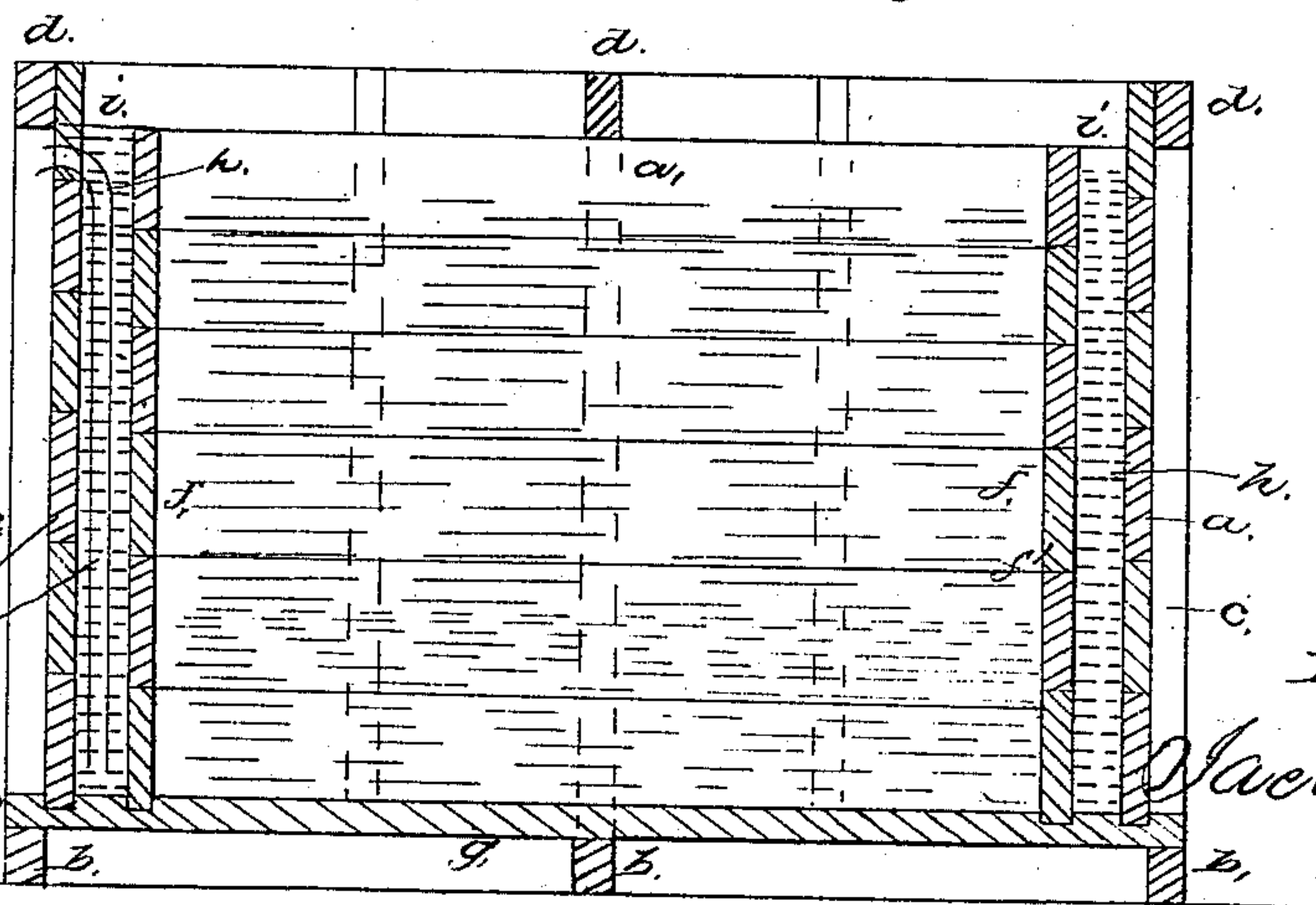


Fig. 2



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JACOB REESE, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN OIL-TANKS.

Specification forming part of Letters Patent No. 34,373, dated February 11, 1862.

To all whom it may concern:

Be it known that I, JACOB REESE, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Oil-Tanks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a perspective representation of my improved oil-tank. Fig. 2 is a longitudinal vertical section.

Like letters in both figures denote similar parts.

The object of my improvement is to obviate a difficulty in the construction of tanks, cisterns, and other vessels for holding coal and carbon oil in making them sufficiently tight to prevent their leaking. This difficulty is well known by all who have had any experience with these oils, and arises from the extreme tenuity of these fluids, which renders it almost impossible to find anything to retain them without leaking but metallic vessels and tanks. Iron tanks have been employed, but they are expensive, and, moreover, are objectional for the refined oils, as it colors them. Wooden vessels are the cheapest and best; but it has been found impossible to make wooden tanks that will not leak. So much is this the case that even the best oak barrels have to be lined with glue to prevent the escape of the oil.

My improved oil-tank is designed for holding oil at the wells in its crude state, and refined oil at the refineries in large quantities.

My improvement consists in constructing oil-tanks of wood or other suitable non-metallic substance, with a water-space all around the sides, which I believe will entirely prevent the leaking of the oil; or if any should escape into the water-space it will rise up to the top of the water and overflow back into the tank, the bottom of the tank being protected from leakage by a stratum of water underlying the oil therein.

In the drawings, *a a a* represent the four sides or outer walls of the tank. These are made of plank—of wood such as pine, oak, or other timber—framed together in the usual manner. The tank is represented as a rectangular box, but may, if preferred, be made round, oval, or of other shape. If the tank be

large, it may be strengthened by frame-work at each end and at one or more points between the extremities. This frame-work consists of four timbers—one horizontal sill, *b*, at the bottom, one upright post, *c c*, at each side, and another cross-piece, *d*, at top. The bottom sill and side posts lie close to the plank of which the tank is made, and the side posts, *c c*, being framed into the top and bottom sills, *b* and *d*. Close to the inside of the outer sides of the tank are placed upright studding-pieces *e e*, at a suitable distance apart, and against these are placed the plank forming the inside tank. The inner walls, *f f f f*, of the tank are thus parallel to the outer side, *a a a a*; and separated from them a few inches by the thickness of the studding-pieces *e e*, &c. The bottom *g* of the tank is also made of strong plank, and extends to or a little beyond the outer walls, *a a*, &c. The whole is joined together as closely as possible, so as to be water-tight. The studding-pieces *e e*, &c., are perforated with holes *s s*, &c., the axes of which are parallel to the sides of the tank, so as to form communications between the water-spaces *h* formed between the inner and outer sides of the tank all around it, excepting at the bottom.

If the ends *f' f'* of the inner tank are connected with the sides of the outer walls or casing, *a a*, so as to extend across the water-space, perforations *t t* are made near the ends of the plank composing the end pieces *f f*, so as to form a communication between the water-spaces *h* at the sides and ends, as seen in Fig. 1. There is of course no communication through the inner walls of the tank between the tank and the water-space around it; but the inner sides, *f f*, &c., are not quite so high as the outer sides, *a a*, as seen in Fig. 2, so that any oil which collects on top of the water in the water-spaces *h* may overflow into the tank. A pipe, *k*, is inserted perpendicularly at any point into the water-space, which extends down to within a few inches of the bottom of the tank, and the upper extremity of the pipe passes out at one side of the outer wall of the tank at a point at or a very little below the level of the top of the inner tank, as seen in Fig. 2. The top of the tank and of the water-space may be uncovered.

In Fig. 2, *i* represents the oil which has leaked through the sides of the inner tank and

has risen to the top of the water in the water-spaces *h h*.

In Fig. 1 portions of the outer sides of the tank are represented as broken away to exhibit the inner walls of the tank, the pipe *k*, and the studding-pieces *e e*, &c.

If the tank is to be made circular it is made with double concentric sides parallel to each other and separated by studding-pieces placed at suitable distances apart, the pipes *k* being inserted between the sides at any convenient point, in the manner hereinbefore described.

It is not necessary to have a double bottom to my tank, as a little water poured into the inner tank, when it is used for refined oil, or the water pumped up with the oil from the wells, which settles at the bottom, prevents the escape of the oil downward through the bottom of the vessel.

When my tank is to be used, water is poured into the water-space *h* around the inner tank until it runs out at the mouth of the pipe *k*, which prevents it overflowing into the tank. It is then ready for use. The presence of the water around the tank, owing to the superior density of that fluid over the oil, will fill the pores of the wood with water, and, as I believe, prevent the oil passing through them at all; but should the water not entirely prevent the leaking of oil through the pores of the wood, or should any oil escape through the joints between the plank it will rise up through the water, settling at the surface, and as soon as it reaches the top of the inner tank it will overflow, and thus be returned to the inside of the tank. By this means a tank need not be made nearly so tight as was necessary with

the ordinary construction, for if a tank should leak a little at the joints no oil will be lost, as it will return itself to the tank so long as the water-space is kept filled, as described. Cisterns thus constructed will also answer a good purpose for bleaching-tubs for refining oil with acids, and will avoid the necessity of using tubs lined with lead, which are ordinarily employed, as iron will not resist the action of the acids employed in the refining process. This will effect a great saving of expense, as the lead-lined bleaching-tubs are very costly.

Having thus described my improvement in oil-tanks, what I claim as my invention, and desire to secure by Letters Patent, is—

1. Constructing tanks or other vessels for holding coal and carbon oil or other light oils with an outer casing around the sides of the oil-vessel, so as to leave a space between the casing and the oil-receptacle for the purpose of surrounding it with water, substantially in the manner and for the purpose hereinbefore set forth.

2. So constructing the outer casing of oil-tanks having double sides forming a water-space around the tank, as that the upper edge of the outer casing shall be higher than the level of the top of the inner tank for the purpose of allowing the oil leaking through the walls of the tank to return itself thereto, in the manner hereinbefore described.

In testimony whereof the said JACOB REESE hath hereunto set his hand.

JACOB REESE.

Witnesses:

M. G. CUSHING,
A. S. NICHOLSON.